HUNNELL ROAD:
LOCO ROAD TO TUMALO ROAD PROJECT
100% SUBMITTAL
DESCHUTES COUNTY, OREGON
OCTOBER, 2022

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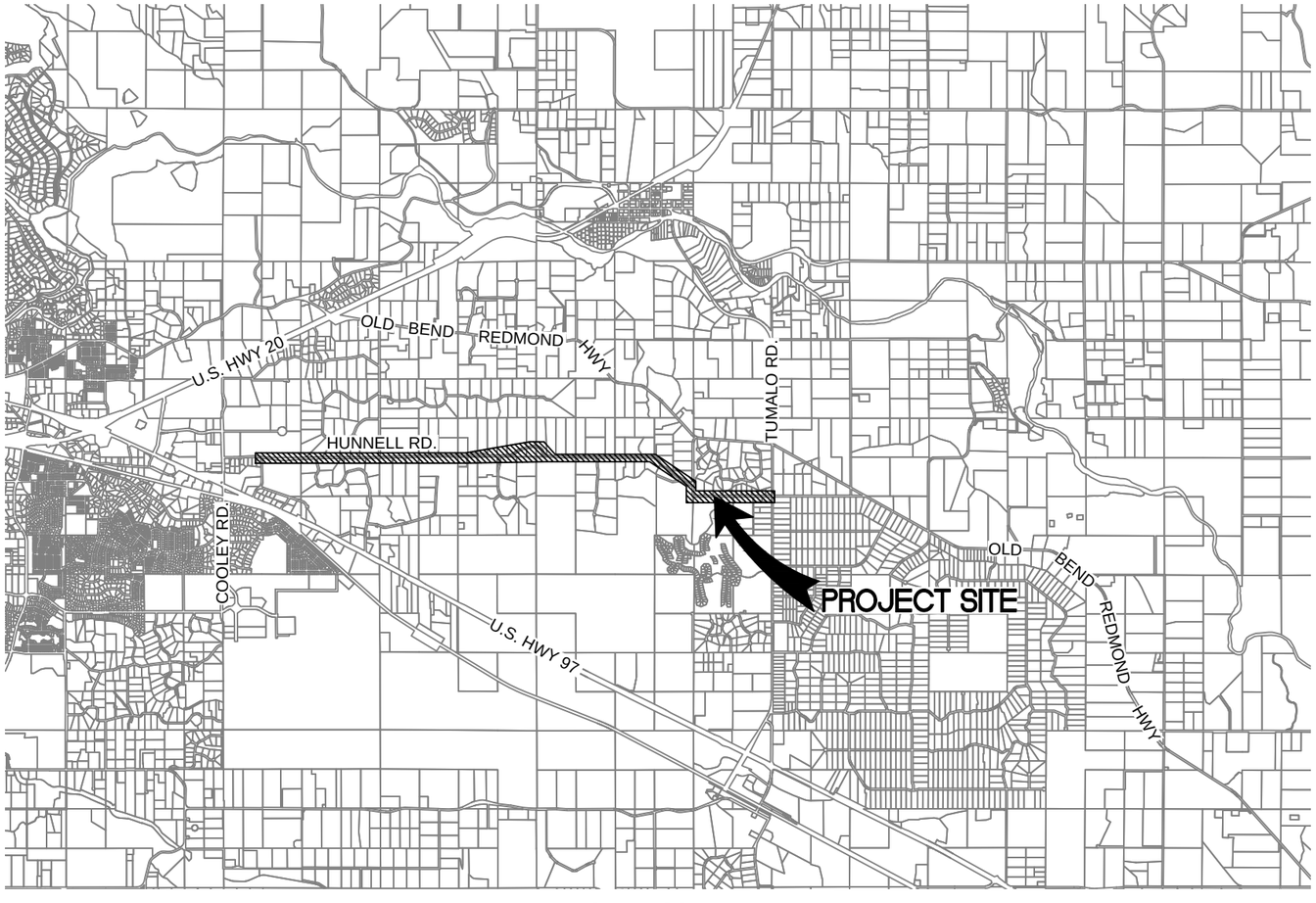


VICINITY MAP
SCALE: 1" = 5000'

OWNER & CLIENT:
DESCHUTES COUNTY
CONTACT: CODY SMITH, PE
61150 SE 27TH STREET
BEND, OR 97702
(541) 322-7113

CIVIL ENGINEER & LAND SURVEYOR:
HARPER HOUF PETERSON RIGHELLIS INC.
CONTACT: NICOLAS SPEROS, PE
250 NW FRANKLIN AVENUE, SUITE 404
BEND, OR 97703
(541) 318-1161

GEOTECHNICAL ENGINEER
THE WALLACE GROUP, INC.
62915 NE 18TH STREET, SUITE 1
BEND, OR 97701
(541) 382-4707

TRAFFIC ENGINEER
KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, SUITE 140
BEND, OR 97702
(541) 312-8300

0 1250 2500 5000
SCALE: 1" = 5000'

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Fanklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

COVER SHEET
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT
DESCHUTES COUNTY, OREGON

SHEET NO. G01
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_G01 Cover Sheet.dwg

FOUND MONUMENT TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	422210.43	3297281.65	3291.53	1/2"IRRPC
2	421773.71	3297244.26	3292.99	1/2"IRRPC
3	421218.58	3297302.20	3298.72	1/2"IRRPC
4	420224.33	3297274.65	3293.30	1/2"IRRPC
5	420202.73	3296856.92	3301.65	1/2"IRRPC
6	419707.35	3296551.28	3304.28	1/2"IRRPC
7	419384.32	3296339.89	3293.76	1/2"IRRPC
8	418578.04	3295935.66	3304.48	1/2"IRRPC
9	417569.46	3295973.08	3321.09	1/2"IRRPC
10	416698.62	3295925.31	3343.95	1/2"IRRPC
11	415962.59	3295967.48	3351.37	1/2"IRRPC
12	415449.92	3295879.22	3339.81	1/2"IRRPC
13	415155.35	3295722.01	3351.61	1/2"IRRPC
14	414913.71	3295563.19	3350.72	1/2"IRRPC
15	414476.82	3295650.99	3356.32	1/2"IRRPC
16	414085.18	3295866.60	3363.84	1/2"IRRPC
17	413763.02	3295951.41	3365.09	1/2"IRRPC
18	413078.66	3295856.60	3383.77	1/2"IRRPC
19	412714.94	3295936.47	3392.16	1/2"IRRPC
20	411857.16	3295964.36	3394.91	1/2"IRRPC
21	410942.96	3295922.92	3404.89	1/2"IRRPC
22	410044.29	3295943.39	3428.98	1/2"IRRPC
23	409403.98	3295964.97	3427.58	1/2"IRRPC
24	408913.24	3295979.34	3433.33	1/2"IRRPC
25	408453.45	3295942.46	3431.92	1/2"IRRPC
26	407975.21	3295943.64	3445.45	1/2"IRRPC
27	407433.75	3295959.02	3451.48	1/2"IRRPC
28	406994.52	3295972.48	3447.92	1/2"IRRPC
29	406606.10	3296020.19	3475.57	BP
30	405983.86	3295953.64	3468.44	1/2"IRRPC
31	404828.09	3295998.13	3459.32	BP
32	404371.47	3295917.28	3466.94	BP
322	423809.16	3297248.32	3325.90	1/2"IRRPC
323	422937.18	3297243.80	3306.15	1/2"IRRPC
326	422880.34	3295315.37	3274.76	BP

LEGEND:

- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT LINE
- (E) TAX LOT LINE
- (E) CONTOUR LINE (3175)
- (P) CONTOUR LINE (3175)
- (E) WATER LINE (W)
- (E) IRRIGATION LINE (IRR)
- (P) WATER LINE (W)
- (P) IRRIGATION LINE (IRR)
- (E) OVERHEAD WIRE (OW)
- (E) UNDERGROUND ELECTRIC (E)
- (E) FIBER OPTIC LINE (FO)
- (E) TELEPHONE LINE (T)
- (E) FENCE LINE (X)
- (P) FENCE LINE
- (P) GRADING CATCHLINE
- (P) SEDIMENT FENCE
- (E) WATER METER
- (E) WATER VALVE (WAT)
- (E) IRRIGATION VALVE (IRR)
- (E) FIRE HYDRANT
- (E) WATER BOX (W)
- (E) IRRIGATION BOX (I)
- (E) WATER MANHOLE (W)
- (E) TELECOM MANHOLE (T)
- (E) WATER VAULT (WATER)
- (E) TELECOM VAULT (TELE)
- (E) POWER VAULT (PWR)
- (E) POWER METER (P)
- (E) POWER RISER (PWR)
- (E) TELECOM RISER (TEL)
- (E) FIBER OPTIC RISER (FO)
- (E) SIGN & POST
- (E) POWER POLE
- (E) MAILBOX (P)
- (E) BOULDER

GENERAL NOTES

1. ALL WORK SHOWN ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT SPECIAL PROVISIONS AND THE OREGON STATE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION," REVISED 2021.
2. THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE COUNTY OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS. LOCATIONS SHOWN ARE APPROXIMATE AND TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT SHOWN HEREIN.
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF ORS CHAPTER 757. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO EXCAVATING, BORING, OR POTHOLING. ALL UTILITY CROSSINGS SHALL BE POTHOLED PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS OR ARRANGE FOR THE RELOCATION OF ANY UTILITIES IN CONFLICT AS DETERMINED BY THE ENGINEER.
4. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION BY ANY MEANS NECESSARY.
5. UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL FILL COMPLETELY THE REMAINING PORTION(S) OF ABANDONED UTILITIES WITH CSLM OR GROUT, PER COUNTY REQUIREMENTS.
6. TOPOGRAPHIC SURVEY BY HARPER HOUF PETERSON RIGHELLIS, INC. DATED OCTOBER 2020. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY, WAYS, MEANS, AND METHODS OF CONSTRUCTION.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT AND VERIFY ALL EXISTING CONDITIONS BEFORE START OF WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS AND OTHERWISE VERIFY ALL DIMENSIONS AND EXISTING CONSTRUCTION CONDITIONS INDICATED AND/OR SHOWN ON THE PLANS. SHOULD ANY ERRORS OR INCONSISTENCY EXIST, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED UNTIL REPORTED TO THE ENGINEER IN WRITING FOR CLARIFICATION OR CORRECTION.
9. THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITIES TO THE PUBLIC RIGHT-OF-WAY AND EASEMENTS IDENTIFIED ON THE PLANS UNLESS WRITTEN PERMISSION IS OBTAINED FROM THE PROPERTY OWNER.
10. THE CONTRACTOR SHALL NOTIFY RESIDENTS WITHIN THE PROJECT AREA A MINIMUM OF TWO BUSINESS DAYS PRIOR TO STARTING WORK, PROVIDING DOOR HANGERS LISTING THE CONTRACTOR'S CONTACT INFORMATION.
11. ALL SURVEY MONUMENTS ON THE SUBJECT SITE, OR THAT MAY BE SUBJECT TO DISTURBANCE WITHIN THE CONSTRUCTION AREA, OR THE CONSTRUCTION OF ANY OFF-SITE IMPROVEMENTS SHALL BE ADEQUATELY REFERENCED AND PROTECTED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. IF THE SURVEY MONUMENTS ARE DISTURBED, MOVED, RELOCATED, OR DESTROYED AS A RESULT OF ANY CONSTRUCTION, THE PROJECT SHALL, AT IT'S COST, RETAIN THE SERVICES OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF OREGON TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY OREGON STATE LAW. A COPY OF ANY RECORDED SURVEY SHALL BE SUBMITTED TO COUNTY STAFF.
12. DEMO & REMOVE EXISTING TREES AND VEGETATION WHERE IT IS IN CONFLICT WITH OR IS IMPACTED BY PROPOSED IMPROVEMENTS.

CONSTRUCTION ACCESS & TRAFFIC CONTROL NOTES

1. CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS FOR COUNTY REVIEW AND APPROVAL PRIOR TO THE START OF WORK. ALL TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE 2009 EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OREGON SUPPLEMENT, AND 2011 OTTCH.
2. THE CONTRACTOR SHALL KEEP THE WORK AREAS IN A NEAT AND SIGHTLY CONDITION FREE OF DEBRIS AND LITTER FOR THE DURATION OF THE PROJECT.
3. ALL DISTURBED AREAS INCLUDING ROADS AND ACCESS ROUTES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AT NO COST TO OWNER.
4. CONTRACTOR SHALL MONITOR TEMPORARY TRAFFIC CONTROL DEVICES AND REVISE BASED ON ON-SITE WORK CONDITIONS, OR AS DIRECTED BY THE ENGINEER OR COUNTY.
5. CONTRACTOR SHALL PROVIDE NOTIFICATION TO EMERGENCY SERVICES AND AFFECTED RESIDENCES PRIOR TO CHANGES IN TRAFFIC PATTERNS.
6. CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.
7. CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.

GRADING & ESC NOTES

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF REFUSE TREES, STUMPS, BRUSH, ROOTS, AND OTHER UNACCEPTABLE MATERIAL OFF-SITE. MATERIAL SHALL BE DISPOSED OF IN SUCH A MANNER AS TO MEET LOCAL REGULATIONS. SOME STUMPS AND TREES MAY QUALIFY AS HABITAT LOGS/ROOTS.
2. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL AS DETAILED ON THE ESC PLAN SHEETS.

VERTICAL DATUM

CENTRAL OREGON COORDINATES SYSTEM (NGVD29) AS DETERMINED BY MULTIPLE AVERAGED GPS READINGS ON CONTROL POINTS SPANNING THE LENGTH OF THE PROJECT.

HORIZONTAL DATUM

HORIZONTAL DATUM IS CENTRAL OREGON COORDINATE SYSTEM, ESTABLISHED FROM MULTIPLE AVERAGED GPS OBSERVATIONS ON CONTROL POINTS 323, A ½" IRON ROD WITH RED PLASTIC CAP ON THE NORTHWEST CORNER OF THE INTERSECTION OF HUNNELL ROAD AND TUMALO ROAD AND 31, A COPPER PLUG SET IN THE EAST SIDEWALK OF HUNNELL ROAD SOUTH OF LOCO ROAD.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets\ DCO-01_G02 General Notes.dwg

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

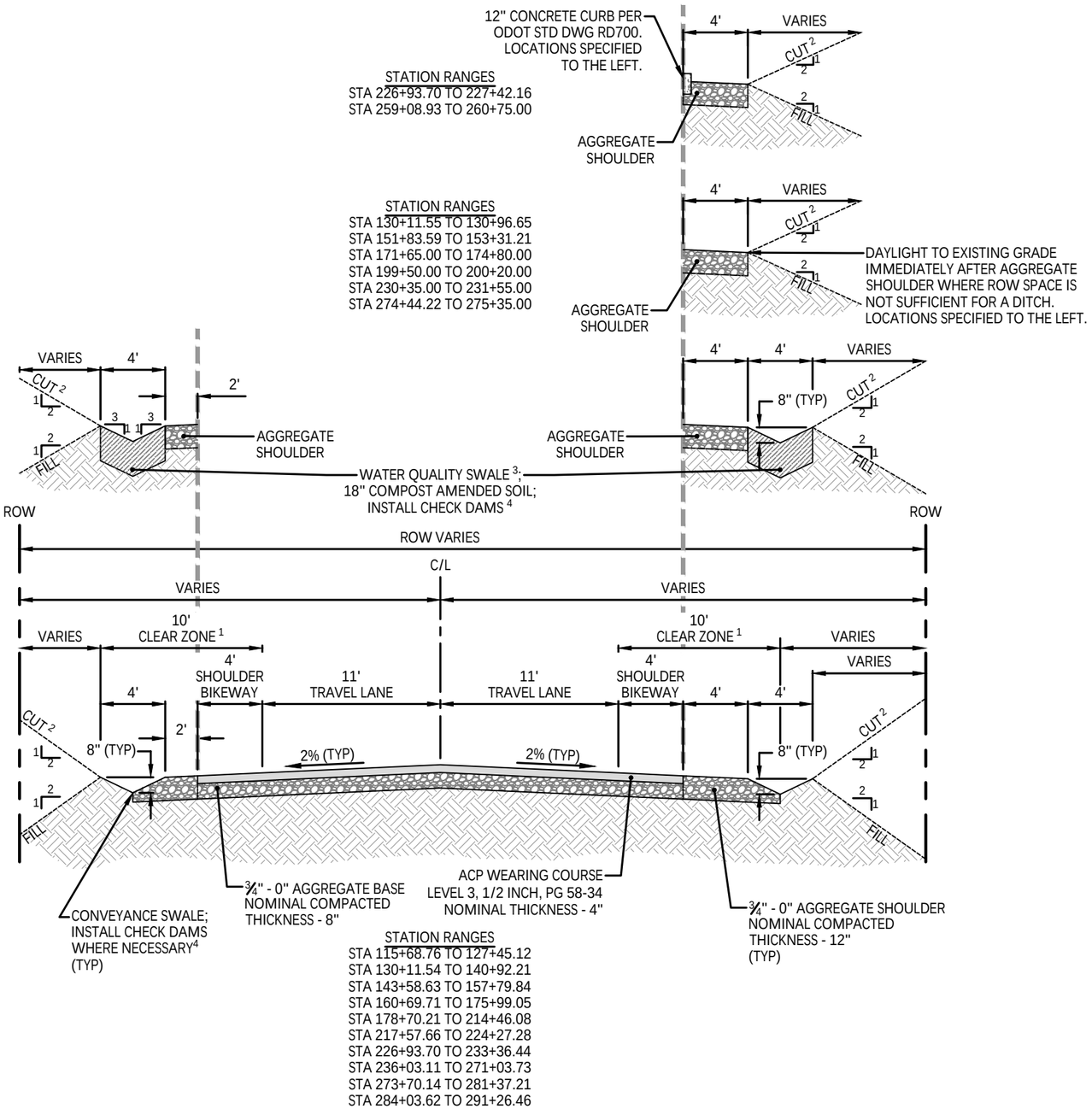
GENERAL NOTES

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. G02

JOB NO. DC0-01



TYPICAL SECTION - HUNNELL ROAD

N.T.S.

DAYLIGHT CUT SLOPE VARIATIONS						
NUMBER	LEFT		RIGHT		SLOPE	MAX HEIGHT
	BEGIN STA	END STA	BEGIN STA	END STA		
1	114+50	117+60	114+65	117+60	0.5:1	10'
2	121+00	122+85			1:1	17'
3			121+30	123+00	1:1	18'
4			137+45	138+20	1:1	5'
5			149+40	150+00	1:1	4'
6	155+00	157+20	155+00	157+20	1:1	4'
7			159+15	160+42	1:1	5'
8	172+40	173+25			1:1	6'
9	178+70	179+35			1:1	4'
10			181+30	182+10	1:1	3'
11			187+30	188+90	1:1	6'
12			199+45	200+25	1:1	8'
13			205+10	209+00	1:1	20'
14			224+80	225+10	1:1	7'
15	228+45	229+70			1:1	5'
16			228+60	229+20	1:1	2'
17			239+00	240+40	1:1	5'
18			248+90	249+40	1:1	3'
19			275+00	275+81	1:1	8'

* SLOPES GREATER THAN 2:1 REQUIRE REVIEW AND APPROVAL FROM GEOTECHNICAL ENGINEER.

NOTES:
1. 6H:1V MAX SLOPE WITHIN CLEAR ZONE.
2. DAYLIGHT SLOPES THAT DIFFER FROM THE TYPICAL 2:1 SLOPE SHOWN IN THE SECTION DETAIL ARE SPECIFIED IN TABLE ON THIS SHEET. (SLOPES VARY IN CUT SECTIONS ONLY).
3. WATER QUALITY SWALE LOCATIONS SPECIFIED IN TABLE ON SHEET G05.
4. CHECK DAMS TO BE INSTALLED ON SLOPES OF GREATER THAN 2%. LOCATIONS SPECIFIED IN TABLE ON SHEET G05.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

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REVISIONS

DESIGNED: HHPR TEAM
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CHECKED: NS
DATE: 10.28.2022

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ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

TYPICAL SECTIONS

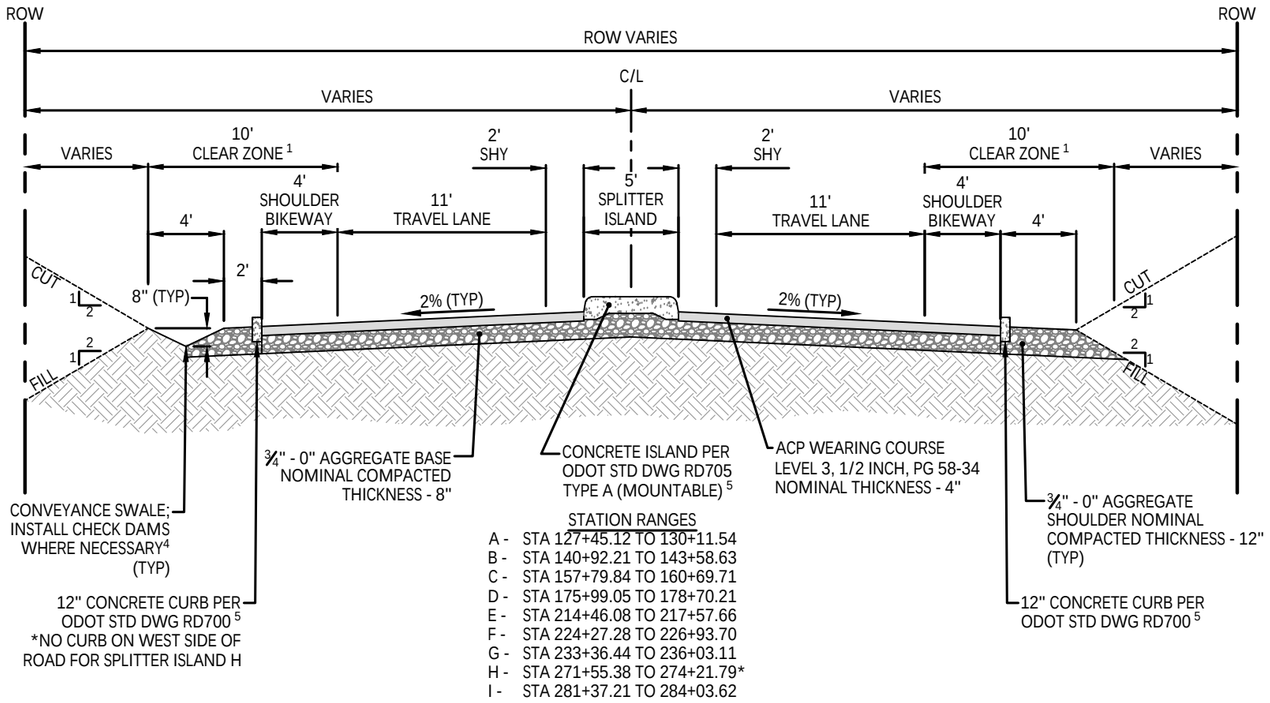
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. G03

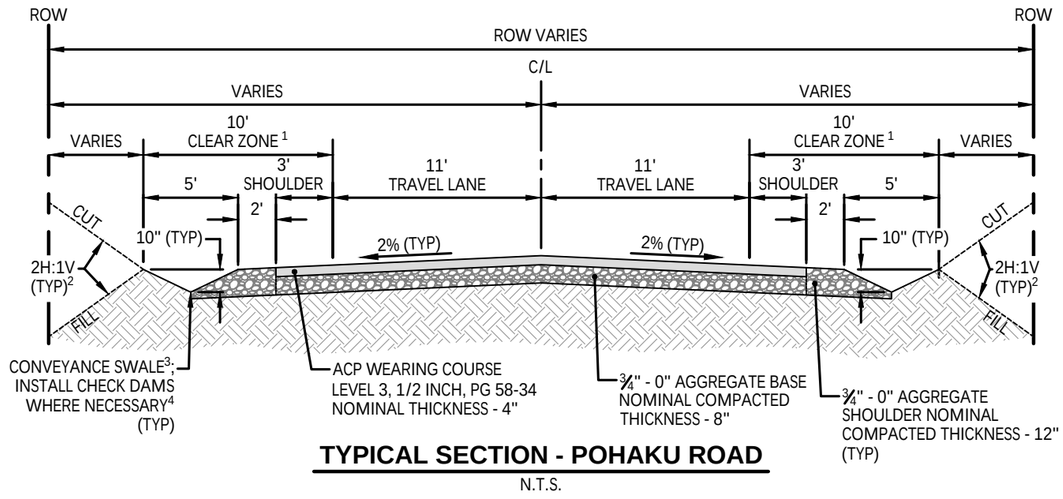
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ G03-G05 Typical Sections.dwg



TYPICAL SECTION
SPLITTER ISLAND - HUNNELL ROAD

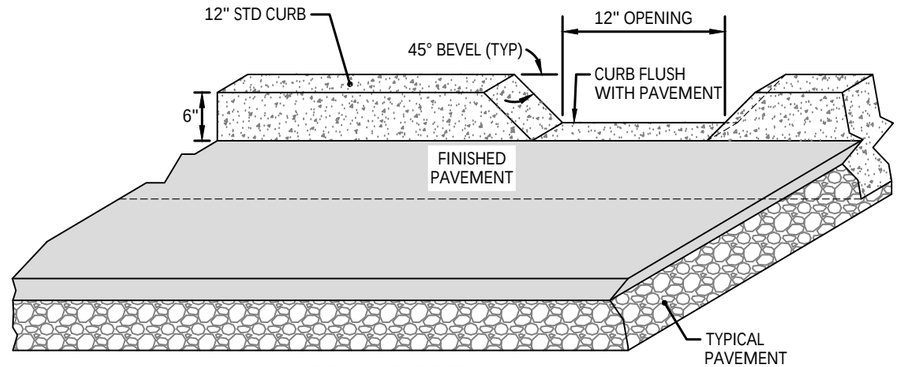
N.T.S.



TYPICAL SECTION - POHAKU ROAD

N.T.S.

NOTES:
1. 6H:1V MAX SLOPE WITHIN CLEAR ZONE.
2. DAYLIGHT SLOPES THAT DIFFER FROM THE TYPICAL 2:1 SLOPE SHOWN IN THE SECTION DETAIL ARE SPECIFIED IN TABLE ON SHEET G03. (SLOPES VARY IN CUT SECTIONS ONLY).
3. WATER QUALITY SWALE LOCATIONS SPECIFIED IN TABLE ON SHEET G05.
4. CHECK DAMS TO BE INSTALLED ON SLOPES OF GREATER THAN 2%. LOCATIONS SPECIFIED IN TABLE ON SHEET G05.
5. SEE SHEETS RD32 TO RD36 FOR CONSTRUCTION DETAILS FOR SPLITTER ISLANDS AND CURBS.



CURB CUT DETAIL

N.T.S.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

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LANDSCAPE ARCHITECTS♦SURVEYORS
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TYPICAL SECTIONS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. G04

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_G03-G05 Typical Sections.dwg

WATER QUALITY SWALE DATA

NUMBER	PLAN SHEET	LOCATION	BEGIN STA	END STA	LENGTH	R/L
1	EC01	LOW POINT	114+45	116+34	189	R,L
2	EC01	LOW POINT	119+46	121+41	195	R,L
3	EC02	DRAINAGE CURB	126+06	127+50	144	R
4	EC02	LOW POINT	126+06	127+73	167	L
5	EC02	DRIVEWAY #1	127+97	128+36	39	L
6	EC03	LOW POINT	139+47	141+40	193	R,L
7	EC03	DRIVEWAY#2	145+59	145+81	22	R
8	EC03	DRIVEWAY #3	147+32	147+92	60	R
9	EC03-EC04	LOW POINT	147+42	149+34	192	L
10	EC03-EC04	LOW POINT	148+07	149+34	127	R
11	EC04	LOW POINT	157+96	158+10	14	R
12	EC04	DRAINAGE CURB	160+65	160+96	31	R
13	EC05	DRIVEWAY #8	168+31	168+83	52	L
14	EC05	LOW POINT	168+47	169+76	129	R
15	EC05	LOW POINT	169+07	169+76	69	L
16	EC05	HARRIS WAY	171+45	171+65	20	R
17	EC05-EC06	LOW POINT	171+95	173+82	187	L
18	EC06	DRAINAGE CURB	174+80	175+00	20	R
19	EC06	LOW POINT	178+65	179+81	116	R
20	EC06	LOW POINT	178+90	180+16	126	L
21	EC06	DWY #11 & #13	180+05	180+66	61	R
22	EC06	DRIVEWAY #12	180+35	180+86	51	L
23	EC06	DRIVEWAY #13	180+87	181+28	41	R
24	EC07	DRIVEWAY #17	185+63	185+79	16	R
25	EC07	DRIVEWAY #18	187+30	187+74	44	L
26	EC07	DRIVEWAY #19	188+90	189+29	39	L
27	EC07	LOWE LANE	191+97	192+51	54	R
28	EC07	LOW POINT	193+28	195+05	177	L
29	EC07	LOW POINT	193+80	195+05	125	R
30	EC08	DRIVEWAY #21	198+27	198+54	27	R
31	EC08	DRAINAGE CURB	199+12	199+50	38	R
32	EC08	LOW POINT	199+56	201+27	171	L
33	EC08	LOW POINT	200+20	201+52	132	R
34	EC09	LOW POINT	211+28	213+40	212	R
35	EC09	DRIVEWAY #26	211+52	212+25	73	L
36	EC09	DRIVEWAY #26	212+56	213+40	84	L
37	EC09	DRAINAGE CURB	214+82	215+05	23	R
38	EC09	DRIVEWAY #27	214+91	215+14	23	L
39	EC10	DRIVEWAY #31	226+84	227+00	16	L
40	EC10	SUNBEAM LANE*	227+37	227+68	31	R

WATER QUALITY SWALE DATA

NUMBER	PLAN SHEET	LOCATION	BEGIN STA	END STA	LENGTH	R/L
41	EC10	DRAINAGE CURB	230+10	230+35	25	R
42	EC10	DRIVEWAY #32	230+24	230+49	25	L
43	EC10-EC11	LOW POINT	231+55	233+44	189	R
44	EC10	LOW POINT	231+72	232+86	114	L
45	EC11	DRIVEWAY #34	235+45	236+06	61	R
46	EC11	DRIVEWAY #35	236+27	236+45	18	L
47	EC11	DRIVEWAY #36	237+68	238+06	38	R
48	EC11	LOW POINT	238+10	239+99	189	L
49	EC11	LOW POINT	238+28	239+99	171	R
50	EC11	DRIVEWAY #40	243+15	243+32	17	R
51	EC11	DRIVEWAY #41	243+82	243+95	13	L
52	EC12	DRIVEWAY #42	247+30	247+55	25	R
53	EC12	DRIVEWAY #43	247+43	247+68	25	L
54	EC12	LOW POINT	249+07	250+76	169	R
55	EC12	LOW POINT	249+07	251+00	193	L
56	EC12	DRIVEWAY #45	251+33	251+65	32	L
57	EC12	DRIVEWAY #46	251+70	251+96	26	R
58	EC12	DRIVEWAY #47	254+06	254+22	16	R
59	EC12	DRIVEWAY #48	254+40	254+58	18	L
61	EC13	DRAINAGE CURB	260+70	261+04	34	R
62	EC13	LOW POINT	262+74	263+37	77	L
63	EC13	DRIVEWAY #51	263+48	264+70	122	R
64	EC13	LOW POINT	264+55	266+80	225	L
65	EC13	LOW POINT	265+03	267+85	282	R
66	EC14	LOW POINT	269+87	273+18	331	R
67	EC14	LOW POINT	270+88	272+15	127	L
68	EC14	DRIVEWAY #55	272+29	273+18	89	L
69	EC14	DRIVEWAY #60	275+35	276+34	99	R
70	EC14	DRIVEWAY #59	275+56	275+89	33	L
71	EC14	DWY #59 & #61	276+10	276+81	71	L
72	EC14	LOW POINT	276+53	278+54	201	R
73	EC14	LOW POINT	277+06	278+19	113	L
74	EC14	DWY #62 & #64	278+35	279+76	141	L
75	EC15	LOW POINT	281+83	284+20	237	R,L
76	EC15	DRIVEWAY #70	287+62	287+86	24	R
77	EC15	DRIVEWAY #71	287+96	288+20	24	L
78	EC15	DWY #72 & #74	289+53	289+99	46	R
79	EC15	DWY #73 & 75	290+09	290+65	56	L
80	EC15	DRIVEWAY #74	290+16	290+28	12	R
81	EC15	DRIVEWAY #75	290+91	291+27	36	L

CHECK DAM DATA

PLAN SHEET	BEGIN STA	END STA	R/L	LENGTH	MAX GRADE	MAX SPACING	QUANTITY*
EC01-EC02	122+77	125+20	R,L	243	3.85%	100	3
EC02	128+33	129+83	L	150	3.29%	100	2
EC02-EC03	135+05	139+15	R,L	410	5.30%	100	5
EC03	144+52	147+08	R,L	256	3.00%	100	3
EC04	155+58	158+04	R,L	246	5.74%	100	3
EC04-EC05	158+04	161+66	L	362	4.70%	100	4
EC05	165+61	168+09	R,L	248	4.20%	100	3
EC06	174+00	175+00	R,L	100	2.40%	100	1
EC06	176+50	178+50	L	200	3.70%	100	2
EC06-EC07	184+62	190+13	R,L	551	4.60%	100	6
EC07-EC08	195+95	199+17	R,L	322	2.50%	100	4
EC08-EC09	208+30	211+20	R,L	290	4.30%	100	3
EC09	215+00	217+00	L	200	4.00%	100	2
EC09-EC10	220+16	221+30	R,L	114	2.10%	100	2
EC10	224+10	227+00	L	290	4.90%	100	3
EC10	229+30	230+50	R,L	120	2.70%	100	2
EC11	234+32	236+45	L	213	3.70%	100	3
EC11	236+45	237+75	R,L	130	3.70%	100	2
EC11-EC12	242+37	248+69	R,L	632	5.20%	100	7
EC12	251+39	255+83	R,L	444	4.30%	100	5
EC12	259+22	261+12	L	190	3.60%	100	2

*NOTES:
1. CONSTRUCT CHECK DAMS PER ODOT STD DWG RD1005, AGGREGATE CHECK DAM - TYPE 1.
2. CHECK DAMS TO HAVE A HEIGHT OF 4".
3. QUANTITY IS # OF DAMS PER SIDE OF ROAD.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_G03-G05 Typical Sections.dwg

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRAINAGE DATA

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. G05

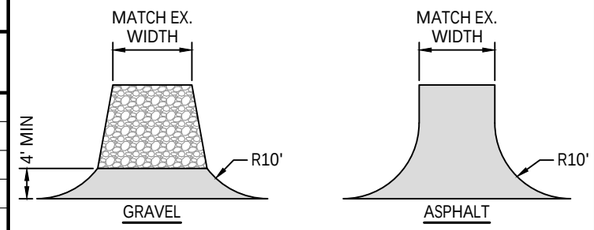
JOB NO. DC0-01

DRIVEWAY DATA

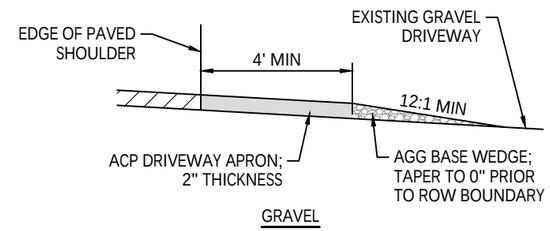
#	PLAN SHEET	STATION (C/L APRON)	L / R	ASPHALT/ GRAVEL	EP ELEV @ DRIVEWAYC/L	BACK OF DRIVEWAY ELEV @ DRIVEWAY C/L	LENGTH (FT)	(P) SLOPE (%)
1	RD03	127+86	L	GRAVEL	3446.59	3446.58	13.4	-0.07%
2	RD06	145+90	R	ASPHALT	SEE SHEET RD45 FOR MORE INFORMATION			
3	RD06	148+00	R	GRAVEL	3426.23	3424.79	15	-9.60%
4	RD07	150+37	R	ASPHALT	3427.83	3427.84	15	0.07%
5	RD07	151+70	R	GRAVEL	3428.91	3428.43	15	-3.20%
6	RD07	153+13	R	GRAVEL	SEE SHEET RD38 FOR MORE INFORMATION			
7	RD07	154+69	L	ASPHALT	3430.62	3429.91	15	-4.73%
8	RD10	268+95	L	GRAVEL	3396.97	3395.76	15	-8.07%
9	RD10	171+51	L	ASPHALT	3394.38	3395.53	15	7.67%
10	RD11	175+76	L	GRAVEL	3396.20	3397.96	15	11.73%
11	RD12	179+93	R	GRAVEL	3388.41	3387.83	15	-3.87%
12	RD12	180+26	L	GRAVEL	3388.59	3387.25	15	-8.93%
13	RD12	180+77	R	GRAVEL	3389.19	3388.92	15	-1.80%
14	RD12	182+35	L	ASPHALT	3391.77	3390.81	15	-6.40%
15	RD12	182+39	R	GRAVEL	3391.83	3391.56	15	-1.80%
16	RD12	183+08	L	GRAVEL	3392.93	3392.03	15	-6.00%
17	RD13	185+92	R	ASPHALT	SEE SHEET RD45 FOR MORE INFORMATION			
18	RD13	187+80	L	ASPHAT	SEE SHEET RD45 FOR MORE INFORMATION			
19	RD13	189+34	L	ASPHALT	SEE SHEET RD46 FOR MORE INFORMATION			
20	RD14	195+22	L	GRAVEL	3366.49	3368.08	15	10.60%
21	RD15	198+63	R	ASPHALT	SEE SHEET RD46 FOR MORE INFORMATION			
22	RD15	201+36	L	GRAVEL	3356.95	3356.39	15.2	-3.68%
23	RD16	203+95	L	GRAVEL	3358.37	3357.15	16.4	-7.44%
24	RD16	205+77	L	GRAVEL	SEE SHEET RD47 FOR MORE INFORMATION			
25	RD16	207+18	L	ASPHALT	SEE SHEET RD47 FOR MORE INFORMATION			
26	RD17	212+41	L	GRAVEL	3340.65	3339.99	15	-4.40%
27	RD17	214+70	L	GRAVEL	3343.65	3343.51	15	-0.93%
28	RD18	218+14	L	ASPHALT	3352.52	3351.82	15	-4.67%
29	RD19	222+41	L	GRAVEL	3348.09	3347.25	15	-5.60%
30	RD19	224+21	R	ASPHALT	SEE SHEET RD48 FOR MORE INFORMATION			
31	RD20	227+11	L	ASPHALT	SEE SHEET RD41 FOR MORE INFORMATION			
32	RD20	230+60	L	GRAVEL	3324.30	3322.76	15	-10.27%
33	RD20	232+98	L	GRAVEL	3321.39	3319.29	28.4	-7.39%
34	RD21	236+15	R	ASPHALT	SEE SHEET RD48 FOR MORE INFORMATION			
35	RD21	236+56	L	GRAVEL	3313.03	3312.71	15	-2.13%
36	RD21	238+15	R	GRAVEL	3308.95	3310.20	15	8.33%
37	RD22	240+71	R	GRAVEL	3310.32	3313.45	22.5	13.91%
38	RD22	241+63	R	GRAVEL	3310.81	3311.94	15	7.53%

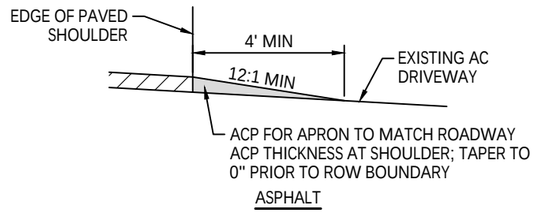
DRIVEWAY DATA

#	PLAN SHEET	STATION (C/L DRIVEWAY)	L / R	ASPHALT/ GRAVEL	EP ELEV @ DRIVEWAYC/L	BACK OF DRIVEWAY ELEV @ DRIVEWAY C/L	LENGTH (FT)	(P) SLOPE (%)
39	RD22	242+18	L	GRAVEL	SEE SHEET RD49 FOR MORE INFORMATION			
40	RD22	243+44	R	GRAVEL	3306.49	3305.02	15	-9.80%
41	RD22	244+01	L	GRAVEL	SEE SHEET RD49 FOR MORE INFORMATION			
42	RD23	247+68	R	GRAVEL	3292.17	3291.68	17.1	-2.87%
43	RD23	247+79	L	ASPHALT	3291.89	3291.46	15	-2.87%
44	RD23	250+92	R	ASPHALT	SEE SHEET RD50 FOR MORE INFORMATION			
45	RD24	251+26	L	GRAVEL	SEE SHEET RD50 FOR MORE INFORMATION			
46	RD24	251+63	R	ASPHALT	SEE SHEET RD50 FOR MORE INFORMATION			
47	RD24	253+92	R	GRAVEL	3297.08	3294.96	37.4	-5.67%
48	RD24	254+30	L	GRAVEL	3298.71	3297.63	15	-7.20%
49	RD25	258+82	R	GRAVEL	SEE SHEET RD51 FOR MORE INFORMATION			
50	RD25	259+94	L	GRAVEL	SEE SHEET RD52 FOR MORE INFORMATION			
51	RD26	264+87	R	ASPHALT	SEE SHEET RD53 FOR MORE INFORMATION			
52	RD26	267+73	L	GRAVEL	SEE SHEET RD54 FOR MORE INFORMATION			
53	RD27	269+35	L	GRAVEL	3295.10	3292.88	25	-8.88%
54	RD27	270+80	L	GRAVEL	3294.67	3293.38	15	-8.60%
55	RD27	271+58	L	GRAVEL	3294.44	3293.02	15.3	-9.28%
56	RD27	272+22	L	GRAVEL	3294.19	3293.21	15	-6.53%
57	RD27	274+17	L	GRAVEL	SEE SHEET RD55 FOR MORE INFORMATION			
58	RD27	274+37	R	GRAVEL	SEE SHEET RD55 FOR MORE INFORMATION			
59	RD27	274+82	L	GRAVEL	SEE SHEET RD55 FOR MORE INFORMATION			
60	RD28	275+99	L	GRAVEL	SEE SHEET RD56 FOR MORE INFORMATION			
61	RD28	276+44	R	GRAVEL	SEE SHEET RD56 FOR MORE INFORMATION			
62	RD28	276+93	L	GRAVEL	SEE SHEET RD56 FOR MORE INFORMATION			
63	RD28	278+27	L	GRAVEL	3291.47	3289.85	15	-10.80%
64	RD28	278+67	R	GRAVEL	3291.67	3289.75	15	-12.80%
65	RD28	279+83	L	GRAVEL	3293.33	3292.37	15	-6.40%
66	RD29	281+36	L	GRAVEL	3292.85	3291.33	15	-10.13%
67	RD29	284+15	L	ASPALT	3292.21	3291.38	15	-5.53%
68	RD29	285+08	R	GRAVEL	3292.68	3292.06	15	-4.13%
69	RD29	286+13	L	GRAVEL	3293.71	3292.90	15	-5.40%
70	RD29	286+70	R	ASPHALT	3294.66	3294.47	15	-1.27%
71	RD29	287+50	R	GRAVEL	3296.29	3294.66	15	-10.87%
72	RD30	287+89	L	ASPHALT	3297.31	3296.59	15	-4.80%
73	RD30	289+43	R	GRAVEL	3300.63	3298.96	15	-11.13%
74	RD30	290+00	L	GRAVEL	3301.76	3301.35	15	-2.73%
75	RD30	290+08	R	GRAVEL	3301.96	3300.93	15	-6.87%
76	RD30	290+78	L	ASPHALT	3303.75	3303.14	15	-4.07%
77	RD26	1+17 (POHAKU RD)	R	GRAVEL	SEE SHEET RD42 FOR MORE INFORMATION			
78	RD26	1+30 (POHAKU RD)	L	ASPALT	SEE SHEET RD42 FOR MORE INFORMATION			



DRIVEWAY APRON DETAIL
NTS





NOTE: MAINTAIN POSITIVE DRAINAGE AT DRIVEWAY LOCATIONS

DRIVEWAY TRANSITIONS
NTS

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DATA

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. G06

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ G06 Driveway Data.dwg

FENCE CONSTRUCTION DATA

#	PLAN SHEET(S)	DEMO LIMITS				DEMO LENGTH (FT)	REBUILD LIMITS				REBUILD LENGTH (FT)	FENCE TYPE	COMMENTS	TAXLOT AFFECTED
		START		END			START		END					
		STATION	OFFSET	STATION	OFFSET		STATION	OFFSET	STATION	OFFSET				
1	RD02	123+53	27.0'L	123+66	27.0'L	13	N/A					SMOOTH WIRE	REMOVE; DO NOT REPLACE	171209C000200
2	RD03	124+92	37.6'R	126+64	29.3'R	185	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	171209C000200
3	RD03	129+46	28.4'R	129+85	28.8'R	39	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	171209B000800
4	RD05	141+94	29.3'R	142+91	29.7'R	97	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	171209B001200
5	RD11	175+45	22.8'R	177+56	29.3'R	212	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	1712040000502
6	RD15	197+18	24.9'L	197+59	28.7'L	41	SAME AS DEMO				41	WHITE VINYL 3-RAIL	REMOVE & REINSTALL	1712040000225
7A	RD17	209+09	30.0'L	210+56	30.0'L	228	209+09	30.0'L	210+56	30.0'L	139	WHITE VINYL 3-RAIL	REMOVE & REINSTALL	1612330000907
7B	RD17	210+76	3.9'R	211+82	26.2'L	120	210+56	30.0'L	211+82	30.0'L	119	WOOD POST & TYPE 1	REMOVE & REINSTALL	1612330000906
8	RD23	247+91	30.0'L	248+96	30.0'L	115	N/A					WOOD POST / MESH	REMOVE; DO NOT REPLACE	161233B001100
9	RD24-RD25	254+89	30.0'R	258+10	30.0'R	363	254+89	30.0'R	258+10	30.0'R	321	WHITE VINYL 3-RAIL	REMOVE & REINSTALL	161233B000100
10A	RD26	264+60	30.0'L	268+73	22.9'L	510	264+60	30.0'L	268+72	54.6'L	369	WOOD POST / MESH (NO TOP)	REMOVE & REINSTALL	161228C001600
10B	RD26-RD27	268+73	22.9'L	269+62	23.8'L	88	268+73	29.8'L	269+62	23.8'L	89	WOOD POST / MESH (NO TOP)	REMOVE & REINSTALL; RELOCATE EXISTING GATE ACCESS	161228C001500
11	RD26-RD27	267+68	30.0'R	274+28	23.9'R	671	N/A					TREATED 3-RAIL 2X8 ON 6X8	REMOVE; DO NOT REPLACE	161228DC00100
12	RD27-RD28	274+48	23.5'R	275+26	27.2'R	99	274+60	30.0'R	275+35	30.0'R	75	MIX-TYPE 1 / WOOD POST	REMOVE & REINSTALL	161228DC00099
13A	RD29	281+41	26.8'L	283+05	25.1'L	164	281+40	30.0'L	283+05	30.0'L	165	TYPE 2	REPLACE	161228C001000
13B	RD29	283+05	25.1'L	283+70	24.3'L	65	283+05	30.0'L	283+70	30.0'L	65	MIX-CEDAR PICKET / POST & MESH	PROTECT IN PLACE; CONSULT ENGINEER IF REMOVAL IS REQUIRED	161228C000900

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_G07 Fence Data.dwg

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

FENCE DATA

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

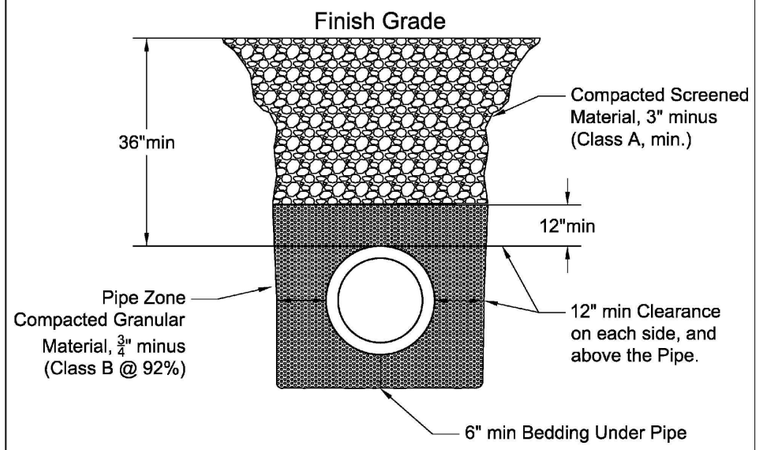
DESCHUTES COUNTY, OREGON

SHEET NO. G07

JOB NO. DC0-01

AVION WATER CO, INC.

GENERAL TRENCH DETAIL



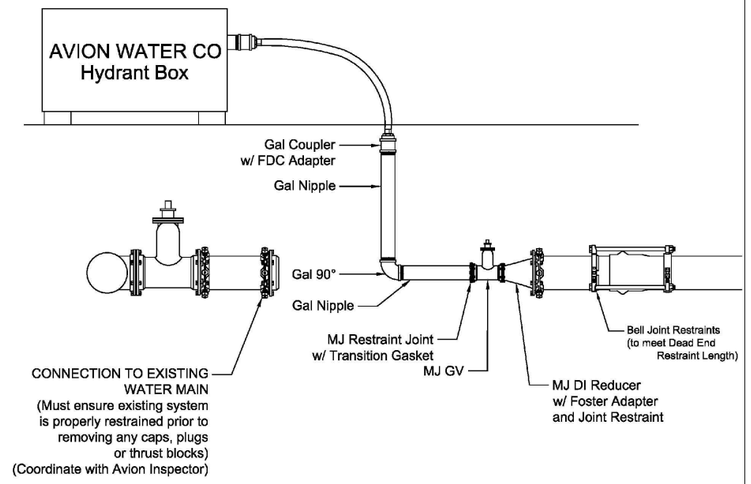
NOTES:
1. MUST ADHERE TO CITY AND COUNTY ROW SPECIFICATIONS, when applicable.
2. Pipe bedded in compact granular material to the centerline of the pipe, 6" minimum under the pipe.
3. Compacted granular material, 12" above top of pipe.
4. Compaction testing shall be performed at the top of pipe zone, 12" min above waterline. Compaction testing shall meet 92% and tested every 100ft.

DWN BY: *TEL*	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	NOT TO SCALE
DATE: April *2022*			REV/DATE
Avion Water BEND, OREGON		GENERAL TRENCH DETAIL	REV/DATE
			REV/DATE

AVION WATER CO

FULL SEPARATION CHLORINATION

Hot Stick Chlorination Detail



TESTING AND FLUSHING

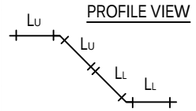
Flushing needs to meet AWWA Standards (3.0ft/sec)
4"-10" Mainline - May use (1) 2 ½" Hydrant Port and (1) Hydrant Box
12"-16" Mainline - May use (2) 2 ½" Hydrant Ports and (2) Hydrant Boxes
Any Mainline 18" and above or any proposed flushing variation must be verified by Avion Water Inspector

DWN BY: *TEL*	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	NOT TO SCALE
DATE: *JAN 2022*			REV/DATE
Avion Water BEND, OREGON		HOT STICK CONNECTION AFTER FLUSHING	REV/DATE
		Pipe and sleeves to be hand chlorinated	REV/DATE

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS	
HORIZONTAL BENDS	MIN. RESTRAINED LENGTH FROM END OF BEND
4" - 45°	7'
4" - 90°	15'
12" - 22.5°	8'

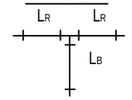
RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS		
VERTICAL BENDS	MIN RESTRAINED LENGTH UPPER SIDE (LU)	MIN RESTRAINED LENGTH LOWER SIDE (LL)
4" - 45°	14'	3'
12" - 45°	37'	8'

PROFILE VIEW



RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS		
TEES	MIN RESTRAINED LENGTH ALONG RUN (LR)**	MIN RESTRAINED LENGTH ALONG BRANCH (LB)
12" x 12"	12'	22'

PLAN VIEW



** LENGTH ALONG RUN FROM TEE SHALL EXTEND THE MINIMUM SPECIFIED IN THE TABLE IN EACH DIRECTION FROM THE TEE AND SHALL BE SOLID PIPE WITHOUT JOINTS, FITTING, ETC.

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS	
REDUCERS	MIN RESTRAINED LENGTH
12" x 4"	76'

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS	
DEAD ENDS	MIN RESTRAINED LENGTH
4"	34'
12"	84'

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

WATER DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

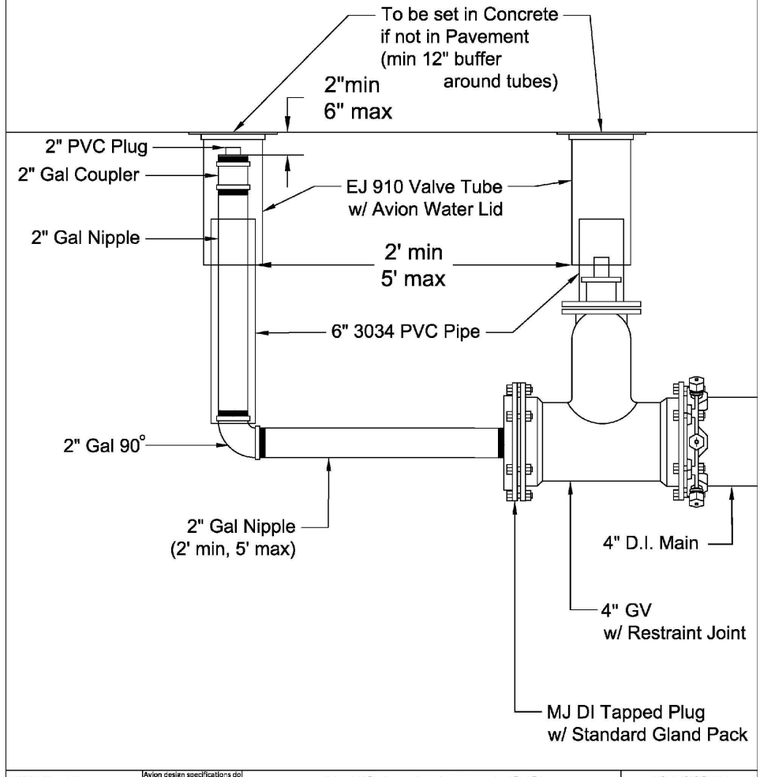
DESCHUTES COUNTY, OREGON

SHEET NO. G08

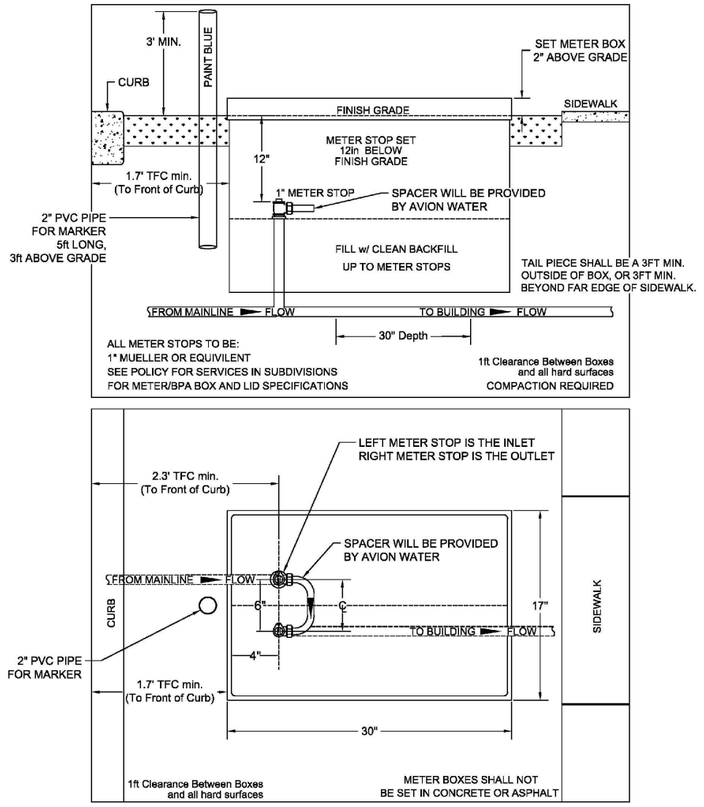
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_G08 Water Details.dwg

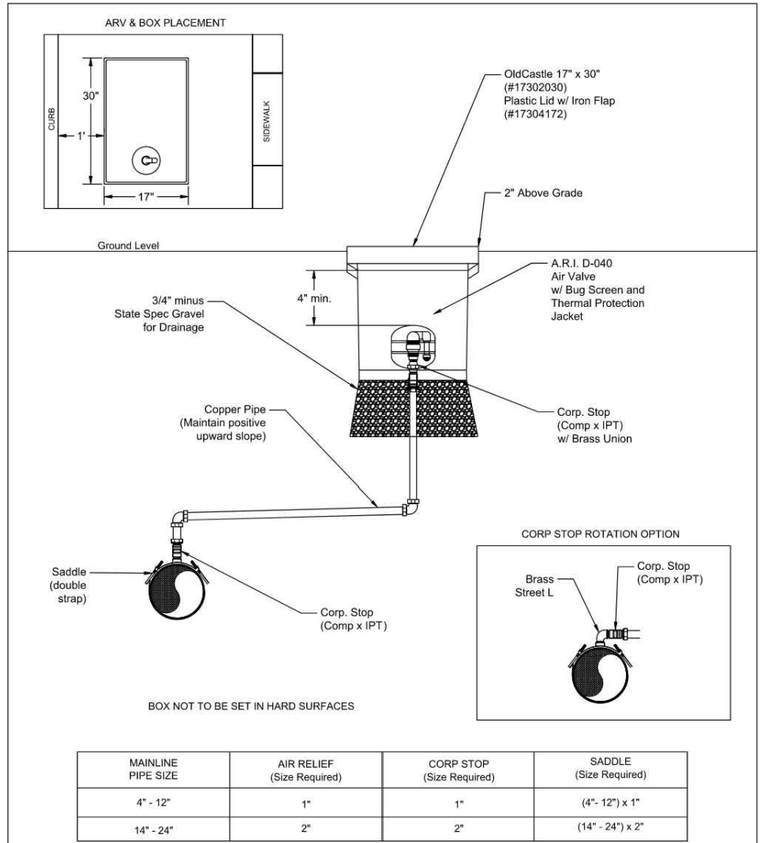
AVION WATER CO
BLOWOFF ASSEMBLY



DWN BY: *TEL*	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.	NOT TO SCALE
DATE: *JAN 2022*	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	REV/DATE
Avion Water BEND, OREGON	2" BLOW OFF	REV/DATE
		REV/DATE



DWN BY: *TEL*	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.	NOT TO SCALE
DATE: Jan *2022*	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	REV/DATE
Avion Water BEND, OREGON	3/4" & 1" METER INSTALLATION	REV/DATE
		REV/DATE



MAINLINE PIPE SIZE	AIR RELIEF (Size Required)	CORP STOP (Size Required)	SADDLE (Size Required)
4" - 12"	1"	1"	(4"- 12") x 1"
14" - 24"	2"	2"	(14" - 24") x 2"

DWN BY: *TEL*	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.	NOT TO SCALE
DATE: JAN *2022*	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	REV/DATE
Avion Water BEND, OREGON	AIR RELIEF METER BOX APPLICATIONS	REV/DATE
		REV/DATE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
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WATER DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. G09

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_G08 Water Details.dwg

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RD03 PLAN & PROFILE - STA 125+00 TO 131+00
RD04 PLAN & PROFILE - STA 131+00 TO 137+00
RD05 PLAN & PROFILE - STA 137+00 TO 143+00
RD06 PLAN & PROFILE - STA 143+00 TO 149+00
RD07 PLAN & PROFILE - STA 149+00 TO 155+00
RD08 PLAN & PROFILE - STA 155+00 TO 161+00
RD09 PLAN & PROFILE - STA 161+00 TO 167+00
RD10 PLAN & PROFILE - STA 167+00 TO 173+00
RD11 PLAN & PROFILE - STA 173+00 TO 179+00
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RD27 PLAN & PROFILE - STA 269+00 TO 275+00
RD28 PLAN & PROFILE - STA 275+00 TO 281+00
RD29 PLAN & PROFILE - STA 281+00 TO 287+00
RD30 PLAN & PROFILE - STA 287+00 TO 293+00
RD31 PLAN & PROFILE - POHAKU RD

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RD33 SPLITTER ISLAND DETAILS - C & D
RD34 SPLITTER ISLAND DETAILS - E & F
RD35 SPLITTER ISLAND DETAILS - G & H
RD36 SPLITTER ISLAND DETAILS - I

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RD38 INTERSECTION DETAIL - ROGERS RD
RD39 INTERSECTION DETAIL - HARRIS WAY
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RD41 INTERSECTION DETAIL - SUNBEAM LN
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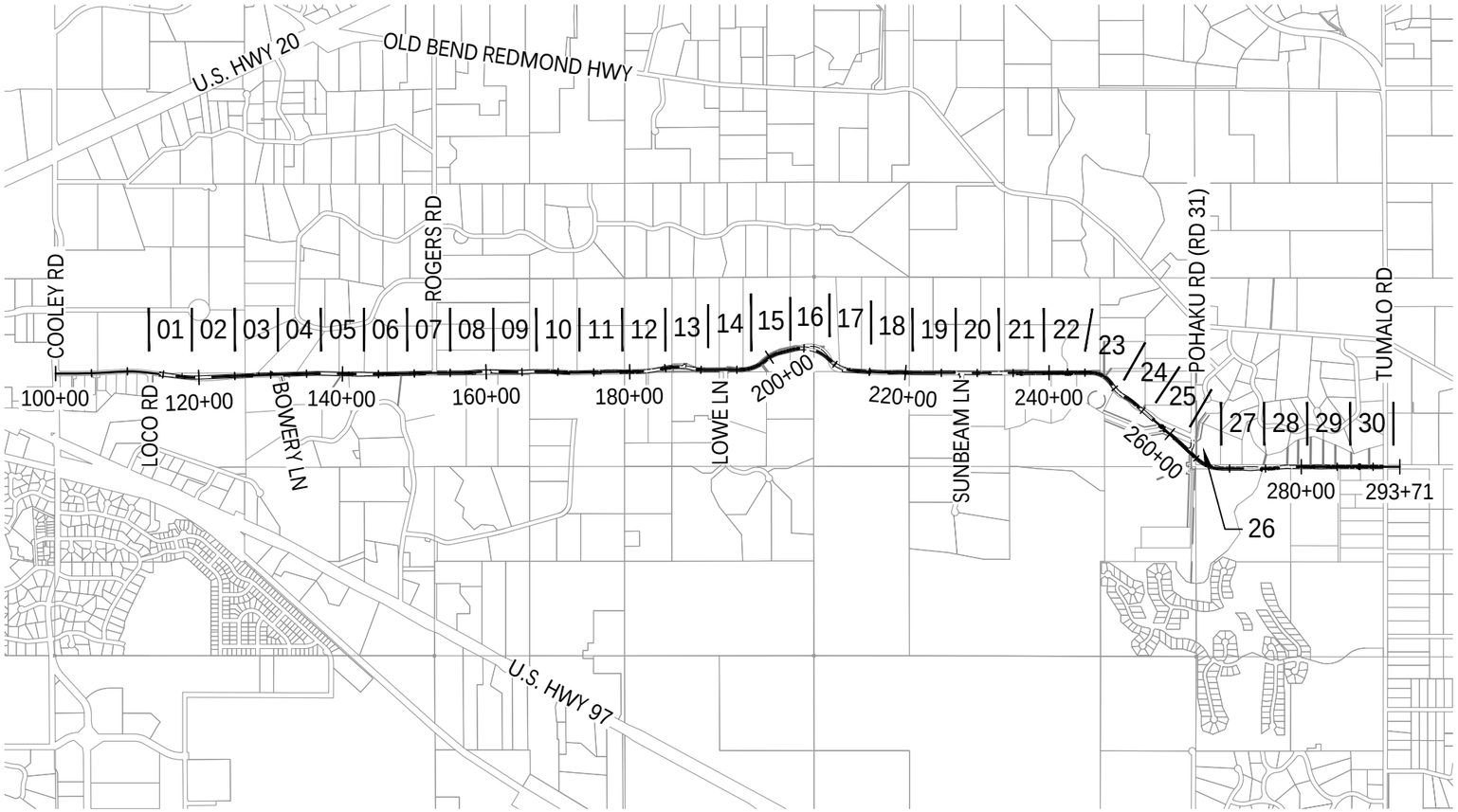
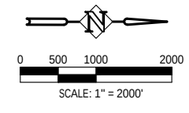
RD52 DRIVEWAY DETAILS
RD53 DRIVEWAY DETAILS
RD54 DRIVEWAY DETAILS
RD55 DRIVEWAY DETAILS
RD56 DRIVEWAY DETAILS



SITE MAP
SCALE: 1" = 2000'



LEGEND:

- (P) AC PAVEMENT
- (E) AC PAVEMENT
- (P) GRAVEL
- (E) GRAVEL
- (P) CONVEYANCE SWALE
- (P) WATER QUALITY SWALE
- (P) RIPRAP BASIN
- DEMO (E) AC PAVEMENT
- DEMO (E) GRAVEL
- DEMO (E) FENCE
- (P) FENCE
- DEMO (E) WATER
- DEMO (E) IRRIGATION
- (P) WATER
- (P) IRRIGATION
- (P) GRADING CATCHLINE

REGISTERED PROFESSIONAL ENGINEER
94,628
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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ROADWAY DESIGN SHEET INDEX

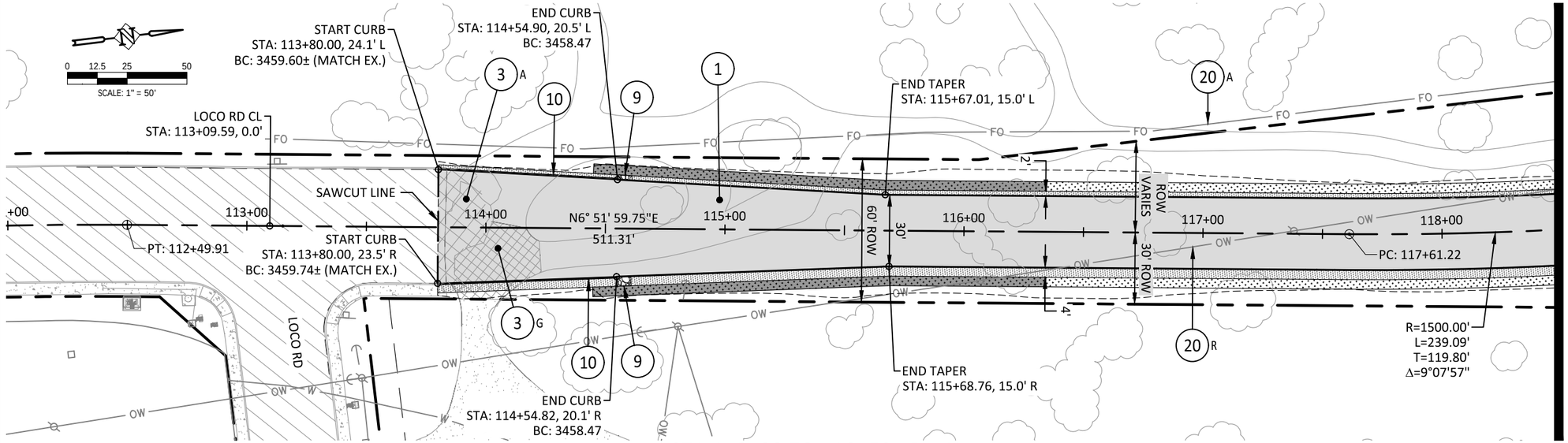
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD00

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ 00 Section Maps.dwg



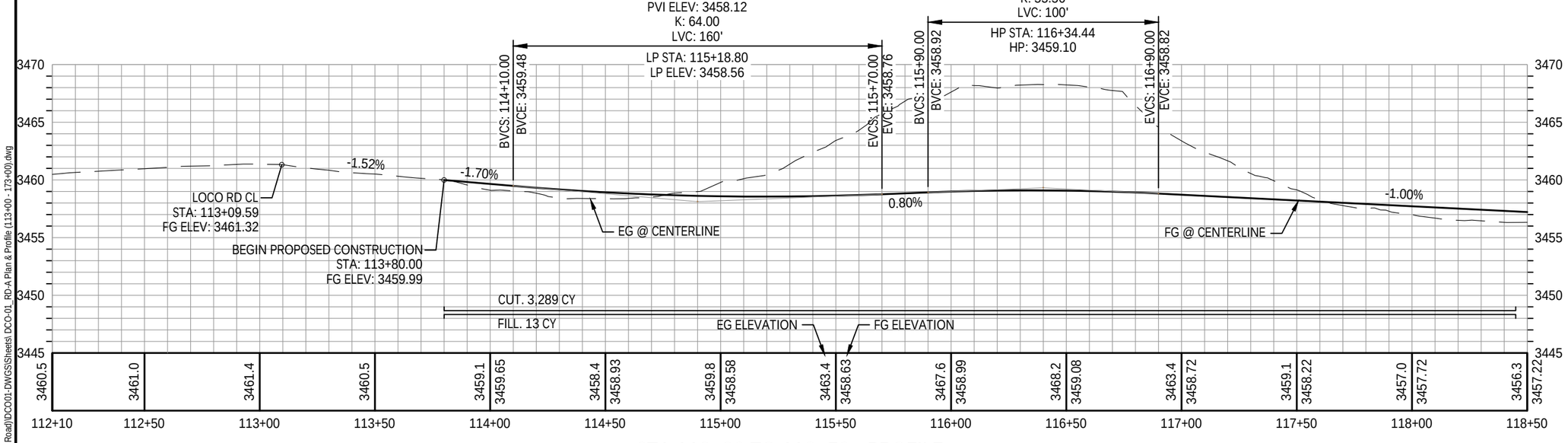
MATCHLINE STA 118+50 SEE SHEET RD02

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

STA 112+00 TO 118+50 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 112+00 TO 118+50 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
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DATE: 10.28.2022

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 112+00 TO 118+50

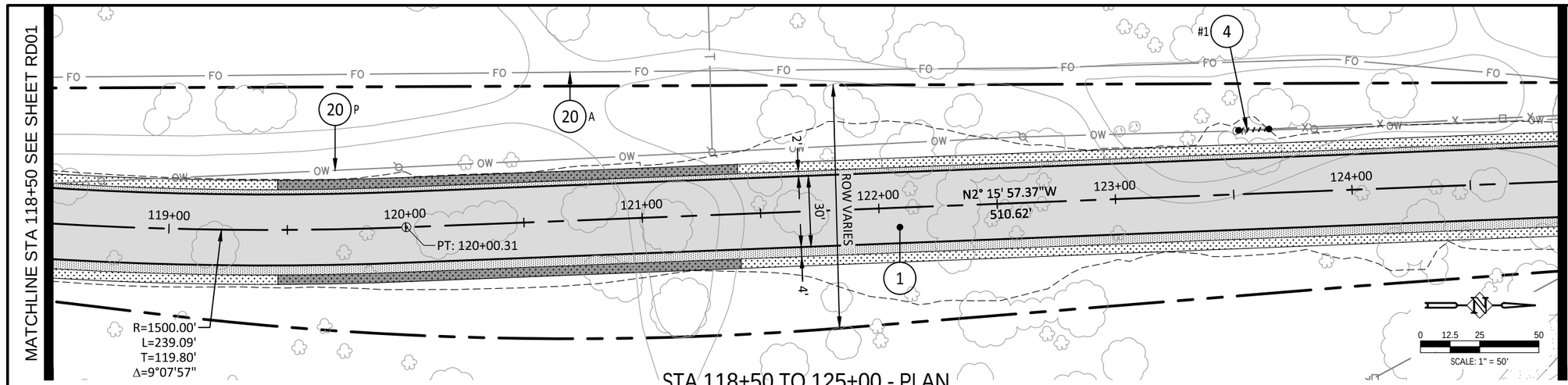
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD01

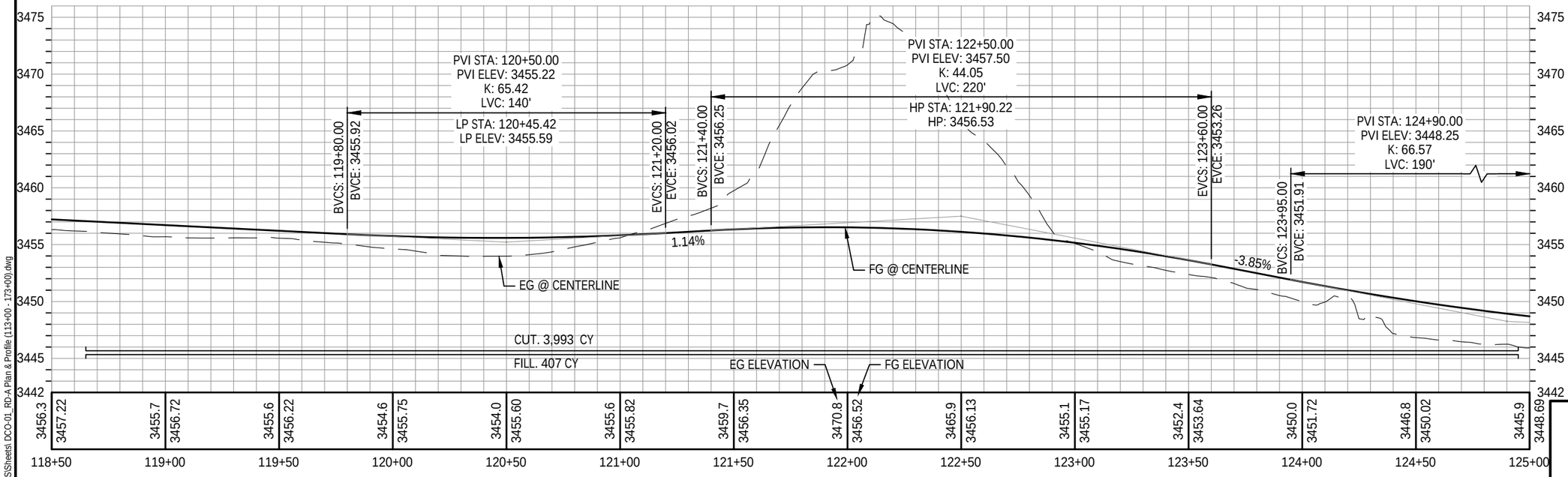
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 118+50 TO 125+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 118+50 TO 125+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

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PLAN & PROFILE - STA 118+50 TO 125+00

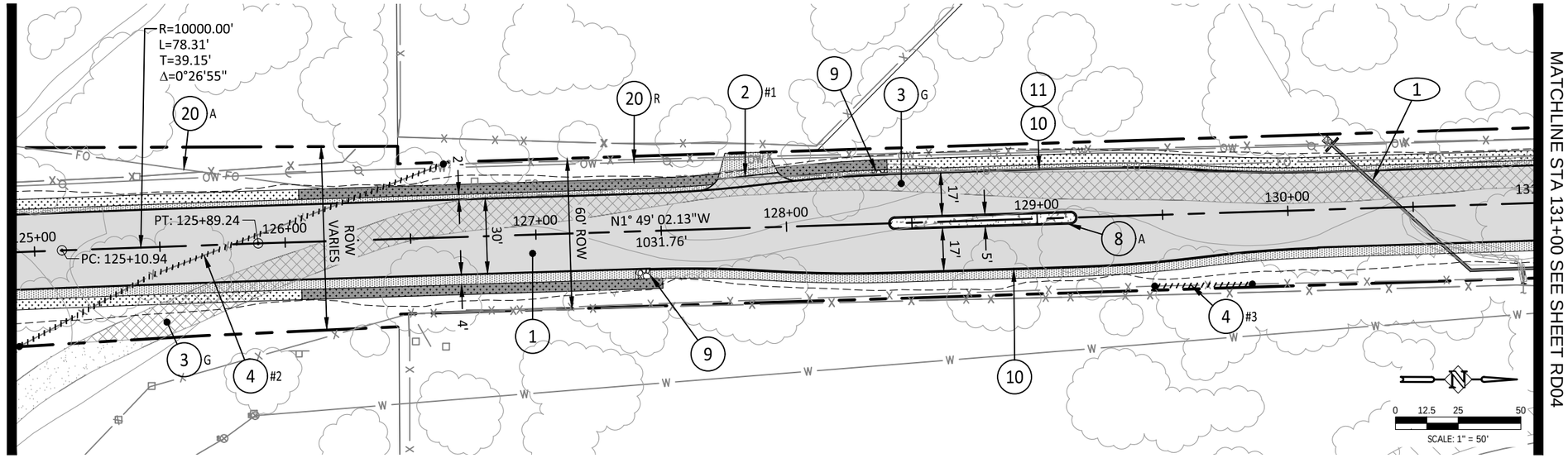
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD02

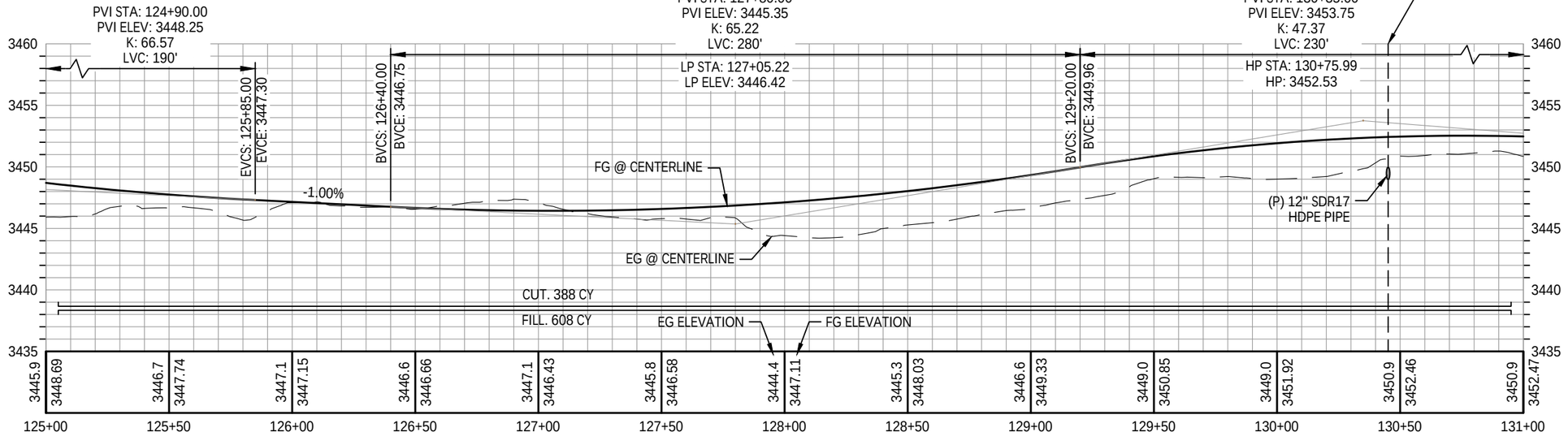
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 125+00 TO 131+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 125+00 TO 131+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. EXISTING IRRIGATION CANAL CROSSING TO BE RECONSTRUCTED. SEE SHEET CX01 FOR MORE INFORMATION.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 125+00 TO 131+00

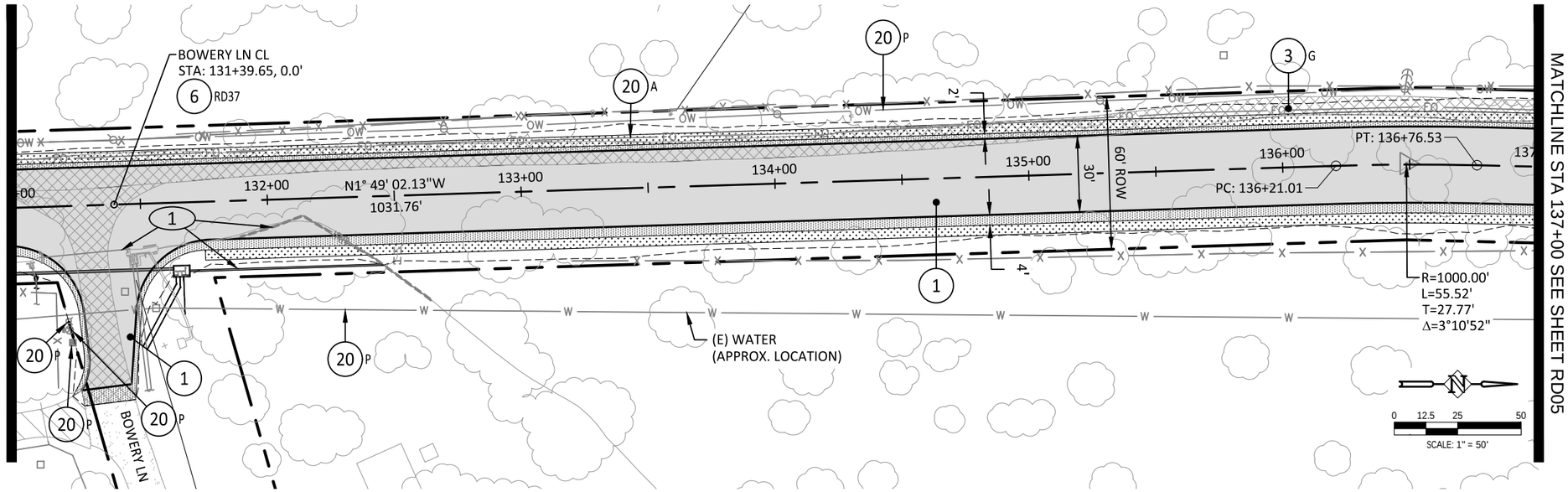
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD03

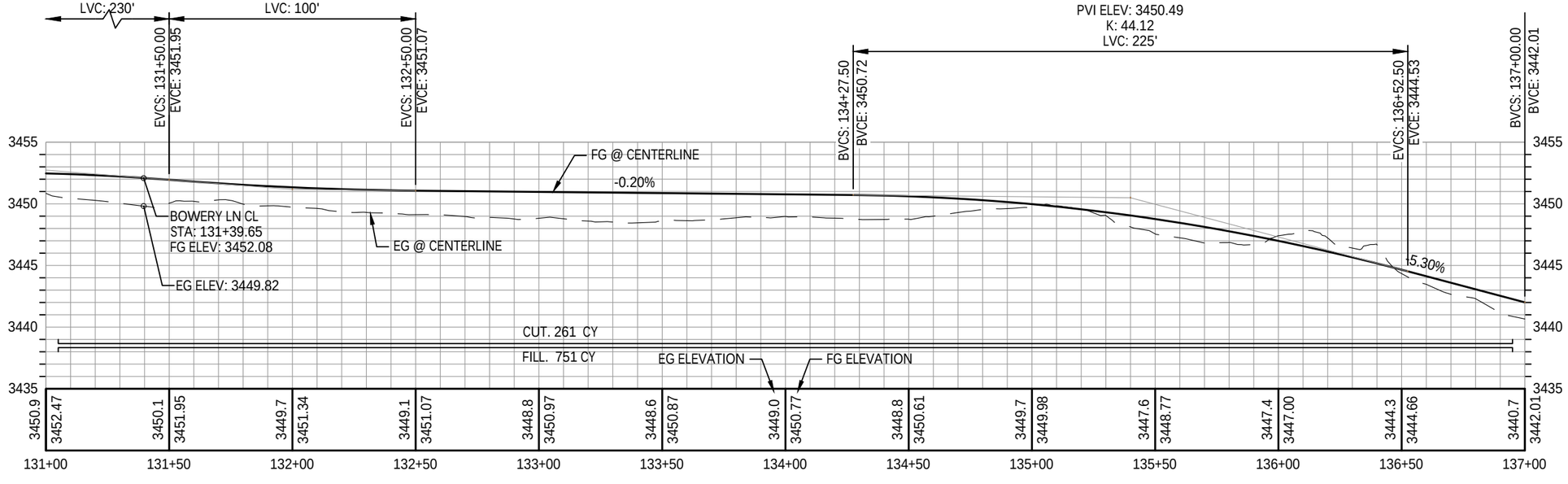
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 131+00 TO 137+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 131+00 TO 137+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. EXISTING OPEN-CHANNEL IRRIGATION FACILITY TO BE RECONSTRUCTED AS PIPED FACILITY. SEE SHEET CX02 FOR MORE INFORMATION.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 131+00 TO 137+00

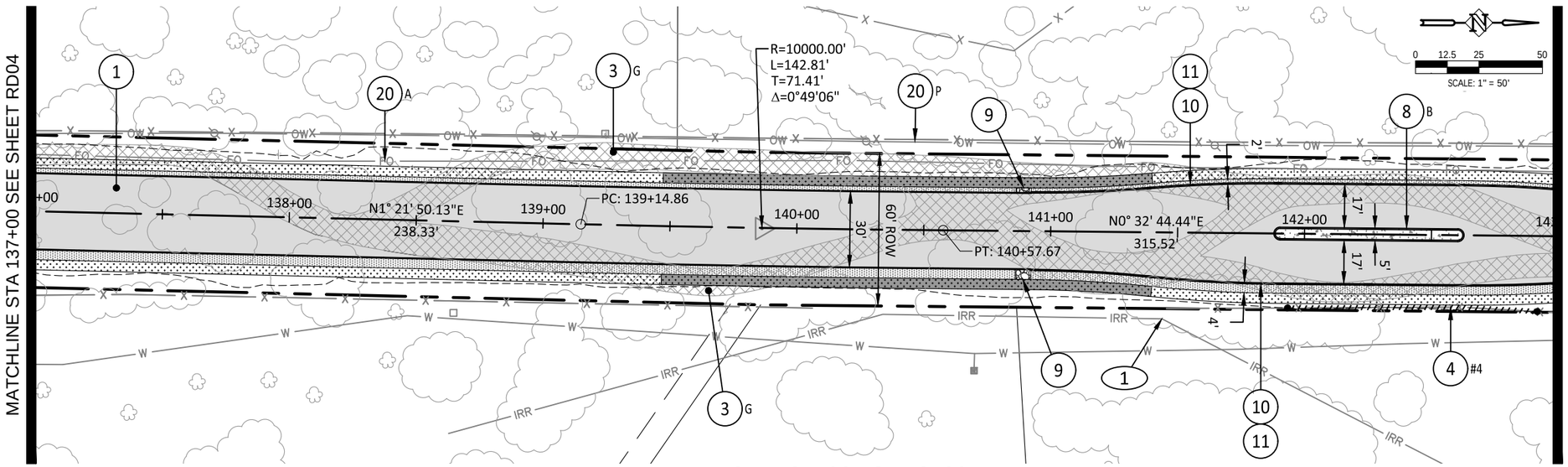
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD04

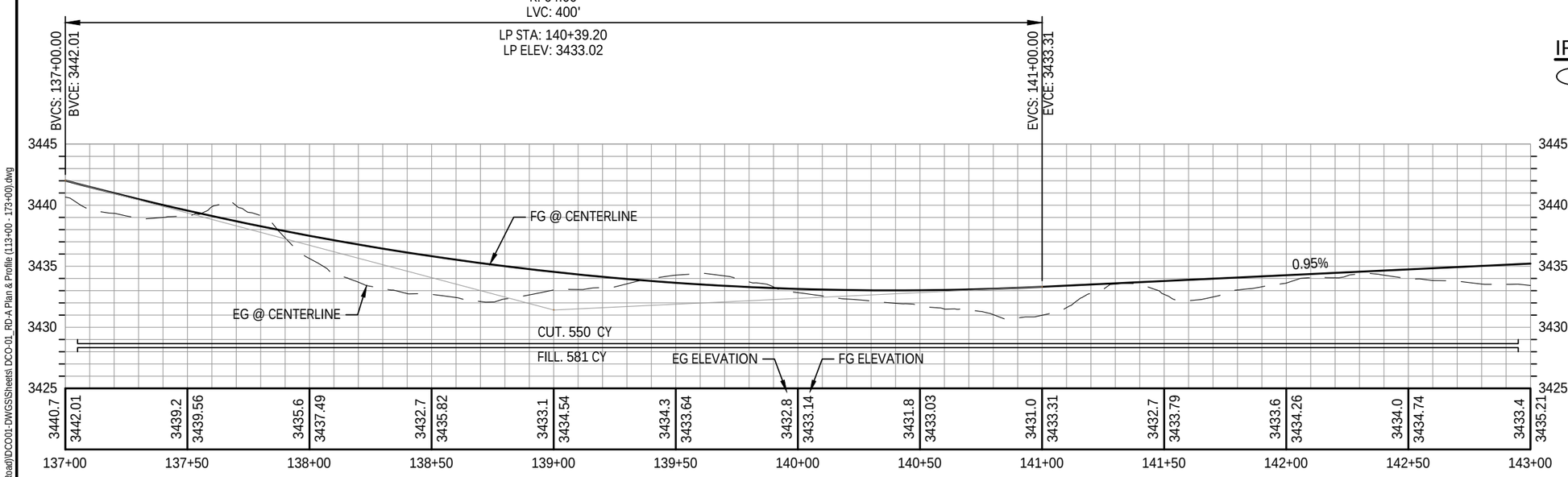
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 137+00 TO 143+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 137+00 TO 143+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. STA 141+44.15, 34.0' R
PRIVATE IRRIGATION LEAK;
TO BE REPAIRED BY OWNER.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 137+00 TO 143+00

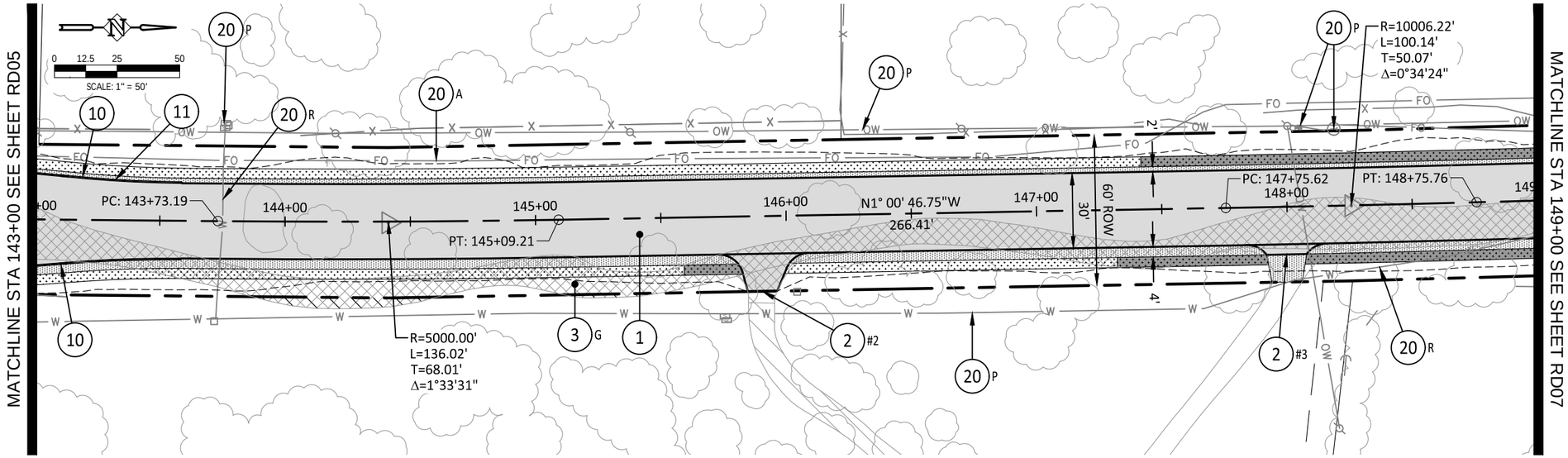
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD05

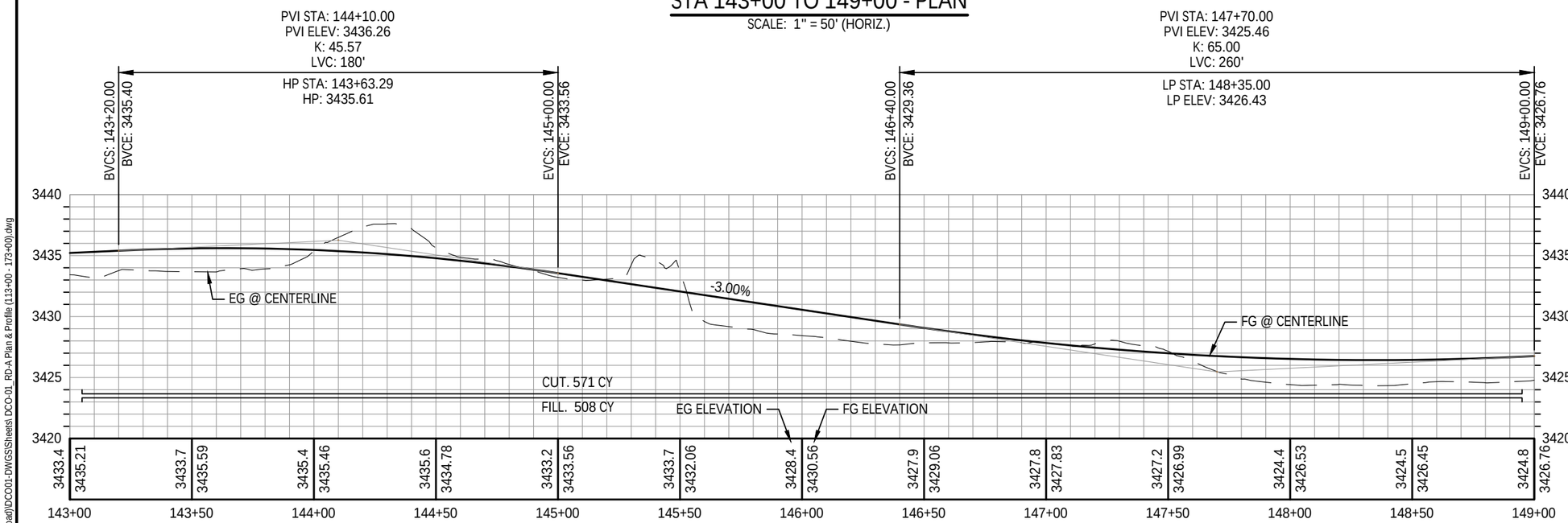
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 143+00 TO 149+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 143+00 TO 149+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 143+00 TO 149+00

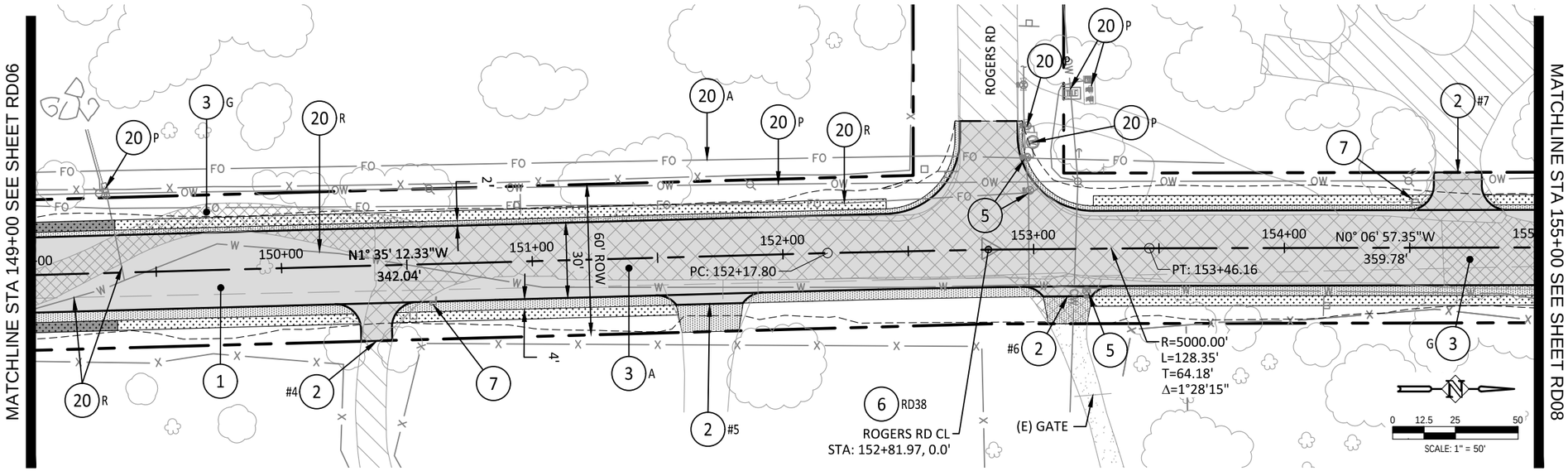
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD06

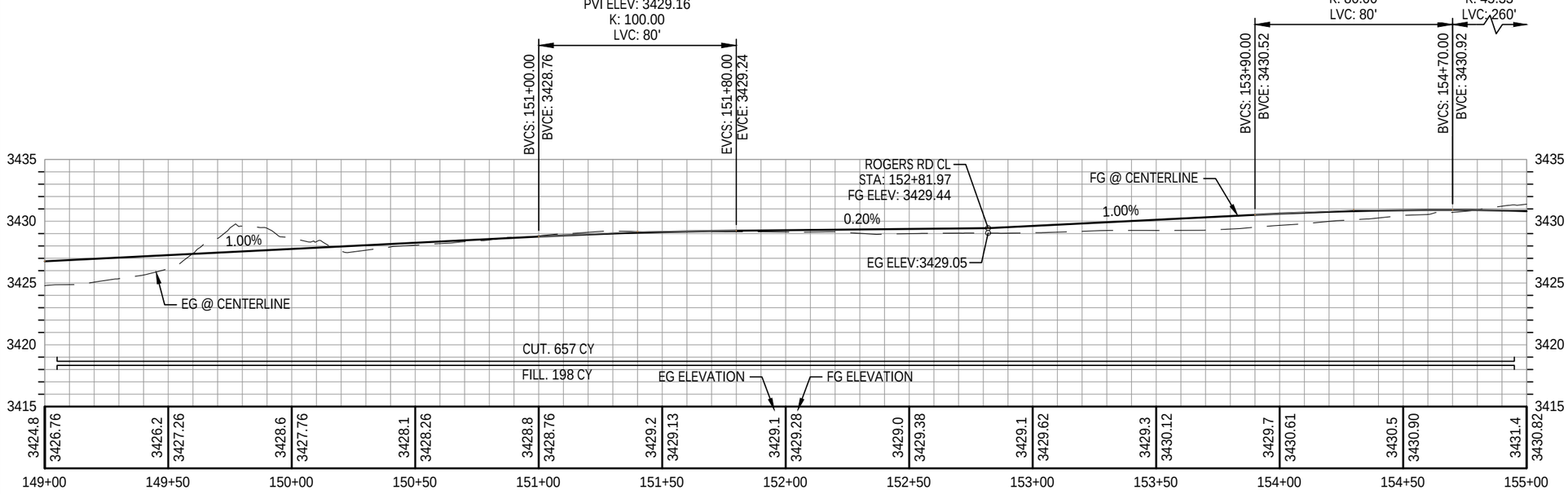
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 149+00 TO 155+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 149+00 TO 155+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
5. ADJUST EXISTING GATE VALVE BOX TO PROPOSED GRADE ELEVATION.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 149+00 TO 155+00

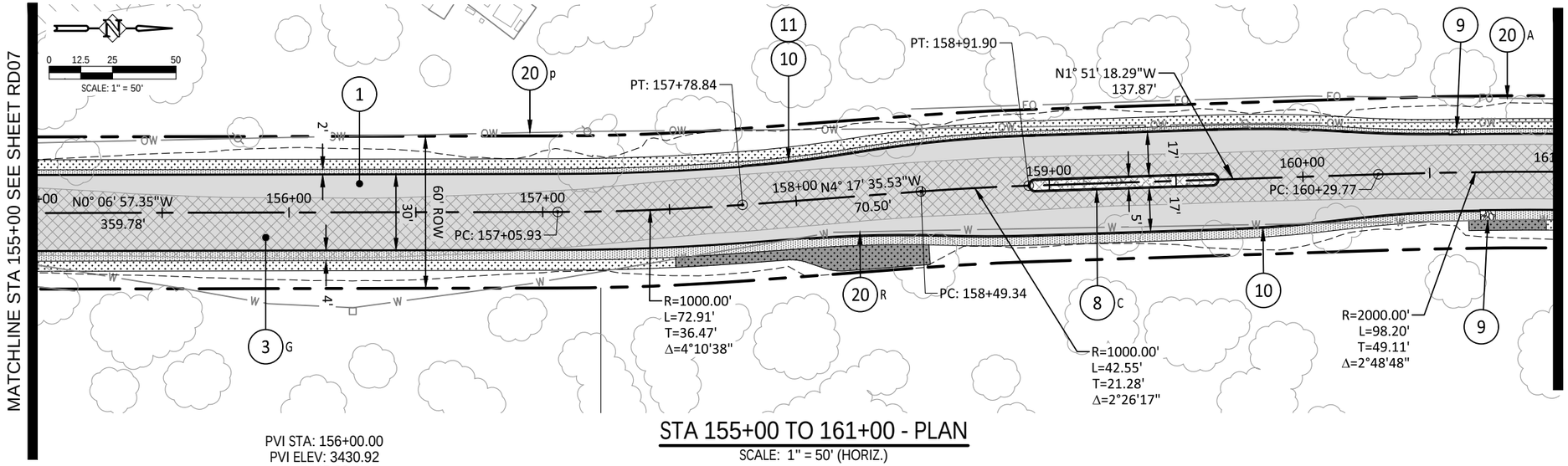
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD07

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_RD-A Plan & Profile (113+00 - 173+00).dwg

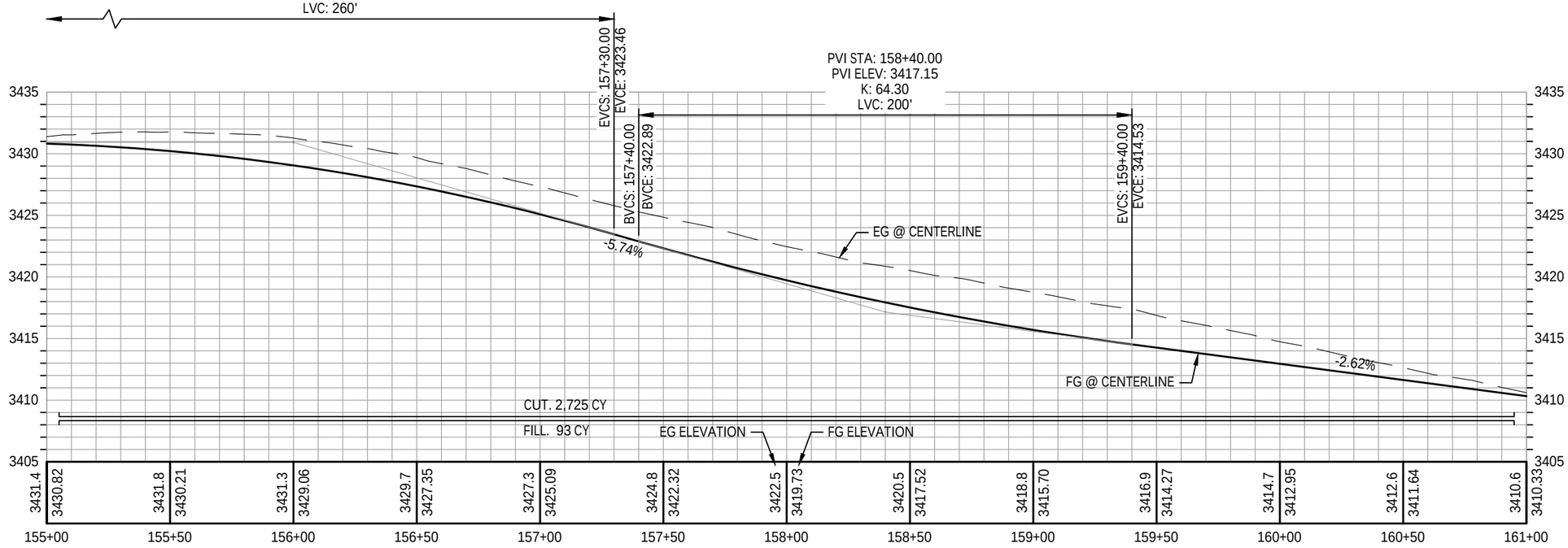


STA 155+00 TO 161+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



STA 155+00 TO 161+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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250 NW Franklin Ave, Suite 404, Bend, OR 97703
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PLAN & PROFILE - STA 155+00 TO 161+00

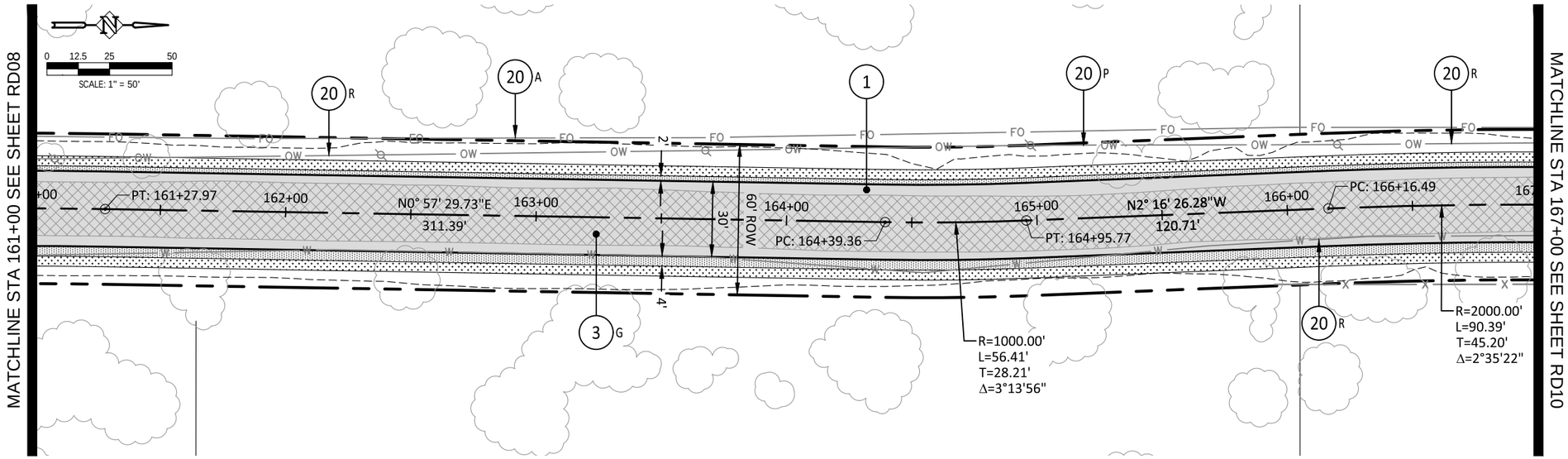
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD08

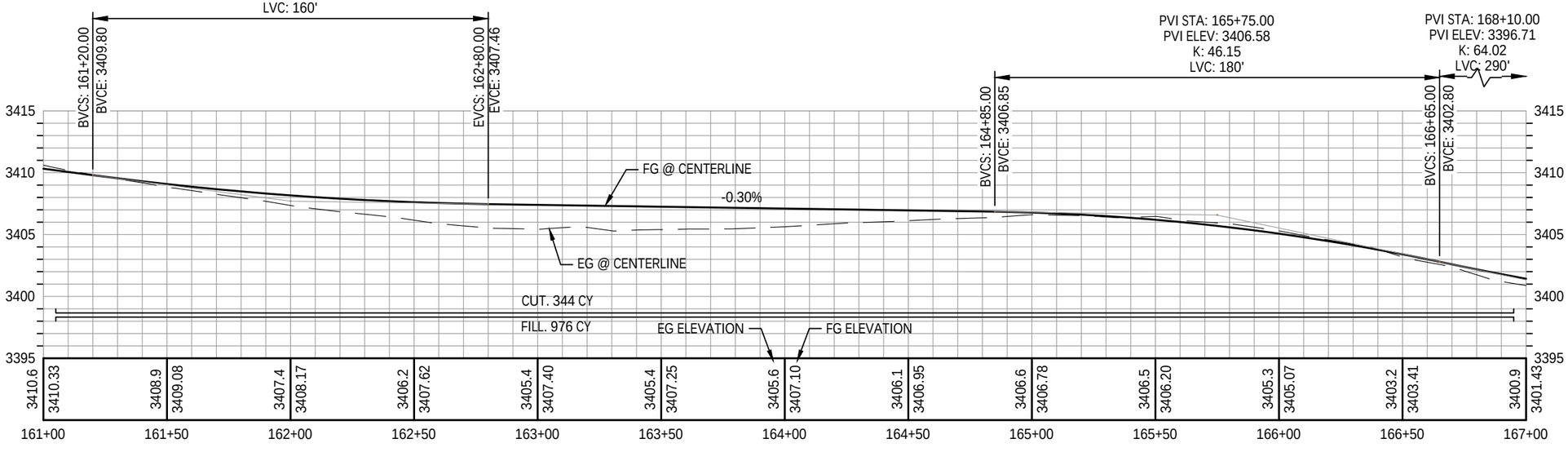
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-A Plan & Profile (113+00 - 173+00).dwg



STA 161+00 TO 167+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 161+00 TO 167+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 161+00 TO 167+00

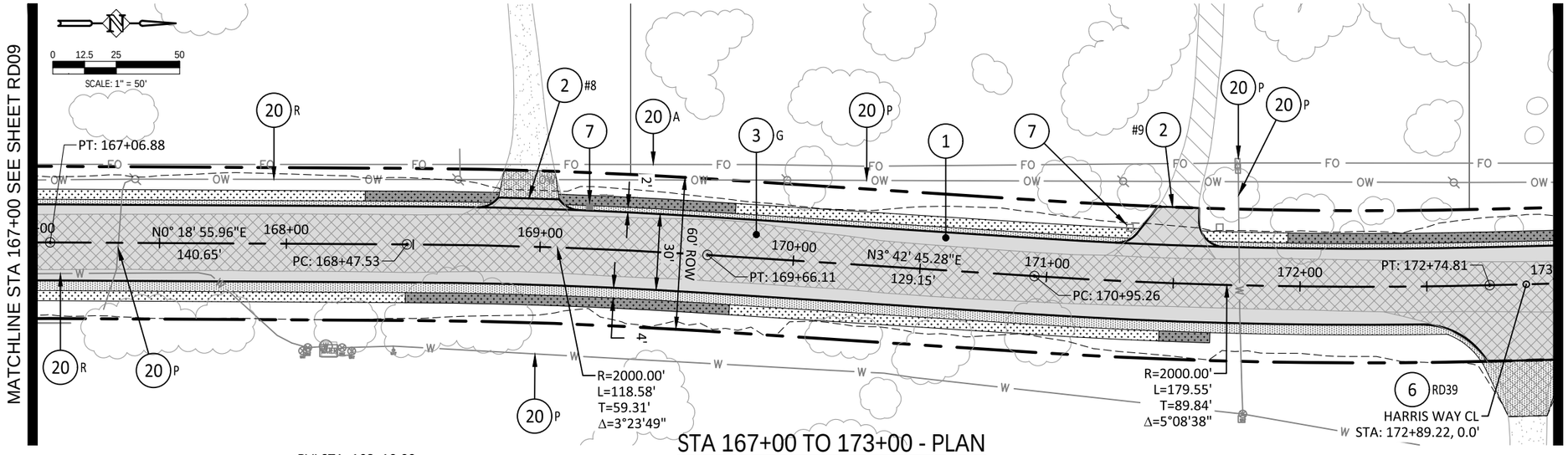
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD09

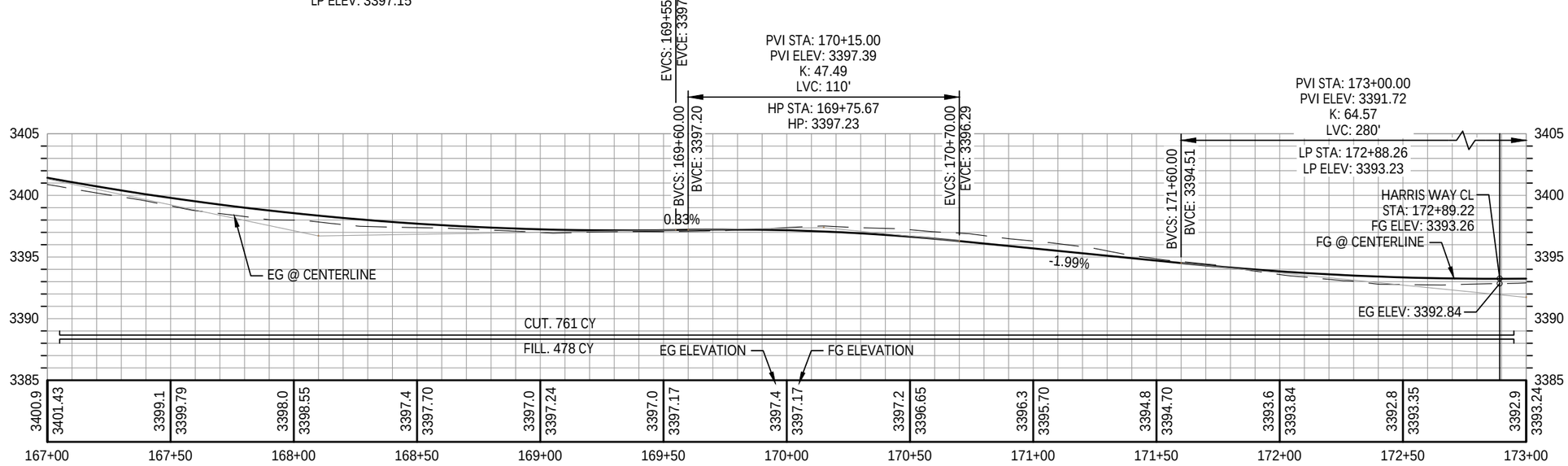
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-A Plan & Profile (113+00 - 173+00).dwg



STA 167+00 TO 173+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 167+00 TO 173+00- PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 167+00 TO 173+00

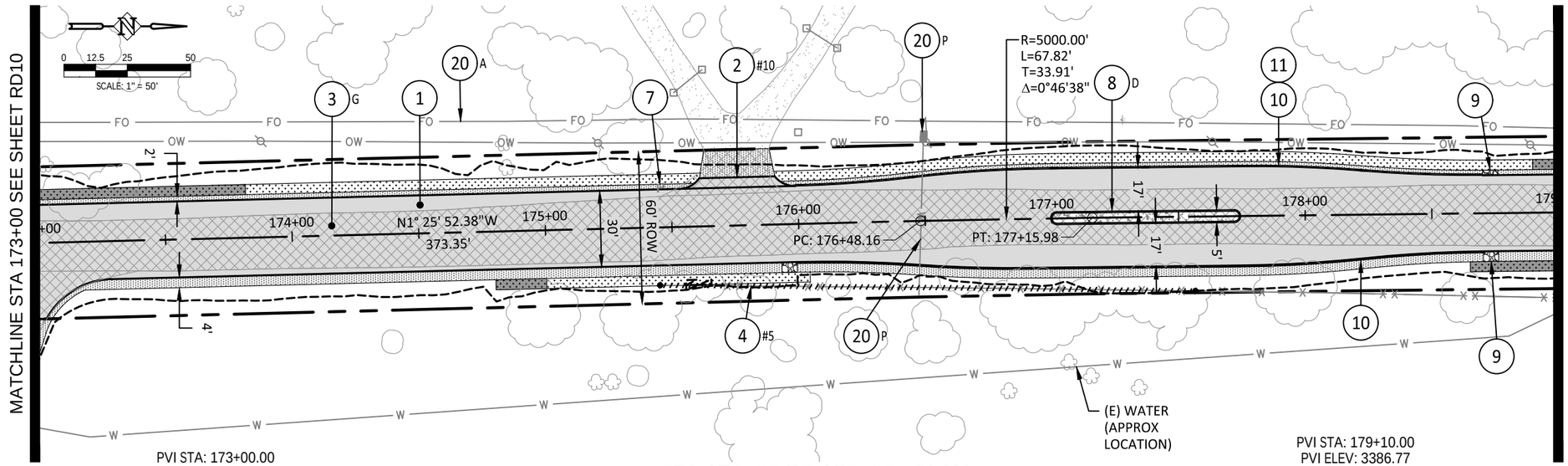
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD10

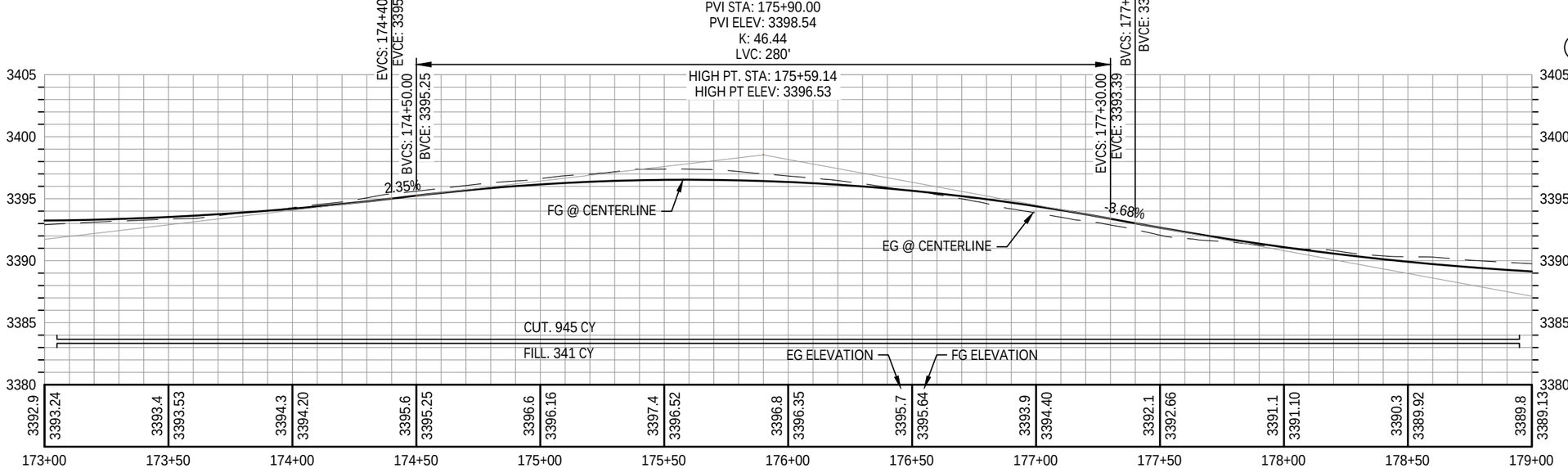
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_RD-A Plan & Profile (113+00 - 173+00).dwg



STA 173+00 TO 179+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 173+00 TO 179+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

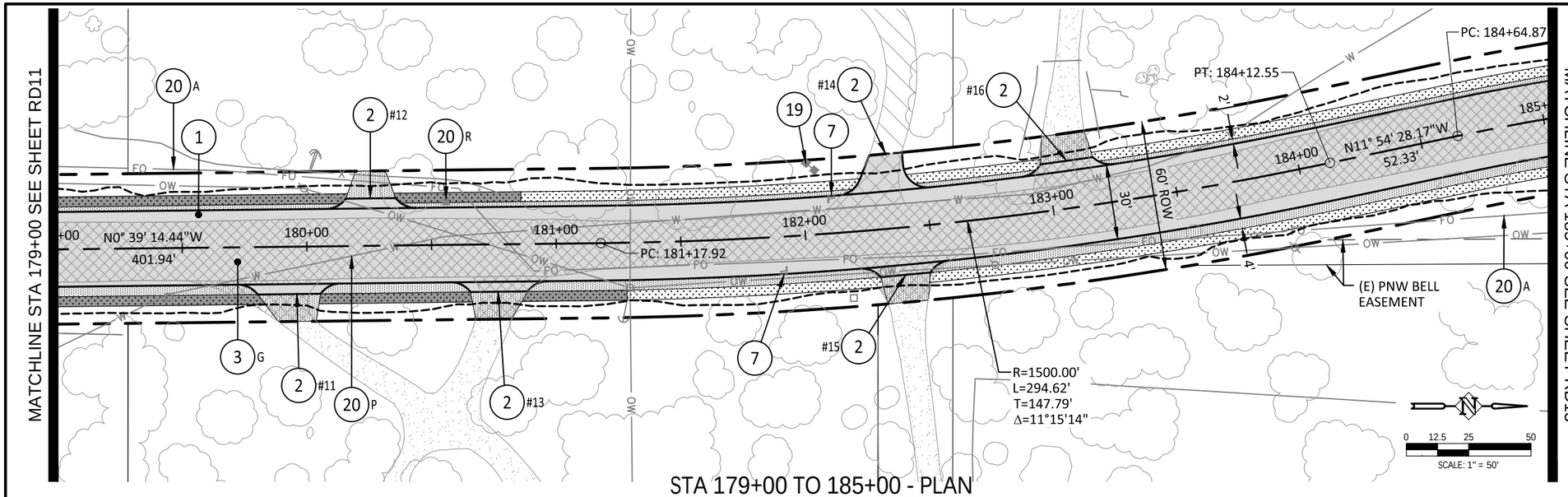
PLAN & PROFILE - STA 173+00 TO 179+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

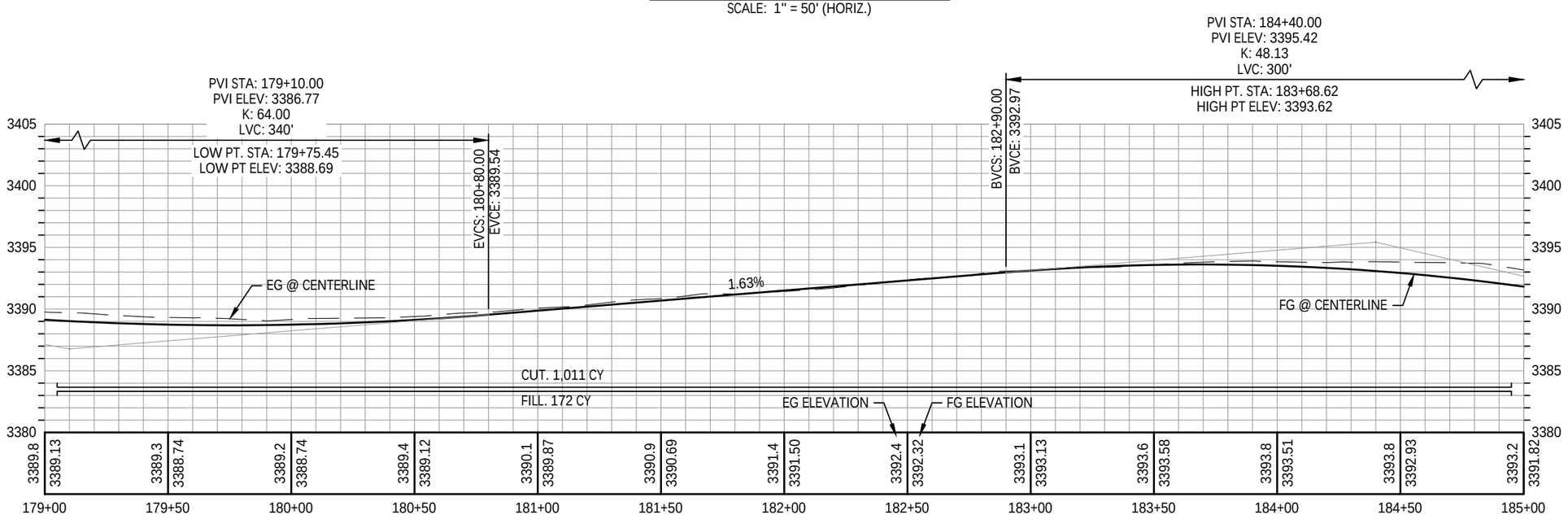
SHEET NO. RD11
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg



STA 179+00 TO 185+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 179+00 TO 185+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
19. EXISTING PROPERTY SIGN. PROTECT IN PLACE.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 179+00 TO 185+00

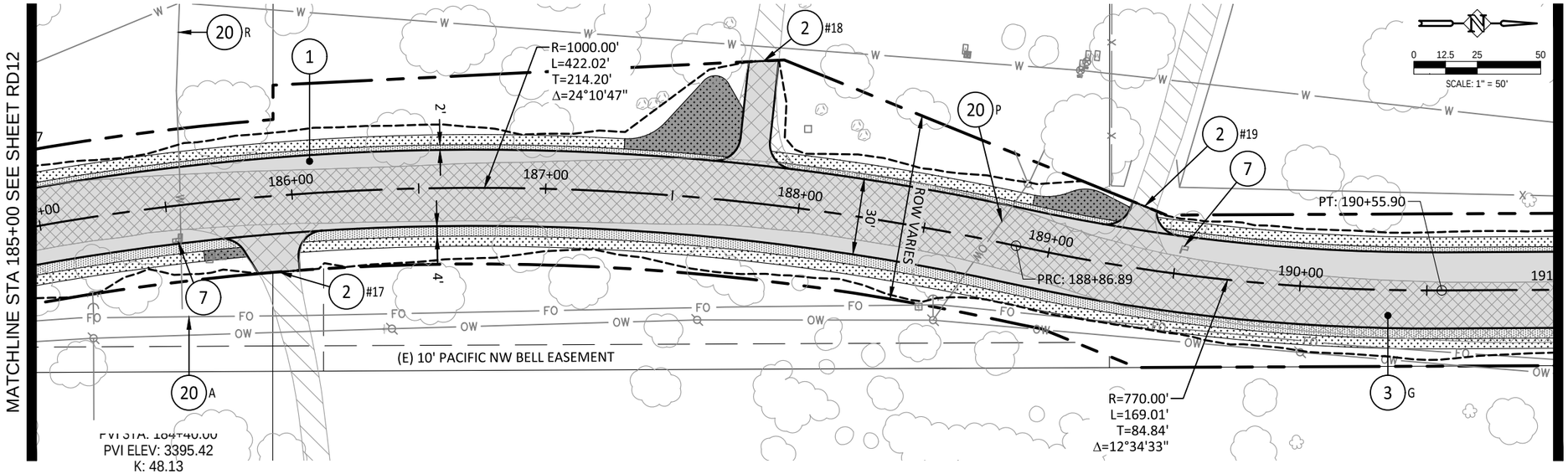
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD12

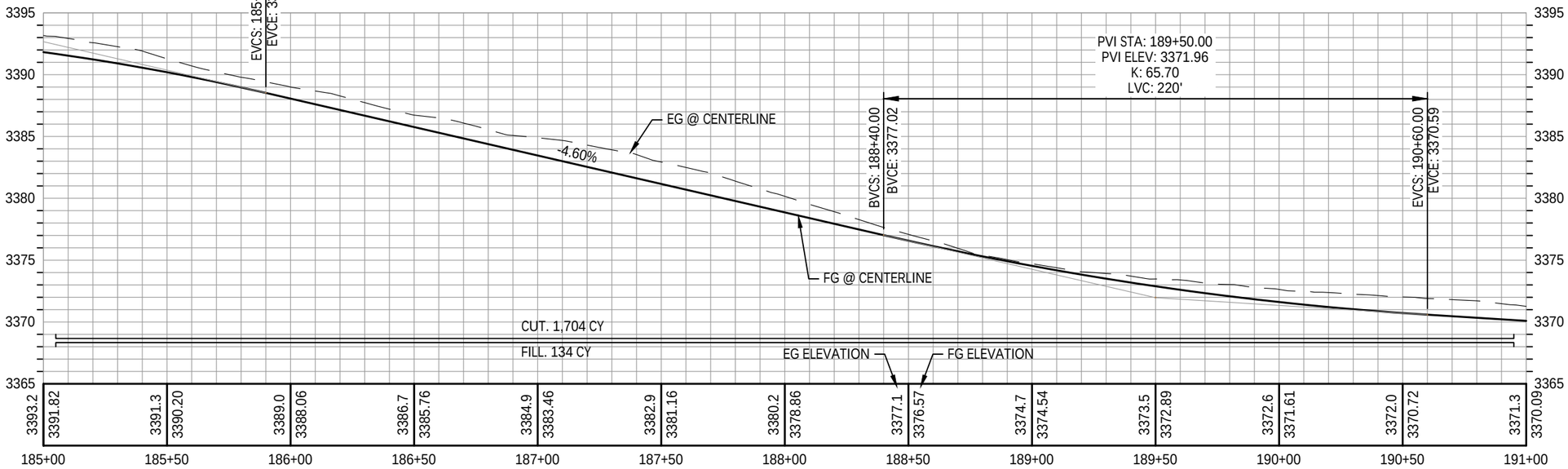
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg



STA 185+00 TO 191+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 185+00 TO 191+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
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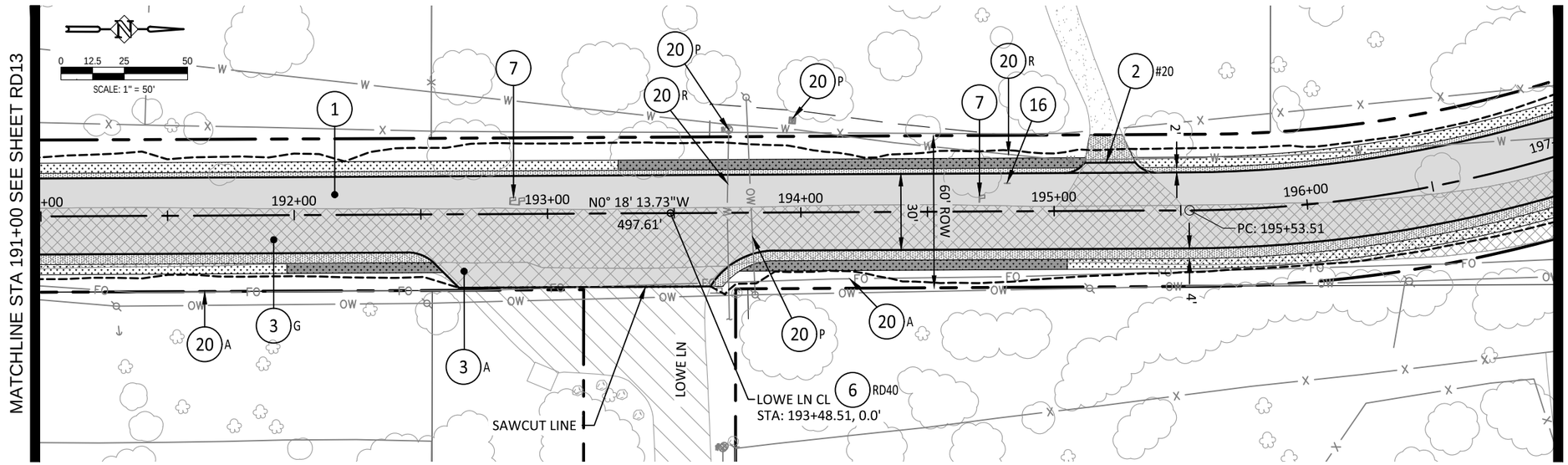
PLAN & PROFILE - STA 185+00 TO 191+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD13
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg

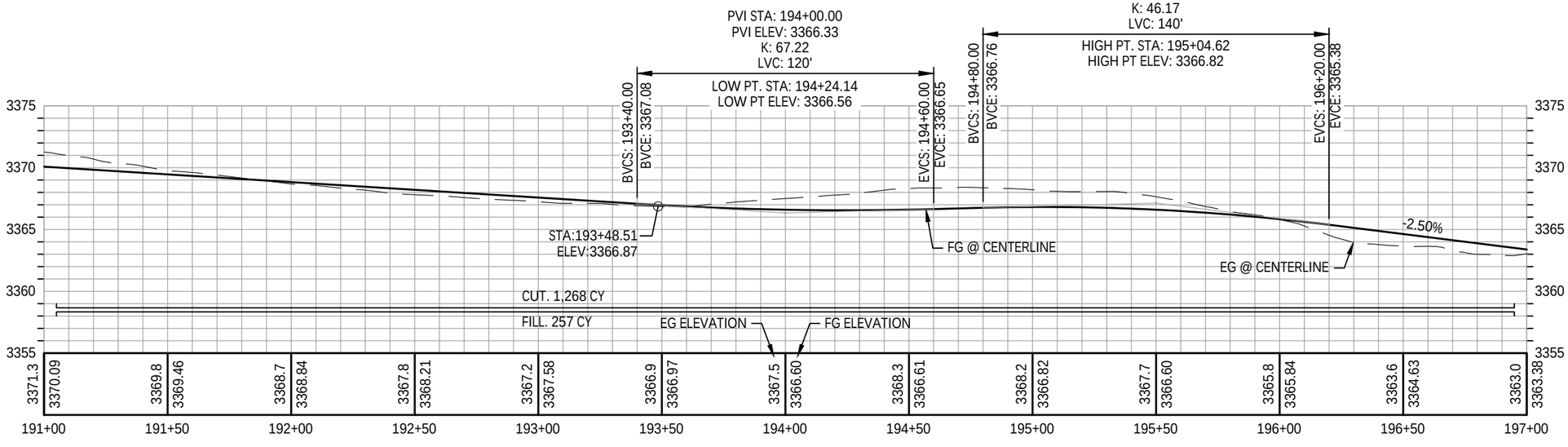


STA 191+00 TO 197+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
16. EXISTING LIBRARY BOX. REMOVE AND REINSTALL OUTSIDE OF PROPOSED ROADWAY SECTION.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



STA 191+00 TO 197+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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PLAN & PROFILE - STA 191+00 TO 197+00

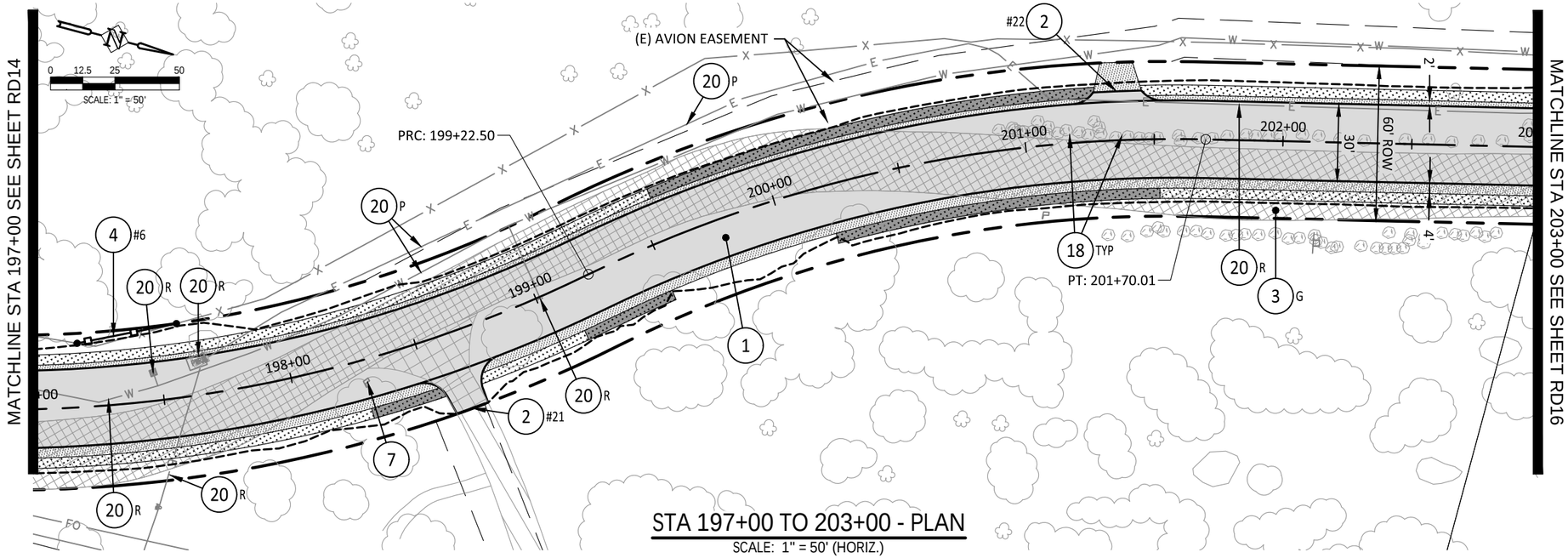
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD14

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-B Plan & Profile (173+00 - 233+00).dwg

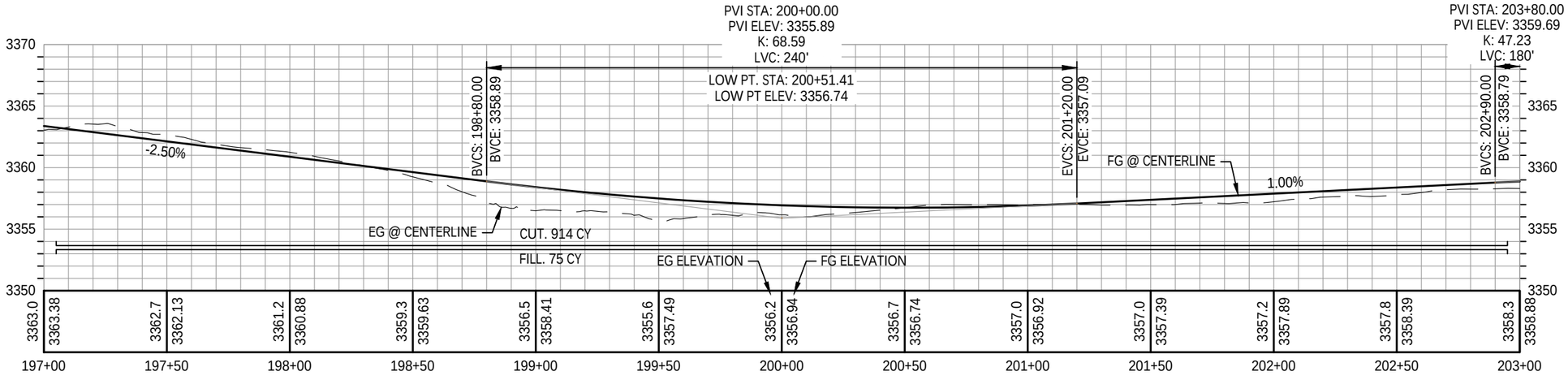


STA 197+00 TO 203+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
18. EXISTING BOULDER. REMOVE AND RELOCATE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



STA 197+00 TO 203+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS ♦ PLANNERS
LANDSCAPE ARCHITECTS ♦ SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 197+00 TO 203+00

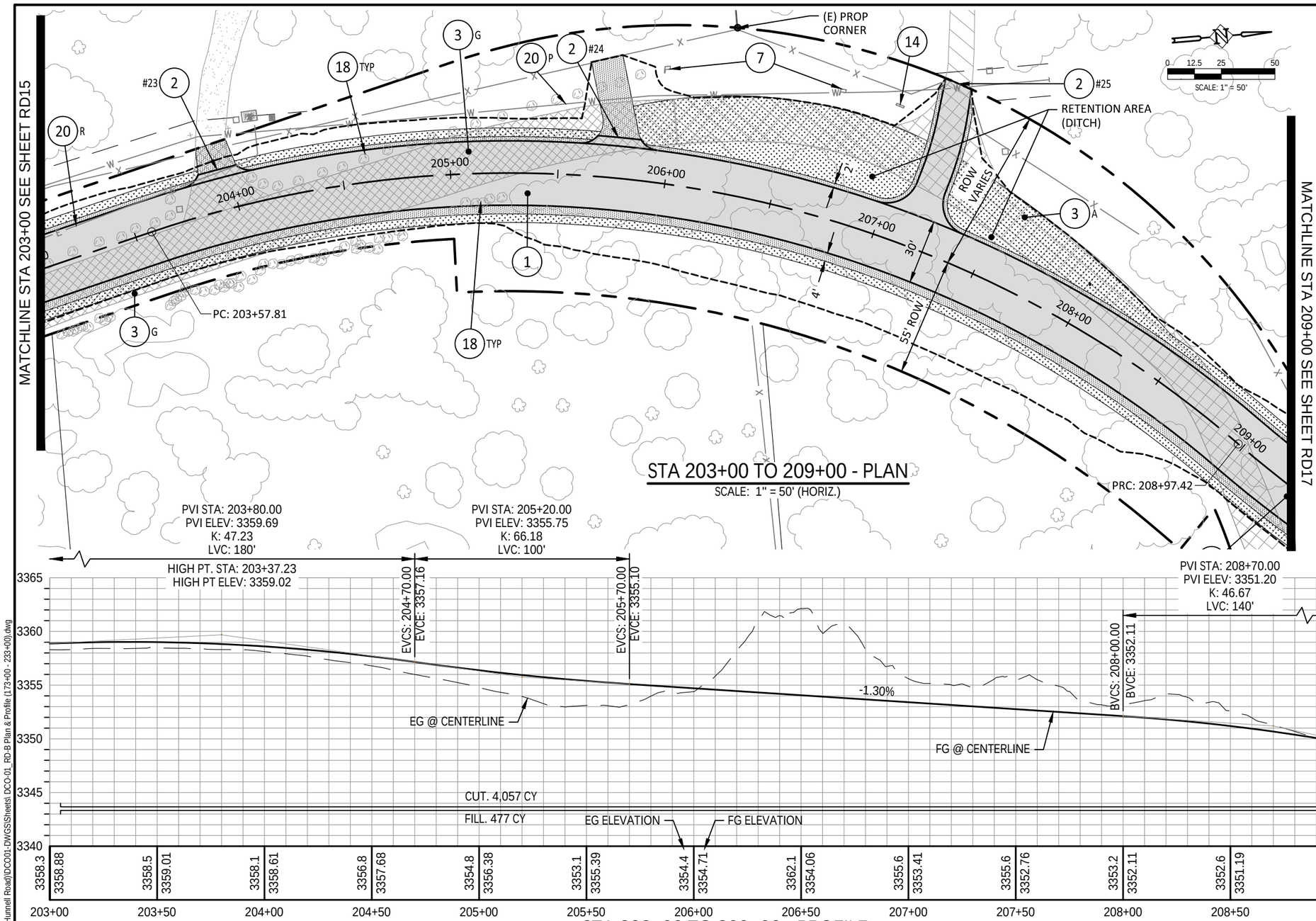
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD15

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg



STA 203+00 TO 209+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

STA 203+00 TO 209+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
SCALE: 1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
14. REBUILD FENCE AT ROW LINE USING EXISTING MATERIALS. PROPERTY OWNER TO BUILD NEW FENCE AT LATER DATE.
18. EXISTING BOULDER. REMOVE AND RELOCATE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER 94,828 OREGON MAY 15, 2019 NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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LANDSCAPE ARCHITECTS • SURVEYORS
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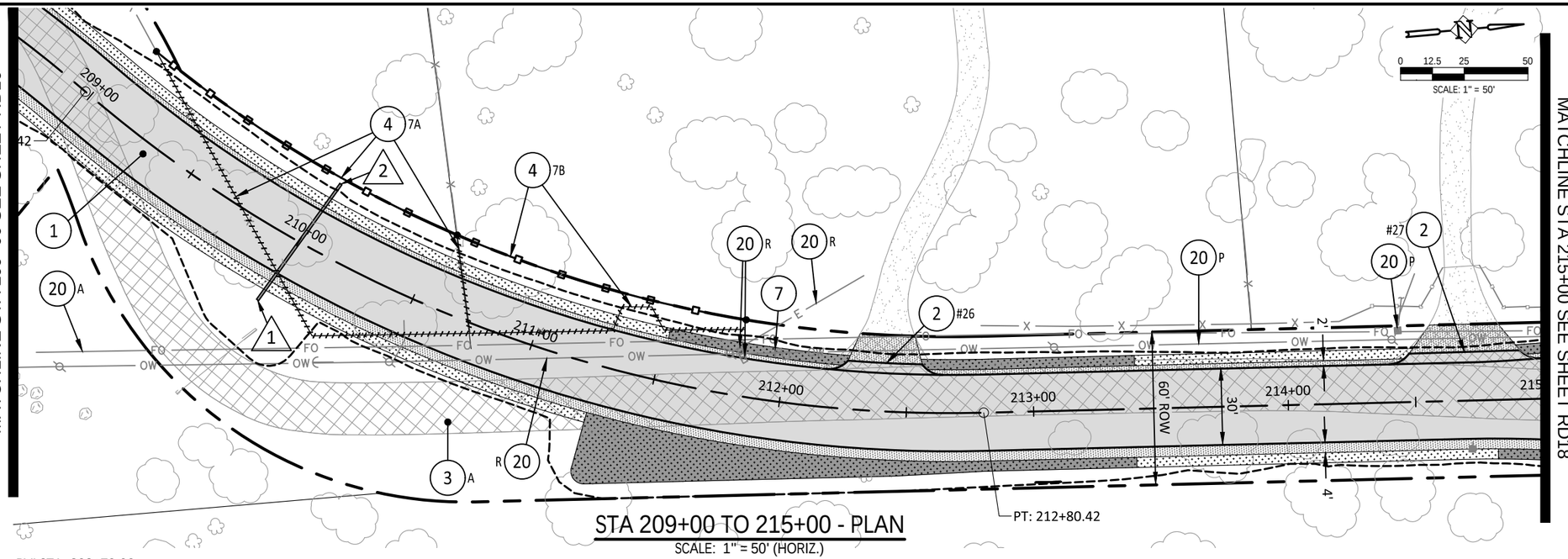
PLAN & PROFILE - STA 203+00 TO 209+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

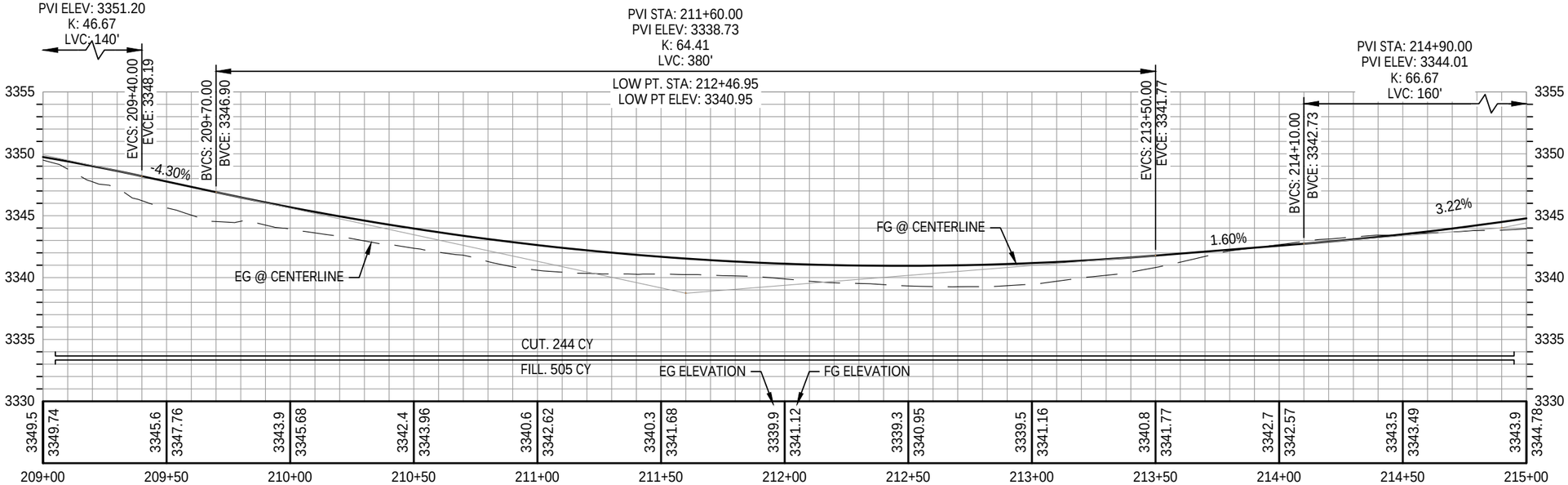
SHEET NO. RD16
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-B Plan & Profile (173+00 - 233+00).dwg



STA 209+00 TO 215+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 209+00 TO 215+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

STORM SEWER NOTES:

1. STA 209+97.26, 27.9' R
   CULVERT INLET
   12" IE = 3343.50
   CONSTRUCT 56.0 LF 12" CMP CULVERT @
   S = -0.5% TO OUTLET. SEE STORM SEWER NOTE 2.
2. STA 210+03.40, 27.8' L
   CULVERT OUTLET
   12" IE = 3343.20

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 209+00 TO 215+00

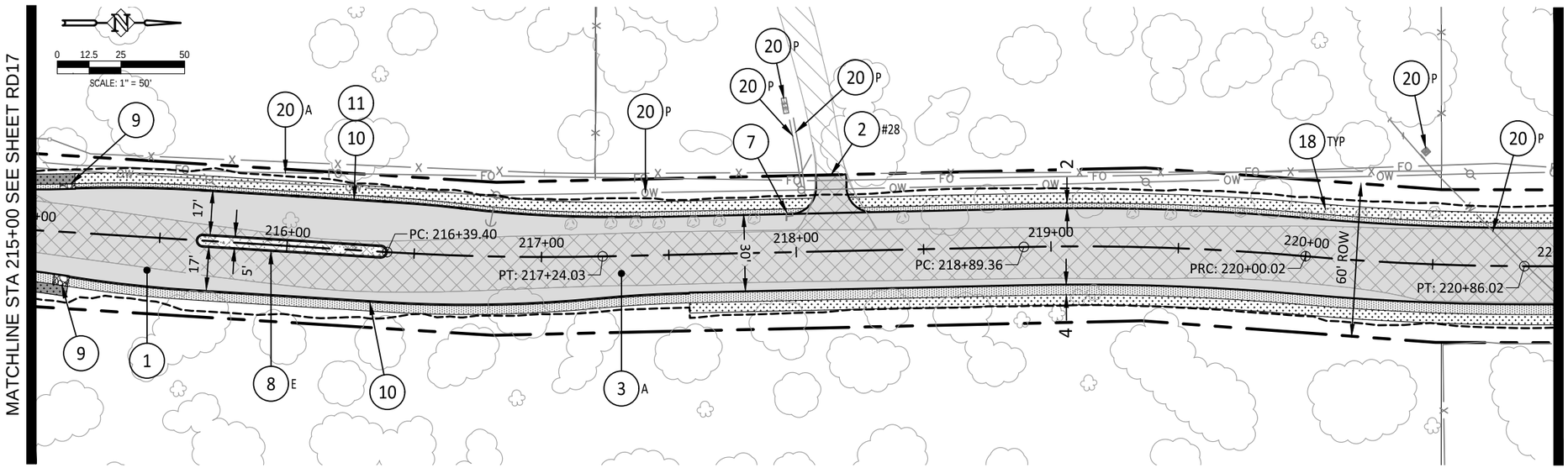
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD17

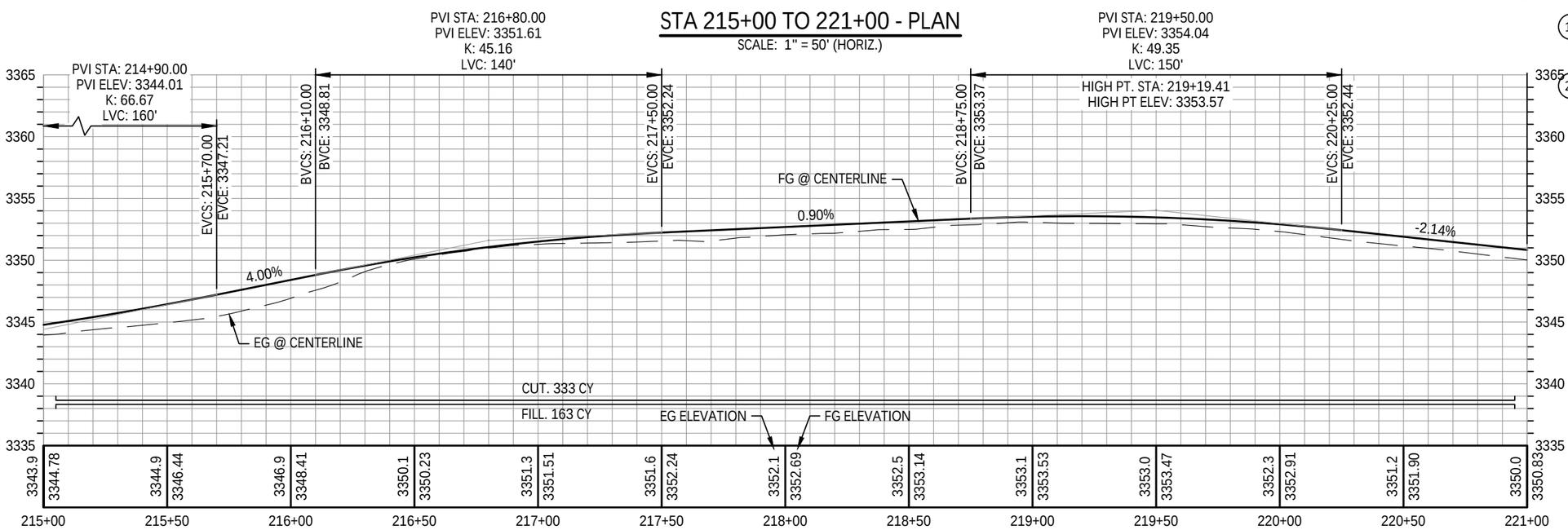
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-B Plan & Profile (173+00 - 233+00).dwg



STA 215+00 TO 221+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 215+00 TO 221+00

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
18. EXISTING BOULDER. REMOVE AND RELOCATE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 215+00 TO 221+00

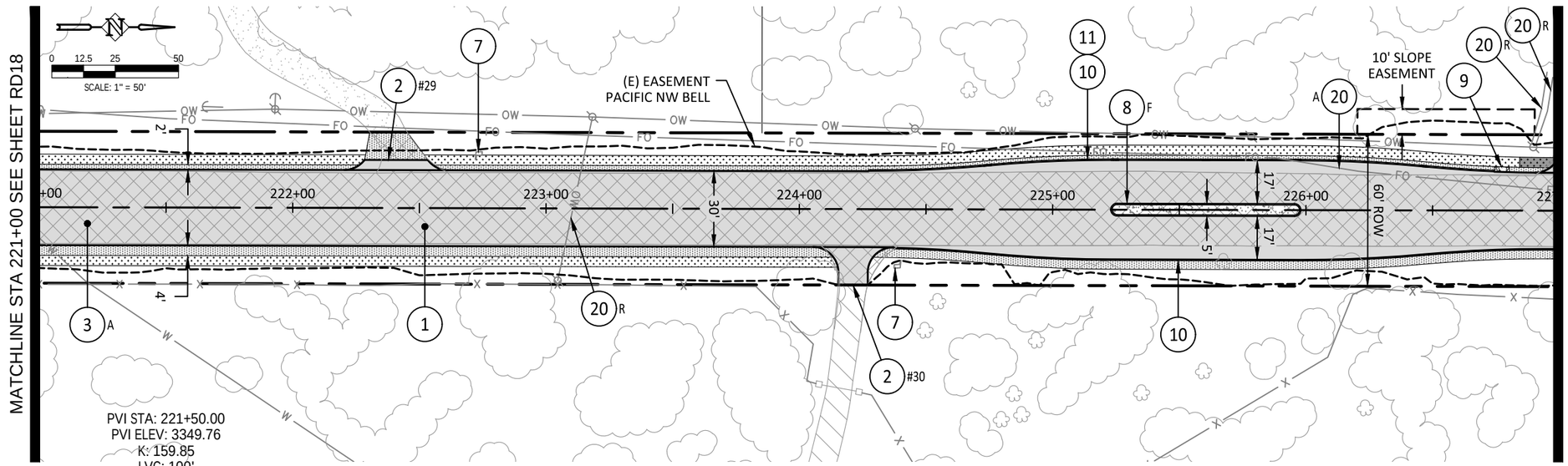
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD18

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg



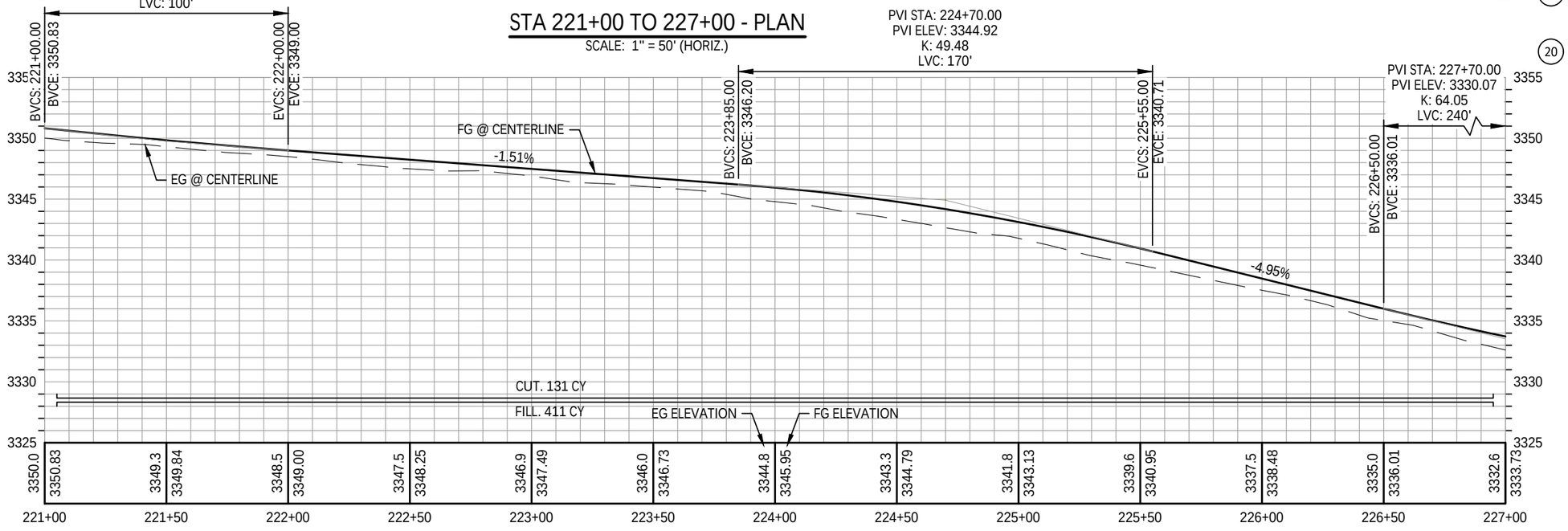
PVI STA: 221+50.00
PVI ELEV: 3349.76
K: 159.85
LVC: 100'

PVI STA: 224+70.00
PVI ELEV: 3344.92
K: 49.48
LVC: 170'

PVI STA: 227+70.00
PVI ELEV: 3330.07
K: 64.05
LVC: 240'

STA 221+00 TO 227+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 221+00 TO 227+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
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CHECKED: NS
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LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 221+00 TO 227+00

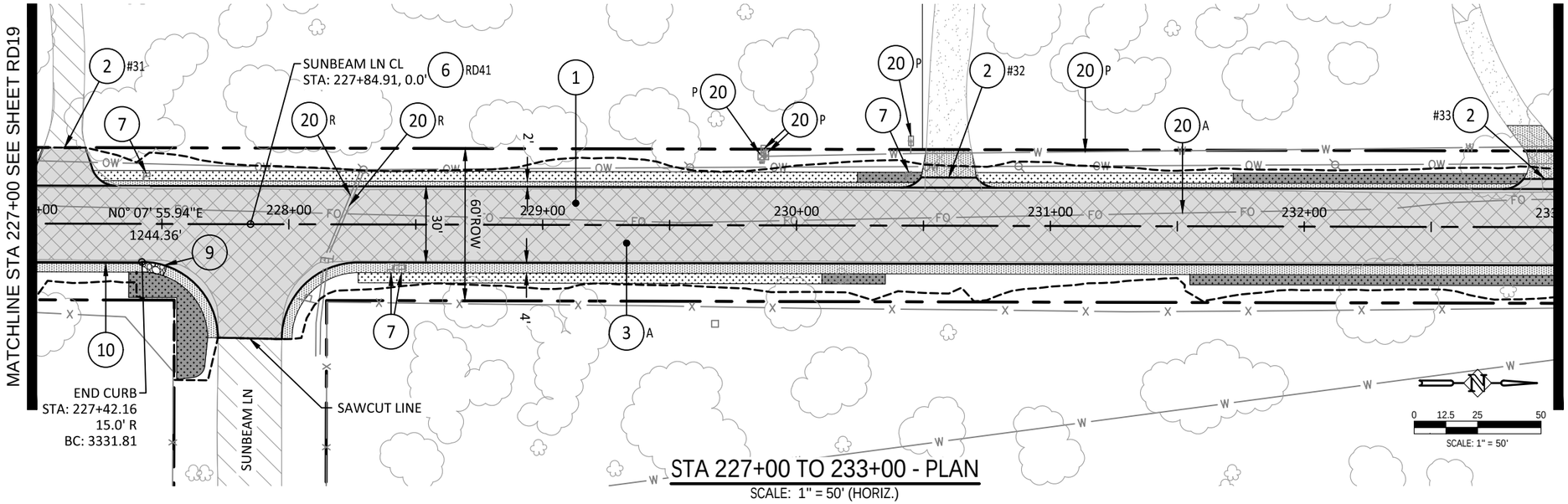
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD19

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg

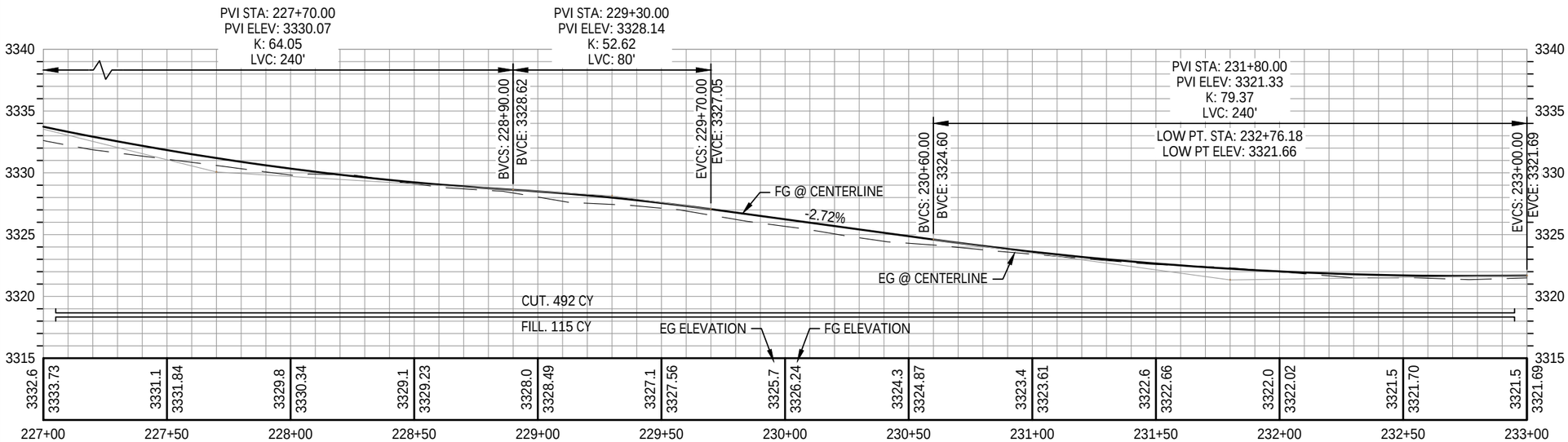


STA 227+00 TO 233+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



STA 227+00 TO 233+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 227+00 TO 233+00

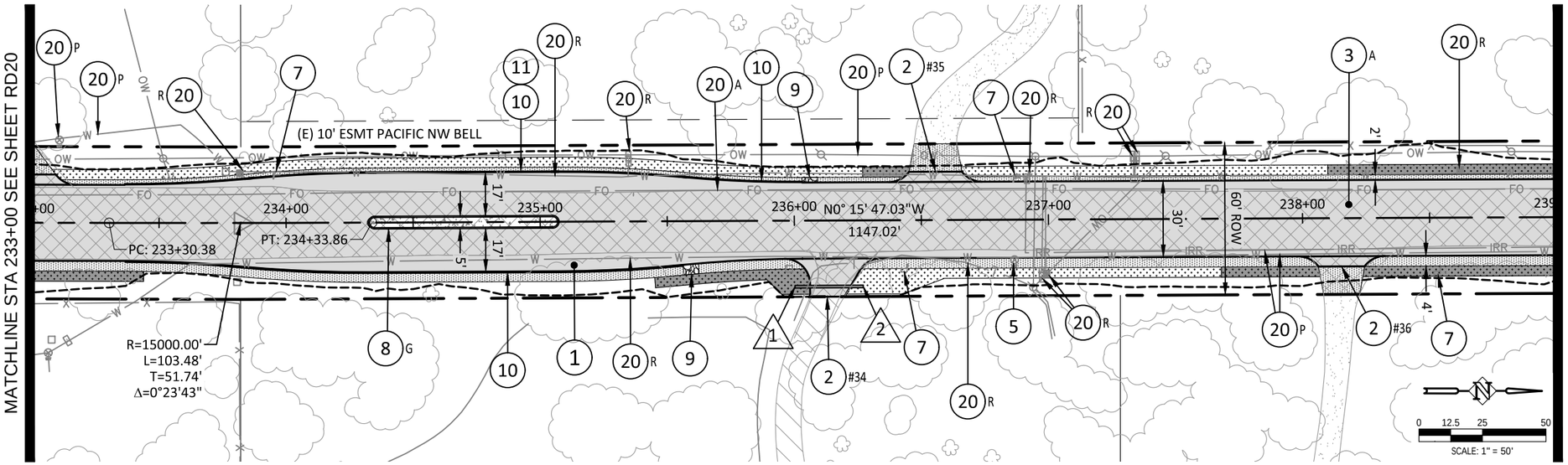
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD20

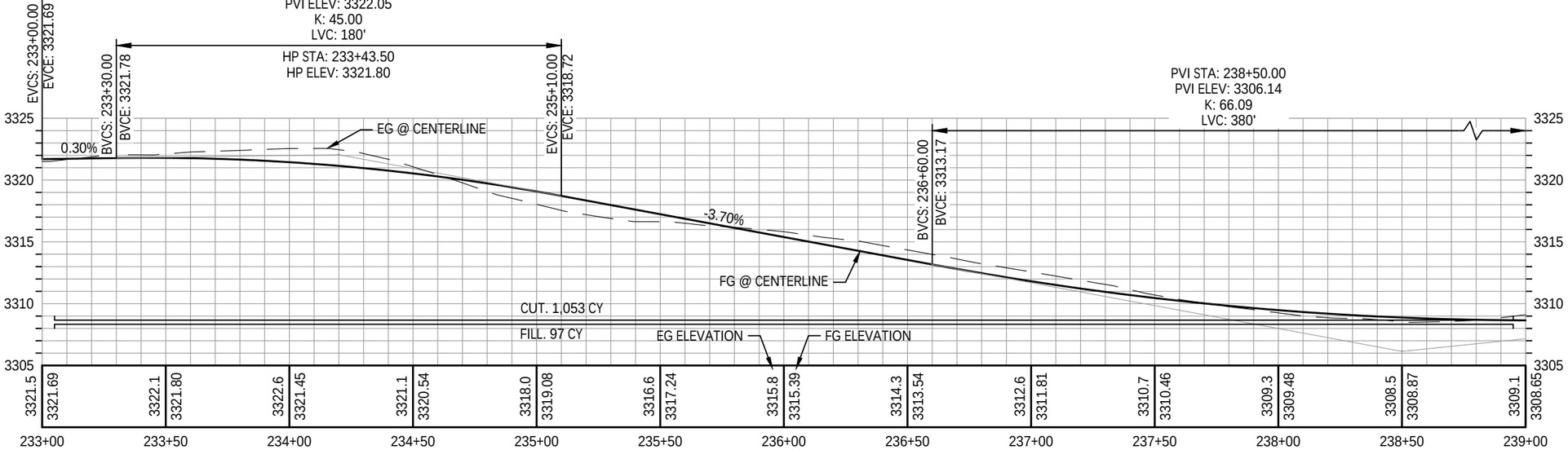
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-B Plan & Profile (173+00 - 233+00).dwg



STA 233+00 TO 239+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 233+00 TO 239+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
5. ADJUST EXISTING GATE VALVE BOX TO PROPOSED GRADE ELEVATION.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

STORM SEWER NOTES:

1. STA 236+00.13, 26.0' R
   CULVERT INLET
   12" IE = 3313.71
   CONSTRUCT 26.8 LF 12" CMP CULVERT @
   S = -2.0% TO OUTLET. SEE STORM SEWER NOTE 2.
2. STA 236+26.97, 26.0' R
   CULVERT OUTLET
   12" IE = 3313.17

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 233+00 TO 239+00

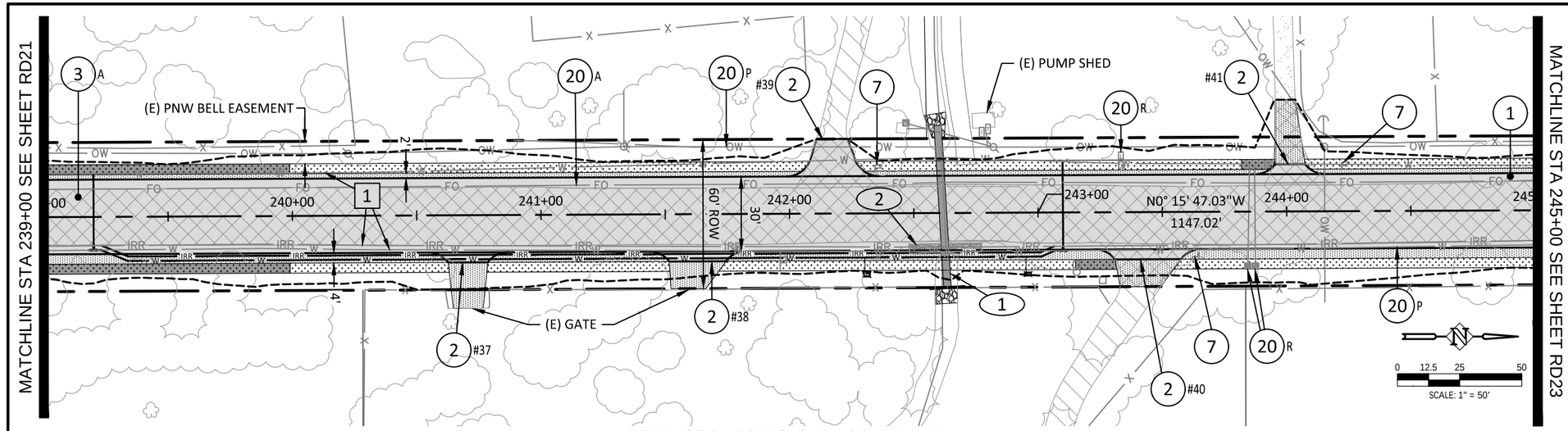
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD21

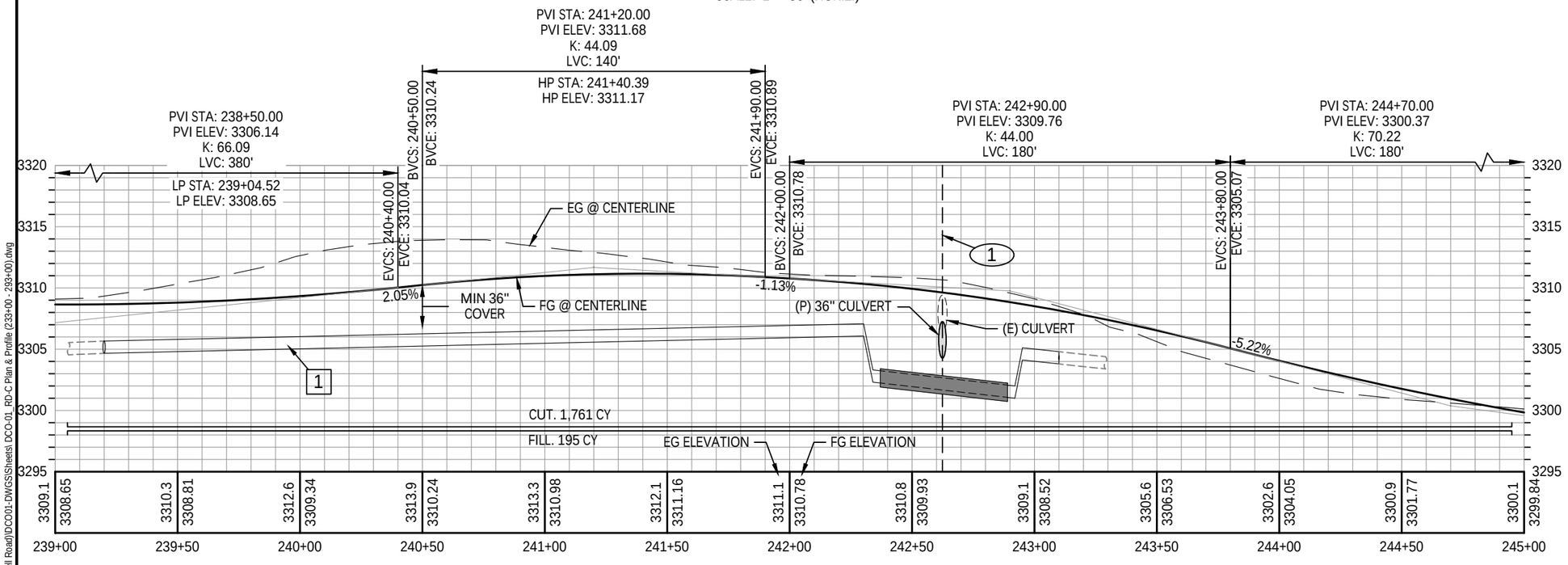
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-C Plan & Profile (233+00 - 293+00).dwg



STA 239+00 TO 245+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 239+00 TO 245+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. EXISTING IRRIGATION CANAL CROSSING TO BE RECONSTRUCTED. SEE SHEET CX03 FOR MORE INFORMATION.
2. DEMO & REMOVE EXISTING CONCRETE HEADWALL. SEE SHEET CX03 FOR MORE INFORMATION.

WATER MAIN NOTES:

1. SEE SHEET RD22.1 FOR AVION WATER LINE DEMO & RELOCATION PLANS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 239+00 TO 245+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

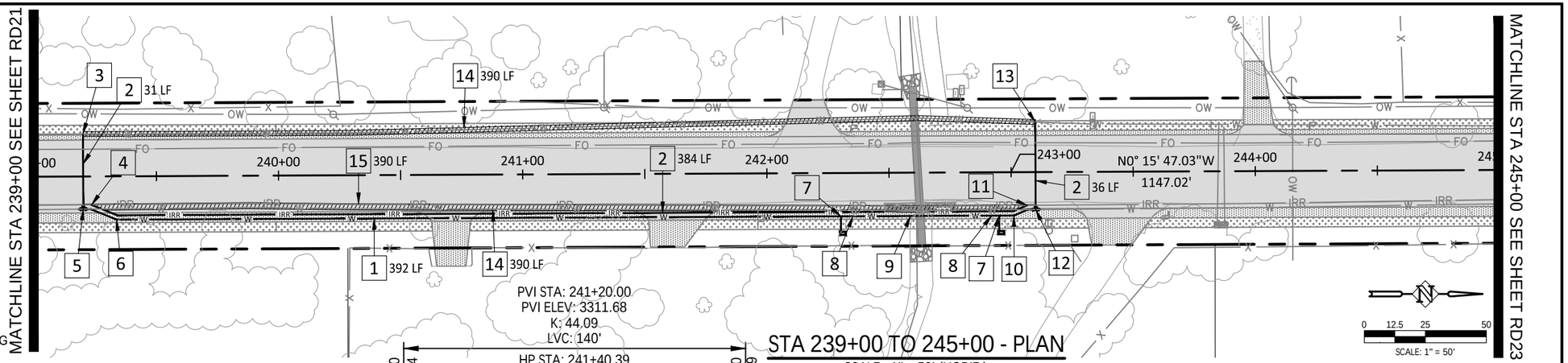
SHEET NO. RD22

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-C Plan & Profile (233+00 - 293+00).dwg

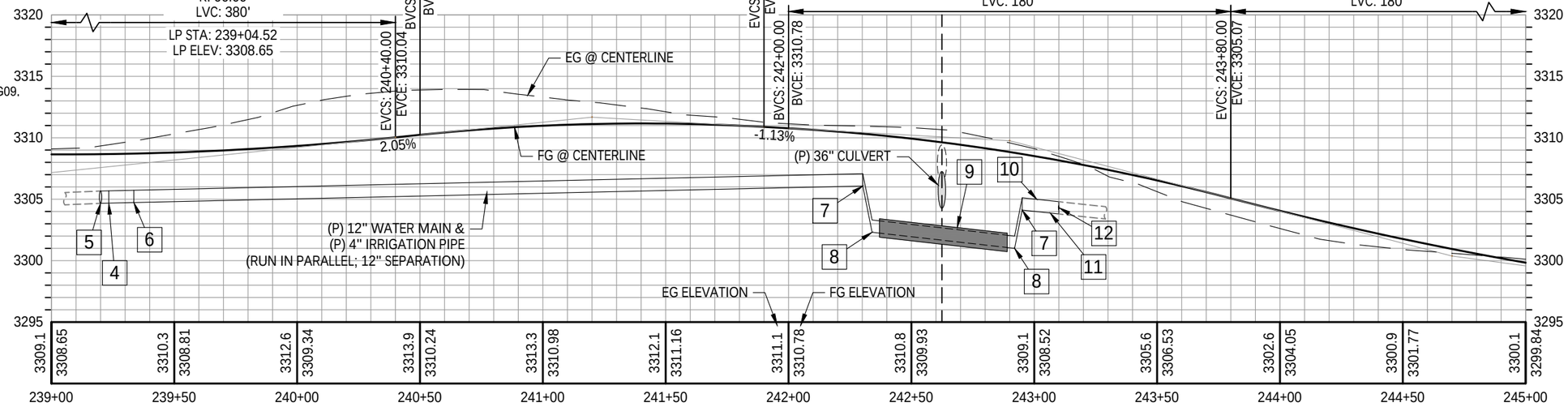
WATER MAIN NOTES: [1]

1. CONSTRUCT 12" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
2. CONSTRUCT 4" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
3. STA 239+20.00, 17.4' L
   CUT EXISTING 4" WATER MAIN; INSTALL 1 - 4" 90° BEND [3]; CONNECT TO EXISTING 4" DOMESTIC WATER MAIN CONTINUING SOUTH.
4. STA 239+23.36, 11.6' R
   CUT EXISTING 4" IRRIGATION LINE; INSTALL 1 - 4" 22.5° BEND [3]; CONNECT TO EXISTING 4" IRRIGATION MAIN CONTINUING SOUTH.
5. STA 239+20.00, 13.4' R
   12" WAT: INSTALL STRADDLE BLOCK [4]; CUT EXISTING 12" WATER MAIN; INSTALL 1 - 12" TEE [3];
   SOUTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; CONNECT TO EXISTING 12" WATER MAIN;
   WEST LEG: INSTALL 1 - 12" x 4" REDUCER [3]; 1 - 4" G.V. ASSEMBLY;
   NORTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; 1 - 12" 22.5° BEND. [3]
6. STA 239+33.57, 17.7' R [2]
   12" WAT: INSTALL 1 - 12" 22.5° BEND. [3]
   4" IRR: INSTALL 1 - 4" 22.5° BEND. [3]
7. STA 242+30.23, 17.7' R & 242+95.08, 17.7' R [2]
   12" WAT: INSTALL 1 - 12" 45° VERTICAL BEND [3];
   1 - AIR RELIEF VALVE PER DETAIL ON SHEET G09.
   4" IRR: INSTALL 1 - 4" 45° VERTICAL BEND. [3]
8. STA 242+34.00, 17.7' R & STA 242+92.00, 17.7' R [2]
   12" WAT: INSTALL 1 - 12" 45° VERTICAL BEND [3];
   4" IRR: INSTALL 1 - 4" 45° VERTICAL BEND. [3]
9. STA 242+37.00, 17.7' R TO 242+89.00, 17.7' R [2]
   12" WAT: 12" WATER PIPE TO BE ENCASED IN 18" SDR17 HDPE PIPE WITH WELDED JOINTS.
   4" IRR: 4" IRRIGATION PIPE TO BE ENCASED IN 10" SDR17 HDPE PIPE WITH WELDED JOINTS.
10. STA 243+01.08, 17.7' R [2]
    12" WAT: INSTALL 1 - 12" 22.5° BEND. [3]
    4" IRR: INSTALL 1 - 4" 22.5° BEND. [3]
11. STA 243+06.53, 13.6' R
    CUT EXISTING 4" IRRIGATION LINE; INSTALL 1 - 4" 22.5° BEND [3]; CONNECT TO EXISTING 4" IRRIGATION MAIN CONTINUING SOUTH.
12. STA 243+10.00, 15.4' R
    12" WAT: INSTALL STRADDLE BLOCK [4]; CUT EXISTING 12" WATER MAIN; INSTALL 1 - 12" TEE [3];
    SOUTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; 1 - 12" 22.5° BEND [3];
    WEST LEG: INSTALL 1 - 12" x 4" REDUCER [3]; 1 - 4" G.V. ASSEMBLY;
    NORTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; CONNECT TO EXISTING 12" WATER MAIN.
13. STA 243+10.00, 20.5' L
    CUT EXISTING 4" WATER MAIN; INSTALL 1 - 4" 90° BEND; CONNECT TO EXISTING 4" DOMESTIC WATER MAIN CONTINUING NORTH.
14. DEMO & REMOVE EXISTING WATER PIPE TO LIMITS SHOWN ON PLAN. SEE PLAN FOR LENGTH.
15. DEMO & REMOVE EXISTING IRRIGATION PIPE TO LIMITS SHOWN ON PLAN. SEE PLAN FOR LENGTH.



STA 239+00 TO 245+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 239+00 TO 245+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

NOTES:
1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS. SEE SHEETS G08 AND G09 FOR STANDARD DETAILS. CONTRACTOR TO COORDINATE WATER MAIN SHUT-OFF WITH AVION WATER COMPANY.
2. STATION & OFFSET REPRESENTS POSITION OF PROPOSED 12" WATER MAIN FITTINGS. PROPOSED 4" IRRIGATION PIPE AND FITTINGS SHALL RUN IN PARALLEL AT 12" SEPARATION, OFFSET TO THE WEST.
3. RESTRAIN FITTINGS PER TABLE ON SHEET G08.
4. STRADDLE BLOCK SIZING SHALL BE APPROVED BY AVION WATER PRIOR TO CONSTRUCTION. APPROXIMATE DIMENSIONS: 6' WIDTH X 2' LENGTH X 5' DEPTH WITH #4 BAR REINFORCEMENT 12" O.C. BOTH WAYS.

LEGEND:

- W — (E) WATER LINE
- IRR — (E) IRRIGATION LINE
- W — (P) WATER LINE
- IRR — (P) IRRIGATION LINE
- IRR — DEMO IRRIGATION LINE
- W — DEMO WATER LINE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS ✦ PLANNERS
LANDSCAPE ARCHITECTS ✦ SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

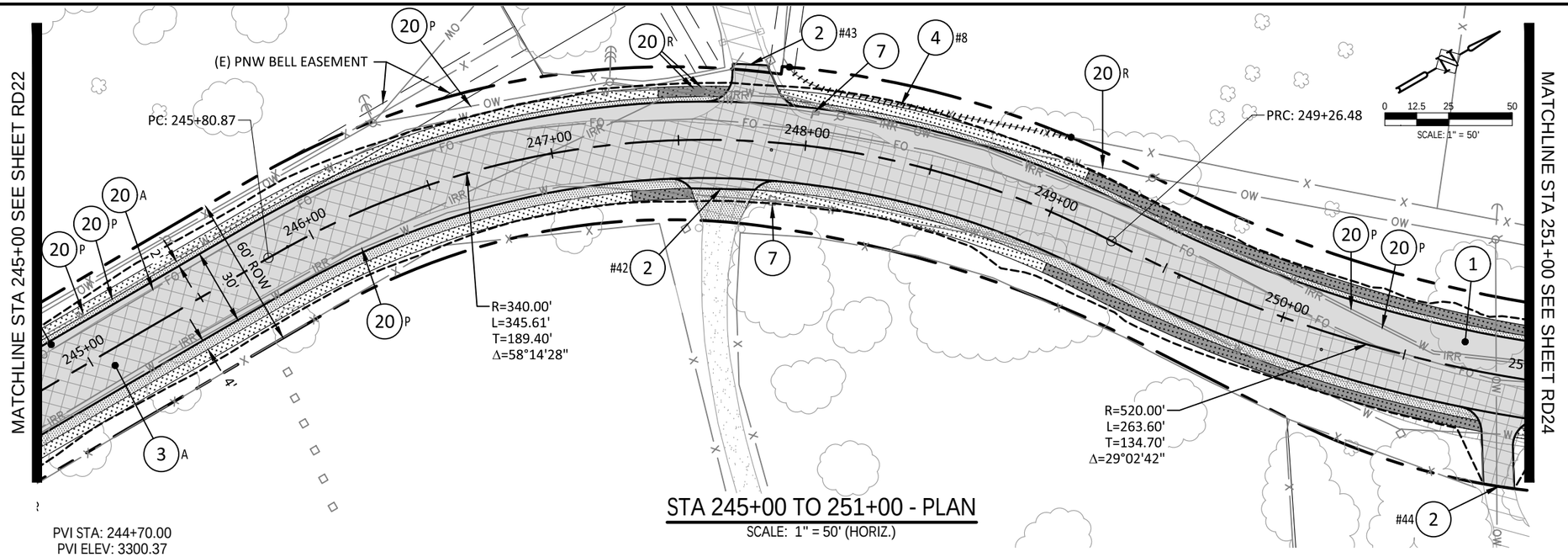
WATER MAIN RELOCATION PLAN & PROFILE - STA 239+00 TO 245+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

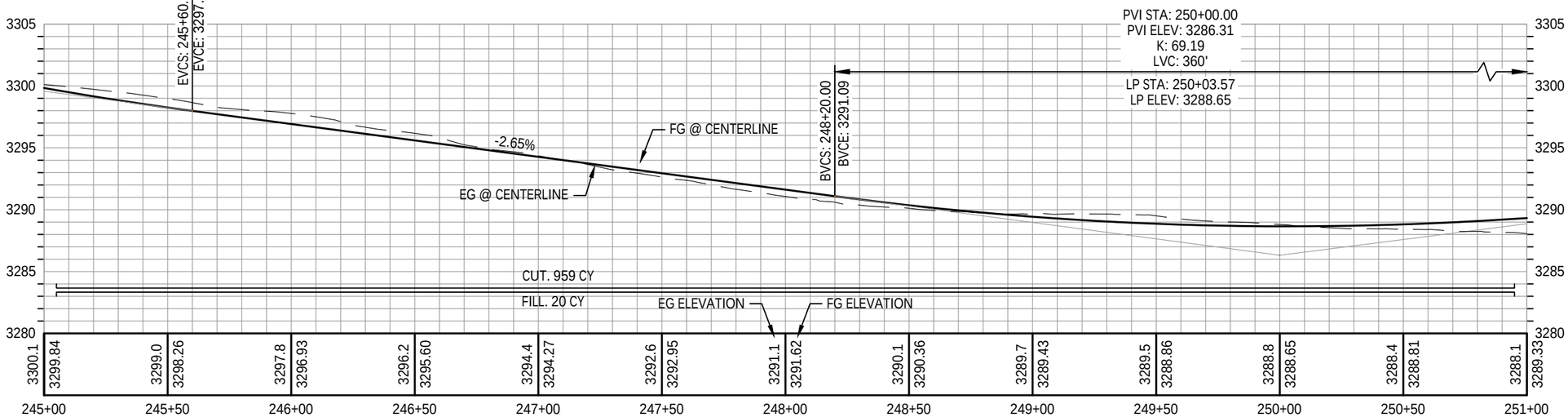
SHEET NO. RD22.1
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-C Plan & Profile (233+00 - 293+00).dwg



STA 245+00 TO 251+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 245+00 TO 251+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

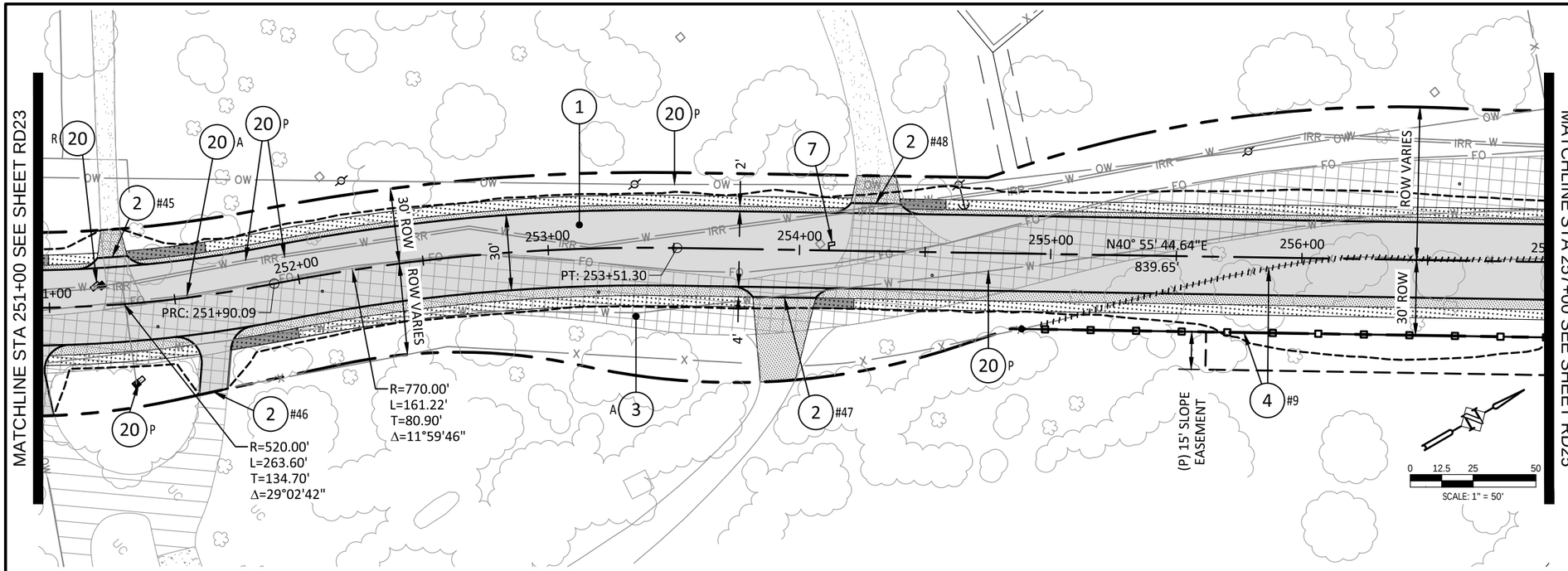
PLAN & PROFILE - STA 245+00 TO 251+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

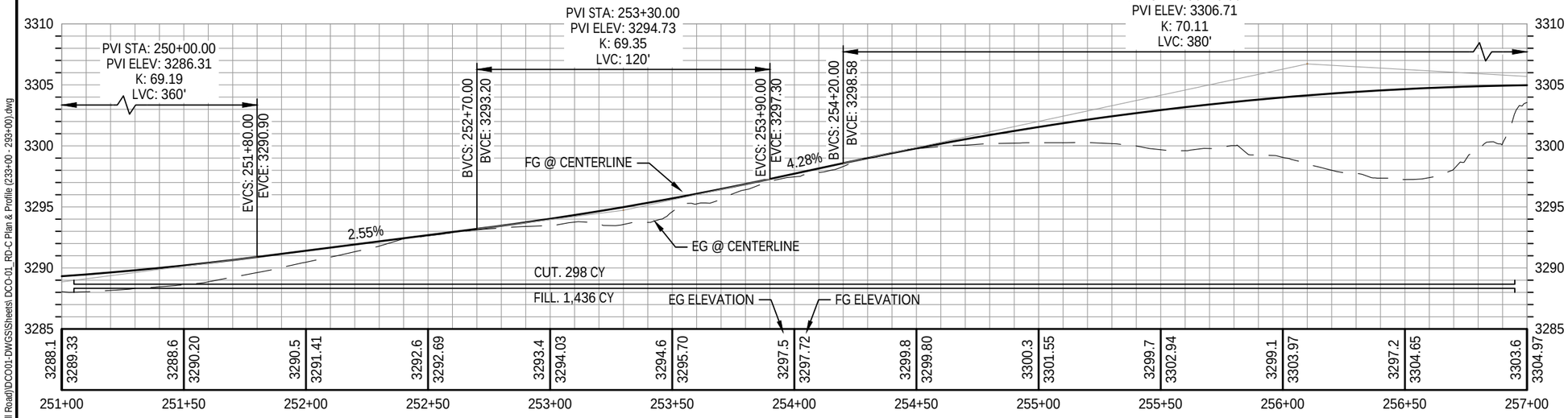
SHEET NO. RD23
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-C Plan & Profile (233+00 - 293+00).dwg



STA 251+00 TO 257+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 251+00 TO 257+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

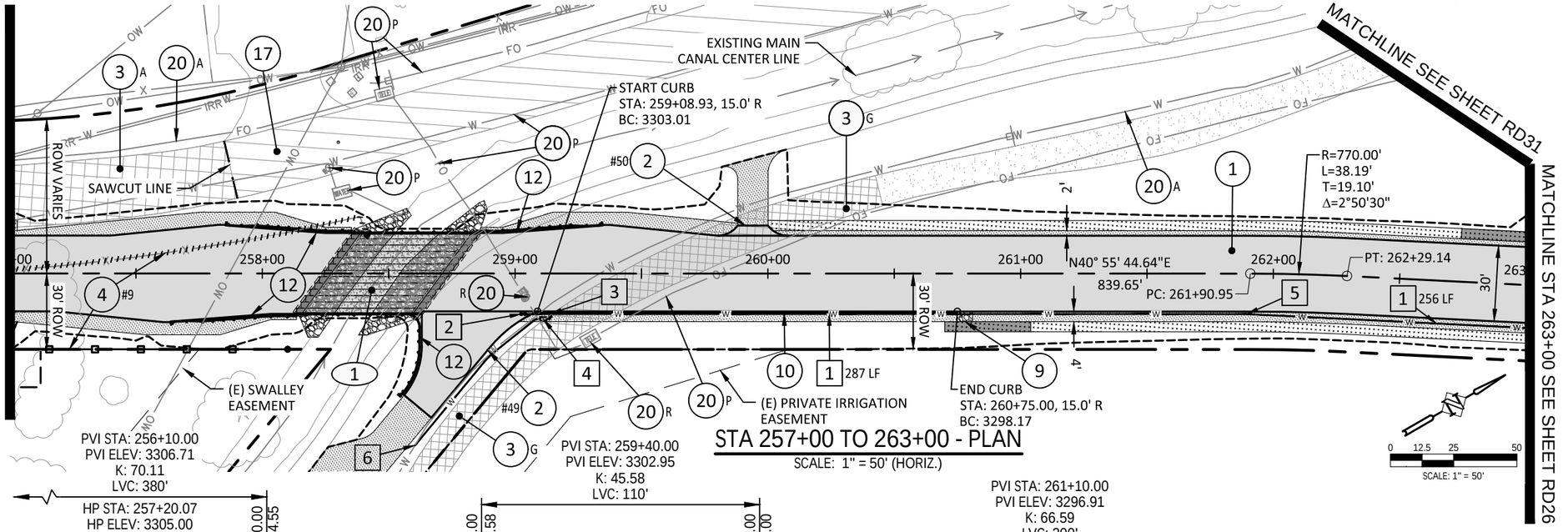
PLAN & PROFILE - STA 251+00 TO 257+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD24
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-C Plan & Profile (233+00 - 293+00).dwg



STA 257+00 TO 263+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

STA 257+00 TO 263+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
9. INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
12. CONSTRUCT GUARDRAIL. SEE SHEET RD57 FOR MORE INFORMATION.
17. EXISTING HUNNELL RD AC ROADWAY AND RIGHT-OF-WAY. PROTECT TO PROVIDE ACCESS TO EXISTING DRIVEWAYS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. PROPOSED IRRIGATION CANAL CROSSING STRUCTURE. SEE SHEET CX04 FOR MORE INFORMATION.

WATER MAIN NOTES: [1]

1. CONSTRUCT 4" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
2. STA 259+02.48, 16.0'R
   INSTALL 1 - 1 - 2" BLOWOFF ASSEMBLY & 1 - 4" G.V. ASSEMBLY PER DETAIL ON SHEET G09.
3. STA 259+13.93, 16.0'R
   INSTALL 1 - 4" x 1" DOUBLE STRAP SADDLE; 1 - 1" CORPORATION STOP
4. STA 259+11.18, 18.0' R
   INSTALL 1 - 1" WATER METER AND BACKFLOW DEVICE PER DETAIL ON SHEET G09. WATER METER AND BACKFLOW DEVICE TO BE PROVIDED BY AVION WATER COMPANY. COORDINATE WITH AVION FOR INSTALLATION.
5. STA 261+89.48, 16.0' R
   DEFLECT AS NECESSARY. DO NOT EXCEED MANUFACTURER SPECS; SEE SHEET RD26 FOR 4" MAIN CONTINUATION NORTH.
6. STA 258+60.41, 68.0' R
   CONNECT TO EXISTING 2" WATER SERVICE. ABANDON EXISTING WATER SERVICE PIPE UPSTREAM OF CONNECTION.

NOTE:
1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS. SEE SHEETS G08 AND G09 FOR STANDARD DETAILS.

LEGEND:
- W — (E) WATER LINE
- W — (P) WATER LINE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 257+00 TO 263+00

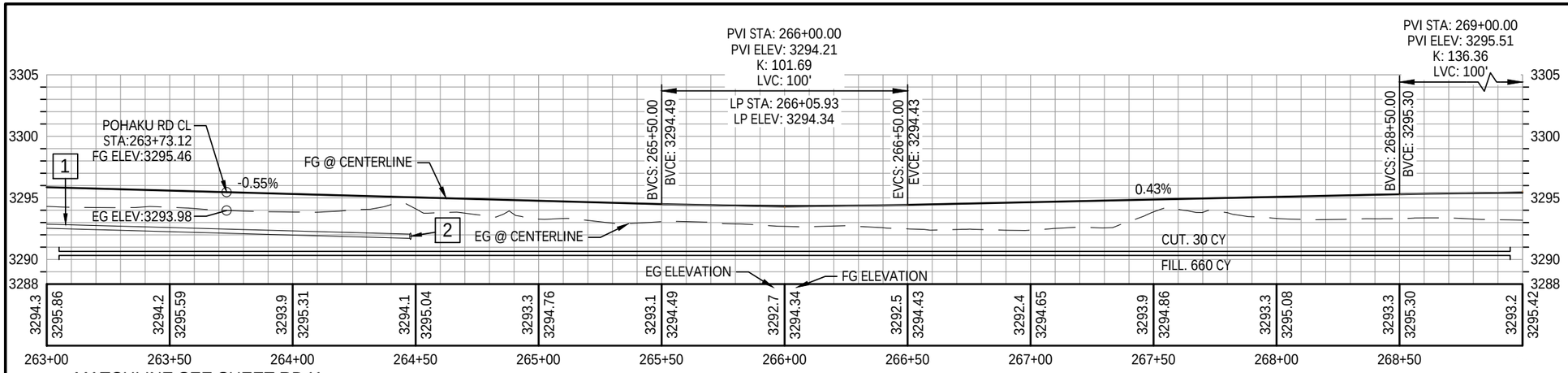
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD25

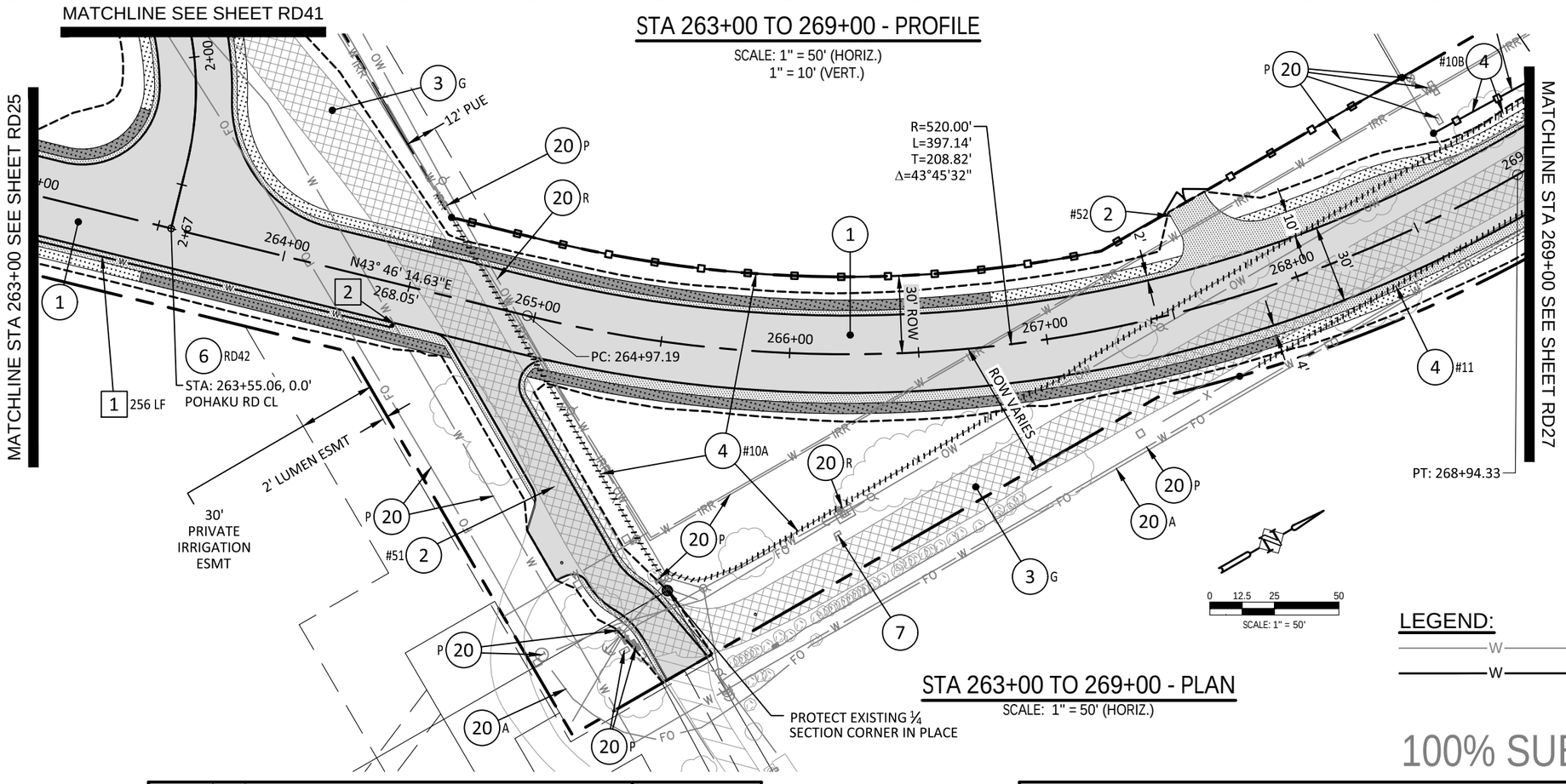
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-C Plan & Profile (233+00 - 293+00).dwg



STA 263+00 TO 269+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)



STA 263+00 TO 269+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

WATER MAIN NOTES: [1]

1. CONSTRUCT 4" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
2. STA 264+47.91, 15.5' R HOT TAP EXISTING 12" WATER MAIN; INSTALL 1 - 4" ON 12" TAPPING SLEEVE WITH THRUST BLOCKING; 1 - 4" G.V. ASSEMBLY; 1 - 4" 45° BEND. [2]

NOTES:
1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS, SEE SHEETS G08 AND G09 FOR STANDARD DETAILS.
2. RESTRAIN FITTINGS PER TABLE ON SHEET G08.

LEGEND:

W (E) WATER LINE
W (P) WATER LINE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
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PLAN & PROFILE - STA 263+00 TO 269+00

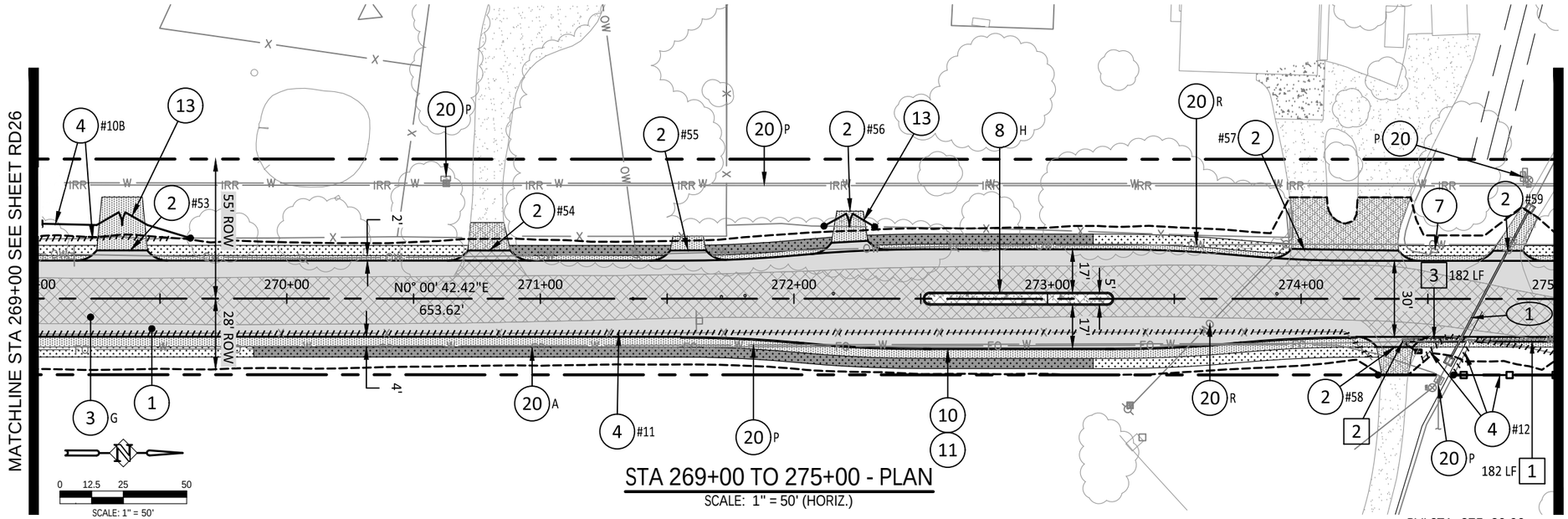
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD26

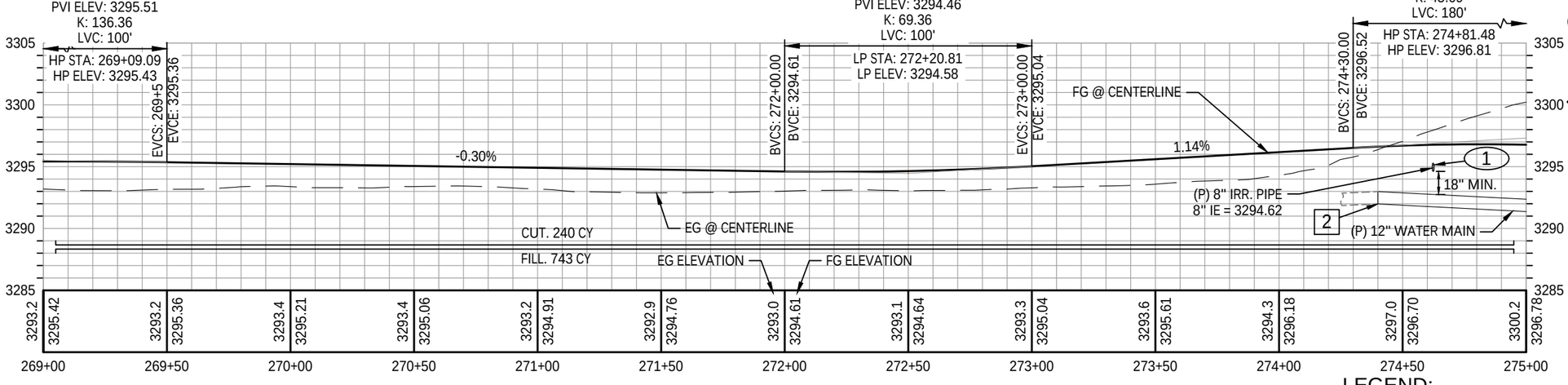
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-C Plan & Profile (233+00 - 293+00).dwg



STA 269+00 TO 275+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 269+00 TO 275+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
13. INSTALL 20-FT DOUBLE GATE PER ODOT STD DWG RD820.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. PROPOSED IRRIGATION CANAL CROSSING STRUCTURE. SEE SHEET CX05 FOR MORE INFORMATION.

WATER MAIN NOTES: [1]

1. CONSTRUCT 12" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
2. STA 274+40.00, 16.9' R
   CUT AND CONNECT TO EXISTING 12" WATER MAIN;
   INSTALL 1 - AIR RELIEF VALVE PER DETAIL ON SHEET G09.
3. DEMO & REMOVE EXISTING WATER PIPE TO LIMITS SHOWN ON PLAN. SEE PLAN FOR LENGTH.

NOTES:
1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS. SEE SHEETS G08 AND G09 FOR STANDARD DETAILS. CONTRACTOR TO COORDINATE WATER MAIN SHUT-OFF WITH AVION WATER COMPANY.

LEGEND:

- (E) WATER LINE
- (P) WATER LINE
- DEMO WATER LINE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
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CHECKED: NS
DATE: 10.28.2022

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 269+00 TO 275+00

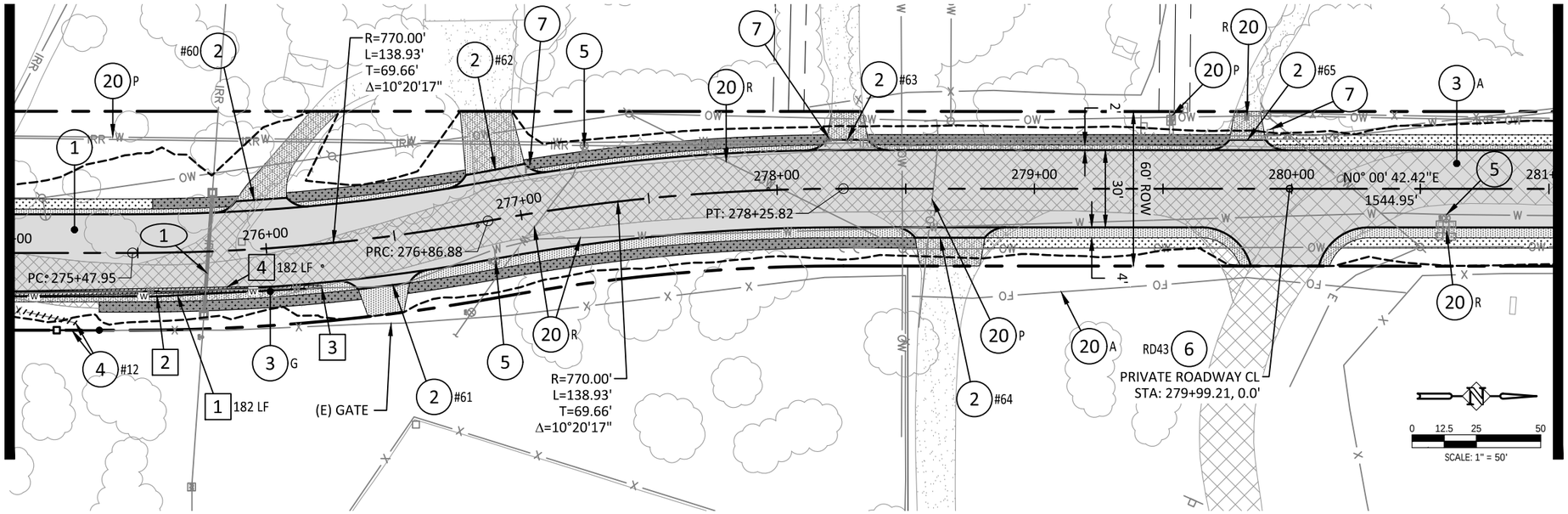
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD27

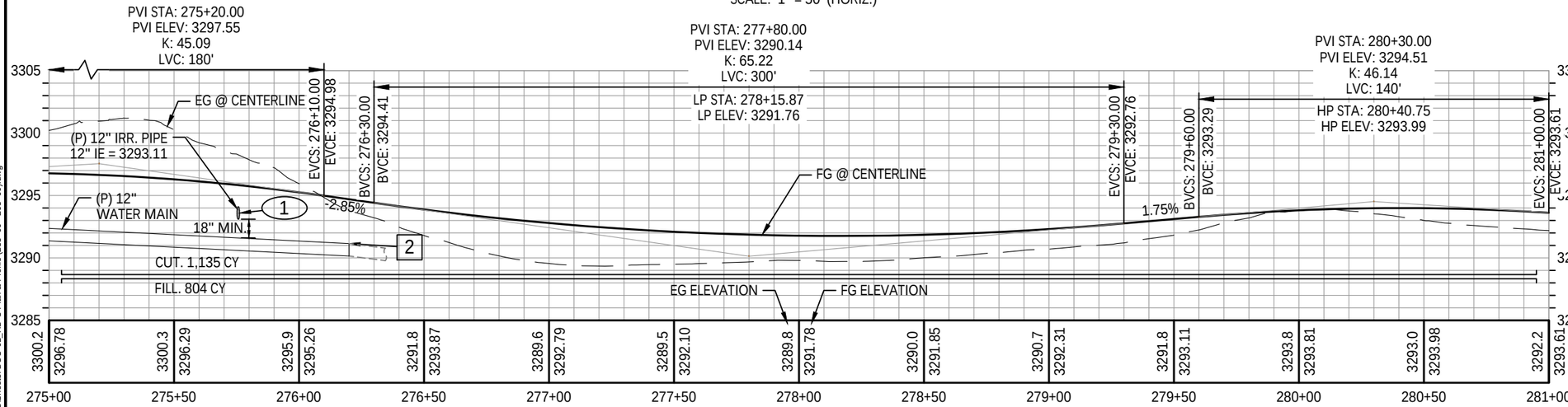
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-C Plan & Profile (233+00 - 293+00).dwg



STA 275+00 TO 281+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 275+00 TO 281+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
5. ADJUST EXISTING GATE VALVE BOX TO PROPOSED GRADE ELEVATION.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.

20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

WATER MAIN NOTES: [1]

1. CONSTRUCT 12" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
2. STA 275+57.28, 16.9' R DEFLECT AS NECESSARY. DO NOT EXCEED MANUFACTURER SPECS.
3. STA 276+20.00, 17.0' R CUT AND CONNECT TO EXISTING 12" WATER MAIN.
4. DEMO & REMOVE EXISTING WATER PIPE TO LIMITS SHOWN ON PLAN. SEE PLAN FOR LENGTH.

NOTES:
1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS. SEE SHEETS G08 AND G09 FOR STANDARD DETAILS. CONTRACTOR TO COORDINATE WATER MAIN SHUT-OFF WITH AVION WATER COMPANY.

IRRIGATION CANAL NOTES:

1. PROPOSED IRRIGATION CANAL CROSSING STRUCTURE. SEE SHEET CX06 FOR MORE INFORMATION.

LEGEND:

- (E) WATER LINE
- (P) WATER LINE
- DEMO WATER LINE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 275+00 TO 281+00

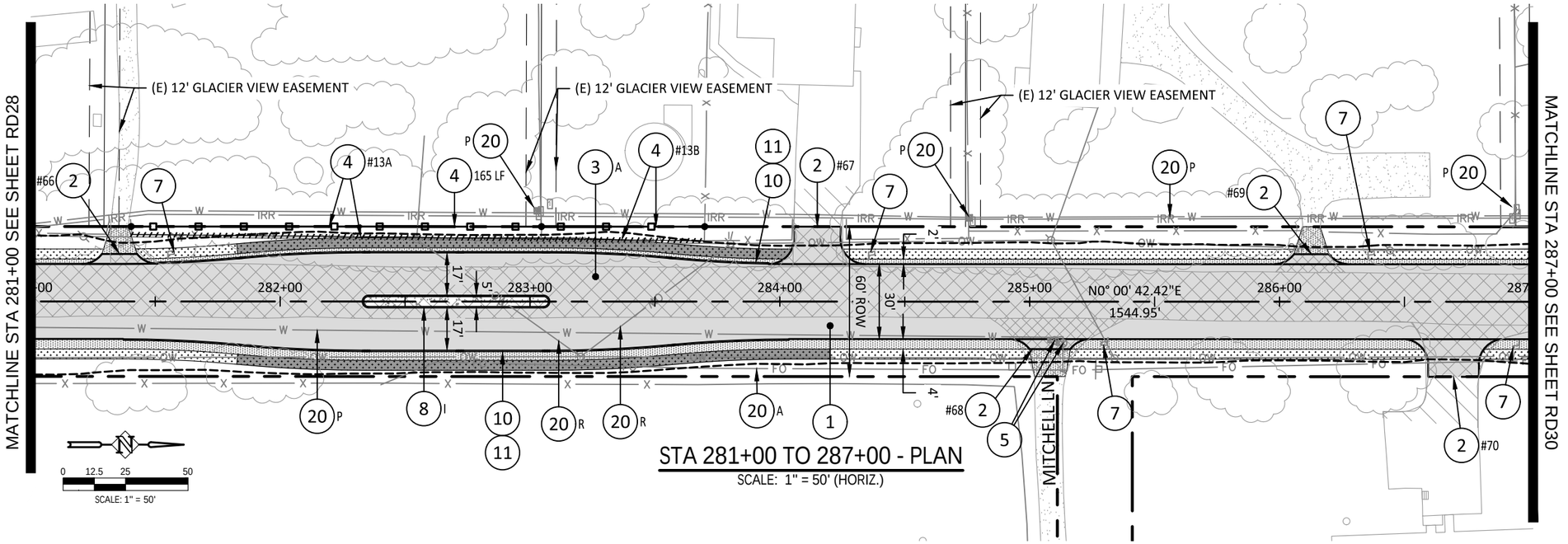
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD28

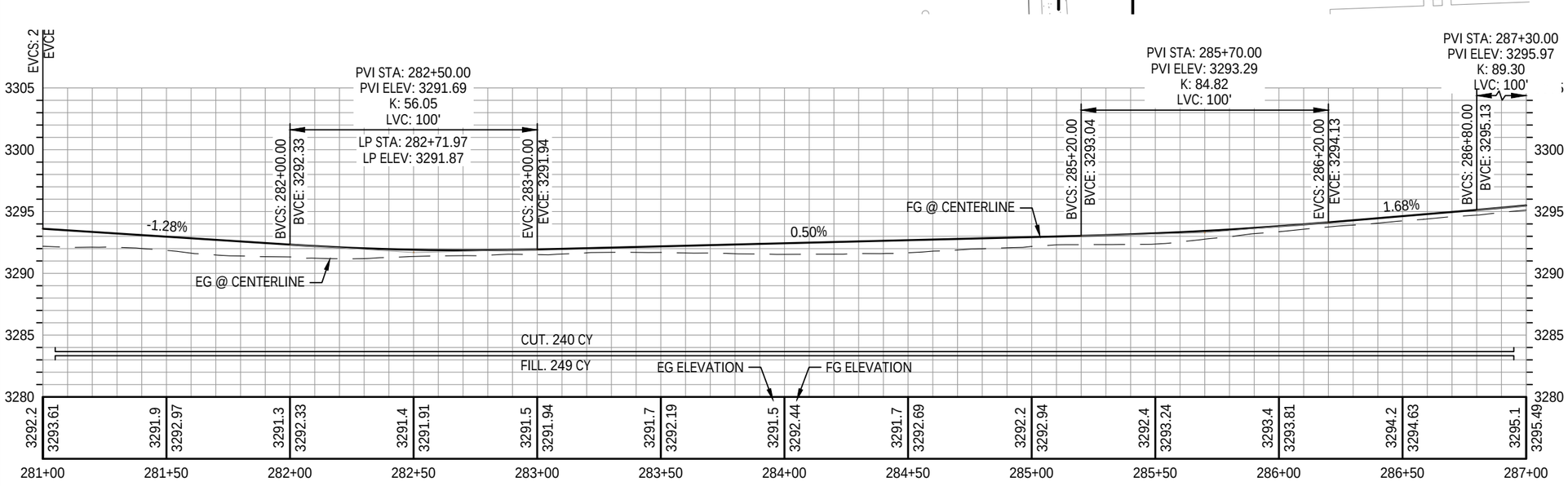
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-C Plan & Profile (233+00 - 293+00).dwg



STA 281+00 TO 287+00 - PLAN

SCALE: 1" = 50' (HORIZ.)



STA 281+00 TO 287+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
5. ADJUST EXISTING GATE VALVE BOX TO PROPOSED GRADE ELEVATION.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
8. CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
10. CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
11. CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

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REVISIONS

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PLAN & PROFILE - STA 281+00 TO 287+00

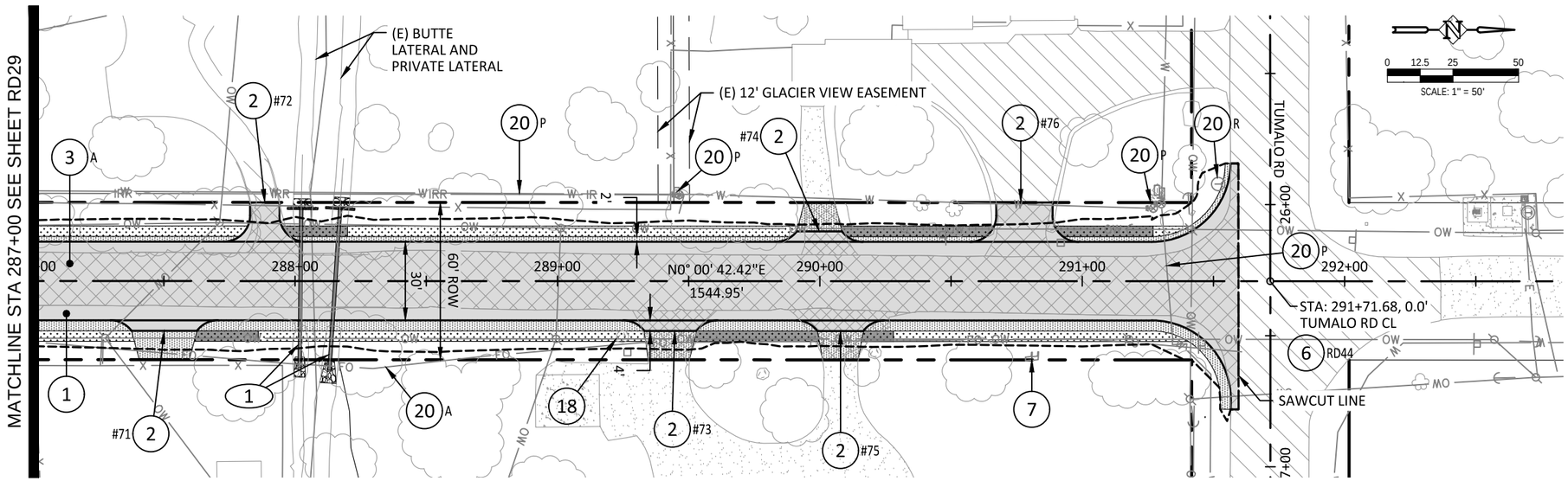
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD29

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_RD-C Plan & Profile (233+00 - 293+00).dwg



STA 287+00 TO 293+00 - PLAN

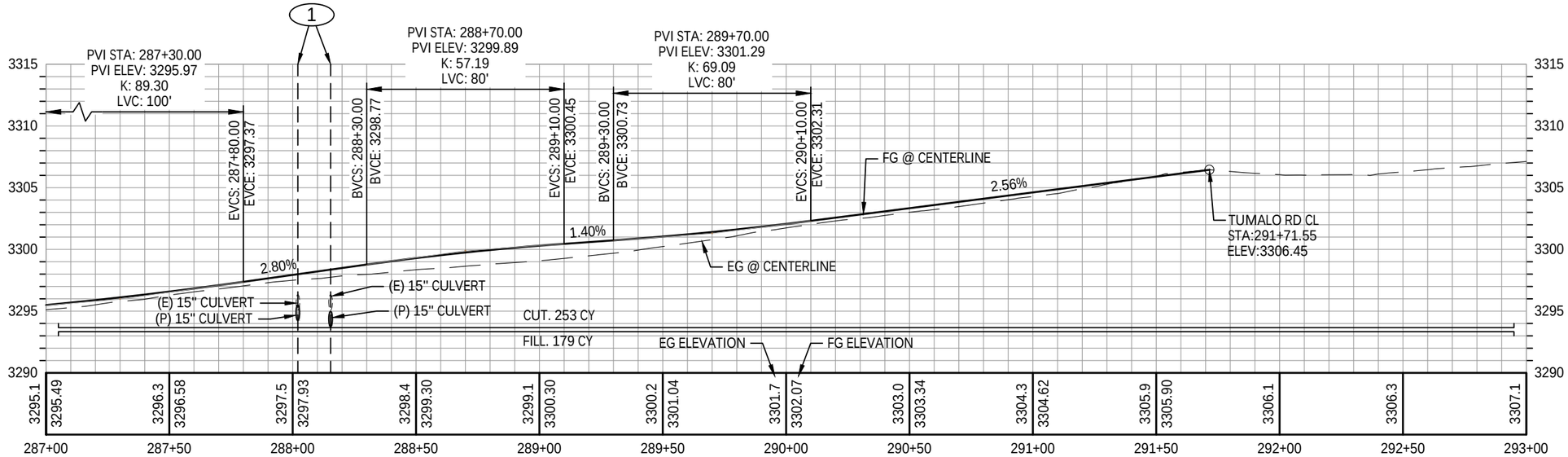
SCALE: 1" = 50' (HORIZ.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
18. EXISTING BOULDER. REMOVE AND RELOCATE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

IRRIGATION CANAL NOTES:

1. EXISTING IRRIGATION CANAL CROSSING TO BE RECONSTRUCTED. SEE SHEET CX07 FOR MORE INFORMATION.



STA 287+00 TO 293+00 PROFILE

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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PLAN & PROFILE - STA 287+00 TO 293+00

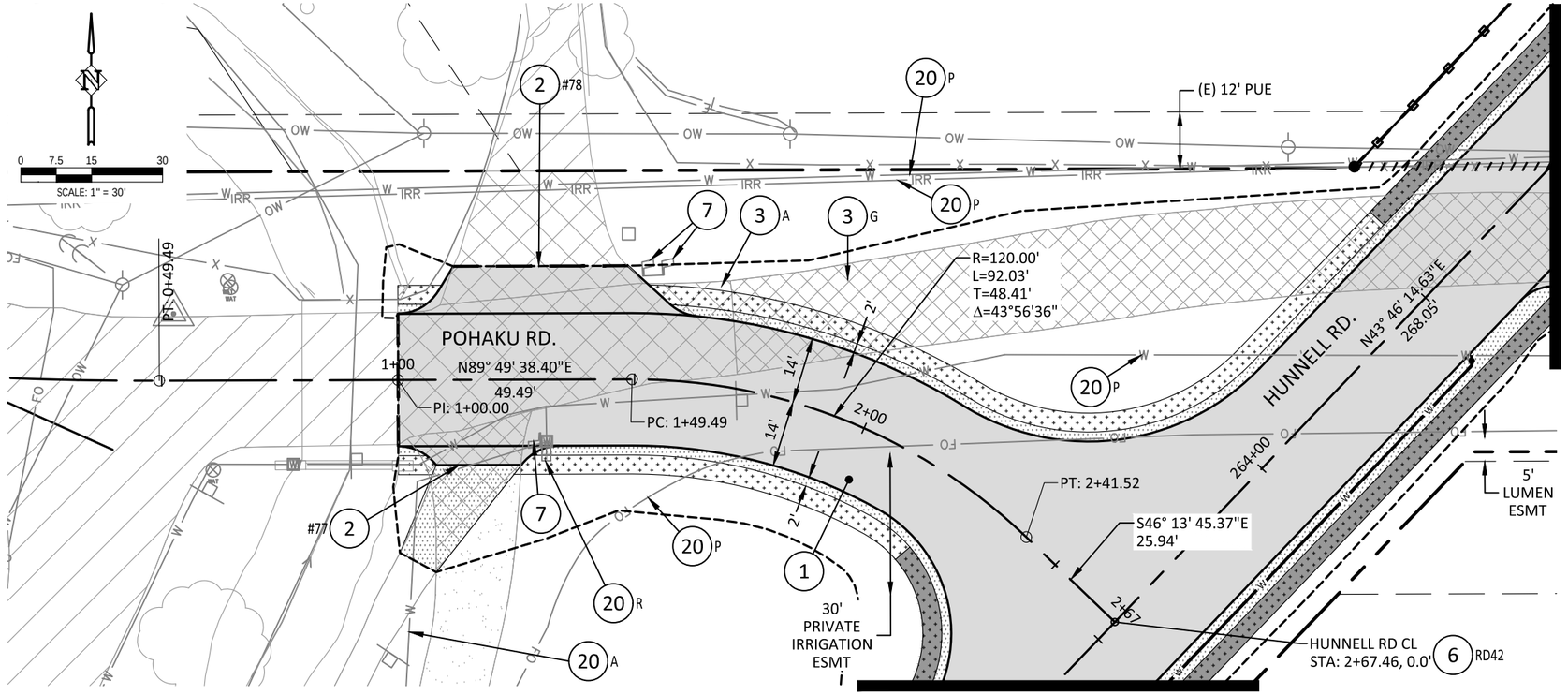
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD30

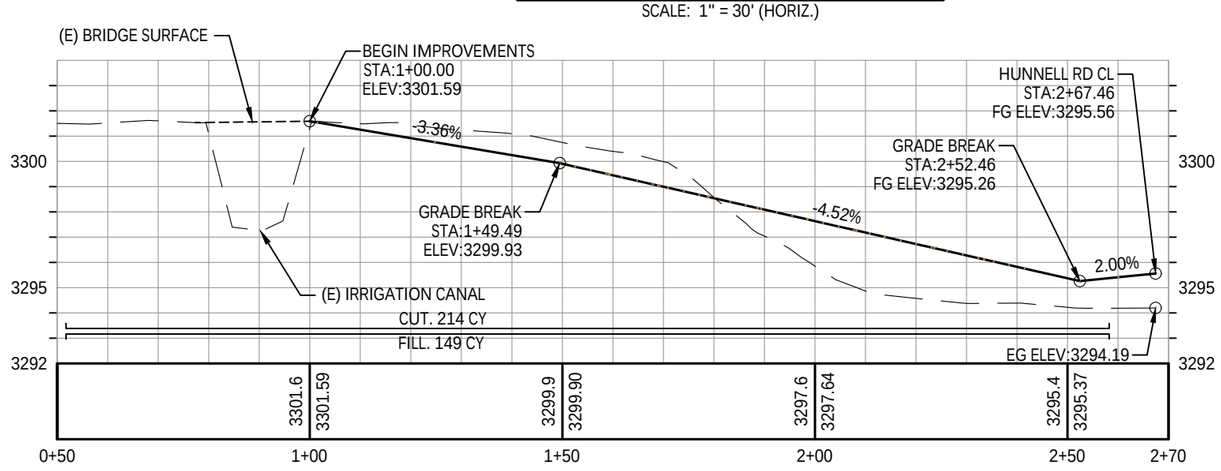
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-C Plan & Profile (233+00 - 293+00).dwg



POHAKU RD. INTERSECTION - PLAN

SCALE: 1" = 30' (HORIZ.)



POHAKU RD. INTERSECTION - PROFILE

SCALE: 1" = 30' (HORIZ.)
SCALE: 1" = 6' (VERT.)

CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
6. PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - POHAKU RD

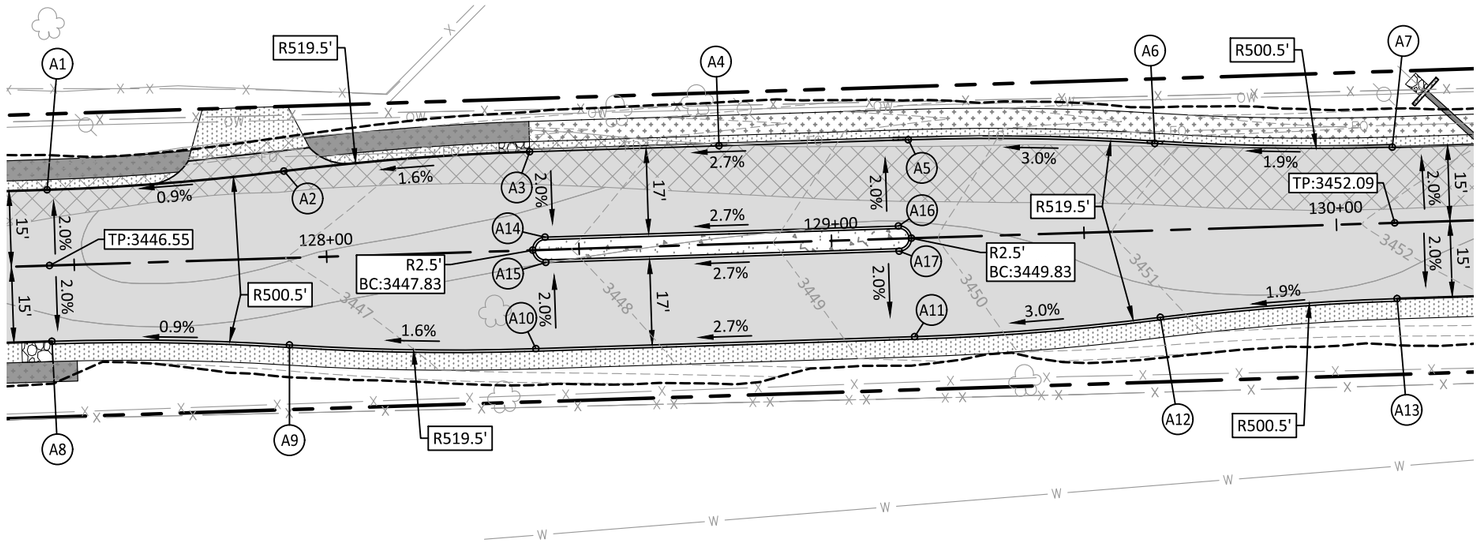
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD31

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-C Plan & Profile (233+00 - 293+00).dwg

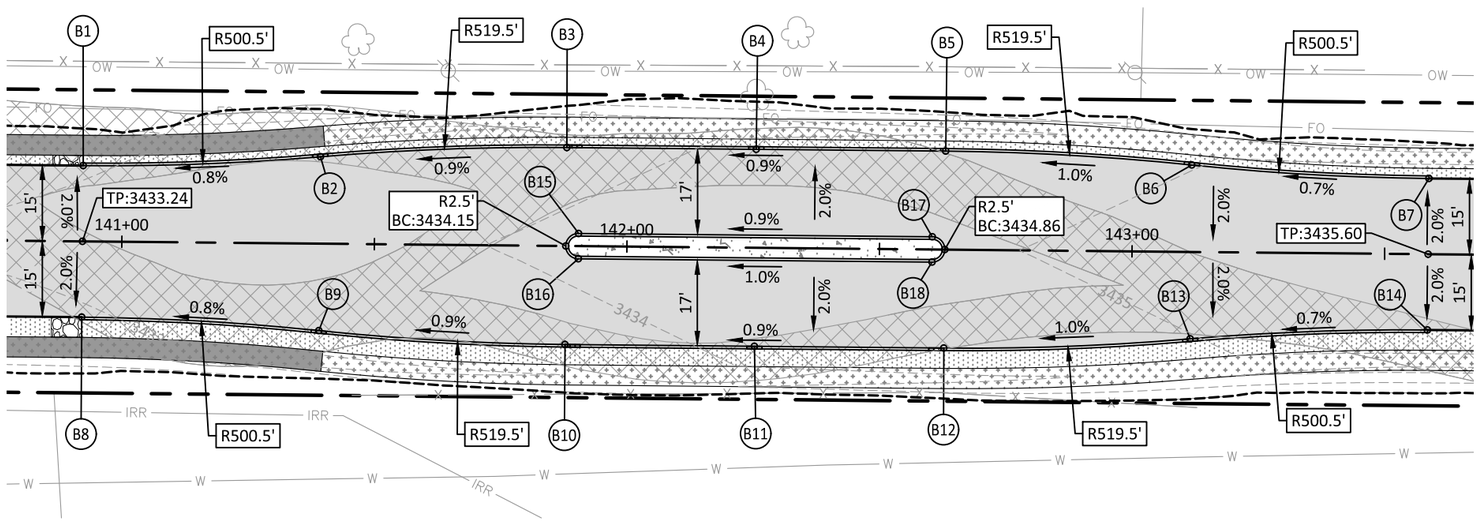


SPLITTER ISLAND - A

SCALE: 1" = 30'

SPLITTER ISLAND - A				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
A1	127+45.12	15.0'L	3446.25	TP; PC
A2	127+92.08	17.2'L	3446.66	TP; PRC
A3	128+40.83	19.5'L	3447.44	BC; PT; START CURB
A4	128+78.33	19.5'L	3448.33	BC; CURB CUT*
A5	129+15.83	19.5'L	3449.44	BC; PC; CURB CUT*
A6	129+64.57	17.2'L	3450.88	BC; PRC; CURB CUT*
A7	130+11.54	15.0'L	3451.79	BC; PT; END CURB
A8	127+45.12	15.0'R	3446.25	BC; PC; START CURB
A9	127+92.09	17.2'R	3446.66	BC; PRC
A10	128+40.83	19.5'R	3447.44	BC; PT
A11	129+15.83	19.5'R	3449.44	BC; PC
A12	129+64.57	17.2'R	3450.88	BC; PRC
A13	130+11.54	15.0'R	3451.79	BC; PT
A14	128+43.33	2.5'L	3447.84	BC; PC
A15	128+43.33	2.5'R	3447.84	BC; PT
A16	129+13.33	2.5'L	3449.70	BC; PC
A17	129+13.33	2.5'R	3447.70	BC; PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04.

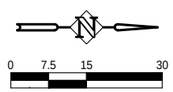


SPLITTER ISLAND - B

SCALE: 1" = 30'

SPLITTER ISLAND - B				
#	STATION	OFFSET	ELEVATION [1]	DESCRIPTION
B1	140+92.21	15.0'L	3432.94	BC; PC; START CURB
B2	141+39.17	17.2'L	3433.34	BC; PRC; CURB CUT*
B3	141+87.92	19.5'L	3433.76	BC; PT; CURB CUT*
B4	142+25.42	19.5'L	3434.11	BC; CURB CUT*
B5	142+62.92	19.5'L	3434.47	BC; PC; CURB CUT*
B6	143+11.66	17.2'L	3434.98	BC; PRC; CURB CUT*
B7	143+58.63	15.0'L	3435.30	BC; PT; END CURB
B8	140+92.21	15.0'L	3432.94	BC; PC; START CURB
B9	141+39.17	17.2'L	3433.34	BC; PRC; CURB CUT*
B10	141+87.92	19.5'L	3433.76	BC; PT; CURB CUT*
B11	142+25.42	19.5'L	3434.11	BC; CURB CUT*
B12	142+62.92	19.5'L	3434.47	BC; PC; CURB CUT*
B13	143+11.66	17.2'L	3434.98	BC; PRC; CURB CUT*
B14	143+58.63	15.0'L	3435.30	BC; PT; END CURB
B15	141+90.42	2.5'L	3434.12	BC; PC
B16	141+90.42	2.5'R	3434.12	BC; PT
B17	142+60.42	2.5'L	3434.78	BC; PC
B18	142+60.42	2.5'R	3434.78	BC; PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04.



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

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DESIGNED: HHPR TEAM
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SPLITTER ISLAND DETAILS - A & B

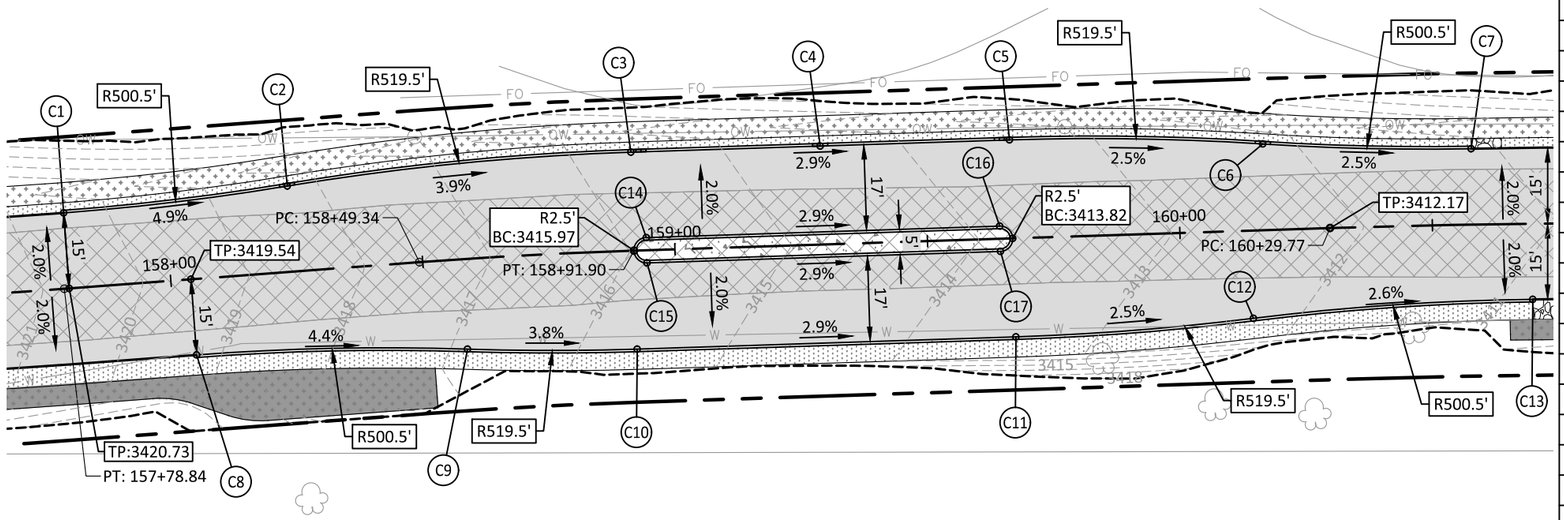
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD32

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-D Splitter Island Details.dwg

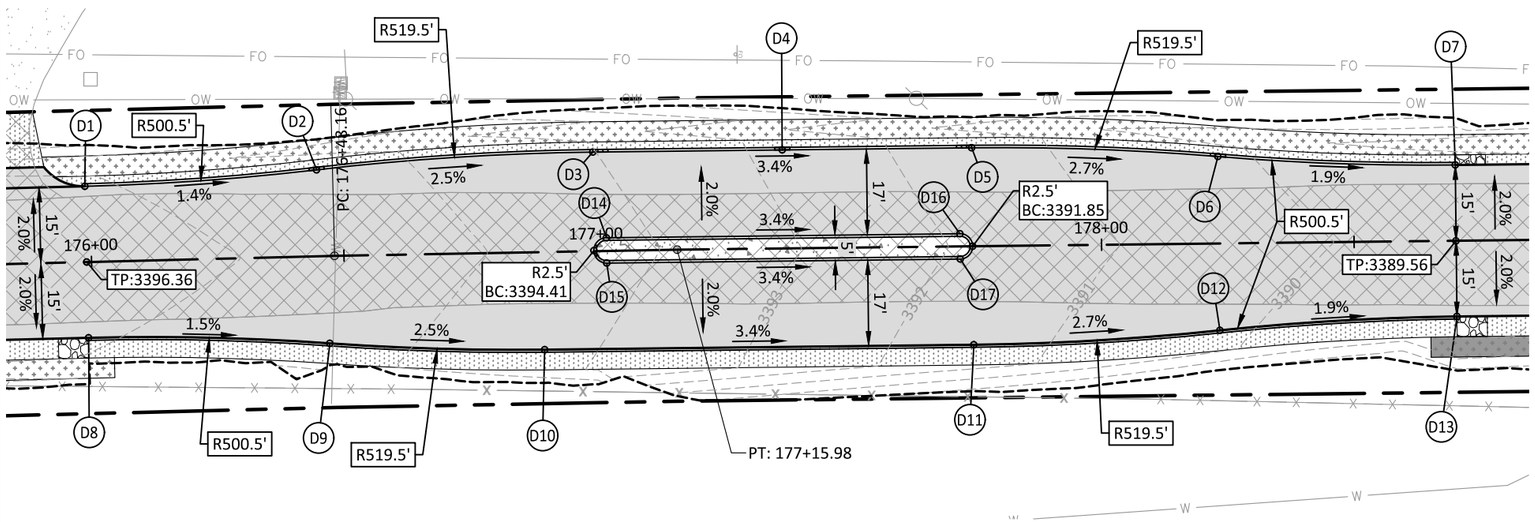


SPLITTER ISLAND - C

SCALE: 1" = 30'

SPLITTER ISLAND - C				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
C1	157+79.84	15.0' L	3420.43	BC; PC; START CURB
C2	158+24.38	17.0' L	3418.26	BC; PRC; CURB CUT*
C3	158+91.90	19.5' L	3415.58	BC; PT; CURB CUT*
C4	159+29.40	19.5' L	3414.43	BC; CURB CUT*
C5	159+66.90	19.5' L	3413.43	BC; PC; CURB CUT*
C6	160+16.97	17.1' L	3412.17	BC; PRC; CURB CUT*
C7	160+57.95	15.0' L	3411.13	BC; PT; END CURB
C8	158+04.00	15.0' R	3419.24	BC; PC; START CURB
C9	158+57.71	17.8' R	3416.86	BC; PRC
C10	158+91.90	19.5' R	3415.58	BC; PT
C11	159+66.90	19.5' R	3413.43	BC; PC
C12	160+14.02	17.4' R	3412.24	BC; PRC
C13	160+69.71	15.0' R	3410.83	BC; PT; END CURB
C14	158+94.40	2.5' L	3415.84	BC, PC
C15	158+94.40	2.5' R	3415.84	BC, PT
C16	159+64.40	2.5' L	3413.84	BC, PC
C17	159+64.40	2.5' R	3413.84	BC, PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04.



SPLITTER ISLAND - D

SCALE: 1" = 30'

SPLITTER ISLAND - D				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
D1	175+99.05	15.0' L	3396.06	BC; PC; START CURB
D2	176+45.01	17.1' L	3395.40	BC; PRC; CURB CUT*
D3	176+99.56	19.5' L	3394.02	BC; PT; CURB CUT*
D4	177+37.00	19.5' L	3392.74	BC; CURB CUT*
D5	177+74.50	19.5' L	3391.46	BC; PC; CURB CUT*
D6	178+23.24	17.2' L	3390.16	BC; PRC; CURB CUT*
D7	178+70.21	15.0' L	3389.26	BC; PT; END CURB
D8	175+99.05	15.0' R	3396.06	BC; PC; START CURB
D9	176+46.77	17.3' R	3395.36	BC; PRC
D10	176+89.42	19.5' R	3394.32	BC; PT
D11	177+74.50	19.5' R	3391.46	BC; PC
D12	178+23.24	17.2' R	3390.16	BC; PRC
D13	178+70.21	15.0' R	3389.26	BC; PT; END CURB
D14	177+02.01	2.5' L	3394.28	BC; PC
D15	177+02.01	2.5' R	3394.28	BC; PT
D16	177+72.00	2.5' L	3391.87	BC; PC
D17	177+72.00	2.5' R	3391.87	BC; PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04.

0 7.5 15 30

SCALE: 1" = 30'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS

EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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SPLITTER ISLAND DETAILS - C & D

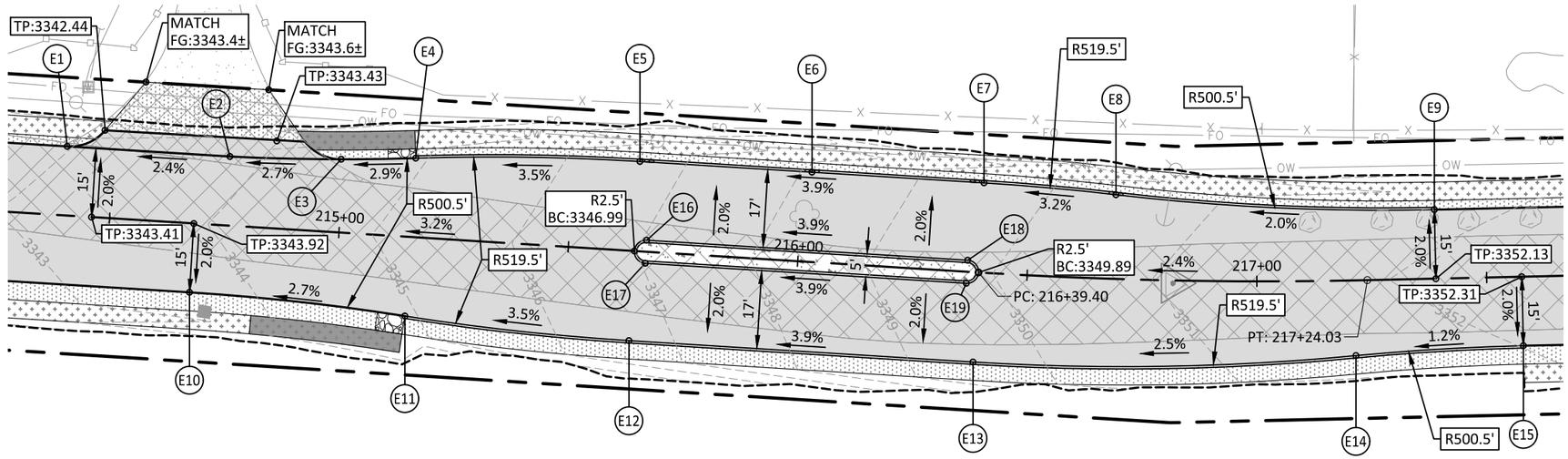
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD33

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-D Splitter Island Details.dwg

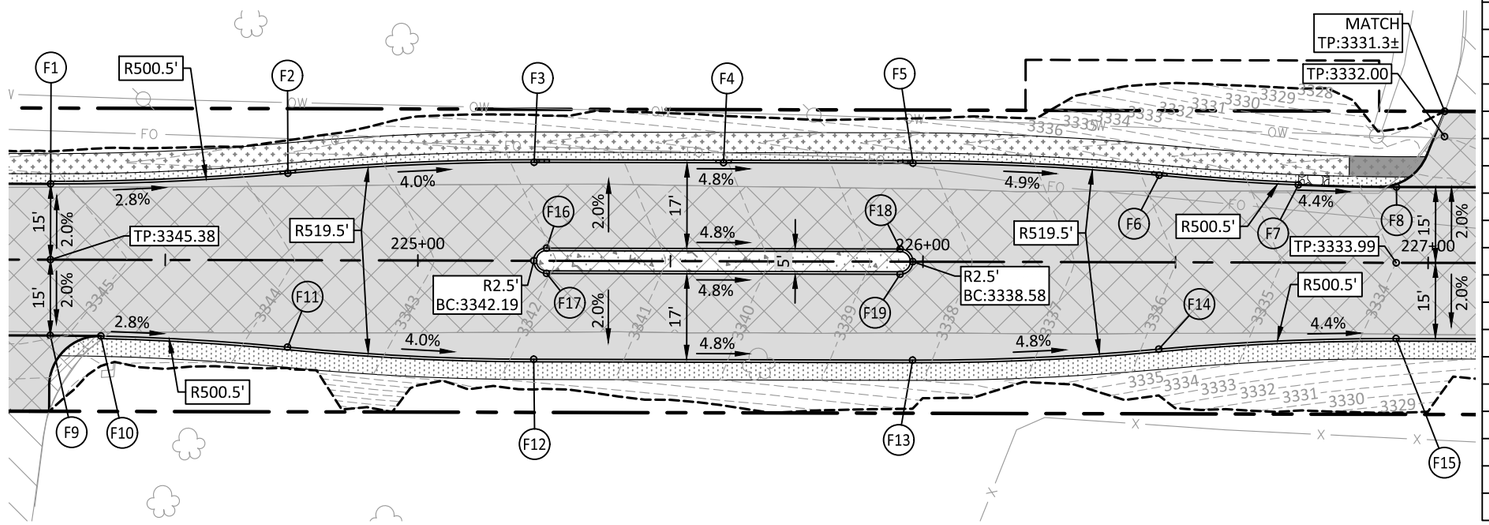


SPLITTER ISLAND - E

SCALE: 1" = 30'

SPLITTER ISLAND - E				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
E1	214+39.84	15.0'L	3343.11	TP; DRIVEWAY
E2	214+75.30	15.0'L	3343.80	TP; PC
E3	214+99.49	15.9'L	3344.45	TP; DRIVEWAY
E4	215+15.67	17.2'L	3344.92	BC; PRC; START CURB
E5	215+64.41	19.5'L	3346.60	BC; PT; CURB CUT*
E6	216+01.90	19.5'L	3348.10	BC; CURB CUT*
E7	216+39.40	19.5'L	3349.50	BC; PC; CURB CUT*
E8	216+68.73	18.3' L	3350.41	BC; PRC; CURB CUT*
E9	217+38.95	15.0'L	3351.83	BC; PT; END CURB
E10	214+68.37	15.0'R	3343.62	TP; PC
E11	215+15.43	17.2'R	3346.60	BC; PRC; START CURB
E12	215+64.42	19.5'R	3346.60	BC; PT
E13	216+39.41	19.5'R	3349.50	BC; PC
E14	217+21.25	16.3'R	3351.56	BC; PRC
E15	217+57.66	15.0'R	3352.01	BC; PT; END CURB
E16	215+66.91	2.5'L	3347.04	BC, PC
E17	215+66.91	2.5'R	3347.04	BC, PT
E18	216+36.90	2.5'L	3349.76	BC, PC
E19	216+36.90	2.5'R	3349.76	BC, PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04

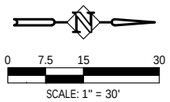


SPLITTER ISLAND - F

SCALE: 1" = 30'

SPLITTER ISLAND - F				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
F1	224+27.28	15.0'L	3345.08	BC; PC; START CURB
F2	224+74.24	17.2'L	3341.70	BC; PRC; CURB CUT*
F3	225+22.99	19.5'L	3341.80	BC; PT; CURB CUT*
F4	225+60.49	19.5'L	3340.05	BC; CURB CUT*
F5	225+97.99	19.5' L	3338.19	BC; PC; CURB CUT*
F6	226+46.73	17.2' L	3335.82	BC; PRC; CURB CUT*
F7	226+74.29	15.4'L	3334.54	BC; END CURB
F8	226+93.70	15.0'L	3333.69	TP; PT; DRIVEWAY
F9	224+27.28	15.0'R	3345.08	TP; PC
F10	224+37.30	15.1'R	3344.83	BC; START CURB
F11	224+74.24	17.2' R	3343.70	BC; PRC
F12	225+22.99	19.5'R	3341.80	BC; PT
F13	225+97.99	19.5'R	3338.19	BC; PC
F14	226+46.73	17.2'R	3335.82	BC; PRC
F15	226+93.70	15.0'R	3333.69	BC; PT
F16	225+25.49	2.5'L	3342.03	BC, PC
F17	225+25.49	2.5'R	3342.03	BC, PT
F18	225+95.49	2.5'L	3338.66	BC, PC
F19	225+95.49	2.5'R	3338.66	BC, PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04



SCALE: 1" = 30'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

SPLITTER ISLAND DETAILS - E & F

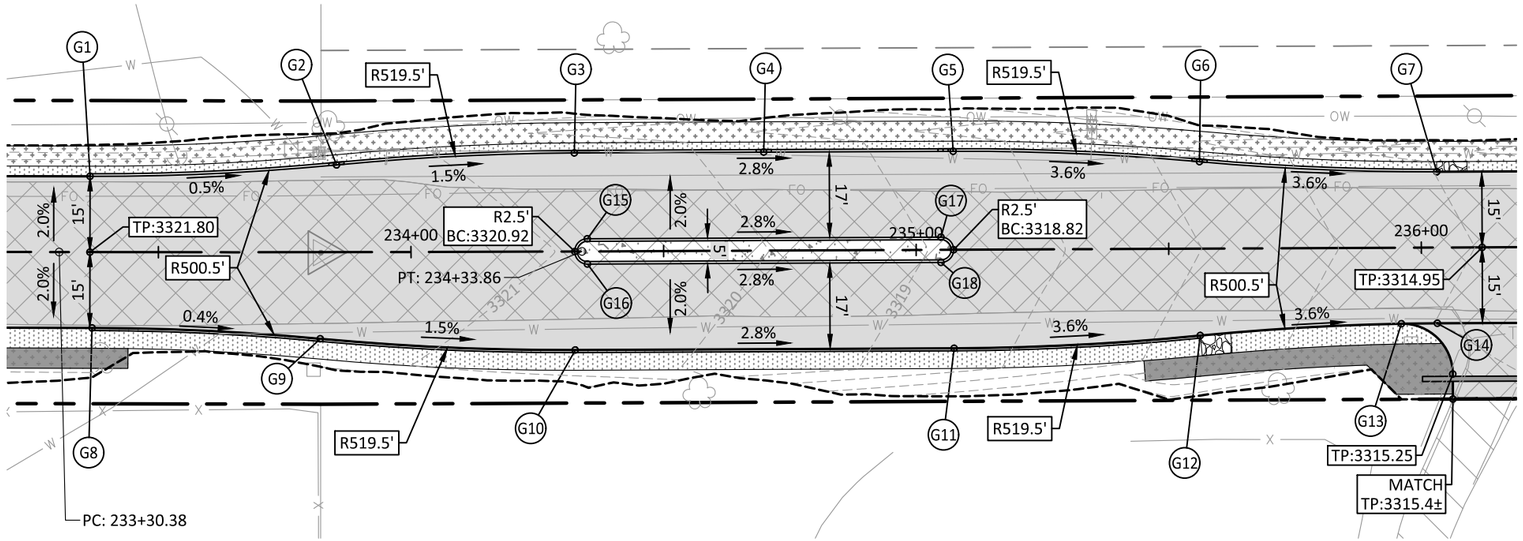
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD34

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-D Splitter Island Details.dwg

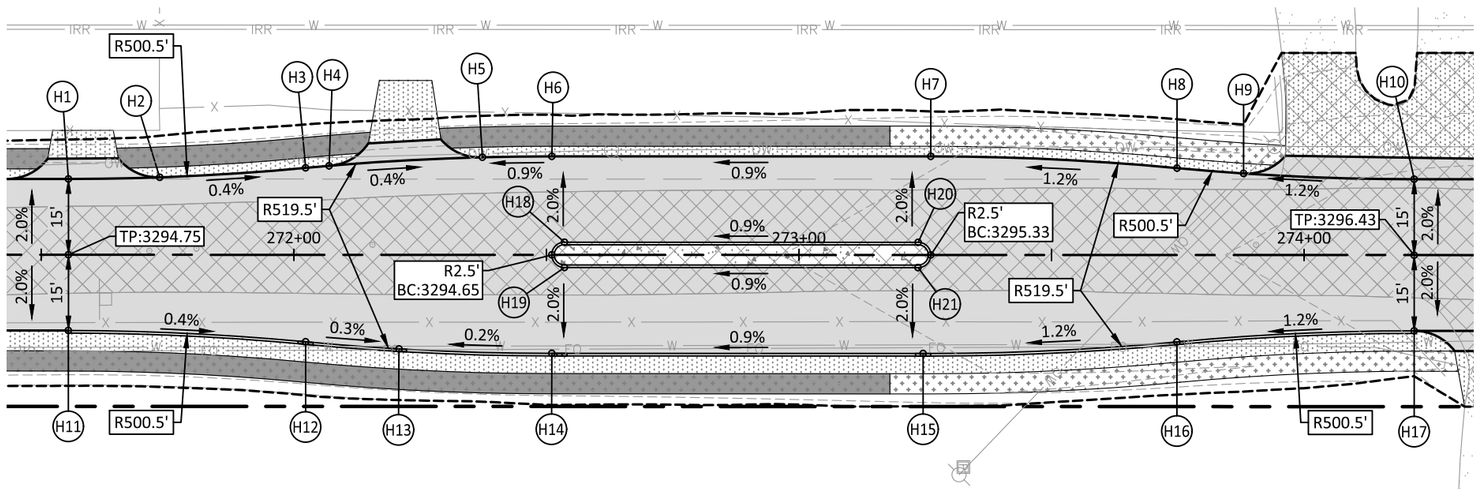


SPLITTER ISLAND - G

SCALE: 1" = 30'

SPLITTER ISLAND - G				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
G1	233+36.44	15.0'L	3321.50	BC; PC; START CURB
G2	233+85.29	17.3'L	3321.26	BC; PRC; CURB CUT*
G3	234+32.42	19.5'L	3320.53	BC; PT; CURB CUT*
G4	234+69.93	19.5'L	3319.64	BC; CURB CUT*
G5	235+07.43	19.5'L	3318.43	BC; PC; CURB CUT*
G6	235+56.16	17.2'L	3316.67	BC; PRC; CURB CUT*
G7	236+03.11	15.0'L	3314.98	BC; PT; END CURB
G8	233+36.89	15.0'R	3321.50	BC; PC; START CURB
G9	233+82.02	17.1'R	3321.30	BC; PRC
G10	234+32.43	19.5'R	3320.53	BC; PT
G11	235+07.43	19.5'R	3318.43	BC; PC
G12	235+56.18	17.2'R	3316.67	BC; PRC; END CURB
G13	235+95.99	15.1'R	3315.24	TP; DRIVEWAY
G14	236+03.15	15.0'R	3314.98	TP; PT
G15	234+34.93	2.5'L	3320.82	BC, PC
G16	234+34.93	2.5'R	3320.82	BC, PT
G17	235+04.93	2.5'L	3318.86	BC, PC
G18	235+04.93	2.5'R	3318.86	BC, PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04

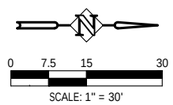


SPLITTER ISLAND - H

SCALE: 1" = 30'

SPLITTER ISLAND - H				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
H1	271+55.38	15.0'L	3294.45	TP; PC
H2	271+73.45	15.3'L	3294.39	TP; DRIVEWAY
H3	272+02.34	17.2'L	3294.26	TP; PRC
H4	272+06.99	17.6'L	3294.25	TP; DRIVEWAY
H5	272+37.33	19.3'L	3294.13	TP; DRIVEWAY; LOWPOINT
H6	272+51.08	19.5'L	3294.26	TP; PT
H7	272+26.08	19.5'L	3294.94	TP; PC
H8	273+74.83	17.2'L	3295.55	TP; PRC
H9	273+88.00	16.1'L	3295.72	TP; DRIVEWAY
H10	274+21.79	15.0'L	3296.13	TP; PT
H11	271+55.38	15.0'R	3294.45	BC; PC; START CURB
H12	272+02.34	17.2'R	3294.26	BC; PRC; CURB CUT
H13	272+20.83	18.6'R	3294.21	BC; LOWPOINT; CURB CUT
H14	272+51.08	19.5'R	3294.26	BC; PT; CURB CUT
H15	273+26.08	19.5'R	3294.94	BC; PC; CURB CUT
H16	273+74.83	17.2'R	3295.55	BC; PRC; CURB CUT
H17	274+21.79	15.0'R	3296.13	BC; PT; END CURB; DRIVEWAY
H18	272+53.58	2.5'L	3294.61	BC, PC
H19	272+53.58	2.5'R	3295.61	BC, PT
H20	273+23.58	2.5'L	3295.25	BC, PC
H21	273+23.58	2.5'R	3295.25	BC, PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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LANDSCAPE ARCHITECTS • SURVEYORS
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SPLITTER ISLAND DETAILS - G & H

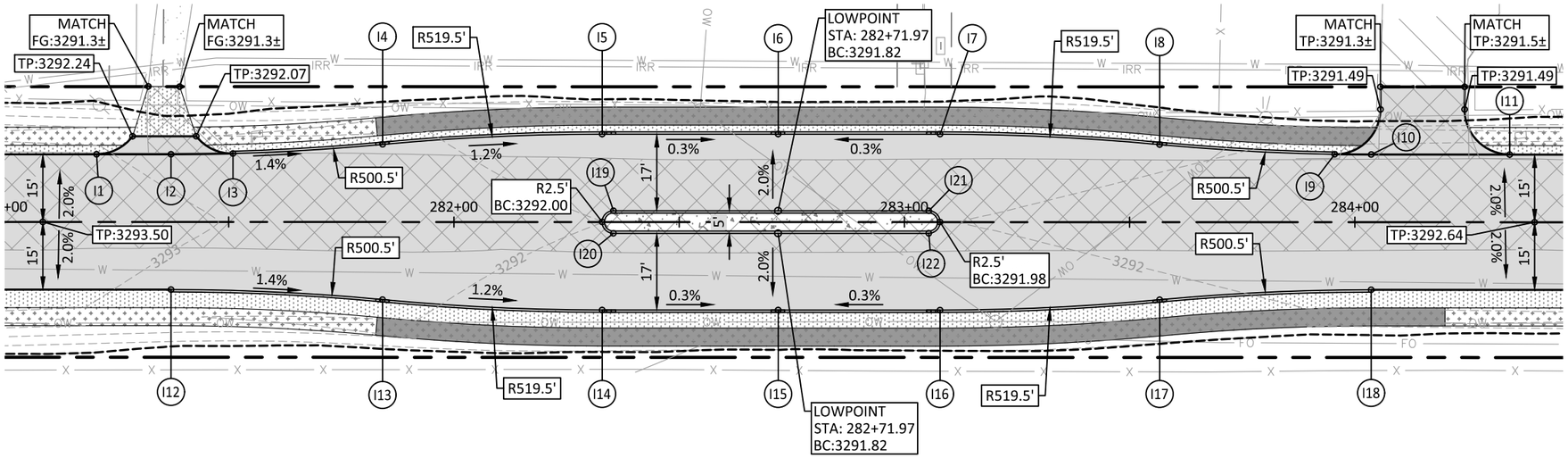
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD35

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-D Splitter Island Details.dwg



SPLITTER ISLAND - I

SCALE: 1" = 30'

SPLITTER ISLAND - I				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
I1	281+20.67	15.0'L	3293.05	TP; DRIVEWAY
I2	281+37.21	15.0'L	3292.84	TP; PC
I3	281+50.94	15.2'L	3292.66	BC; DRIVEWAY; START CURB
I4	281+84.17	17.2'L	3292.19	BC; PRC; CURB CUT*
I5	282+32.92	19.5'L	3291.61	BC; PT; CURB CUT*
I6	282+71.99	19.5'L	3291.48	BC; LOWPOINT; CURB CUT*
I7	283+07.92	19.5'L	3291.59	BC; PC; CURB CUT*
I8	283+56.66	17.2'L	3291.88	BC; PRC; CURB CUT*
I9	283+95.51	15.1'L	3292.11	BC; DRIVEWAY; END CURB
I10	284+03.62	15.0'L	3292.16	TP; PT
I11	284+34.36	15.0'L	3292.31	TP; DRIVEWAY
I12	281+37.21	15.0 'R	3292.84	BC; PC; START CURB
I13	281+84.17	17.2'R	3292.19	BC; PRC; CURB CUT*
I14	282+32.92	19.5'R	3291.61	BC; PT; CURB CUT*
I15	282+71.99	19.5'R	3291.48	BC; LOWPOINT; CURB CUT*
I16	283+07.92	19.5'R	3291.59	BC; PC; CURB CUT*
I17	283+56.66	17.2'R	3291.88	BC; PRC; CURB CUT*
I18	284+03.62	15.0'R	3291.16	BC; PT; END CURB
I19	282+35.42	2.5'L	3291.94	BC, PC
I20	282+95.42	2.5'R	3291.94	BC, PT
I21	283+05.42	2.5'L	3291.91	BC, PC
I22	283+05.42	2.5'R	3291.91	BC, PT

*INSTALL CURB CUT PER DETAIL ON SHEET G04

0 7.5 15 30

SCALE: 1" = 30'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER 94,828 OREGON MAY 15, 2019 NICOLAS G. SPEROS

EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

SPLITTER ISLAND DETAILS - I

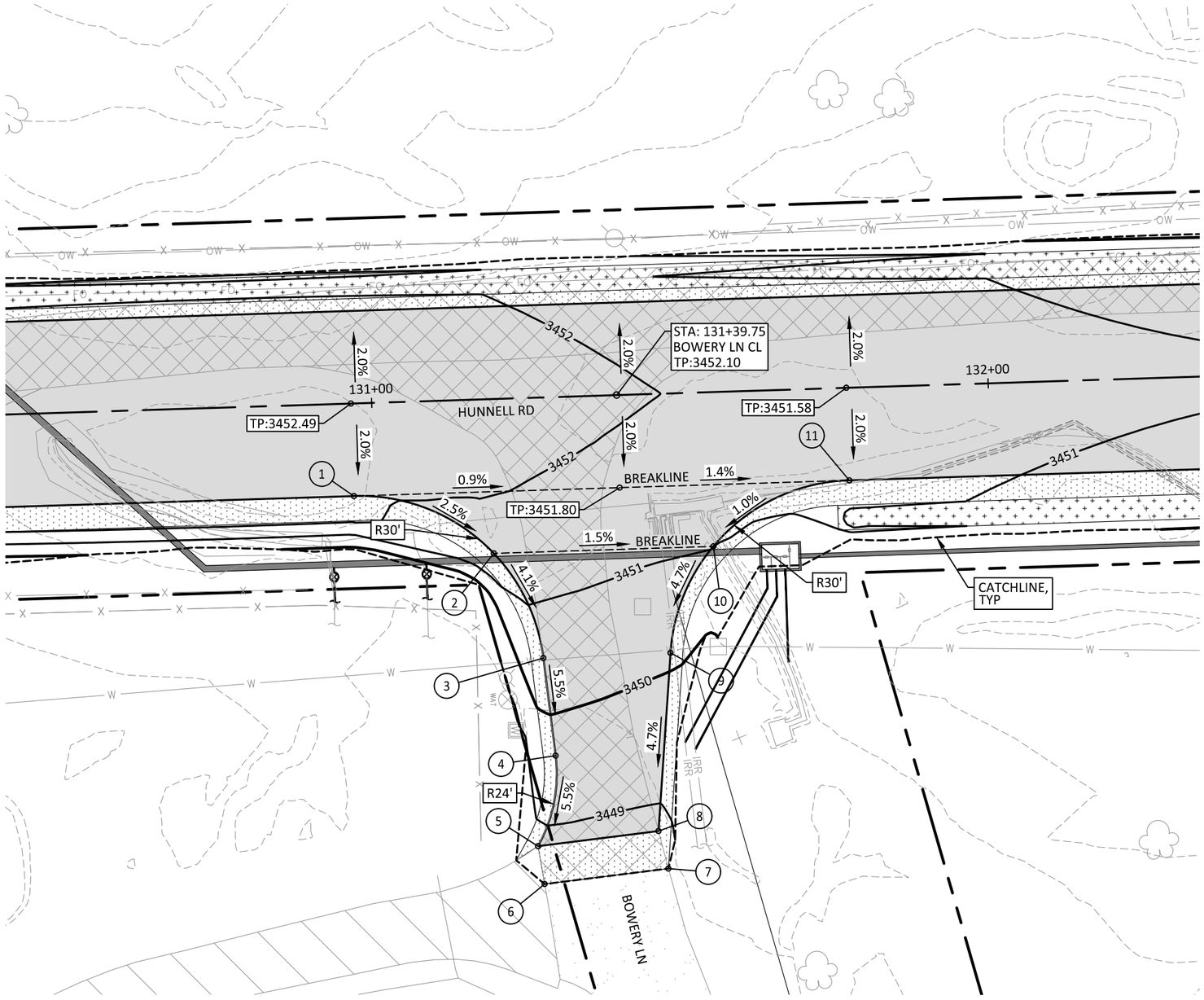
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD36

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-D Splitter Island Details.dwg



INTERSECTION DETAIL - BOWERY LANE

SCALE: 1" = 20'

INTERSECTION DETAIL - BOWERY LANE					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	130+96.65	15.0'L	3452.19	TP; PC
2	HUNNELL RD	131+19.01	25.0'R	3451.55	TP; BREAKLINE
3	HUNNELL RD	131+26.52	42.2'R	3450.51	TP; PT
4	HUNNELL RD	131+28.00	58.1'R	3449.63	TP; PC
5	HUNNELL RD	131+24.68	72.7'R	3448.80	PT; MATCH
6	HUNNELL RD	131+25.56	78.8'R	3448.73	FG; MATCH
7	HUNNELL RD	131+45.64	76.7'R	3448.70	FG; MATCH
8	HUNNELL RD	131+44.29	70.8'R	3448.79	TP; MATCH
9	HUNNELL RD	131+47.14	42.0'R	3450.14	TP; PC
10	HUNNELL RD	131+54.64	25.0'R	3451.03	TP; BREAKLINE
11	HUNNELL RD	131+77.00	15.0'R	3451.28	TP; PT

N

0 5 10 20

SCALE: 1" = 20'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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INTERSECTION DETAIL - BOWERY LANE

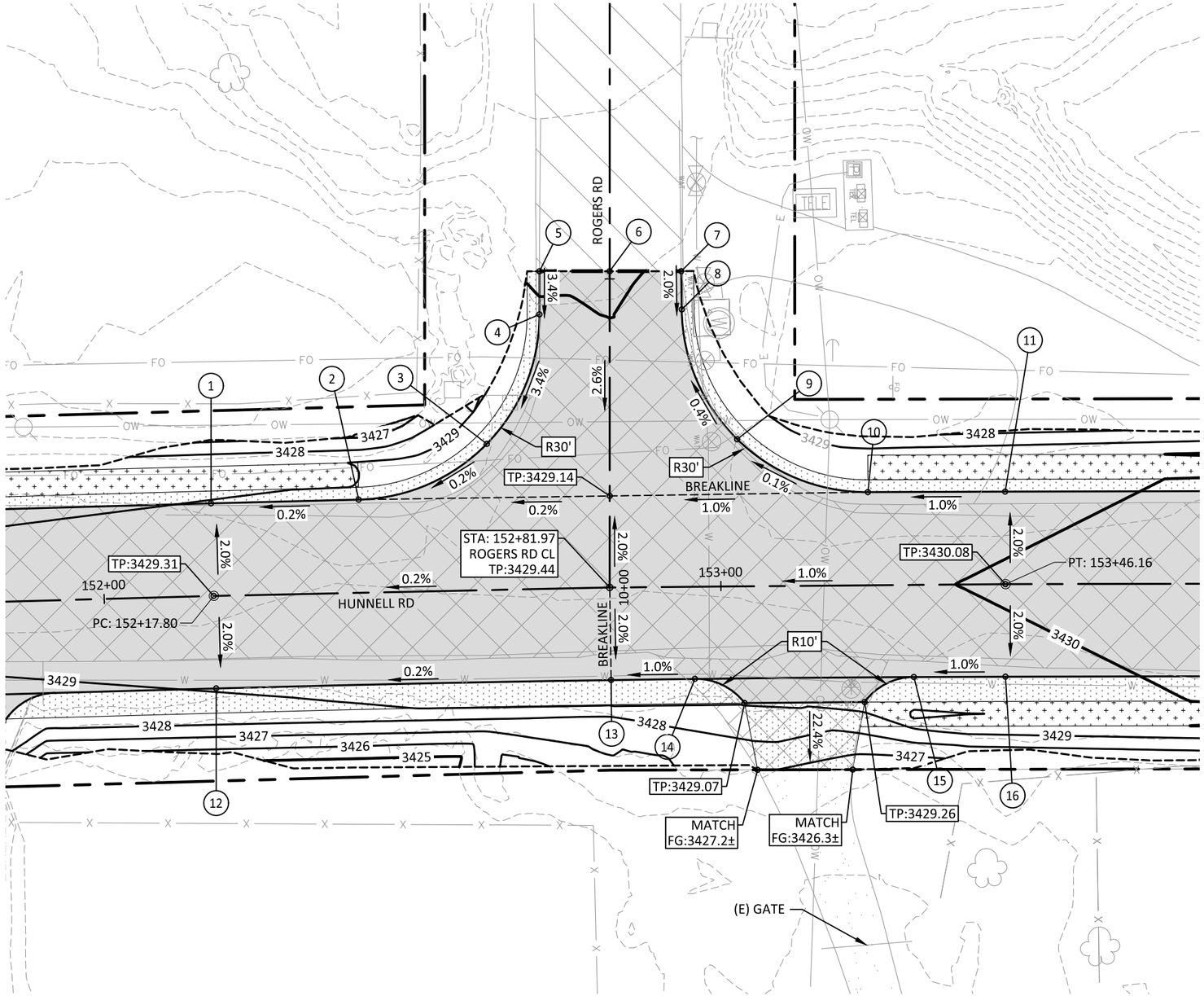
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD37

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-E Intersection Details.dwg



INTERSECTION DETAIL - ROGERS ROAD

SCALE: 1" = 20'

INTERSECTION DETAIL - ROGERS ROAD					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	152+17.74	15.0'L	3429.01	TP; PC
2	HUNNELL RD	152+41.62	15.0'L	3429.06	TP; PRC
3	HUNNELL RD	152+62.49	23.6'L	3429.11	TP; MIDPOINT
4	ROGERS RD	9+55.76	11.4'R	3429.90	TP; PT
5	ROGERS RD	9+48.75	11.4'R	3430.14	TP; SAWCUT
6	ROGERS RD	9+48.75	0.0'	3431.13	TP; CL; SAWCUT
7	ROGERS RD	9+48.75	11.6'L	3429.86	TP; SAWCUT
8	ROGERS RD	9+54.95	11.7'L	3429.74	TP; PC
9	HUNNELL RD	153+02.90	23.8'L	3429.65	TP; MIDPOINT
10	HUNNELL RD	153+23.94	15.0'L	3429.56	TP; PRC
11	HUNNELL RD	153+46.11	15.0'L	3429.78	TP, PT
12	HUNNELL RD	152+17.74	15.0'R	3429.01	TP; PC
13	HUNNELL RD	152+81.97	15.0'R	3429.14	TP; BREAKLINE
14	HUNNELL RD	152+95.60	15.0'R	3429.28	TP; DRIVEWAY
15	HUNNELL RD	153+31.21	15.0'R	3429.63	TP; DRIVEWAY
16	HUNNELL RD	153+46.11	15.0'R	3429.78	TP, PT

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

N

0 5 10 20

SCALE: 1" = 20'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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250 NW Franklin Ave, Suite 404, Bend, OR 97703
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INTERSECTION DETAIL - ROGERS RD

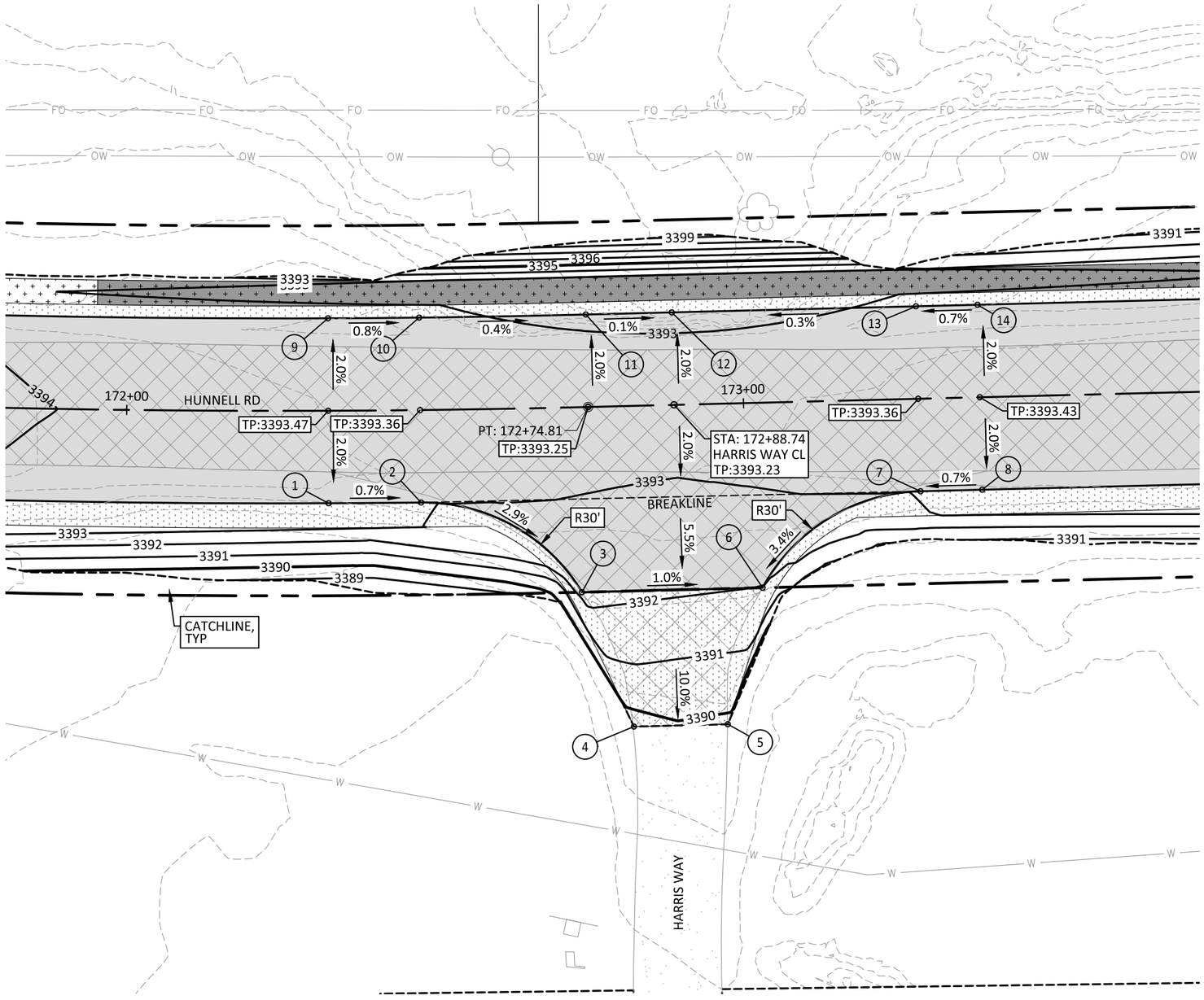
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD38

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-E intersection Details.dwg



INTERSECTION DETAIL - HARRIS WAY

SCALE: 1" = 20'

INTERSECTION DETAIL - HARRIS WAY					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	172+32.68	15.0' R	3393.18	TP
2	HUNNELL RD	172+47.57	15.0' R	3393.07	TP; PC
3	HUNNELL RD	172+73.09	30.0' R	3392.27	TP; PT
4	HUNNELL RD	172+80.94	52.0' R	3389.62	FG; MATCH
5	HUNNELL RD	172+96.17	52.0' R	3389.81	FG; MATCH
6	HUNNELL RD	173+02.36	30.0' R	3391.98	TP; PC
7	HUNNELL RD	173+28.34	15.0' R	3393.06	TP; PT
8	HUNNELL RD	173+38.34	15.0' R	3393.13	TP
9	HUNNELL RD	172+32.68	15.0' L	3393.18	TP
10	HUNNELL RD	172+47.57	15.0' L	3393.07	TP
11	HUNNELL RD	172+74.81	15.0' L	3392.95	TP; PT
12	HUNNELL RD	172+88.74	15.0' L	3392.94	TP; LOWPOINT
13	HUNNELL RD	173+28.34	15.0' L	3393.06	TP
14	HUNNELL RD	173+38.34	15.0' L	3393.13	TP

0 5 10 20
SCALE: 1" = 20'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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INTERSECTION DETAIL - HARRIS WAY

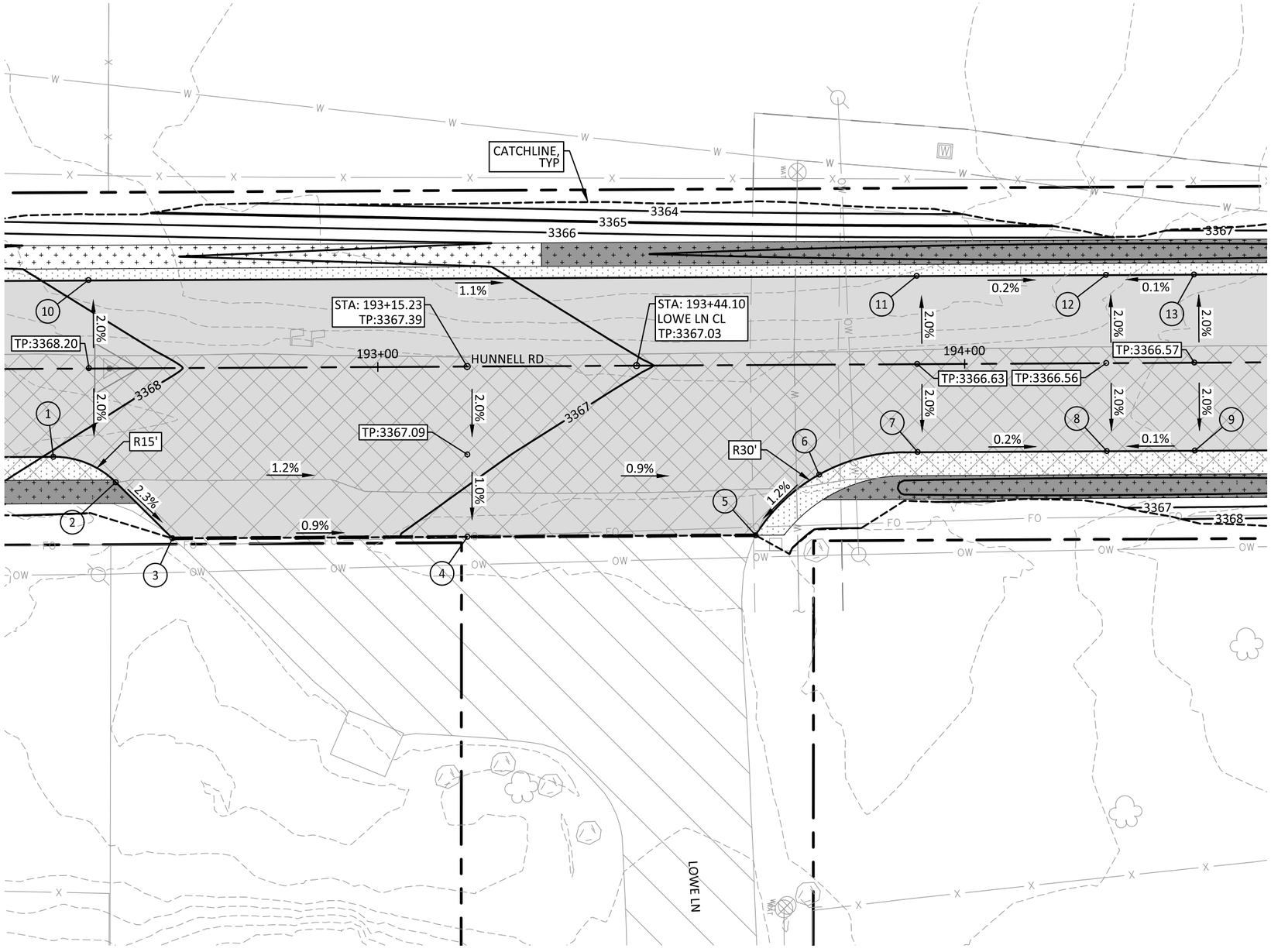
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD39

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-E Intersection Details.dwg



INTERSECTION DETAIL - LOWE LANE

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	192+44.63	15.0' R	3369.98	TP; PC
2	HUNNELL RD	192+55.24	19.4' R	3367.75	TP; PT
3	HUNNELL RD	192+64.84	29.0' R	3367.44	TP; SAWCUT; MATCH
4	HUNNELL RD	193+15.11	29.0' R	3366.96	TP; SAWCUT; MATCH
5	HUNNELL RD	193+64.22	29.0' R	3366.70	TP; PC; SAWCUT; MATCH
6	HUNNELL RD	192+75.11	18.7'R	3366.52	TP; MIDPOINT
7	HUNNELL RD	193+91.90	15.0'R	3366.33	TP; PT
8	HUNNELL RD	194+24.14	15.0' R	3366.26	TP; LOWPOINT
9	HUNNELL RD	194+39.14	15.0' L	3366.27	TP
10	HUNNELL RD	192+50.76	15.0' L	3367.90	TP
11	HUNNELL RD	193+91.90	15.0' L	3366.33	TP
12	HUNNELL RD	194+24.14	15.0' L	3366.26	TP; LOWPOINT
13	HUNNELL RD	194+39.14	15.0' L	3366.27	TP

0 5 10 20
SCALE: 1" = 20'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

INTERSECTION DETAIL - LOWE LANE
SCALE: 1" = 20'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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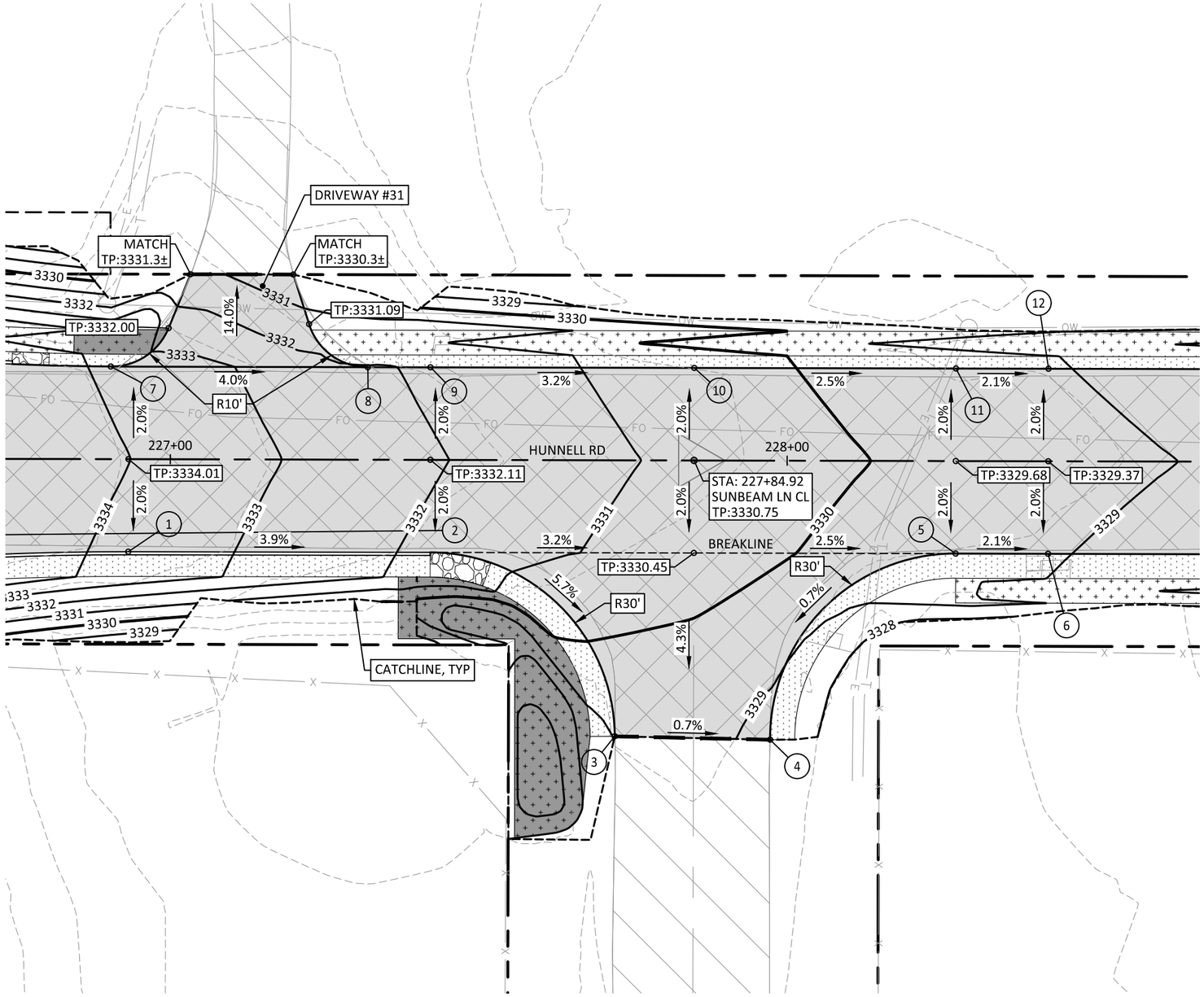
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

INTERSECTION DETAIL - LOWE LN
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT
DESCHUTES COUNTY, OREGON

SHEET NO. RD40
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-E Intersection Details.dwg



INTERSECTION DETAIL - SUNBEAM LANE

SCALE: 1" = 20'

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	226+93.21	15.0' R	3333.71	TP
2	HUNNELL RD	227+42.15	15.0' R	3331.81	TP; PC
3	HUNNELL RD	227+72.14	44.7' R	3329.04	TP; PT; SAWCUT; MATCH
4	HUNNELL RD	227+97.34	45.3' R	3328.85	TP; PC; SAWCUT; MATCH
5	HUNNELL RD	226+27.33	15.0' R	3329.38	TP; PT
6	HUNNELL RD	228+42.33	15.0'R	3329.07	TP
7	HUNNELL RD	226+90.33	15.0'L	3333.84	TP; DRIVEWAY
8	HUNNELL RD	22731.99	15.0'L	3332.17	TP; DRIVEWAY
9	HUNNELL RD	227+42.15	15.0'L	3331.81	TP
10	HUNNELL RD	227+84.90	15.0'L	3330.45	TP
11	HUNNELL RD	228+27.33	15.0'L	3329.38	TP
12	HUNNELL RD	228+42.33	15.0'L	3329.07	TP

0 5 10 20

SCALE: 1" = 20'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

INTERSECTION DETAIL - SUNBEAM LN

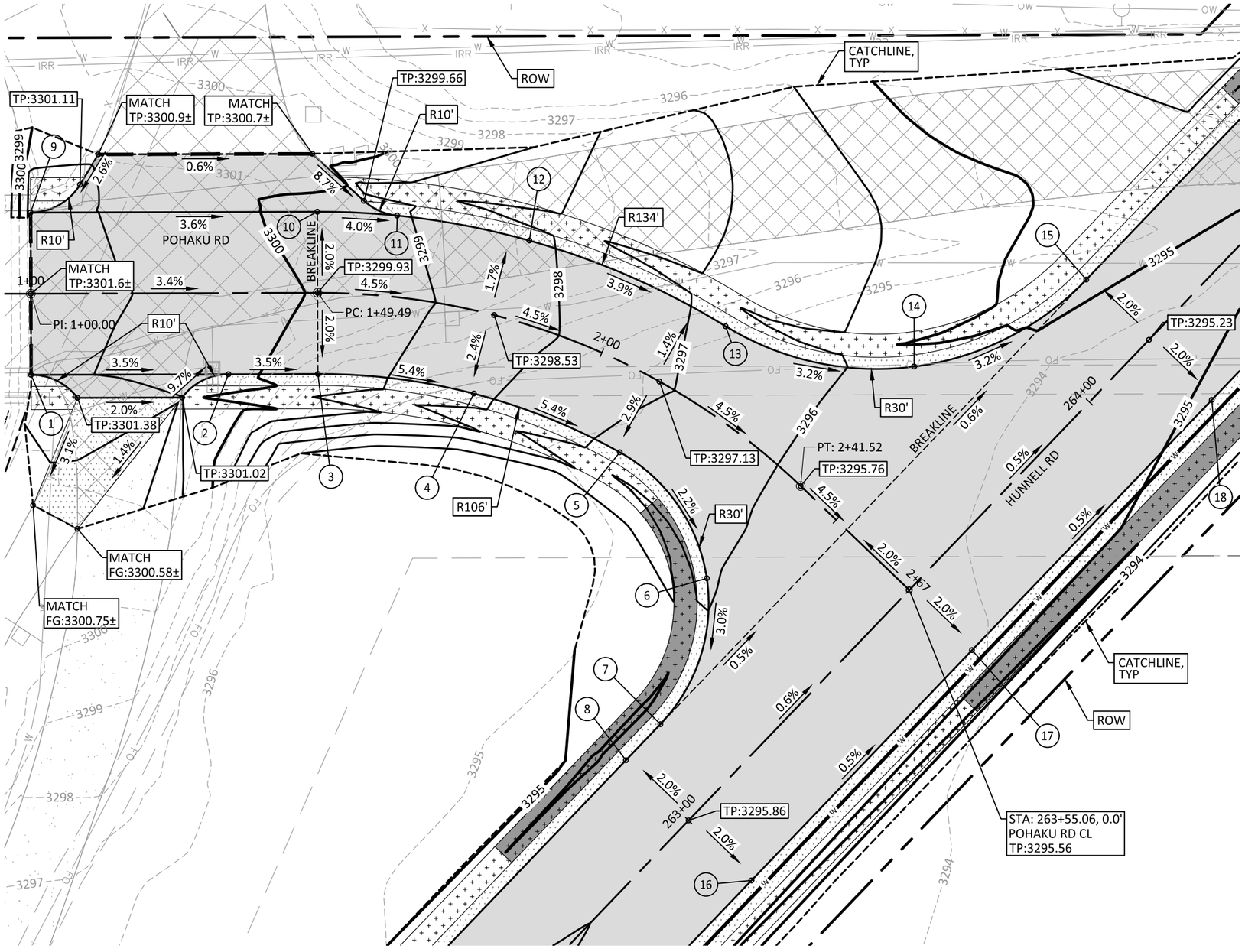
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD41

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-E intersection Details.dwg



INTERSECTION DETAIL - POHAKU ROAD

SCALE: 1" = 20'

INTERSECTION DETAIL - POHAKU RD					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	POHAKU RD	1+00.00	14.0'R	3301.38	TP; SAWCUT; MATCH @ BRIDGE; DRIVEWAY
2	POHAKU RD	1+34.06	14.0'R	3300.19	TP; DRIVEWAY
3	POHAKU RD	1+49.49	14.0'R	3299.65	TP; PC; BRAKLINE
4	POHAKU RD	1+80.30	14.0'R	3298.19	TP; MIDPOINT
5	POHAKU RD	2+11.11	14.0'R	3296.73	TP; PCC
6	POHAKU RD	2+40.66	22.7'R	3296.12	TP; MIDPOINT
7	HUNNELL RD	263+08.61	15.0'L	3295.52	TP; PT
8	HUNNELL RD	263+00.00	15.0'L	3295.56	TP
9	POHAKU RD	1+00.00	14.0'L	3301.42	TP; MATCH @ BRIDGE; SAWCUT
10	POHAKU RD	1+49.49	14.0'L	3299.65	TP; PC; BREAKLINE
11	POHAKU RD	1+61.85	14.0'L	3299.10	TP; DRIVEWAY
12	POHAKU RD	1+82.67	14.0'L	3298.19	TP; MIDPOINT
13	POHAKU RD	2+15.85	14.0'L	3296.73	TP; PRC
14	POHAKU RD	2+41.42	28.4'L	3295.62	TP; MIDPOINT
15	HUNNELL RD	264+14.85	15.0'L	3294.93	TP; PT
16	HUNNELL RD	263+00.00	15.0'R	3295.56	TP
17	HUNNELL RD	263+55.04	15.0'R	3295.26	TP
18	HUNNELL RD	264+14.85	15.0'R	3294.93	TP

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

0 5 10 20

SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER 94,828 OREGON MAY 15, 2019 NICOLAS G. SPEROS

EXPIRES: 06/30/24

100% SUBMITTAL

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-E intersection Details.dwg

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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LANDSCAPE ARCHITECTS ✦ SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

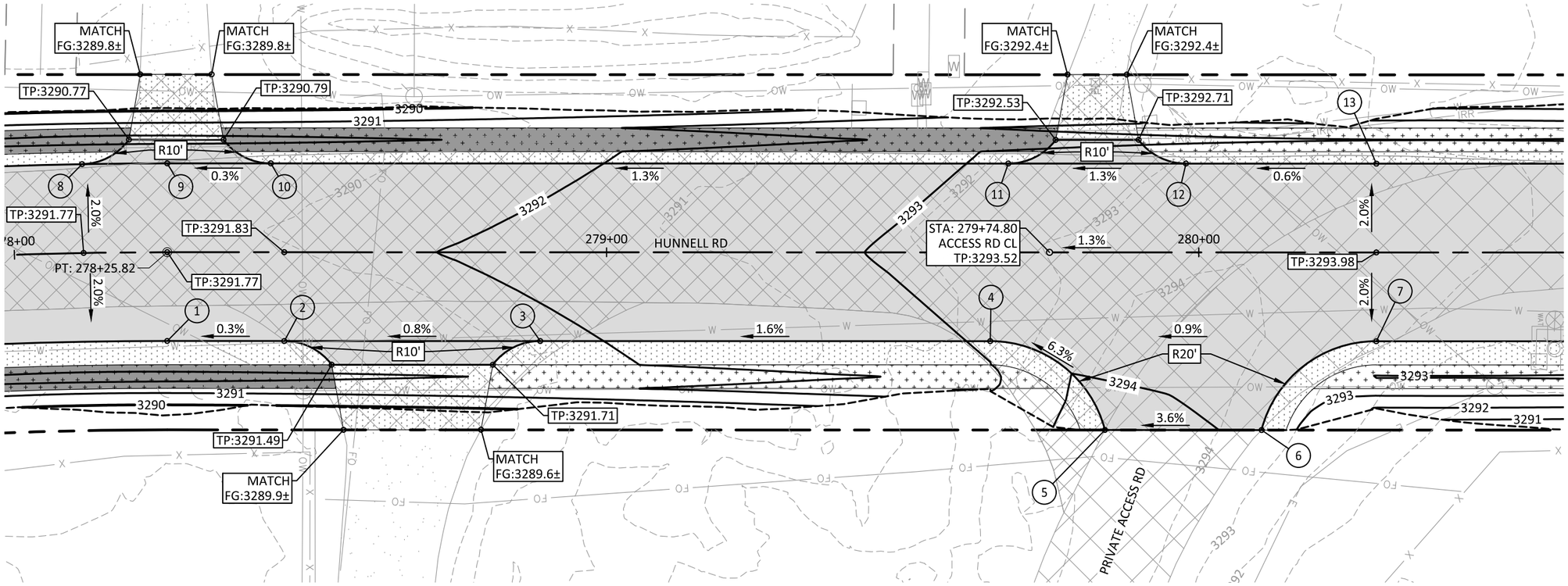
INTERSECTION DETAIL - POHAKU RD

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD42

JOB NO. DC0-01



INTERSECTION DETAIL - PRIVATE ROADWAY

SCALE: 1" = 20'

0 5 10 20

SCALE: 1" = 20'

INTERSECTION DETAIL - PRIVATE ROAD

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	278+25.82	15.0' R	3291.47	TP; PT
2	HUNNELL RD	278+45.58	15.0' R	3291.53	TP; DRIVEWAY
3	HUNNELL RD	278+88.81	15.0' R	3291.87	TP; DRIVEWAY
4	HUNNELL RD	279+64.78	15.0' R	3293.07	TP; PC
5	HUNNELL RD	279+84.14	30.0' R	3294.69	TP; PT; MATCH
6	HUNNELL RD	280+10.61	30.0' R	3293.68	TP; PC; MATCH
7	HUNNELL RD	280+29.97	15.0' R	3293.68	TP; PT
8	HUNNELL RD	278+11.70	15.0' L	3291.47	TP; DRIVEWAY
9	HUNNELL RD	278+25.82	15.0' L	3291.47	TP; PT
10	HUNNELL RD	278+43.31	15.0' L	3291.52	TP; DRIVEWAY
11	HUNNELL RD	279+67.83	15.0' L	3293.12	TP; DRIVEWAY
12	HUNNELL RD	279+97.83	15.0' L	3293.49	TP; DRIVEWAY
13	HUNNELL RD	280+29.97	15.0' L	3293.68	TP

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

INTERSECTION DETAIL - PRIVATE ROADWAY

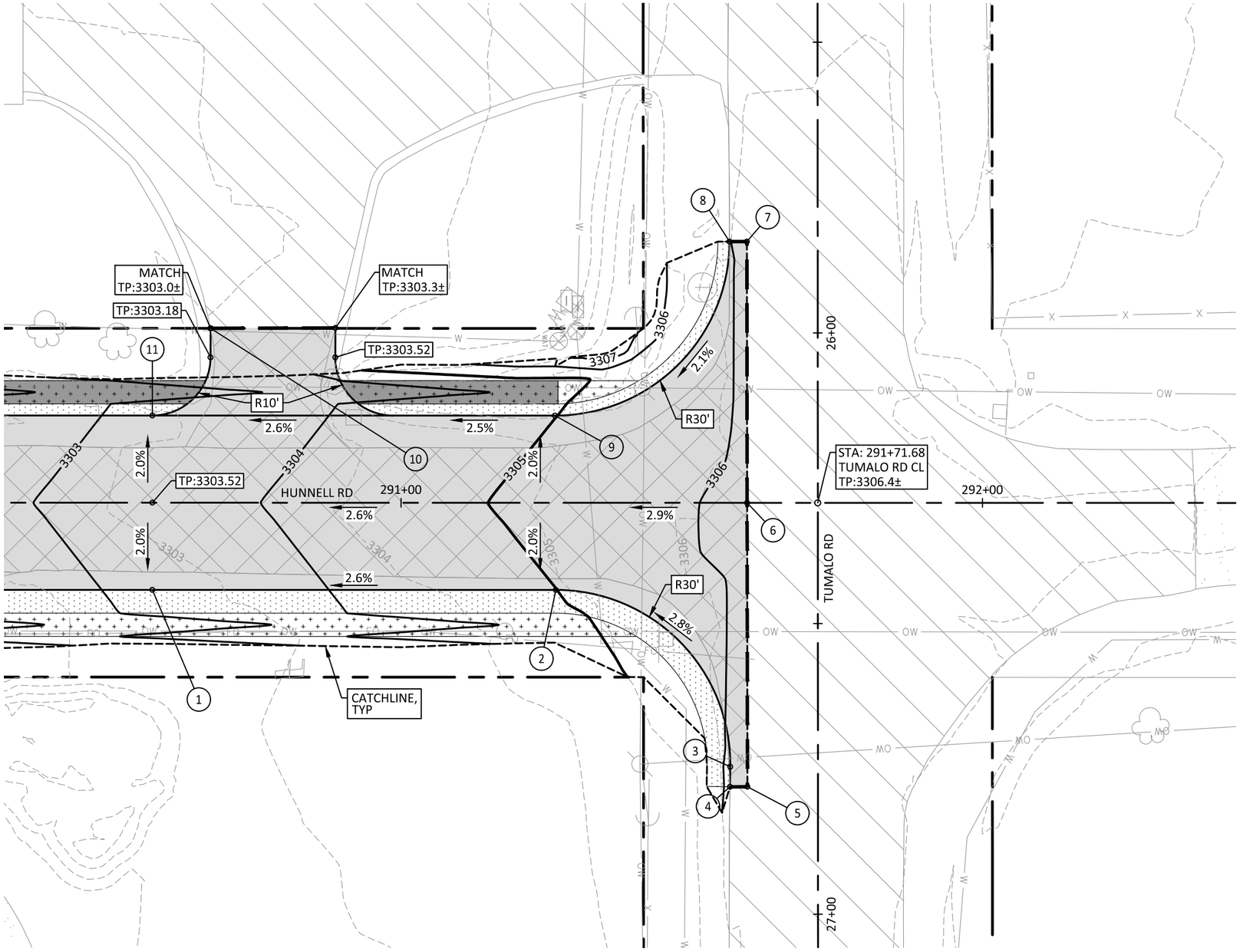
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD43

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-E intersection Details.dwg



INTERSECTION DETAIL - TUMALO ROAD

SCALE: 1" = 20'

INTERSECTION DETAIL - TUMALO ROAD					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	290+57.21	15.0' R	3303.22	TP
2	HUNNELL RD	291+26.62	15.0' R	3304.99	TP; PC
3	HUNNELL RD	291+56.61	45.4' R	3306.19	TP; PT
4	HUNNELL RD	291+56.57	48.8' R	3306.18	TP; MATCH; SAWCUT
5	HUNNELL RD	291+59.57	48.8' R	3306.32	TP; MATCH; SAWCUT
6	HUNNELL RD	291+59.51	0.0' R	3306.23	TP; MATCH; SAWCUT
7	HUNNELL RD	291+59.46	44.9' L	3306.21	TP; MATCH; SAWCUT
8	HUNNELL RD	291+56.46	44.9' L	3305.98	TP; MATCH; SAWCUT; PC
9	HUNNELL RD	291+26.46	15.0' L	3304.99	TP; PT
10	HUNNELL RD	290+98.68	15.0' L	3304.28	TP; DRIVEWAY
11	HUNNELL RD	290+57.21	15.0' L	3303.22	TP; DRIVEWAY

N

0 5 10 20

SCALE: 1" = 20'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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INTERSECTION DETAIL - TUMALO RD

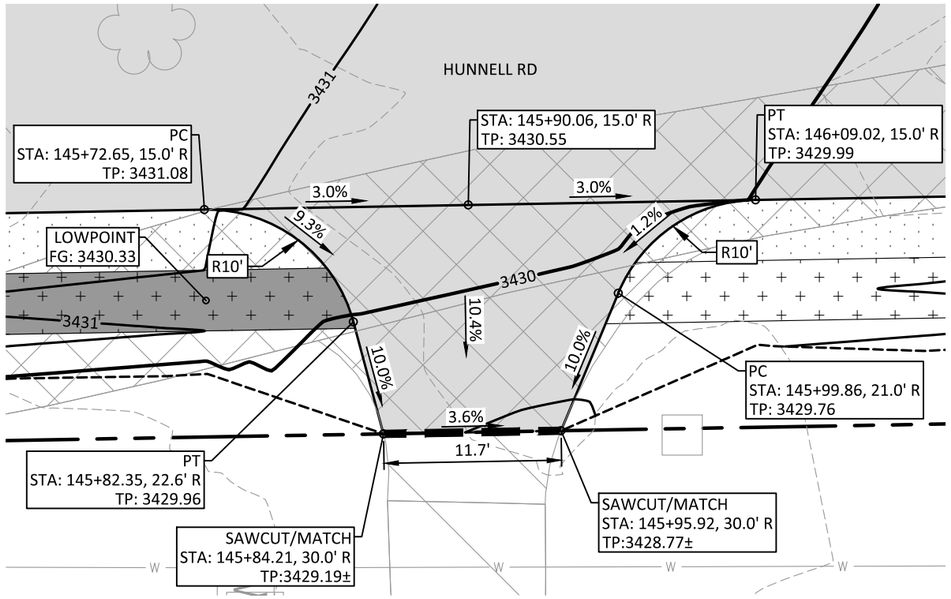
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD44

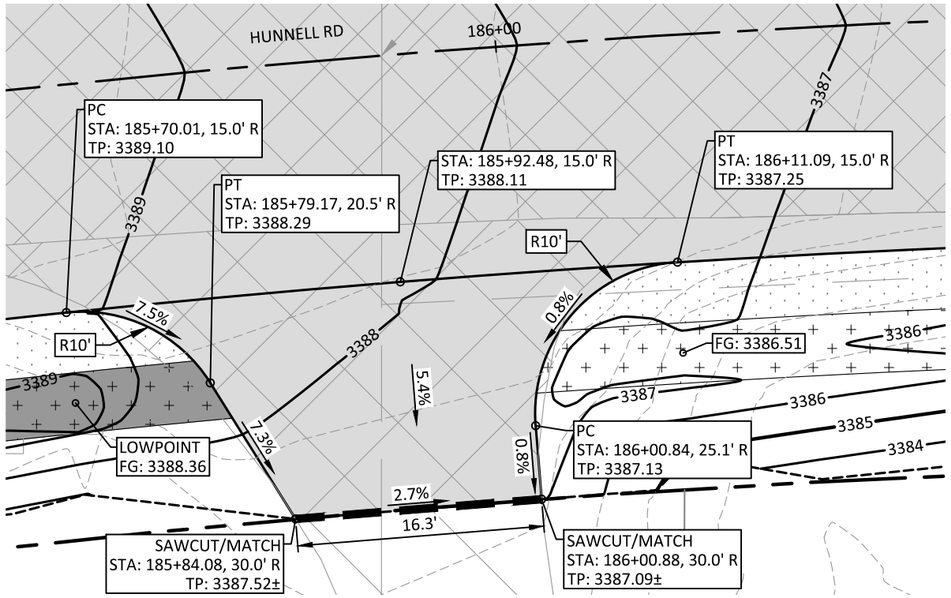
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-E Intersection Details.dwg



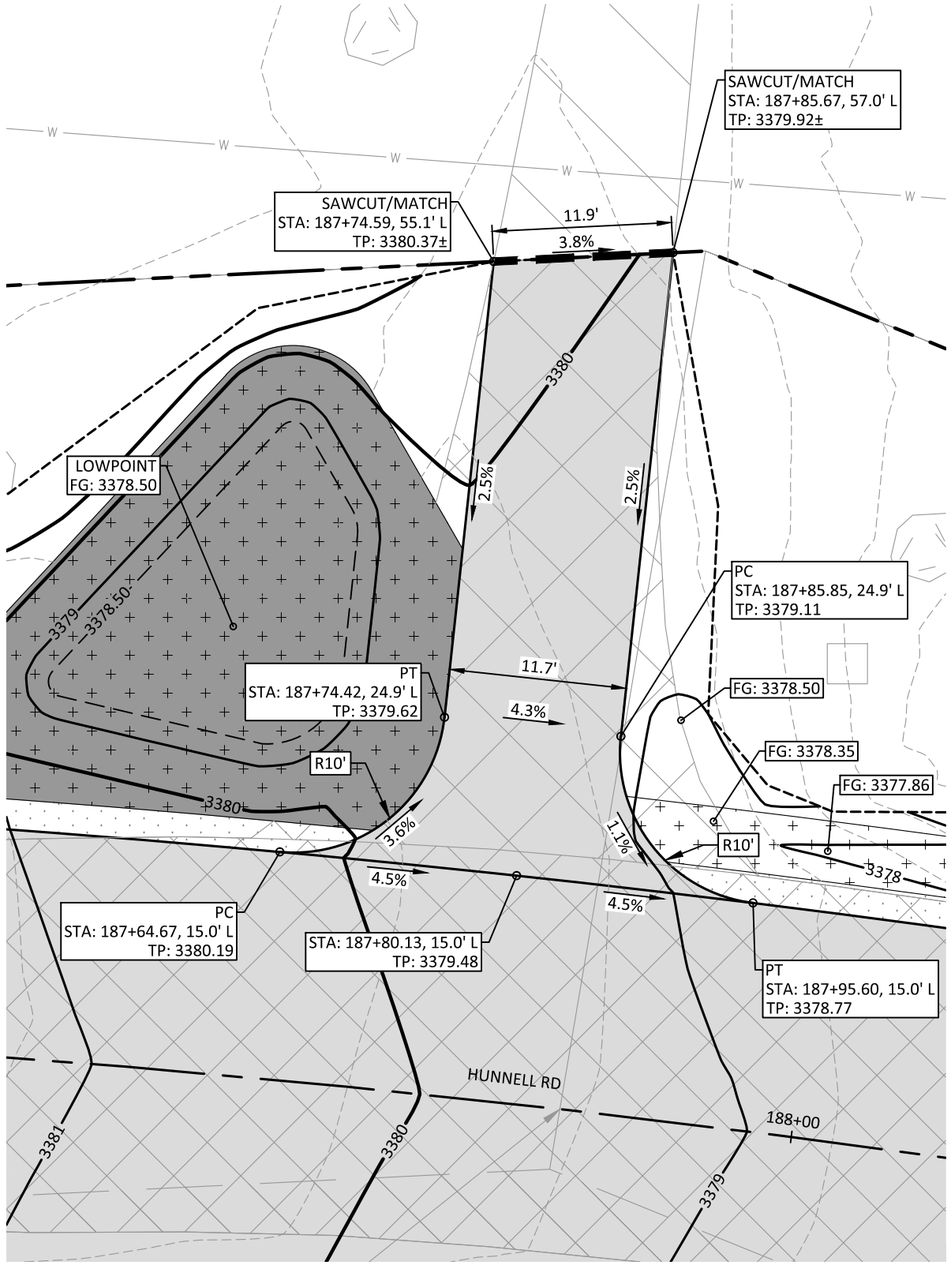
DRIVEWAY #2

SCALE: 1" = 10'



DRIVEWAY #17

SCALE: 1" = 10'



DRIVEWAY #18

SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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LANDSCAPE ARCHITECTS✦SURVEYORS
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DRIVEWAY DETAILS

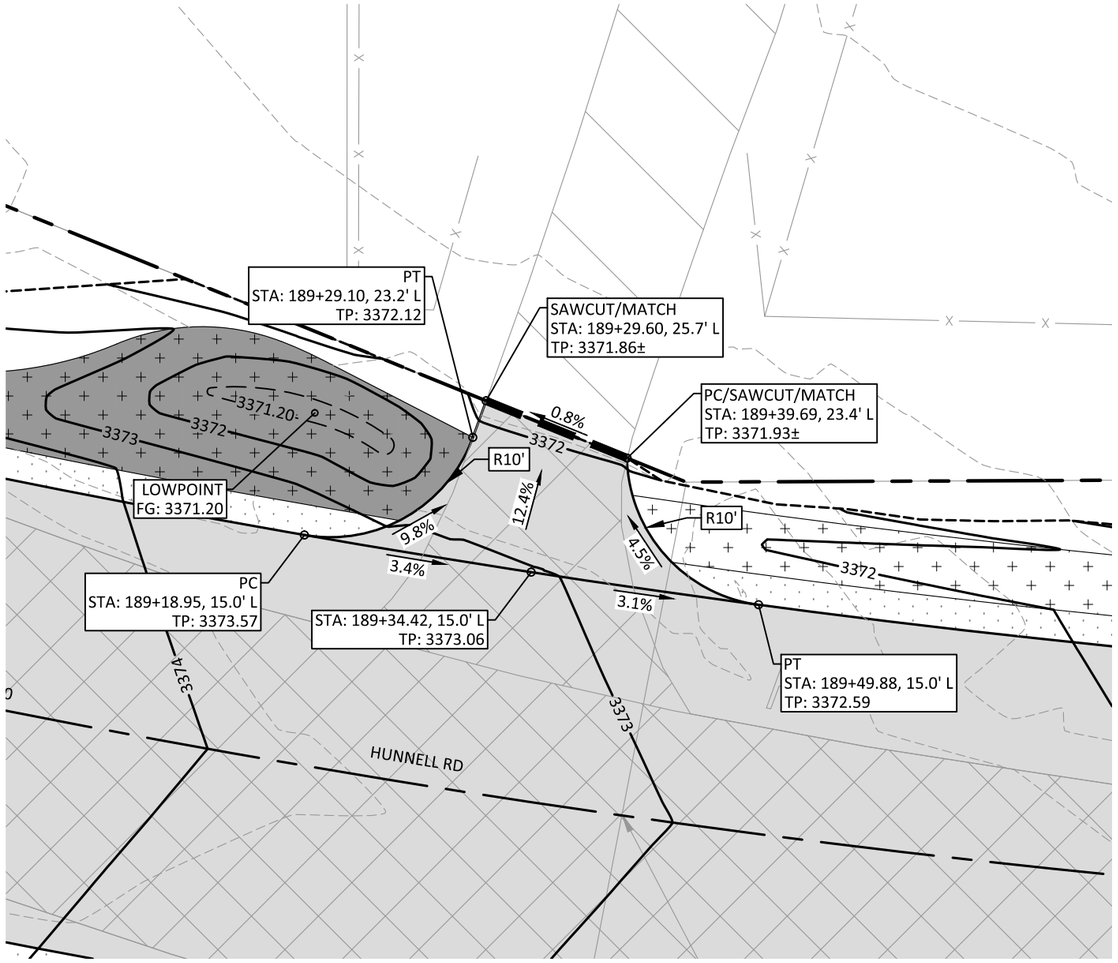
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

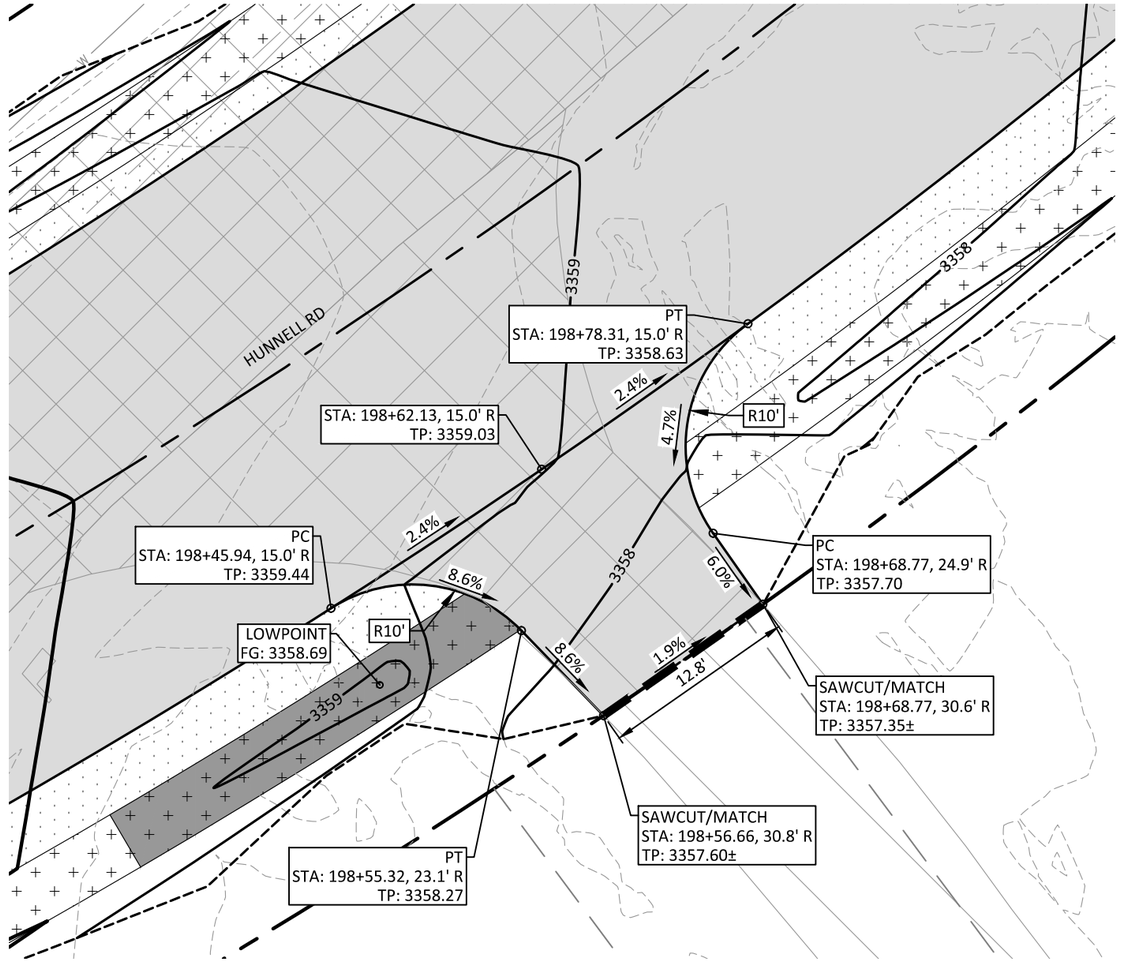
SHEET NO. RD45

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-F Driveway Details.dwg



DRIVEWAY #19
SCALE: 1" = 10'



DRIVEWAY #21
SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

N

0 5 10 20
SCALE: 1" = 20'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT
DESCHUTES COUNTY, OREGON

SHEET NO. RD46
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-F Driveway Details.dwg

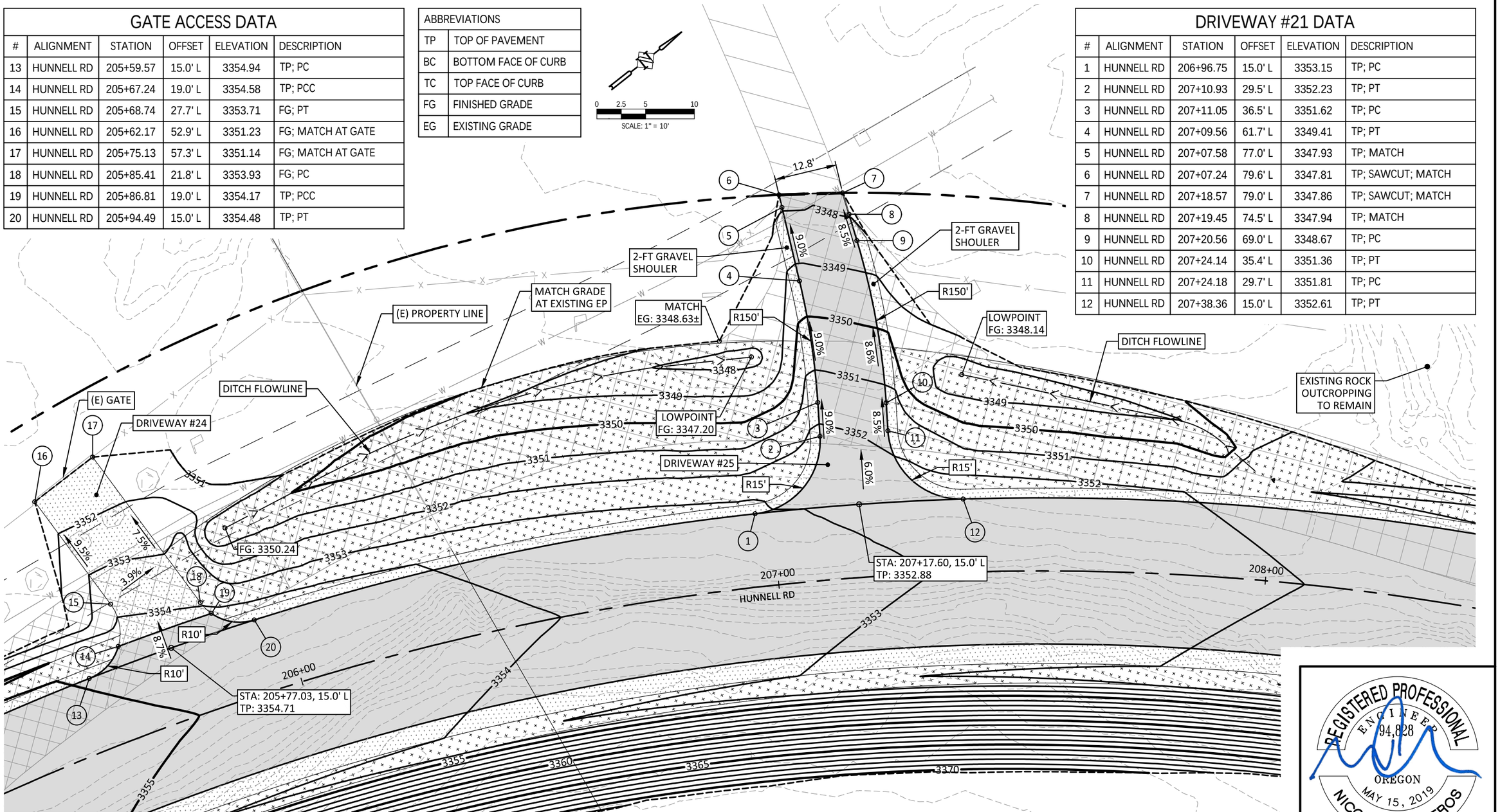
GATE ACCESS DATA

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
13	HUNNELL RD	205+59.57	15.0' L	3354.94	TP; PC
14	HUNNELL RD	205+67.24	19.0' L	3354.58	TP; PCC
15	HUNNELL RD	205+68.74	27.7' L	3353.71	FG; PT
16	HUNNELL RD	205+62.17	52.9' L	3351.23	FG; MATCH AT GATE
17	HUNNELL RD	205+75.13	57.3' L	3351.14	FG; MATCH AT GATE
18	HUNNELL RD	205+85.41	21.8' L	3353.93	FG; PC
19	HUNNELL RD	205+86.81	19.0' L	3354.17	TP; PCC
20	HUNNELL RD	205+94.49	15.0' L	3354.48	TP; PT

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

DRIVEWAY #21 DATA

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	206+96.75	15.0' L	3353.15	TP; PC
2	HUNNELL RD	207+10.93	29.5' L	3352.23	TP; PT
3	HUNNELL RD	207+11.05	36.5' L	3351.62	TP; PC
4	HUNNELL RD	207+09.56	61.7' L	3349.41	TP; PT
5	HUNNELL RD	207+07.58	77.0' L	3347.93	TP; MATCH
6	HUNNELL RD	207+07.24	79.6' L	3347.81	TP; SAWCUT; MATCH
7	HUNNELL RD	207+18.57	79.0' L	3347.86	TP; SAWCUT; MATCH
8	HUNNELL RD	207+19.45	74.5' L	3347.94	TP; MATCH
9	HUNNELL RD	207+20.56	69.0' L	3348.67	TP; PC
10	HUNNELL RD	207+24.14	35.4' L	3351.36	TP; PT
11	HUNNELL RD	207+24.18	29.7' L	3351.81	TP; PC
12	HUNNELL RD	207+38.36	15.0' L	3352.61	TP; PT



DRIVEWAY #24 & DRIVEWAY #25

SCALE: 1" = 10'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

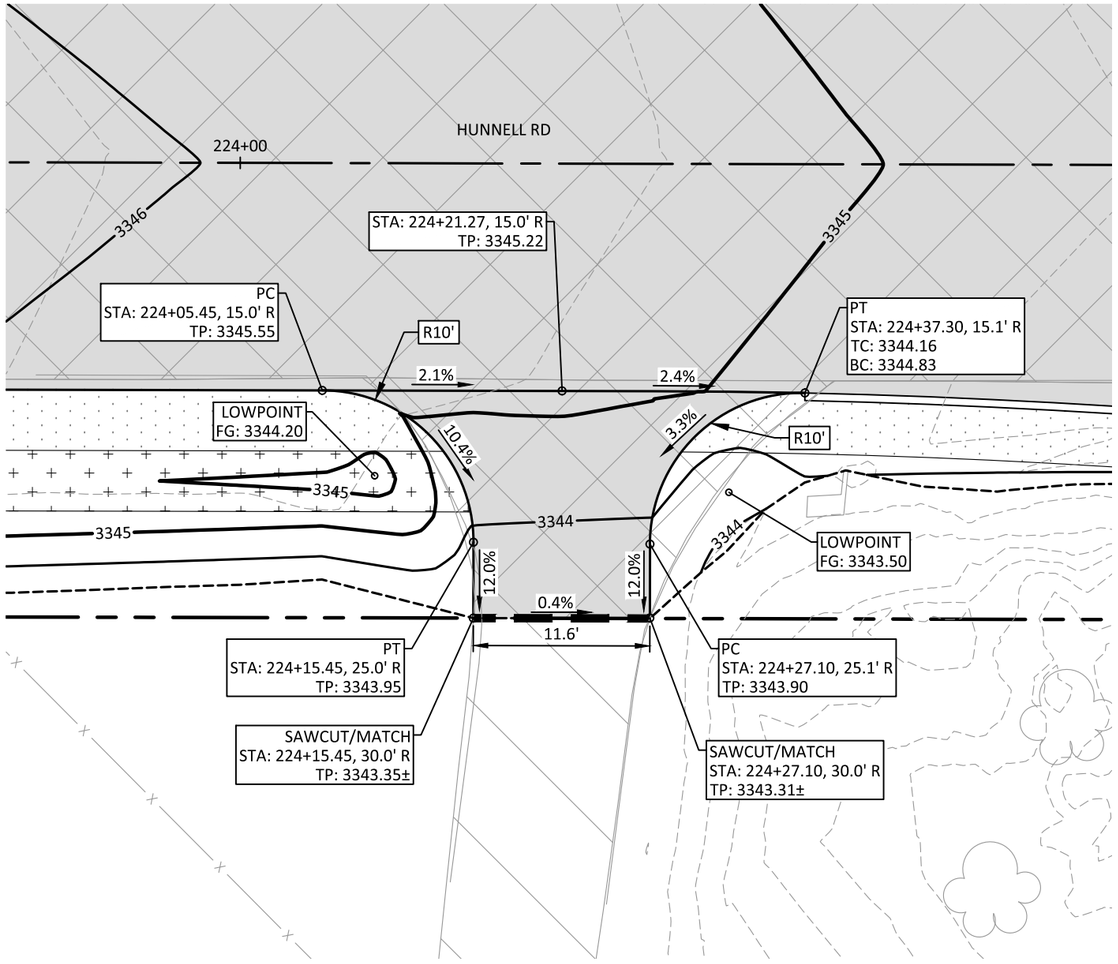
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

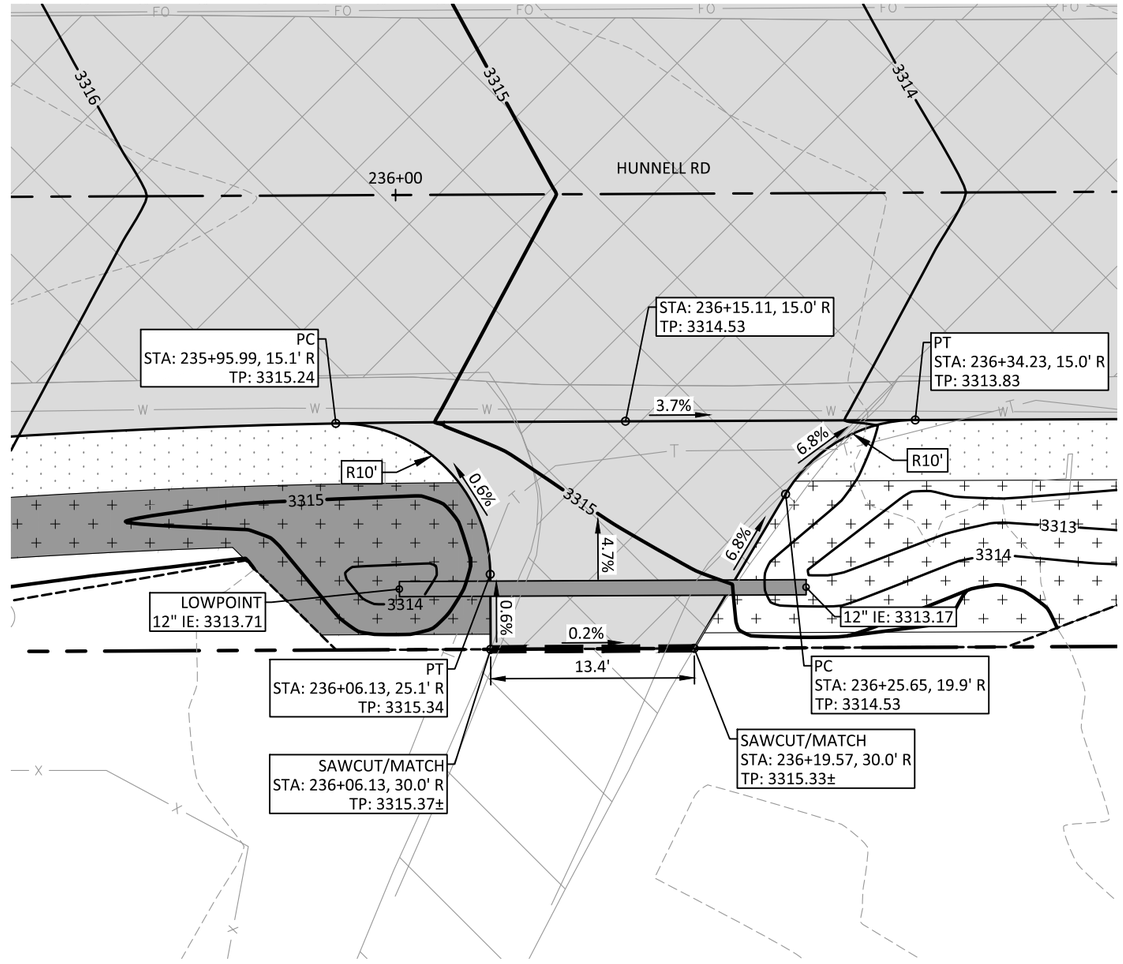
SHEET NO. RD47

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-F Driveway Details.dwg



DRIVEWAY #30
SCALE: 1" = 10'



DRIVEWAY #34
SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

N

0 5 10 20
SCALE: 1" = 20'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

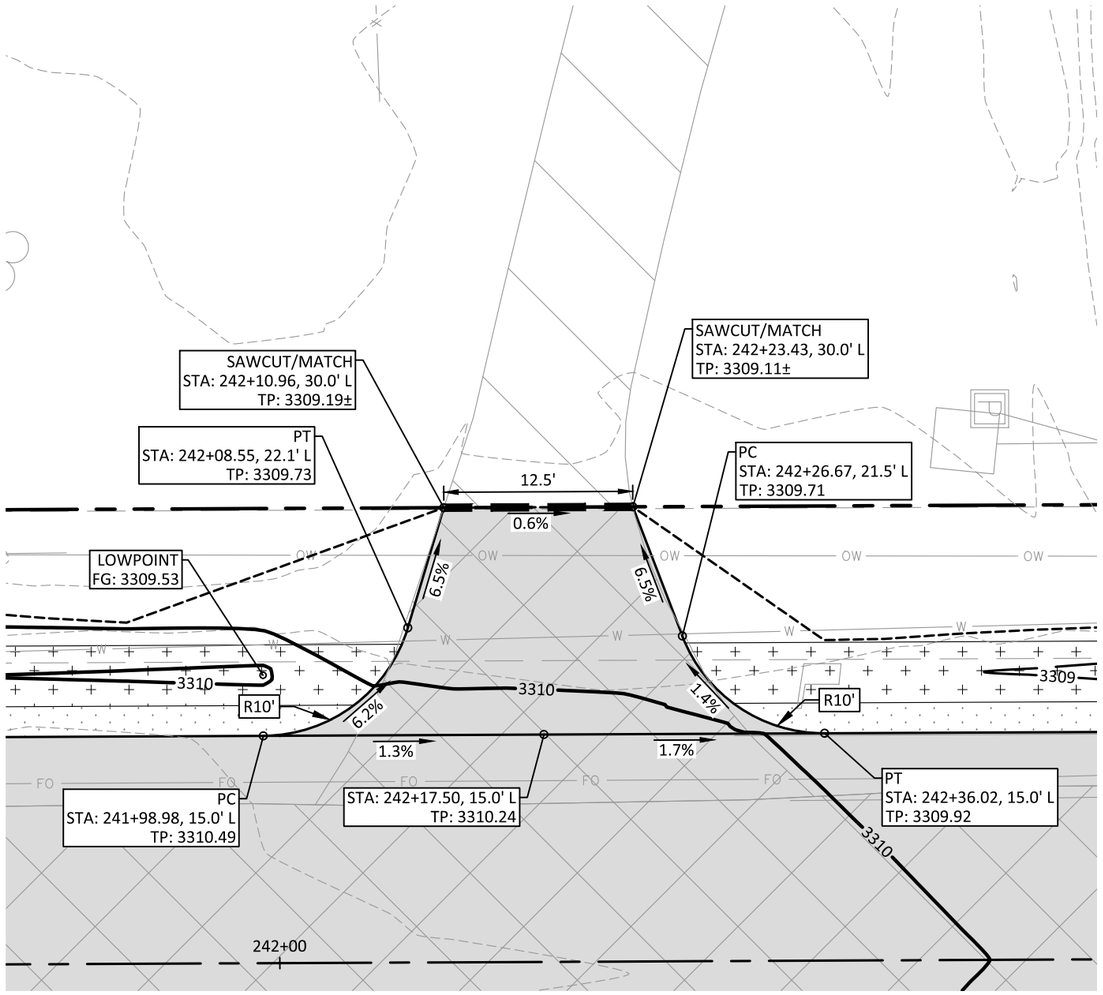
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

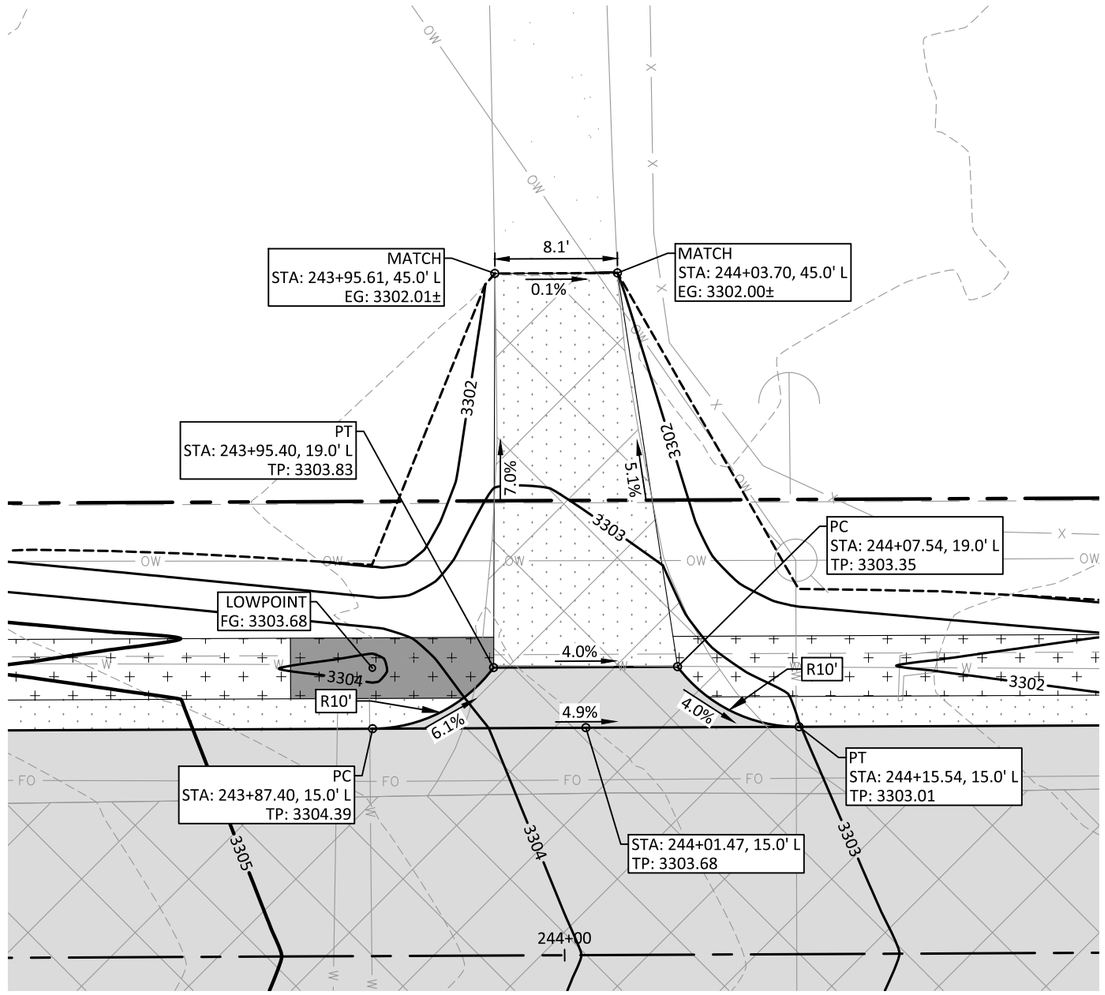
SHEET NO. RD48

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-F Driveway Details.dwg



DRIVEWAY #39
SCALE: 1" = 10'



DRIVEWAY #41
SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

N

0 2.5 5 10
SCALE: 1" = 10'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

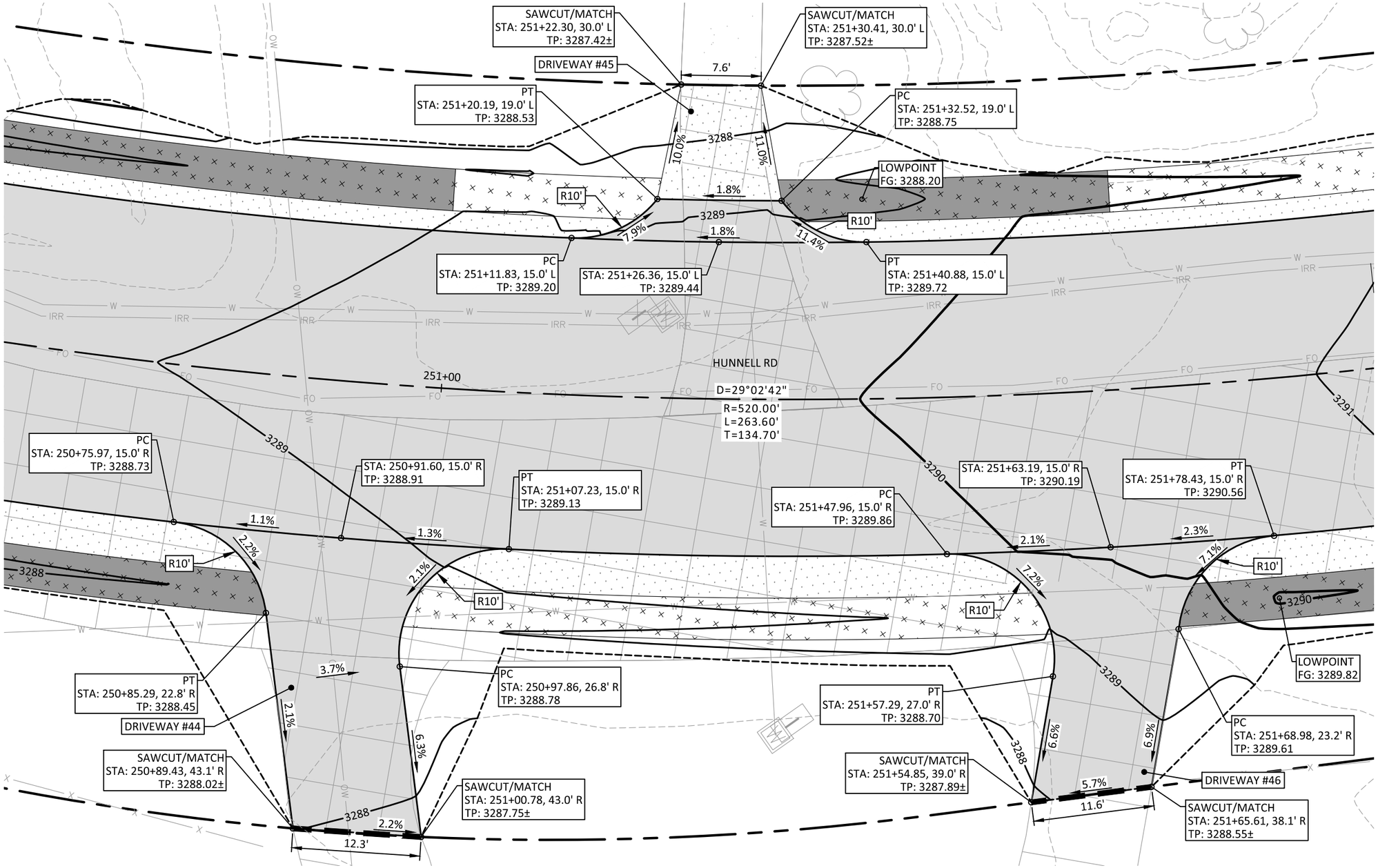
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD49

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_RD-F Driveway Details.dwg



DRIVEWAY #44, #45 & DRIVEWAY #46

SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD50

JOB NO. DC0-01

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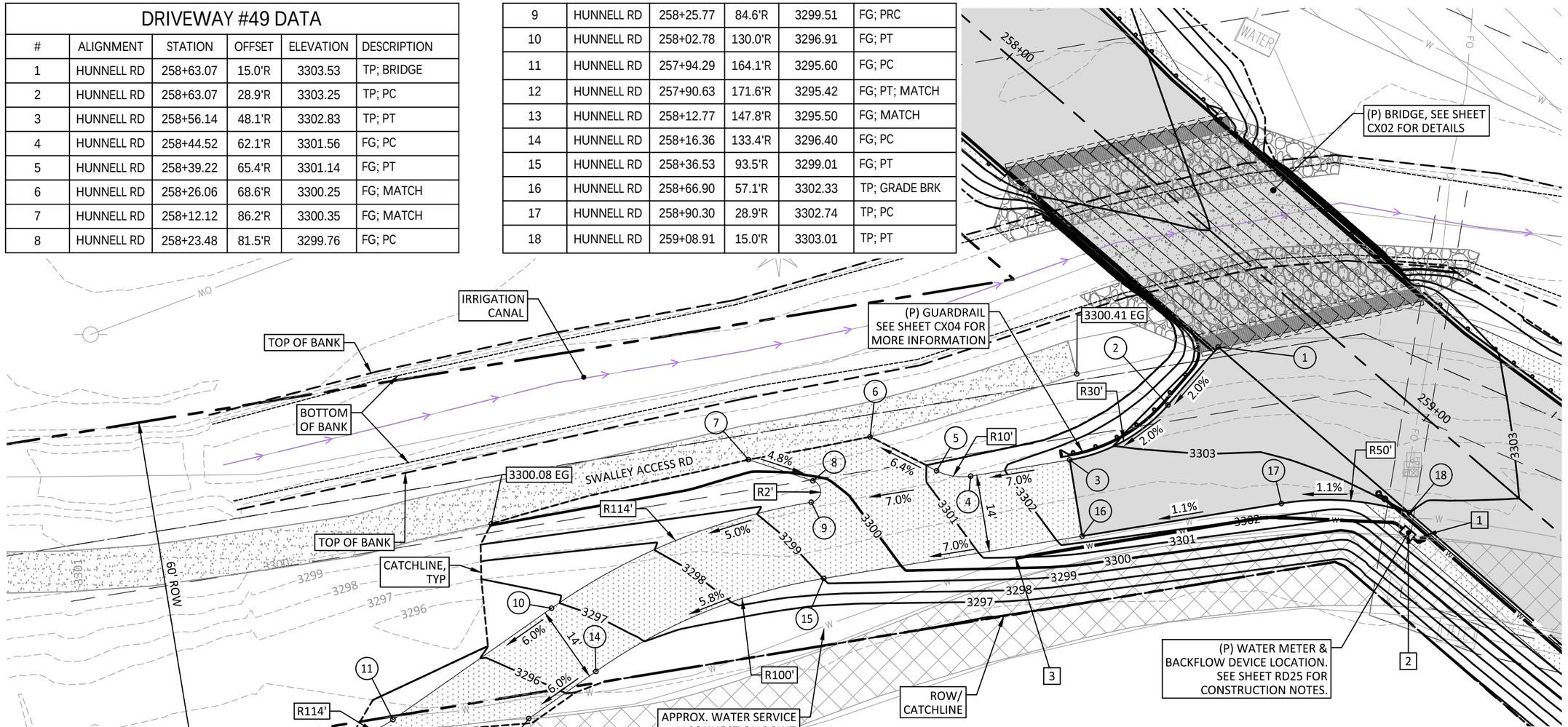
DRIVEWAY #49 DATA

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	258+63.07	15.0'R	3303.53	TP; BRIDGE
2	HUNNELL RD	258+63.07	28.9'R	3303.25	TP; PC
3	HUNNELL RD	258+56.14	48.1'R	3302.83	TP; PT
4	HUNNELL RD	258+44.52	62.1'R	3301.56	FG; PC
5	HUNNELL RD	258+39.22	65.4'R	3301.14	FG; PT
6	HUNNELL RD	258+26.06	68.6'R	3300.25	FG; MATCH
7	HUNNELL RD	258+12.12	86.2'R	3300.35	FG; MATCH
8	HUNNELL RD	258+23.48	81.5'R	3299.76	FG; PC
9	HUNNELL RD	258+25.77	84.6'R	3299.51	FG; PRC
10	HUNNELL RD	258+02.78	130.0'R	3296.91	FG; PT
11	HUNNELL RD	257+94.29	164.1'R	3295.60	FG; PC
12	HUNNELL RD	257+90.63	171.6'R	3295.42	FG; PT; MATCH
13	HUNNELL RD	258+12.77	147.8'R	3295.50	FG; MATCH
14	HUNNELL RD	258+16.36	133.4'R	3296.40	FG; PC
15	HUNNELL RD	258+36.53	93.5'R	3299.01	FG; PT
16	HUNNELL RD	258+66.90	57.1'R	3302.33	TP; GRADE BRK
17	HUNNELL RD	258+90.30	28.9'R	3302.74	TP; PC
18	HUNNELL RD	259+08.91	15.0'R	3303.01	TP; PT



WATER MAIN NOTES*:

1. STA 259+13.93, 16.0'R
   INSTALL 1 - 4" x 1" DOUBLE STRAP SADDLE;
   1 - 1" CORPORATION STOP
2. STA 259+11.18, 18.0' R
   INSTALL 1 - 1" WATER METER AND BACKFLOW DEVICE PER DETAIL ON SHEET G09. WATER METER AND BACKFLOW DEVICE TO BE PROVIDED BY AVION WATER COMPANY. COORDINATE WITH AVION FOR INSTALLATION.
3. STA 258+60.41, 68.0' R
   CONNECT TO EXISTING 2" WATER SERVICE.
   ABANDON EXISTING WATER SERVICE PIPE UPSTREAM OF CONNECTION.

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

DRIVEWAY #49
SCALE: 1" = 20'

SCALE: 1" = 20'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		REVISIONS

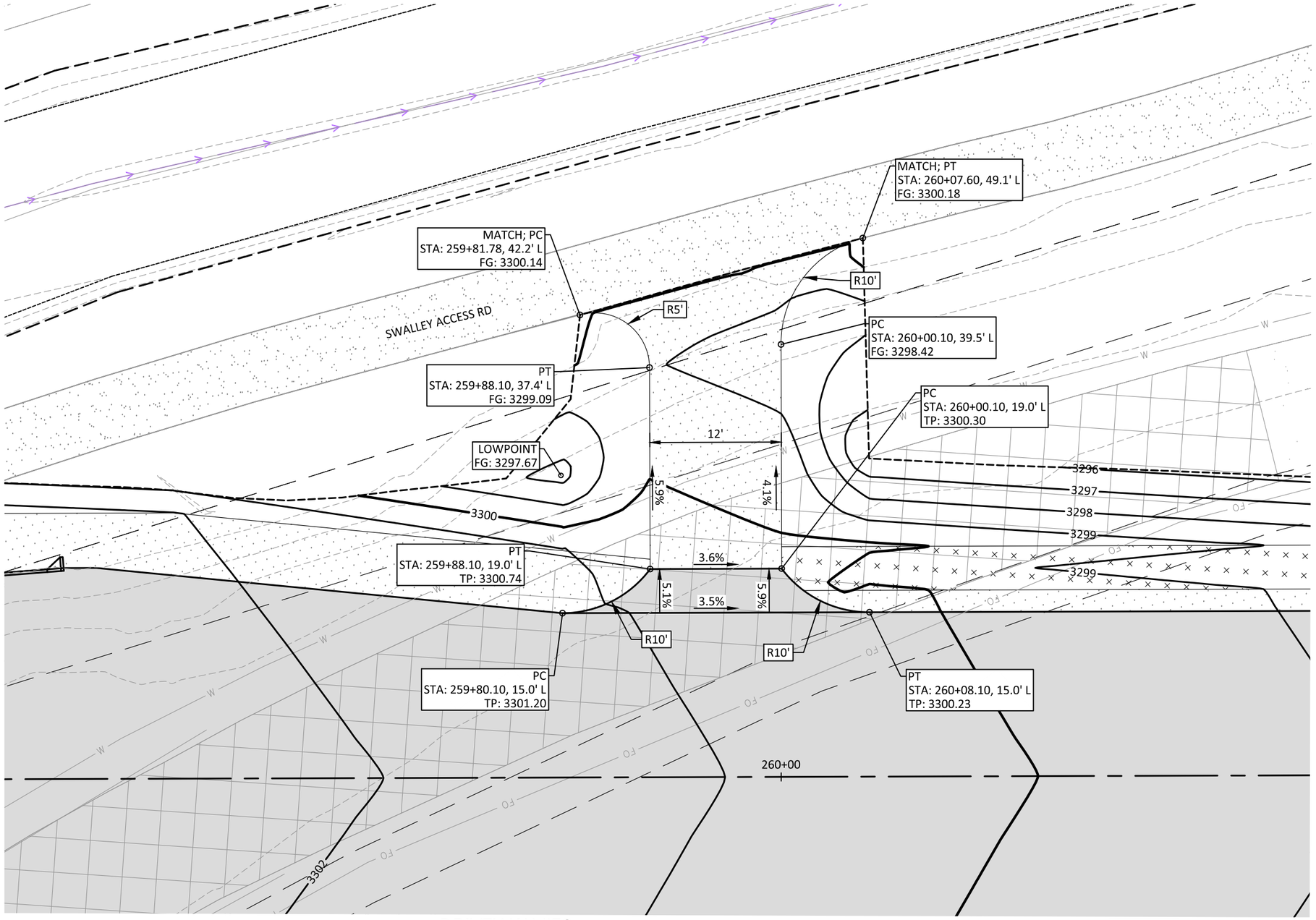
DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT
DESCHUTES COUNTY, OREGON

SHEET NO. RD51
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-F Driveway Details.dwg



DRIVEWAY #50

SCALE: 1" = 10'

0 5 10 20

SCALE: 1" = 20'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-F Driveway Details.dwg

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
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LANDSCAPE ARCHITECTS✦SURVEYORS
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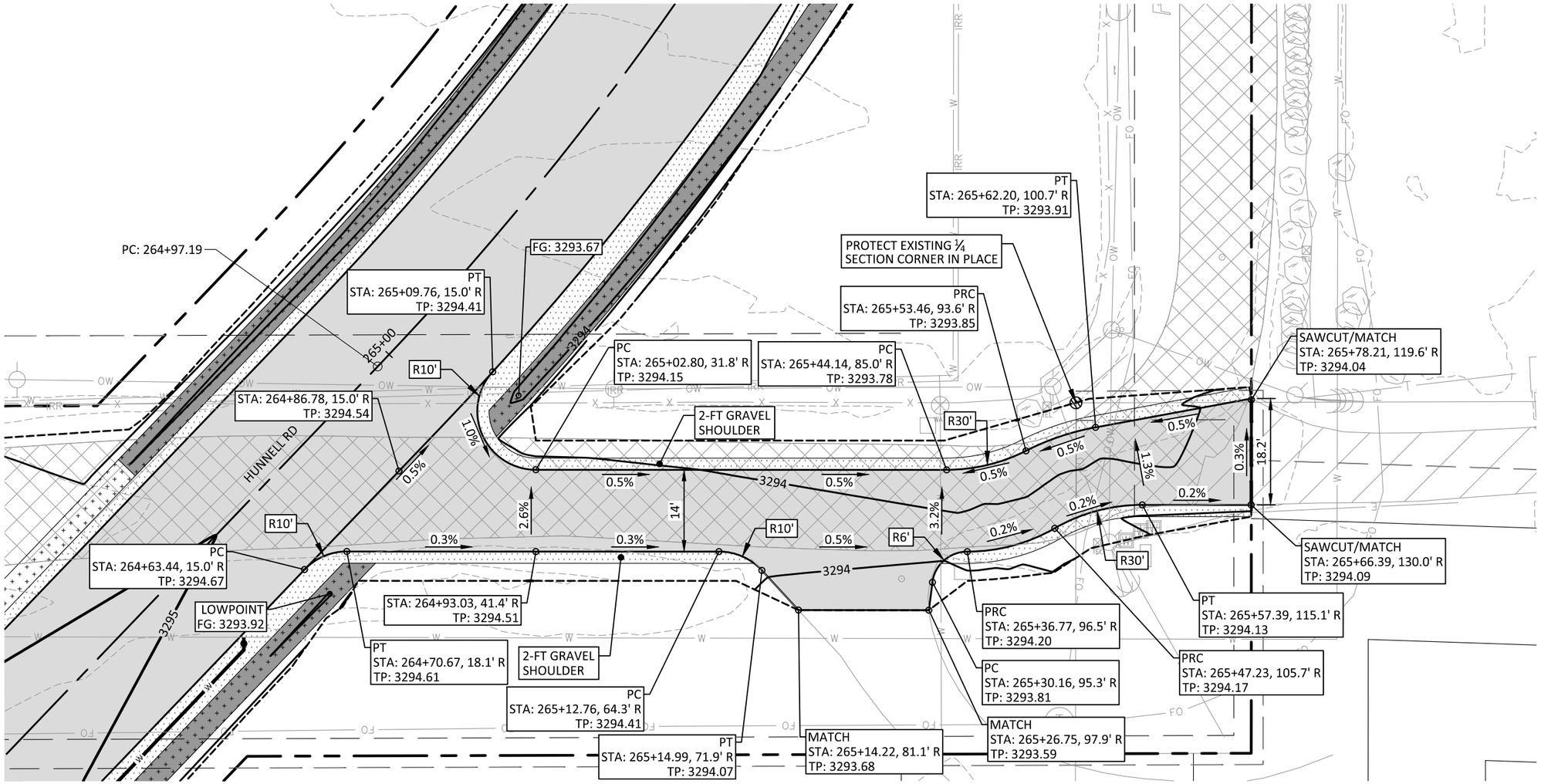
DRIVEWAY DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD52

JOB NO. DC0-01



DRIVEWAY #51

SCALE: 1" = 20'

N

0 2.5 5 10

SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

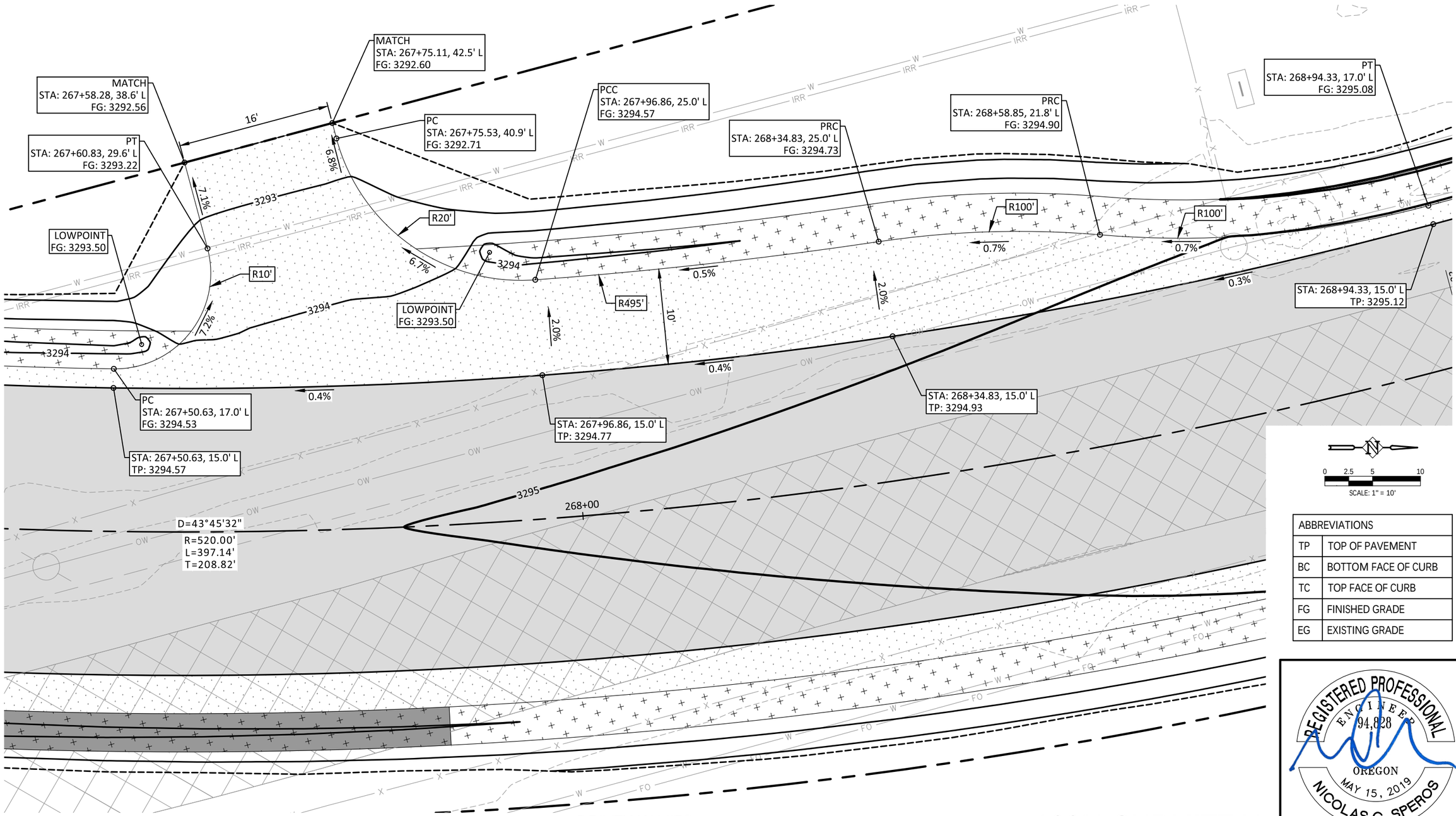
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD53

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-F Driveway Details.dwg



0 2.5 5 10

SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS

EXPIRES: 06/30/24

DRIVEWAY #52

SCALE: 1" = 10'

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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DRIVEWAY DETAILS

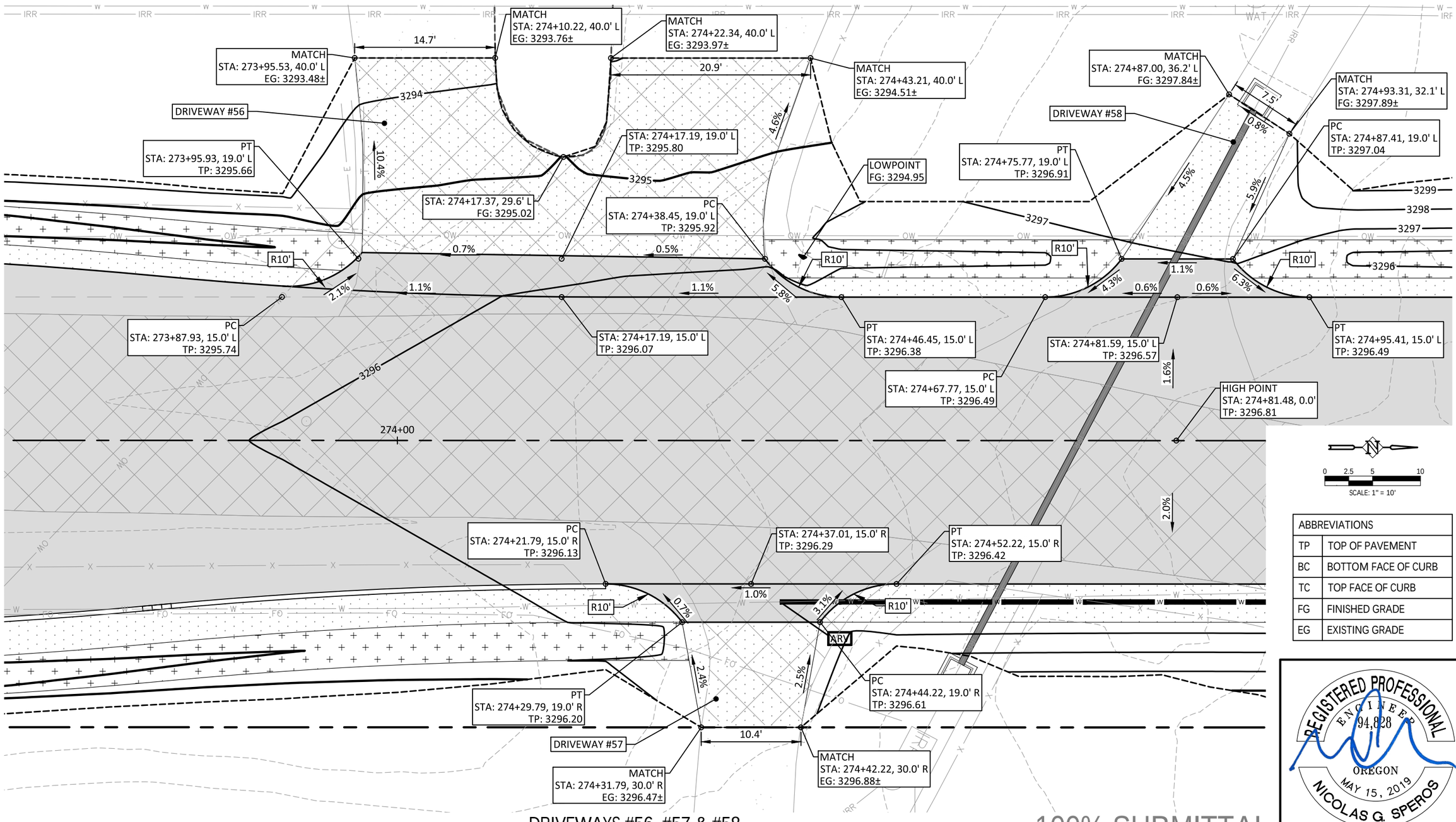
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD54

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-F Driveway Details.dwg



0 2.5 5 10

SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

DRIVEWAYS #56, #57 & #58

SCALE: 1" = 10'

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

DESCHUTES COUNTY

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

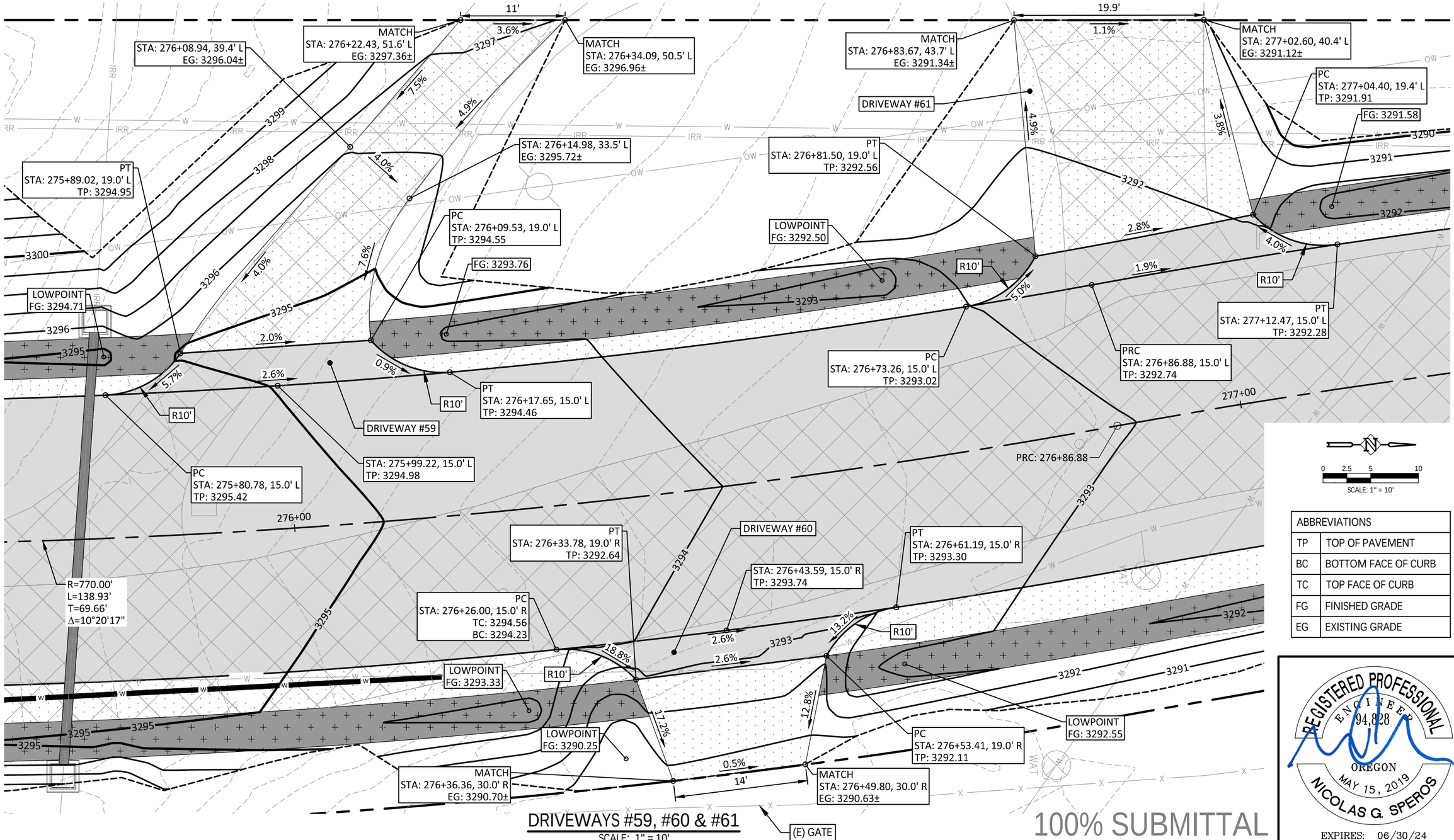
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD55

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ RD-F Driveway Details.dwg



0 2.5 5 10
SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DRIVEWAYS #59, #60 & #61

SCALE: 1" = 10'

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS

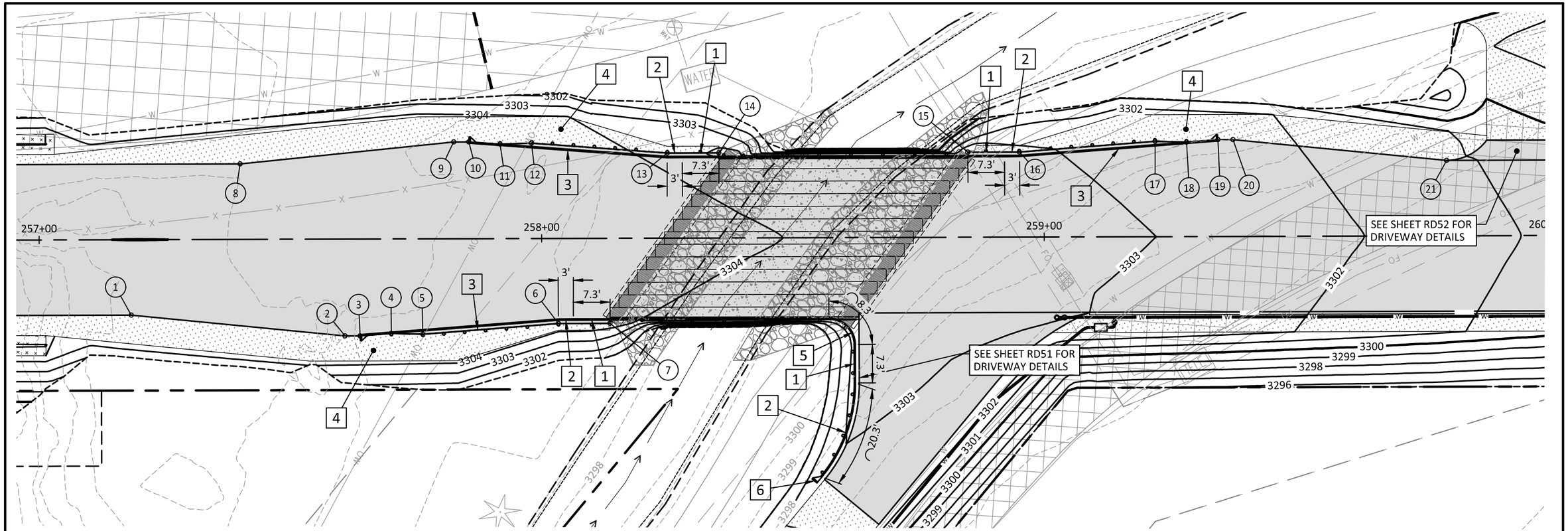
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD56

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_RD-F Driveway Details.dwg



BRIDGE CROSSING & GUARDRAIL PAVING DETAILS

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	257+18.29	15.0'R	3304.70	TP; BEGIN TAPER
2	HUNNELL RD	257+60.79	19.2'R	3304.50	TP
3	HUNNELL RD	257+63.79	19.2'R	3304.48	TP; GUARDRAIL END
4	HUNNELL RD	257+70.02	18.8'R	3304.45	TP
5	HUNNELL RD	257+76.31	19.0'R	3304.40	TP
6	HUNNELL RD	258+03.29	16.9'R	3304.17	TP
7	HUNNELL RD	258+13.56	16.9'R	3304.07	TP; BRIDGE
8	HUNNELL RD	257+40.04	15.0'L	3304.67	TP; BEGIN TAPER
9	HUNNELL RD	257+82.54	19.3'L	3304.34	TP
10	HUNNELL RD	257+85.54	19.3'L	3304.31	TP; GUARDRAIL END
11	HUNNELL RD	257+91.77	18.8'L	3304.26	TP
12	HUNNELL RD	257+98.05	19.0'L	3304.19	TP
13	HUNNELL RD	258+25.04	16.9'L	3303.92	TP
14	HUNNELL RD	258+35.30	16.9'L	3303.83	TP; BRIDGE

BRIDGE CROSSING & GUARDRAIL PLAN

SCALE: 1" = 20'

GUARDRAIL NOTES:

1. INSTALL 1 - THRIE BEAM GUARDRAIL TRANSITION PER ODOT STD DWG RD410.
2. CONSTRUCT TYPE 2A W-BEAM MIDWEST GUARDRAIL PER ODOT STD DWG RD402. LENGTH NOTED ON PLAN.
3. INSTALL FLARED ENERGY ABSORBING GUARDRAIL TERMINAL PER ODOT STD DWG RD421.
4. CONSTRUCT SHOULDER PER ODOT STD DWG RD419 (PREFERRED GRADING).
5. TRANSITION GUARDRAIL FROM BRIDGE TO DRIVEWAY EGDE. CONSTRUCT TYPE 4 (THRIE BEAM) MIDWEST GUARDRAIL PER ODOT STD DWGS RD402 & RD409. LENGTH NOTED ON PLAN.
6. INSTALL W-BEAM TYPE B END PIECE PER ODOT STD DWG RD417.

BRIDGE CROSSING & GUARDRAIL PAVING DETAILS

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
15	HUNNELL RD	258+84.84	16.9'L	3303.26	TP; BRIDGE
16	HUNNELL RD	258+95.11	16.9'L	3303.11	TP
17	HUNNELL RD	259+22.10	19.0'L	3302.62	TP
18	HUNNELL RD	259+28.37	18.8'L	3302.50	TP
19	HUNNELL RD	259+34.60	19.3'L	3302.36	TP; GUARDRAIL END
20	HUNNELL RD	259+37.60	19.3'L	3302.29	TP
21	HUNNELL RD	259+80.10	15.0'L	3301.20	TP; END TAPER

0 5 10 20

SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER 94,828 OREGON MAY 15, 2019 NICOLAS G. SPEROS

EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

BRIDGE CROSSING GUARDRAIL PLAN

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. RD57

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets\ DCO-01_RD-E Intersection Details.dwg

SHEET INDEX

EC01	ESC PLAN - STA 112+00 TO 125+00
EC02	ESC PLAN - STA 125+00 TO 137+00
EC03	ESC PLAN - STA 137+00 TO 149+00
EC04	ESC PLAN - STA 149+00 TO 161+00
EC05	ESC PLAN - STA 161+00 TO 173+00
EC06	ESC PLAN - STA 173+00 TO 185+00
EC07	ESC PLAN - STA 185+00 TO 197+00
EC08	ESC PLAN - STA 197+00 TO 209+00
EC09	ESC PLAN - STA 209+00 TO 221+00
EC10	ESC PLAN - STA 221+00 TO 233+00
EC11	ESC PLAN - STA 233+00 TO 245+00
EC12	ESC PLAN - STA 245+00 TO 257+00
EC13	ESC PLAN - STA 257+00 TO 269+00
EC14	ESC PLAN - STA 269+00 TO 281+00
EC15	ESC PLAN - STA 281+00 TO 293+00

SITE MAP

SCALE: 1" = 2000'

0 500 1000 2000

SCALE: 1" = 2000'

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

EROSION & SEDIMENT CONTROL SHEET INDEX

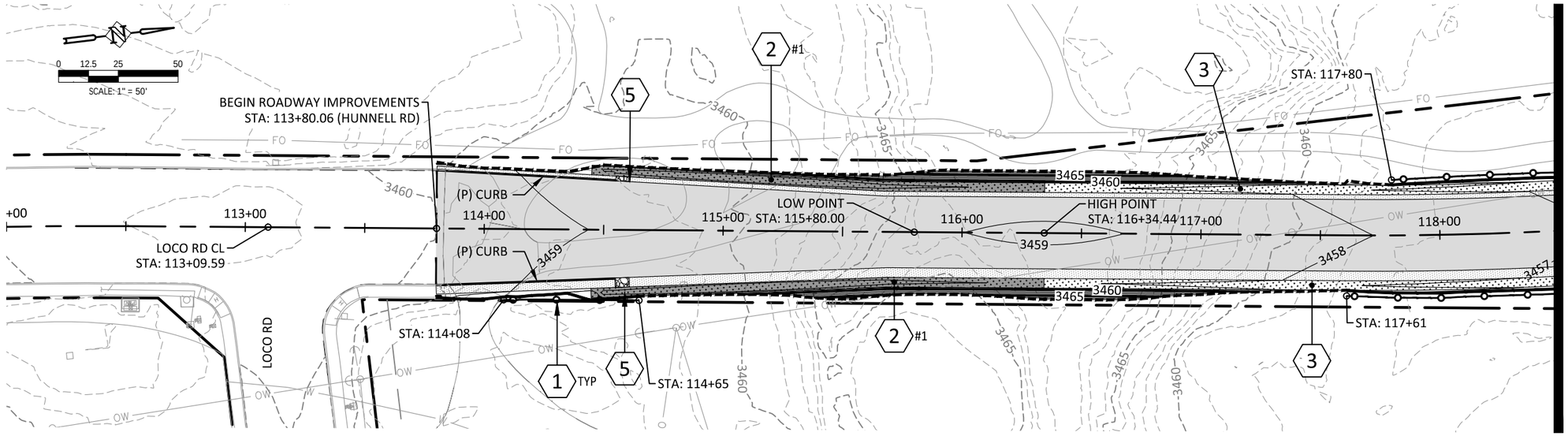
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC00

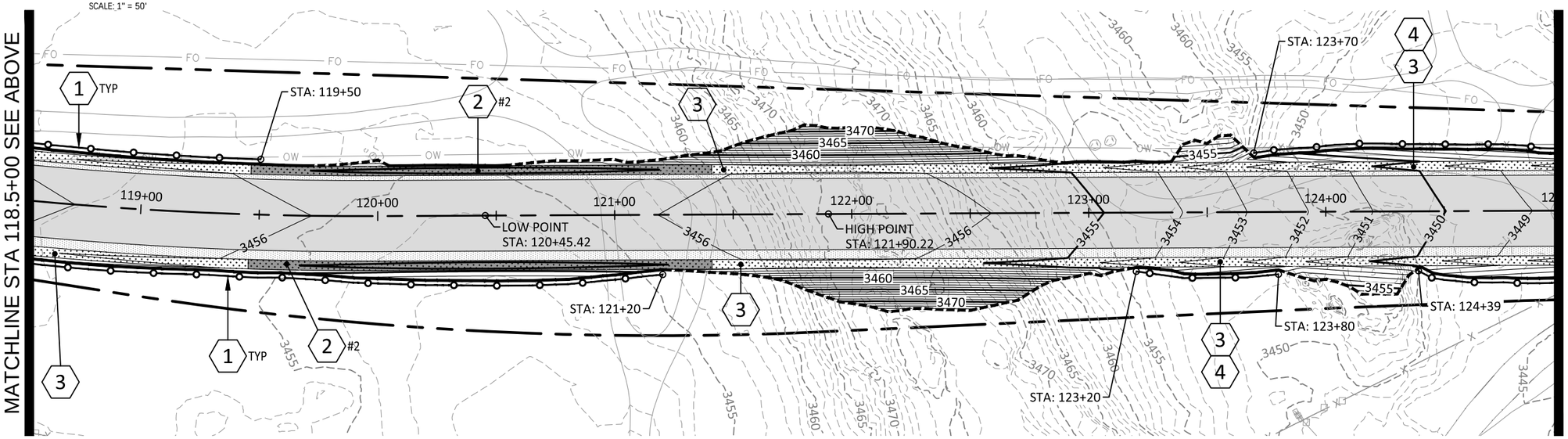
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_00 Section Maps.dwg



STA 112+00 TO 118.5+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 118.5+00 TO 125+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,628
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 112+00 TO 125+00

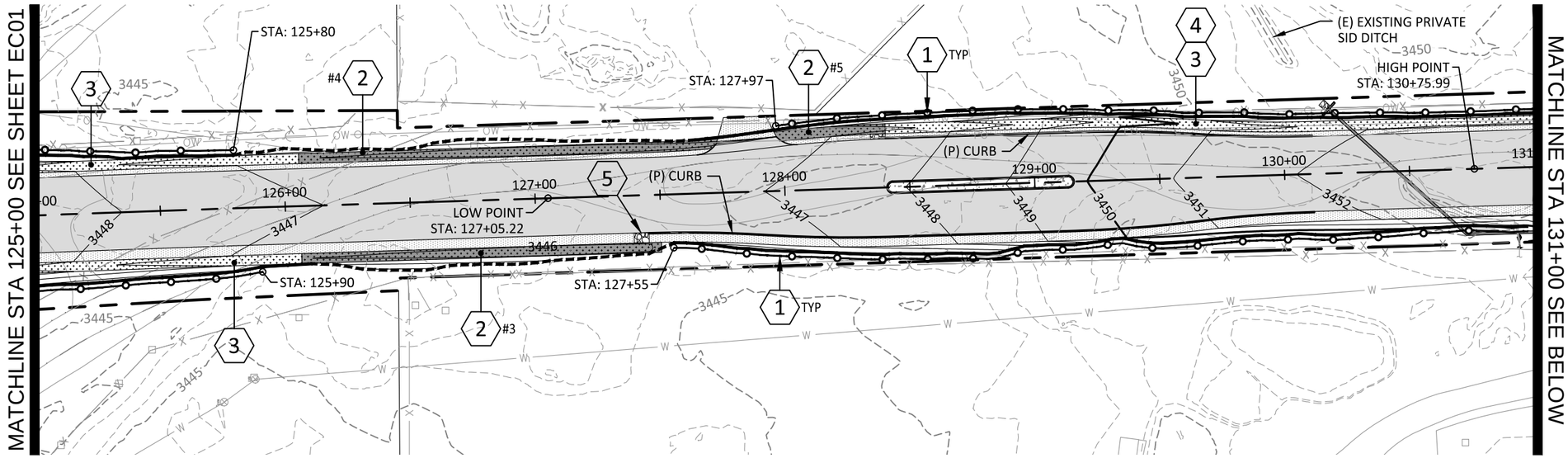
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC01

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_EC-A Grading & ESC (113+00 - 173+00).dwg



GRADING & ESC NOTES:

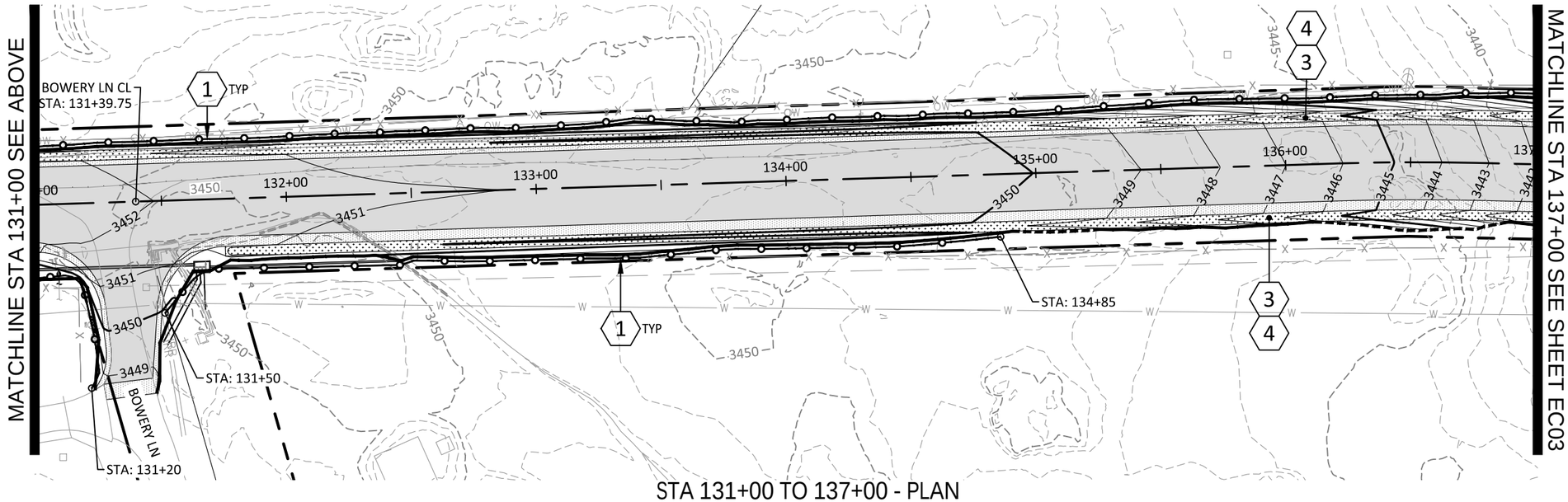
1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

STA 125+00 TO 131+00 - PLAN

SCALE: 1" = 50' (HORZ.)

0 12.5 25 50

SCALE: 1" = 50'



STA 131+00 TO 137+00 - PLAN

SCALE: 1" = 50' (HORZ.)

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS♦PLANNERS
LANDSCAPE ARCHITECTS♦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 125+00 TO 137+00

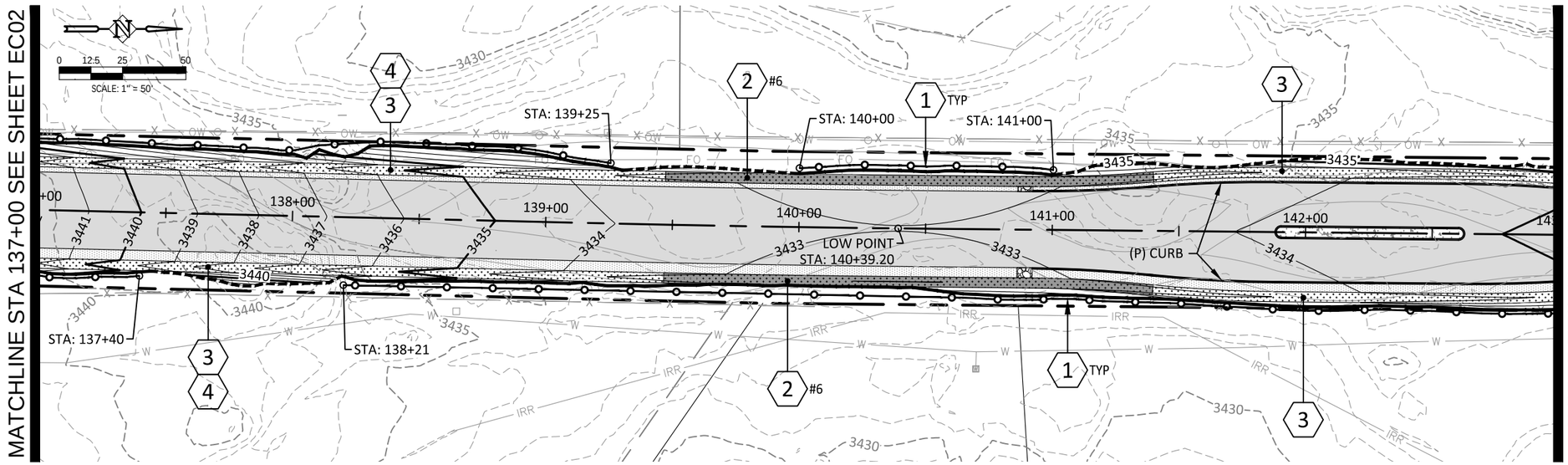
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC02

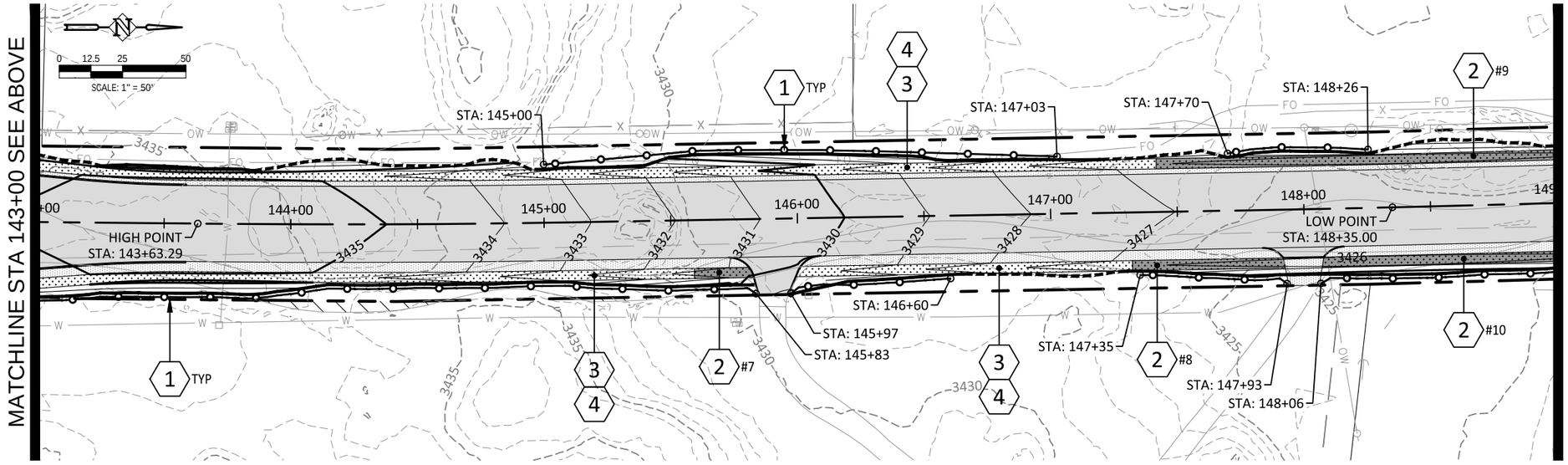
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ EC-A Grading & ESC (113+00 - 173+00).dwg



STA 137+00 TO 143+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 143+00 TO 149+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

DESCHUTES COUNTY

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 137+00 TO 149+00

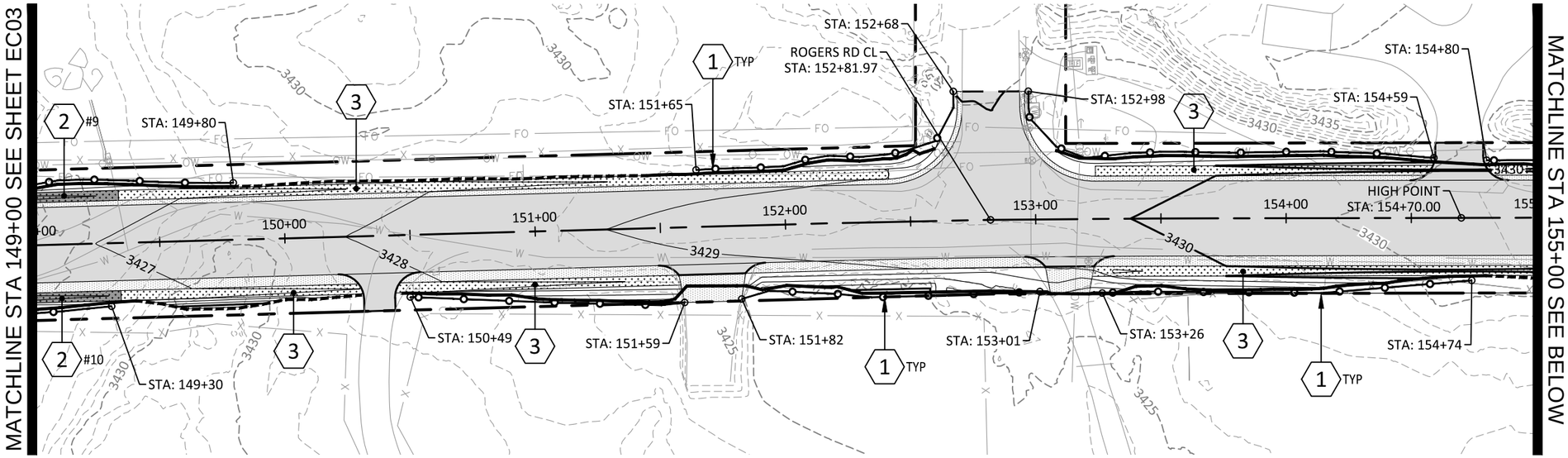
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC03

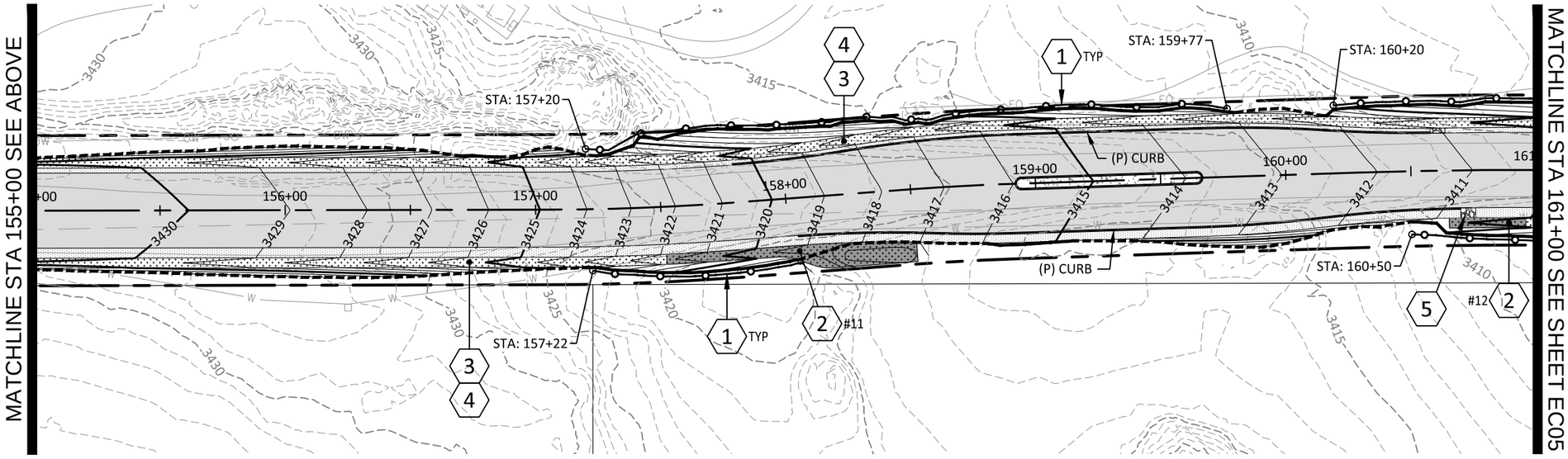
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-A Grading & ESC (113+00 - 173+00).dwg



STA 149+00 TO 155+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 155+00 TO 161+00 - PLAN

SCALE: 1" = 50' (HORZ.)

0 12.5 25 50

SCALE: 1" = 50'

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,628
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
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ESC PLAN - STA 149+00 TO 161+00

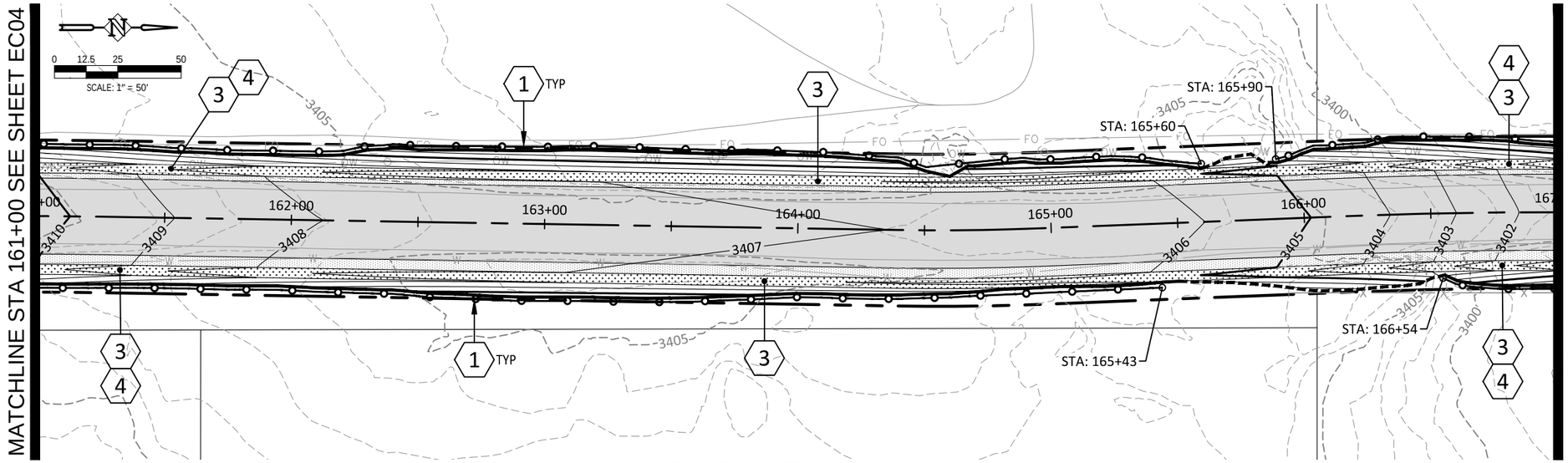
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC04

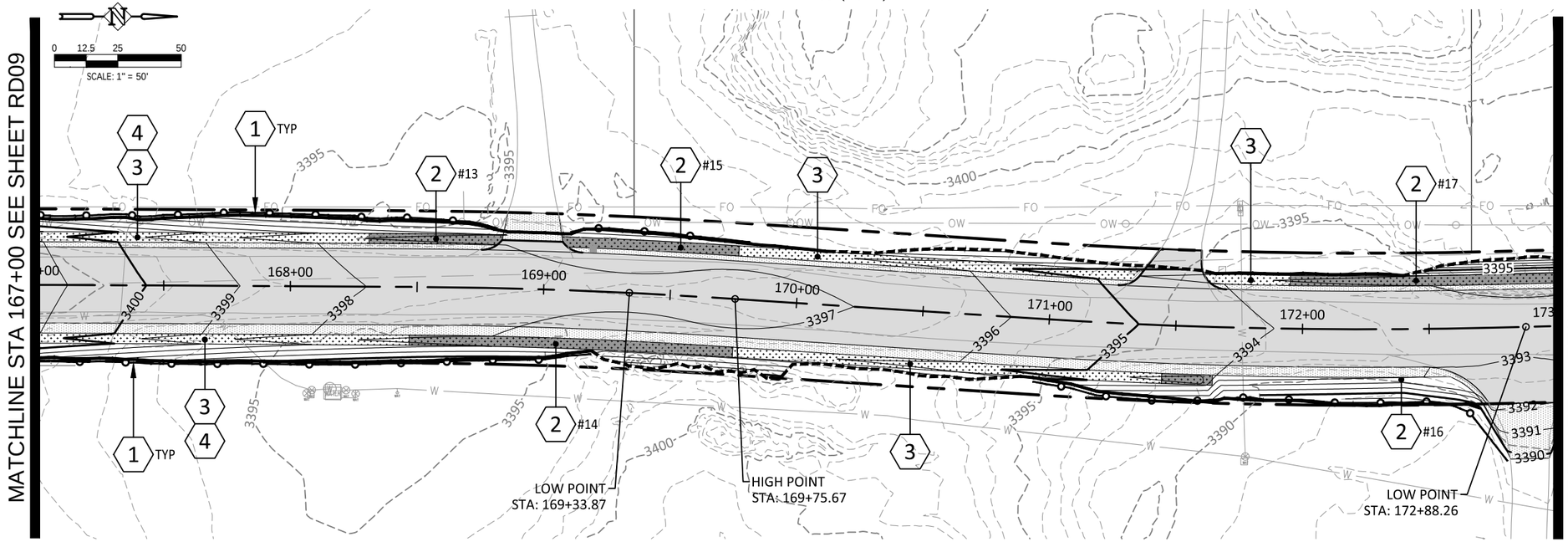
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-A Grading & ESC (113+00 - 173+00).dwg



STA 161+00 TO 167+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 167+00 TO 173+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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ESC PLAN - STA 161+00 TO 173+00

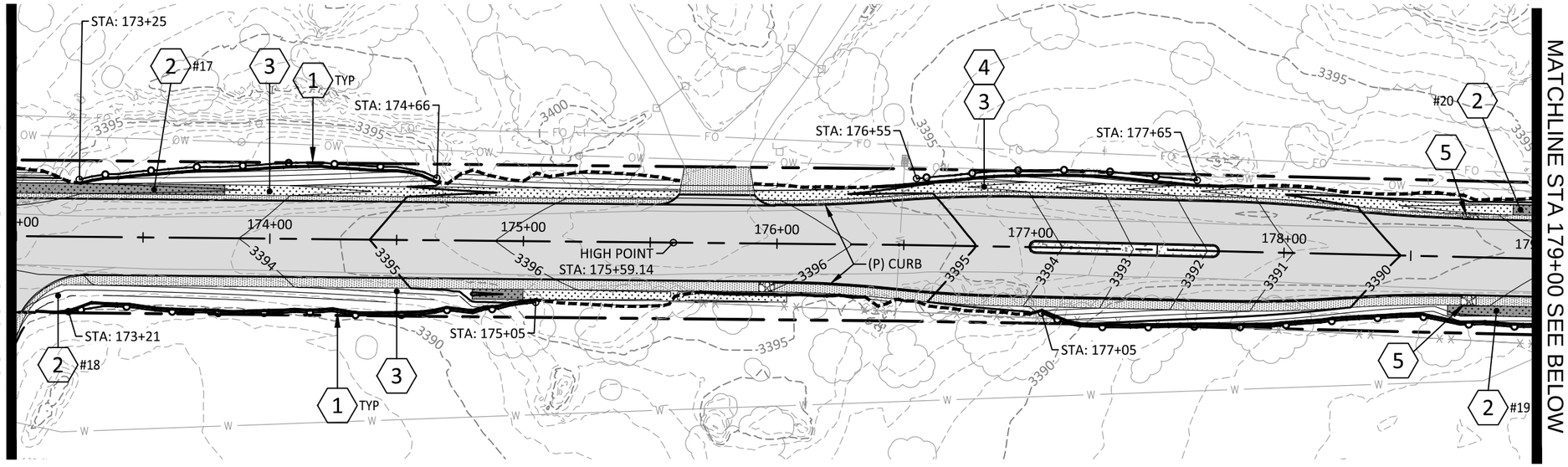
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC05

JOB NO. DC0-01

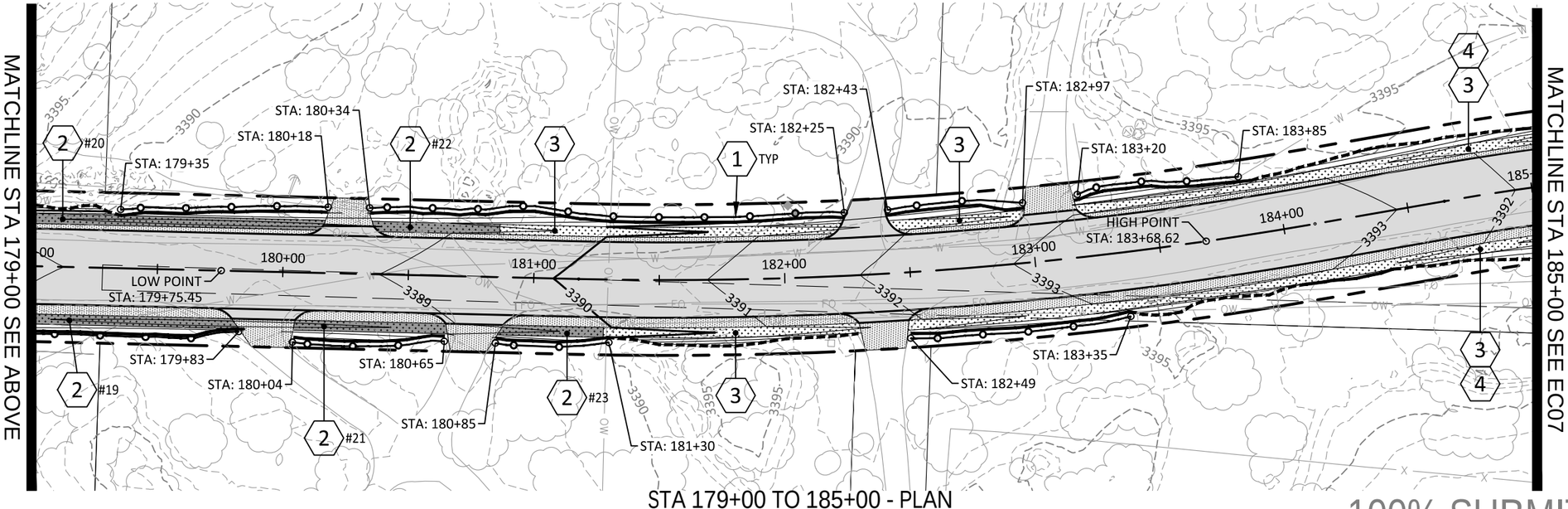
P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-A Grading & ESC (113+00 - 173+00).dwg



STA 173+00 TO 179+00 - PLAN

SCALE: 1" = 50' (HORZ.)

SCALE: 1" = 50'



STA 179+00 TO 185+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- (P) WATER QUALITY SWALE
- (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 173+00 TO 185+00

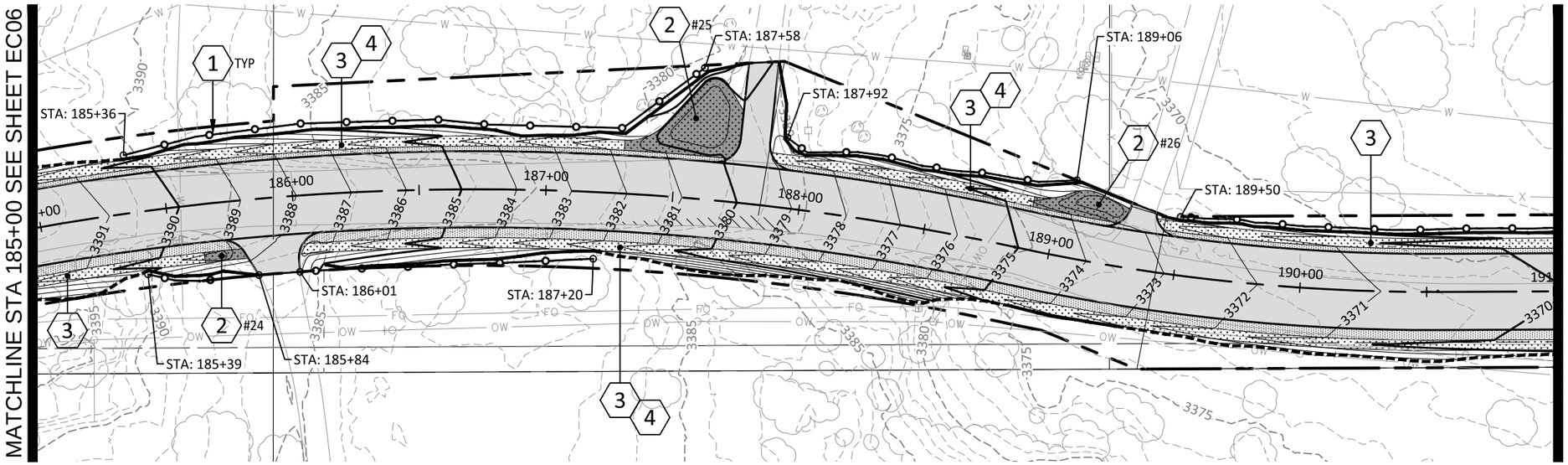
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC06

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-B Grading & ESC (173+00 - 233+00).dwg

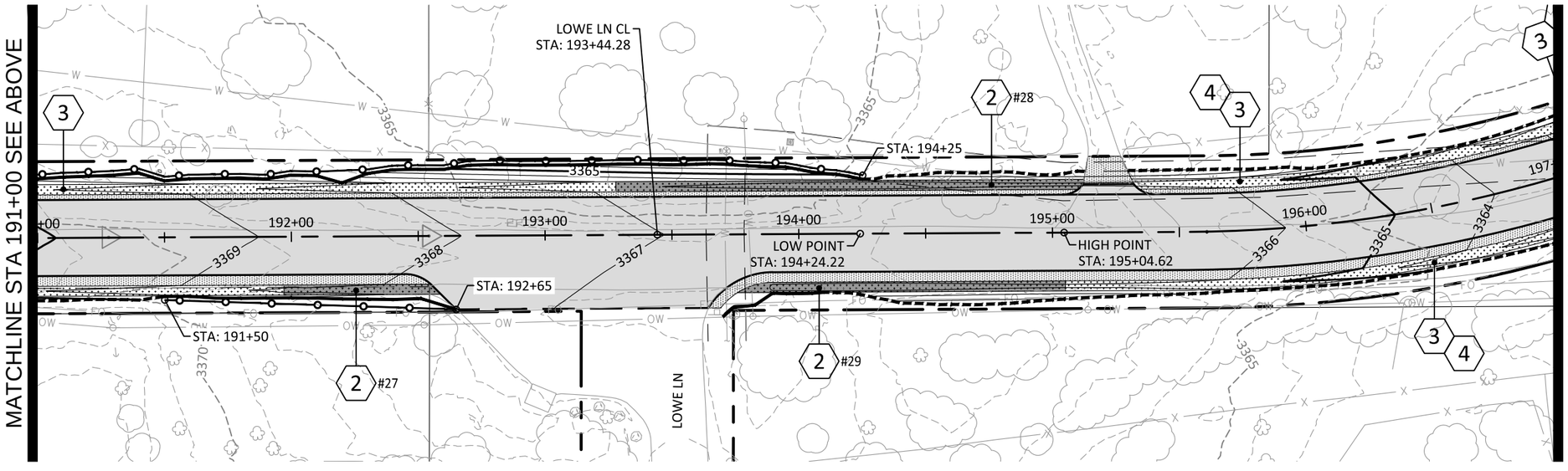


STA 185+00 TO 191+00 - PLAN

SCALE: 1" = 50' (HORZ.)

0 12.5 25 50

SCALE: 1" = 50'



STA 191+00 TO 197+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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ENGINEERS ♦ PLANNERS
LANDSCAPE ARCHITECTS ♦ SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

EC07ESC PLAN - STA 185+00 TO 197+00

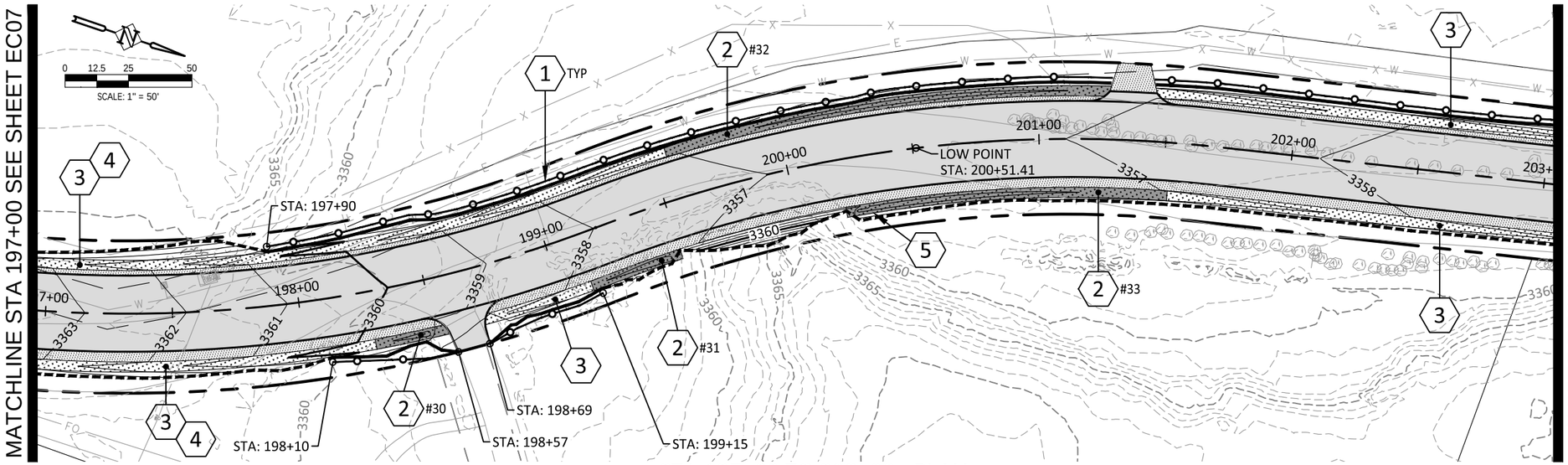
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC07

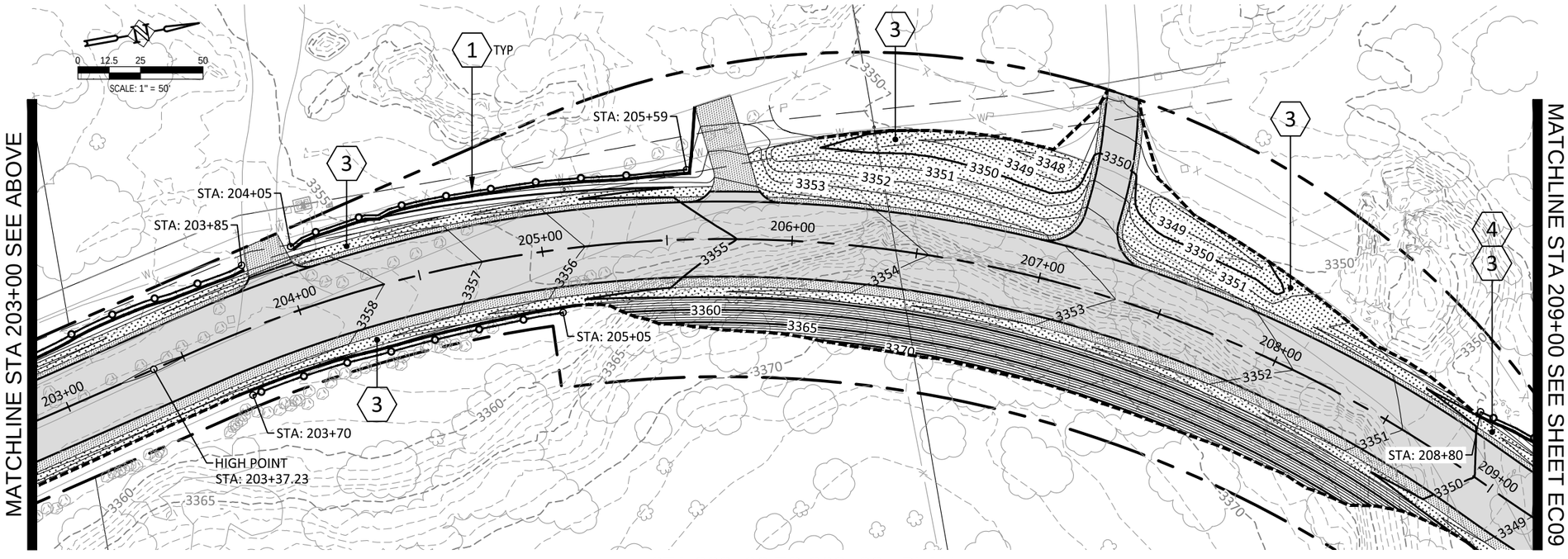
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ EC-B Grading & ESC (173+00 - 233+00).dwg



STA 197+00 TO 203+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 203+00 TO 209+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 197+00 TO 209+00

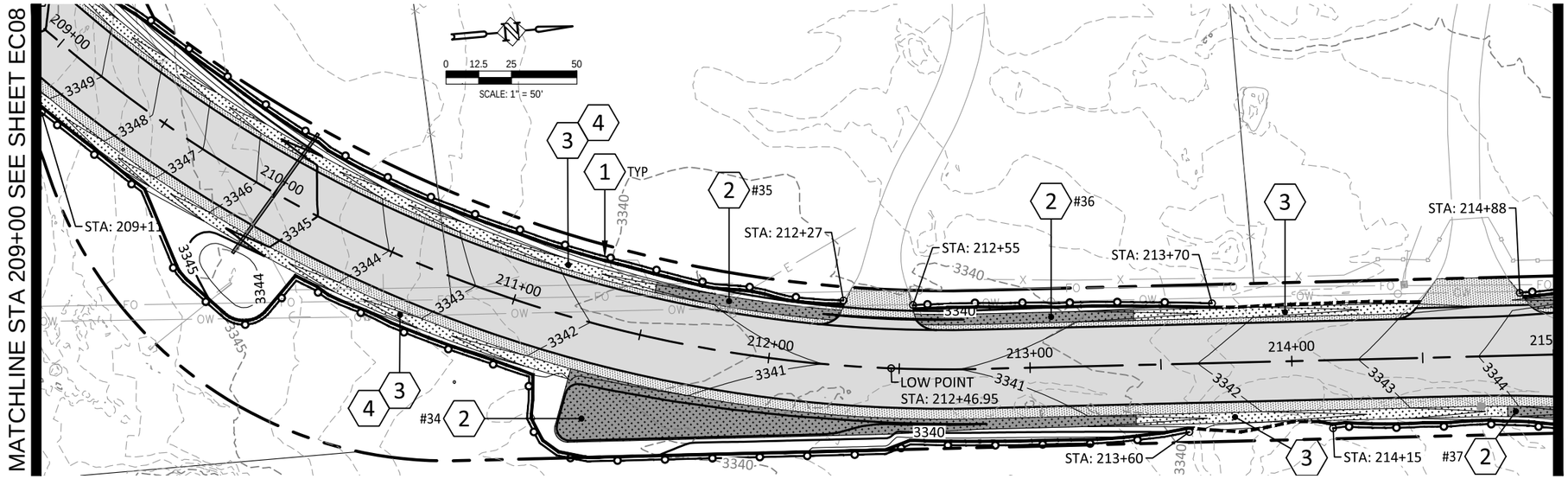
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC08

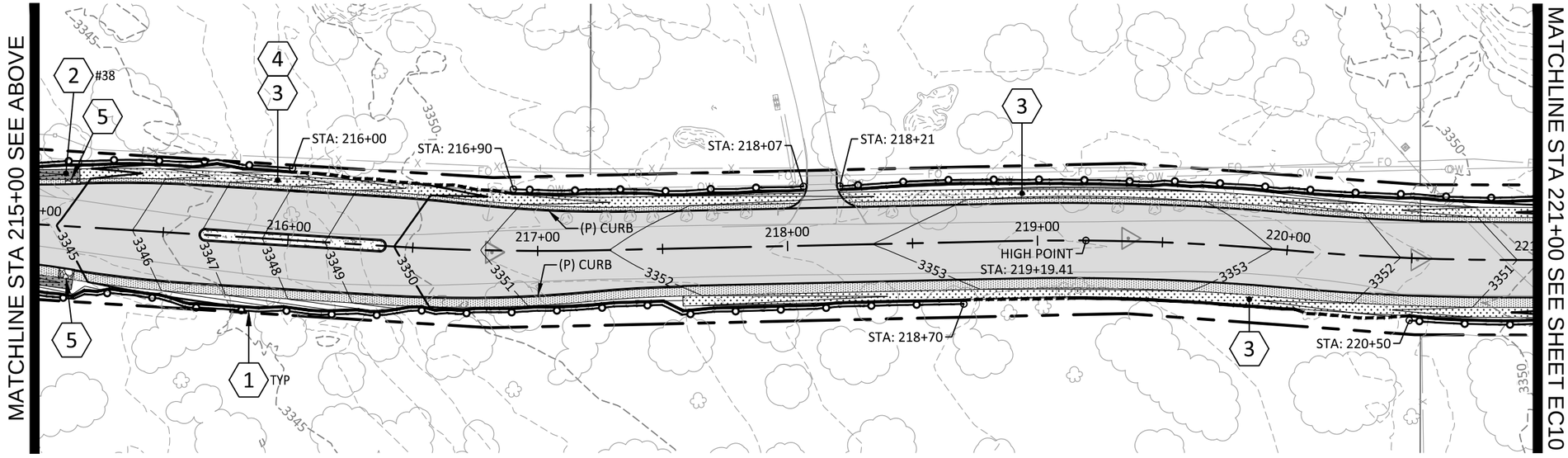
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-B Grading & ESC (173+00 - 233+00).dwg



STA 209+00 TO 215+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 215+00 TO 221+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 — (E) MAJOR CONTOUR
- 3451 — (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,628
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION
		REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 209+00 TO 221+00

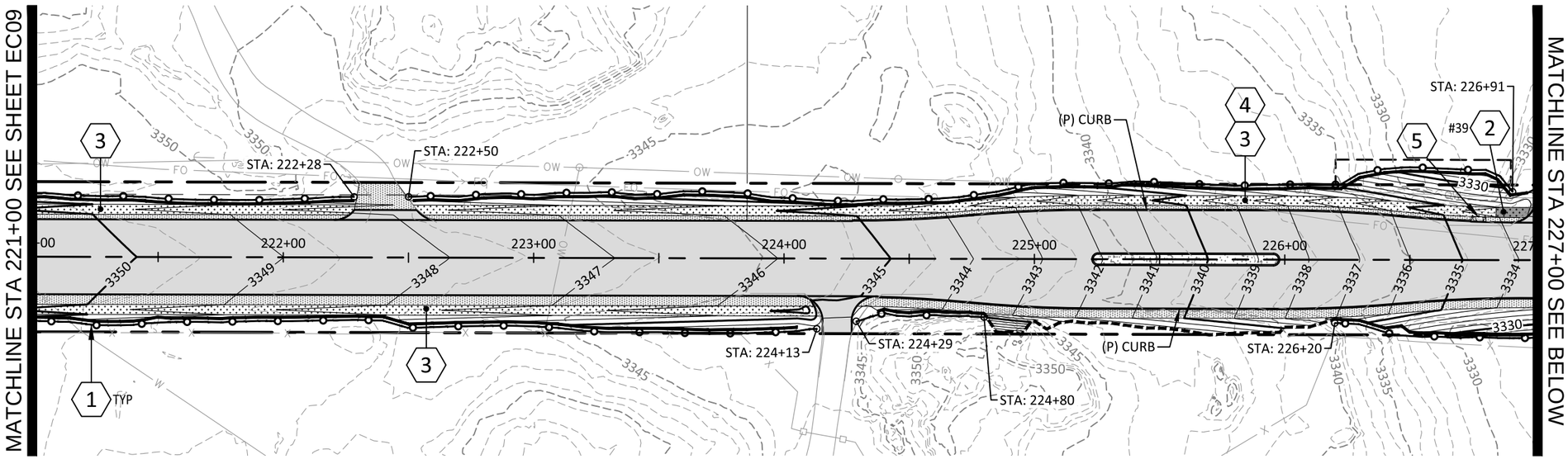
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC09

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_ EC-B Grading & ESC (173+00 - 233+00).dwg

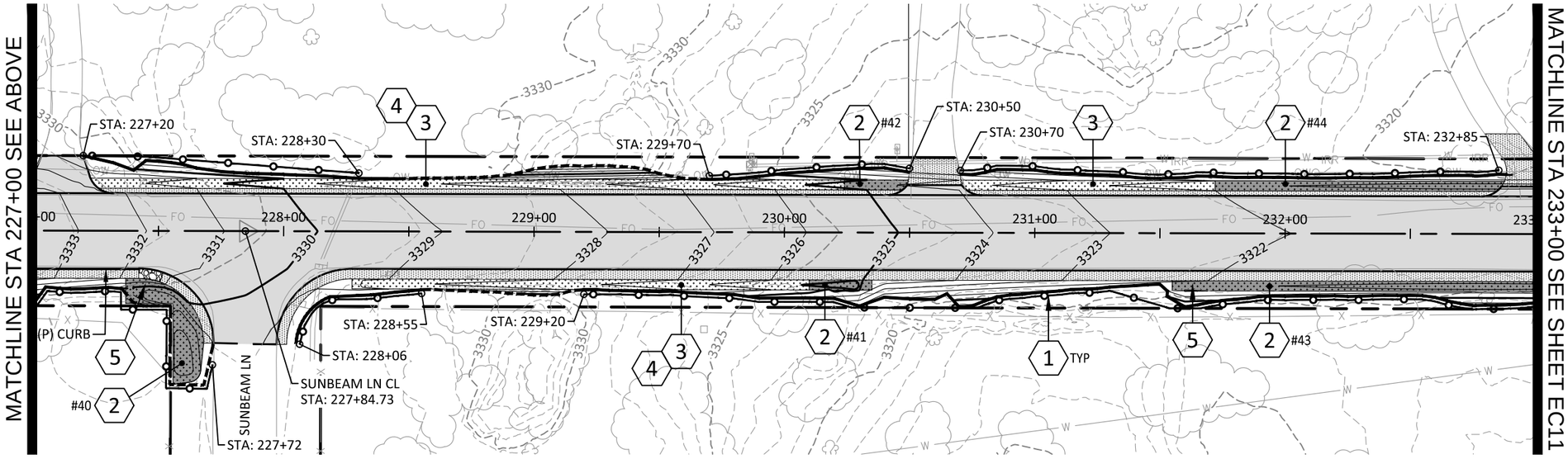


STA 221+00 TO 227+00 - PLAN

SCALE: 1" = 50' (HORZ.)

0 12.5 25 50

SCALE: 1" = 50'



STA 227+00 TO 233+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER 94,828 OREGON MAY 15, 2019 NICOLAS G. SPEROS

EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 221+00 TO 233+00

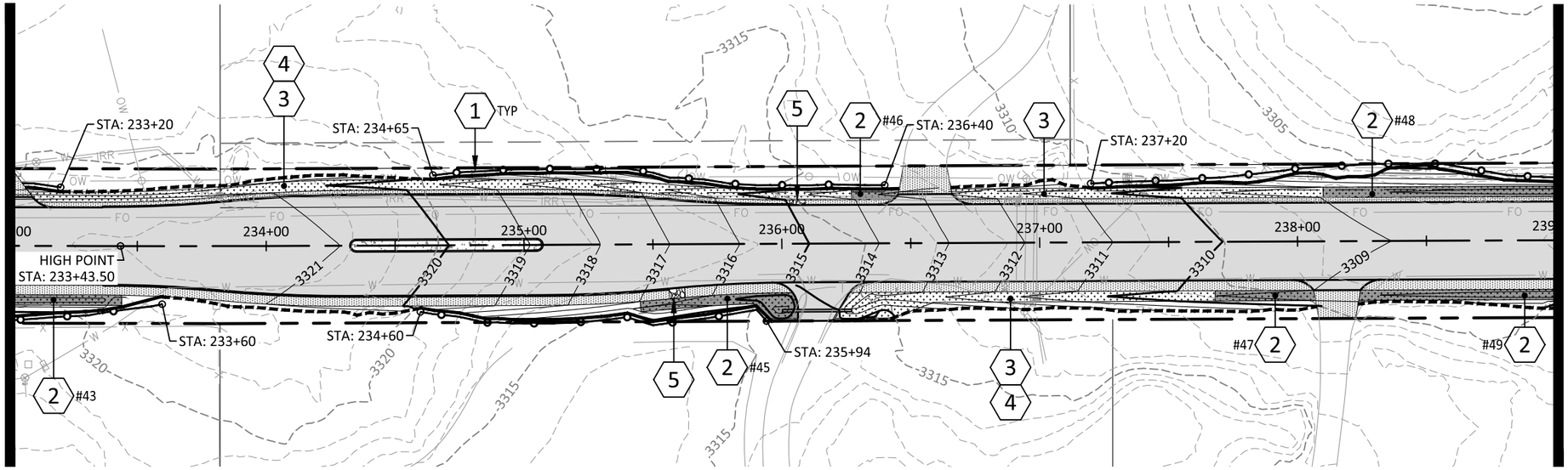
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC10

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-B Grading & ESC (173+00 - 233+00).dwg

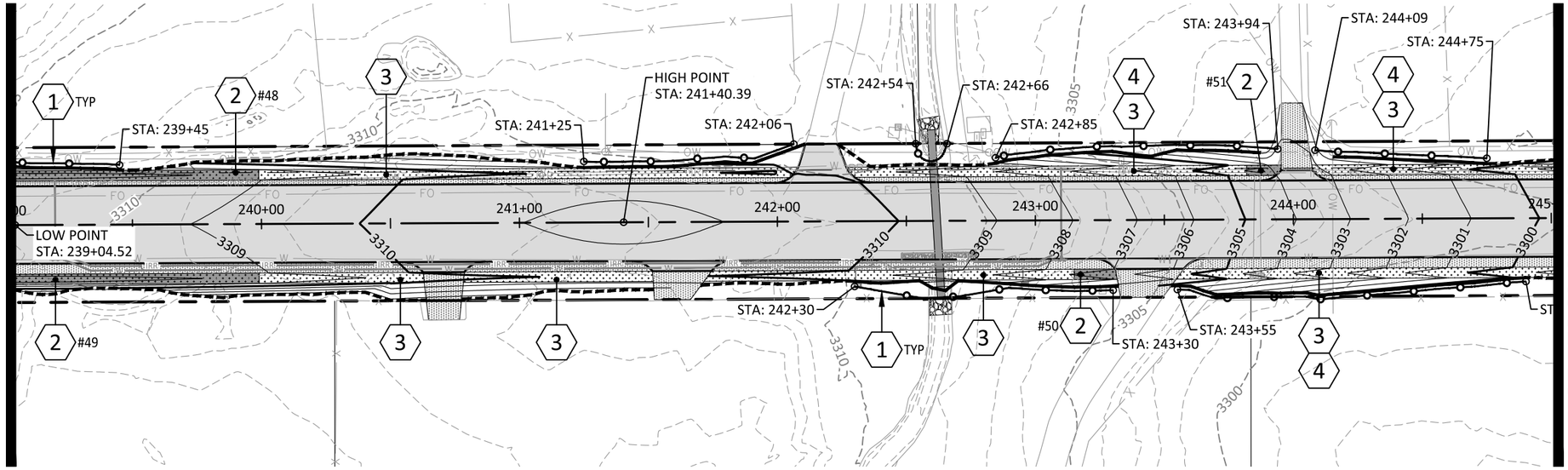


STA 233+00 TO 239+00 - PLAN

SCALE: 1" = 50' (HORZ.)

0 12.5 25 50

SCALE: 1" = 50'



STA 239+00 TO 245+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS ✦ PLANNERS
LANDSCAPE ARCHITECTS ✦ SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 233+00 TO 245+00

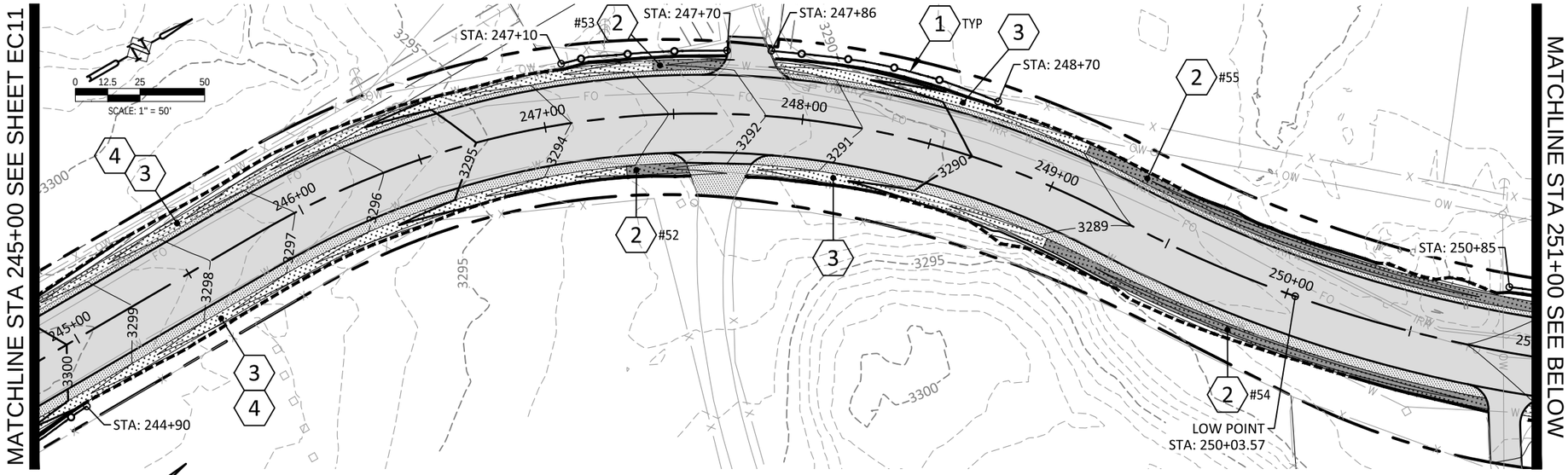
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC11

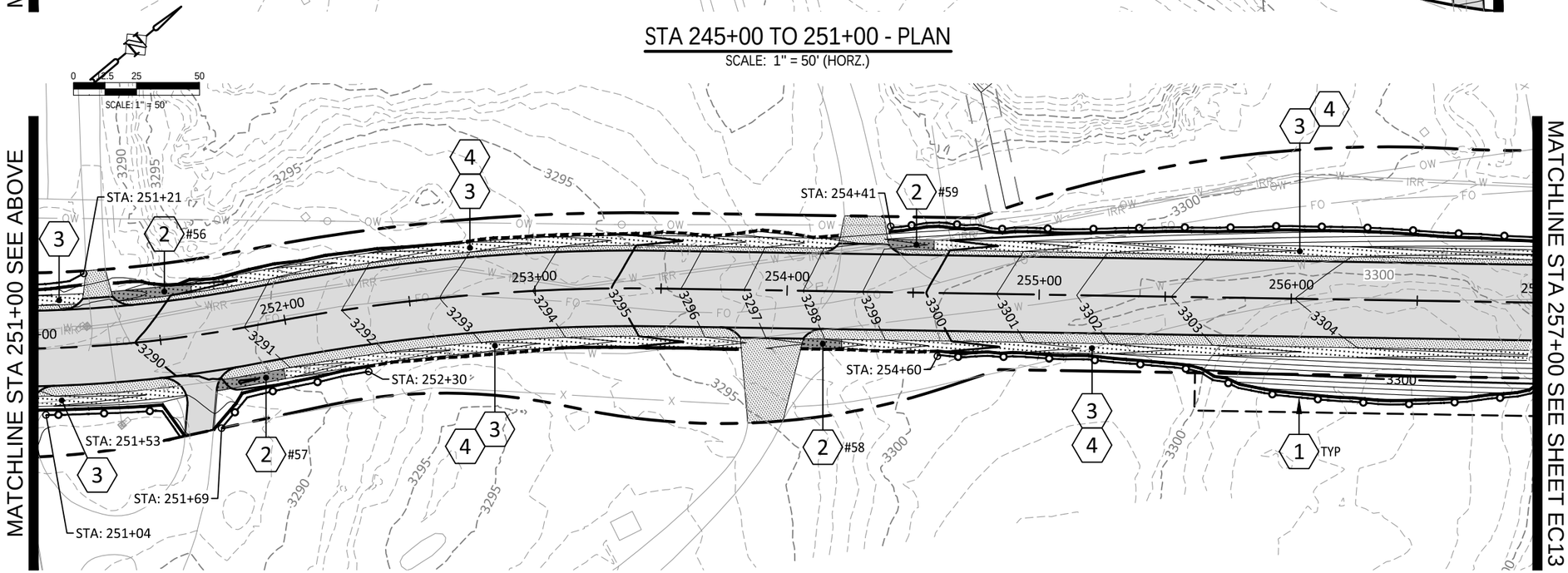
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-C Grading & ESC (233+00 - 293+00).dwg



STA 245+00 TO 251+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 251+00 TO 257+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS✦PLANNERS
LANDSCAPE ARCHITECTS✦SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

EC12ESC PLAN - STA 245+00 TO 257+00

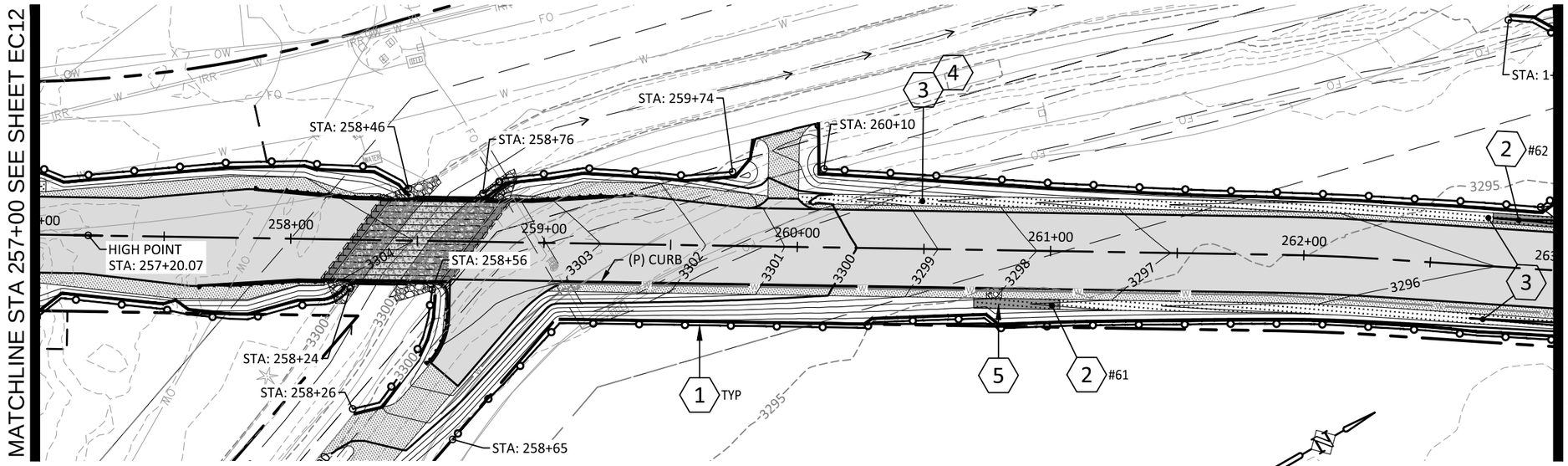
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC12

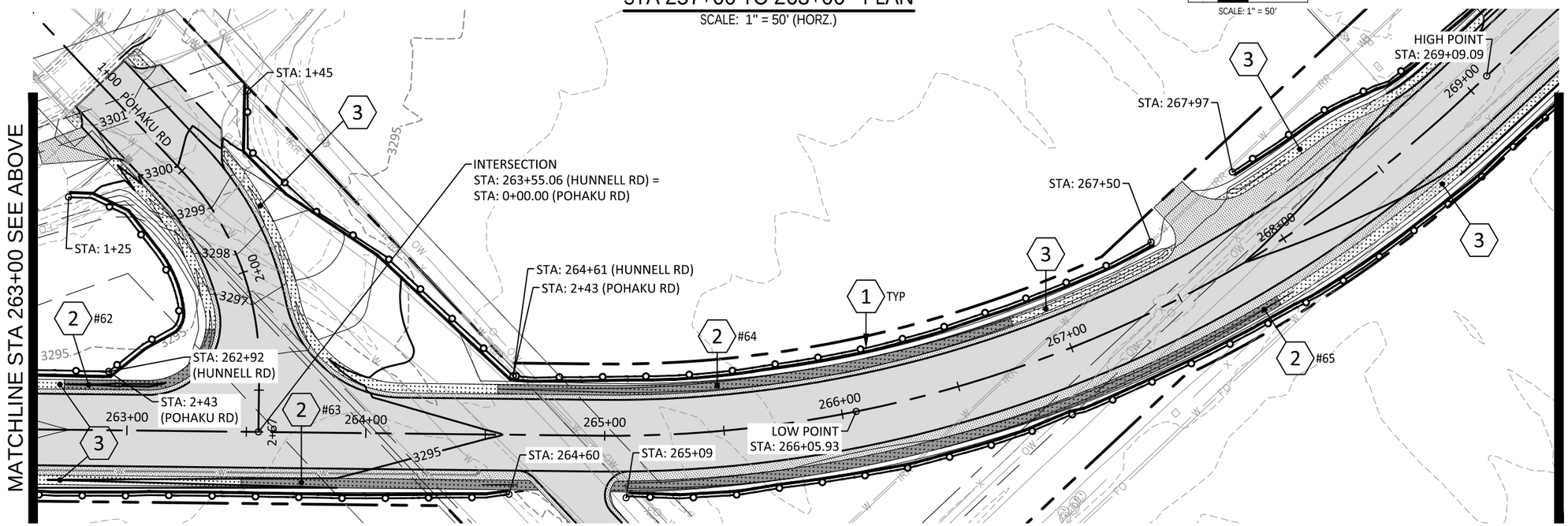
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-C Grading & ESC (233+00 - 293+00).dwg



STA 257+00 TO 263+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 263+00 TO 269+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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LANDSCAPE ARCHITECTS • SURVEYORS
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 257+00 TO 269+00

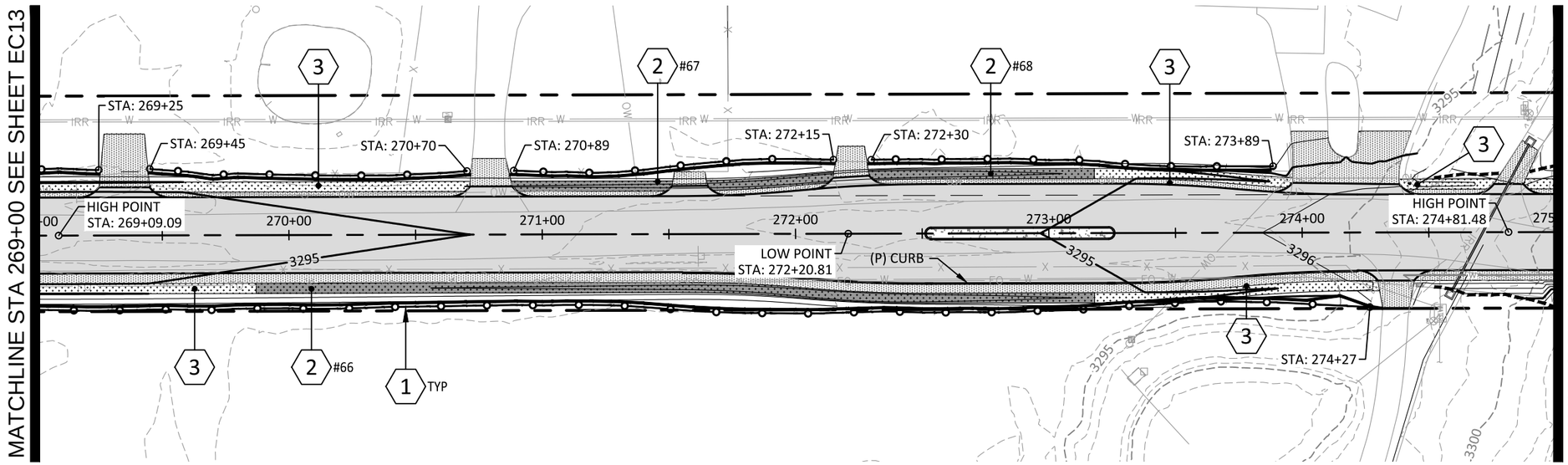
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC13

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-C Grading & ESC (253+00 - 293+00).dwg



GRADING & ESC NOTES:

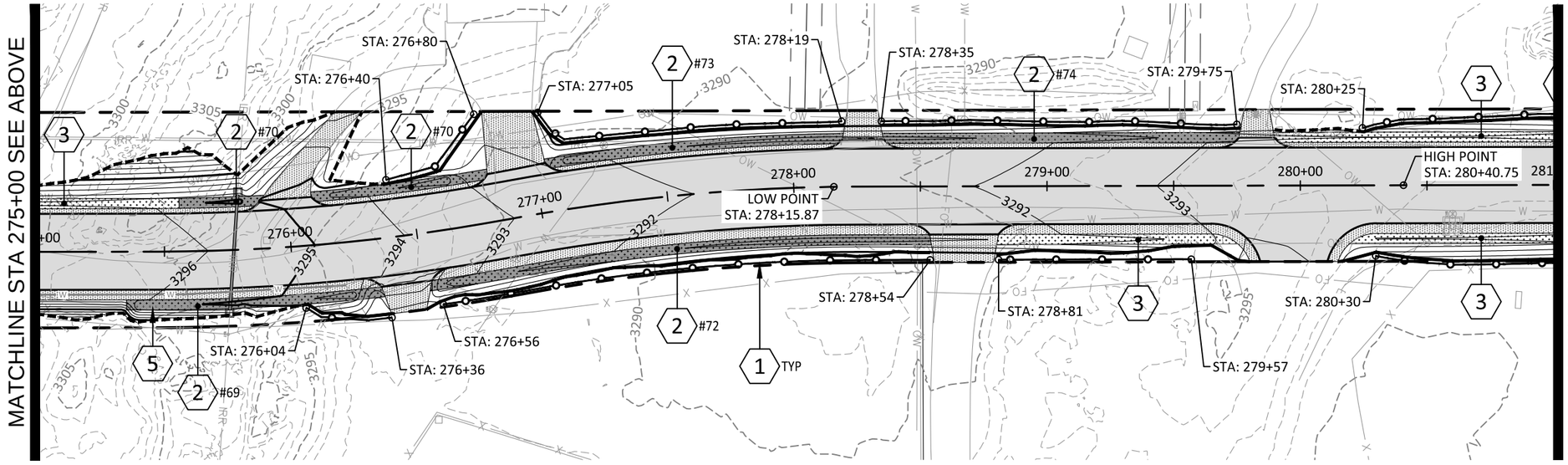
1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

STA 269+00 TO 275+00 - PLAN

SCALE: 1" = 50' (HORZ.)

0 12.5 25 50

SCALE: 1" = 50'



STA 275+00 TO 281+00 - PLAN

SCALE: 1" = 50' (HORZ.)

LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 — (E) MAJOR CONTOUR
- 3451 — (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,628
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
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ESC PLAN - STA 269+00 TO 281+00

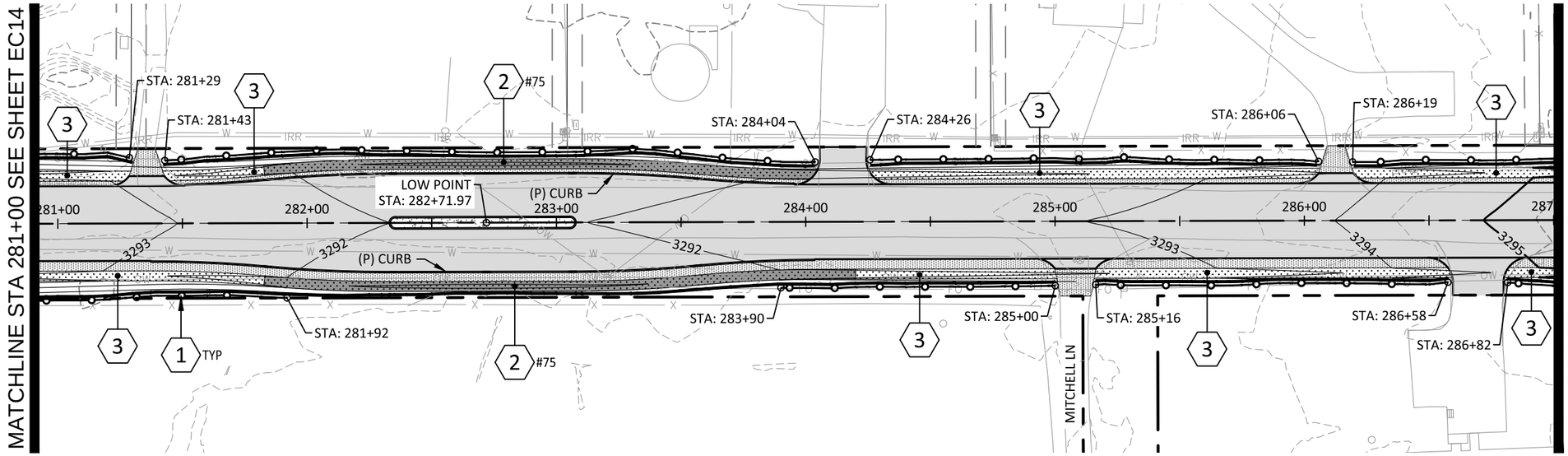
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. EC14

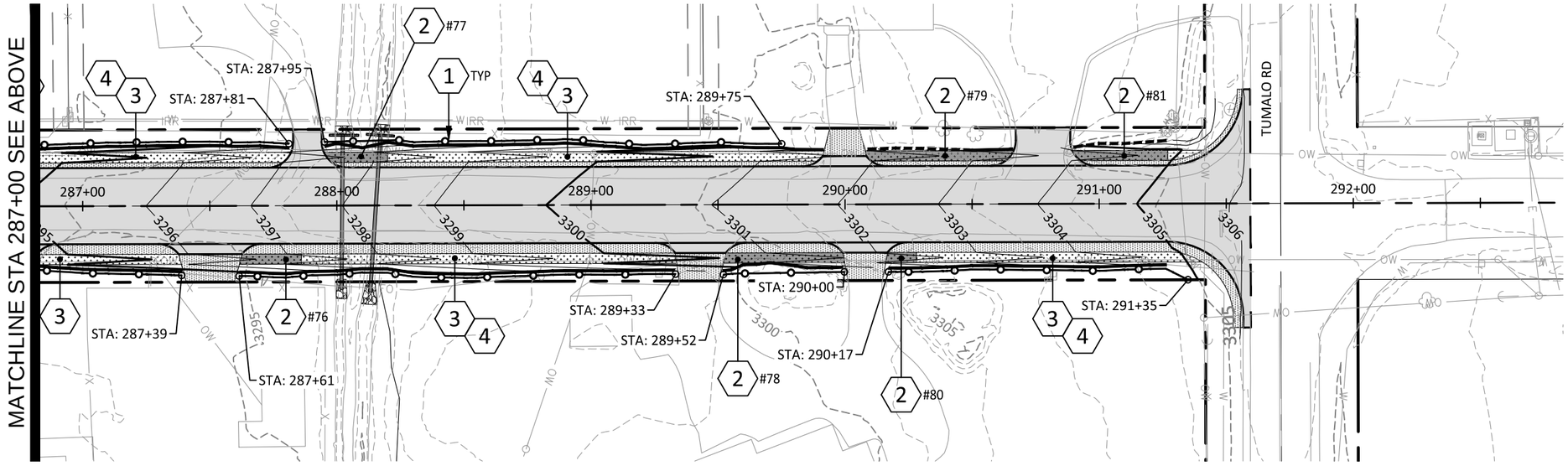
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_EC-C Grading & ESC (233+00 - 293+00).dwg



STA 281+00 TO 287+00 - PLAN

SCALE: 1" = 50' (HORZ.)



STA 287+00 TO 293+00 - PLAN

SCALE: 1" = 50' (HORZ.)

GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

100% SUBMITTAL

DATE	NO.	DESCRIPTION

REVISIONS

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ESC PLAN - STA 281+00 TO 293+00

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

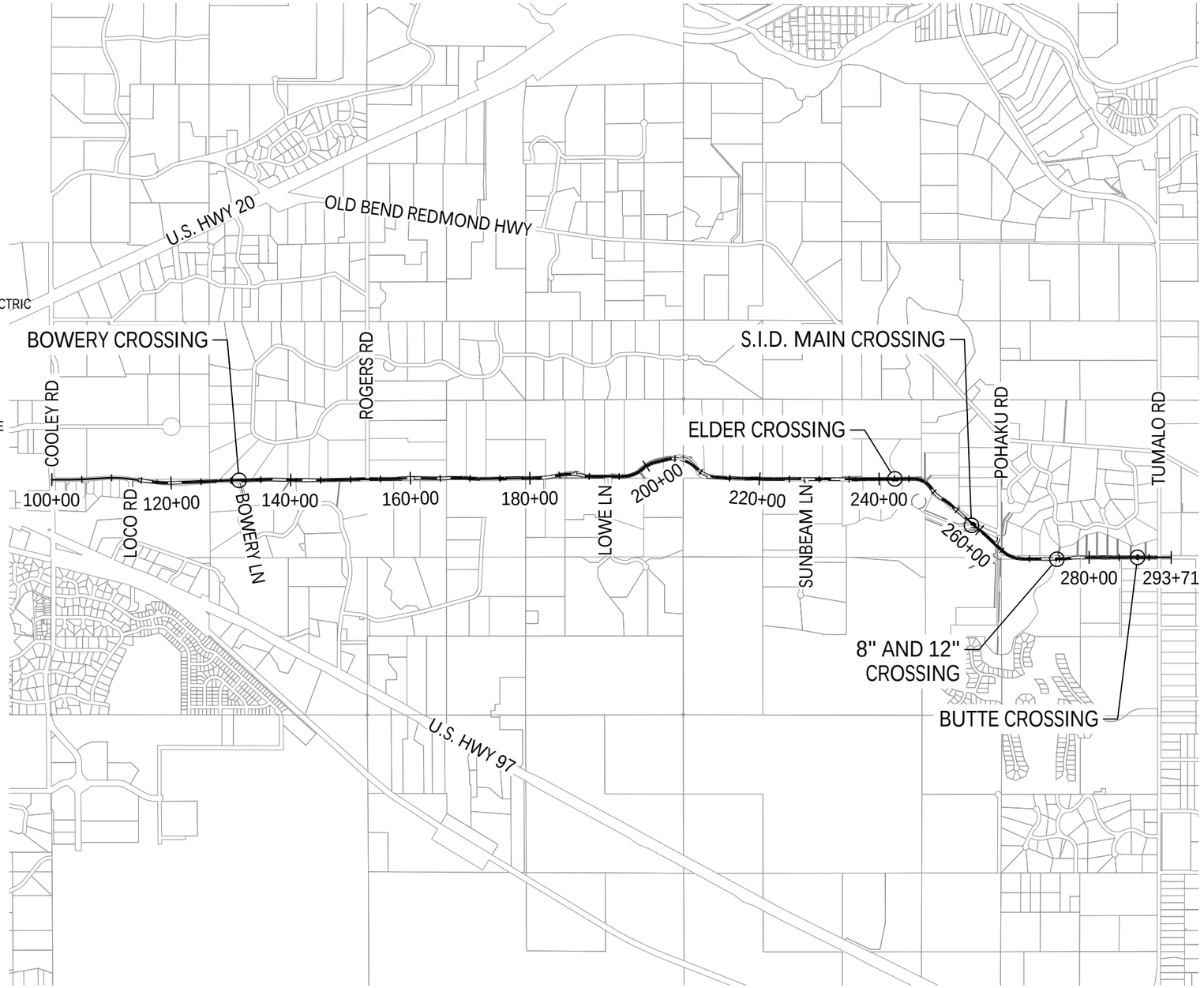
SHEET NO. EC15

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01_EC-C Grading & ESC (233+00 - 293+00).dwg

LEGEND:

- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT LINE
- (E) TAX LOT LINE
- (E) CONTOUR LINE (3175)
- (P) CONTOUR LINE (3175)
- (E) WATER LINE (W)
- (E) IRRIGATION LINE (IRR)
- (P) WATER LINE (W)
- (P) IRRIGATION LINE (IRR)
- (E) OVERHEAD WIRE (OW)
- (E) UNDERGROUND ELECTRIC (E)
- (E) FIBER OPTIC LINE (FO)
- (E) TELEPHONE LINE (T)
- (E) FENCE LINE (X)
- (P) FENCE LINE
- (P) GRADING CATCHLINE
- (P) SEDIMENT FENCE
- (E) WATER METER
- (E) WATER VALVE
- (E) IRRIGATION VALVE
- (E) FIRE HYDRANT
- (E) WATER BOX
- (E) IRRIGATION BOX
- (E) WATER MANHOLE
- (E) TELECOM MANHOLE
- (E) WATER VAULT
- (E) TELECOM VAULT
- (E) POWER VAULT
- (E) POWER METER
- (E) POWER RISER
- (E) TELECOM RISER
- (E) FIBER OPTIC RISER
- (E) SIGN & POST
- (E) POWER POLE
- (E) MAILBOX
- (E) BOULDER



SITE MAP

SCALE: 1" = 2000'

SHEET INDEX

CX01	CANAL CROSSING - BOWERY
CX02	S.I.D IRRIGATION PIPE PLAN & PROFILE - BOWERY
CX03	CANAL CROSSING - ELDER
CX04	CANAL CROSSING - S.I.D. MAIN
CX05	CANAL CROSSING - 8 INCH PRIVATE
CX06	CANAL CROSSING - 12 INCH PRIVATE
CX07	CANAL CROSSING - BUTTE
CX08	CANAL CROSSING DETAILS
CX09	CANAL CROSSING DETAILS

VERTICAL DATUM

CENTRAL OREGON COORDINATES SYSTEM (NGVD29) AS DETERMINED BY MULTIPLE AVERAGED GPS READINGS ON CONTROL POINTS SPANNING THE LENGTH OF THE PROJECT. NGVD29 + 4.09' = NAVD88

HORIZONTAL DATUM

HORIZONTAL DATUM IS CENTRAL OREGON COORDINATE SYSTEM, ESTABLISHED FROM MULTIPLE AVERAGED GPS OBSERVATIONS ON CONTROL POINTS 323, A ½" IRON ROD WITH RED PLASTIC CAP ON THE NORTHWEST CORNER OF THE INTERSECTION OF HUNNELL ROAD AND TUMALO ROAD AND 31, A COPPER PLUG SET IN THE EAST SIDEWALK OF HUNNELL ROAD SOUTH OF LOCO ROAD.

N

0 500 1000 2000

SCALE: 1" = 2000'

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS

EXPIRES: 06/30/24

100% SUBMITTAL

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CANAL CROSSING SHEET INDEX

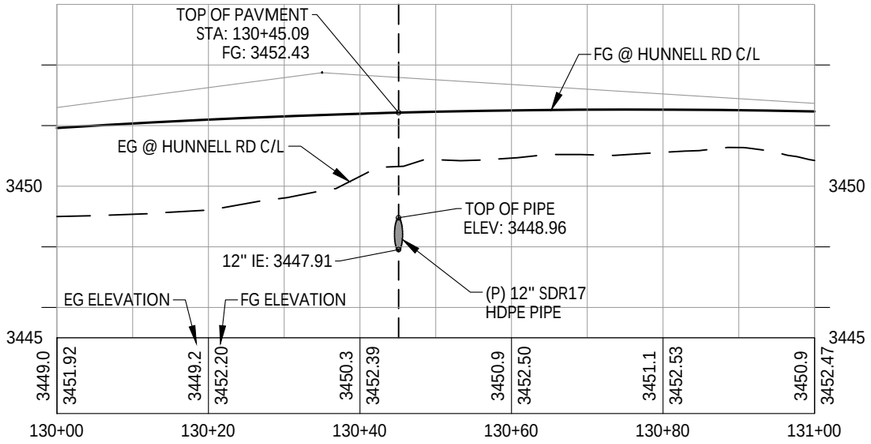
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX00

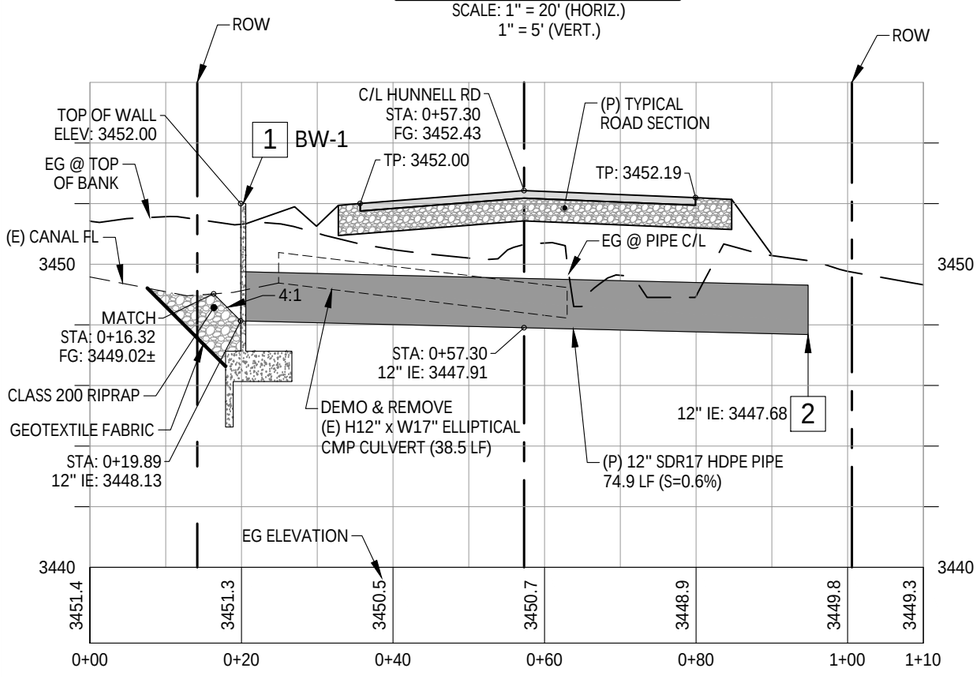
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_00 Section Maps .dwg



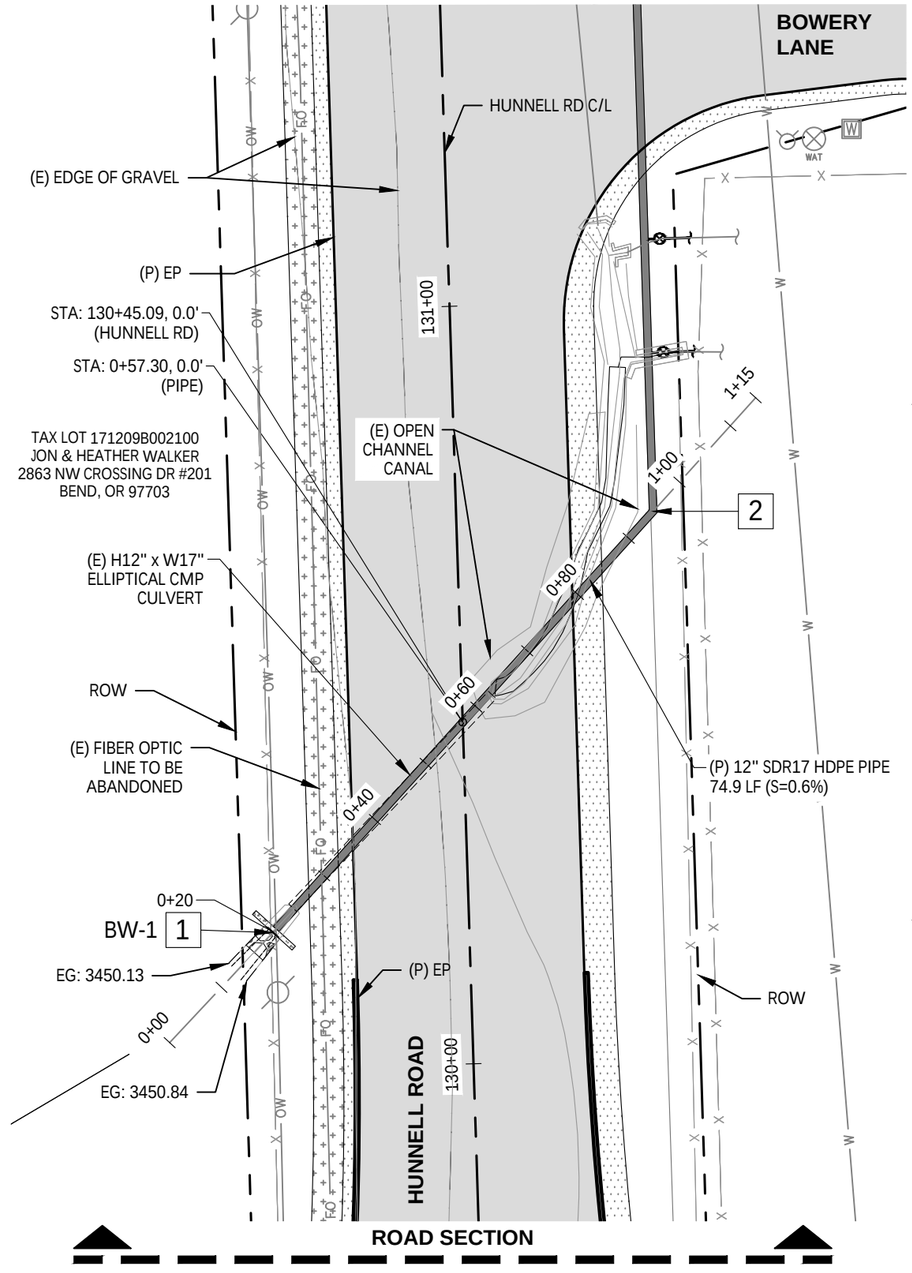
PIPE SECTION - BOWERY

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)



ROAD SECTION - BOWERY

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)

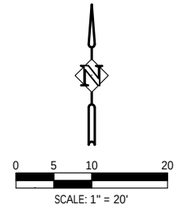


IRRIGATION CANAL CONSTRUCTION NOTES:

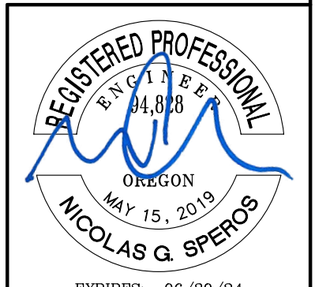
1 HEADWALL BW-1
STA 0+19.89, 0.0' (PIPE) =
STA 130+18.13, 25.9'L (HUNNELL RD)
CONSTRUCT HEADWALL. SEE SHEET CX08 FOR HEADWALL DETAILS AND SIZING DATA.
INSTALL PINECONE SIZED TRASH RACK
12" IE: 3448.13
CONSTRUCT 74.9 LF 12" SDR17 HDPE CULVERT @ S = -0.60% TO BEND; TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 2)

2 STA 0+94.80, 0.0' (PIPE) =
STA 130+72.11, 26.0'R (HUNNELL RD)
INSTALL 1 - 12" 45° BEND
12" IE = 3447.68
CONSTRUCT 20.9 LF 12" SDR17 HDPE PIPE @ S = -0.60% TO OUTLET; TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 3 ON SHEET CX02 FOR CONTNUATION NORTH)

PIPE SECTION



100% SUBMITTAL



EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

CANAL CROSSING - BOWERY

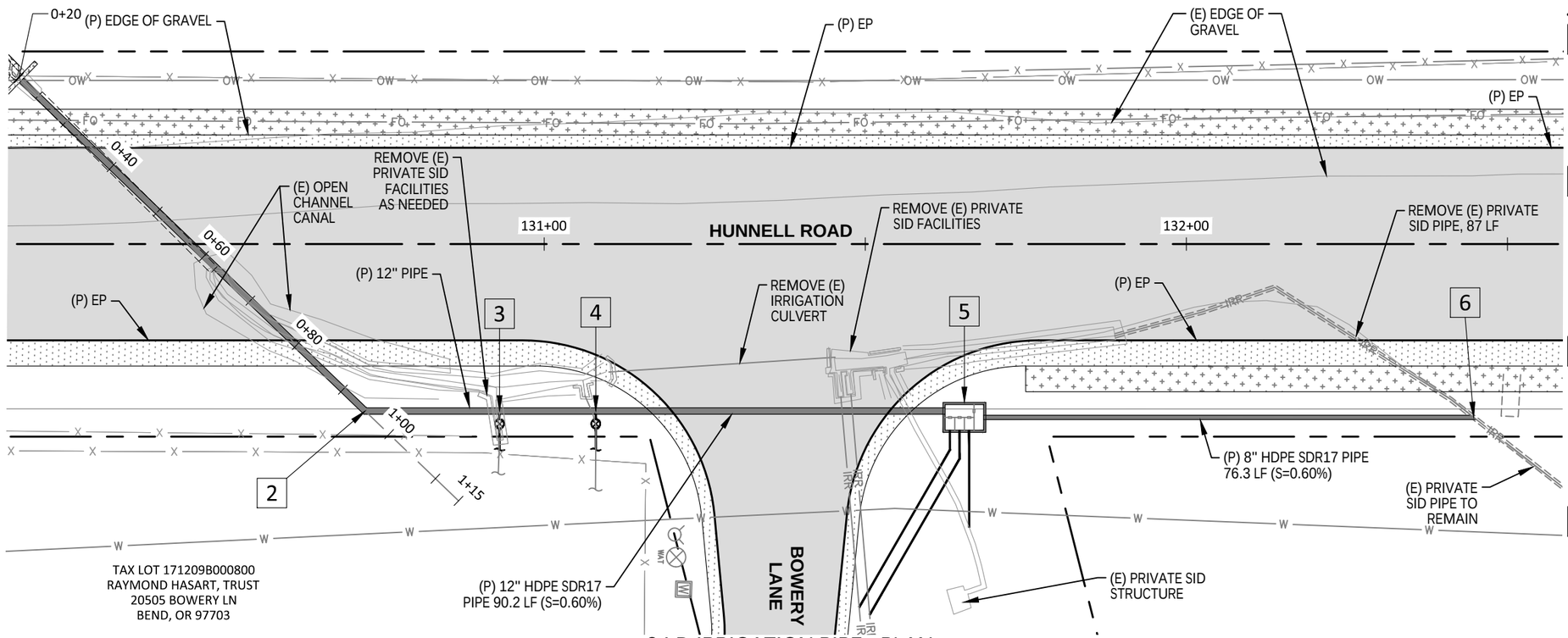
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX01

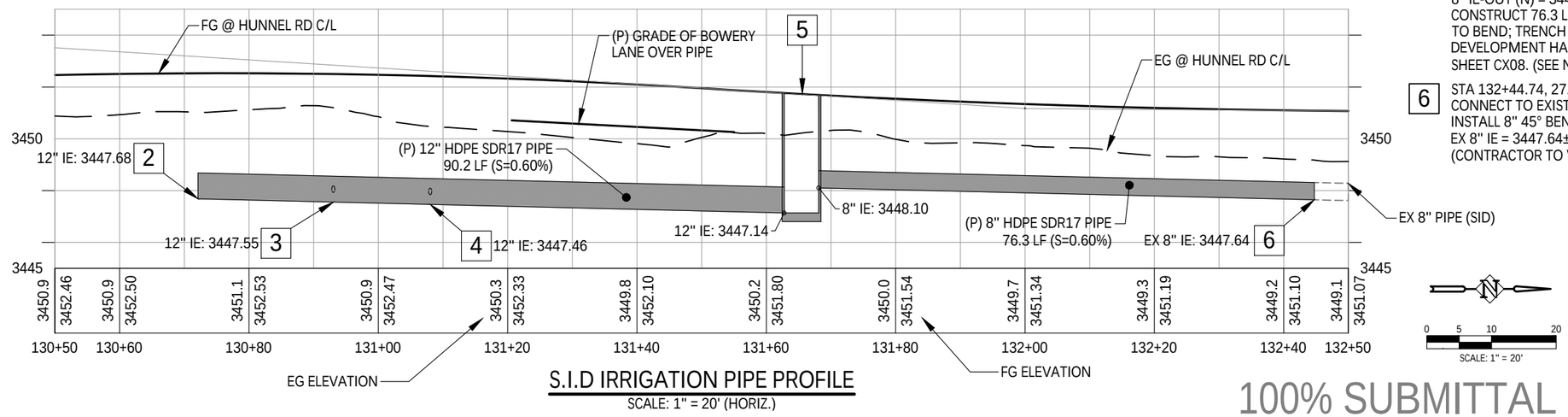
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg



S.I.D IRRIGATION PIPE - PLAN

SCALE: 1" = 20'



S.I.D IRRIGATION PIPE PROFILE

SCALE: 1" = 20' (HORIZ.)

SCALE: 1" = 20'

100% SUBMITTAL

IRRIGATION CANAL CONSTRUCTION NOTES:

2 STA 0+94.80, 0.0' (PIPE) =
STA 130+72.11, 26.0'R (HUNNELL RD)
INSTALL 1 - 12" 45° BEND
12" IE = 3447.68
CONSTRUCT 90.2 LF 12" SDR17 HDPE PIPE @ S = -0.60% TO VAULT;TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 5) (SEE SHEET CX01 FOR CONTINUATION WEST)

3 STA 130+93.05, 26.0'R (HUNNELL RD)
INSTALL 1 - 3" SIDE SADDLE TURNOUT WITH FLANGE ADAPTER; 1 - 3" GATE VALVE ASSEMBLY; 2 - 3" 45° BENDS TO CONNECT TO DELIVERY STRUCTURE WITH WEIR.
3" IE = 3447.93
12" IE = 3447.55
CONSTRUCT 15.0 LF 12" SDR17 HDPE PIPE @ S = -0.60% TO OUTLET; TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 4)

4 STA 131+08.05, 26.0'R (HUNNELL RD)
INSTALL 1 - 3" SIDE SADDLE TURNOUT WITH FLANGE ADAPTER; 1 - 3" GATE VALVE ASSEMBLY; 2 - 3" 45° BENDS TO CONNECT TO DELIVERY STRUCTURE WITH WEIR.
3" IE = 3447.84
12" IE = 3447.46
CONSTRUCT 54.2 LF 12" SDR17 HDPE PIPE @ S = -0.60% TO VAULT; TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 5)

5 STA 131+65.43, 26.0'R (HUNNELL RD) CONSTRUCT PROPORTIONAL DIVIDER BOX PER DETAIL ON SHEET CX09 (CONTRACTOR TO COORDINATE WEIR SETTINGS WITH SID TO PROPERLY REGULATE FLOW); INSTALL 3 - 3" OUTLET PIPES. CONNECTION TO INDIVIDUAL IRRIGATION SERVICES TO BE COORDINATED WITH SID.
12" IE-IN (S) = 3447.14
3" IE-OUT (E) = 3448.00
3" IE-OUT (E) = 3448.00
3" IE-OUT (E) = 3448.00
8" IE-OUT (N) = 3448.10
CONSTRUCT 76.3 LF 8" SDR17 HDPE PIPE @ S = -0.60% TO BEND; TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 6)

6 STA 132+44.74, 27.0'L (HUNNELL RD)
CONNECT TO EXISTING 8" IRRIGATION PIPE;
INSTALL 8" 45° BEND.
EX 8" IE = 3447.64±
(CONTRACTOR TO VERIFY PIPE SIZE AND INVERT)

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

S.I.D IRRIGATION PIPE - PLAN AND PROFILE

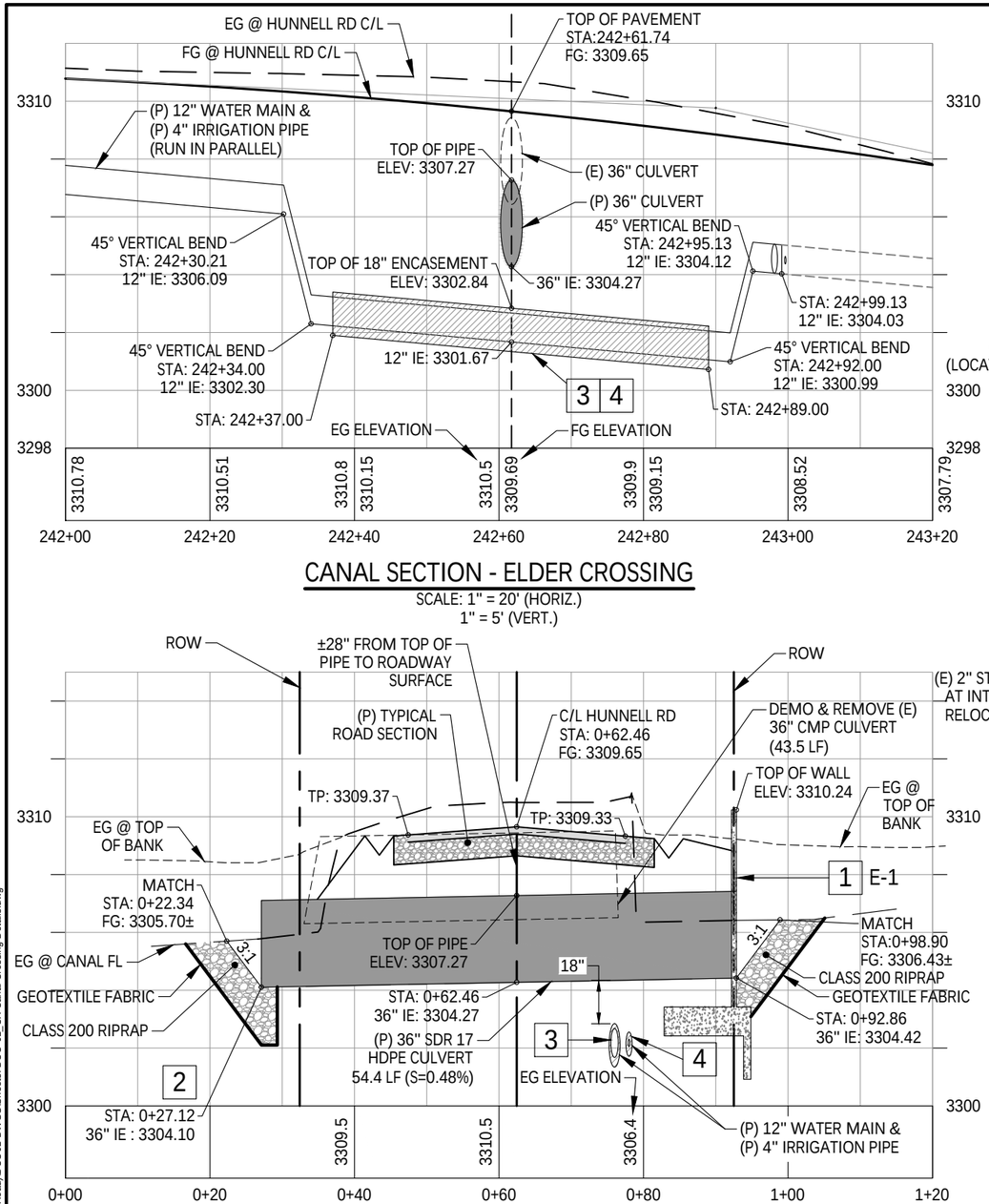
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX02

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg

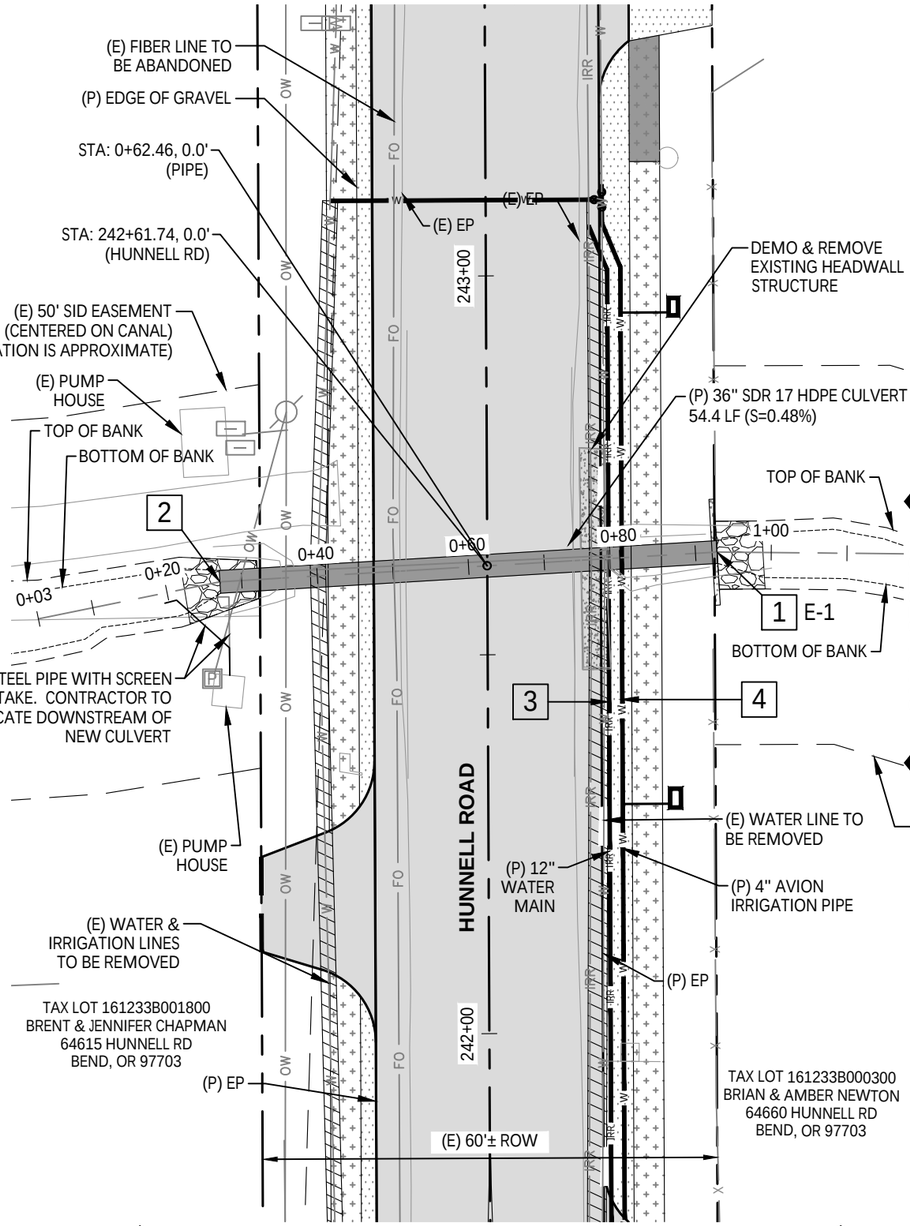


CANAL SECTION - ELDER CROSSING

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)

ROAD SECTION - ELDER CROSSING

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)



ROAD SECTION

IRRIGATION CANAL CONSTRUCTION NOTES:

1. HEADWALL E-1
STA 0+92.86, 0.0' (PIPE) =
STA 242+63.42, 30.3'R (HUNNELL RD)
CONSTRUCT HEADWALL. SEE SHEET CX08 FOR HEADWALL DETAILS AND SIZING DATA. CONSTRUCT 54.4 LF 36" SDR17 HDPE CULVERT TO OUTLET; TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08.
36" IE: 3304.42

2. STA 0+27.12, 0.0' (PIPE) =
STA 242+59.79 35.3'L (HUNNELL RD)
CONSTRUCT CULVERT OUTFALL PER DETAIL ON SHEET CX08. INSTALL CLASS 200 GRADED RIPRAP AT OUTFALL.
36" IE: 3304.10

3. STA 242+37.42 TO 243+10.00
INSTALL 12" WATER MAIN INSIDE 18" HDPE DR17 CARRIER SLEEVE WITH WELDED JOINTS. SEE SHEET RD22.1 FOR MORE INFORMATION.

4. STA 242+37.42 TO 243+10.00
INSTALL 4" AVION IRRIGATION LINE INSIDE 10" HDPE DR17 CARRIER SLEEVE WITH WELDED JOINTS. SEE SHEET RD22.1 FOR MORE INFORMATION.

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

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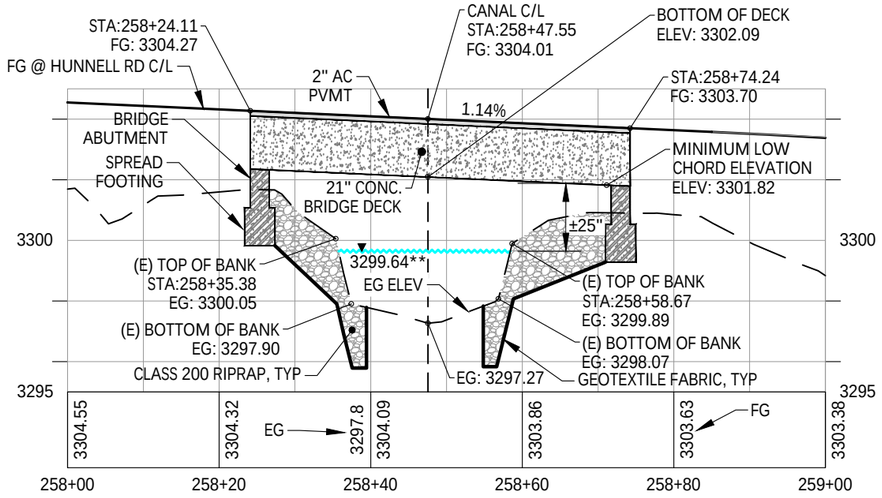
CANAL CROSSING - ELDER

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX03
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg



** WATER SURFACE ELEVATION PER SURVEY ON 08/20/2020

CANAL SECTION - SID CROSSING

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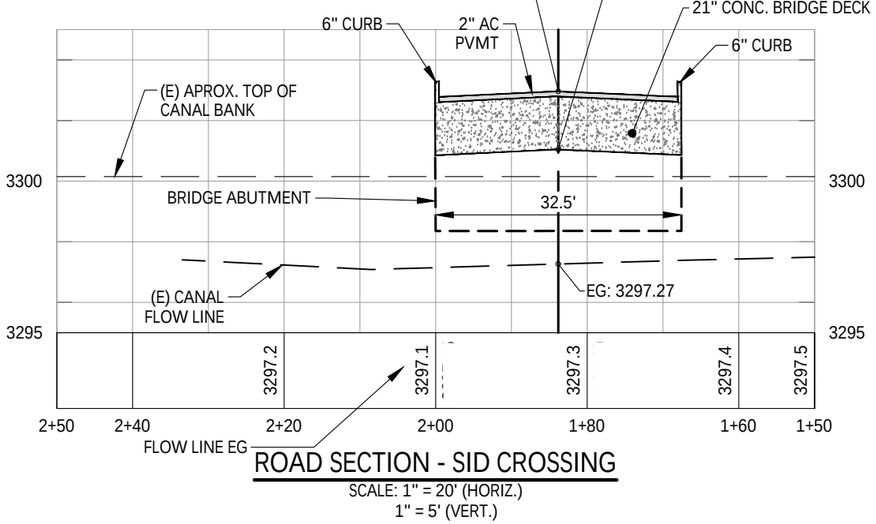
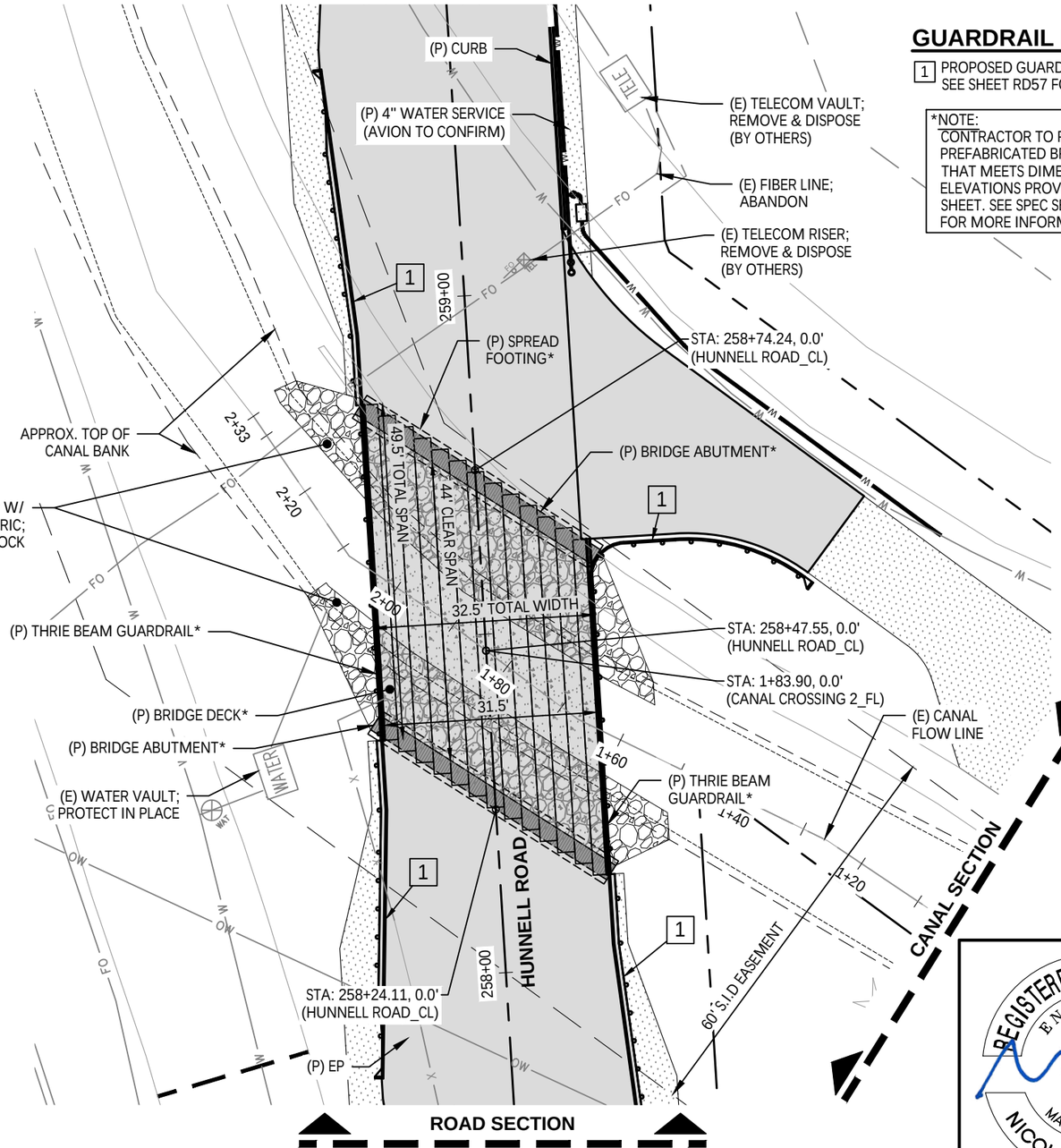
1" = 5' (VERT.)



ROAD SECTION - SID CROSSING

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)



GUARDRAIL NOTES:

1 PROPOSED GUARDRAIL SECTION. SEE SHEET RD57 FOR MORE INFORMATION

*NOTE:
CONTRACTOR TO PROVIDE PREFABRICATED BRIDGE SECTION THAT MEETS DIMENSIONS AND ELEVATIONS PROVIDED ON THIS SHEET. SEE SPEC SECTION 00568 FOR MORE INFORMATION.

0 5 10 20
SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

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DESCHUTES COUNTY

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CANAL CROSSING - S.I.D. MAIN

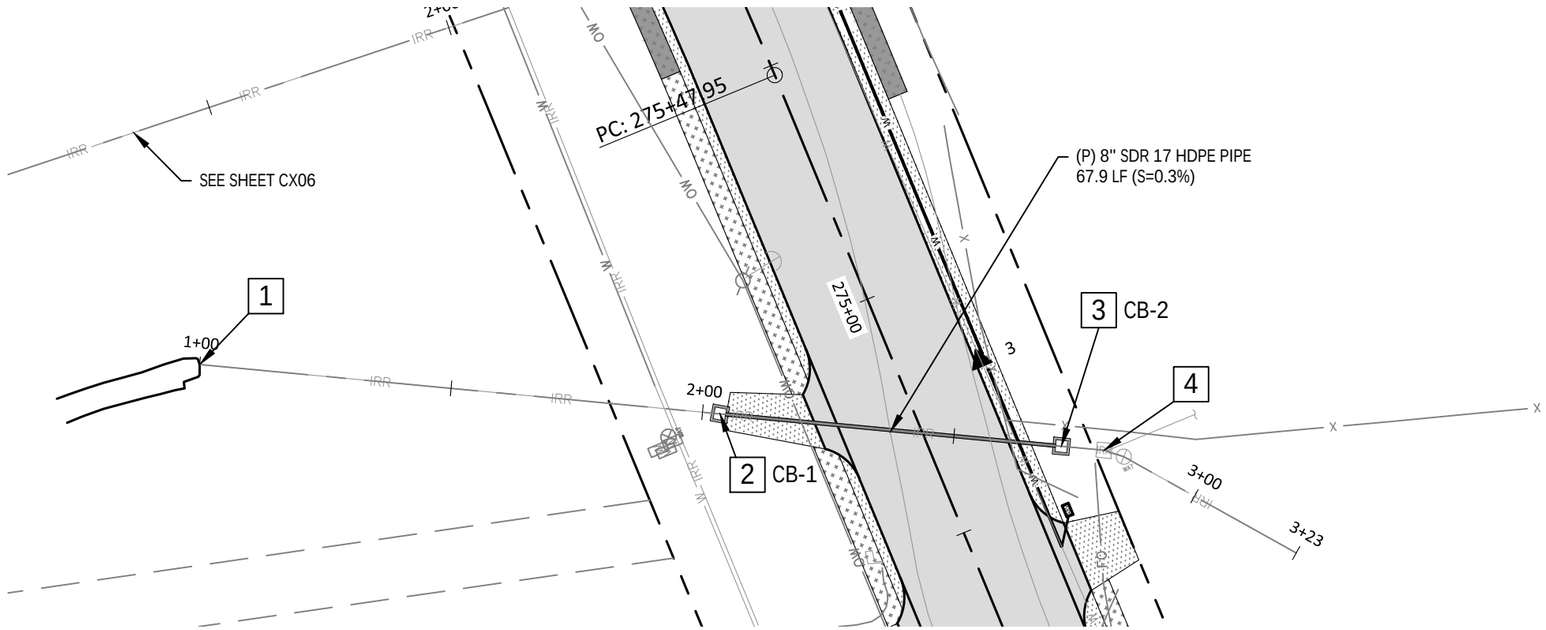
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX04

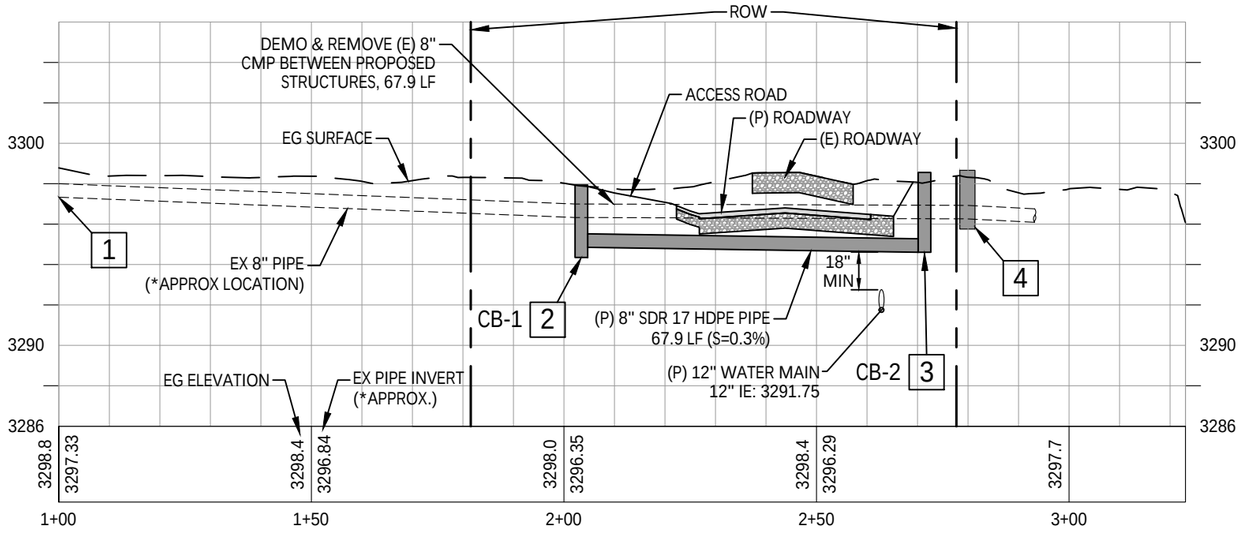
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg



8" IRRIGATION CROSSING - PLAN

SCALE: 1" = 30' (HORIZ.)



8" IRRIGATION CROSSING - PROFILE

SCALE: 1" = 30' (HORIZ.)
SCALE: 1" = 8' (VERT)

IRRIGATION CANAL CONSTRUCTION NOTES:

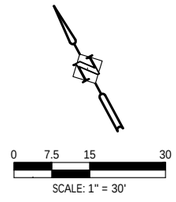
1 EXISTING IRRIGATION SERVICE CONNECTION (APPROX LOCATION)
STA 1+00.00, 0.0' (PIPE) = STA 275+38.52, 127.1'L (HUNNELL RD)
EX 8" IE = *3297.33±

2 CATCH BASIN CB-1
STA 2+03.46, 0.0' (PIPE) = STA 274+90.16, 35.6'L (HUNNELL RD)
CONSTRUCT G-2 CATCH BASIN WITH SOLID LID PER DETAIL ON SHEET CX08; CUT & CONNECT TO EXISTING 8" IRRIGATION SERVICE PIPE (WEST INVERT).
RIM = 3297.93
EX 8" IE-IN (W) = *3296.33±
8" IE-OUT (E) = 3294.85
SUMP = 3294.35
CONSTRUCT 67.9 LF 8" SDR 17 HDPE PIPE @ S = -0.30% TO CB-2. SEE NOTE 3.

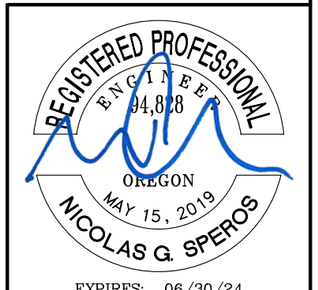
3 CATCH BASIN CB-2
STA 2+71.36, 0.0' (PIPE) = STA 274+58.43, 24.4'R (HUNNELL RD)
CONSTRUCT G-2 CATCH BASIN WITH SOLID LID PER DETAIL ON SHEET CX08; CUT & CONNECT TO EXISTING 12" IRRIGATION SERVICE PIPE (EAST INVERT).
RIM = 3298.56
8" IE-IN (W) = 3294.61
EX 8" IE-OUT (E) = *3296.27±
CONNECT TO EXISTING 8" PIPE THAT FLOWS SOUTHEAST TO EXISTING JUNCTION BOX. SEE NOTE 4.

4 EXISTING JUNCTION BOX
STA 2+79.87, 0.0' (PIPE) = STA 274+54.45, 31.9'R (HUNNELL RD)
RIM = *3298.66±
EX 8" IE-IN (W) = *3296.26±
EX 6" IE-OUT (E) = *3297.87±
EX 8" IE-OUT (SE) = *3296.24±

*NOTE:
LOCATION OF EXISTING PIPE IS APPROXIMATE. CONTRACTOR TO VERIFY LOCATION, SIZE, AND INVERTS OF EXISTING PIPE PRIOR TO CONSTRUCTION.



100% SUBMITTAL



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CANAL CROSSING - 8" PRIVATE

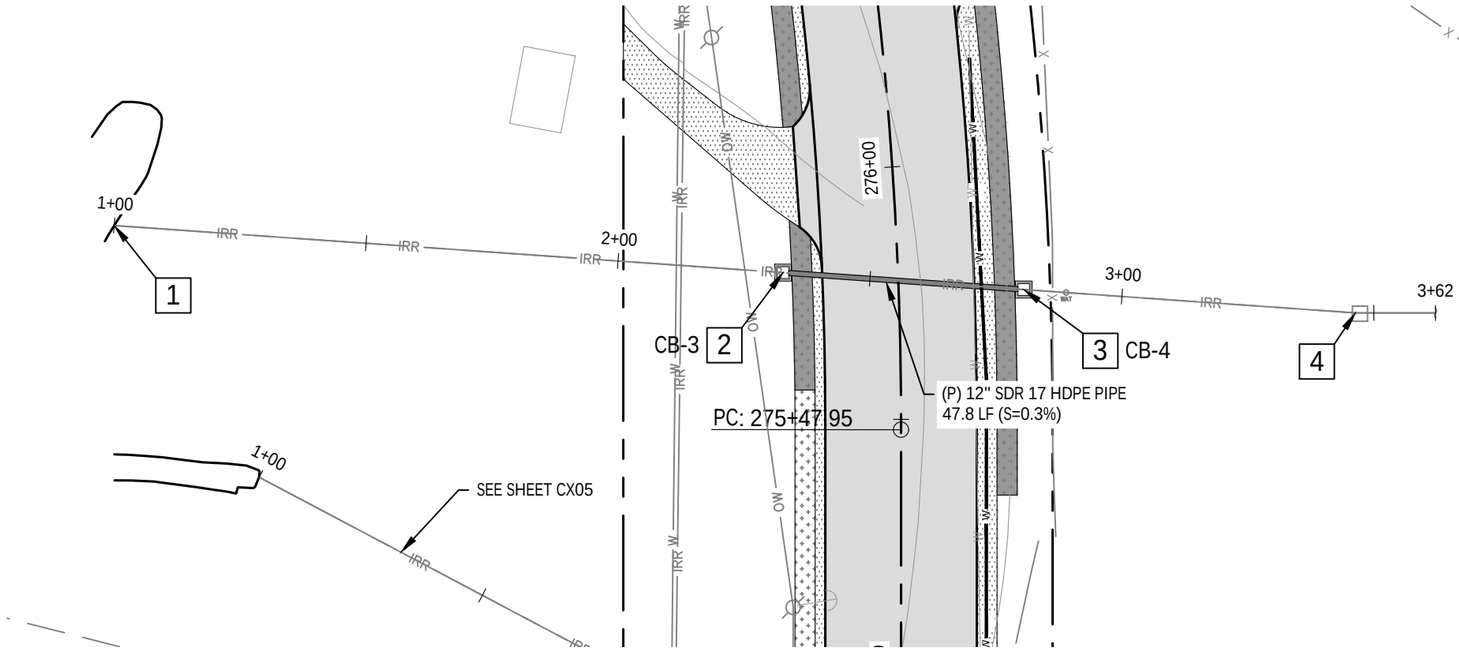
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX05

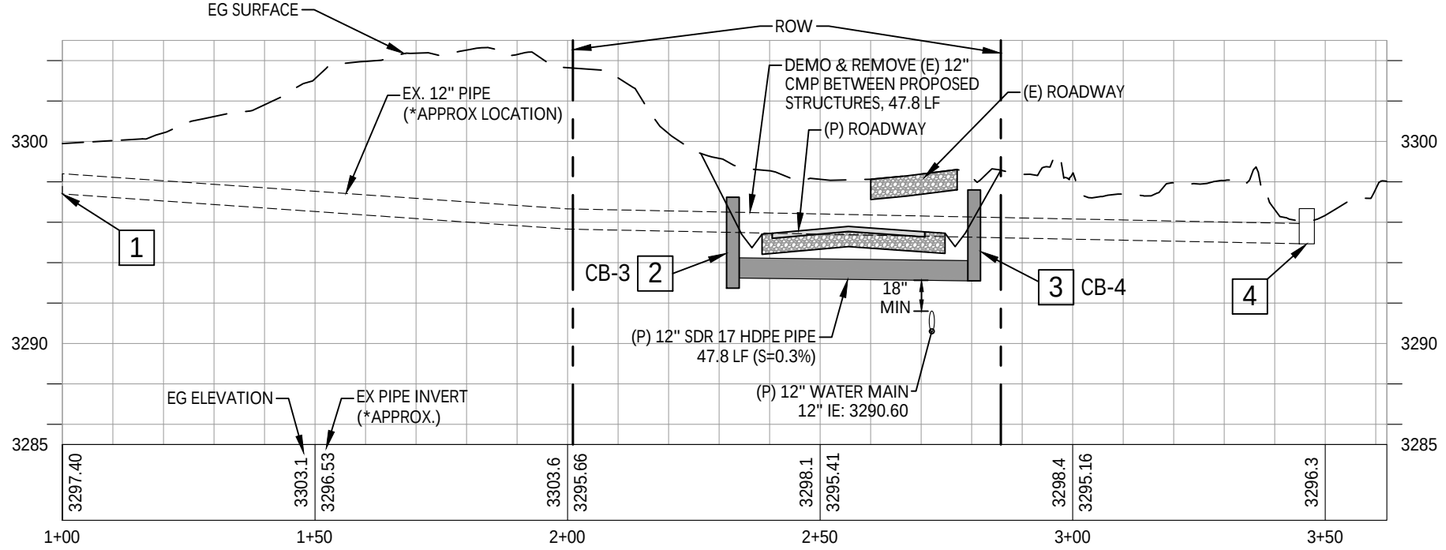
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg



12" IRRIGATION CROSSING - PLAN

SCALE: 1" = 30' (HORIZ.)



12" IRRIGATION CROSSING - PROFILE

SCALE: 1" = 30' (HORIZ.)
SCALE: 1" = 8' (VERT)

IRRIGATION CANAL CONSTRUCTION NOTES:

1 EXISTING IRRIGATION SERVICE CONNECTION (APPROX LOCATION)
STA 1+00.00, 0.0' (PIPE) = STA 275+98.49, 154.5'L (HUNNELL RD)
EX 12" IE = *3297.40±

2 CATCH BASIN CB-3
STA 2+32.74, 0.0' (PIPE) = STA 275+79.99, 22.7'L (HUNNELL RD)
CONSTRUCT G-2 CATCH BASIN WITH SOLID LID PER DETAIL ON SHEET CX08; CUT & CONNECT TO EXISTING 12" IRRIGATION SERVICE PIPE (WEST INVERT).
RIM = 3297.24
EX 12" IE-IN (W) = *3295.50±
12" IE-OUT (E) = 3293.24
SUMP = 3292.74
CONSTRUCT 47.8 LF 12" SDR 17 HDPE PIPE @ S = -0.30% TO CB-4. SEE NOTE 3.

3 CATCH BASIN CB-4
STA 2+80.50, 0.0' (PIPE) = STA 275+74.83, 24.7'R (HUNNELL RD)
CONSTRUCT G-2 CATCH BASIN WITH SOLID LID PER DETAIL ON SHEET CX08; CUT & CONNECT TO EXISTING 12" IRRIGATION SERVICE PIPE (EAST INVERT).
RIM = 3297.60
12" IE-IN (W) = 3293.10
EX 12" IE-OUT (E) = *3295.25±
CONNECT TO EXISTING 12" PIPE THAT FLOWS EAST TO EXISTING JUNCTION BOX. SEE NOTE 4.

4 EXISTING JUNCTION BOX
STA 3+46.35, 0.0' (PIPE) = STA 275+68.66, 90.3'R (HUNNELL RD)
RIM = *3296.68±
EX 12" IE-IN (W) = *3294.93±

*NOTE:
LOCATION OF EXISTING PIPE IS APPROXIMATE. CONTRACTOR TO VERIFY LOCATION, SIZE, AND INVERTS OF EXISTING PIPE PRIOR TO CONSTRUCTION.

N

0 7.5 15 30
SCALE: 1" = 30'

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

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CANAL CROSSING - 12" PRIVATE

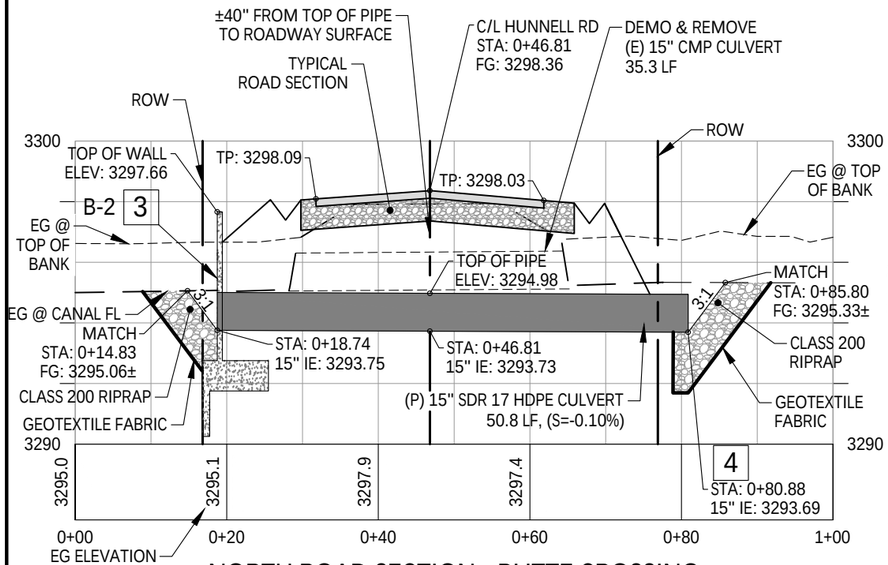
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX06

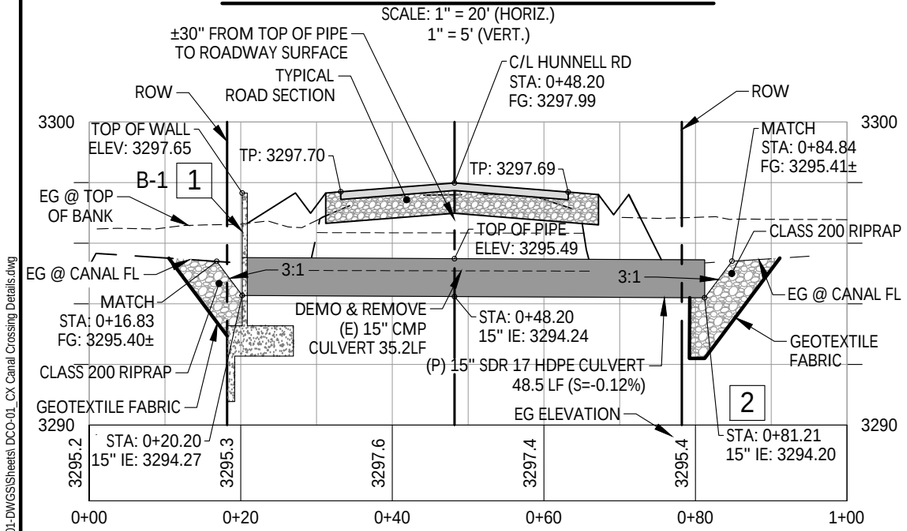
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg



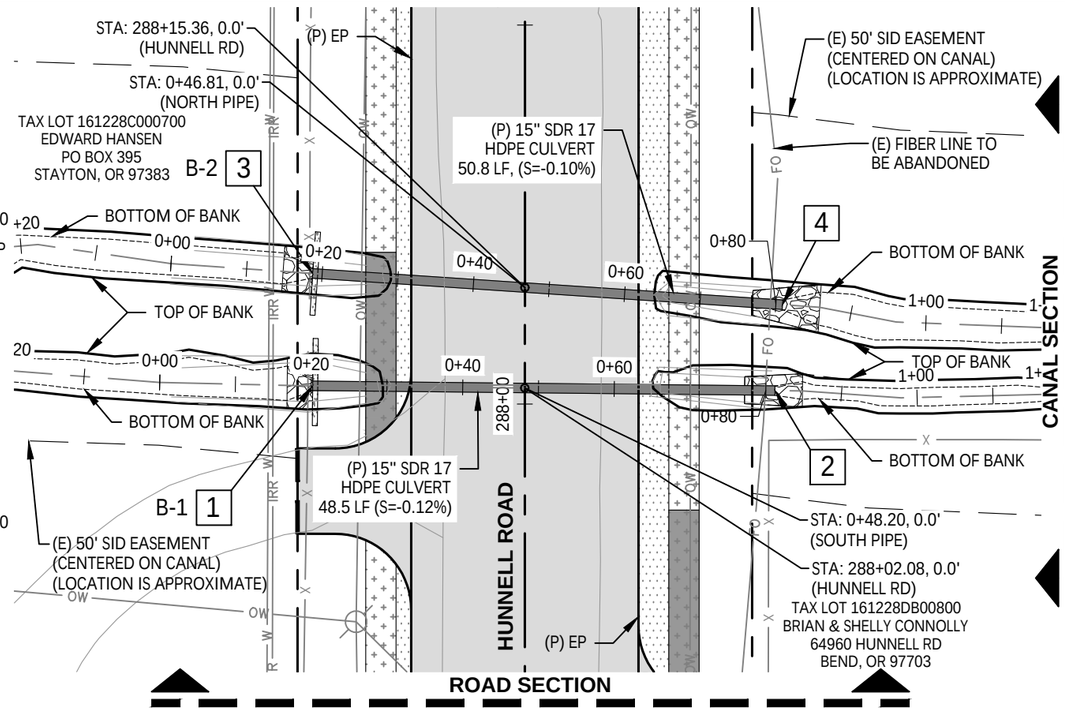
NORTH ROAD SECTION - BUTTE CROSSING

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)

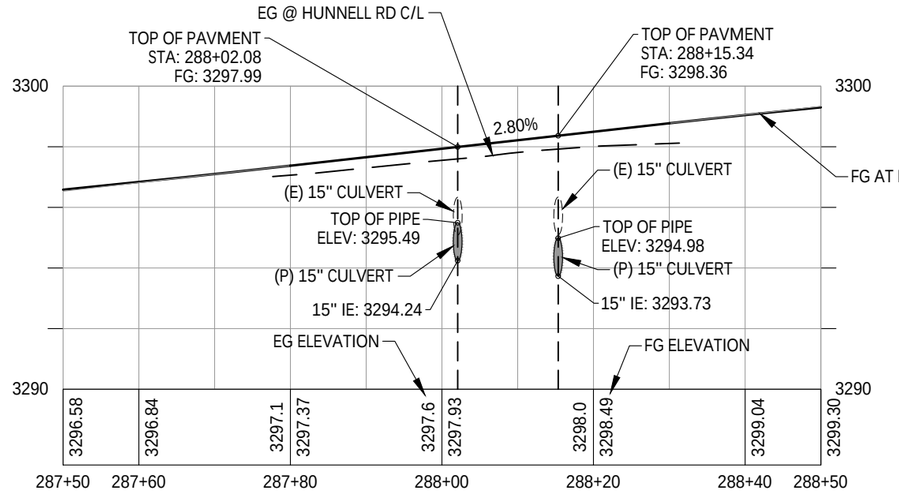


SOUTH ROAD SECTION - BUTTE CROSSING

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)



ROAD SECTION



CANAL SECTION - BUTTE CROSSING

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)

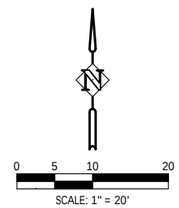
IRRIGATION CANAL CONSTRUCTION NOTES:

1 HEADWALL B-1
STA 0+20.20, 0.0' (PIPE) =
STA 288+02.39, 28.0'L (HUNNELL RD)
CONSTRUCT HEADWALL. SEE SHEET CX08 FOR HEADWALL DETAILS AND SIZING DATA.
15" IE: 3294.27
CONSTRUCT 58.0 LF 15" SDR 17 HDPE CULVERT @ S = -0.12% TO HEADWALL;
TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B. SEE DETAIL ON SHEET CX08. (SEE NOTE 2)

2 STA 0+81.21, 0.0' (PIPE) =
STA 288+01.77, 33.0'R (HUNNELL RD)
CONSTRUCT CULVERT OUTFALL PER DETAIL ON SHEET CX08. INSTALL CLASS 200 GRADED RIPRAP AT OUTFALL.
15" IE: 3294.20

3 HEADWALL B-2
STA 0+18.74, 0.0' (PIPE) =
STA 288+17.22, 28.0'L (HUNNELL RD)
CONSTRUCT HEADWALL. SEE SHEET CX08 FOR HEADWALL DETAILS AND SIZING DATA.
15" IE: 3293.75
CONSTRUCT 58.1 LF 15" SDR 17 HDPE CULVERT @ S = -0.10% TO HEADWALL;
TRENCH PIPE SECTION PER S.I.D. DEVELOPMENT HANDBOOK, APPENDIX B.
SEE DETAIL ON SHEET CX08. (SEE NOTE 4)

4 STA 0+80.88, 0.0' (PIPE) =
STA 288+13.10, 304.0'R (HUNNELL RD)
CONSTRUCT CULVERT OUTFALL PER DETAIL ON SHEET CX08. INSTALL CLASS 200 GRADED RIPRAP AT OUTFALL.
15" IE: 3293.70



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CANAL CROSSING - BUTTE

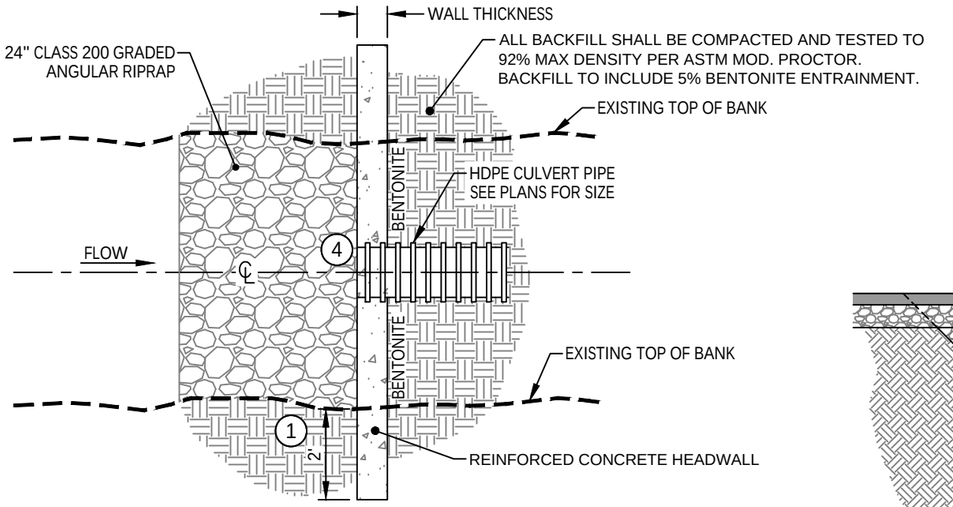
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

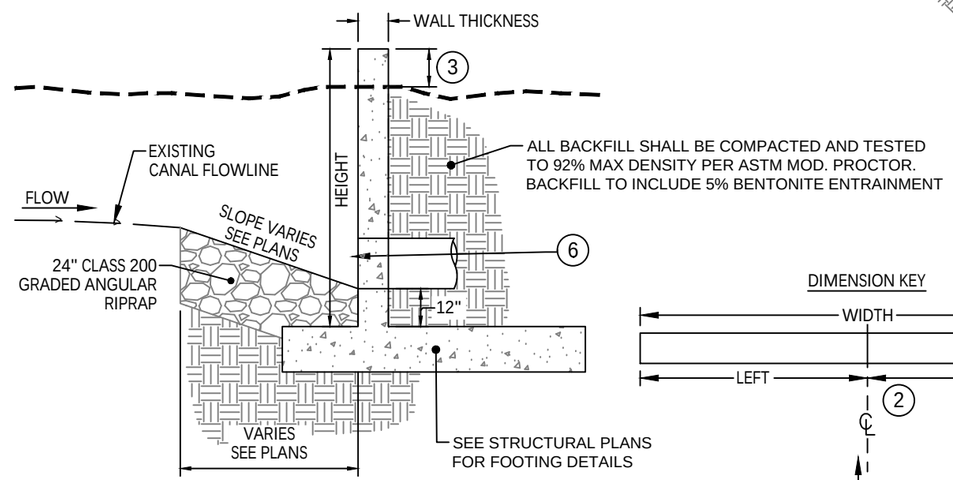
DESCHUTES COUNTY, OREGON

SHEET NO. CX07

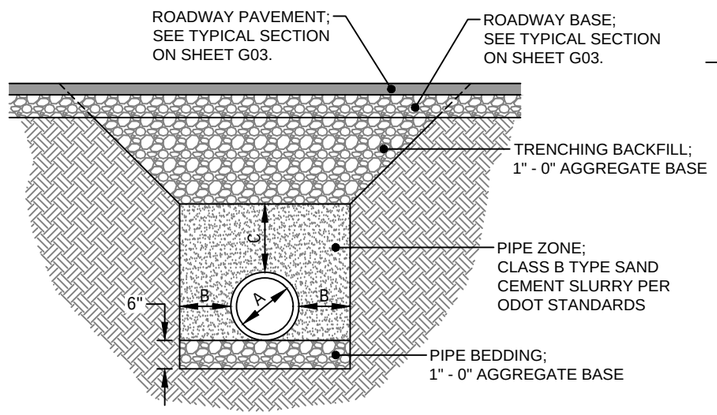
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets DCO-01_CX Canal Crossing Details.dwg

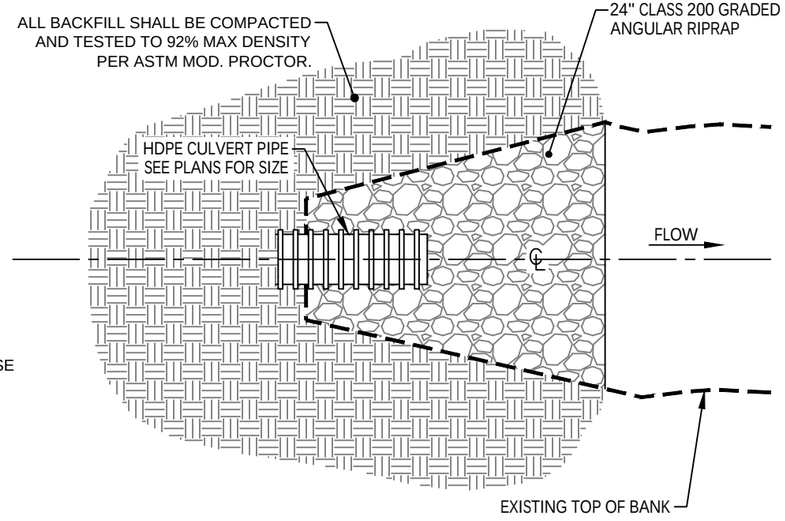


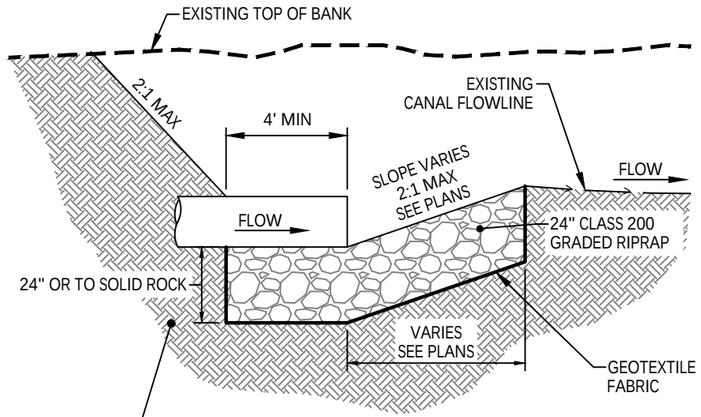


TRENCH BACKFILL TABLE		
A (IN)	B (IN)	C (IN)
12	12	10
15	12	10
36	24	14

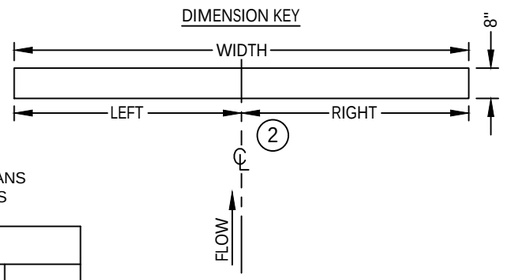


TRENCH BACKFILL DETAIL
NTS





CULVERT OUTFALL DETAIL
NTS



HEADWALL DIMENSION TABLE							
HEADWALL	WIDTH (FT)	LEFT (FT)	RIGHT (FT)	HEIGHT (FT)	WALL THICKNESS (IN)	STRUCTURAL DETAIL	DETAIL SHEET
BW-1	7.0	3.5	3.5	4.9	8	HEADWALL 2	ST04
E-1	14.0	7.0	7.0	6.8	10	HEADWALL 1	ST03
B-1	11.5	6.25	5.25	4.4	8	HEADWALL 2	ST04
B-2	11.0	5.5	5.5	4.9	8	HEADWALL 2	ST04

*NOTE: DIMENSIONS ARE MINIMUMS

CONCRETE HEADWALL DETAIL
NTS

NOTE ①: HEADWALLS SHALL EXTEND A MINIMUM OF 2 FEET INTO CANAL BANK.
NOTE ②: WIDTH OF WALL TO BE MINIMUM OF 2 x PIPE DIAMETER.
NOTE ③: TOP OF WALL TO EXTEND A MINIMUM OF 12" ABOVE CANAL BANK.
NOTE ④: PIPE PENETRATION THROUGH HEADWALL SHALL INCLUDE A MINIMUM 1" x 1" HDPE SEEP RING CENTERED IN THE HEADWALL AT EACH END.
NOTE ⑤: SEE STRUCTURAL PLANS FOR DETAILED HEADWALL DRAWINGS AND REINFORCEMENT.
NOTE ⑥: FOR HEADWALL BW-1, INSTALL TRASH RACK WITH 2" WIDE VERTICAL GAPS PER HEADWALL DETAIL 2, SHEET ST04

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER 94,828 OREGON MAY 15, 2019 NICOLAS G. SPEROS
EXPIRES: 06/30/24

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

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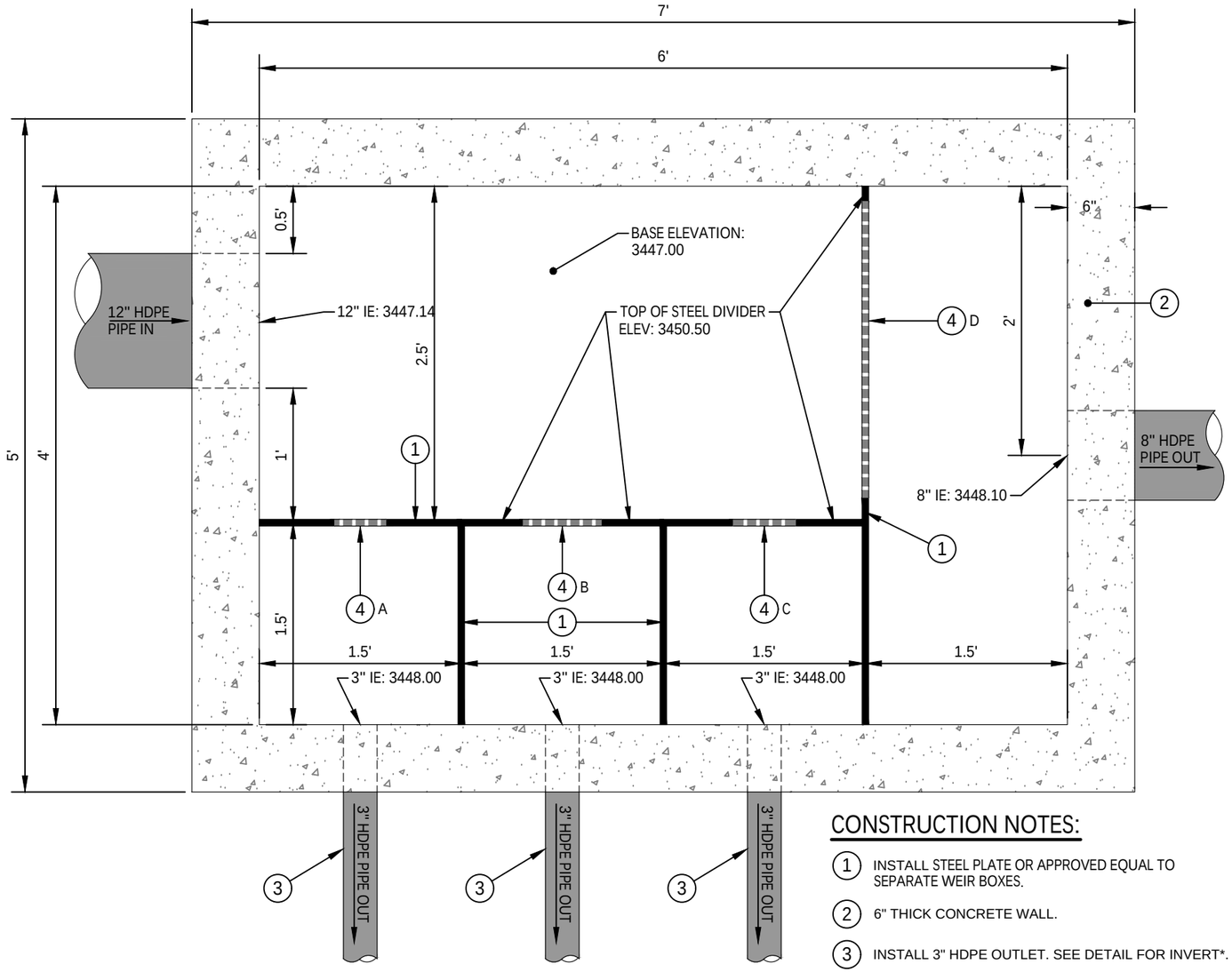
CANAL CROSSING DETAILS
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT
DESCHUTES COUNTY, OREGON

SHEET NO. CX08
JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg

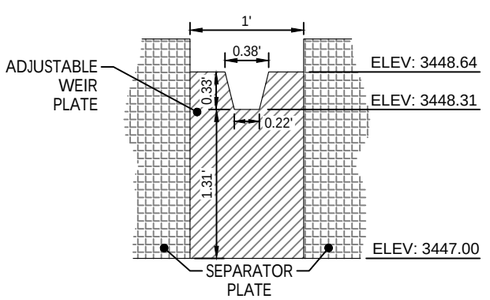


CONSTRUCTION NOTES:

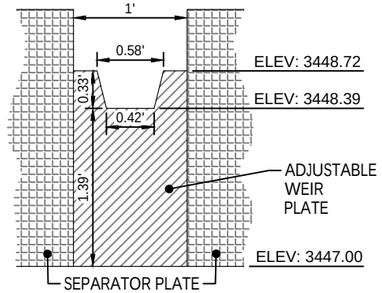
1. INSTALL STEEL PLATE OR APPROVED EQUAL TO SEPARATE WEIR BOXES.
2. 6" THICK CONCRETE WALL.
3. INSTALL 3" HDPE OUTLET. SEE DETAIL FOR INVERT*.
4. INSTALL ADJUSTABLE CIPOLETTI WEIR*. SEE DETAILS ON THIS SHEET.

*NOTE:
CONTRACTOR TO ENSURE ALL WEIRS ARE ADJUSTABLE AND COORDINATE DIMENSIONS AND INVERT ELEVATIONS WITH SWALLEY IRRIGATION DISTRICT STAFF IN FIELD.

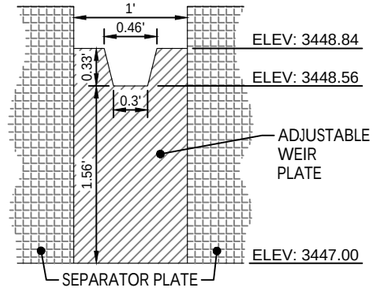
PROPORTIONAL DIVIDER BOX
NTS



WEIR DETAIL A
NTS



WEIR DETAIL B
NTS



WEIR DETAIL C
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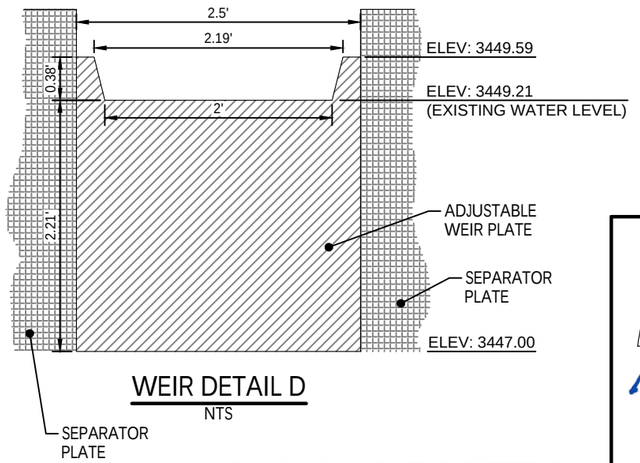


WEIR DETAIL D
NTS

100% SUBMITTAL

REGISTERED PROFESSIONAL ENGINEER
94,828
OREGON
MAY 15, 2019
NICOLAS G. SPEROS
EXPIRES: 06/30/24

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: MD
CHECKED: NS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

CANAL CROSSING DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. CX09

JOB NO. DC0-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DC001-DWGS\Sheets\ DCO-01_CX Canal Crossing Details.dwg

GENERAL:

1. THESE STRUCTURAL NOTES SUPPLEMENT THE SPECIFICATIONS. ANY DISCREPANCY FOUND AMONG THE DRAWINGS, SPECIFICATIONS, THESE NOTES, AND ANY SITE CONDITIONS SHALL BE REPORTED IN A TIMELY MANNER TO THE ARCHITECT/ENGINEER DESIGN TEAM, WHO SHALL RESPOND TO ANY DISCREPANCY IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S OWN RISK.
2. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND CONSTRUCTION METHODS, TECHNIQUES, SEQUENCING, AND SAFETY REQUIRED FOR THE WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL ERECTION BRACING, FORM WORK, AND TEMPORARY SHORING REQUIRED FOR THE WORK.
5. THESE NOTES SET MINIMUM STANDARDS FOR CONSTRUCTION. THE DRAWINGS GOVERN OVER THE STRUCTURAL NOTES TO THE EXTENT SHOWN.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON DRAWINGS AND IN THE FIELD. COORDINATE LOCATIONS OF OPENINGS THROUGH FLOOR, ROOFS AND WALLS WITH CIVIL, MECHANICAL, AND ELECTRICAL PLANS. NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
7. DETAILS SHOWN ON THE DRAWINGS ARE INTENDED TO APPLY AT ALL SIMILAR CONDITIONS AND LOCATIONS.
8. DO NOT SCALE INFORMATION FROM STRUCTURAL DRAWINGS.
9. ALL MATERIAL AND DESIGN SPECIFICATIONS CITED HEREIN SHALL CONFORM TO THE MOST RECENTLY ADOPTED SPECIFICATION OR CODE, UNLESS OTHERWISE NOTED.
10. ALL PRODUCTS AND MATERIALS USED BY THE CONTRACTOR SHALL BE APPLIED, PLACED, ERECTED OR INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
11. ALL FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER.

DESIGN CODE:

1. 2019 OREGON STRUCTURAL SPECIALTY CODE
2. ASCE 7-16
3. ALL REFERENCE TO OTHER CODES AND STANDARDS (ACI, ASTM, ETC...) SHALL BE PER THE LATEST OR MOST CURRENT EDITION AVAILABLE.
4. DESIGN LOADS:

TRAFFIC SURCHARGE PER GEOTECH REPORT.	100 PSF OVER HEEL
EQUIVALENT FLUID PRESSURE (AT-REST)	90 PCF
EQUIVALENT FLUID PRESSURE (ACTIVE)	80 PCF

FOUNDATIONS:

1. MAXIMUM DESIGN SOIL BEARING PRESSURE = 2000 PSF, PER GEOTECHNICAL REPORT BY WALLACE GROUP, PROJECT NUMBER 11304-5, DATED 22 JUNE 2020.
2. FOOTINGS SHALL BE FOUNDED ON FIRM, UNDISTURBED SOIL OR ON APPROVED STRUCTURAL FILL.
3. STRUCTURAL FILL SHALL CONSIST OF CLEAN WELL-GRADED SAND, SAND AND GRAVEL, OR CRUSHED ROCK.
4. THE STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8" IN THICKNESS AND THOROUGHLY COMPACTED TO A DENSE, NON-YIELDING STATE.
5. STRUCTURAL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS OBTAINED BY ASTM MODIFIED PROCTOR.
6. ALL FOOTINGS SHALL BE A MINIMUM OF 1'-6" BELOW FINAL GRADES OR 1'-0" BELOW EXISTING GRADE, WHICHEVER IS LOWER.
7. BOTTOM OF FOOTINGS SHALL BE STEPPED FROM ELEVATION TO ELEVATION AT 2'-0" HORIZONTAL TO 1'-0" VERTICAL STEPS.
8. DO NOT EXCAVATE GREATER THAN A 2H:1V SLOPE BELOW FOOTING.
9. ALL DISTURBED SOIL SHALL BE REMOVED BY HAND OPERATION FROM FOOTING EXCAVATIONS TO NEAT LINES AND REPLACED WITH ENGINEERED FILL IF NECESSARY.
10. PLACEMENT OF ALL FILL SHALL BE OBSERVED AND TESTED FOR RELATIVE COMPACTION BY A QUALIFIED TECHNICIAN AS APPROVED BY THE ENGINEER OF RECORD.

CONCRETE (CAST IN PLACE) & GROUT:

1. ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL DEVELOP A MINIMUM 28 DAY LABORATORY CURED COMPRESSIVE - CYLINDER STRENGTH AS FOLLOWS:
   HEADWALLS & FOUNDATIONS = 4,000 PSI
2. CONCRETE FORMS, MIXING, PLACING, AND CURING SHALL CONFORM TO ACI MANUAL OF CONCRETE PRACTICE, LATEST EDITION AND SPECIFICATIONS.
3. CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 4 INCHES FOR FOUNDATIONS AND OTHER CONCRETE.
4. CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION.
5. ALL BOLTS IN CONCRETE SHALL CONFORM TO ASTM SPECIFICATION A307 AND SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS.
6. CONCRETE WATER CEMENT RATIO SHALL NOT EXCEED 0.50.
7. CONCRETE EXPOSED TO FREEZE/THAW CYCLES SHALL HAVE 5% +/- 1% ENTRAINED AIR.
8. CONCRETE EXPOSED TO WEATHER SHALL HAVE 6% +/- 1% ENTRAINED AIR.
9. A MINIMUM OF 4 CONCRETE TEST CYLINDERS SHALL BE PROVIDED FOR EACH 100 CU. YARDS OF EACH CONCRETE STRENGTH, EACH DAY. SLUMP, AIR ENTRAINMENT, LOCATION IN STRUCTURE, ETC., SHALL BE MEASURED AND RECORDED FOR EACH SET OF CYLINDERS, PER ASTM. CYLINDERS SHALL BE TESTED AS FOLLOWS: 1 AT 7 DAYS, 2 AT 28 DAYS, AND 1 HOLD.
10. CONCRETE CYLINDER MAKING AND TESTING SHALL CONFORM TO ASTM SPECIFICATIONS.
11. CONCRETE, FORMS, MIXING, PLACING AND CURING SHALL CONFORM TO ACI MANUAL OF CONCRETE PRACTICE, LATEST EDITION, AND SPECIFICATIONS.
12. PLACE 2'-0" x 2'-0" BARS @ CORNERS AND INTERSECTIONS OF FOUNDATIONS EQUAL IN SIZE AND SPACING OF HORIZONTAL REINFORCING.
13. REINFORCEMENT SHALL NOT BE DISPLACED FOR THE CONVENIENCE OF OTHER TRADER UNLESS APPROVED BY ENGINEER OF RECORD.

CONCRETE REINFORCING STEEL:

1. REINFORCING BARS SHALL BE NEW BILLET STEEL AND SHALL CONFORM TO ASTM A615 GRADE 60 FOR ALL REINFORCEMENT.
2. ALL WELDED REINFORCING STEEL, METAL INSERTS AND CONNECTIONS SHALL CONFORM TO ALL APPLICABLE CODES AND STANDARDS.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4. REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI CODE 318 AND ACI MANUAL 315, UNLESS OTHERWISE NOTED.
5. ALL REINFORCEMENT SHALL BE FREE OF LOOSE MILL AND RUST SCALE, OIL, DIRT AND COATINGS OF ANY MANNER THAT WILL REDUCE BOND.
6. REINFORCEMENT SHALL BE SECURED IN FORMS WITH SUITABLE TIES AND ANCHORAGE TO PREVENT DISPLACEMENT. BARS ADJACENT TO EARTH SHALL BE SUPPORTED BY CEMENT MORTAR CUBES.
7. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT, U.N.O.:

A. CONCRETE CAST AGAINST THE EARTH	3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER	
#6 AND LARGER	2"
#5 AND SMALLER	1-1/2"
C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER	1-1/2"

8. REINFORCEMENT SPLICES SHALL BE 42 BAR DIAMETER (24" MIN.) LAPS.
9. PLACE 2'-0" x 2'-0" BARS @ CORNERS AND INTERSECTIONS OF FOUNDATIONS EQUAL IN SIZE AND SPACING OF HORIZONTAL REINFORCING.
10. REINFORCEMENT SHALL NOT BE DISPLACED FOR THE CONVENIENCE OF OTHER TRADES UNLESS APPROVED BY ENGINEER OF RECORD.
11. "WET SETTING" OF REINFORCEMENT, ANCHOR BOLTS, HOLDOWN ANCHORS, OR INSERTS IS NOT PERMITTED.

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 74251PE OREGON JUN. 13, 2013 JEFFREY A. SCHWINDT

EXPIRES: 06–30–2024

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: HHPR TEAM
DRAWN: KY
CHECKED: JS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

STRUCTURAL NOTES

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

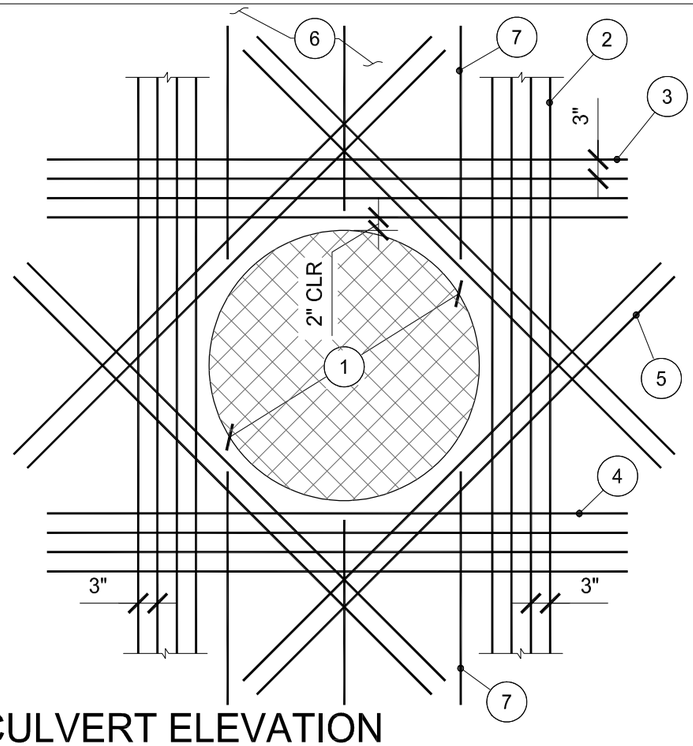
SHEET NO. **ST01**

JOB NO. DC0-01

O:\50 - Structural Projects\DCO- Deschutes County\DCO-01 Hunnel Road\03 - DWG\B - DWG Working\ DCO-01 Structural Drawing.dwg

1/ST02 KEYNOTES

1	CULVERT OPENING, DIAMETER PER PLAN, 3'-6" MAX, CULVERT TO BE CAST IN PLACE WITH CONCRETE OF HEADWALL
2	(8) #5 VERT., (4) AT EACH FACE OF WALL
3	(8) #5 x 10'-0", (4) AT EACH FACE
4	(8) #5 x 10'-0:, (4) AT EACH FACE
5	(4) #5 x 10'-0:, (2) AT EACH FACE
6	CONCRETE HEADWALL
7	TYPICAL VERTICAL WALL REINFORCING, STOP 3" CLR OF CULVERT OPENING

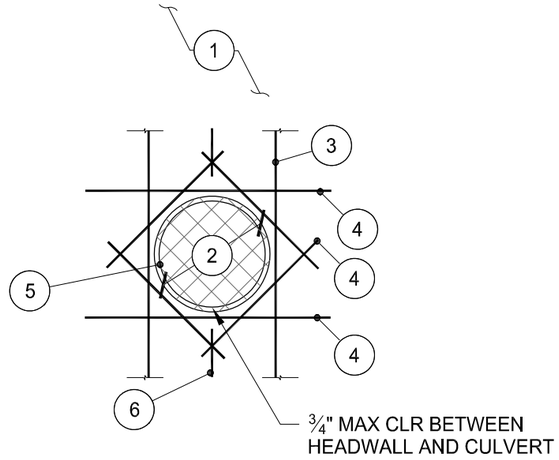


1 ST02 CULVERT ELEVATION

SCALE: ½" = 1'-0"

2/ST02 KEYNOTES

1	CONCRETE HEADWALL
2	18" DIAMETER (MAX) OPENING FOR CULVERT, PLACE CULVERT THROUGH HEADWALL AFTER CONCRETE HAS CURED, INFILL BETWEEN CULVERT & HEADWALL CONCRETE WITH WATERPROOF JOINT FILLER
3	(4) #5 VERT., (2) AT EACH FACE
4	(2) #4 x 5'-0:, (1) AT EACH FACE
5	CULVERT PER PLAN, 15" MAX DIAMETER
6	TYPICAL VERTICAL WALL REINFORCING, STOP 3" CLR OF CULVERT OPENING



2 ST02 CULVERT ELEVATION

SCALE: ½" = 1'-0"

STRUCTURAL
REGISTERED PROFESSIONAL
ENGINEER
74251PE
OREGON
JUN. 13, 2013
JEFFREY A. SCHWINDT
EXPIRES: 06–30–2024

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: KY
CHECKED: JS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS• PLANNERS
LANDSCAPE ARCHITECTS• SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

STRUCTURAL DETAILS

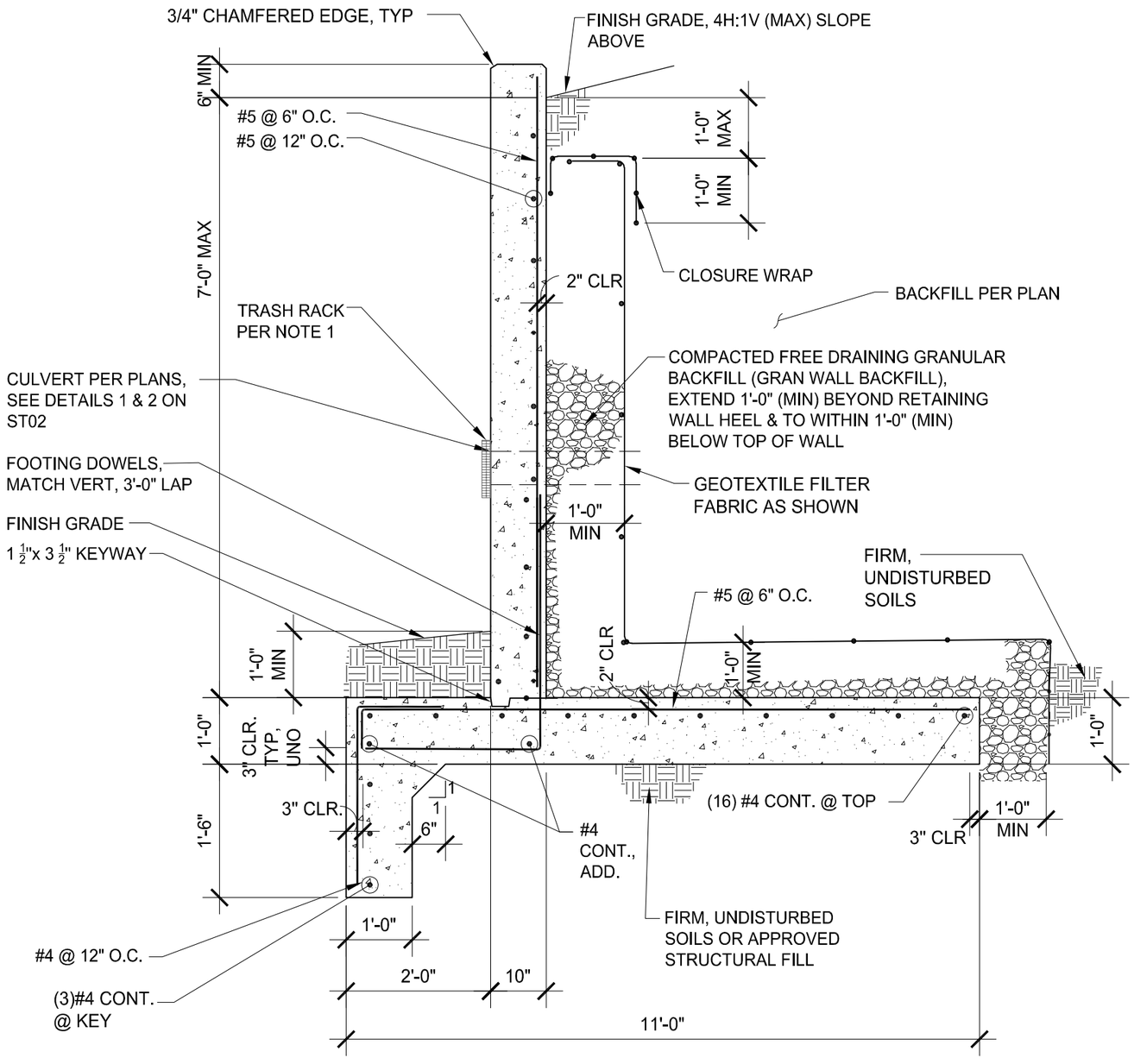
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO. **ST02**

JOB NO. DC0-01

O:\50 - Structural Projects\DCO- Deschutes County\DCO-01 Hunnel Road\03 - DWG\B - DWG Working\ DCO-01 Structural Drawing.dwg



1 ST03 HEADWALL 1

SCALE: NTS

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 74251PE OREGON JUN. 13, 2013 JEFFREY A. SCHWINDT

EXPIRES: 06–30–2024

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: KY
CHECKED: JS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS• PLANNERS
LANDSCAPE ARCHITECTS• SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

HEADWALL 1 DETAIL

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

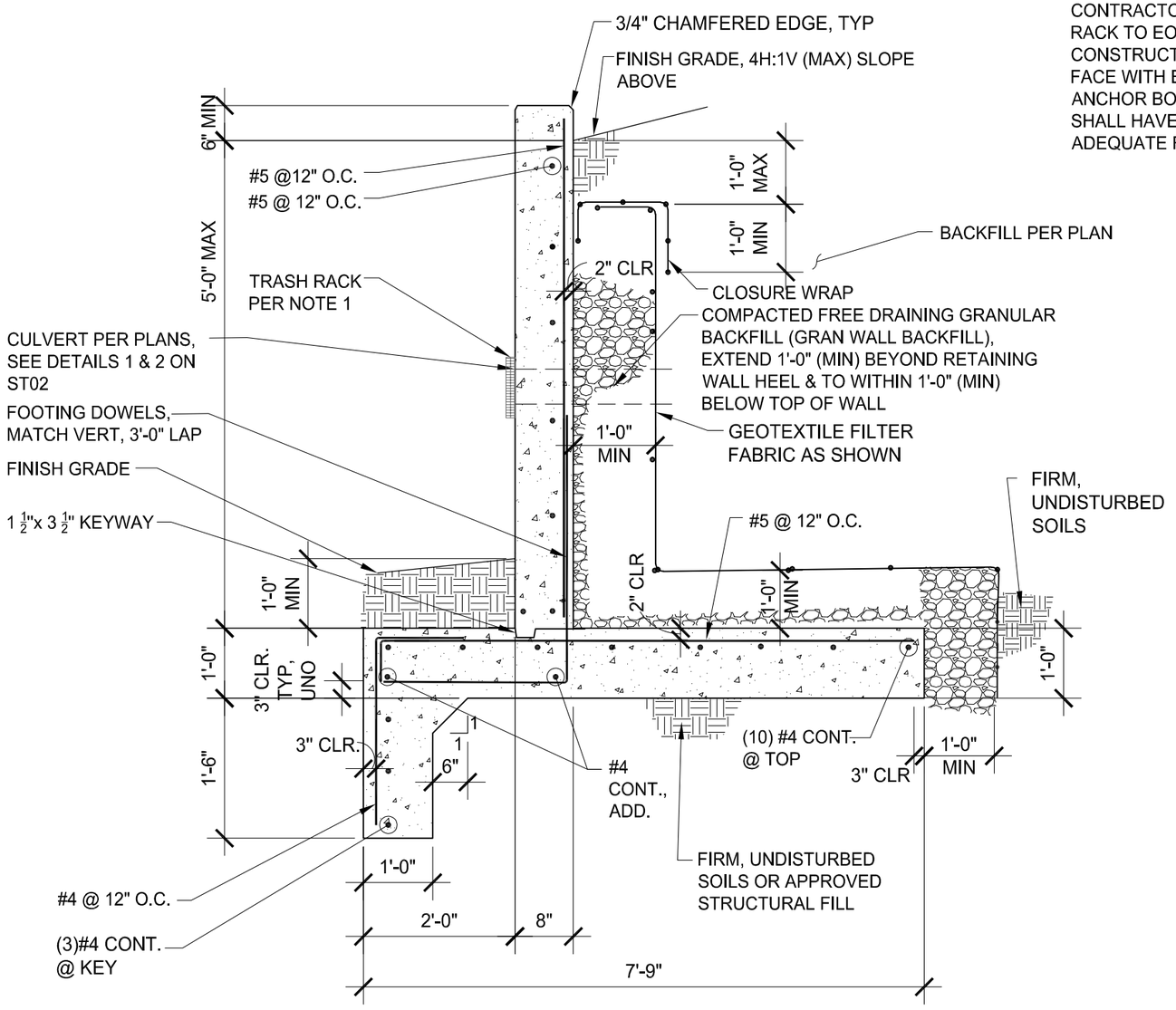
SHEET NO. ST03

JOB NO. DC0-01

O:\50 - Structural Projects\DCO- Deschutes County\DCO-01 Hunnel Road\03 - DWG\B - DWG Working\ DCO-01 Structural Drawing.dwg

NOTE:

1. WHERE CALLED FOR IN PROJECT PLANS, CONTRACTOR SHALL SUPPLY FACE MOUNTED TRASH RACK TO EOR FOR REVIEW & APPROVAL PRIOR TO CONSTRUCTION. RACK SHALL BE SECURED TO WALL FACE WITH EPOXY THREADED ROD STAINLESS STEEL ANCHOR BOLTS PER RACK MANUFACTURER. RACK SHALL HAVE 2" WIDE VERTICAL GAPS AND BE ADEQUATE FOR FULL HYDROSTATIC LOADING.



1 / ST04 HEADWALL 2

SCALE: NTS

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 74251PE Jeffrey Schwindt OREGON JUN. 13, 2013 JEFFREY A. SCHWINDT

EXPIRES: 06–30–2024

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: HHPR TEAM
DRAWN: KY
CHECKED: JS
DATE: 10.28.2022

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

HEADWALL 2 DETAIL

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

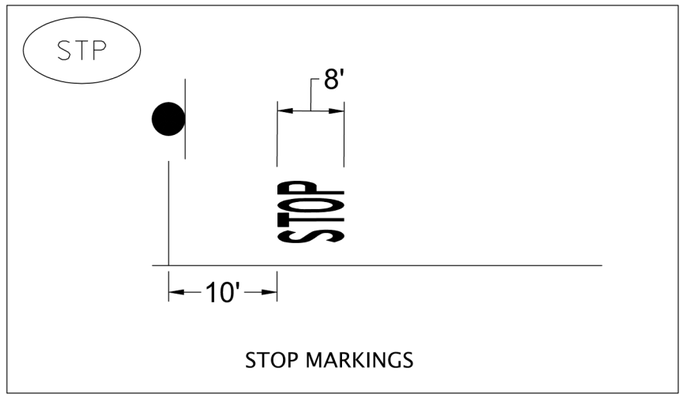
SHEET NO. **ST04**

JOB NO. DC0-01

O:\50 - Structural Projects\DCO- Deschutes County\DCO-01 Hunnel Road\03 - DWG\B - DWG Working\ DCO-01 Structural Drawing.dwg

GENERAL NOTES

1. All signage and pavement marking shall conform to the requirements and specifications of the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) latest edition, the Oregon supplement to the M.U.T.C.D., the Oregon Standard Specifications for Construction, and the project special provisions.
2. All pre-markings for pavement markings and striping, as well as sign locations shall be approved by the Engineer prior to final placement.
3. All longitudinal pavement markings shall be "Method AB: Thermoplastic, Extruded or Sprayed, Surface, Non-Profiled".
4. All transverse bars and legends shall be "Type AB".
5. All signs and sign supports removed from the project shall be salvaged to Deschutes County.
6. Preserve and protect all existing striping outside of the project limits.



STOP MARKINGS

STRIPING LEGEND

W-2	Inst. 8" white line
W	Inst. 4" white line
S	Inst. 1' white stop bar
D / R-40	Inst. double no-pass positioning guide reflectors with two 4" yellow lines
Y	Inst. 4" yellow line

HATCHING LEGEND

- (P) Water Quality Swale
- (P) Conveyance Swale
- Existing Gravel

SIGNING LEGEND

N / M	Install new sign (N) on new (M) sign support.
N	Install new sign (N)
EXN / M	Maintain and protect existing sign (N) and (M) sign 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	Reintall existing sign (N) on new (M) sign support.
RXN	Remove existing sign (N).
SFS / VP	Install Speed Feedback Sign System, vehicle pedestal. Install Radarsign TS-1000 with yellow panel. Contractor shall submit shop drawings for approval by Engineer. (See SS23)

ABBREVIATIONS

N = Sign Number
M = Material
Material options:
W = Wood Post
ST = Perforated Steel Square Tube Sign Support

REGISTERED PROFESSIONAL ENGINEER
89784PE
Alyssa Loveday
Digitally Signed Nov 1 2022 3:10 PM DocuSign
OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

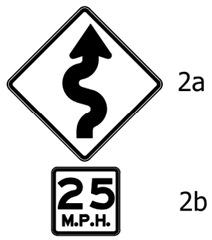
SIGNING & STRIPING PLAN - NOTES & LEGEND
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS01**
OF
JOB NO. DC0-01

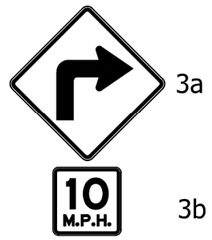
H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-246115.dwg

EXISTING SIGNS

Sign 1

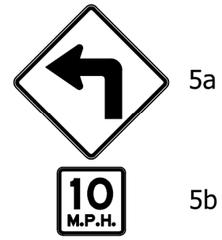


Sign 2

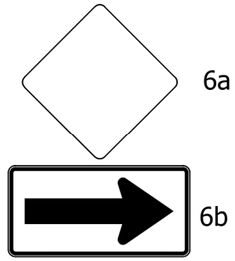


Sign 3

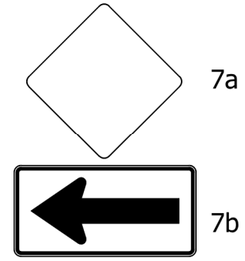
Sign 4



Sign 5



Sign 6



Sign 7

Sign 8

Sign 9

Sign 10

Sign 11

Sign 12

Sign 13

Sign 14

Sign 15

Sign 16

Sign 17

Sign 18

Sign 19

Sign 20

Sign 21

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

REGISTERED PROFESSIONAL ENGINEER
89784PE
Alyssa Loveday
Digitally Signed Nov 1 2022 3:10 PM
DocuSign
OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

SIGNING & STRIPING PLAN - EXISTING SIGN DETAILS
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

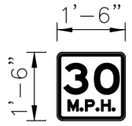
SHEET NO. **SS02**
OF
JOB NO. DC0-01

PROPOSED SIGNS

Sign 101

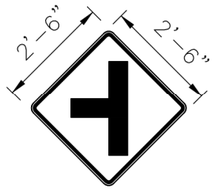
Sign 102

Sign 103

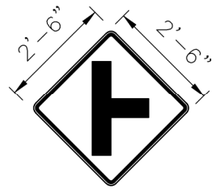


Sign 104

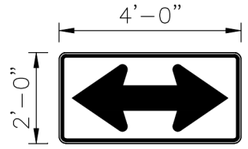
Sign 105



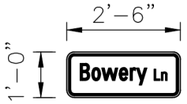
Sign 106



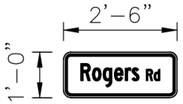
Sign 107



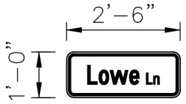
Sign 108



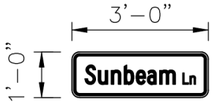
Sign 109



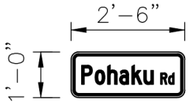
Sign 110



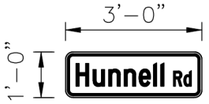
Sign 111



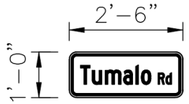
Sign 112



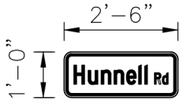
Sign 113



Sign 114



Sign 115



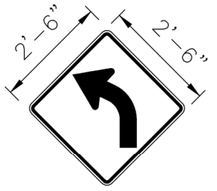
Sign 116

Sign 117

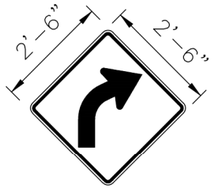
Sign 118

Sign 119

Sign 120



Sign 121



Sign 122

Sign 123

REGISTERED PROFESSIONAL ENGINEER
89784PE
Alyssa Loveday
Digitally Signed Nov 1 2022 3:10 PM
DocuSign
OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

SIGNING & STRIPING PLAN - PROPOSED SIGN DETAILS

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

SHEET NO. **SS03**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/					LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																						SECONDARY SIGN (TM676 & TM678)			POST		FOOTING		REMARKS
							BACKGROUND		LEGEND																															SIZE	LENGTH 6/	LOCATION 3/	MIN. DEPTH 5/	
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT	REMOVABLE (TM230-TM233)		WOOD POST (TM670-TM671, TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM689)	TRIANGULAR BASE BREAKAWAY (TM602)	H-FRAME	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (TM677)	CANTILEVER / BUTTERFLY (TM622-TM627)	SIGN BRIDGE (TM606-TM612, TM614-TM620)	EXIT NUMBER SIGN MOUNT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILEPOST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE BARRICADE (TM490)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURE	CUSTOM VARIABLE SUPPORT	C 4X5.4	C 4X7.25	LENGTH	(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)			
101	131+62.15	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	25.9' Rt	4' - 0"	Same post as 109 (above) and 116 (above); Slip Base
101	152+52.11	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	22.0' Rt	4' - 0"	Same post as 110 (above) and 119 (below); Slip Base
101	152+58.84	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	25.9' Lt	4' - 0"	Same post as 116 (above), and 119 (below); Slip Base
101	153+12.32	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	24.2' Lt	4' - 0"	Same post as 110 (above) and 119 (below); Slip Base
101	173+08.44	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	27.2' Rt	4' - 0"	Slip Base
101	193+78.44	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	26.3' Rt	4' - 0"	Same post as 111 (above) and 116 (above); Slip Base
101	228+13.46	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	26.5' Rt	4' - 0"	Same post as 112 (above) and 116 (above); Slip Base
101	263+26.05	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	33.9' Lt	4' - 0"	Same post as 113 (above) and 116 (above); Slip Base
101	280+16.93	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	11'	27.6' Rt	4' - 0"	Slip Base
101	291+42.85	30"	30"		X		R		SW			X		101		X																							2 1/2" - 12 ga.	13'	26.3' Rt	4' - 0"	Same post as 114 (above) and 115 (above); Slip Base
102	116+66.64	30"	36"		X		SW				BK	X		102																											25.2' Rt		35mph Sign to be installed on Speed FeedBack Sign System
102	179+40.22	30"	36"		X		SW				BK	X		102																											26.0' Lt		35mph Sign to be installed on Speed FeedBack Sign System
102	213+97.69	30"	36"		X		SW				BK	X		102																											26.4' Rt		35mph Sign to be installed on Speed FeedBack Sign System
102	244+94.91	30"	36"		X		SW				BK	X		102																											24.2' Lt		25mph Sign to be installed on Speed FeedBack Sign System
102	269+55.04	30"	36"		X		SW				BK	X		102																											26.2' Rt		25mph Sign to be installed on Speed FeedBack Sign System
102	289+26.28	30"	36"		X		SW				BK	X		102																											24.2' Lt		25mph Sign to be installed on Speed FeedBack Sign System

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 PROJECT CENTERLINE. FOR ADDITIONAL INFORMATION SEE STANDARD 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 1' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602. FOR PSST SLIP BASE INSTALLATIONS, REFER TO TM688.

6/ NOTE: CONTRACTOR TO VERIFY APPROPRIATE POLE SHAFT HEIGHT

REGISTERED PROFESSIONAL ENGINEER
89784PE
Digitally Signed Alyssa Loveday Nov 1 2022 3:11 PM DocuSign
OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS04**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg

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 6/	LOCATION 3/	MIN. DEPTH 5/	
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT	REMOVABLE (TM230-TM233)		WOOD POST (TM670-TM671, TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM689)	TRIANGULAR BASE BREAKAWAY (TM802)	H-FRAME	MULTI-POST BREAKAWAY (TM220, TM800-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM880)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (TM677)	CANTILEVER / BUTTERFLY (TM622-TM627)	SIGN BRIDGE (TM606-TM612, TM614-TM620)	EXIT NUMBER SIGN MOUNT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILEPOST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE BARRICADE (TM490)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURE	CUSTOM VARIABLE SUPPORT	C 4X5.4	C 4X7.25	LENGTH	(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)			
103	194+05.04	30"	30"		X		Y				BK	X		103		X																			2 1/2" - 12 ga.	12'	26.2' Rt	4' - 0"	
103	213+97.56	30"	30"		X		Y				BK	X		103		X																			2 1/2" - 12 ga.	12'	24.0' Lt	4' - 0"	
103	244+04.90	30"	30"		X		Y				BK	X		103		X																			2 1/2" - 12 ga.	13.5'	22.0' Rt	4' - 0"	Same post as 104 (below); Slip Base
103	254+00.00	30"	30"		X		Y				BK	X		103		X																			2 1/2" - 12 ga.	13.5'	19.5' Lt	4' - 0"	Same post as 103 (below); Slip Base
104	244+04.90	18"	18"		X		Y				BK	X		104		X																								Same post as 103 (above); Slip Base
104	254+00.00	18"	18"		X		Y				BK	X		104		X																								Same post as 103 (above); Slip Base
105	151+01.77	30"	30"		X		Y				BK	X		105		X																			2 1/2" - 12 ga.	12'	26.2' Rt	4' - 0"	Slip Base
105	154+47.49	30"	30"		X		Y				BK	X		105		X																			2 1/2" - 12 ga.	12'	24.2' Lt	4' - 0"	Slip Base
105	262+03.50	30"	30"		X		Y				BK	X		105		X																			2 1/2" - 12 ga.	12'	232' Lt	4' - 0"	Slip Base
105	289+12.85	30"	30"		X		Y				BK	X		105		X																			2 1/2" - 12 ga.	12'	26.3' R	4' - 0"	Slip Base
106	260+88.11	30"	30"		X		Y				BK	X		106		X																			2 1/2" - 12 ga.	12'	26.2' Rt	4' - 0"	Slip Base
107	265+85.74	30"	30"		X		Y				BK	X		107		X																			2 1/2" - 12 ga.	12'	24.2' Lt	4' - 0"	Slip Base
108	263+44.62	48"	24"		X		Y				BK	X		108		X																			2 1/2" - 12 ga.	10.5'	26.0' Rt	4' - 0"	Slip Base
109	131+62.15	2' - 6"	1' - 0"		X		G		SW			X		109		X																								Same post as 101 (below) and 116 (below)
	131+62.15	30"	12"		X		G		SW			X																												Back to Back
110	152+52.11	2' - 6"	1' - 0"		X		G		SW			X		110		X																								Same post as 101 (below) and 119 (below)
110	153+12.32	30"	12"		X		G		SW			X		110		X																								Same post as 101 (below) and 119 (below)
111	193+78.44	30"	12"		X		G		SW			X		111		X																								Same post as 101 (below) and 116 (below)
	193+78.44						G		SW			X																												Back to Back
112	228+13.46	3' - 0"	1' - 0"		X		G		SW			X		112		X																								Same post as 101 (below) and 116 (below)
	228+13.46	3' - 0"	1' - 0"		X		G		SW			X																												Back to Back
113	263+26.05	2' - 6"	1' - 0"		X		G		SW			X		113		X																								Same post as 101 (below) and 116 (below)
	263+26.05	2' - 6"	1' - 0"		X		G		SW			X																												Back to Back
114	291+42.85	36"	12"		X		G		SW			X		114		X																								Same post as 101 (below) and 115 (above)
115	291+42.85	30"	12"		X		G		SW			X		115		X																								Sam post as 101 (below) and 114 (above)

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 PROJECT CENTERLINE. FOR ADDITIONAL INFORMATION SEE STANDARD 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 1' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602. FOR PSST SLIP BASE INSTALLATIONS, REFER TO TM688.

6/ NOTE: CONTRACTOR TO VERIFY APPROPRIATE POLE SHAFT HEIGHT

REGISTERED PROFESSIONAL ENGINEER
89784PE
Alyssa Loveday
Digitally Signed Nov 1 2022 3:11 PM
DocuSign
OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS05**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg

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 6/	LOCATION 3/	MIN. DEPTH 5/	
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT	REMOVABLE (TM230-TM233)		WOOD POST (TM670-TM671, TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM689)	TRIANGULAR BASE BREAKAWAY (TM602)	H-FRAME	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (TM677)	CANTILEVER / BUTTERFLY (TM622-TM627)	SIGN BRIDGE (TM606-TM612, TM614-TM620)	EXIT NUMBER SIGN MOUNT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILEPOST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE BARRICADE (TM490)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURE	CUSTOM VARIABLE SUPPORT	C 4X5.4	C 4X7.25	LENGTH	(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)			
116	131+62.15	2' - 6"	1' - 0"		X		G		SW			X		116		X																										Same post as 101 (below) and 109 (above)
116	152+58.84	2' - 6"	1' - 0"		X		G		SW			X		116		X																										Same post as 101 (below), 110 (above), and 119 (below)
116	193+78.44	2' - 6"	1' - 0"		X		G		SW			X		116		X																										Same post as 101 (below) and 111 (above)
116	228+13.46	2' - 6"	1' - 0"		X		G		SW			X		116		X																										Same post as 101 (below) and 112 (above)
116	263+26.05	2' - 6"	1' - 0"		X		G		SW			X		116		X																										Same post as 101 (below) and 113 (above)
117	113+57.09	24"	24"		X		SW		BR			X		117		X																								2" - 12 ga.	10.5'	35.1' Rt	4' - 0"	Slip Base
117	290+46.47	24"	24"		X		SW		BR			X		117		X																								2" - 12 ga.	10.5'	24.2' Lt	4' - 0"	Slip Base
118	128+43.33	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	129+13.33	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	141+91.54	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	142+59.30	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	158+95.02	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	159+63.77	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	177+02.00	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	177+72.00	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	215+67.54	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	216+39.40	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	225+27.11	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	225+94.36	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	234+35.55	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	235+04.30	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	272+54.18	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	273+22.96	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	282+36.53	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
118	283+04.28	24"	30"		X		SW				BK	X		118		X																								2" - 12 ga.	11'	0.0'	4' - 0"	Slip Base
119	152+52.11	18"	6"		X		R		SW			X		119		X																												Same post as 101 (above) and 110 (above)
119	152+58.84	18"	6"		X		R		SW			X		119		X																												Same post as 101 (above), 110 (above), and 116 (above)
119	153+12.32	18"	6"		X		R		SW			X		119		X																												Same post as 101 (above) and 110 (above)
121	263+97.19	30"	30"		X		Y				BK	X		121		X																								2 1/2" - 12 ga.	12'	26.0' Rt	4' - 0"	Slip Base
122	270+58.78	30"	30"		X		Y				BK	X		122		X																								2 1/2" - 12 ga.	12'	24.3' Lt	4' - 0"	Slip Base
123	261+93.79	30"	30"		X		Y				BK	X		123		X																								2 1/2" - 12ga.	12'	171.37' Lt	4' - 0"	Slip Base

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 PROJECT CENTERLINE. FOR ADDITIONAL INFORMATION SEE STANDARD 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 1' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602. FOR PSST SLIP BASE INSTALLATIONS, REFER TO TM688.

6/ NOTE: CONTRACTOR TO VERIFY APPROPRIATE POLE SHAFT HEIGHT

REGISTERED PROFESSIONAL ENGINEER
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Alyssa Loveday
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November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DATE	NO.	DESCRIPTION
		R E V I S I O N S

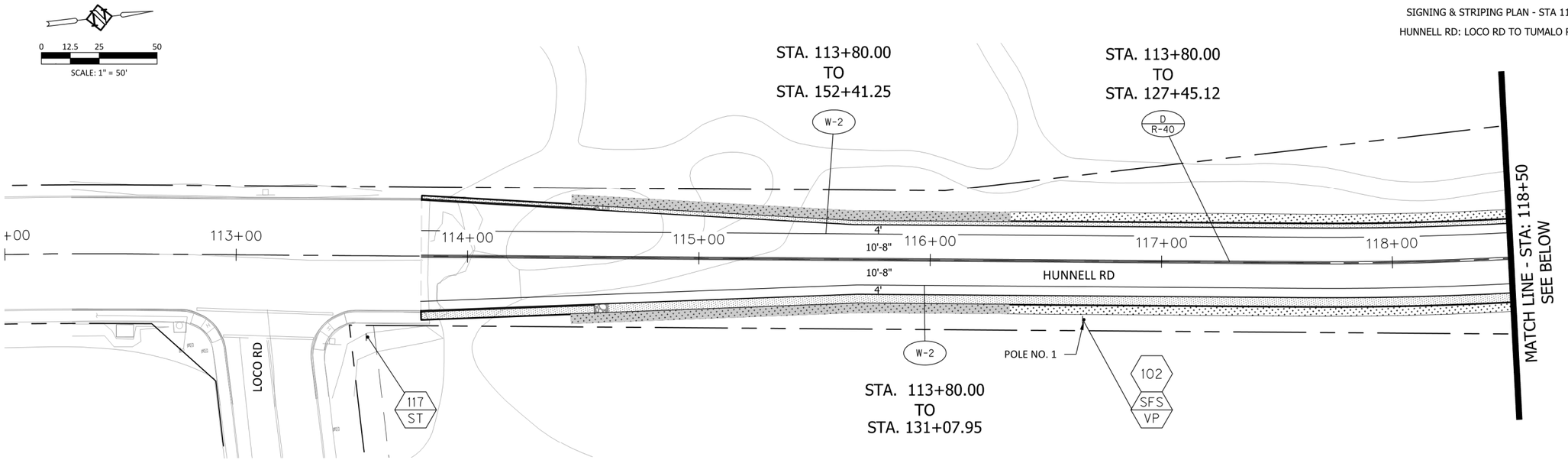
DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

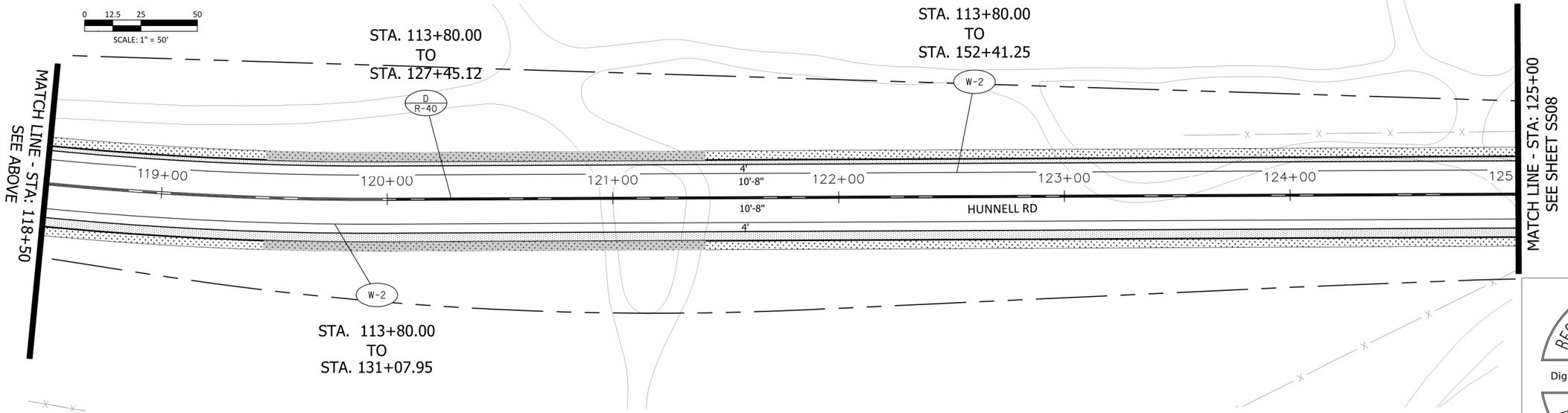
SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS06**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-246115.dwg



STA 112+00 TO 118+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA 118+50 TO 125+00 - PLAN
SCALE: 1" = 50' (HORZ.)

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Alyssa Loveday
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November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

SIGNING & STRIPING PLAN - STA 112+00 TO 125+00
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS07**
OF
JOB NO. DC0-01

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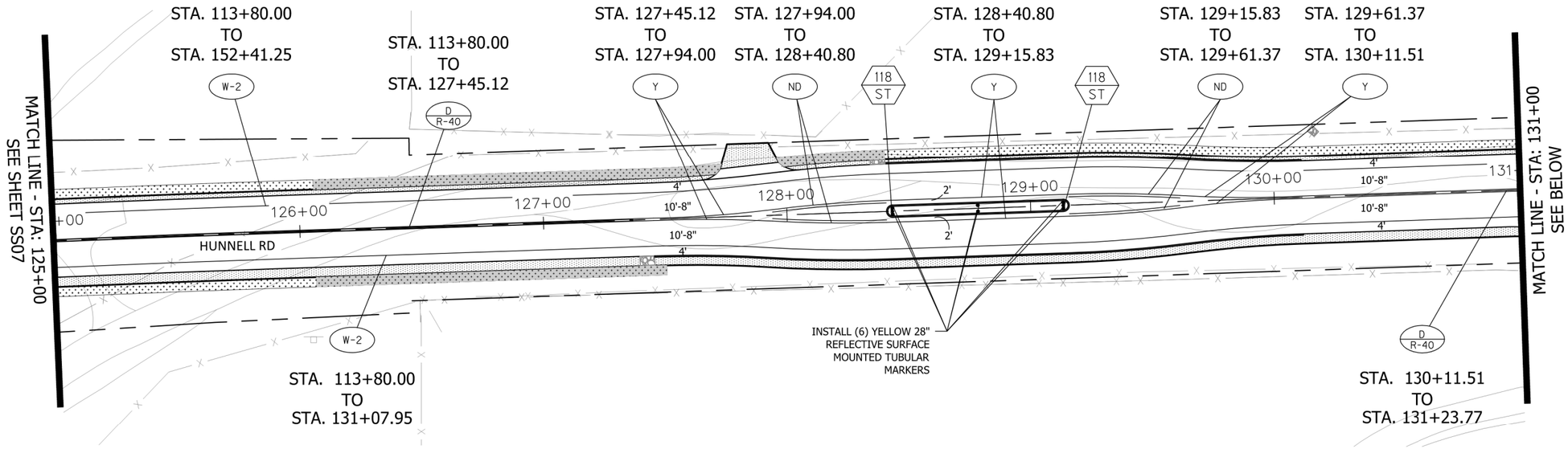
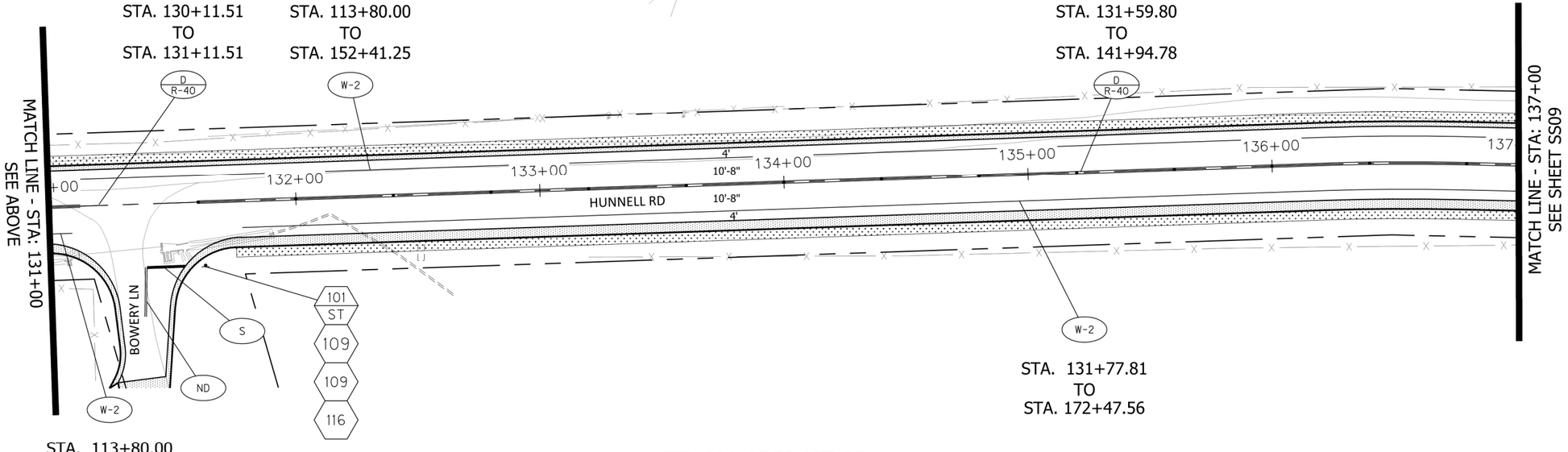


STA. 125+00 TO 131+00 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 131+00 TO 137+00 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

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BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

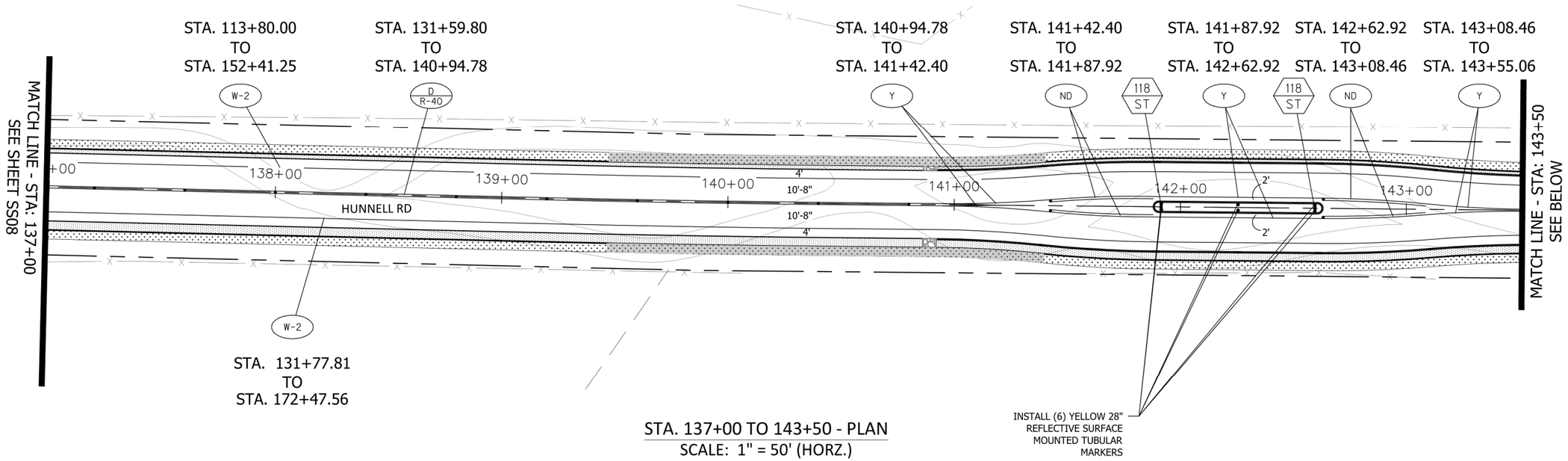
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

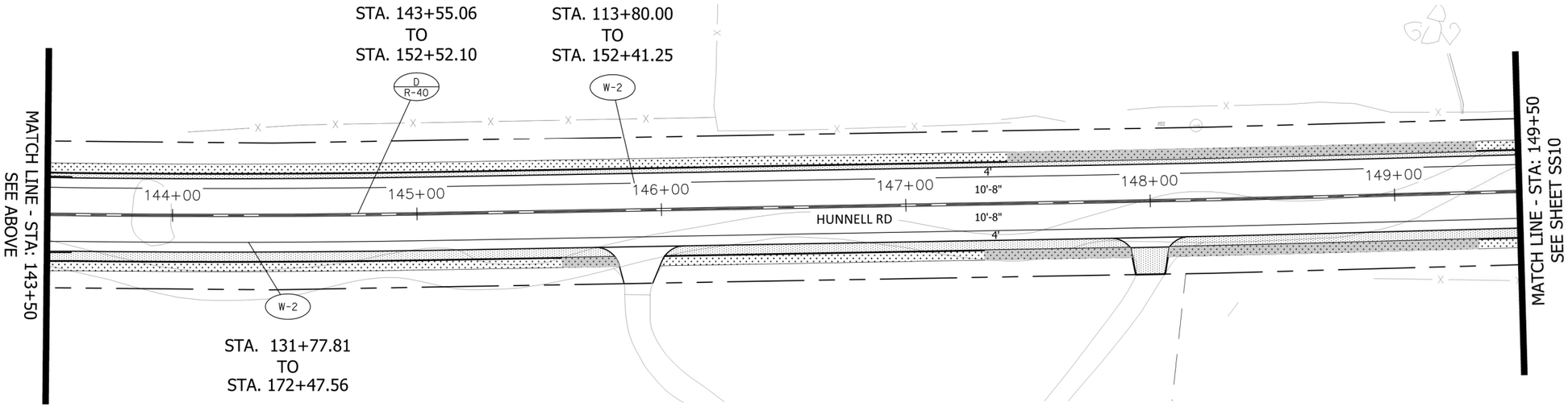
SIGNING & STRIPING PLAN - STA 125+50 TO 137+00
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO.
SS08
OF
JOB NO.
DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg



STA. 137+00 TO 143+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 143+50 TO 149+50 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
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EXPIRES: 12/31/22

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DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

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1001 SW EMKAY DRIVE, #140
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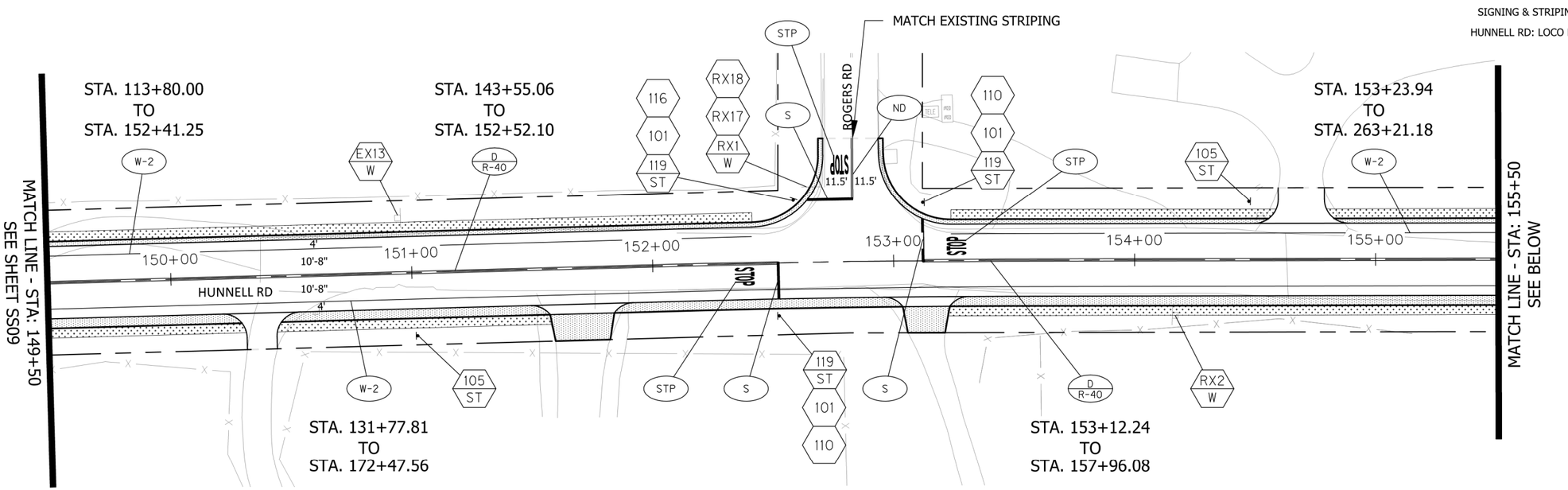
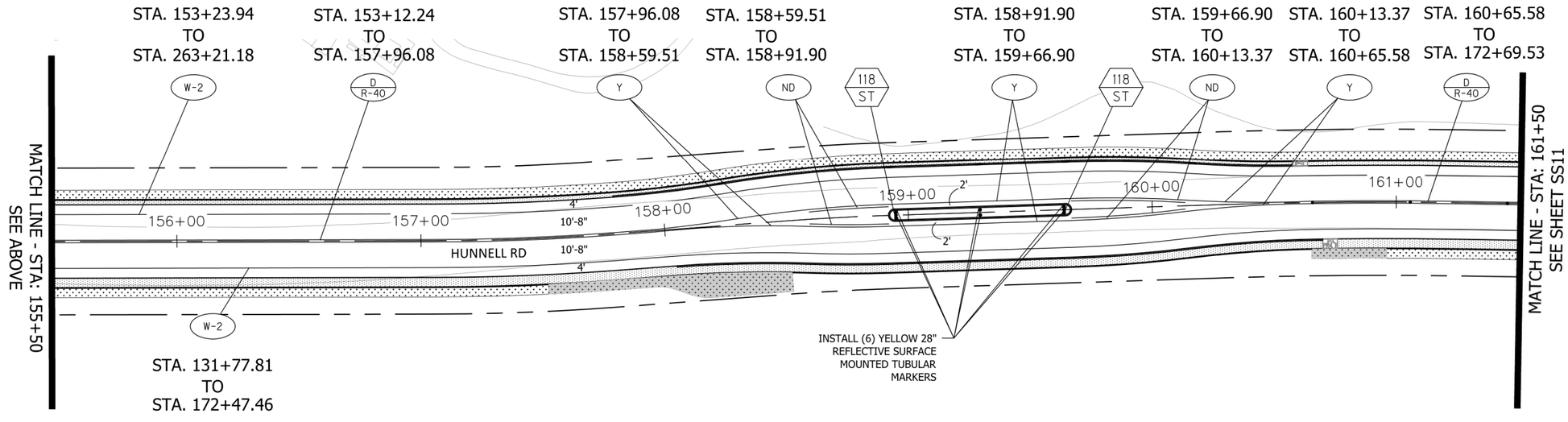
SIGNING & STRIPING PLAN - STA 137+00 TO 149+50
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO.
SS09
OF
JOB NO.
DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-246115.dwg



STA. 149+50 TO 155+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 155+50 TO 161+50 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

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EXPIRES: 12/31/22

BID SET

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

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SIGNING & STRIPING PLAN - STA 149+50 TO 161+50
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS10**
OF
JOB NO. DC0-01

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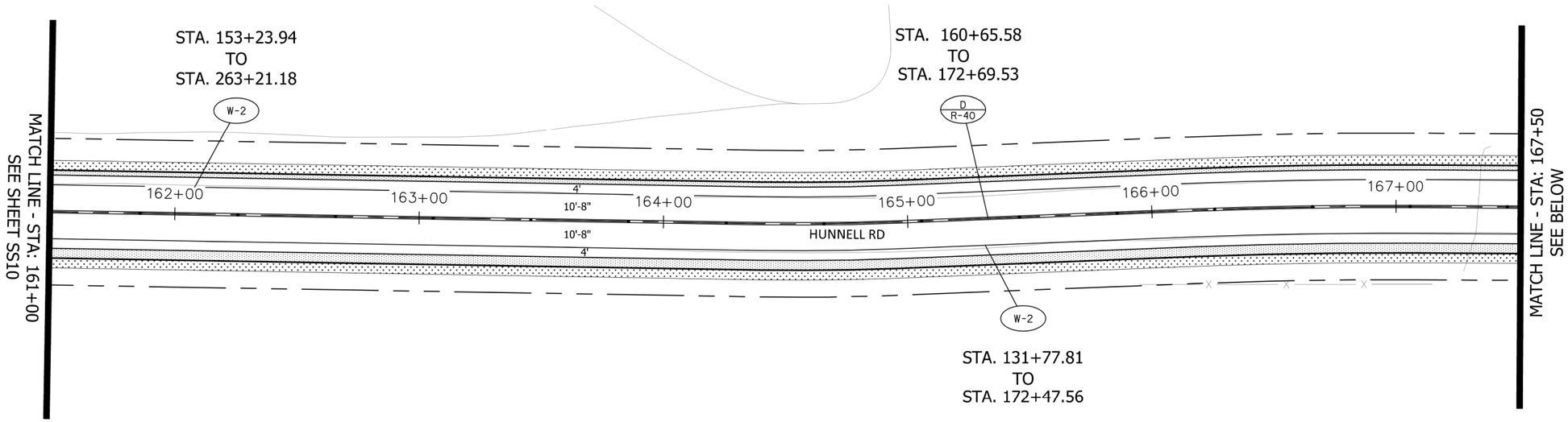
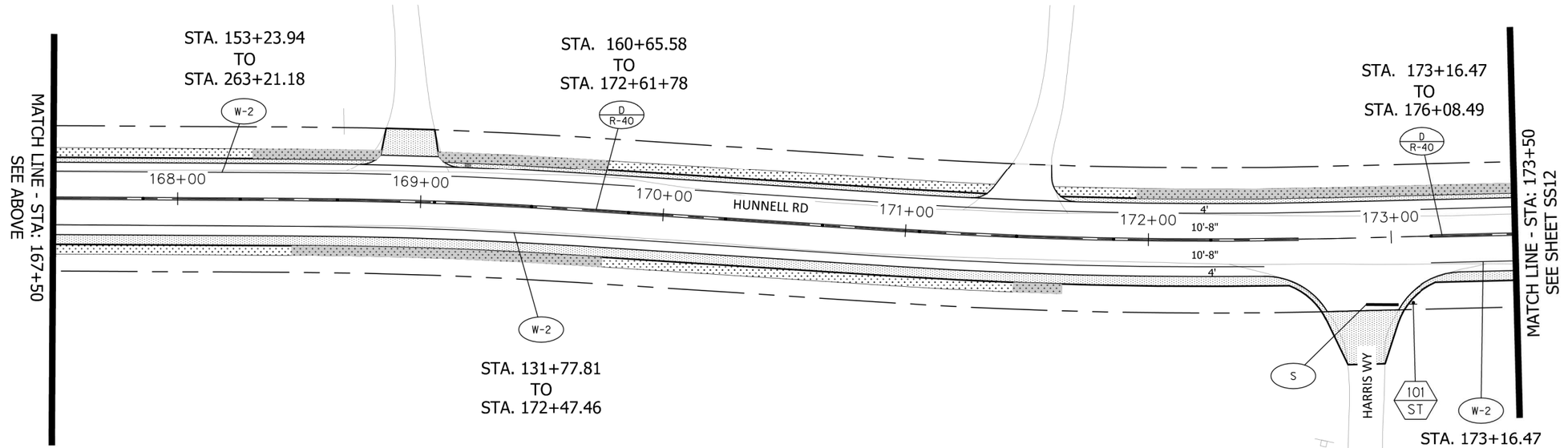


STA. 161+50 TO 167+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 167+50 TO 173+50 - PLAN
SCALE: 1" = 50' (HORZ.)

BID SET

0 12.5 25 50
SCALE: 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
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EXPIRES: 12/31/22

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
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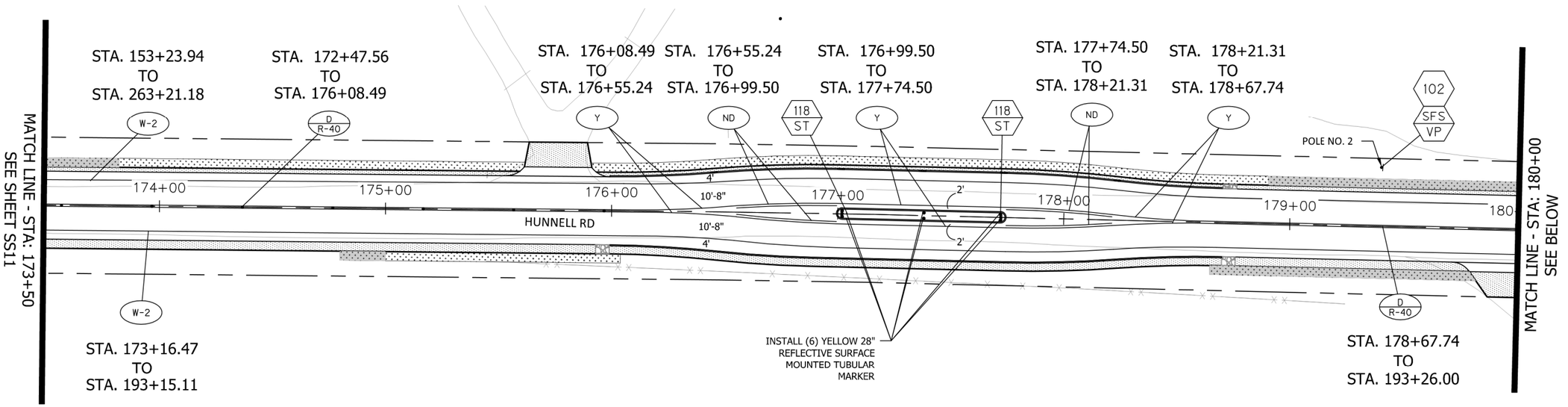
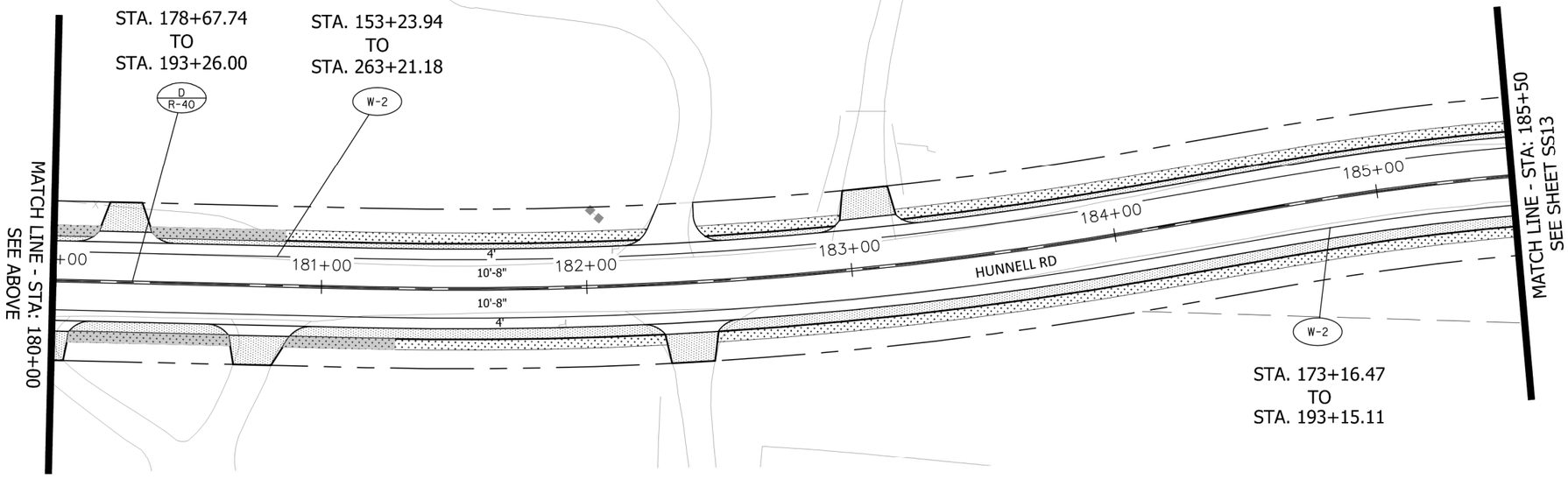
SIGNING & STRIPING PLAN - STA 161+50 TO 173+50
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS11**
OF
JOB NO. DC0-01

H:\24124615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg



STA. 173+50 TO 180+00 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 180+00 TO 185+50 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

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DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

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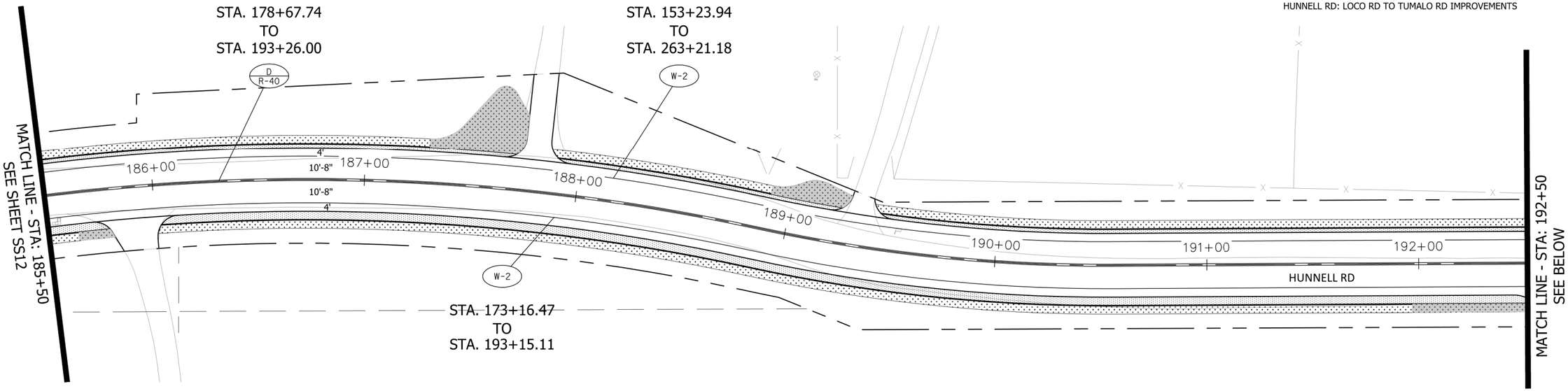
SIGNING & STRIPING PLAN - STA 173+50 TO 185+50

HUNNELL ROAD

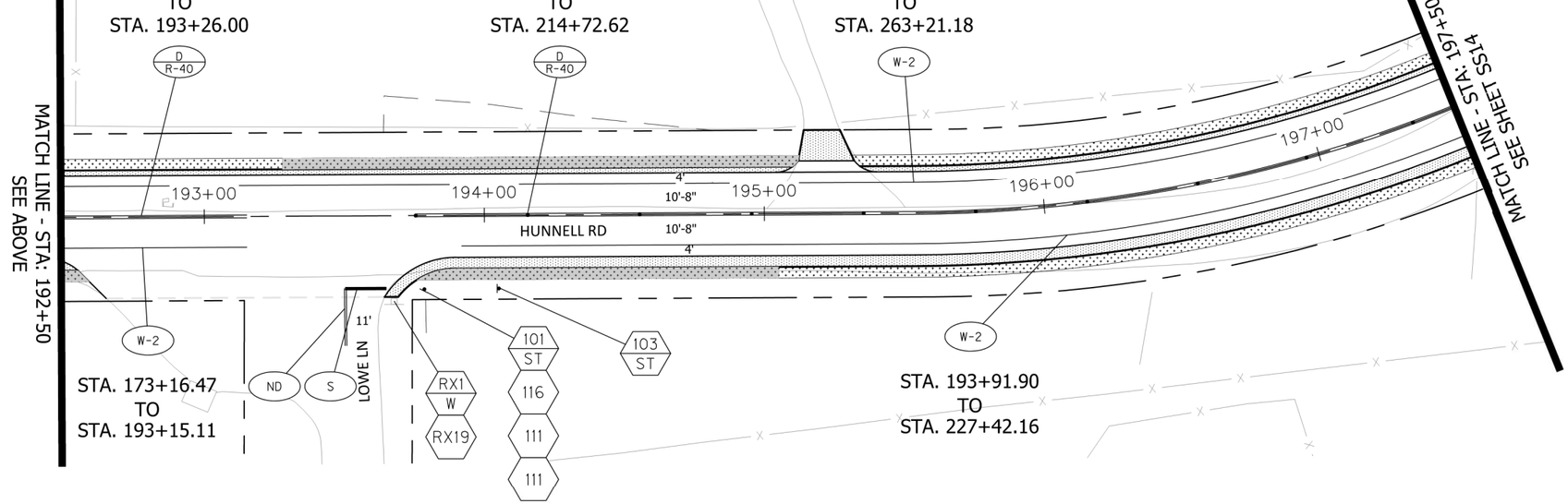
DESCHUTES COUNTY, OREGON

SHEET NO.
SS12
OF
JOB NO.
DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg



STA. 185+50 TO 192+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 192+50 TO 197+50 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
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November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

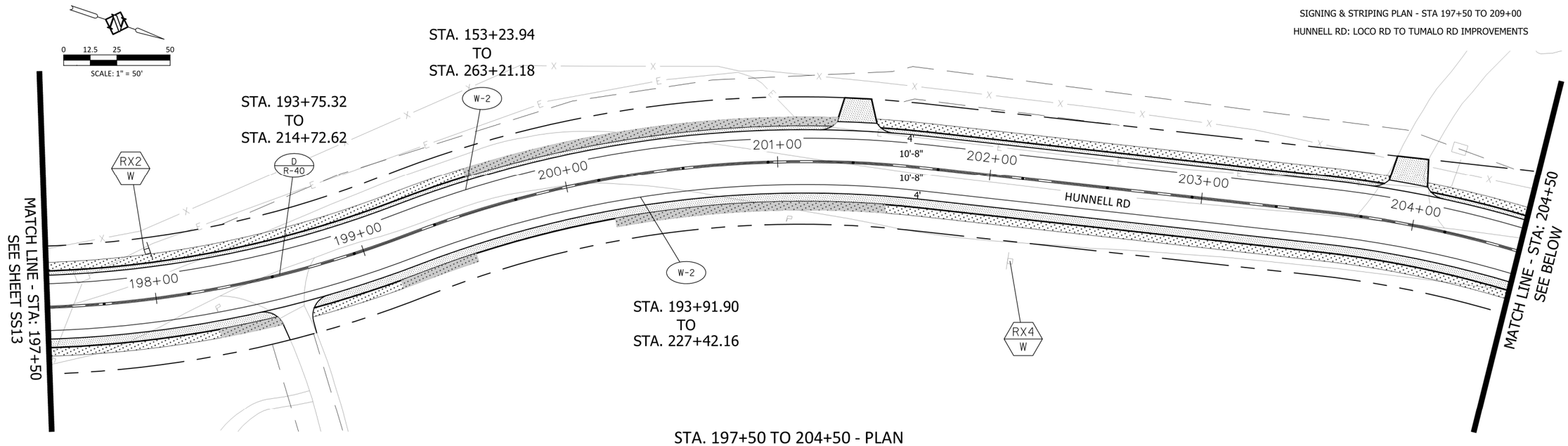
SS13SIGNING & STRIPING PLAN - STA 185+50 TO 197+50

HUNNELL ROAD

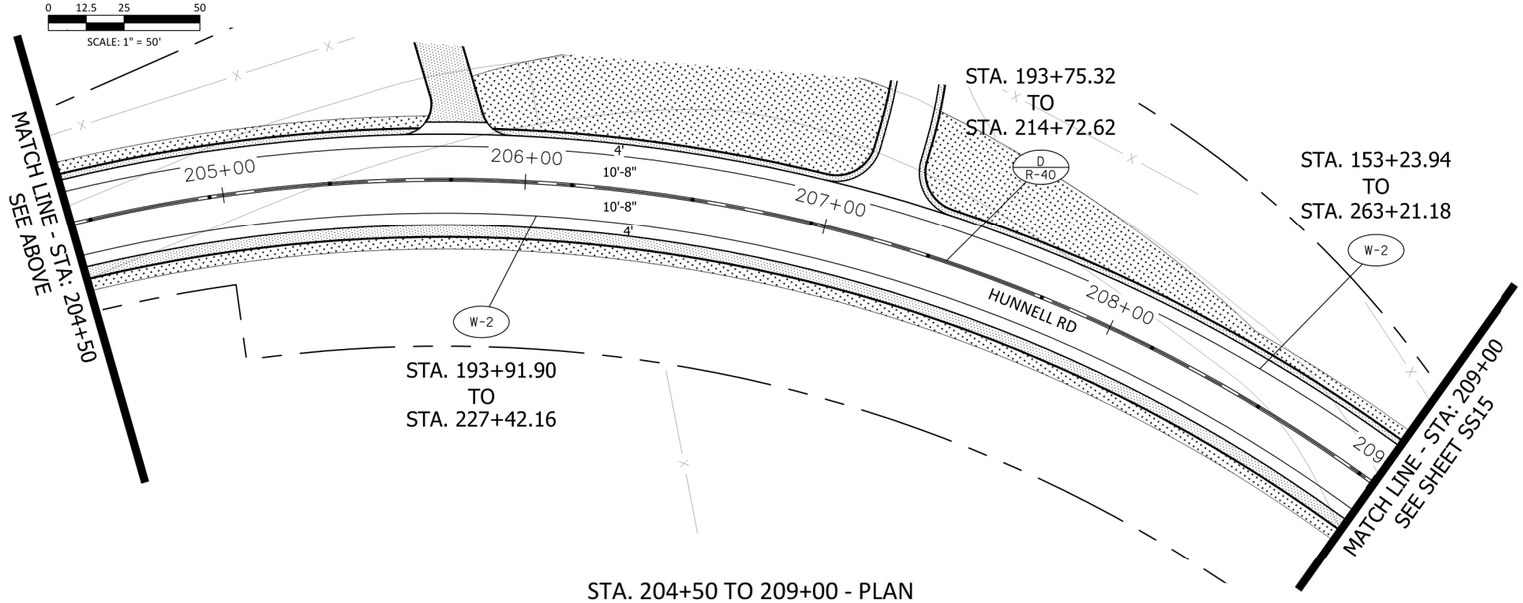
DESCHUTES COUNTY, OREGON

SHEET NO. **SS13**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg



STA. 197+50 TO 204+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 204+50 TO 209+00 - PLAN
SCALE: 1" = 50' (HORZ.)

BID SET

REGISTERED PROFESSIONAL ENGINEER
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EXPIRES: 12/31/22

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

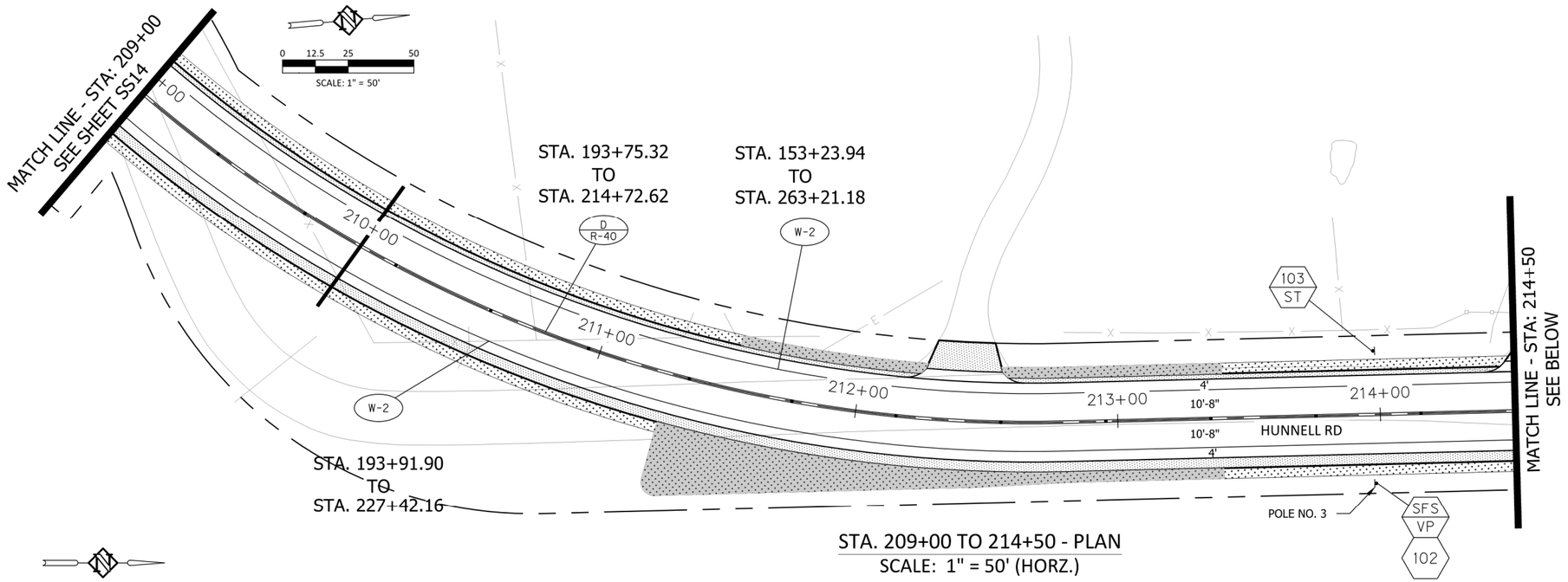
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

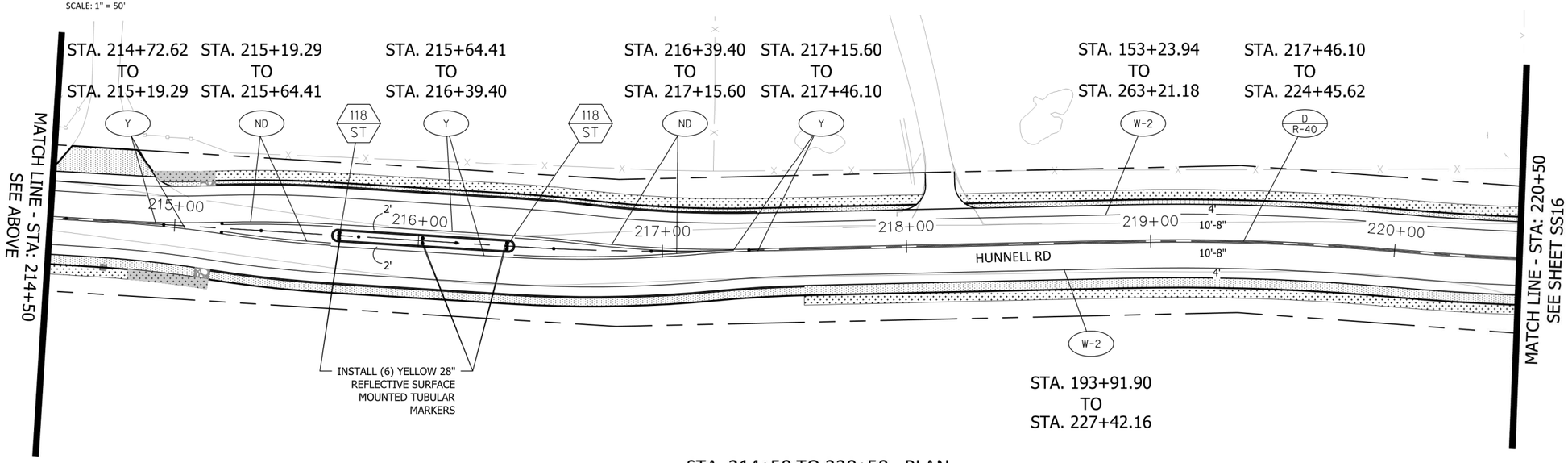
SIGNING & STRIPING PLAN - STA 197+50 TO 209+00
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS14**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-246115.dwg



STA. 209+00 TO 214+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 214+50 TO 220+50 - PLAN
SCALE: 1" = 50' (HORZ.)

BID SET

REGISTERED PROFESSIONAL ENGINEER
89784PE
Alyssa Loveday
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OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
		R E V I S I O N S

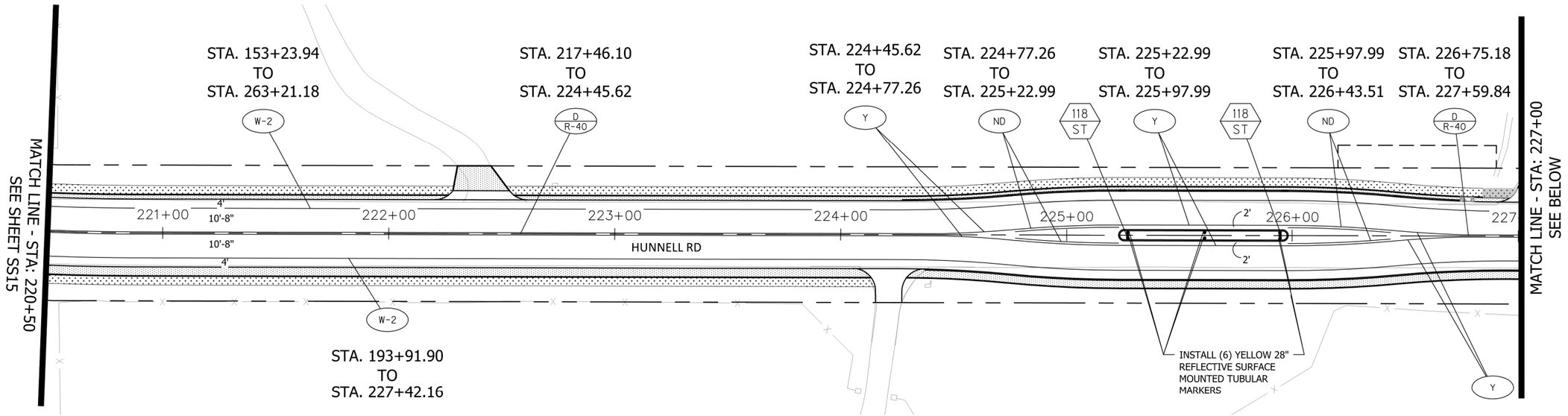
DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

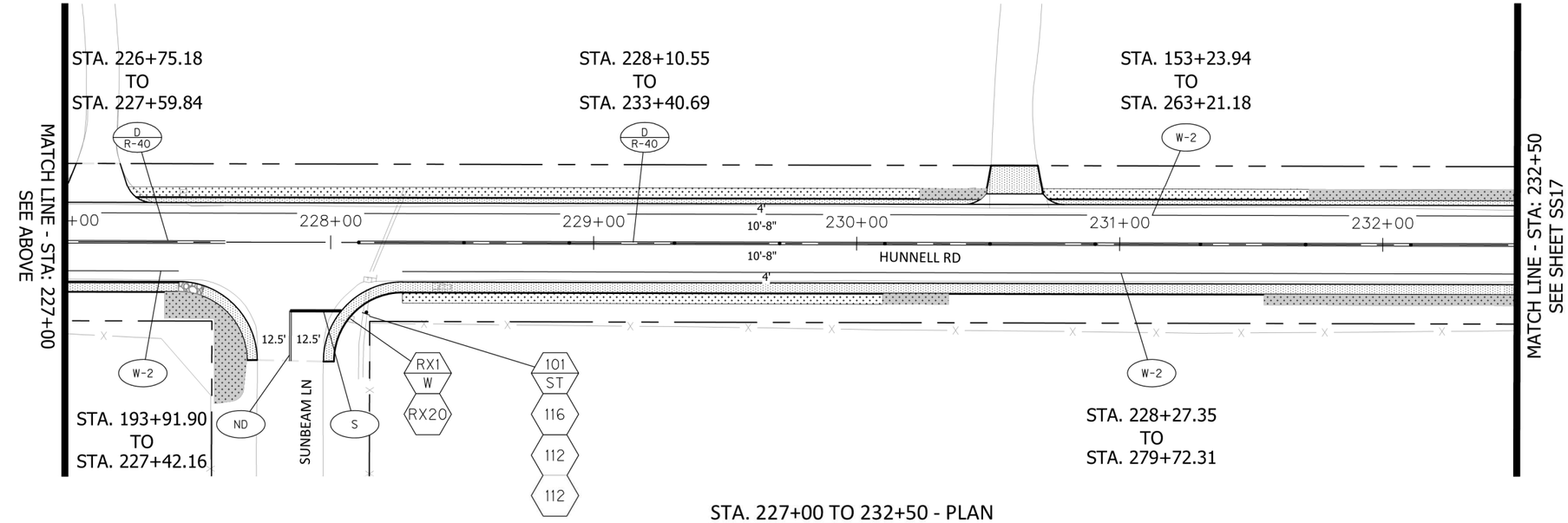
SIGNING & STRIPING PLAN - STA 209+00 TO 220+50
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS15**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-246115.dwg



STA. 220+50 TO 227+00 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 227+00 TO 232+50 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
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Alyssa Loveday
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OREGON
November 12, 2019
ALYSSA BRITNEY LOVEDAY
EXPIRES: 12/31/22

BID SET

DATE	NO.	DESCRIPTION
		REVISIONS

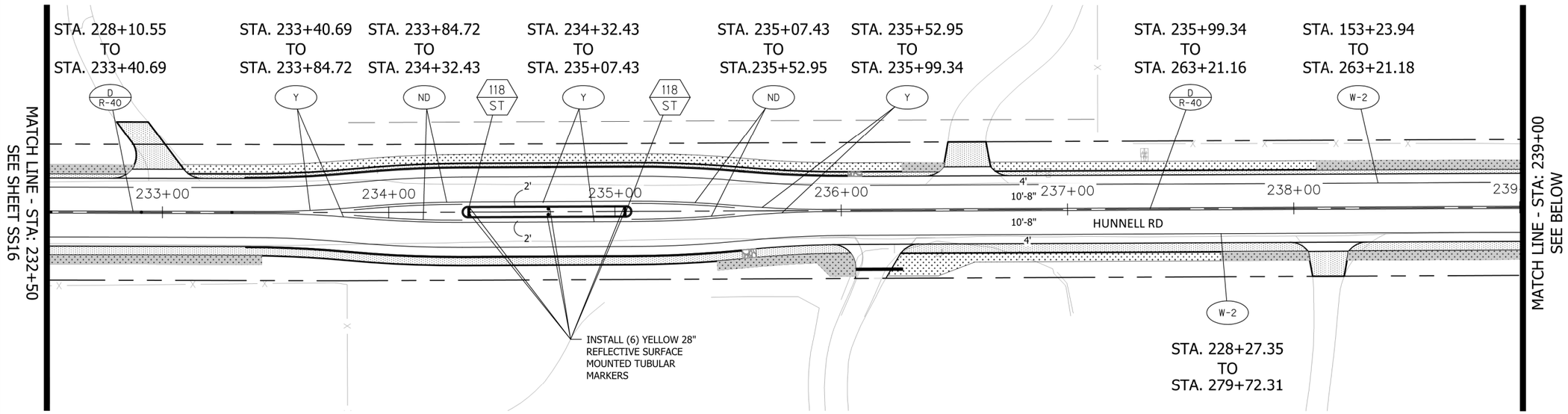
DESIGNED: ABL
DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

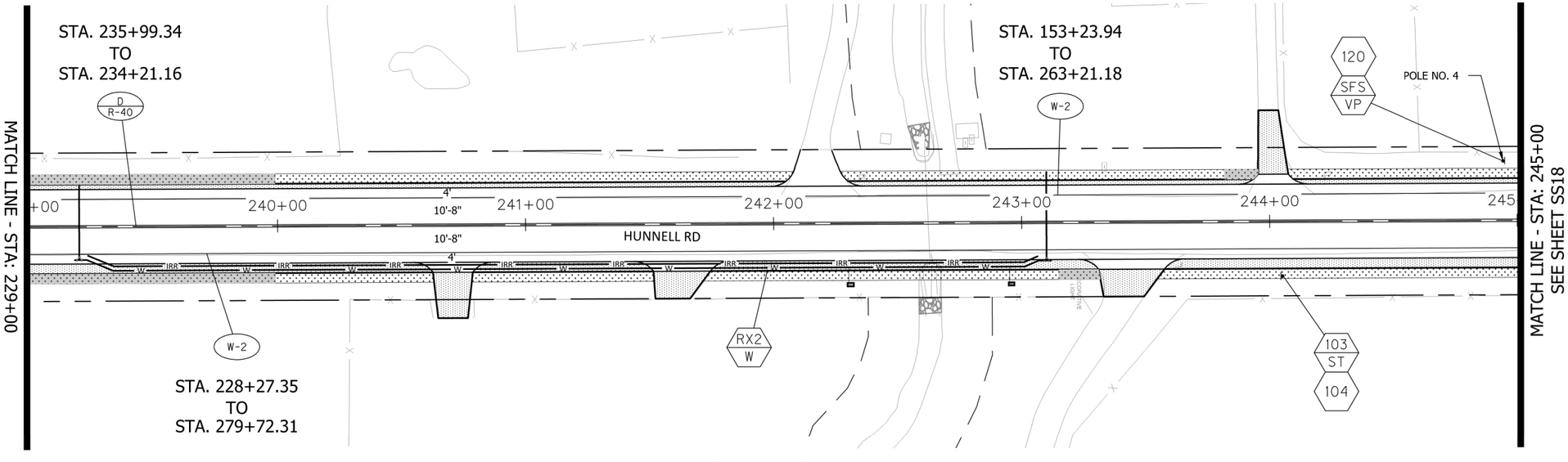
SIGNING & STRIPING PLAN - STA 220+50 TO 232+50
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. **SS16**
OF
JOB NO. DC0-01

H:\24\24615 - Hunnell Rd_ Loco Rd to Tumalo Rd\design_CD\ CD-Signing and Striping-24615.dwg



STA. 232+50 TO 239+00 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 239+00 TO 245+00 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
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Alyssa Loveday
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November 12, 2019
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION
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DRAWN: AAC
CHECKED: SGB
DATE: 10.27.2022

KITTELSON & ASSOCIATES
1001 SW EMKAY DRIVE, #140
BEND, OR 97702
P 541.312.8300

SIGNING & STRIPING PLAN - STA 232+50 TO 245+00
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO.
SS17
OF
JOB NO.
DC0-01

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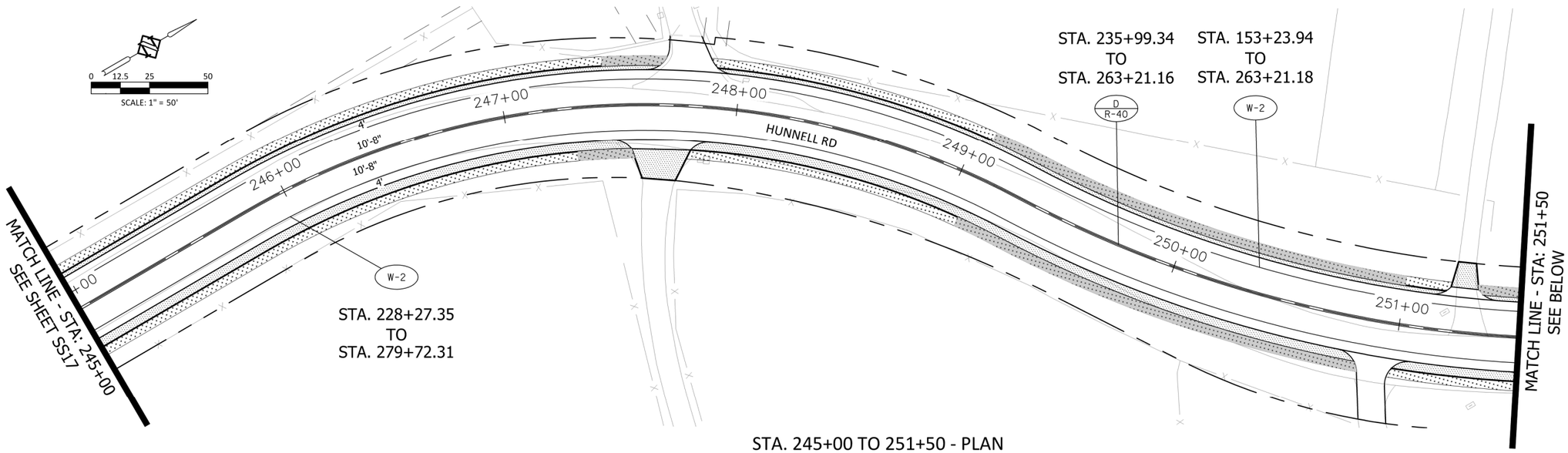
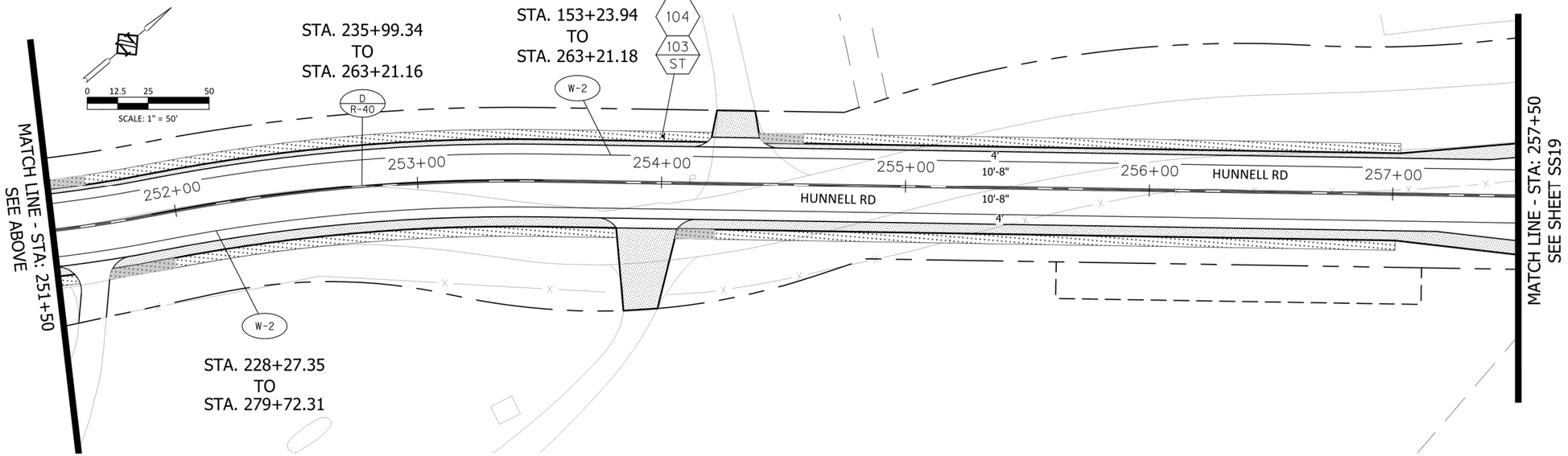


STA. 245+00 TO 251+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 251+50 TO 257+50 - PLAN
SCALE: 1" = 50' (HORZ.)

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DATE:	10.27.2022

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SS18SIGNING & STRIPING PLAN - STA 245+00 TO 257+50

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

SHEET NO. **SS18**
OF
JOB NO. DC0-01

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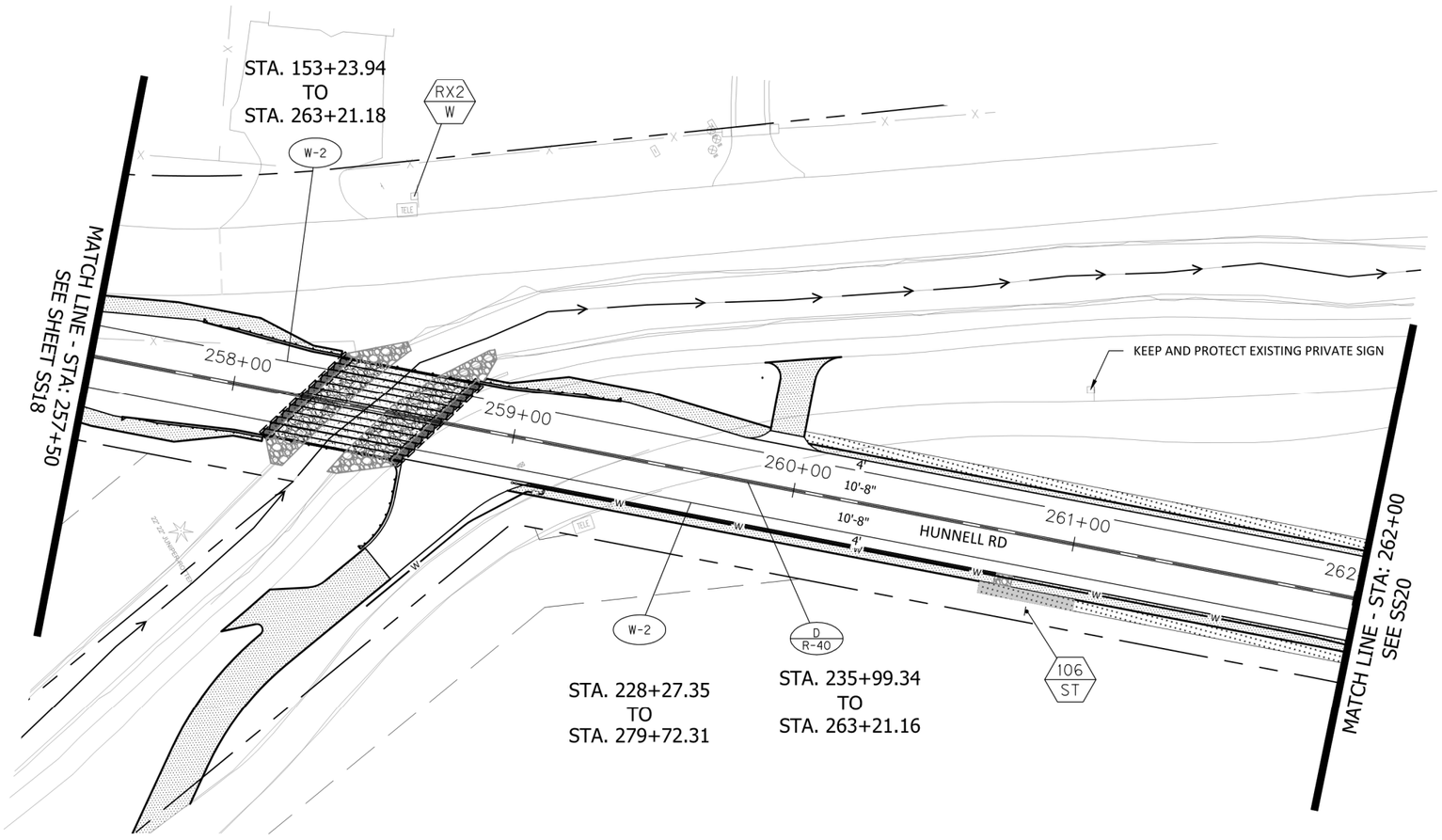

STA. 257+50 TO 262+00 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

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DESCHUTES COUNTY

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SIGNING & STRIPING PLAN - STA 257+50 TO 262+00
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

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OF
JOB NO.
DC0-01

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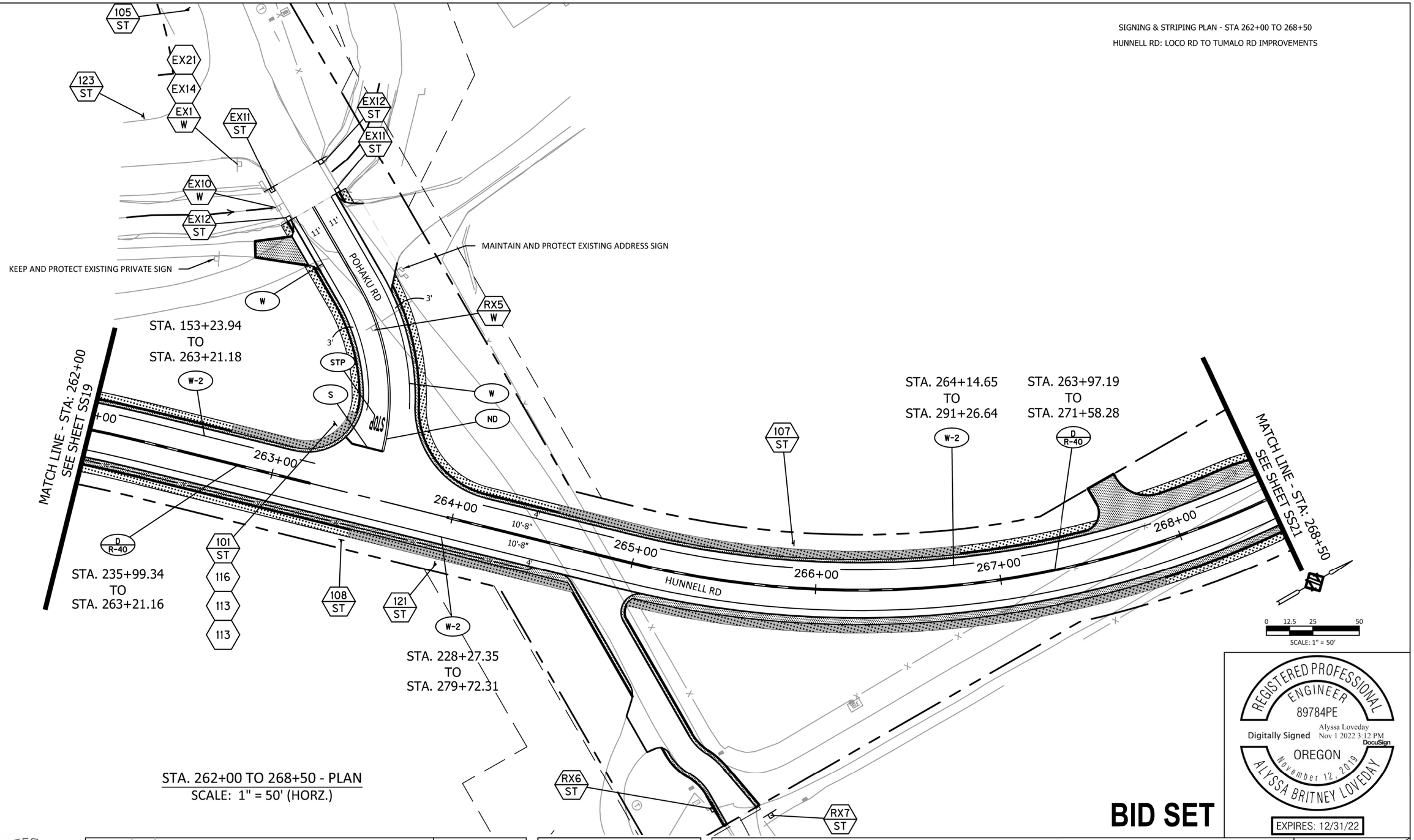
SIGNING & STRIPING PLAN - STA 262+00 TO 268+50

HUNNELL RD: LOCO RD TO TUMALO RD IMPROVEMENTS



STA. 262+00 TO 268+50 - PLAN

SCALE: 1" = 50' (HORZ.)

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DESCHUTES COUNTY

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		R E V I S I O N S

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DATE: 10.27.2022

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SIGNING & STRIPING PLAN - STA 262+00 TO 268+50

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

SHEET NO. **SS20**
OF
JOB NO. DC0-01

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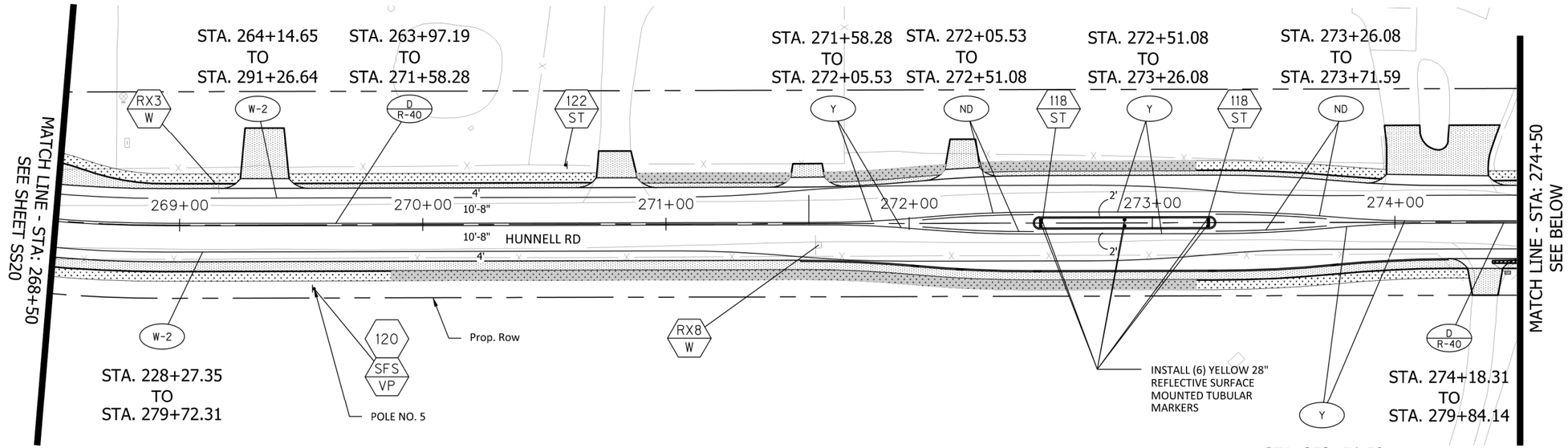
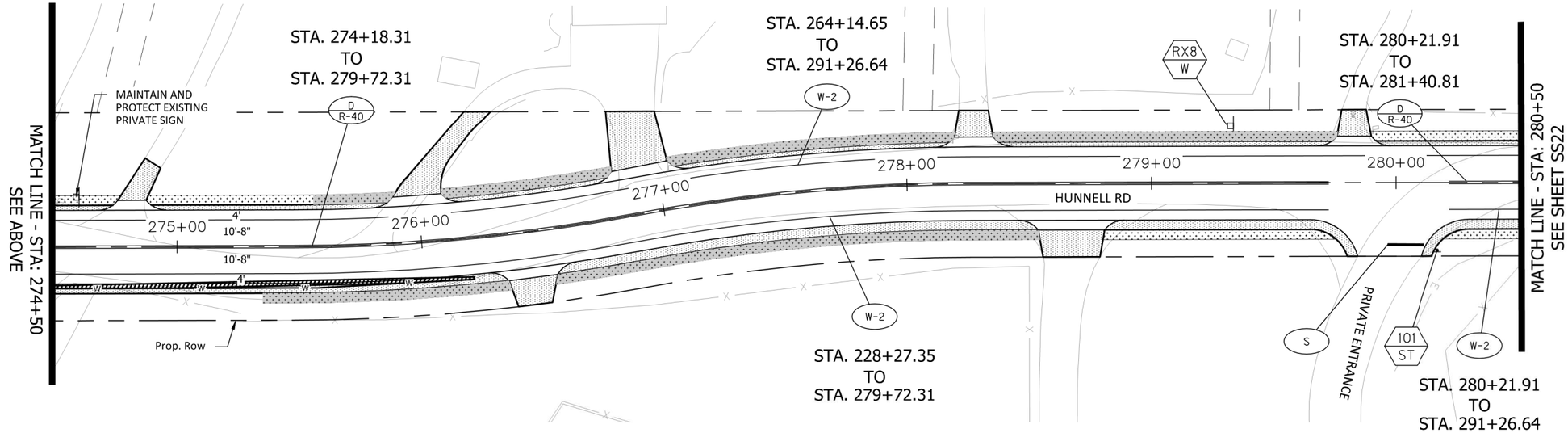


STA. 268+50 TO 274+50 - PLAN
SCALE: 1" = 50' (HORZ.)

STA. 273+71.59
TO
STA. 274+18.31



STA. 274+50 TO 280+50 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

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SIGNING & STRIPING PLAN - STA 268+50 TO 280+50

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

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SS21
OF
JOB NO.
DC0-01

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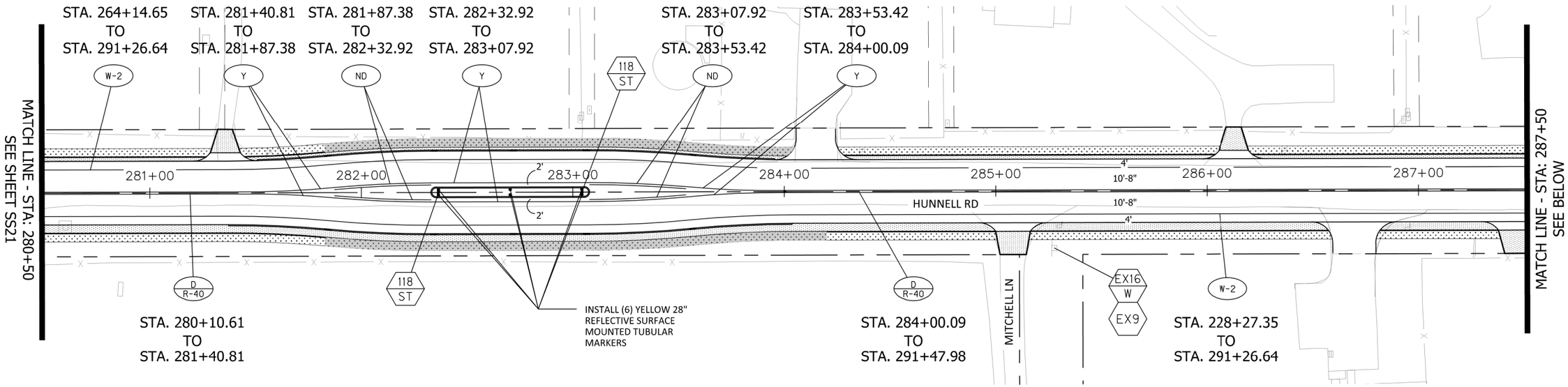
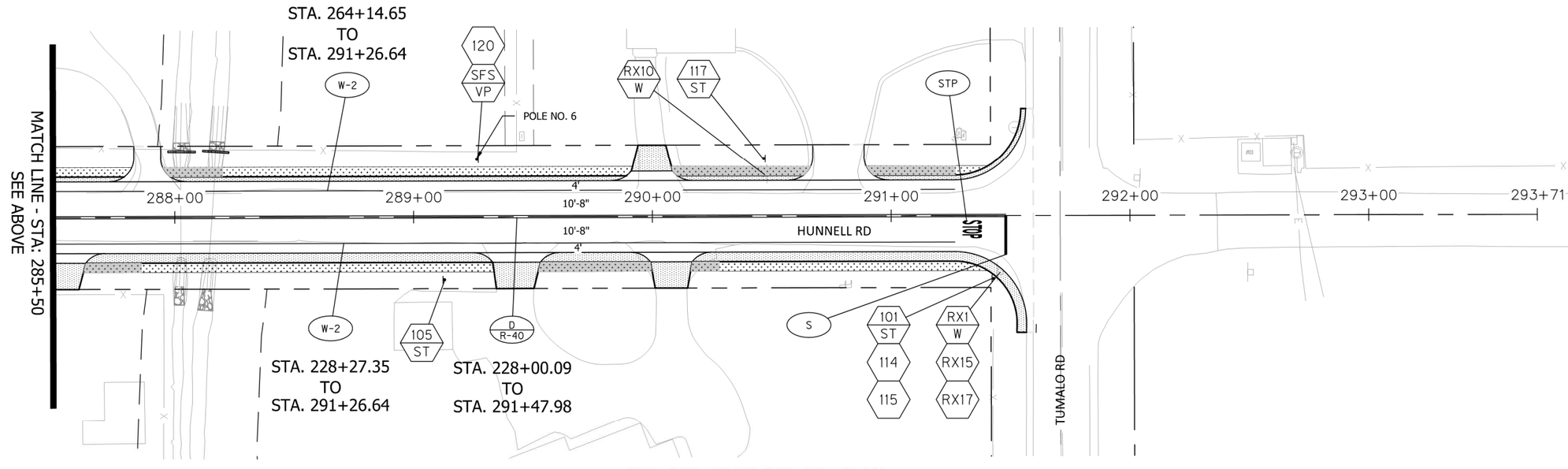


STA. 280+50 TO 287+50 - PLAN
SCALE: 1" = 50' (HORZ.)



STA. 287+50 TO 293+71 - PLAN
SCALE: 1" = 50' (HORZ.)

0 12.5 25 50
SCALE: 1" = 50'

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DATE:	10.27.2022

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SIGNING & STRIPING PLAN - STA 280+50 TO 290+71
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO.
SS22
OF
JOB NO.
DC0-01

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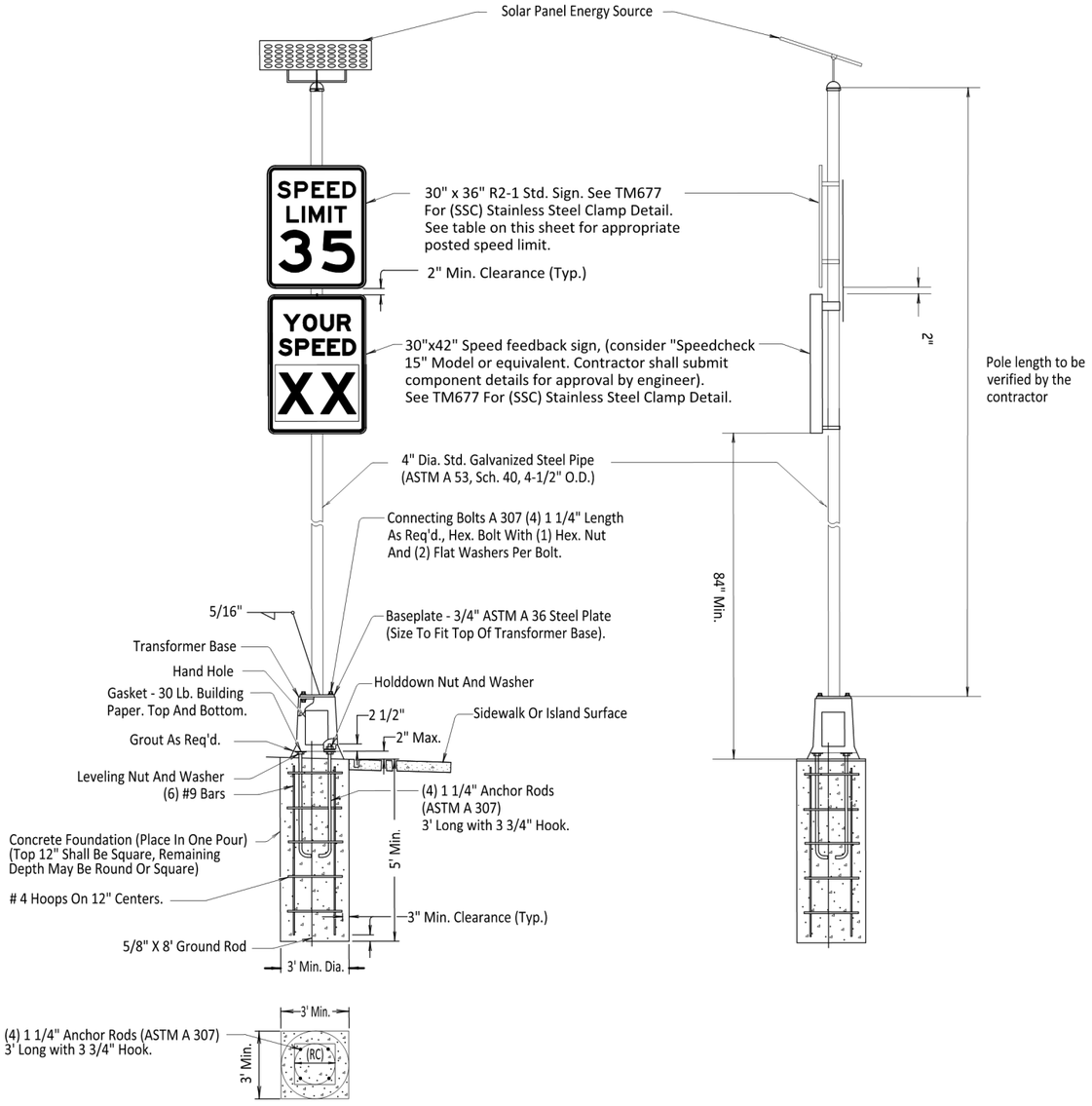
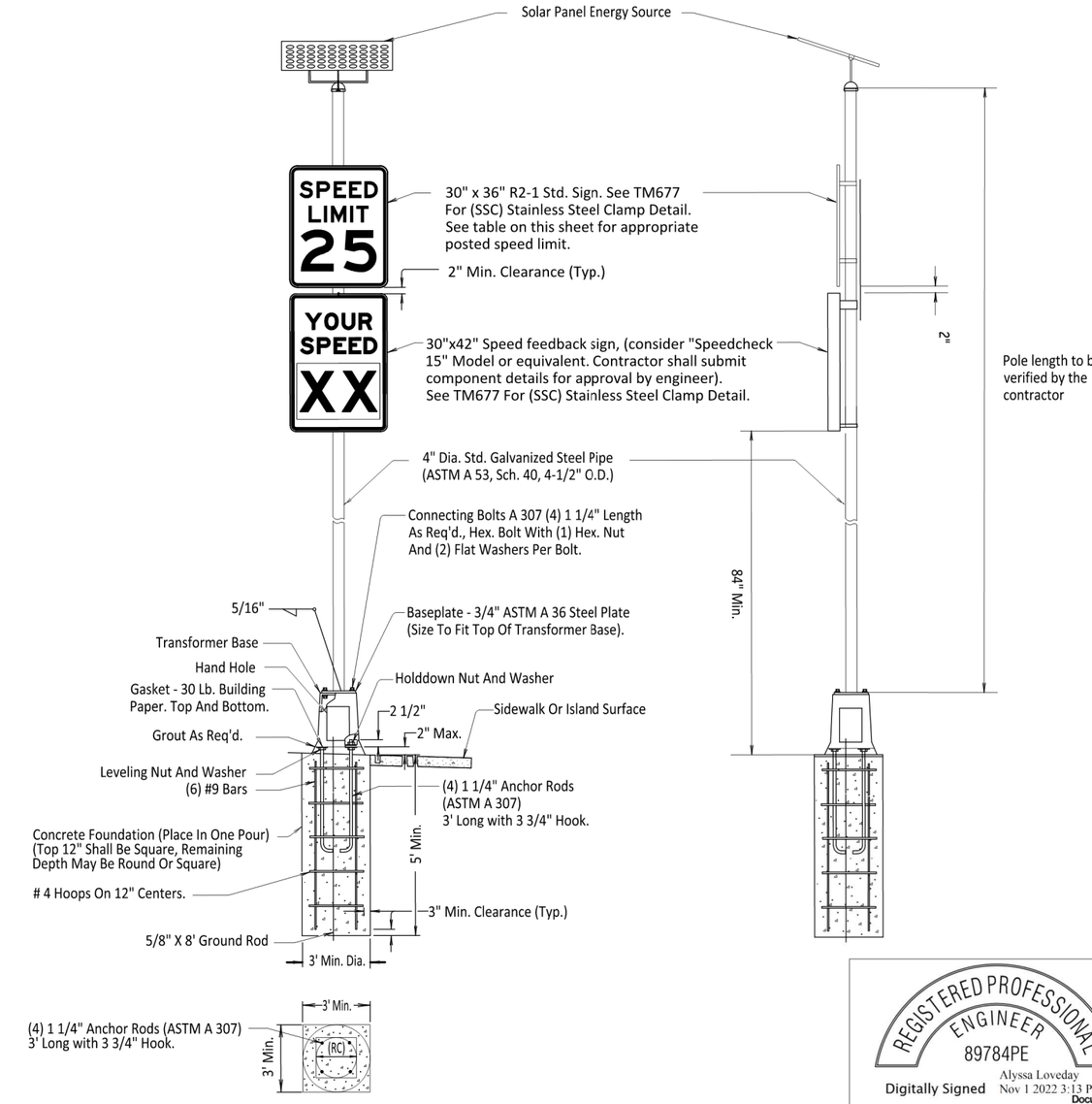
SPEED FEEDBACK SIGN DETAILS

HUNNELL RD: LOCO RD TO TUMALO RD IMPROVEMENTS



35 MPH SPEED FEEDBACK SIGN SYSTEM



25 MPH SPEED FEEDBACK SIGN SYSTEM

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DATE: 10.27.2022

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SPEED FEEDBACK SIGN DETAILS

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

SHEET NO. **SS23**

OF

JOB NO. DC0-01

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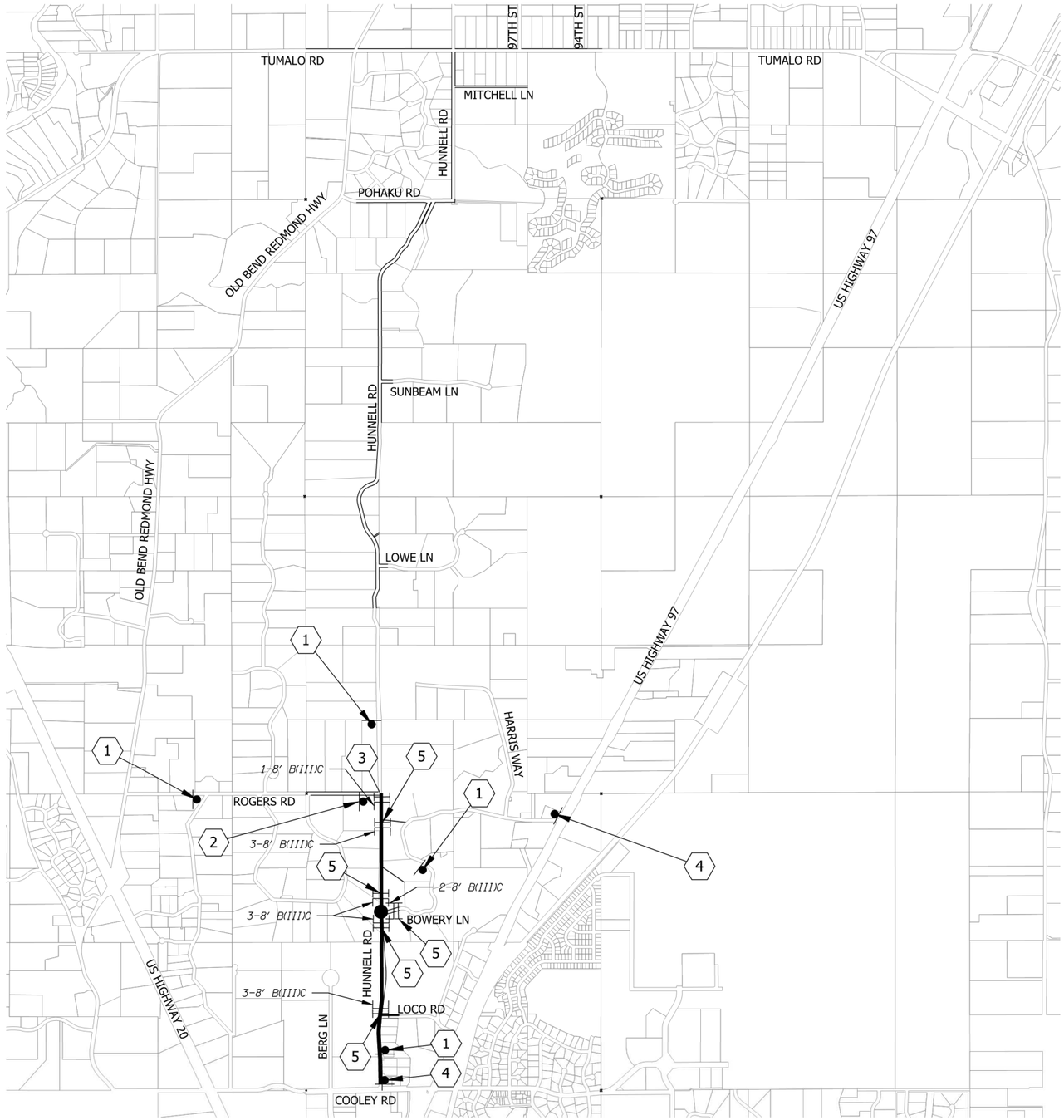

W20-1
36"x36"

1

M4-9(L)
36"x36"

2

R11-3
30"x60"

3

-
42"x60"

4

R11-2
30"x48"

5

STAGE 1 CONSTRUCTION (LOCO RD TO ROGERS RD)

- Road closed during construction, except to local traffic
- Provides option for construction equipment access
- Private SID improvements

LEGEND

- Type III Barricade
- TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Sign
- Swalley Irrigation District (SID) Improvements
- Work Zone Segment

GENERAL NOTES

1. All sign dimensions listed in inches unless otherwise noted.
2. Maintain and protect existing signs.
3. Ensure a minimum of 100' spacing between existing and temporary signs.

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EXPIRES: 12/31/22

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DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

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1001 SW EMKAY DRIVE, #140
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DETOUR PLAN - STAGE 1
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO.
SS24
OF
JOB NO.
DC0-01

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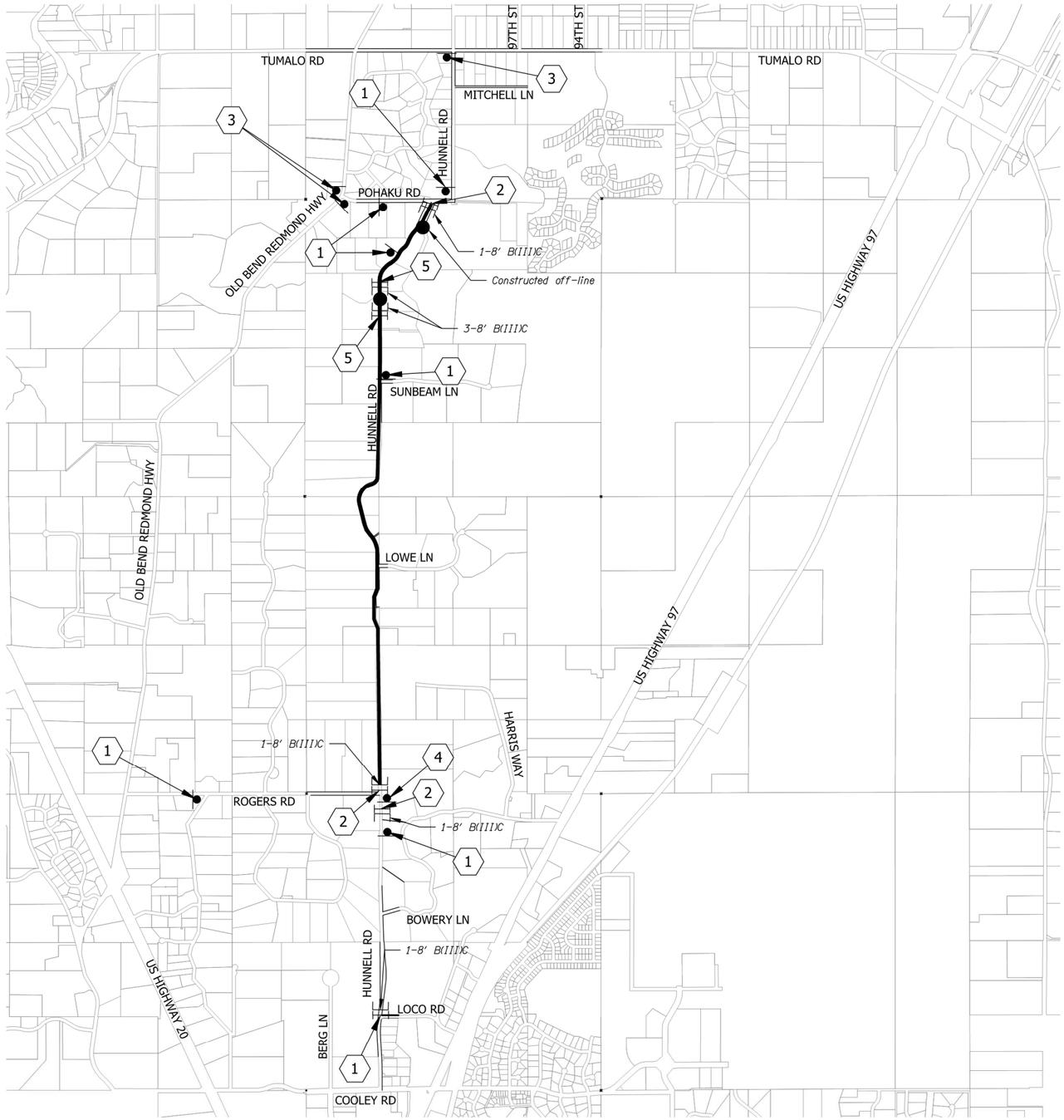

DETOUR PLAN - STAGE 2

HUNNELL RD: LOCO RD TO TUMALO RD IMPROVEMENTS

W20-1
36"x36"

1

R11-3
30"x60"

2

R11-4
30"x60"

3

M4-9(L)
36"x36"

4

R11-2
30"x48"

5

STAGE 2 CONSTRUCTION (ROGERS RD TO POHAKU RD)

- Road closed during construction, except to local traffic
- Elder Canal crossing
- Main Canal crossing, construct off-line

LEGEND

- Type III Barricade
- TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Sign
- Swalley Irrigation District (SID) Improvements
- Work Zone Segment

GENERAL NOTES

1. All sign dimensions listed in inches unless otherwise noted.
2. Maintain and protect existing signs.
3. Ensure a minimum of 100' spacing between existing and temporary signs.

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EXPIRES: 12/31/22

BID SET

DESCHUTES COUNTY

DATE	NO.	DESCRIPTION

REVISIONS

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

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DETOUR PLAN - STAGE 2

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

SHEET NO.
SS25
OF
JOB NO.
DC0-01

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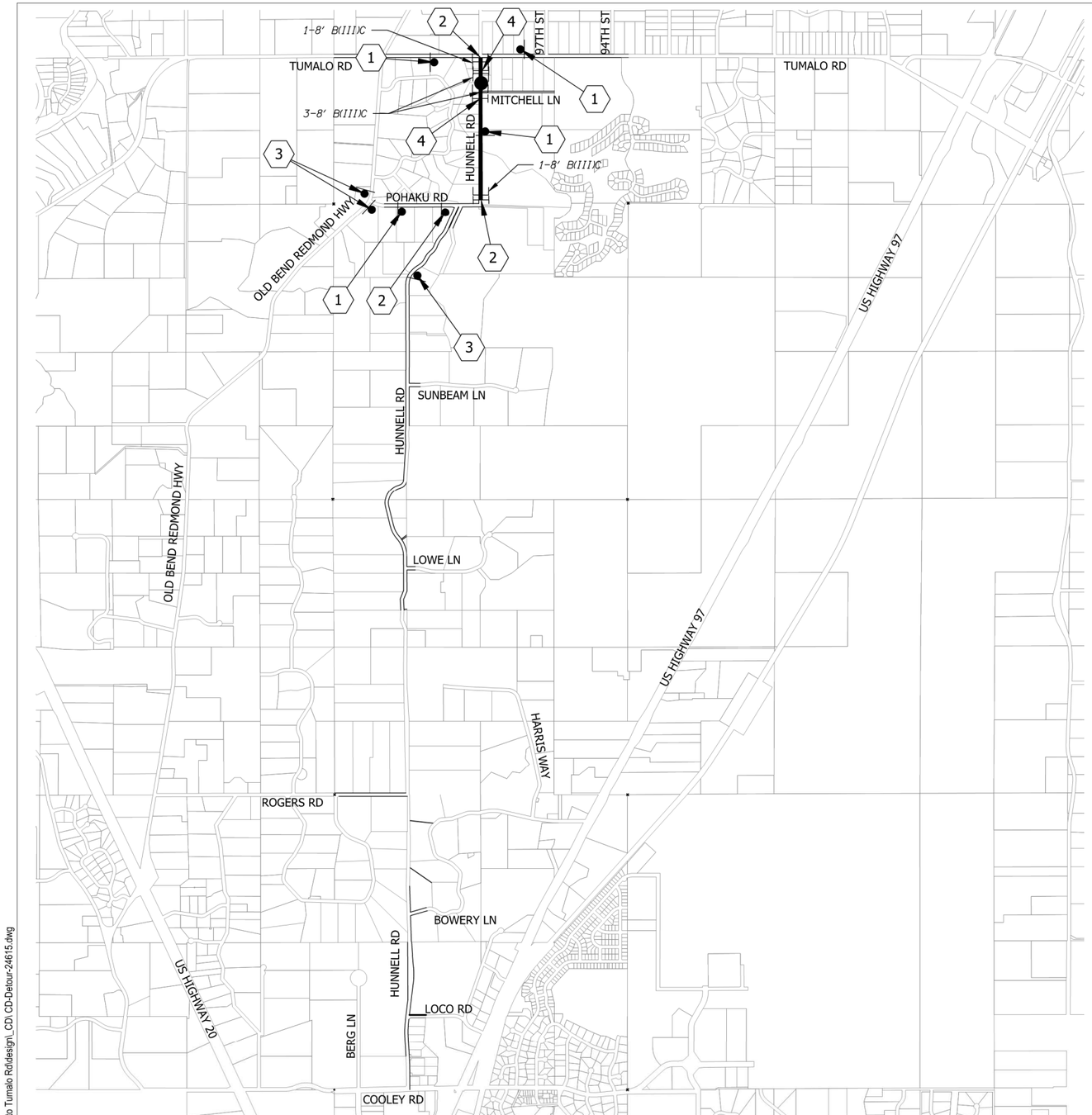

W20-1
36"x36"

R11-3
30"x60"

R11-4
30"x60"

R11-2
30"x48"

1 2 3 4

STAGE 3 CONSTRUCTION (POHAKU RD TO TUMALO RD)

- Road closed during construction, except to local traffic
- Butte Canal crossing

LEGEND

- Type III Barricade
- TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Sign
- Swalley Irrigation District (SID) Improvements
- Work Zone Segment

GENERAL NOTES

1. All sign dimensions listed in inches unless otherwise noted.
2. Maintain and protect existing signs.
3. Ensure a minimum of 100' spacing between existing and temporary signs.

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DESCHUTES COUNTY

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REVISIONS

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DETOUR PLAN - STAGE 3
HUNNELL ROAD
DESCHUTES COUNTY, OREGON

SHEET NO. SS26
OF
JOB NO. DC0-01

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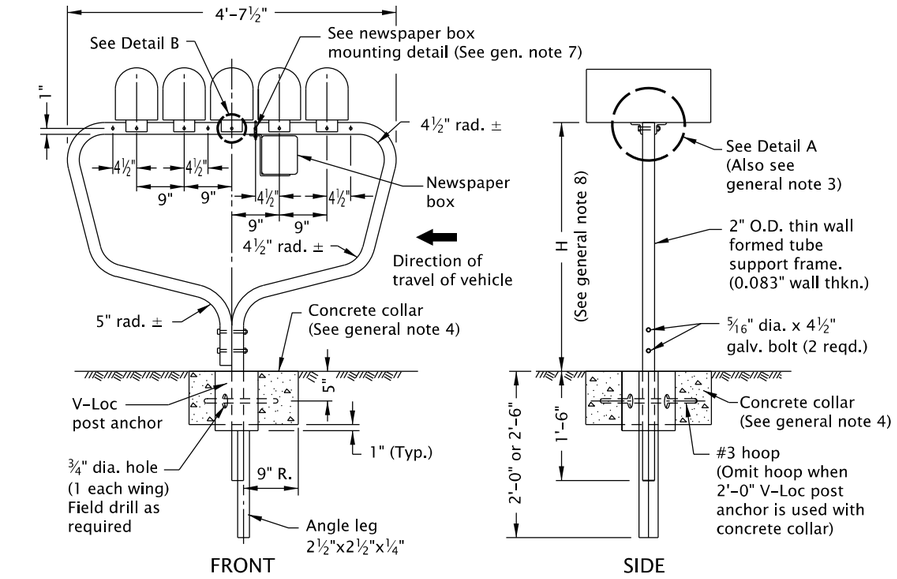
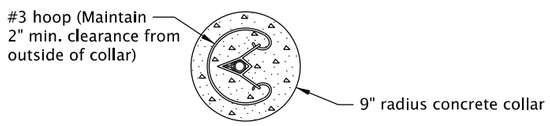
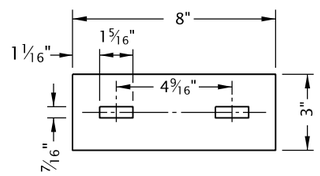




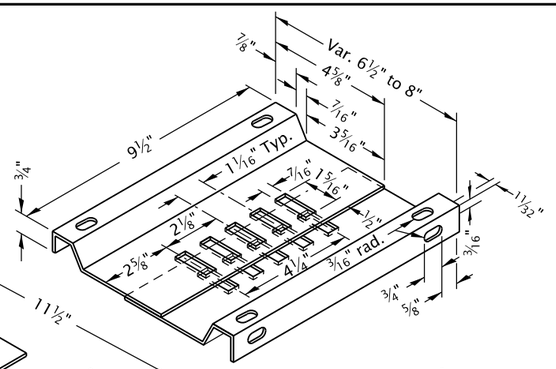
CONCRETE COLLAR
(See general note 4)

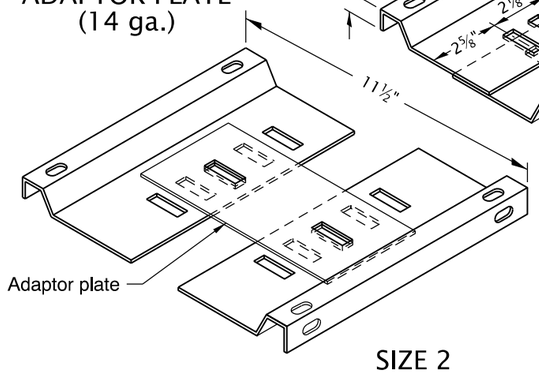
MULTIPLE SUPPORT

(Supports 5 standard (Sizes 1 & 1½) mailboxes or 4 large (Size 2) mailboxes)



ADAPTOR PLATE
(14 ga.)





SIZE 1 & 1½
MOUNTING BRACKET
(16 ga.)

SIZE 2
MOUNTING BRACKET (16 ga.)
WITH ADAPTOR PLATE (14 ga.)

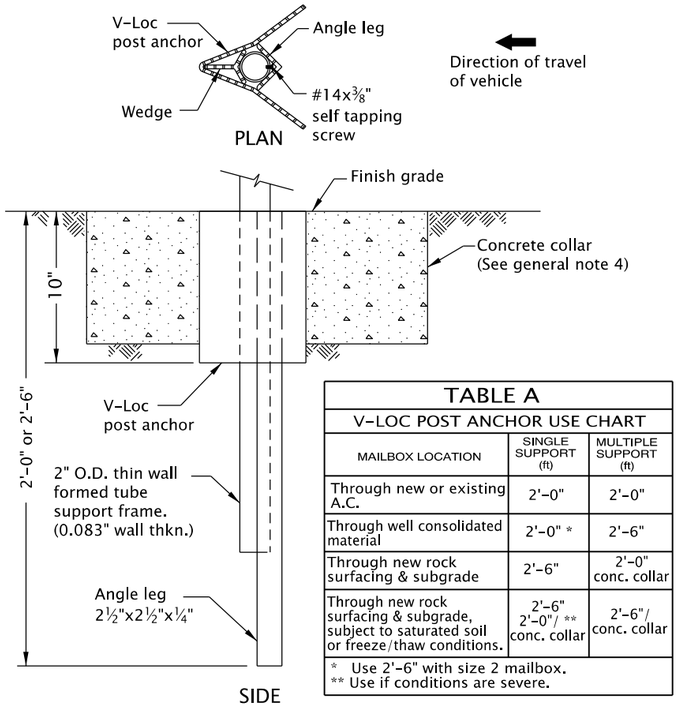


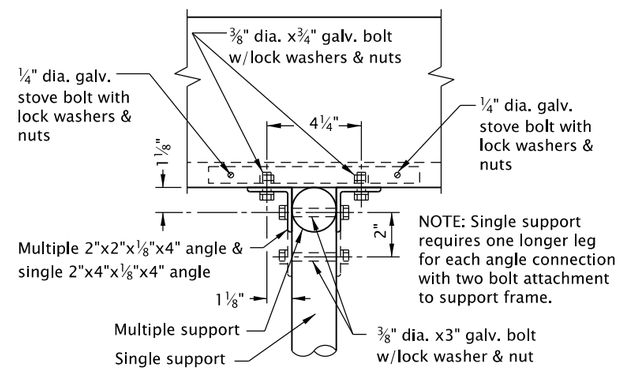
TABLE A

V-LOC POST ANCHOR USE CHART

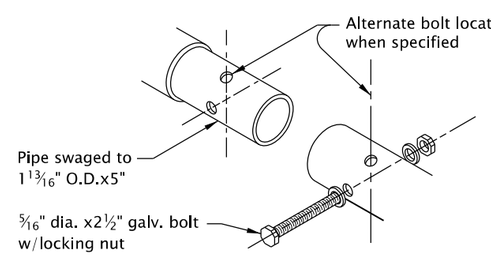
MAILBOX LOCATION	SINGLE SUPPORT (ft)	MULTIPLE SUPPORT (ft)
Through new or existing A.C.	2'-0"	2'-0"
Through well consolidated material	2'-0" *	2'-6"
Through new rock surfacing & subgrade	2'-6"	2'-0" conc. collar
Through new rock surfacing & subgrade, subject to saturated soil or freeze/thaw conditions.	2'-6" 2'-0"/ ** conc. collar	2'-6"/ conc. collar

* Use 2'-6" with size 2 mailbox.
** Use if conditions are severe.

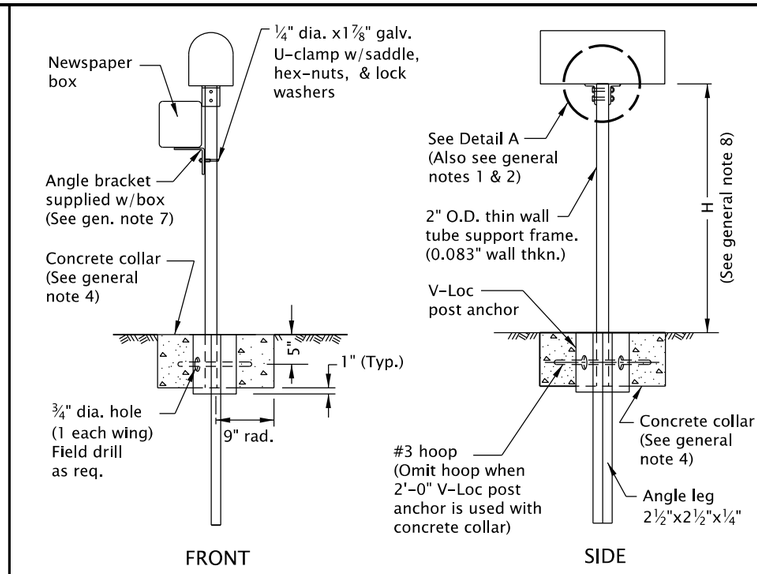
POST MOUNTING SOCKET



DETAIL A



DETAIL B



SINGLE SUPPORT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Angle connections to be parallel to traffic flow for Size 2 mailbox mounted on single post.
2. All holes in the tube support frame are to be predrilled by the manufacturer.
3. Size 2 mailbox mounted on a multiple support requires 2 each ⅜" dia. x⅝" galv. bolts with lock washers and nuts to attach the adaptor plate to the mounting bracket. The unit will then require 4 angle connections to attach to the formed tube support frame. See Detail A.
4. Provide concrete collar when any of the following conditions exist:
   a) when required in Table A
   b) when required by project plans
   c) as directed by the Engineer

   Concrete collar, when required, to be poured in place after V-Loc post anchor has been installed, level and plumb. Do not excavate below bottom of V-Loc post anchor. Care shall be taken that no concrete is placed within anchor.
5. Other proprietary products available as listed in ODOT's QPL.
6. For mailbox installation locations, see Std. Dwg. RD101 and project plans.
7. For Newspaper Box Mounting Detail, see Std. Dwg. RD101.
8. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
9. See project plans for detail not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

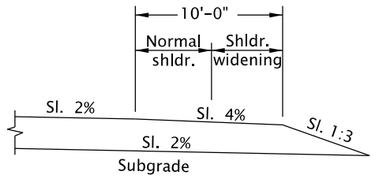
MAILBOX SUPPORT

2021

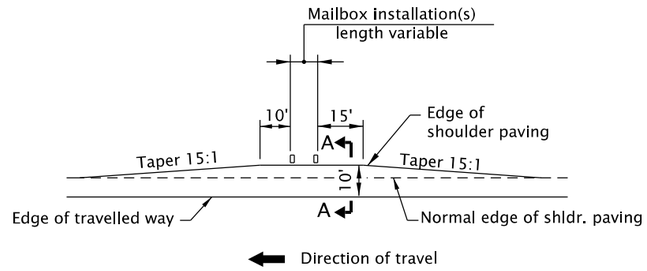
DATE	REVISION DESCRIPTION

rd100.dgn 20-JUL-2020

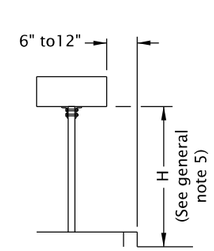
RD100



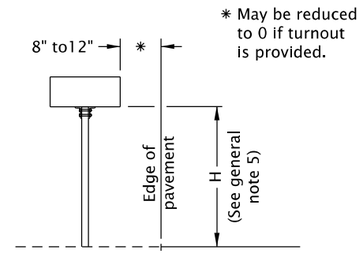
SECTION A-A



MAILBOX SERVICE TURNOUT

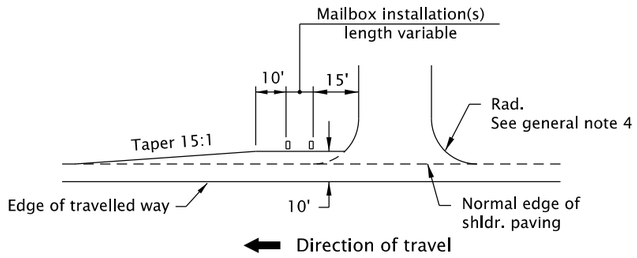


CURBED SECTION

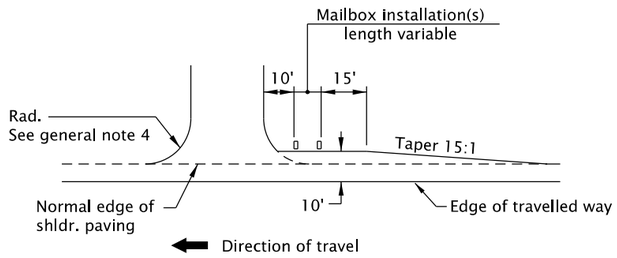


NON-CURBED SECTION

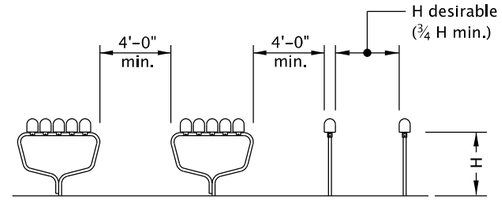
PLACEMENT



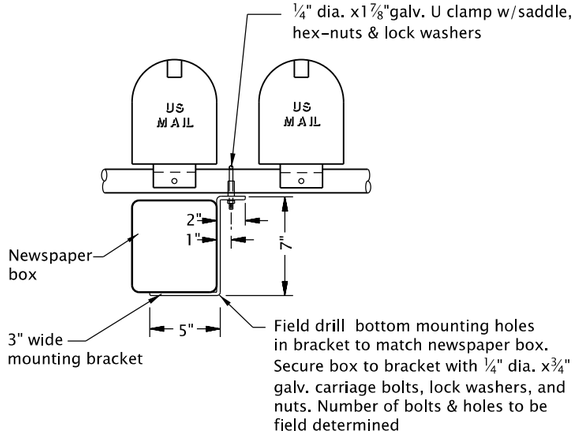
MAILBOX SERVICE TURNOUT AFTER APPROACH



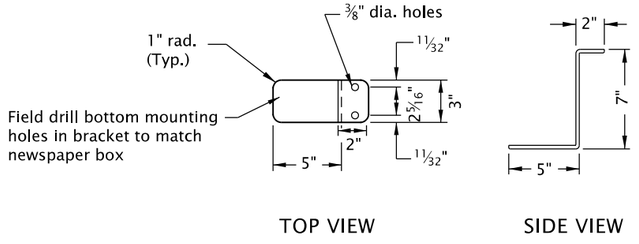
MAILBOX SERVICE TURNOUT BEFORE APPROACH



SUPPORT SPACING



NEWSPAPER BOX MOUNTING DETAIL



NEWSPAPER BOX MOUNTING BRACKET DETAIL (14 ga.)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All holes in the tube support frame are to be predrilled by the manufacturer.
2. Other proprietary products available as listed in ODOT's QPL.
3. For mailbox support details, see Std. Dwg. RD100.
4. For approach details, see Std. Dwg. RD715.
5. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
6. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

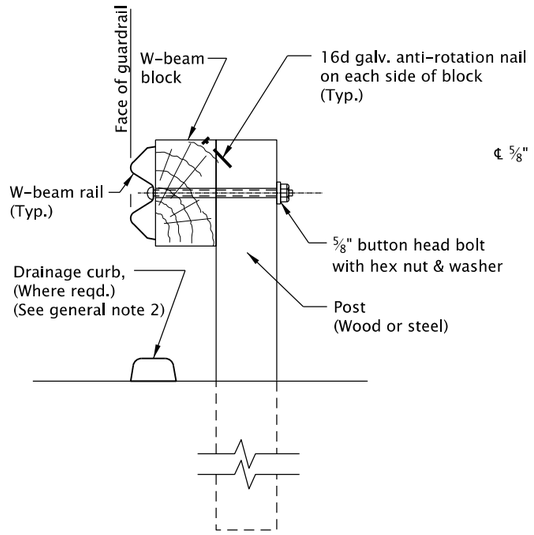
MAILBOX INSTALLATION

2021

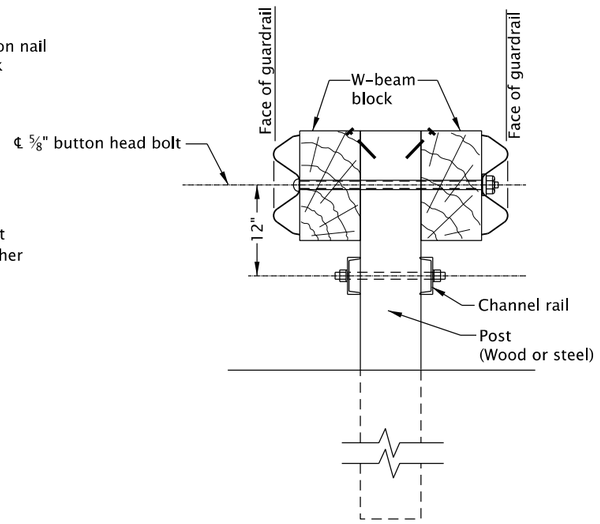
DATE	REVISION DESCRIPTION

rd101.dgn 20-JUL-2020

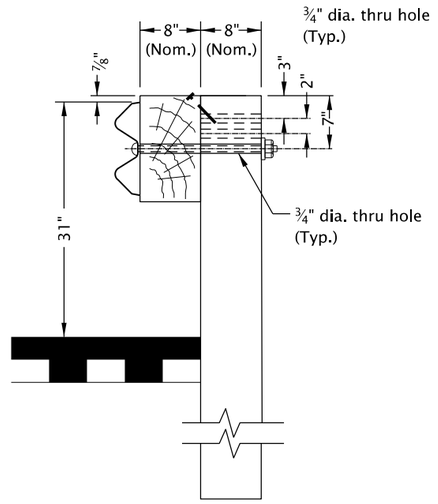
RD101



TYPES 2A & 3
(For Type 3 use double thickness (2) rail elements)



METAL MEDIAN BARRIER (DOUBLE SIDED W/ CHANNEL RAIL)
(See general note 3)

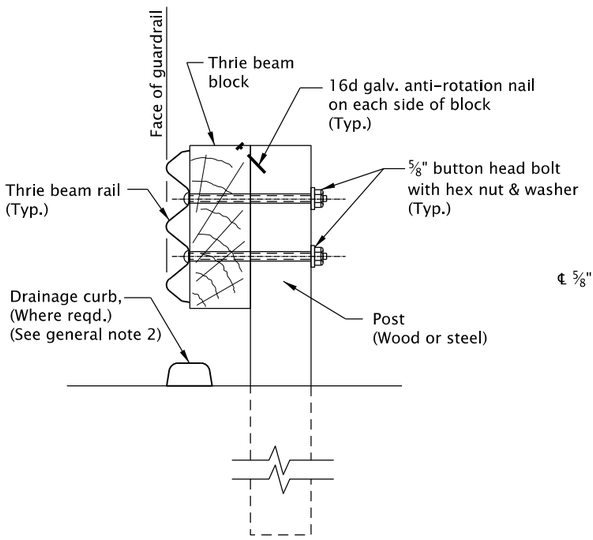


TYPICAL INSTALLATION

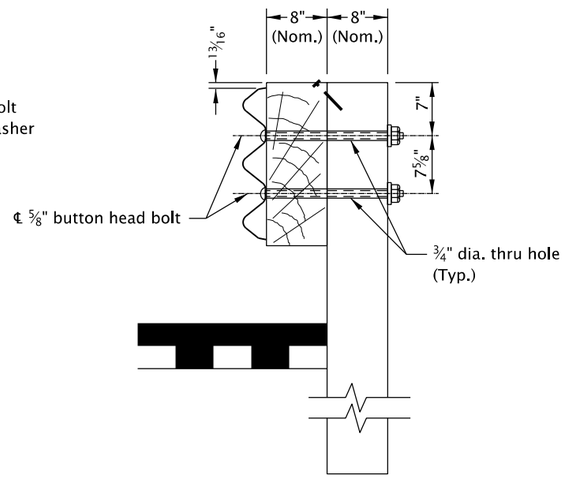
W-BEAM GUARDRAIL

W-BEAM GUARDRAIL ASSEMBLY

NORMAL RAIL ELEMENT DATA			
TYPE	RAIL	EFFECTIVE LENGTHS	GAUGE
2A	W-beam	6.25', 12.5', 25'	10 & 12
3	W-beam	6.25', 12.5', 25'	10 & 12
4	Thrie beam	6.25', 12.5', 25'	10 & 12
4 TRANSITION	Thrie beam	6.25'	10 & 12



TYPE 4 & 4 TRANSITION



INITIAL INSTALLATION

THRIE BEAM GUARDRAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. When required by the plans, Drainage curb alignment same as face of guardrail.
3. Orient post bolts with the button head located on the side nearest the traffic lane. The bolt's threaded portion is not permitted to extend beyond limits of ¼" to ½" from the face of the tightened nut; trim the treated portion as needed.
4. Lap guardrail in direction of adjacent traffic.
5. Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail (Typical all types). 1"± tolerance.
6. Wood block shall be toe-nailed to the post with 2 - 16d galvanized nails in top of block to prevent block rotation.
7. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.
8. Existing posts shall not be raised. Replace posts as necessary to achieve required guardrail height.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM TYPES

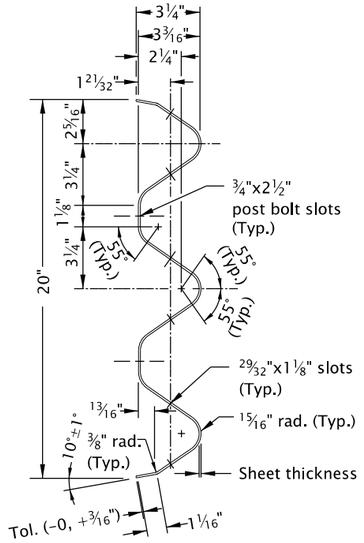
2021

DATE	REVISION DESCRIPTION
07-2021	REVISED DETAILS & NOTES

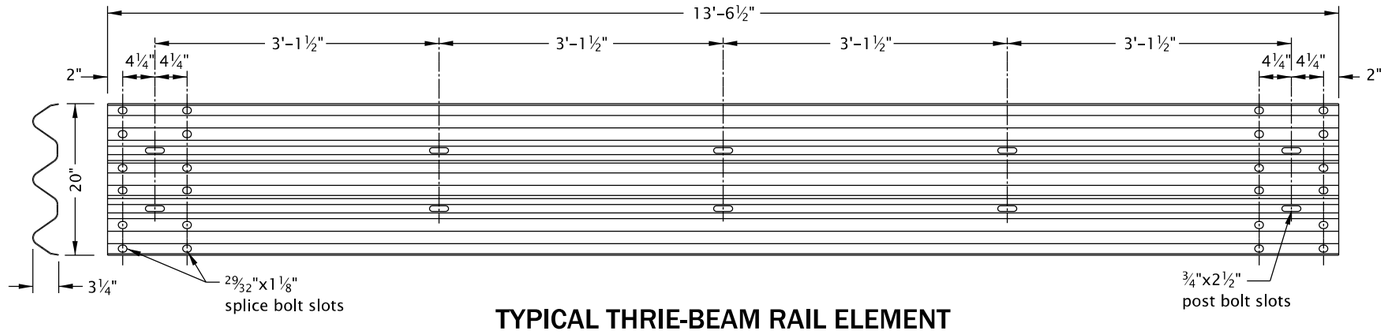
rd402.dgn 19-JUL-2021

Effective Date: December 1, 2022 - May 31, 2023

RD402

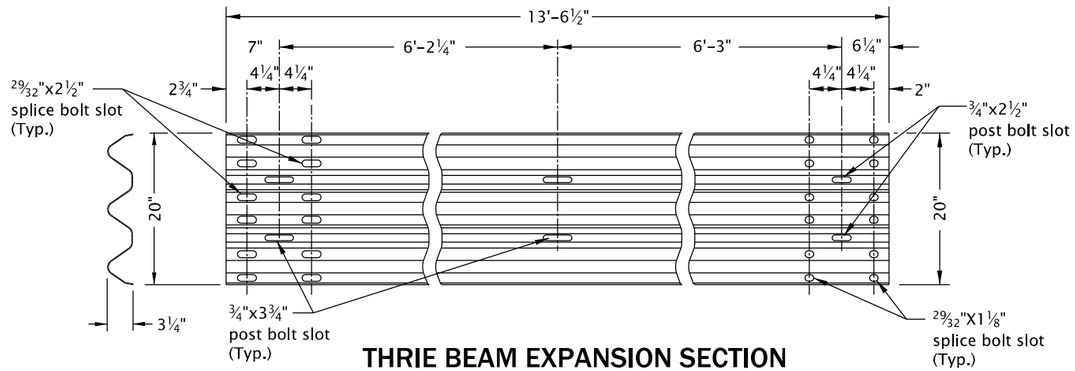


SECTION THRU RAIL ELEMENT

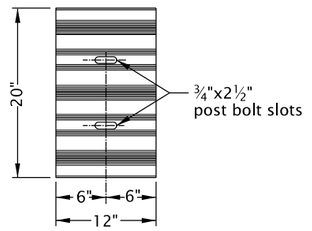


TYPICAL THRIE-BEAM RAIL ELEMENT

(12'-6" length shown)

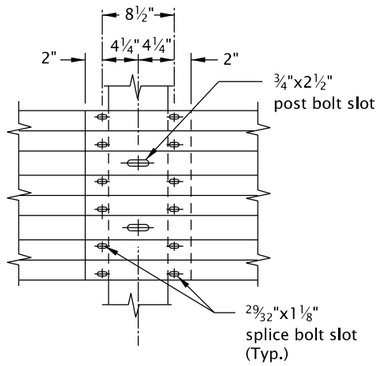


THRIE BEAM EXPANSION SECTION

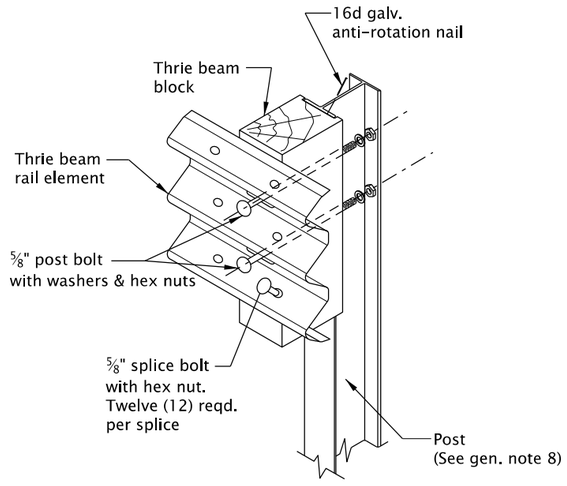


THRIE BEAM BACK-UP PLATE

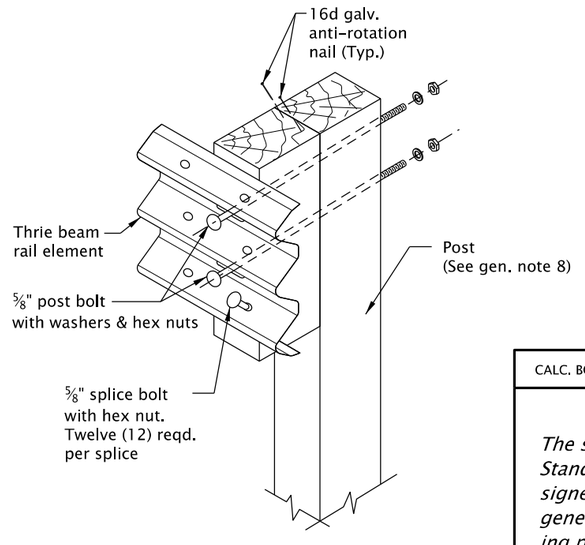
(For detail not shown, see "Section Thru Rail Element")



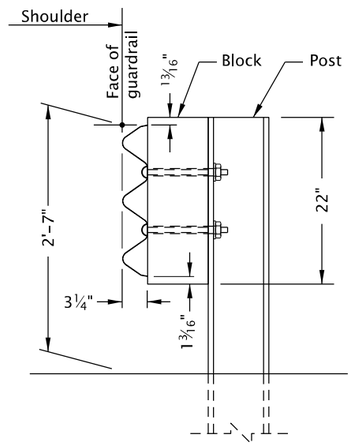
THRIE BEAM SPLICE



STEEL POST ASSEMBLY



WOOD POST ASSEMBLY



TYPICAL SECTION

(Steel post shown)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. Lap guardrail in direction of adjacent traffic.
3. Hole layout per manufacturer with appropriate post and block.
4. Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail to top of rail (Typ. all types). 1" ± tolerance.
5. Wood block shall be toe-nailed to the post with 2 - 16d galvanized nails in top of block to prevent block rotation.
6. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.
7. All posts for guardrail run shall be of the same type: wood or steel.
8. When required by the plans, nested thrie beam post shall be 8x8 wood or W6x9 steel.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

THRIE BEAM GUARDRAIL

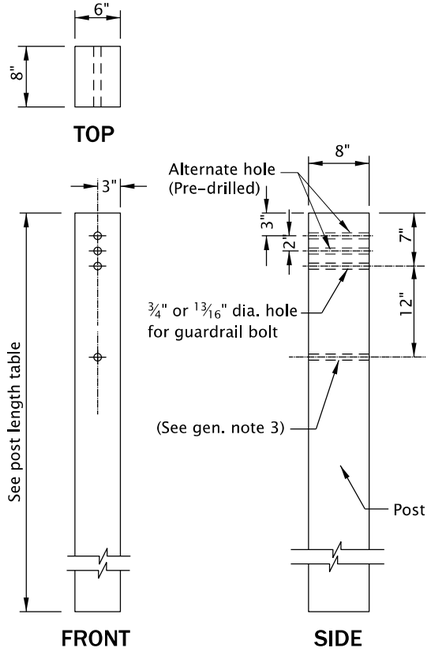
2021

DATE	REVISION DESCRIPTION

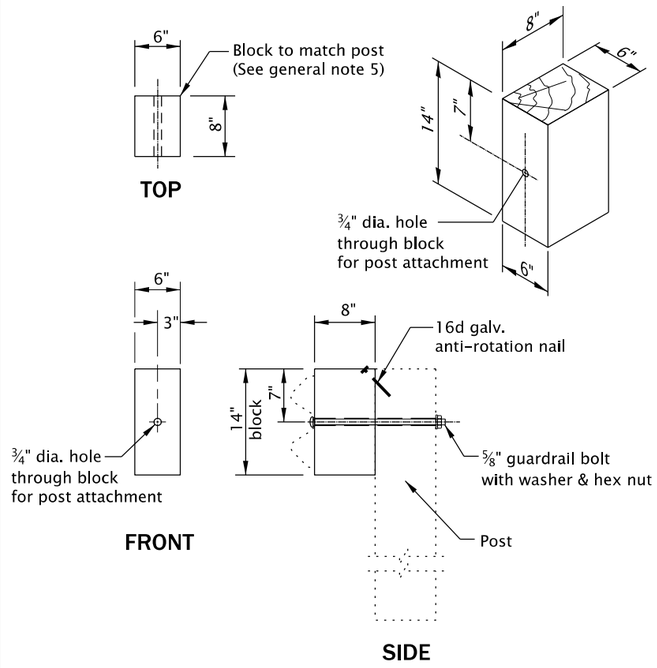
rd409.dgn 20-JUL-2020

Effective Date: December 1, 2022 - May 31, 2023

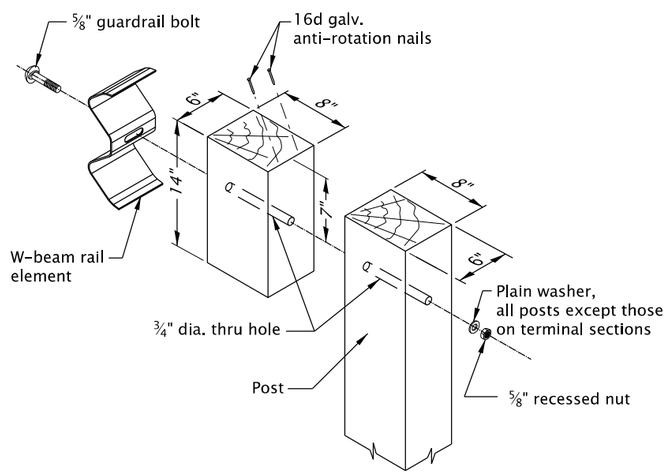
RD409



W-BEAM WOOD POST
(6x8 post shown)



W-BEAM WOOD BLOCK FOR WOOD POST
(6x8 wood block shown)



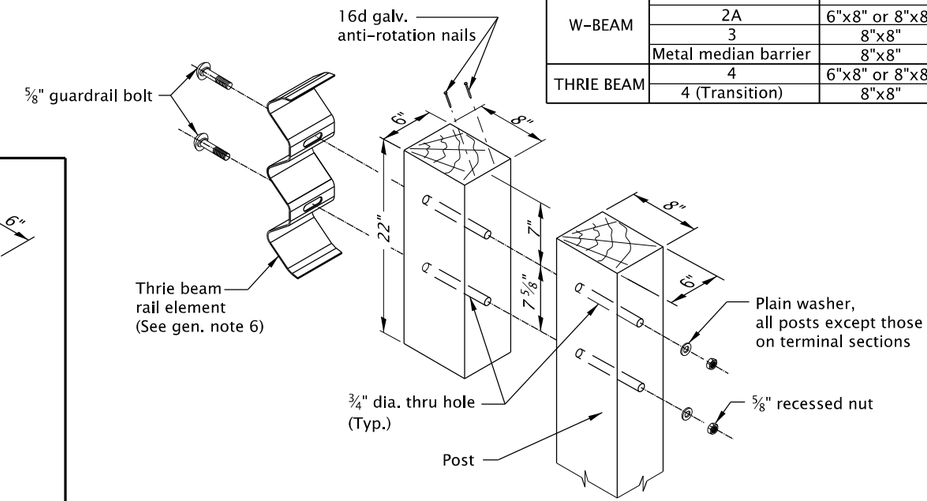
W-BEAM ASSEMBLY DETAIL
(6x8 wood post and 6x8 wood block shown)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

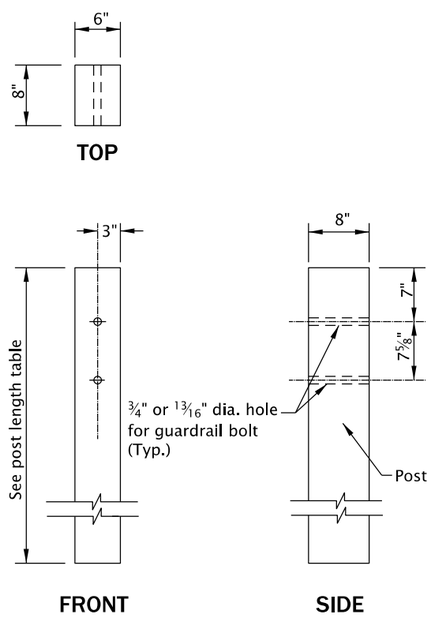
1. See appropriate guardrail standard drawing(s) for details not shown.
2. See Bridge Dwgs. for bridge transition guardrail post and block requirements.
3. Lowest hole(s) required only when channel rail is to be installed. Drill 12" below top ¾" or 13⁄16" hole(s) used.
4. Dimensions shown are for nominal posts and blocks.
5. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.
6. When required by the plans, nested thrie beam wood post shall be 8"x8".
7. Wood block shall be toe-nail to the post with 2 - 16d galvanized nails in top of block to prevent block rotation.

GUARDRAIL WOOD POST TABLE

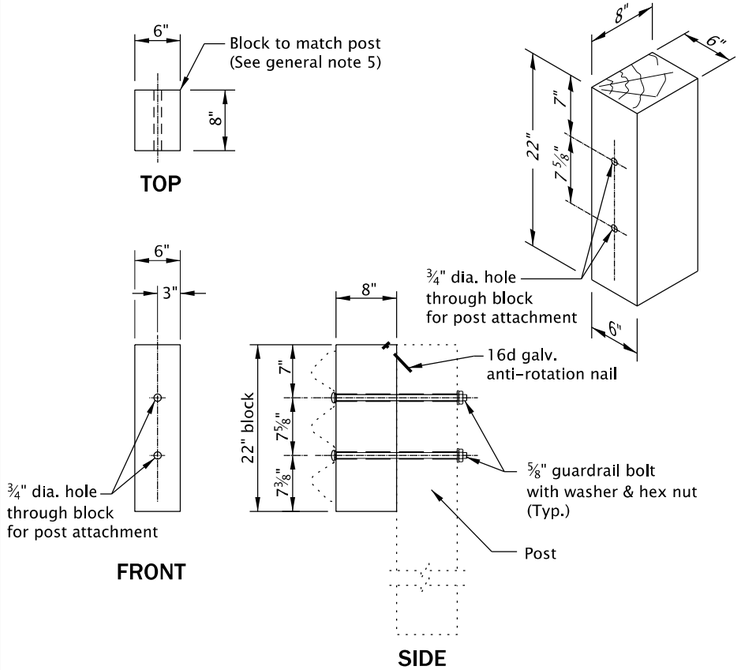
GUARDRAIL TYPE		POST SIZE	POST LENGTH	POST SPACING
W-BEAM	2A	6"x8" or 8"x8"	6'-0"	6'-3"
	3	8"x8"	6'-0"	3'-1½"
	Metal median barrier	8"x8"	6' 6"	6'-3"
THRIE BEAM	4	6"x8" or 8"x8"	7'-0"	6'-3"
	4 (Transition)	8"x8"	6'-0"	3'-1½"



THRIE BEAM ASSEMBLY DETAIL
(6x8 wood post and 6x8 wood block shown)



THRIE BEAM WOOD POST
(6x8 post shown)



THRIE BEAM WOOD BLOCK FOR WOOD POST
(6x8 wood block shown)

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM WOOD POST AND BLOCK

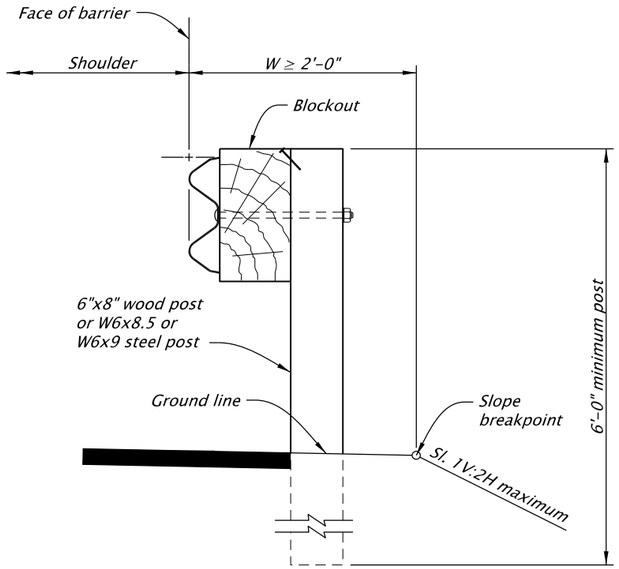
2021

DATE	REVISION DESCRIPTION
07-2021	REVISED DETAISL AND NOTES

rd403.dgn 19-JULY-2021

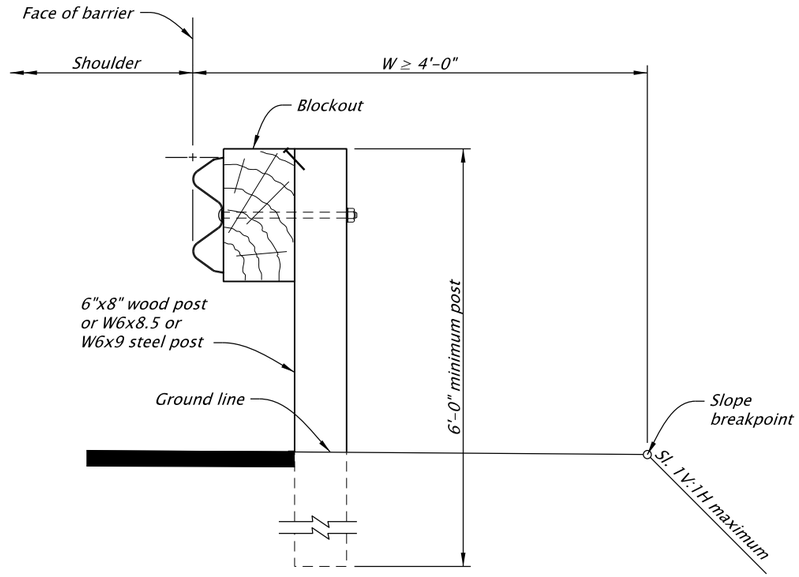
Effective Date: December 1, 2022 - May 31, 2023

RD403



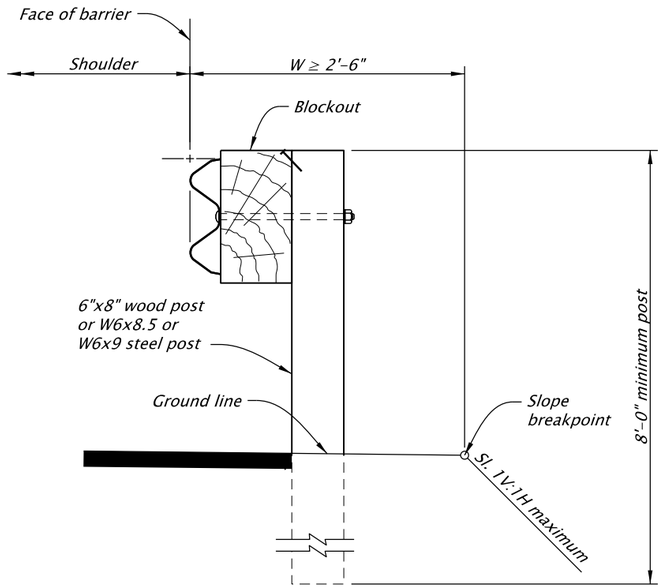
CASE 1

(Wood post shown)



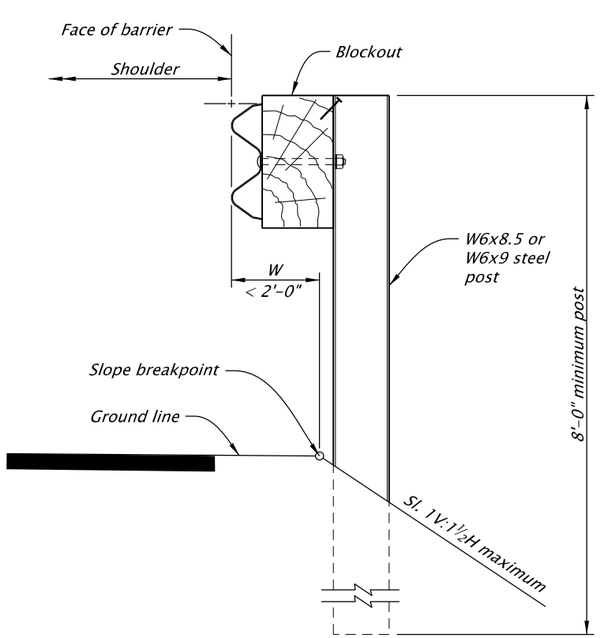
CASE 2

(Wood post shown)
Use when there is a 4'-0" or greater shoulder widening from face of guardrail to the slope breakpoint



CASE 3

(Wood post shown)
Use when there is a 2'-6" or greater shoulder widening from face of guardrail to the slope breakpoint



CASE 4

(Steel post shown)
Use when there is less than a 2'-0" shoulder widening from face of guardrail to the slope breakpoint

PLACEMENT OF GUARDRAIL ON SLOPES

NOTE: Cases shown do not apply to terminals, transition sections or anchors.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *See appropriate guardrail standard drawing(s) for details not shown.*
2. *Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.*
3. *All posts for guardrail run shall be of the same type: wood or steel.*

SLOPE / EMBANKMENT TABLE			
POST LENGTH (ft)	POST TYPE	SLOPE (V:H)	W (ft) (Face of barrier to slope of breakpoint)
6	*Wood/Steel*	*1:2 or flatter*	*2'-0" minimum*
6	*Wood/Steel*	*1:1 or flatter*	*4'-0" minimum*
8	*Wood/Steel*	*1:1 or flatter*	*2'-6" minimum*
8	*Steel*	*1:1½ or flatter*	*Less than 2'-0"*

CALC. BOOK NO. N/A

SDR DATE 14-JAN-2022

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

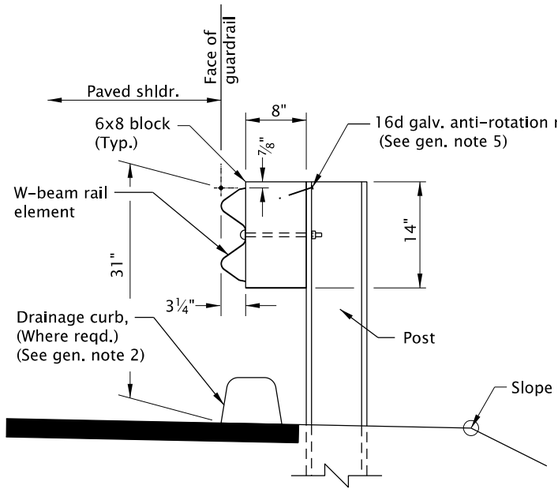
PLACEMENT OF GUARDRAILS ON SLOPES

2021

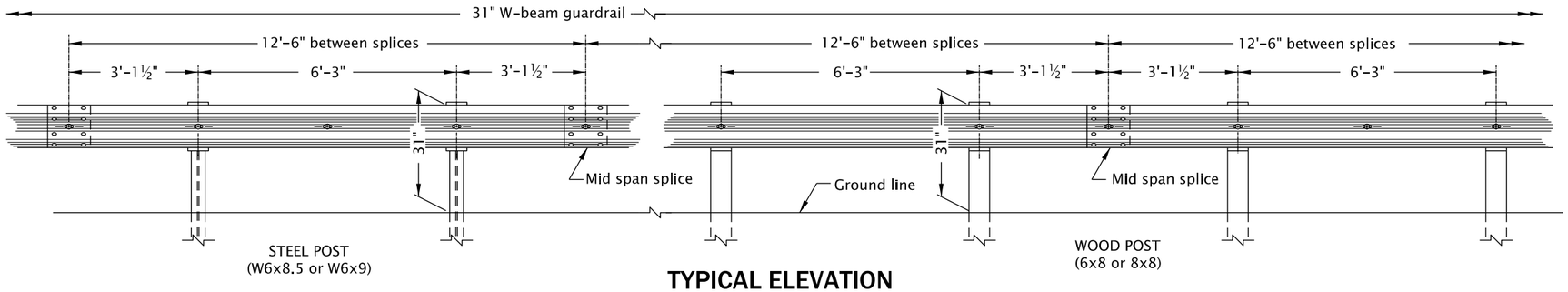
DATE	REVISION DESCRIPTION
07-2021	DRAWING CREATED
12-2021	REVISED DETAILS AND NOTES

rd406.dgn 04-JAN-2022

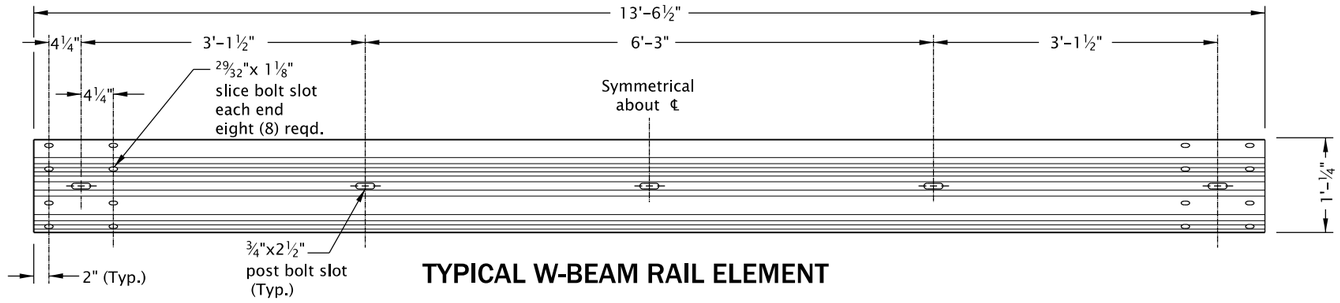
rd407.dgn 19-JUL-2021



TYPICAL SECTION
(Steel post shown)



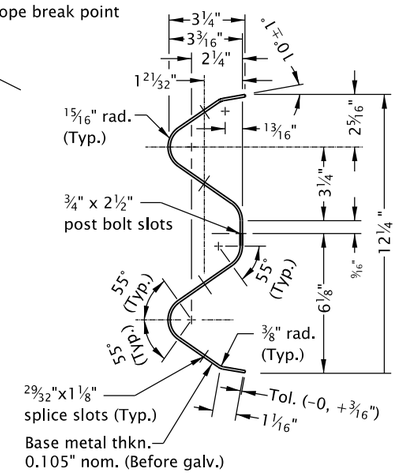
TYPICAL ELEVATION



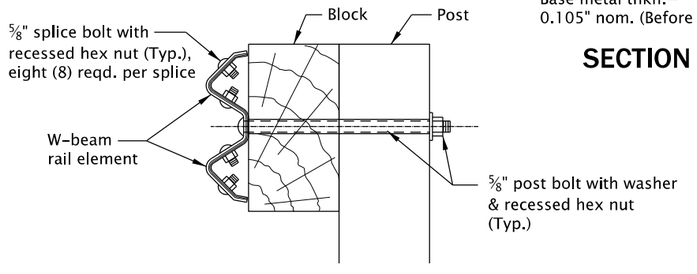
TYPICAL W-BEAM RAIL ELEMENT

NORMAL RAIL ELEMENT DATA

Type	Effective Lengths	Thkn. (Galv.)
2A, 3	6.25', 12.5', 25'	10 ga. & 12 ga.



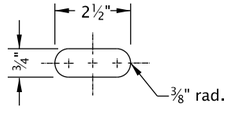
SECTION THRU RAIL ELEMENT



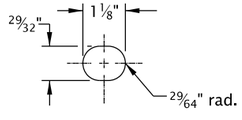
FITTINGS

NOTES:
a. When required by the plans, post bolts to extend beyond the tightened nuts within limits of ¼" to ½".

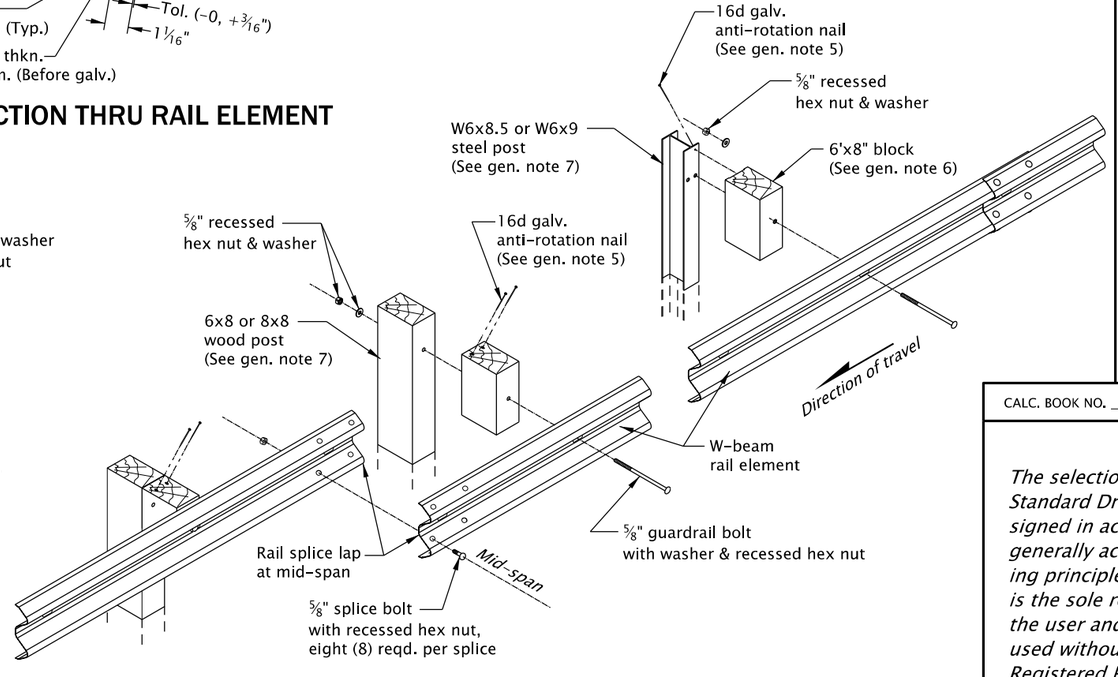
b. All post bolt threads to be set after assembly for wrench removal only.



POST BOLT SLOT



SPLICE BOLT SLOT



W-BEAM ASSEMBLY DETAILS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. When required by the plans, drainage curb alignment same as face of guardrail.
3. Lap guardrail in direction of adjacent traffic.
4. Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail to top of rail (typ. all types). 1" ± tolerance.
5. Blocks shall be toe-nailed to prevent rotation when wood posts are used (see Std. Dwg. RD403). Blocks shall be rounted or toe-nailed when steel posts are used to prevent rotation (see Std. Dwg. RD404).
6. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.
7. All posts for guardrail run shall be of the same type: wood or steel.
8. For guardrail installed on radii of 150' or less (5' min. radius) use rail elements pre-curved to industry standard. Install "Radius Identification Plate".

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

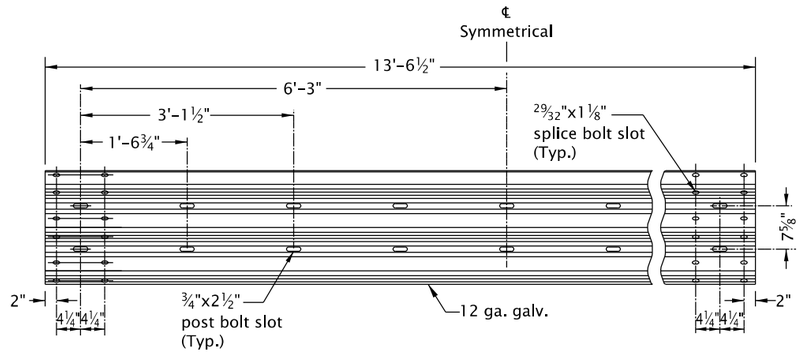
OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM W-BEAM

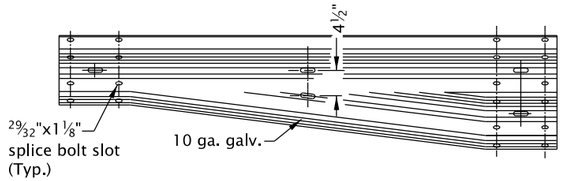
2021

DATE	REVISION DESCRIPTION
07-2021	REVISED DETAILS AND NOTES

rd410.dgn 20-JUL-2020

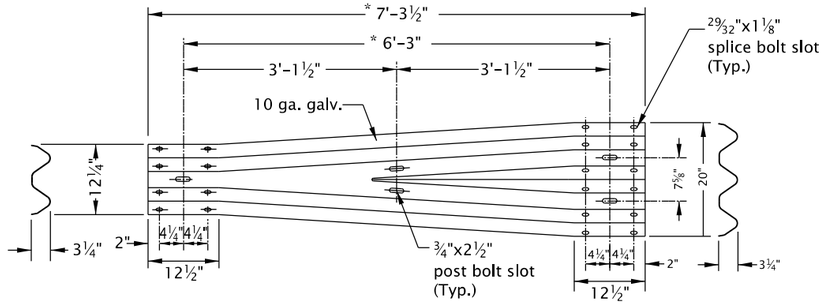


THRIE BEAM RAIL ELEMENT
¼ POST SPACING
(12'-6" section shown)

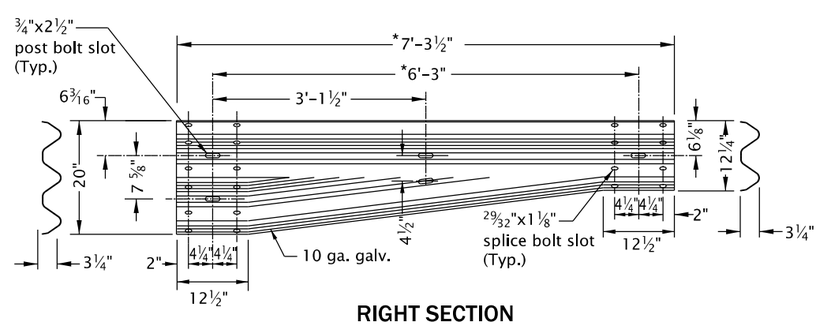


LEFT SECTION
(Reverse of right section)

* See general note 4



SYMMETRICAL THRIE BEAM TRANSITION ELEMENT
(Left section shown, right section reversed)



RIGHT SECTION

TYPICAL THRIE BEAM TRANSITION ELEMENT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. See appropriate bridge standard drawing(s) for transition guardrail detail and installation limits at bridge ends.
3. All rail sections shall be lapped in the direction of adjacent traffic.
4. Slot layout per manufacturer with appropriate post and block.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

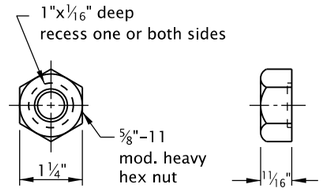
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

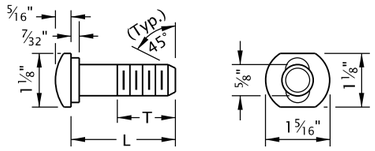
THRIE BEAM GUARDRAIL TRANSITION

2021

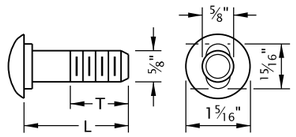
DATE	REVISION DESCRIPTION



5/8" DIA. RECESSED HEX NUT



ALTERNATIVE No. 1

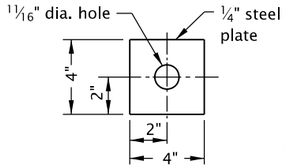


ALTERNATIVE No. 2

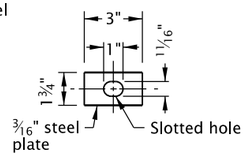
5/8" GUARDRAIL POST/SPICE BOLT (BUTTON HEADED)

BOLT DIMENSION TABLE

Length (L) (in.)	Thread Length (T) (in.)
1 1/4	1 1/8 min.
2	1 3/4 min.
10	4 min.
18	4 min.
25	4 min.

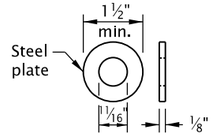


SNOW LOAD POST WASHER



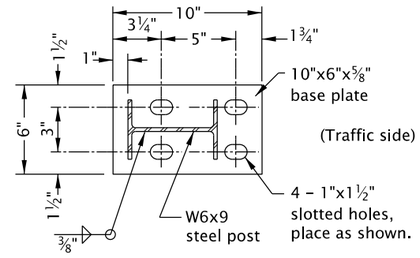
SNOW LOAD RAIL WASHER (b)

Use in area of heavy snow, as directed by the engineer (See general note 6)

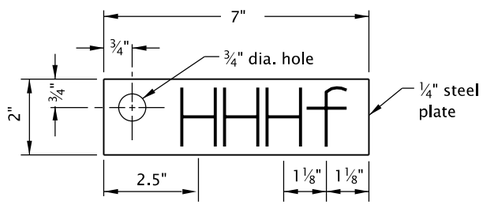


PLAIN WASHER (a)

Use on back of post.

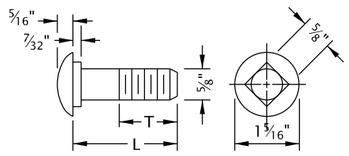


PLAN

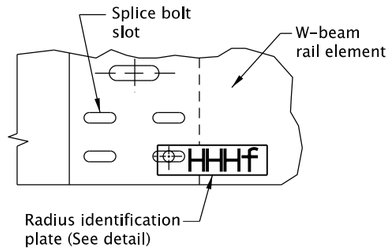


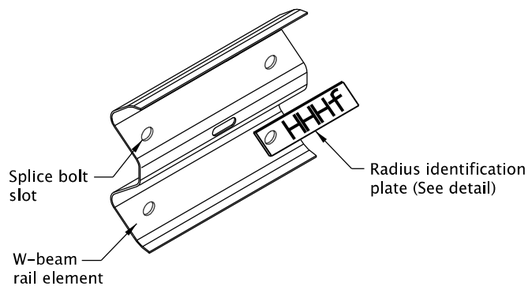
RADIUS IDENTIFICATION PLATE

(See general note 4)



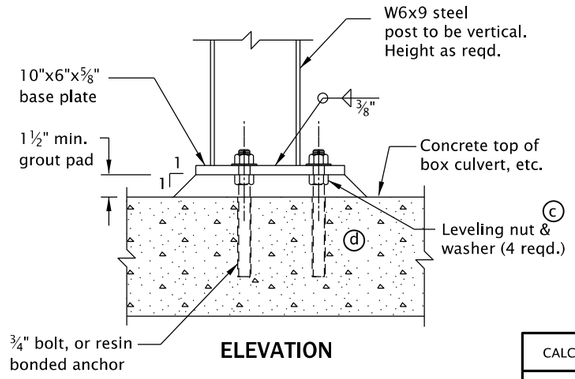
5/8" DIA. CARRIAGE BOLT





RADIUS IDENTIFICATION PLATE MOUNTING DETAIL

(See general note 5)



ELEVATION

BASE PLATE DETAILS

(For additional details, see Std. Dwg. BR266)
(Use when depth of cover is less than normal for post installation.)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. For details of guardrail connections to structural handrails, see special details or Standard Drawings as called for on plans.
3. All indicated welds shall attain the full strength of the section welded.
4. Radius dimensions, in feet to the nearest 0.5 foot, shall be placed on the plate with a raised weld bead replacing the letters "HHH", shown on the Radius Identification Plate detail. Digits shall be 1½" min. height and ¾" max. width. Plate shall be galvanized after placement of digits.
5. The guardrail radius identification plate is to be mounted on the back side of the rail element with the lowest splice bolt nearest the P.C. of the guardrail radius.
6. When required by the plans, a Snow Load Post Washer shall be used on the backside of the post and a Snow Load Rail Washer shall be placed on rail element face. Snow Load Rail Washers shall not be installed on terminals.

SUPPLEMENTARY NOTES:

(a) Not required if Snow Load Post washer option is used.

(b) Use rectangular Snow Load Rail washer under bolt head and nut on Type C End Piece as shown.

(c) Furnished & installed by structure contractor when shown on structure plans.

(d) 6" min. penetration into concrete slabs other than bridge decks. Cast in place or core and install using approved resin bonding system.

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 consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM STANDARD HARDWARE (NUTS, BOLTS, WASHERS AND MISC.)

2021

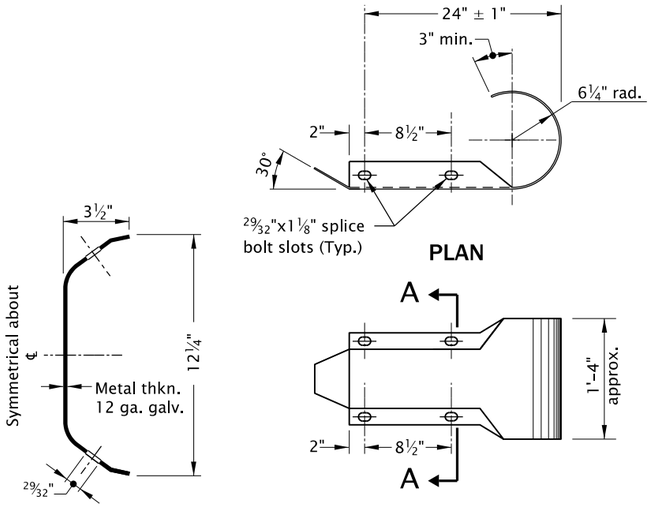
DATE	REVISION DESCRIPTION

rd416.dgn 20-JUL-2020

Effective Date: December 1, 2022 - May 31, 2023

RD416

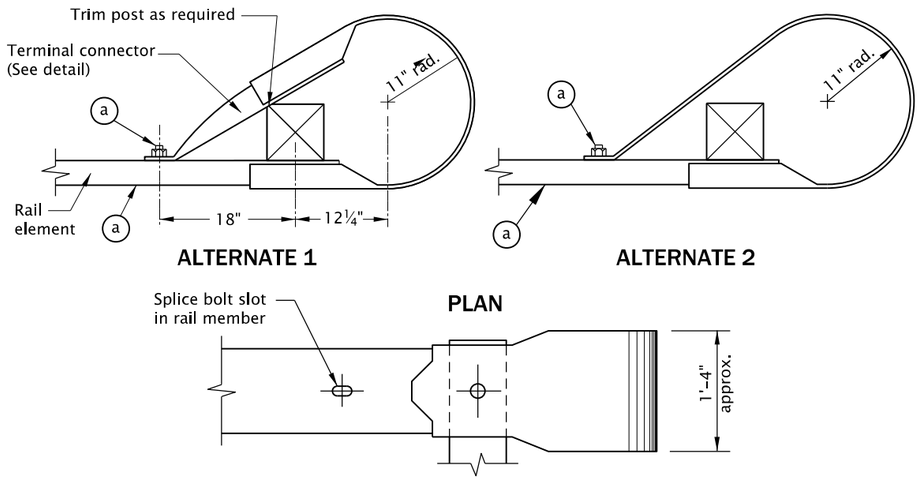
rd417.dgn 20-JUL-2020



SECTION A-A ELEVATION

W-BEAM TYPE B END PIECE

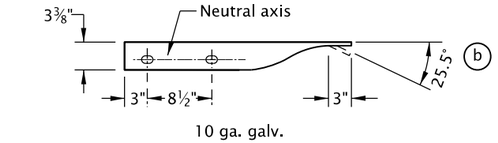
(a) Use rectangular washer under bolt head and nut on Type C End Piece as shown.



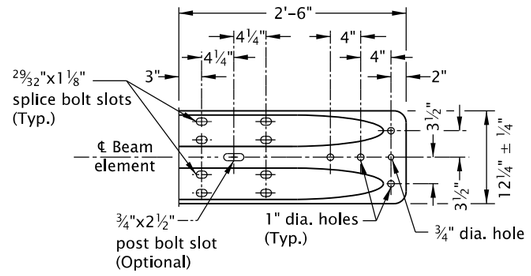
ELEVATION

W-BEAM TYPE C END PIECE

(For details not shown, see Type B End Piece)

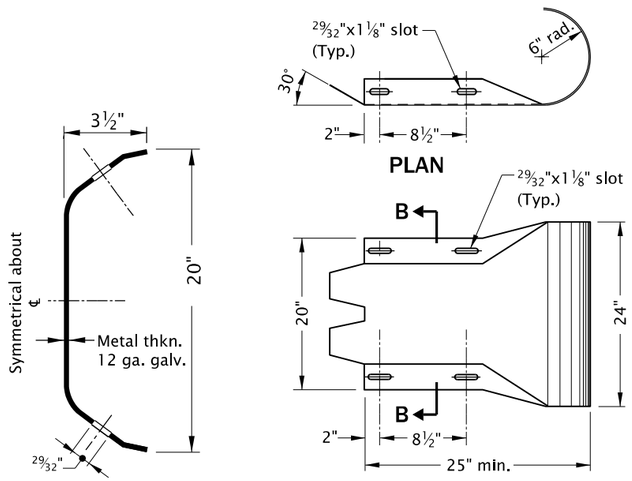


(b) 25.5" bend and hole reqd. only for use with alternate Type "C" end piece.



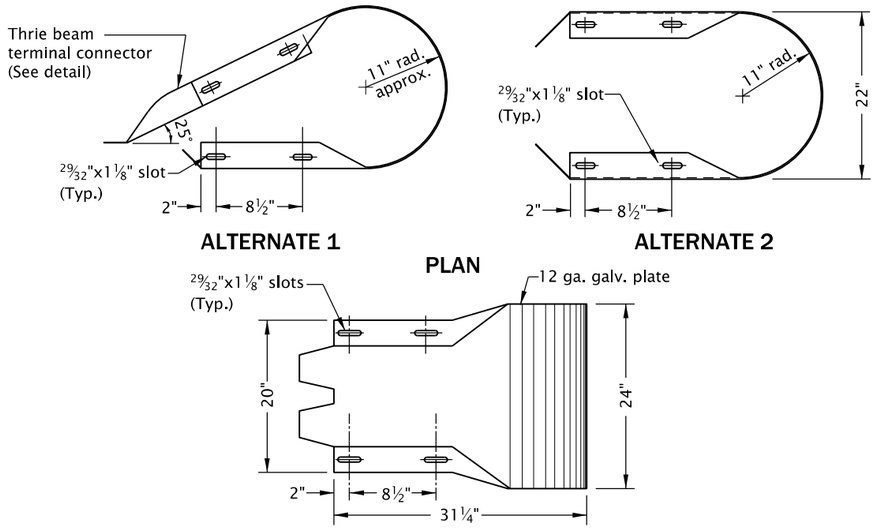
ELEVATION

W-BEAM TERMINAL CONNECTOR



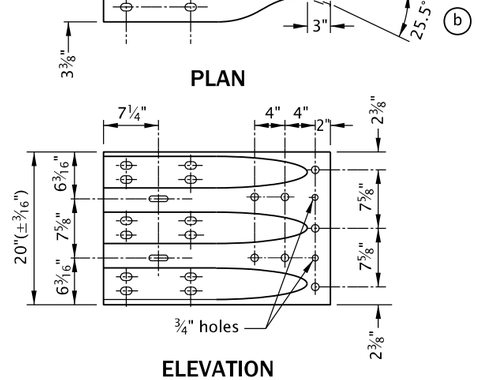
SECTION B-B ELEVATION

THRIE BEAM TYPE B END PIECE



ELEVATION

THRIE BEAM TYPE C END PIECE



ELEVATION

THRIE BEAM TERMINAL CONNECTOR

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. For details of guardrail connections to structural handrails, see special details or Standard Drawings as called for on plans.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

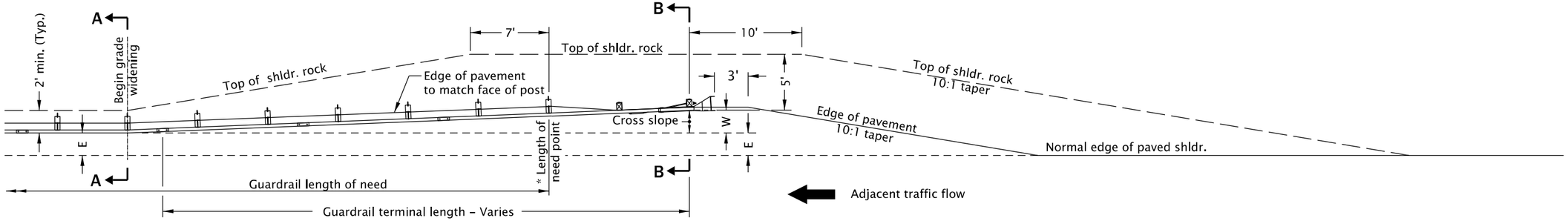
MIDWEST GUARDRAIL SYSTEM END SECTIONS

2021

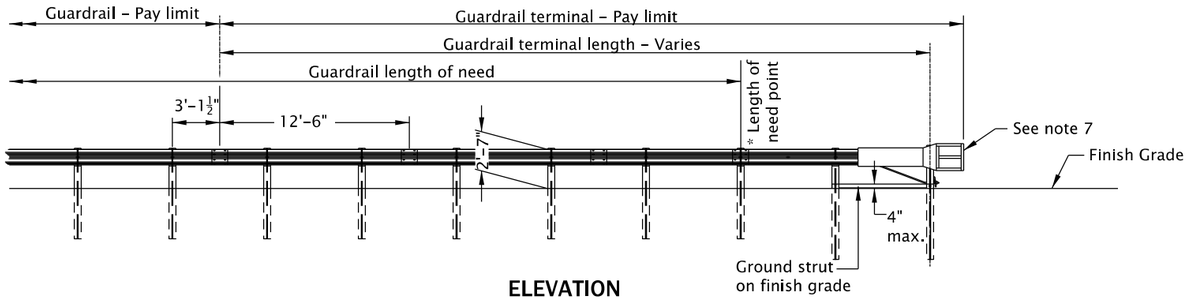
DATE	REVISION DESCRIPTION

Effective Date: December 1, 2022 - May 31, 2023

RD417

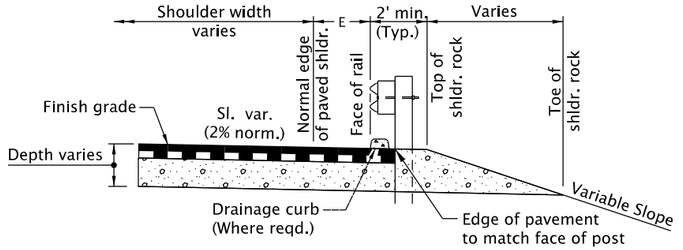


PLAN



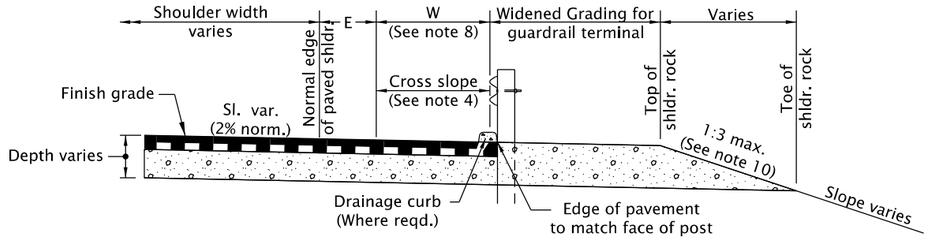
ELEVATION

* See note 6 and 9

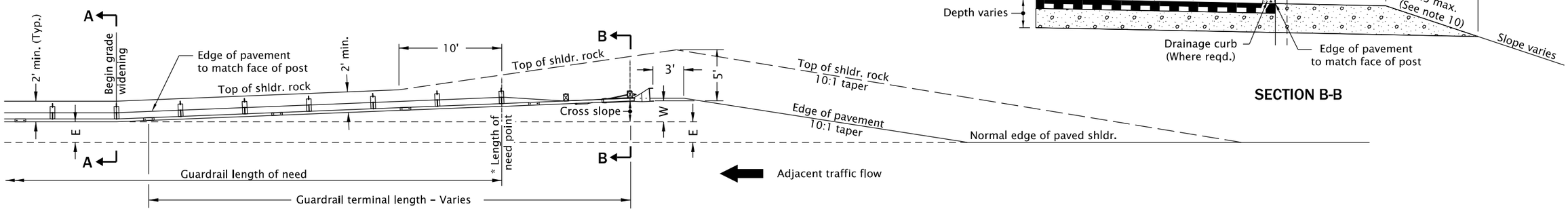


SECTION A-A

PREFERRED GRADING



SECTION B-B



ALTERNATIVE GRADING

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Use details shown as a general guide since manufacturer's details may vary. Install a guardrail terminal system that meets MASH requirements per manufacturer's recommendations. Ensure that guardrail terminal meets appropriate test level for the project.
2. See appropriate guardrail standard drawing(s) for details not shown. See project plans for details not shown. See Std. Dwg. RD701 for drainage curbs, where required. E=2' or as shown on project plans.
3. Guardrail Non-flared terminal shall be installed with a minimum 1 foot offset ensuring that the end piece is entirely off normal shoulder.
4. Cross slope to match adjacent roadway cross slope (preferred). If required, maximum shoulder slope 10% for guardrail widening. If required, maximum grade break at normal edge of shoulder 8%.
5. On two way two lane highways, both ends of guardrail runs shall be provided with a terminal flared or non-flared. Paving of widened shoulder to the face of posts on both ends of guardrail runs is required.
6. Provide guardrail terminal from ODOT's QPL. Install according to manufacturer's recommendations (post count varies). Provide shop drawings to Engineer.
7. Install a reflectorized object marker on head of every guard rail terminal with "W" 4 feet or less according to manufacturer's recommendations.
8. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
9. Length of need post location varies by manufacturer.
10. 1:4 slope or flatter preferable, 1:3 maximum.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM GRADING FOR TERMINALS

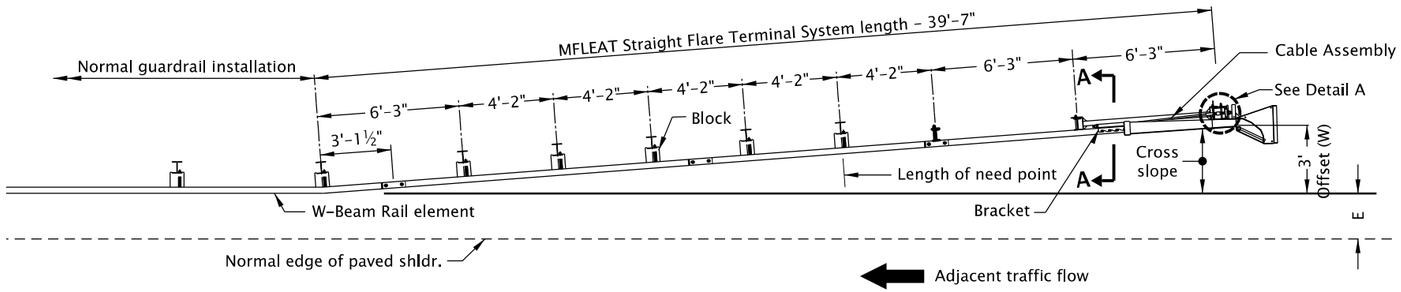
2021

DATE	REVISION DESCRIPTION
07-2021	REVISED NOTES

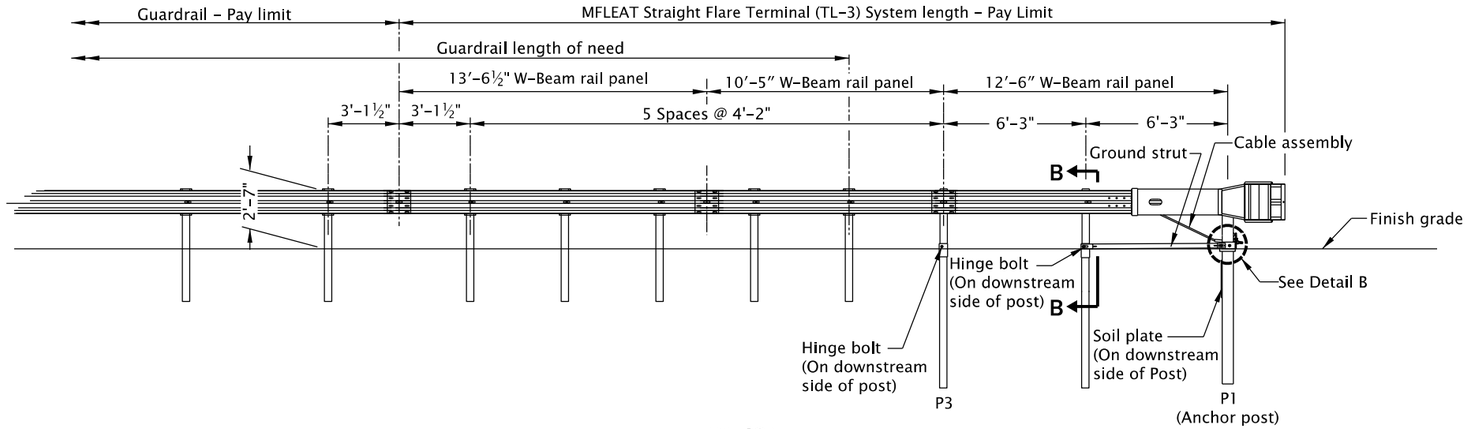
rd419.dgn 19-JUL-2021

Effective Date: December 1, 2022 – May 31, 2023

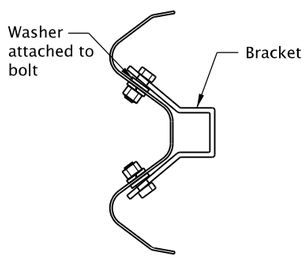
RD419



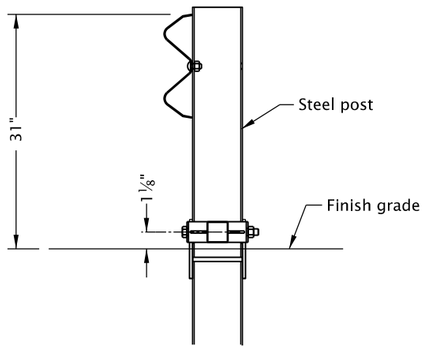
PLAN



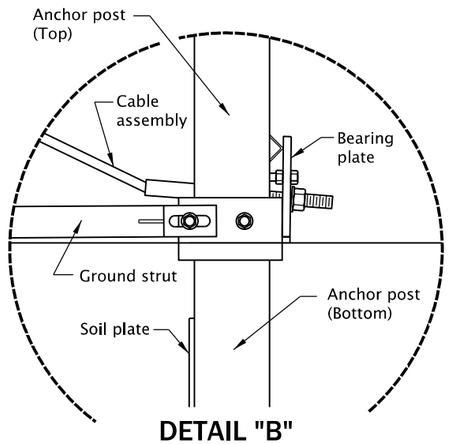
ELEVATION



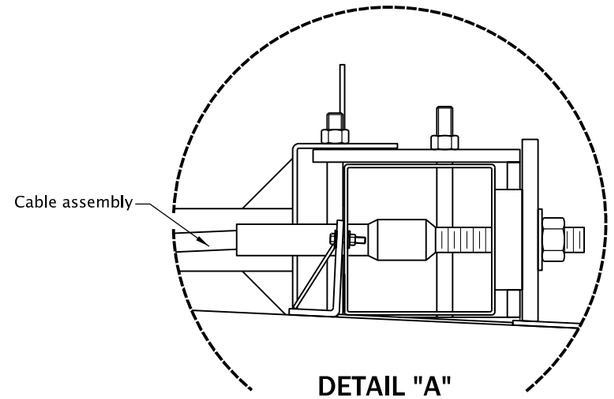
SECTION A-A
ANCHOR BRACKET



SECTION B-B
POST #2



DETAIL "B"
ANCHOR POST CONNECTION



DETAIL "A"
IMPACT HEAD CONNECTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Use details shown as a general guide since manufacturer's details may vary. Install a guardrail terminal system that meets MASH requirements per manufacturer's recommendations. Ensure that guardrail terminal meets appropriate test level for the project.

2. See appropriate guardrail standard drawing(s) for details not shown. See project plans for details not shown. See Std. Dwg. RD701 for drainage curbs, where required. E=2' or as shown on project plans.

3. Cross slope to match adjacent roadway cross slope (preferred). If required, maximum shoulder slope 10% for guardrail widening. If required, maximum grade break at normal edge of shoulder 8%.

5. Paving of widened shldr. to the face of posts on both ends of guardrail runs is required.

6. Provide guardrail terminal from ODOT's QPL. Install according to manufacturer's recommendations (post count varies). Provide shop drawings to Engineer.

7. Install a reflectorized object marker on head of every guard rail terminal with

8. "W" distance is measured to face of guardrail at end post, exclusive of end piece.

9. Length of need post location varies by manufacturer.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

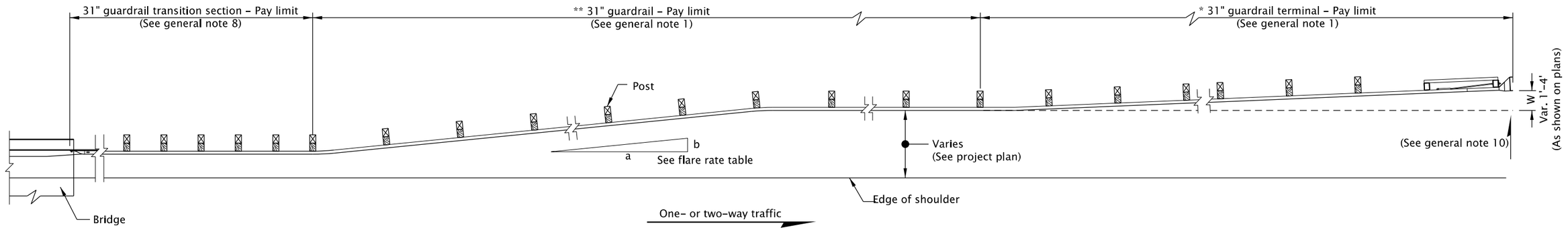
OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM FLARED ENERGY-ABSORBING TERMINAL (MFLEAT)

2021

DATE	REVISION DESCRIPTION

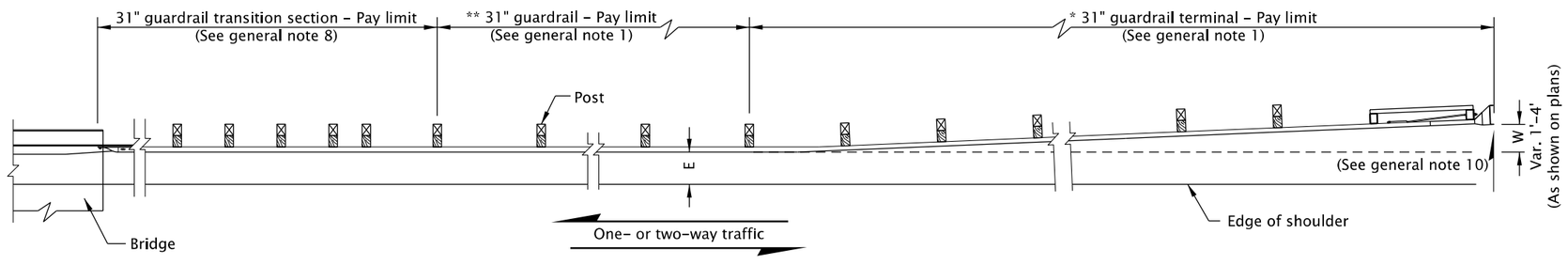
rd421.dgn 20-JUL-2020



NARROW BRIDGE ON ONE OR TWO-WAY TRAFFIC

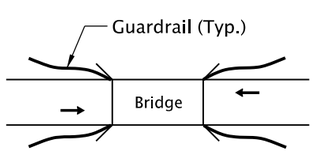
* Provide from ODOT's QPL.
Install according to manufacturer's instruction.

** Length of need calculation will determine quantity of Type 2A required.

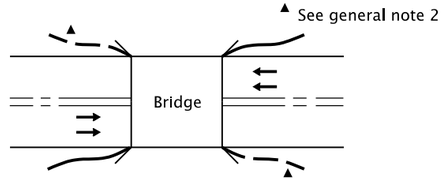


ONE OR TWO-WAY TRAFFIC

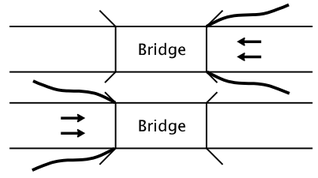
FLARE RATE TABLE	
POSTED SPEED (MPH)	FLARE RATE a:b
70	15 : 1
60	14 : 1
55	12 : 1
50	11 : 1
45	10 : 1
40 or less	9 : 1



TWO LANE



MULTILANE



MULTILANE

LOCATIONS AT BRIDGE ENDS (MINIMUM SHOWN)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate standard drawing(s) for details not shown.
2. Guardrail at indicated positions is required for protection at bridge ends. Additional guardrail is to be installed as required by guardrail warrant and fastened to bridge.
3. Face of guardrail at locations shown above must match face of bridge curb or bridge rail on structure without curb.
4. Trailing ends (Freeway, multilane and similar one-way facilities) not exposed to opposing traffic:
   (a) Guardrail terminals, use a Downstream Anchor Terminal (DAT) (RD438), Type B end piece and do not flare.
   (b) At bride ends, omit transition guardrail & Type 3 guardrail. Use bridge connection (Bridge drawing BR236) and guardrail as required in plans.
5. Rail expansion slots to be provided at bridge end connections. See dwg. no. RD412 "MIDWEST GUARDRAIL SYSTEM INSTALLATION AT BRIDGE DECK EXPANSION JOINT" details and notes.
6. Where bridges employ guardrail in lieu of handrail or vehicular barriers, adjacent connecting guardrail runs shall be the same type.
7. (a) All bolts except adjustment bolts shall be drawn tight on rails and components on initial installation.
   (b) Final tightness check on rail and component bolts and re-tightening as required to be done 30 days after initial installation.
8. See project plans for details not shown. See dwg. no. RD482 for Type 3, Nested W-Beam details. For transition guardrail detail and installation limits at bridge ends, see applicable bridge drawings.
9. "W" distance is measured from face of guardrail at end post, exclusive of end piece.
10. The slope from the edge of the shoulder into the face of the guardrail should not be steeper than 1V : 10H when the guardrail is within 12'-0" from the edge of the shoulder. Paving of widened shoulder to face of posts in both ends of guardrail runs is required.
11. Wood or steel post. Wood post shown.

CALC. BOOK NO. N/A

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 consulting a Registered Professional Engineer.

SDR DATE 14-JAN-2022

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

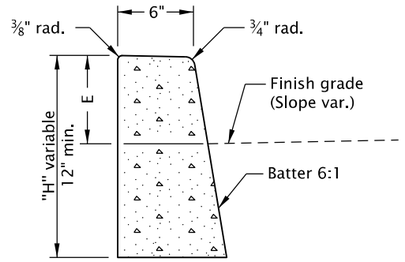
OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS AT BRIDGE ENDS

2021

DATE	REVISION DESCRIPTION
12-2021	REVISED NOTES

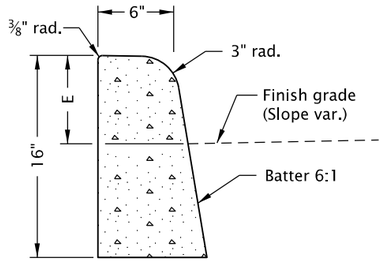
rd442.dgn 14-JAN-2022



O.D.O.T. & City of Portland Standard "H"=16"

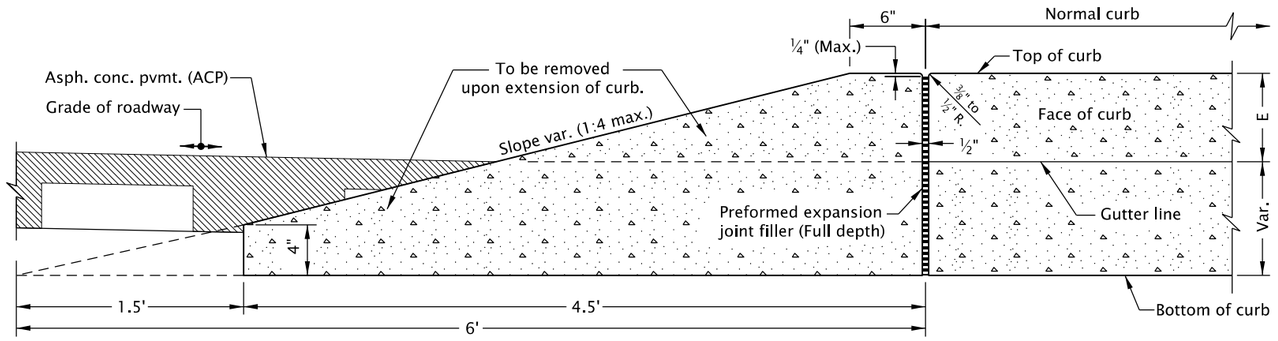
STANDARD CURB

(See general note 11)

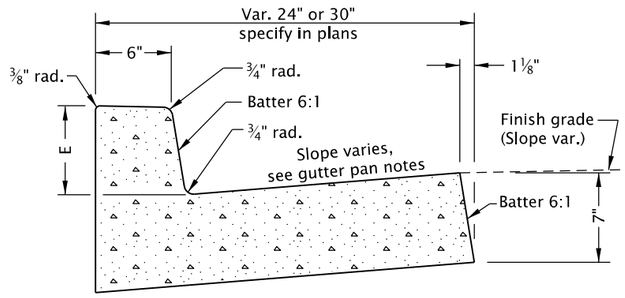


MOUNTABLE CURB

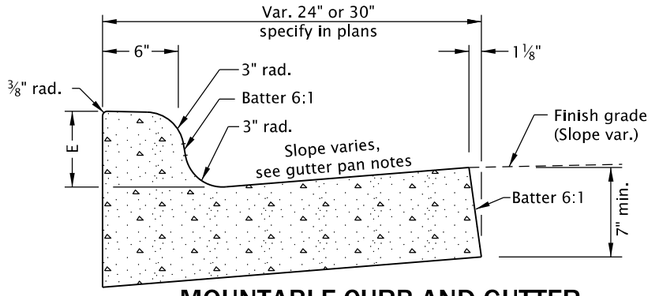
(See general note 11)



CURB ENDING DETAIL



CURB AND GUTTER



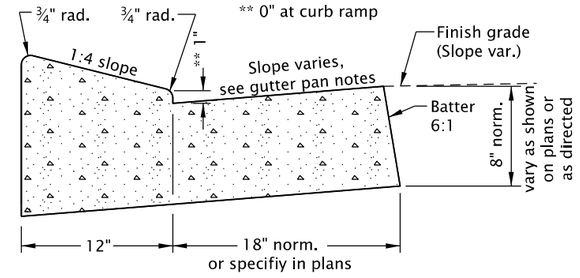
MOUNTABLE CURB AND GUTTER

GUTTER PAN NOTES:

Slope 5.0% normal.

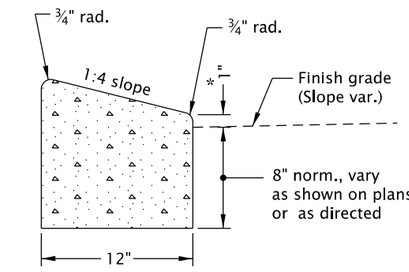
Slope 4.0% max. at curb ramps.

Vary slope as reqd. for drainage. Vary where shown on plans, and allowed by jurisdiction.



LOW PROFILE MOUNTABLE CURB AND GUTTER

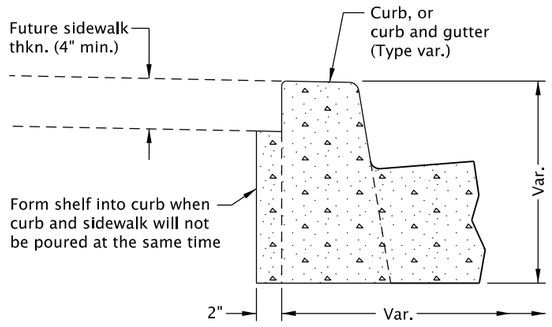
(Where shown on plans)



* 0" for Truck Apron

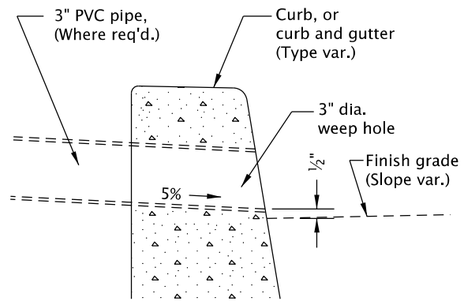
LOW PROFILE MOUNTABLE CURB

(See general note 11)



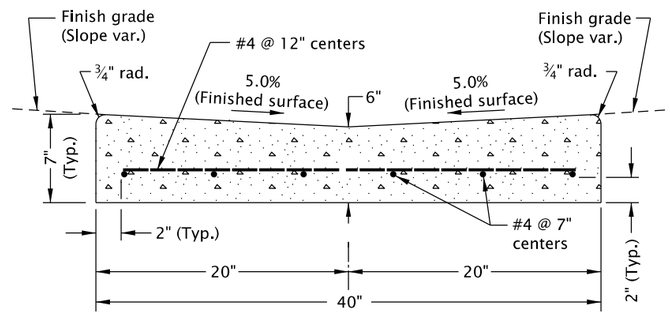
MODIFICATION FOR KEYWAY

(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.

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 consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be In accordance with the current Oregon Standard Specifications

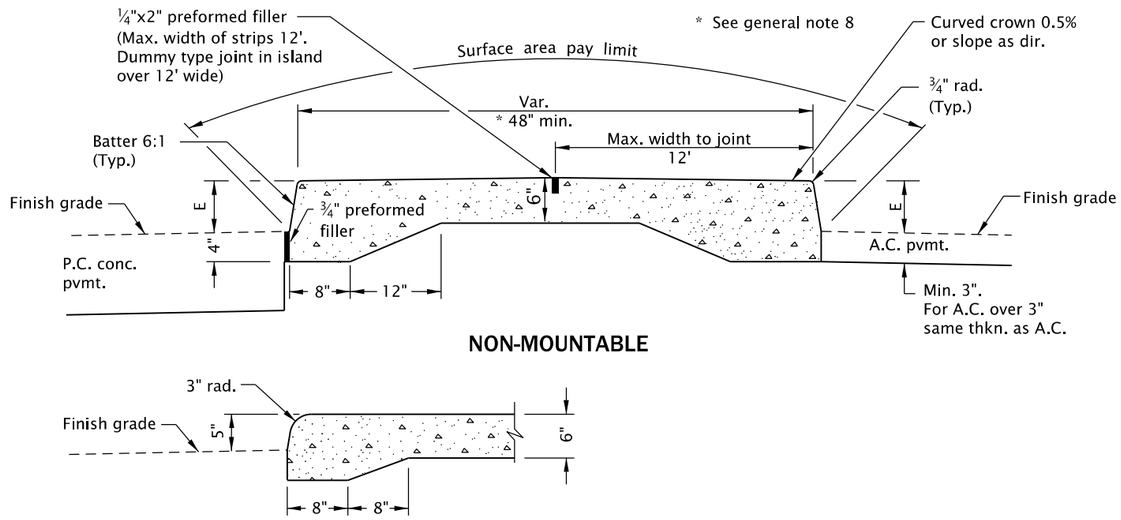
OREGON STANDARD DRAWINGS

CURBS

2021

DATE	REVISION DESCRIPTION

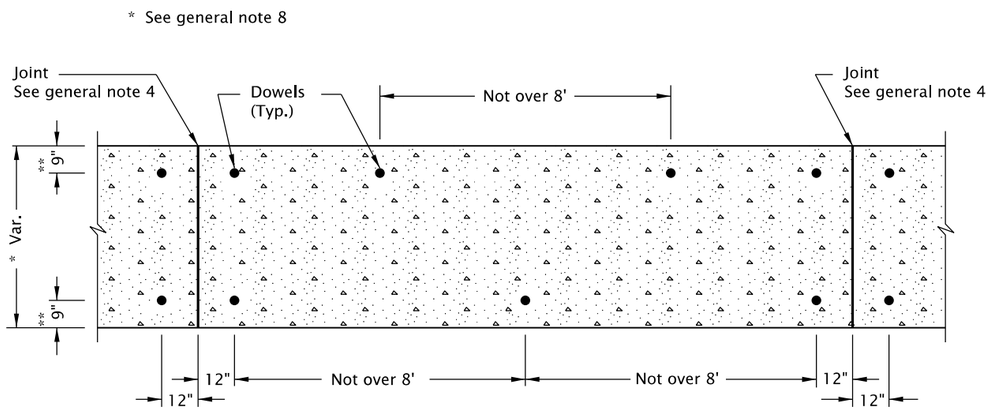
rd700.dgn 20-JUL-2020



NON-MOUNTABLE

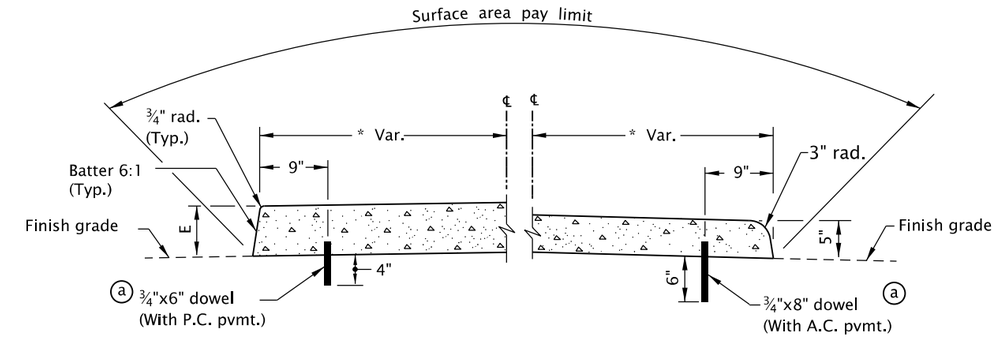
MOUNTABLE
(For surfacing details not shown, see above)

TYPE A



DOWEL PLAN
FOR TYPE C OR TYPE CA ISLANDS & TRANSITIONS
(ON SURFACE OF NEW OR EXISTING PAVEMENT)

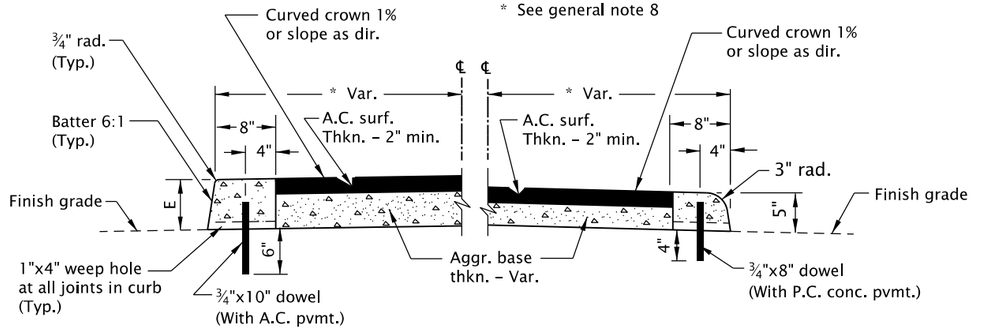
** Also see below for type CA island requirement.



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.

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 consulting a Registered Professional Engineer.

CALC. BOOK NO. N/A

SDR DATE 16-JUL-2018

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

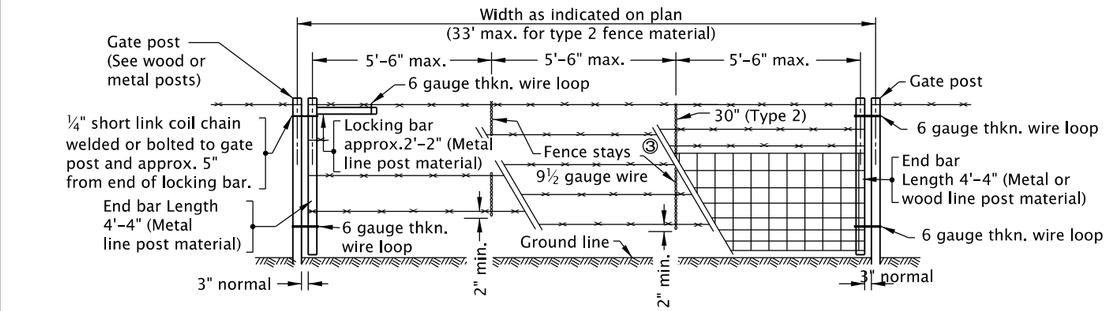
ISLANDS

2021

DATE	REVISION DESCRIPTION

RD705

rd705.dgn 20-JUL-2020



TYPE 1 Fence material ①②

TYPE 1-5W Fence material ①②

TYPE 2 Fence material ①②

NOTES:

① Match adjointing fence type.
② For details not shown see fence type.
③ For wooden stays, see Type 1 fence details.

GATEWAY

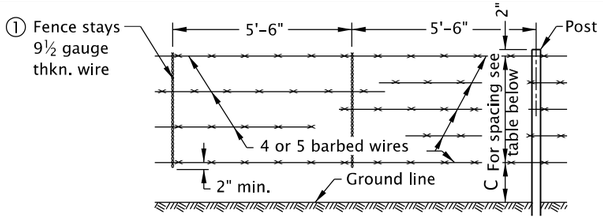


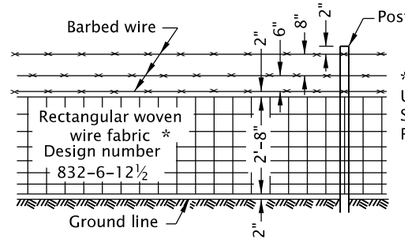
TABLE OF DIMENSIONS

FENCE	C	SPACING	NO. OF WIRES
Type 1	14"	12"	4
Type 1-5W	10"	10"	5

① NOTE:

Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2"x2"x52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground.
Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.

TYPES 1 , & 1-5W



* U.S. Dept. of Commerce Simplified Practice Recommendation R9-47.

② NOTE:
For wooden stays, see Type 1 fence details

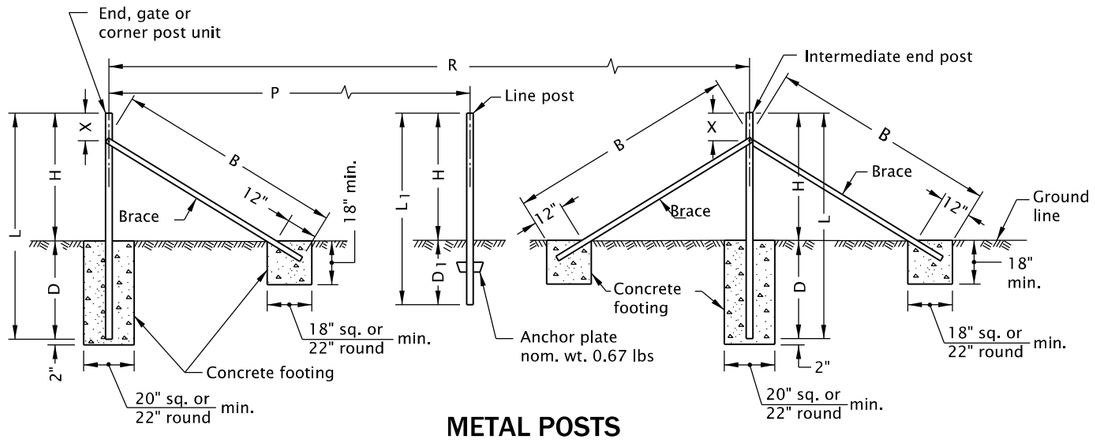
② **TYPE 2**

TABLE 1 (For wood posts)

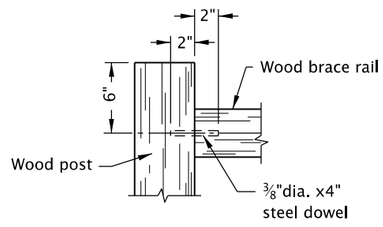
FENCE	R (ft)	UNITS REQUIRED
Types 1, 1-5W & 2	20 or Less	* None
	20-330	A
	Over 330	A & B

* Unit A required at gate post.

Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.



METAL POSTS



BRACE RAIL CONNECTION

TABLE 2

FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max.
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9"-22"

TABLE 3

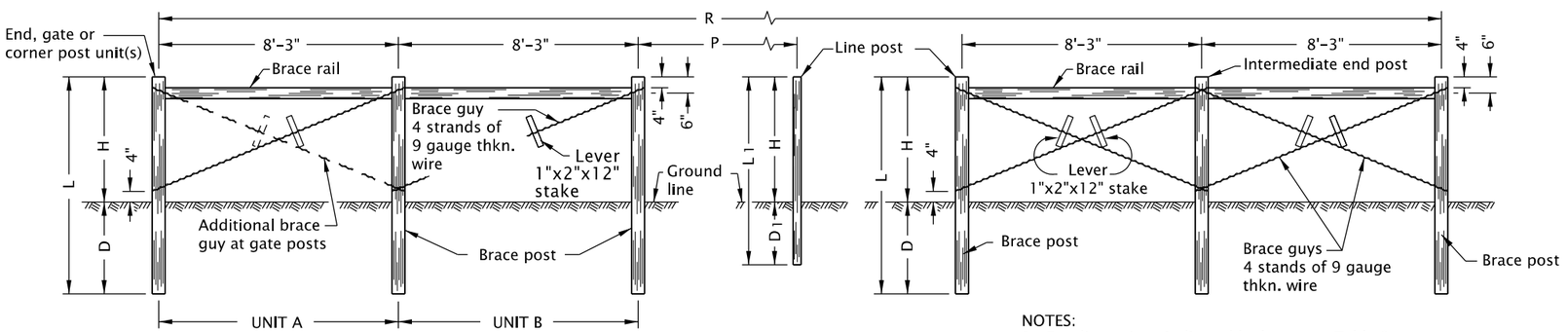
MEMBER	WOOD * ROUND DIAMETER OF SMALL END (in) min.-max.	WOOD * ROUND DIAMETER OF SMALL END (in) min. avg.	WOOD SQUARE SIZE nominal (in)	METAL SHAPE	METAL WEIGHT PER (ft) nominal	METAL SIZE nominal
Line Post	3" to 4"	3"	† 3"x3"	Tee Channel ⓐ or U-bar	1.33 lb	ASTM A-702
Brace or Brace Rail	3½" to 5½"	4"	4"x4"	Tubular	ⓑ	1½" +/- O.D.
				ⓐ Angle	3.19 lb	2"x2"x¼"
Other Post	4" to 7"	5"	† 5"x5"	Tubular	b	2⅜" O.D.
				ⓐ Angle	4.1 lb	2½"x2½"x¼"

* Max. taper 1":48".

† Max. allowable size 1" additional in each dimension.

ⓐ In accordance with ASTM A 702.

ⓑ In accordance with AASHTO M 181.



For units required see Table 1

WOOD POSTS

NOTES:
1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For cross sectional dimensions of members see Table 3.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For shapes, weights and dimensions of members see Table 3.
4. All concrete shall be commercial grade concrete.
5. See Std. Dwg. RD820 for fence gates.
6. See project plans for details not shown.
7. Add fence grounding as required.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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 consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

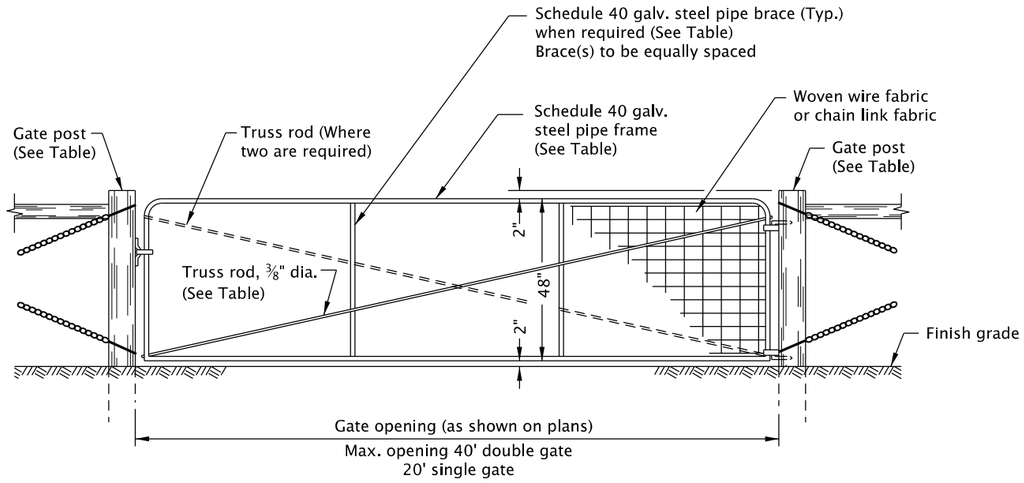
BARBED AND WOVEN WIRE FENCES

2021

DATE	REVISION DESCRIPTION

rd810.dgn 20-JUL-2020

rd820.dgn 20-JUL-2020



GATE COMPONENTS								GATE POSTS ① ②					
								WOOD				STEEL	
GATE OPENING (ft)		SCHEDULE 40 GALV. STEEL PIPE FRAME		SCHEDULE 40 GALV. STEEL PIPE BRACE			TRUSS RODS	* ROUND			SQUARE	SCHEDULE 40 GALV. STEEL PIPE	
								DIA. OF SMALL END (in)			NOM. SIZE (in)	NOM. DIA. (in)	MIN. WT. (lb/ft)
SINGLE GATE	DOUBLE GATE	NOM. DIA. (in)	MIN. WT. (lb/ft)	NUMBER	NOM. DIA. (in)	MIN. WT. (lb/ft)		Min.	Max.	Min. Avg.			
UP thru 6	UP thru 12	1	1.68	–	–	–	–	5	7	6	6x6	2½	5.79
7 thru 11	13 thru 22	1¼	2.27	1	1	1.68	1	5	7	6	6x6	3½	9.11
12 thru 16	23 thru 32	1½	2.72	2	1¼	2.27	2	7	9	8	8x8	6	18.97
17 thru 20	33 thru 40	2	3.65	2	1¼	2.27	2	9	11	10	10x10	6	18.97

① Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for single gate installation of the wider gate width.

② For length, setting and bracing details see end posts, Std. Dwg. RD810.

* Max. taper 1" in 4'

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Gates shown are for use with Fence Types 1, 1-5W and 2.
2. See Std. Dwg. RD810 for details not shown.
3. See project plans for details not shown.
4. Add fence grounding as required.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

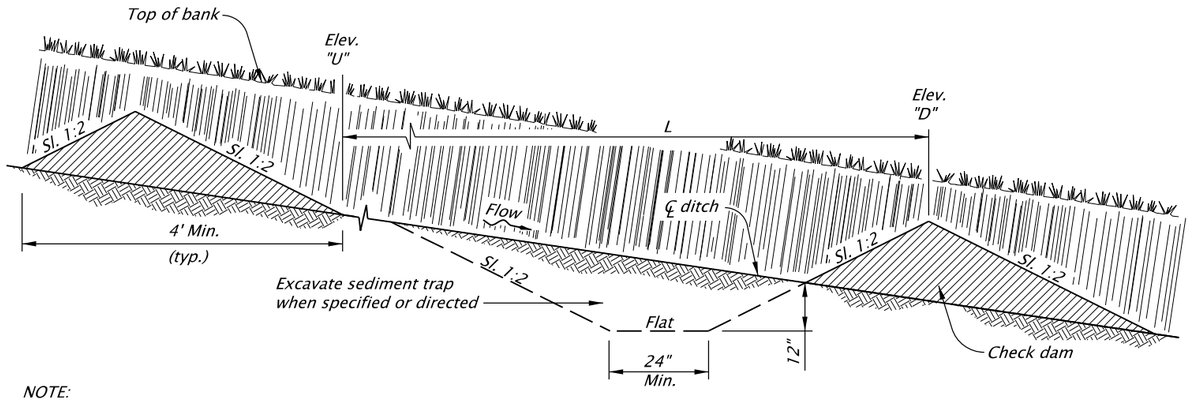
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

FENCE GATES

2021

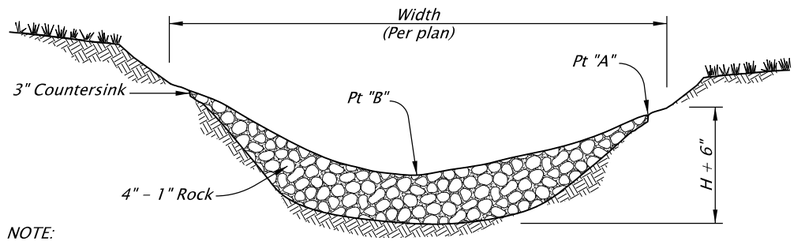
DATE	REVISION DESCRIPTION



NOTE:
L = Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS (SHOWN WITH AGGREGATE)

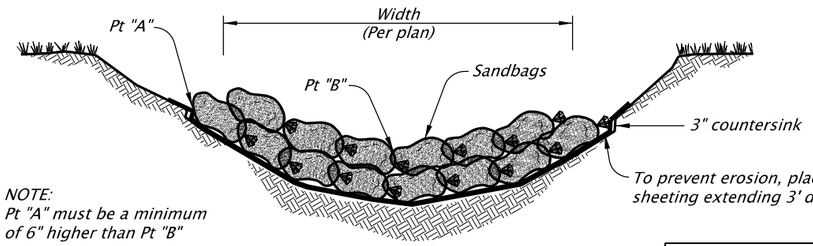
NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

AGGREGATE CHECK DAM - TYPE 1

NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

SANDBAG CHECK DAM - TYPE 4

NOT TO SCALE

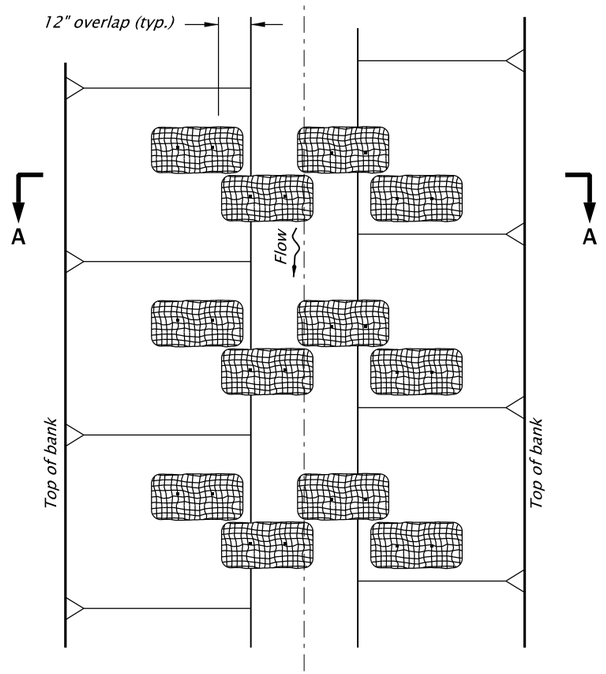
NOTES:

1. *Type 3 - stake biofilter bags with two 2"x2"x18" (minimum) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 12" minimum at each joint.*
2. *Type 4 - Tightly abut or overlap ends of sandbags at each joint.*
3. *Spacing between check dams for all check dam types shall comply with the typical profile section shown above.*

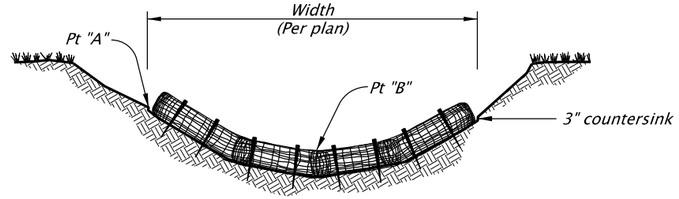
MAXIMUM CHECK DAM SPACING "L"

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



PLAN



SECTION A-A

BIOFILTER BAG CHECK DAM - TYPE 3

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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OREGON STANDARD DRAWINGS

CHECK DAMS TYPE 1, 3 AND 4

2021

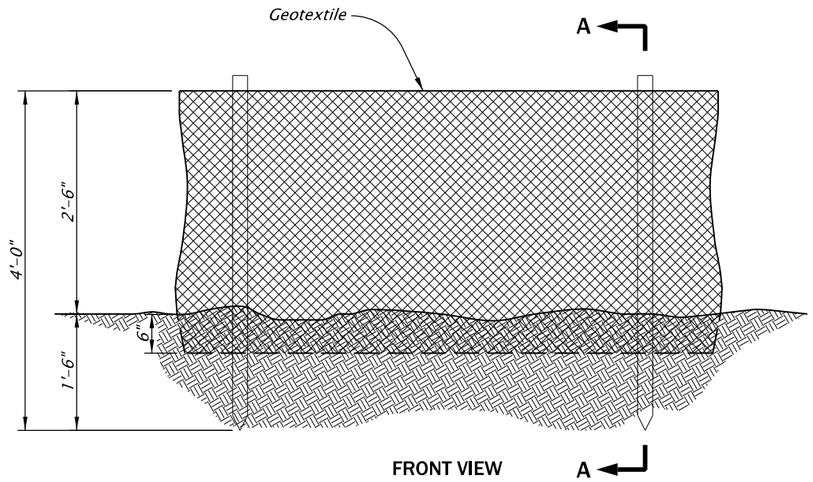
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1005.dgn 01-20-2021

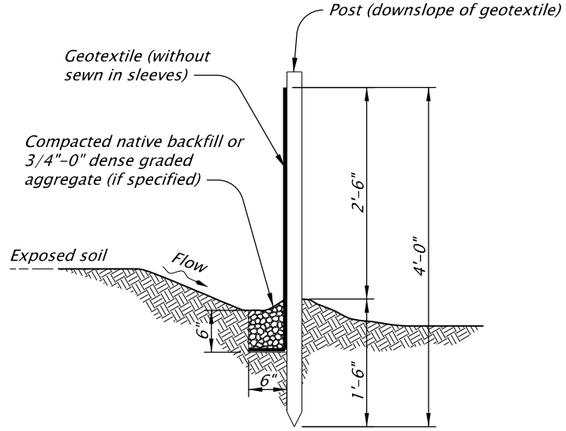
RD1005

Effective Date: June 1, 2022 - November 30, 2022

RD1005



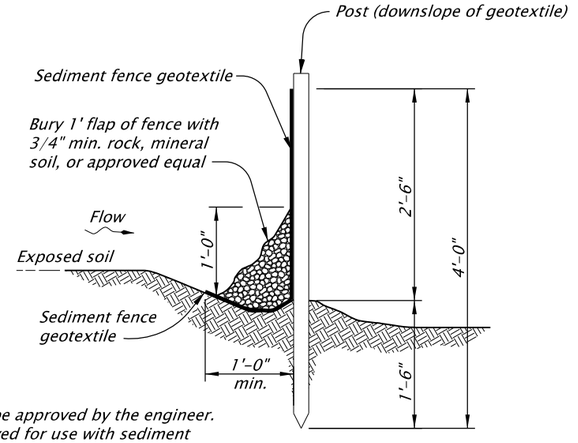
FRONT VIEW



SECTION A-A

SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

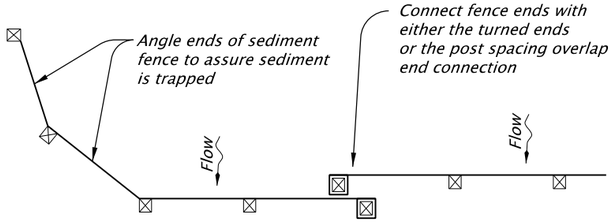
NOT TO SCALE



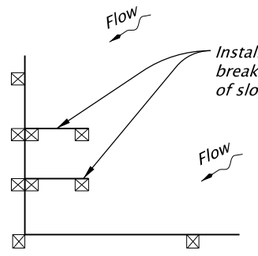
NOTES:
1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2

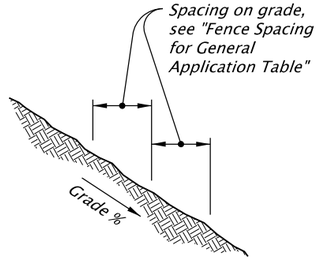
NOT TO SCALE



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE



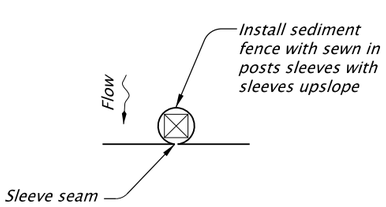
GENERAL NOTES:
1. Use 2"x2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with "Fence Spacing for General Application Table".

FENCE SPACING FOR GENERAL APPLICATION TABLE

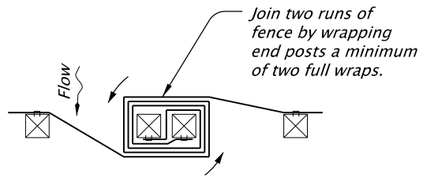
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

POST SPACING TABLE

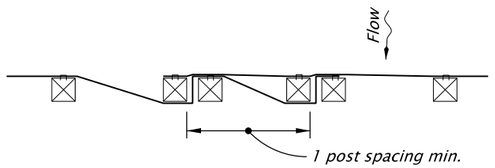
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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OREGON STANDARD DRAWINGS

SEDIMENT FENCE

2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

rd1040.dgn 01-20-2021

RD1040