

FUNDING SOURCE

THIS PROJECT IS FUNDED BY THE US DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION EMERGENCY RELIEF PROGRAM



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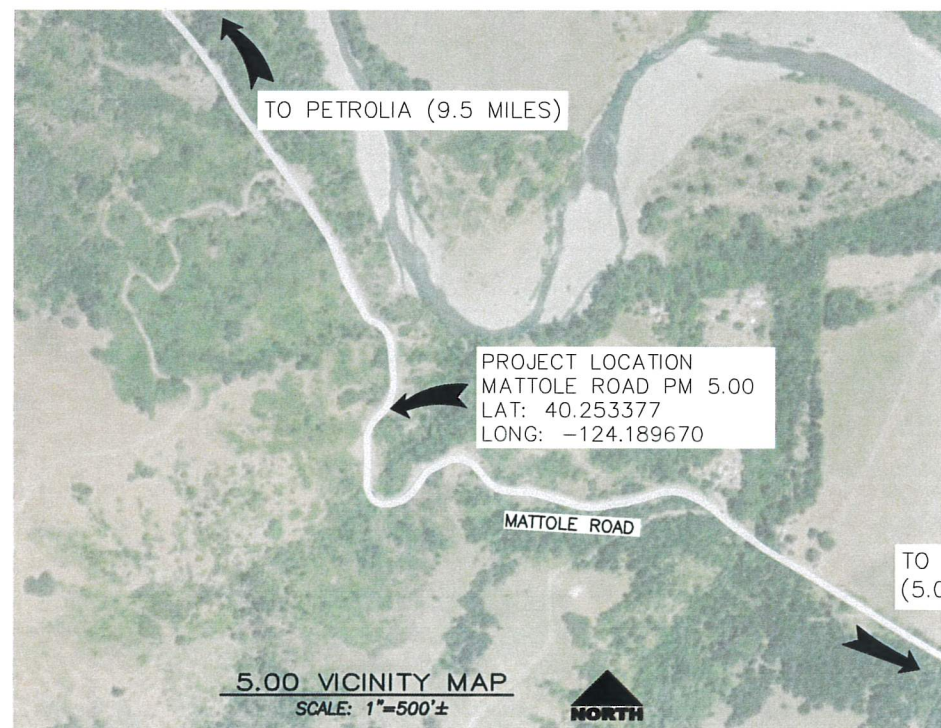
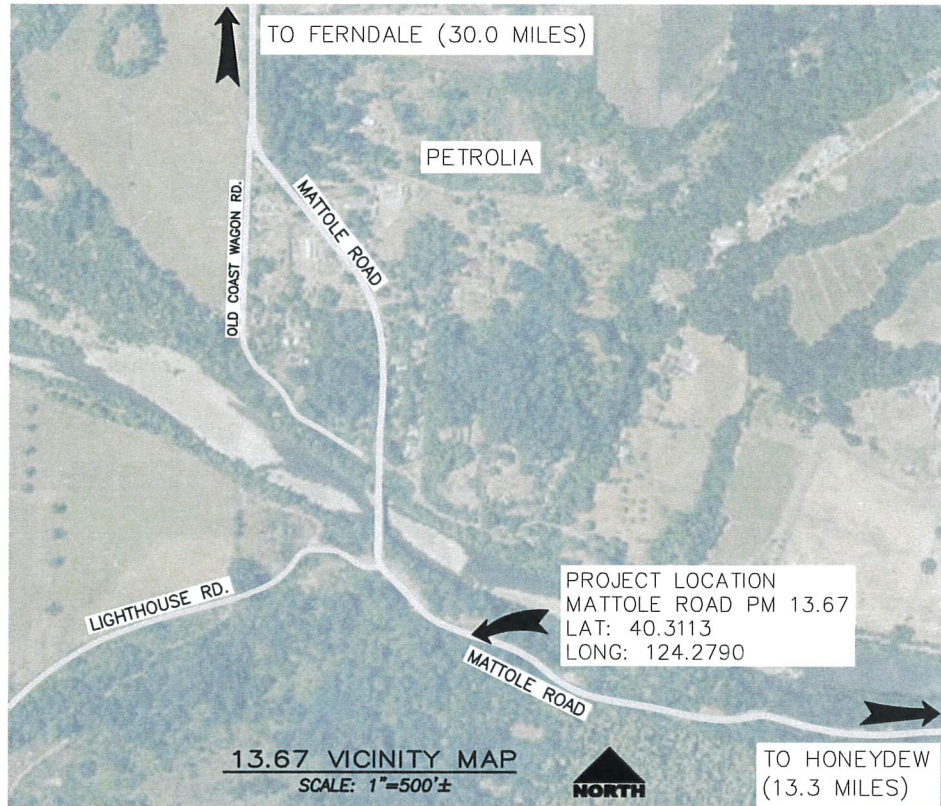
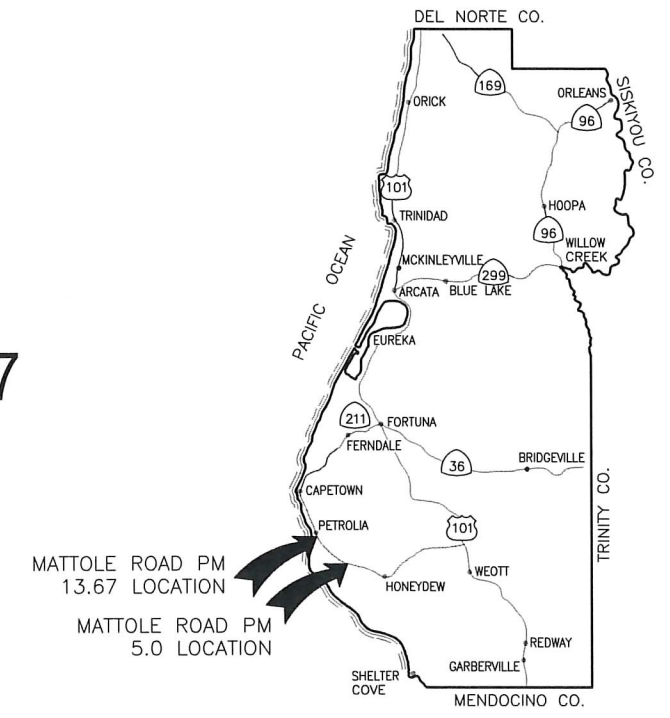


ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791-11190326_01-G001-COVER.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: G-001
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 1 OF 26
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67	
COVER SHEET, SHEET INDEX, AND MAPS	

# COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS PROJECT PLANS FOR CONSTRUCTION OF STORM DAMAGE REPAIRS MATTOLE ROAD (F3C010) AT P.M. 5.00 & P.M. 13.67 PROJECT NO. ER-32LO(118) & ER-32LO(240) CONTRACT NO. 217224 & 217219

TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION 2018 STANDARD PLANS, 2018 STANDARD SPECIFICATIONS, AND LATEST REVISED STANDARD PLANS AND SPECIFICATIONS.



ABBREVIATIONS  
(TO SUPPLEMENT CALTRANS STANDARD PLANS A3A, A3B & A3C)

APN	ASSESSORS PARCEL NUMBER
CL	CENTERLINE
CT	CALTRANS
(E)	EXISTING
EL	ELEVATION
ICL	IMPLIED COMMON LAW
K	K-VALUE
LT	LEFT
PVI	POINT OF VERTICAL INTERSECTION
RT	RIGHT
S	SLOPE



NOTES

1. THE CONTRACTOR SHALL HAVE A CLASS "A" LICENSE FOR THIS PROJECT.
2. STANDARD PLAN LIST APPLICABLE TO THIS CONTRACT INCLUDED IN THE SPECIAL PROVISIONS.
3. GEOTECHNICAL REPORTS: CRAWFORD AND ASSOCIATES, SEPTEMBER 30TH, 2019.

SHEET LIST TABLE

SHEET	DESIGNATION	SHEET TITLE
1	G-001	COVER SHEET, SHEET INDEX, AND MAPS
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3	G-003	CONSTRUCTION DETAILS
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6	C-103	PM 5.00 ROADWAY PLAN
7	C-104	PM 5.00 ROADWAY PROFILE & SUPERELEVATION
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9	C-106	PM 5.00 CROSS SECTIONS
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18	C-202	PM 13.67 TYPICAL SECTIONS
19	C-203	PM 13.67 ROADWAY PLAN
20	C-204	PM 13.67 ROADWAY PROFILE
21	C-205	PM 13.67 EROSION CONTROL PLAN
22	C-206	PM 13.67 CROSS SECTIONS
23	S-201	PM 13.67 STRUCTURAL GENERAL NOTES
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26	S-204	PM 13.67 RETAINING WALL DETAILS NO. 2

RECOMMENDED

*Josh Wolf*  
 JOSH WOLF  
 RCE 70358  
 CIVIL ENGINEER  
 GHD INC.  
 10-21-2020  
 DATE



APPROVED

*Tony R. Seghetti*  
 TONY R. SEGHETTI  
 RCE 63714  
 DEPUTY DIRECTOR OF ENGINEERING  
 COUNTY OF HUMBOLDT  
 10/21/20  
 DATE

**CONSTRUCTION AREA SIGN SUMMARY**

- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD) AND CALTRANS 2018 STANDARD PLANS.
- EXACT SIGN LOCATIONS AND POSITIONS TO BE APPROVED BY THE ENGINEER.
- ALL WARNING SIGNS SHALL HAVE A BLACK LEGEND AND BORDER ON ORANGE BACKGROUND.
- ALTERNATIVE POST CONFIGURATION TO BE APPROVED BY ENGINEER.
- SPACING PER CALIFORNIA MUTCD TA-11.
- REFER TO FIGURE 6H-10A(CA) FOR LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS (TA-11).
- REFER TO FIGURE 6H-11 FOR LANE CLOSURE ON A TWO-LANE ROAD WITH LOW TRAFFIC VOLUMES (TA-11).
- MAINTAIN ALL SIGNS THROUGHOUT DURATION OF CONSTRUCTION.
- MAINTAIN AT LEAST ONE TRAVEL LANE AT ALL TIMES.
- PROVIDE FLAGGERS AS REQUIRED TO ACCOMMODATE CONSTRUCTION.



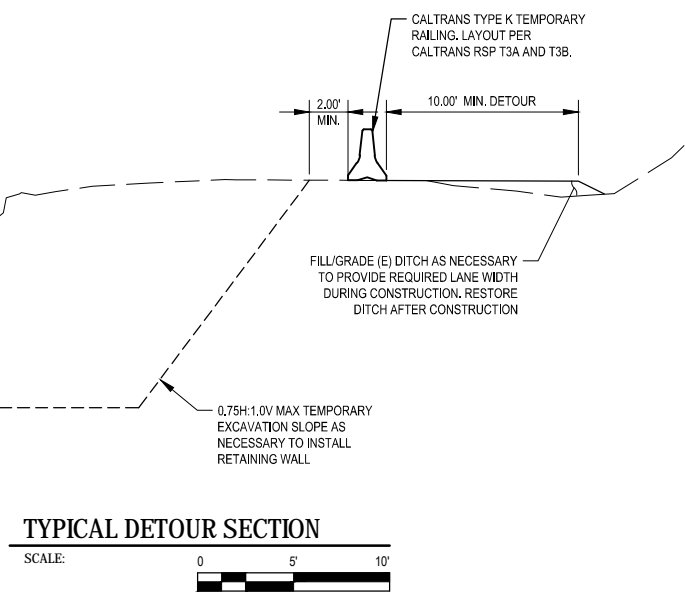
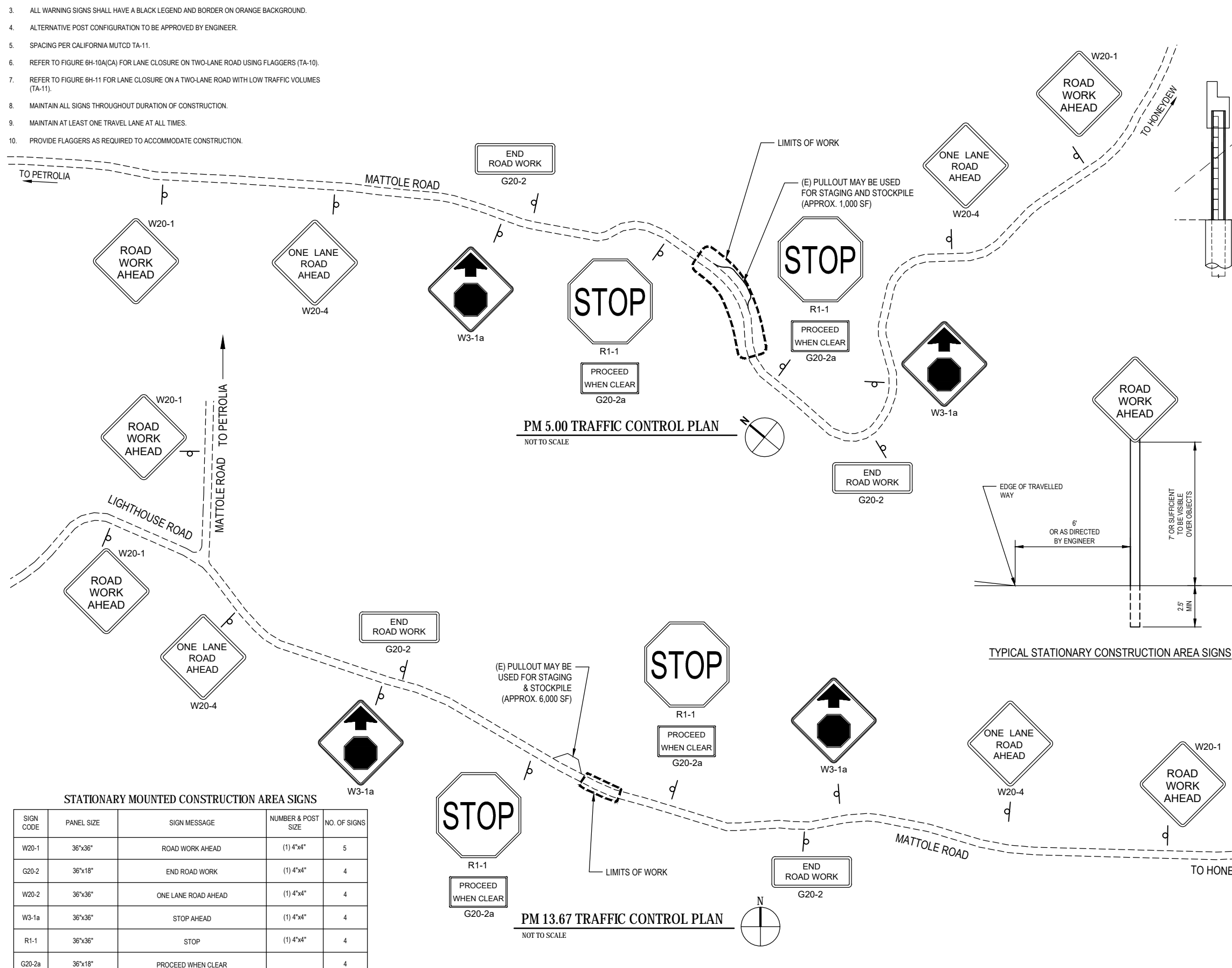
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ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791-11190326_02-G002-TRFCTL PLAN-QUANT.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: G-002
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67	
TRAFFIC CONTROL PLAN AND QUANTITIES	



**QUANTITIES**

ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	PM 5.00 QUANTITY	PM 13.67 QUANTITY	TOTAL QUANTITY
1	120090	Construction Area Signs	LS	0.5	0.5	1
2	120100	Traffic Control System	LS	0.5	0.5	1
3	129000	Temporary Railing (Type K)	EA	22	14	36
4	130100	Job Site Management	LS	0.5	0.5	1
5	130200	Prepare Water Pollution Control Program	LS	0.5	0.5	1
6	130610	Temporary Check Dam	LF	46	38	84
7	130680	Temporary Salt Fence	LF	280	232	512
8	130900	Temporary Concrete Washout	EA	1	1	2
9	170103	Clearing and Grubbing (LS)	LS	0.5	0.5	1
10	190101	Roadway Excavation	CY	460	250	710
11	192049	Structure Excavation (Soldier Pile Wall)	CY	320	160	480
12	193029	Structure Backfill (Soldier Pile Wall)	CY	345	70	415
13	193116	Concrete Backfill (Soldier Pile Wall)	CY	65	75	140
14	193119A	Lean Concrete Backfill (Soldier Pile Wall)	CY	65	15	80
15	198050	Embankment	CY	100	10	110
16	210212	Dry Seed (SQFT)	SQFT	3365	320	3685
17	210280	Rolled Erosion Control Product (Blanket)	SQFT	3365	320	3685
18	210350	Fiber Rolls	LF	430	8	438
19	260203	Class 2 Aggregate Base (CY)	CY	260	120	380
20	390132	Hot Mix Asphalt (Type A)	TON	140	65	205
21	394077	Place Hot Mix Asphalt Dike (Type F)	LF	114	90	204
22	460210	Ground Anchor (Subhorizontal)	EA	15	0	15
23	490316A	Steel Soldier Piling (W 14 X 51)	LF	0	320	320
24	490322A	Steel Soldier Piling (W 14 X 109)	LF	0	175	175
25	490325A	Steel Soldier Piling (W 16 X 100)	LF	720	0	720
26	490403	30" Drilled Hole	LF	750	540	1290
27	510050A	Structural Concrete, Cap Beam & Waler (Soldier Pile Wall)	CY	60	24	84
28	520103	Bar Reinforcing Steel (Retaining Wall)	LB	14900	2300	17200
29	575004	Timber Lagging	M <sup>2</sup> /M	17	3	20
30	680902	6" Perforated Plastic Pipe Underdrain	LF	296	145	441
31	680903	6" Plastic Pipe Underdrain	LF	42	95	137
32	682008A	Permeable Material (Underdrain)	CY	40	40	80
33	723050	Rock Slope Protection (1/4 T, Class V, Method B) (CY)	CY	0	130	130
34	723070	Rock Slope Protection (150 lb, Class III, Method B) (CY)	CY	4	3	7
35	723080	Rock Slope Protection (60 lb, Class II, Method B) (CY)	CY	2	0	2
36	729011	Rock Slope Protection Fabric (Class B)	SQYD	21	150	171
37	750506A	Miscellaneous Metal (Tie Rod Assembly)	EA	0	7	7
38	837006	Midwest Gondrail System (Steel Post)	LF	114	86	200
39	839521	Cable Railing	LF	115	55	170
40	839581	End Anchor Assembly (Type SFT)	EA	0	1	1
41	839584	Alternative In-Line Terminal System	EA	1	1	2
42	839585	Alternative Flared Terminal System	EA	1	0	1
43	840505A	4" Thermoplastic Traffic Stripe	LF	556	292	848
44	999990	Mobilization	LS	0.5	0.5	1

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER & POST SIZE	NO. OF SIGNS
W20-1	36"x36"	ROAD WORK AHEAD	(1) 4"x4"	5
G20-2	36"x18"	END ROAD WORK	(1) 4"x4"	4
W20-2	36"x36"	ONE LANE ROAD AHEAD	(1) 4"x4"	4
W3-1a	36"x36"	STOP AHEAD	(1) 4"x4"	4
R1-1	36"x36"	STOP	(1) 4"x4"	4
G20-2a	36"x18"	PROCEED WHEN CLEAR		4

**PM 13.67 TRAFFIC CONTROL PLAN**  
NOT TO SCALE



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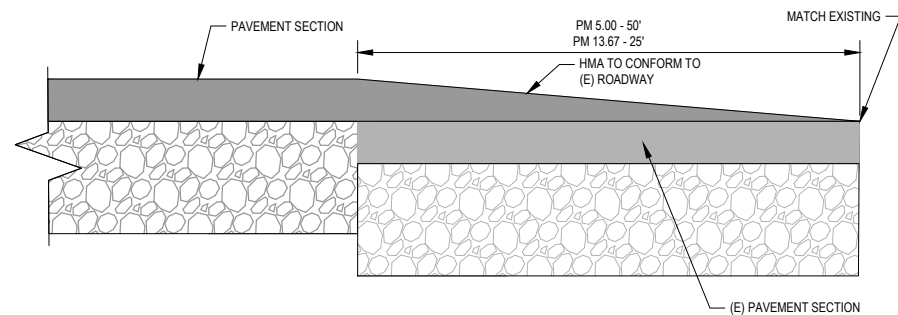


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PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791-11190326_03-G003-CONSTRUCTION DETAILS.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: G-003
	APPROVED BY: J.WOLF

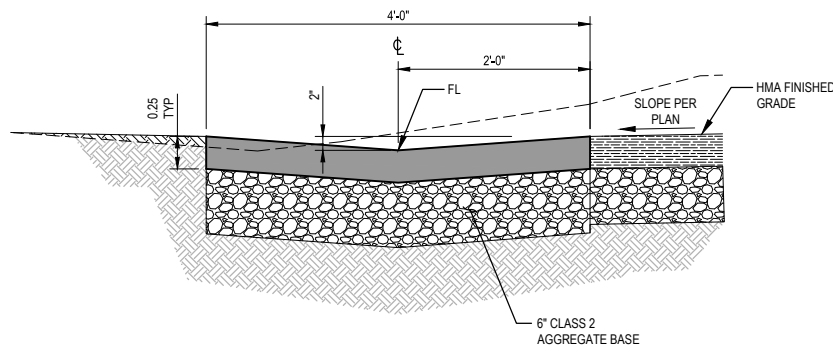
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
<b>STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 &amp; 13.67</b>
<b>CONSTRUCTION DETAILS</b>

SHEET 3 OF 26



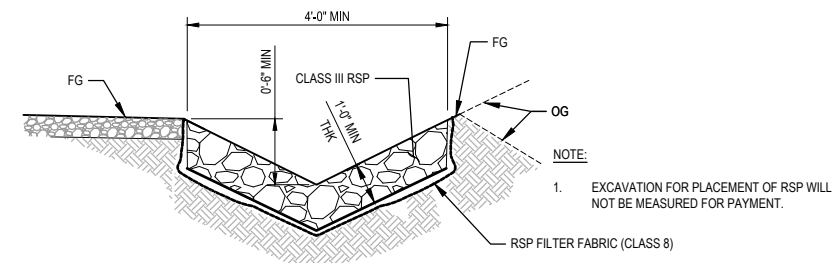
**PAVEMENT CONFORM DETAIL**

NOT TO SCALE



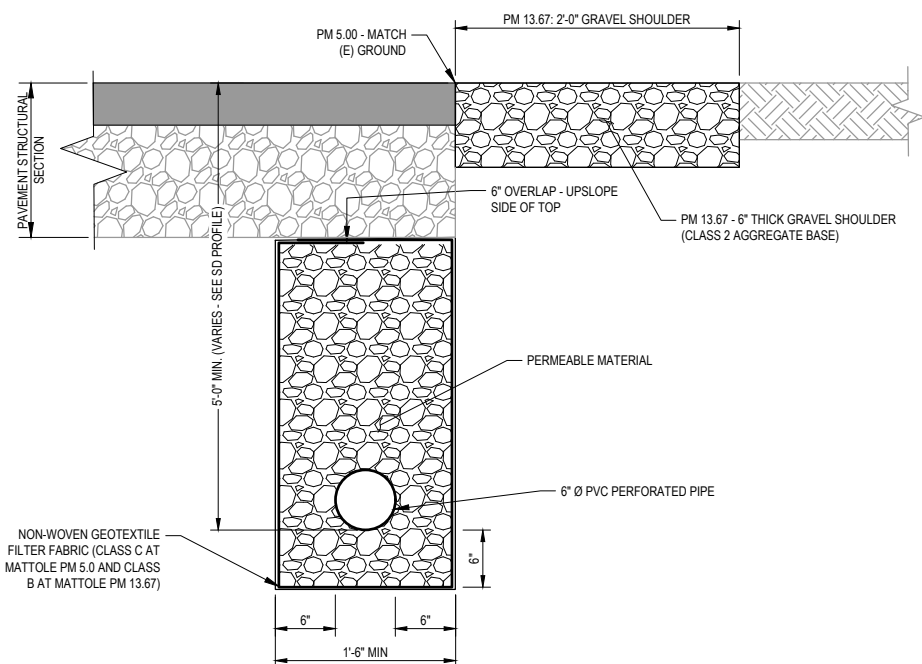
**HMA VALLEY GUTTER DETAIL**

NOT TO SCALE



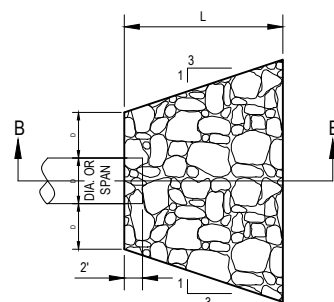
**TYPICAL ROCK-LINED DITCH DETAIL**

NOT TO SCALE

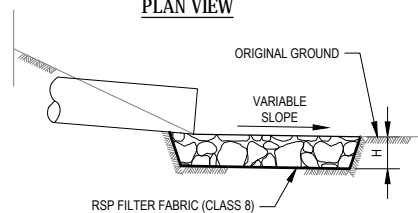


**TYPICAL TRENCH UNDERDRAIN**

NOT TO SCALE



**PLAN VIEW**



**SECTION B-B**

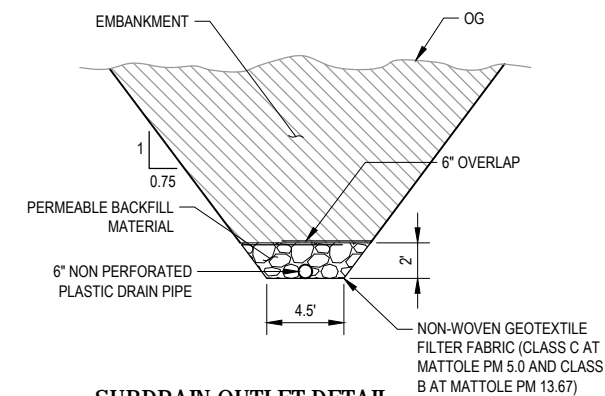
**RSP ENERGY DISSIPATOR WITHOUT DITCH**

NOT TO SCALE

OUTLET PROTECTION	CULVERT SIZE D (inches)	RSP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)
	6	2	6	1.5

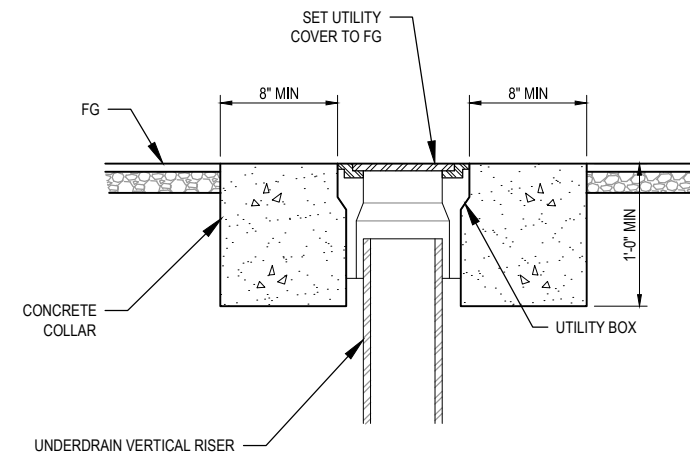
NOTE:

- EXCAVATION FOR PLACEMENT OF RSP WILL NOT BE MEASURED FOR PAYMENT.



**SUBDRAIN OUTLET DETAIL**

NOT TO SCALE



**CONCRETE COLLAR DETAIL**

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PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791_04-CD01-SURVEY CONTROL.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-101
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
<b>STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 &amp; 13.67</b>	
<b>PM 5.00 SURVEY CONTROL PLAN</b>	

SHEET  
4  
OF  
26

**SURVEY CONTROL NOTES**

1. TOPOGRAPHIC AND RIGHT-OF-WAY SURVEY PREPARED BY POINTS WEST SURVEYING. FIELD WORK DATE: JANUARY 31, 2019.
2. THE PURPOSE OF THIS SURVEY IS TO DETERMINE TOPOGRAPHY FOR A STORM DAMAGE REPAIR PROJECT ON MATTOLE ROAD AT POST MIKE 5.0 AND TO SET CONTROL FOR FUTURE CONSTRUCTION. THIS SURVEY REFLECTS CONDITIONS AT THE TIME OF SURVEY.
3. COORDINATES FOR THIS SURVEY ARE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 1, NAD83 (2011) EPOCH 2010.0 BASED ON A STATIC GPS CONTROL SURVEY UTILIZING AN NGS OPUS SOLUTION. THE MAPPING ANGLE IS 1 DEGREE 25 MINUTES 55 SECONDS- ROTATE BEARINGS COUNTERCLOCKWISE BY THIS ANGLE TO OBTAIN "TRUE" OR GEODETIC BEARINGS. GRID DISTANCES SHOWN SHOULD BE DIVIDED BY THE COMBINED SCALE FACTOR OF 0.99993489 TO OBTAIN GROUND DISTANCES. MAPPING ANGLE AND GRID SCALE FACTOR TAKEN AT CONTROL POINT NO. 50.
4. THE VERTICAL CONTROL IS ALSO BASED ON SAID OPUS SOLUTION, UTILIZING THE GEOID 12B GRAVITY MODEL, WITH AN NAVD 88 DATUM ELEVATION OF 333.13 FEET ON CONTROL POINT 50.
5. THE HUMBOLDT COUNTY DEPARTMENT OF PUBLIC WORKS HAS DETERMINED A 66 FOOT WIDE RIGHT OF WAY FOR THIS PORTION OF MATTOLE ROAD EXISTS BASED ON THE EXISTING CENTERLINE AS INDICATED IN THE COUNTY ROAD REGISTER PAGES 18-33 AND 104-105. THIS PORTION OF MATTOLE ROAD LIES ENTIRELY WITHIN THE LANDS OF SCARPULLA ASSOCIATES PER DOCUMENT NO. 1997-8124 (PARCEL FOUR THEREIN).
6. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON TIES MADE IN THE FIELD TO VISIBLE UTILITY STRUCTURES. NO PG&E PLANS WERE MADE AVAILABLE AND THE EXISTENCE OF OTHER UNDERGROUND STRUCTURES INCLUDING SEPTIC TANKS IS UNKNOWN. THE ONLY OBSERVED UTILITIES WERE STORM DRAIN PIPE AND OVERHEAD TELEPHONE LINE SHOWN. THE EXISTENCE OF OTHER UTILITIES, IF ANY, IS UNKNOWN.
7. ONLY TREES GREATER THAN 12 INCHES IN DIAMETER WERE LOCATED - OTHER TREES EXIST IN SURVEYED AREA AND ARE NOT SHOWN. TREE LOCATIONS ARE APPROXIMATE AS NOT ALL ARE GROWING VERTICALLY; GENERALLY TREES ARE LOCATED AT BREAST HEIGHT.

**GENERAL NOTES**

1. CONTRACTOR MUST COMPLY WITH BUSINESS AND PROFESSIONS CODE SECTION 8771 (b) REGARDING REFERENCING, PRESERVING AND RECONSTRUCTING SURVEY MONUMENTS, WHETHER OR NOT SURVEY MONUMENTS ARE SHOWN IN THESE PLANS.
2. IF SURVEY MONUMENT IS DAMAGED BY CONTRACTORS OPERATIONS, CONTRACTOR SHALL REPLACE SURVEY MONUMENT AT CONTRACTORS EXPENSE.

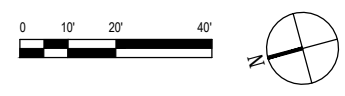
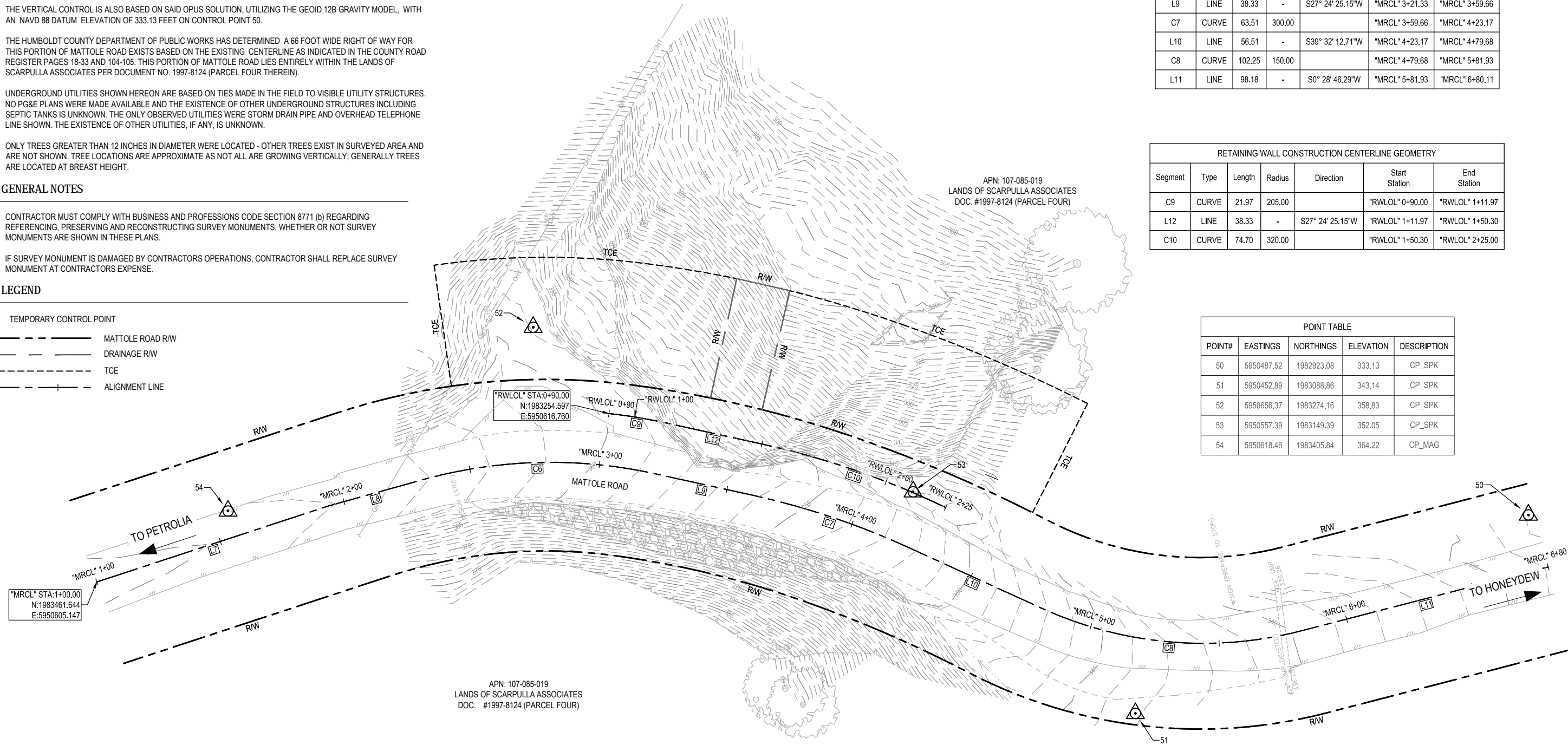
**LEGEND**

- TEMPORARY CONTROL POINT
- MATTOLE ROAD RW
- DRAINAGE RW
- TCE
- ALIGNMENT LINE

Segment	Type	Length	Radius	Direction	Start Station	End Station
L7	LINE	93.29	-	S3° 10' 11.50"E	"MRCL" 1+00.00	"MRCL" 1+93.29
L8	LINE	37.55	-	S0° 36' 56.76"E	"MRCL" 1+93.29	"MRCL" 2+30.85
C6	CURVE	90.48	185.00		"MRCL" 2+30.85	"MRCL" 3+21.33
L9	LINE	38.33	-	S27° 24' 25.15"W	"MRCL" 3+21.33	"MRCL" 3+59.66
C7	CURVE	63.51	300.00		"MRCL" 3+59.66	"MRCL" 4+23.17
L10	LINE	56.51	-	S39° 32' 12.71"W	"MRCL" 4+23.17	"MRCL" 4+79.68
C8	CURVE	102.25	150.00		"MRCL" 4+79.68	"MRCL" 5+81.93
L11	LINE	98.18	-	S0° 28' 46.29"W	"MRCL" 5+81.93	"MRCL" 6+80.11

Segment	Type	Length	Radius	Direction	Start Station	End Station
C9	CURVE	21.97	205.00		"RWLOL" 0+90.00	"RWLOL" 1+11.97
L12	LINE	38.33	-	S27° 24' 25.15"W	"RWLOL" 1+11.97	"RWLOL" 1+50.30
C10	CURVE	74.70	320.00		"RWLOL" 1+50.30	"RWLOL" 2+25.00

POINT#	EASTINGS	NORTHINGS	ELEVATION	DESCRIPTION
50	5950487.52	1982923.08	333.13	CP_SPK
51	5950452.89	1983088.86	343.14	CP_SPK
52	5950656.37	1983274.16	358.83	CP_SPK
53	5950557.39	1983149.39	352.05	CP_SPK
54	5950618.46	1983405.84	364.22	CP_MAG

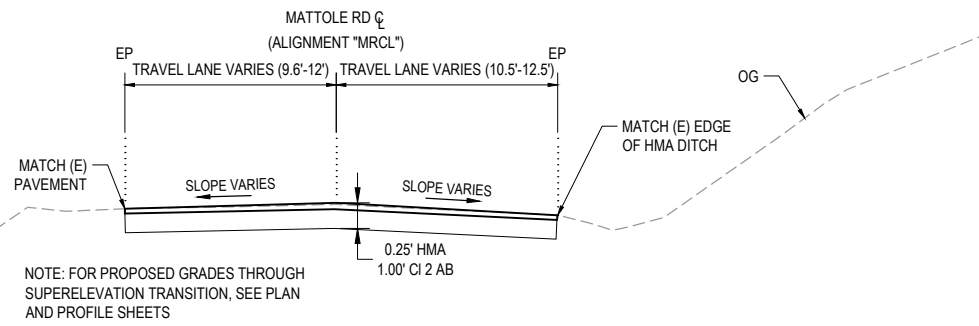




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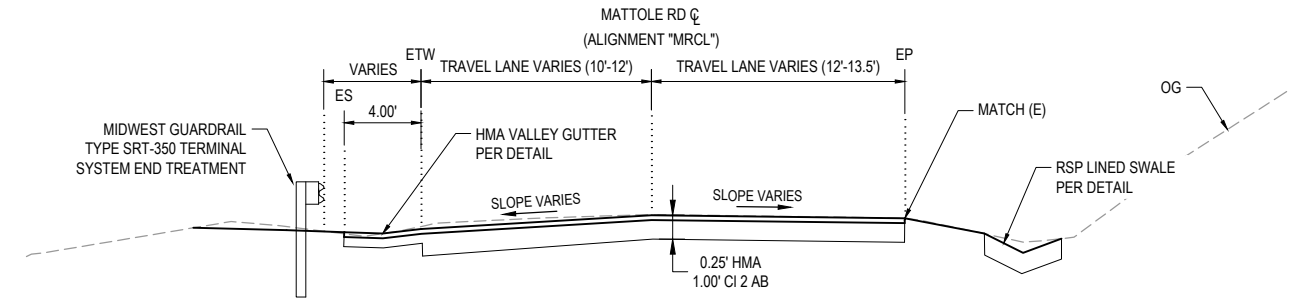


BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: MATTOLE ROAD	DESIGN SECTION ENGINEERING	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS <b>STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 &amp; 13.67</b> PM 5.00 TYPICAL SECTIONS	SHEET <b>5</b> OF <b>26</b>	
	ROAD NO: F3C010	MILE POST: 5.00 & 13.67			DESIGNED BY: S.GOULD
	PROJECT NO.: ER-32LO(118) & ER-32LO(240)	CONTRACT NO.: 217224 & 217219			DRAWN BY: S.GOULD
	DRAWING FILE NAME: 11189791_05-CD02-TYP SECTIONS.dwg	PLOT DATE: 10/21/2020			Sheet: C-102
		APPROVED BY: J.WOLF			

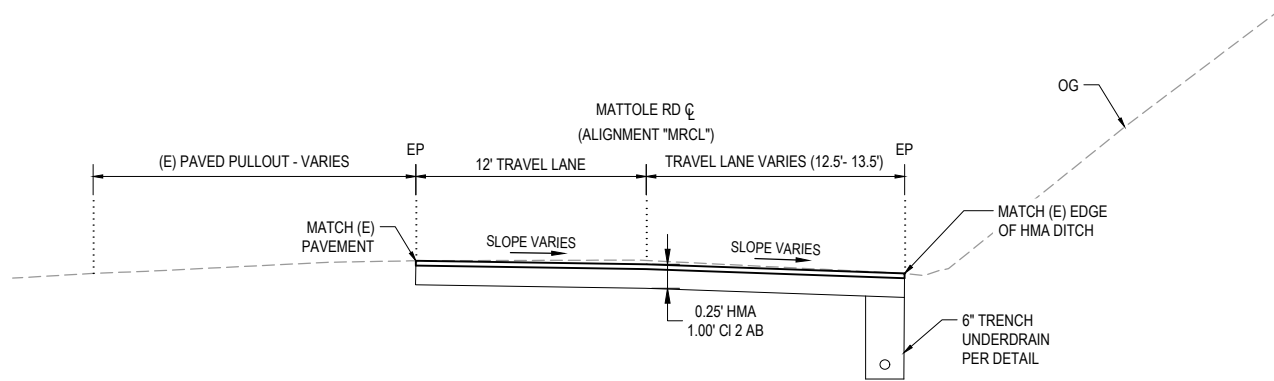


**TYPICAL SECTION - MATTOLE ROAD**  
NOT TO SCALE STA "MRCL" 2+24 - 2+48

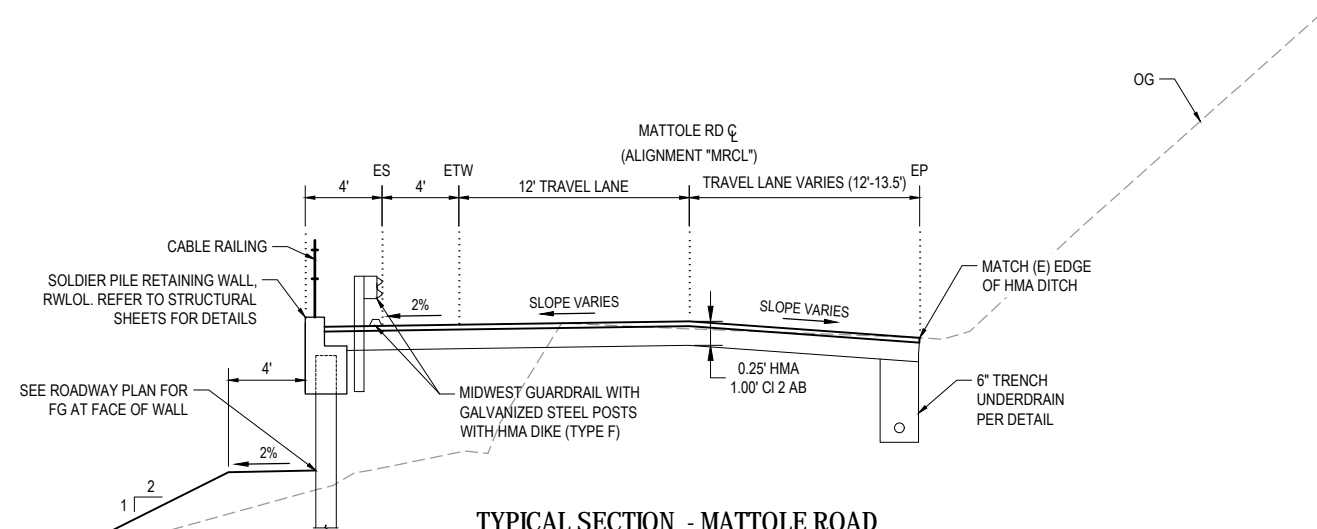
NOTE: FOR PROPOSED GRADES THROUGH SUPERELEVATION TRANSITION, SEE PLAN AND PROFILE SHEETS



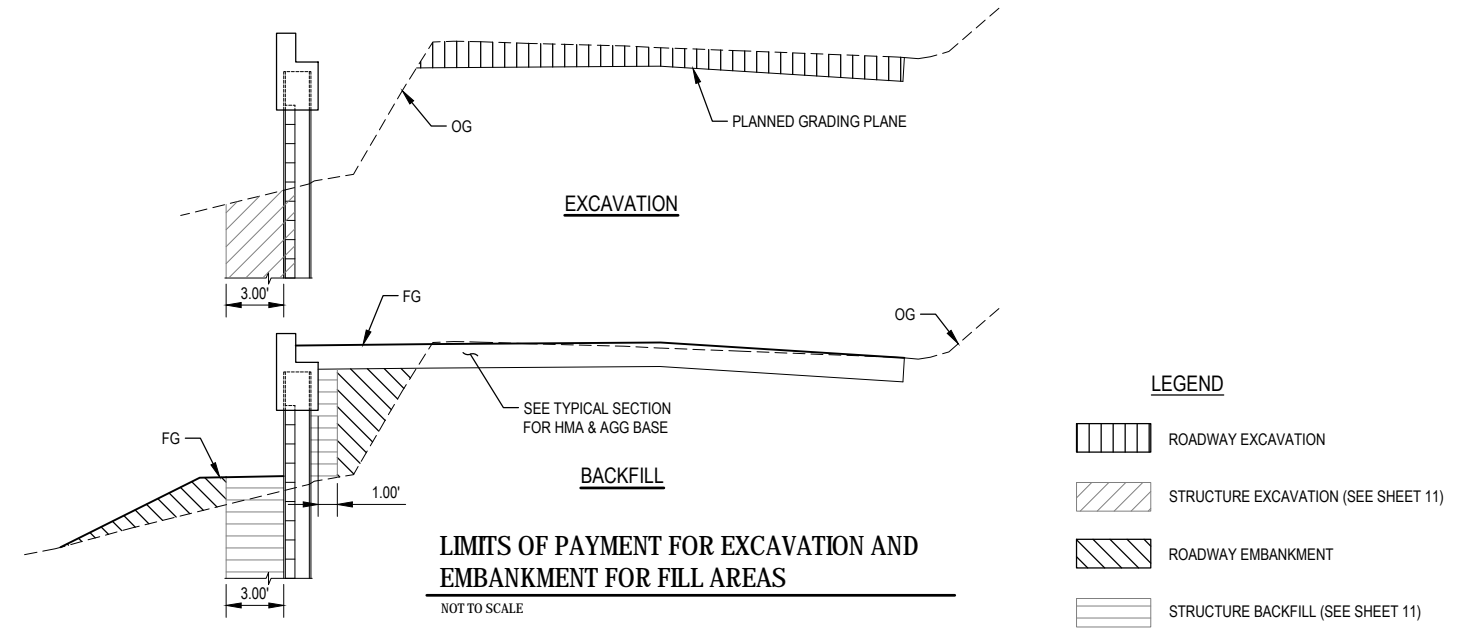
**TYPICAL SECTION - MATTOLE ROAD**  
NOT TO SCALE STA "MRCL" 4+20.32 - 4+61



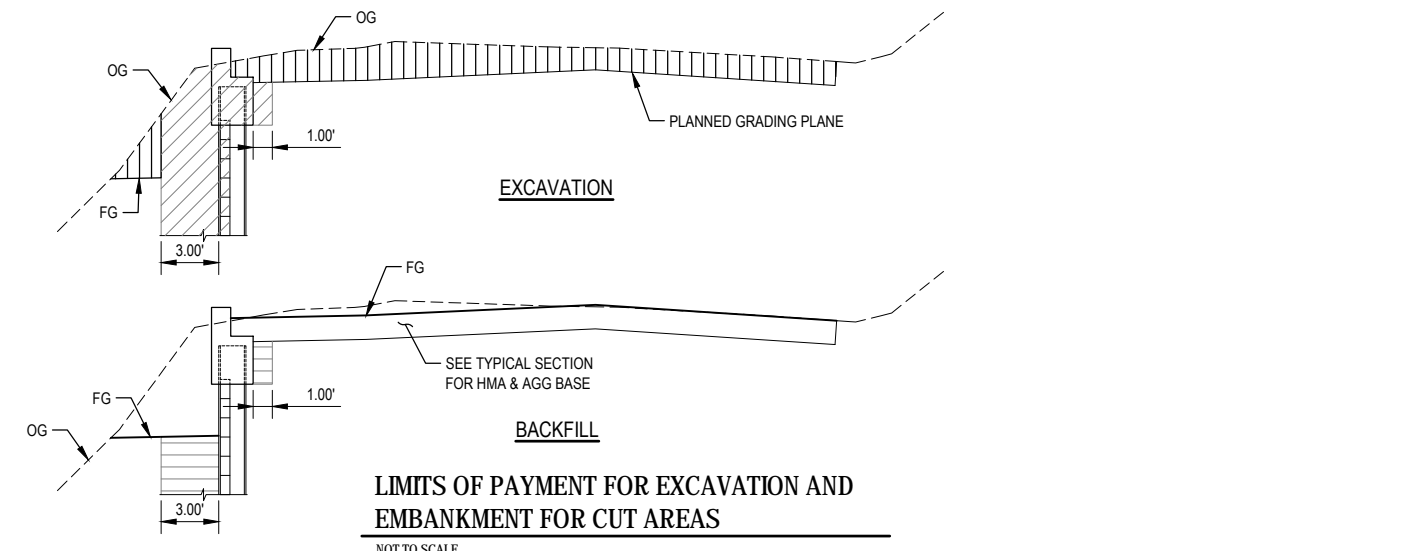
**TYPICAL SECTION - MATTOLE ROAD**  
NOT TO SCALE STA "MRCL" 2+48 - 3+10.53



**TYPICAL SECTION - MATTOLE ROAD**  
NOT TO SCALE STA "MRCL" 3+10.53 - 4+20.32



**LIMITS OF PAYMENT FOR EXCAVATION AND EMBANKMENT FOR FILL AREAS**  
NOT TO SCALE



**LIMITS OF PAYMENT FOR EXCAVATION AND EMBANKMENT FOR CUT AREAS**  
NOT TO SCALE

NOTE: FOR "MRCL" AND "RWLOL" ALIGNMENT DATA SEE SHEET 3.



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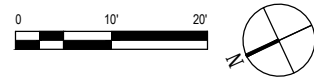
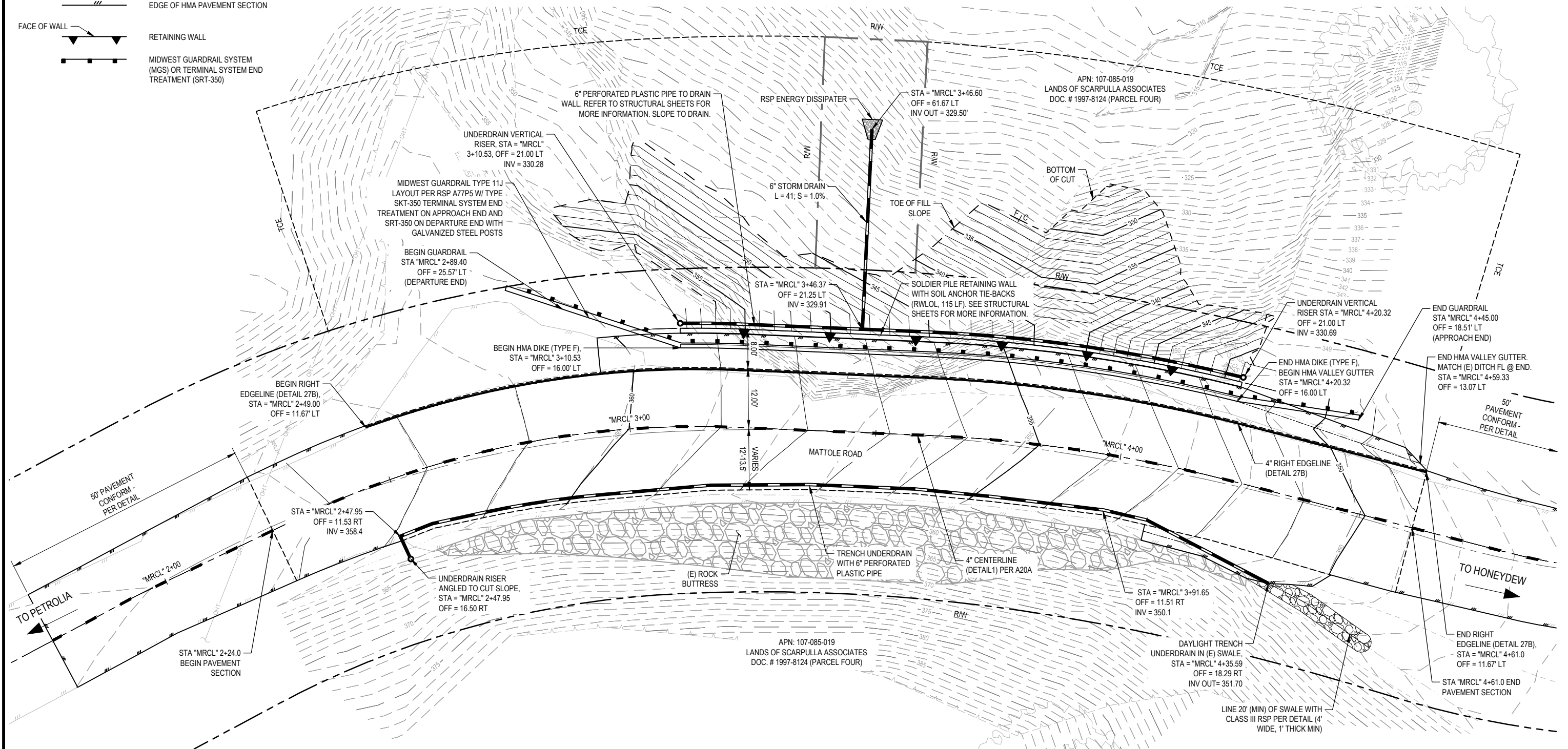
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ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791_06-C101-PLAN VIEW.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-103
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 5.00 ROADWAY PLAN

SHEET 6 OF 26
---------------

LEGEND

- EDGE OF HMA PAVEMENT SECTION
- FACE OF WALL
- RETAINING WALL
- MIDWEST GUARDRAIL SYSTEM (MGS) OR TERMINAL SYSTEM END TREATMENT (SRT-350)





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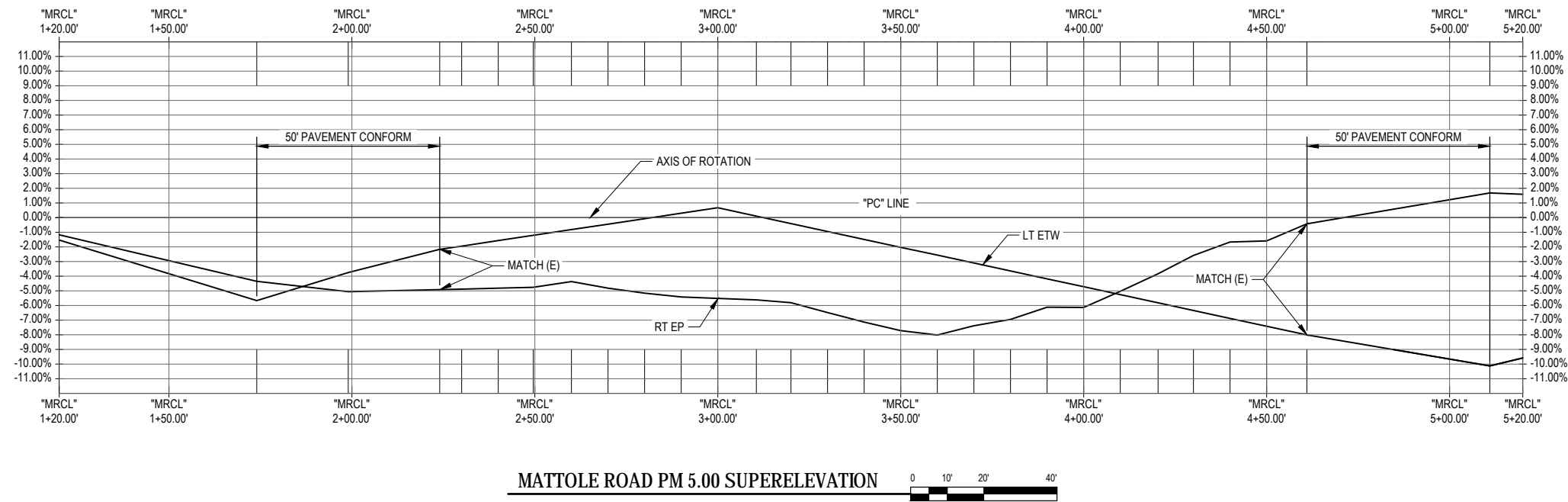
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ROAD NAME: MATTOLE ROAD  
ROAD NO: F3C010 MILE POST: 5.00 & 13.67  
PROJECT NO.: ER-32LO(118) & ER-32LO(240)  
CONTRACT NO.: 217224 & 217219  
DRAWING FILE NAME: 11189791\_07-C102-SUPERELEVATION & PROFILE.dwg  
PLOT DATE: 10/21/2020 Sheet: C-104

DESIGN SECTION ENGINEERING  
DESIGNED BY: S.GOULD  
DRAWN BY: S.GOULD  
REVIEWED BY: J.WOLF  
APPROVED BY: J.WOLF

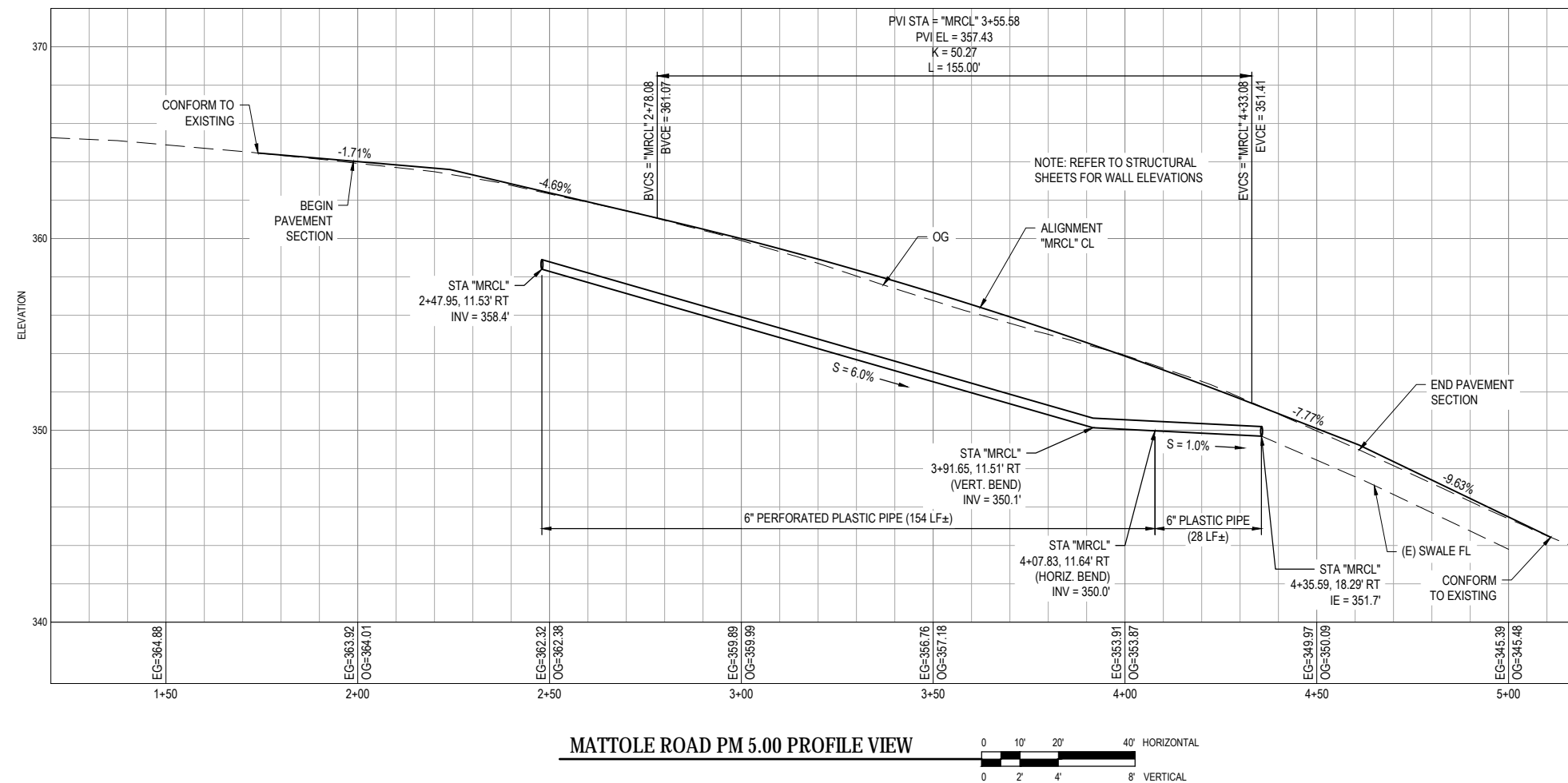
COUNTY OF HUMBOLDT  
DEPARTMENT OF PUBLIC WORKS  
**STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67**  
**PM 5.00 ROADWAY PROFILE & SUPERELEVATION**

SHEET 7 OF 26



ROADWAY GEOMETRY - SUPERELEVATION TRANSITION					
STATION	LEFT TRAVEL LANE CROSS SLOPE	LEFT ETW ELEVATION	CROWN ELEVATION	RIGHT EP ELEVATION	RIGHT TRAVEL LANE CROSS SLOPE
"MRCL" 1+74.0	-5.67%	363.86	364.46	363.99	-4.35%
"MRCL" 2+24.0	-2.17%	363.36	363.60	363.04	-4.92%
"MRCL" 2+30.8	-2.00%	363.06	363.28	362.70	-4.88%
"MRCL" 2+60.0	-1.00%	361.79	361.91	361.36	-4.37%
"MRCL" 2+86.4	0.00%	360.66	360.67	359.94	-5.33%
"MRCL" 3+00.0	0.67%	360.07	359.99	359.23	-5.52%
"MRCL" 3+12.4	0.00%	359.34	359.34	358.59	-5.66%
"MRCL" 3+31.0	-1.00%	358.19	358.30	357.50	-6.54%
"MRCL" 3+49.5	-2.00%	356.97	357.21	356.28	-7.69%
"MRCL" 3+68.1	-3.00%	355.68	356.04	355.11	-7.50%
"MRCL" 3+86.6	-4.00%	354.28	354.76	353.95	-6.40%
"MRCL" 4+05.2	-5.00%	352.90	353.50	352.80	-5.56%
"MRCL" 4+23.7	-6.00%	351.40	352.12	351.69	-3.39%
"MRCL" 4+42.3	-7.00%	349.89	350.69	350.48	-1.65%
"MRCL" 4+61.0	-8.01%	348.43	349.24	349.18	0.43%
"MRCL" 5+11.0	-10.12%	343.47	344.42	344.63	1.68%

1. NEGATIVE CROSS SLOPES INDICATE DOWNWARD SLOPING AWAY FROM CENTERLINE
2. SHOULDER CROSS SLOPES SHALL MATCH THE LANE CROSS SLOPE UP TO -3% FROM THE ADJACENT TRAVEL WAY SHOULDER THROUGH THE SUPERELEVATED TRANSITION



MATTOLE ROAD PM 5.00 PROFILE VIEW  
0 10' 20' 40' HORIZONTAL  
0 2' 4' 8' VERTICAL

NOTE: THIS PLAN IS ACCURATE FOR EROSION CONTROL ONLY



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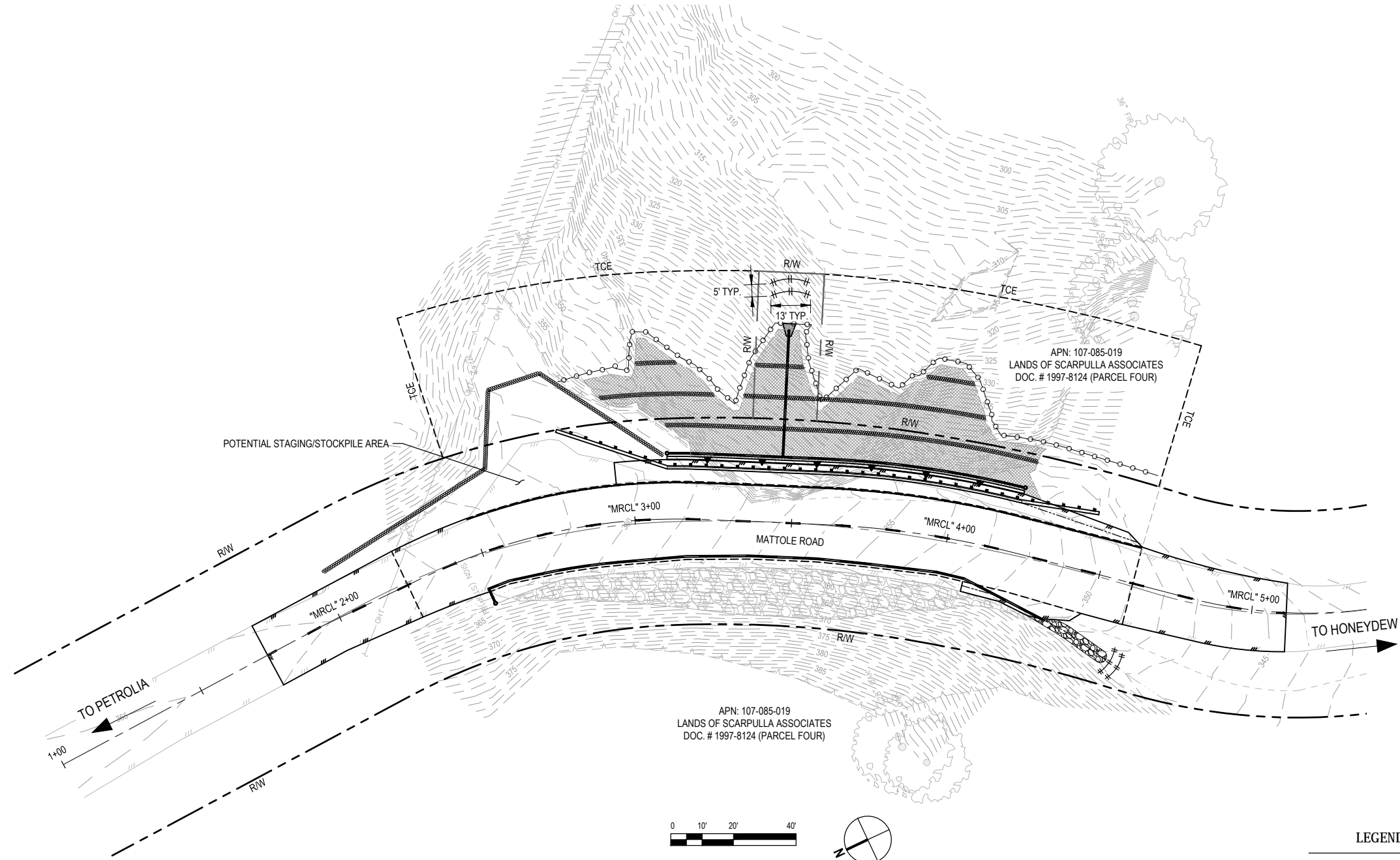


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ROAD NAME: MATTOLE ROAD	DESIGN SECTION ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791_08-C104-EROSION CONTROL PLAN.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-105
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 5.00 EROSION CONTROL PLAN

SHEET 8 OF 26



**LEGEND**

	HAND SOWN SEED UNDER ROLLED EROSION CONTROL PRODUCT
	TEMPORARY CHECK DAMS
	TEMPORARY SILT FENCE
	FIBER ROLLS





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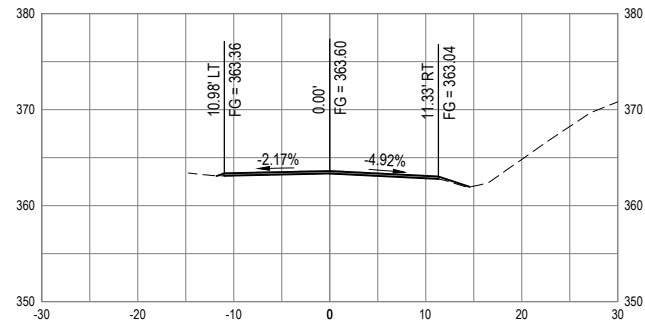
BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

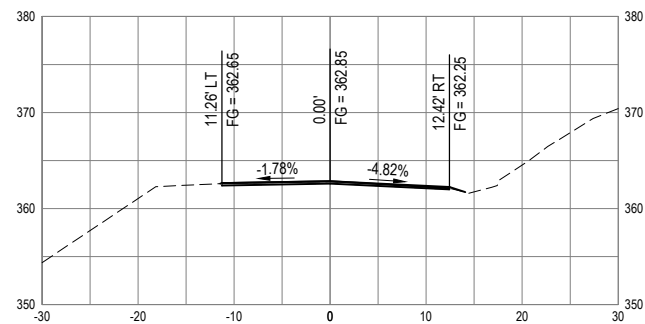
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ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11189791_09-C105-CROSS SECTIONS.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-106
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 5.00 CROSS SECTIONS

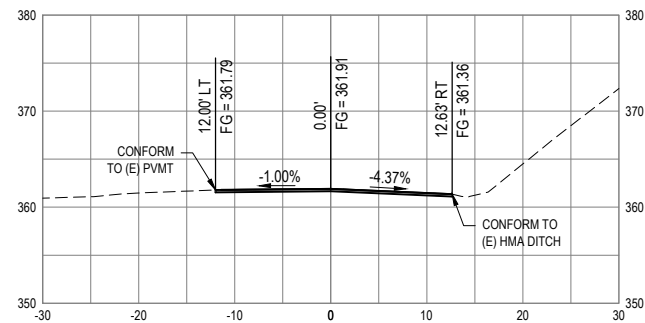
SHEET 9 OF 26



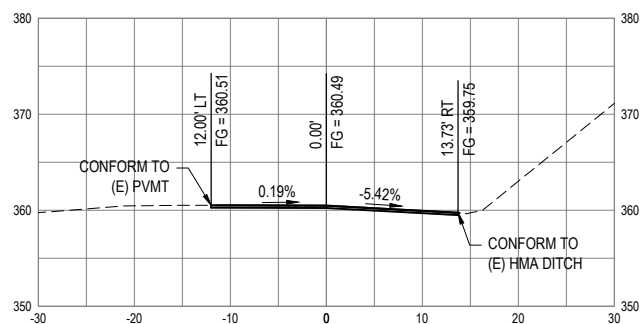
STA "MRCL" 2+24.00



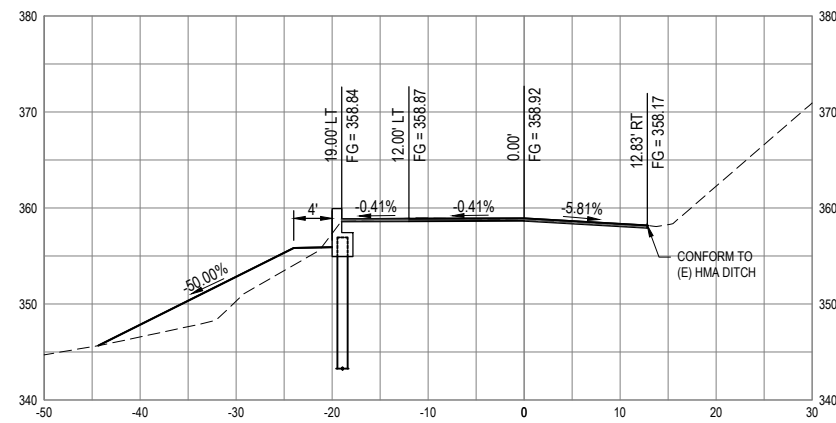
STA "MRCL" 2+40.00



STA "MRCL" 2+60.00



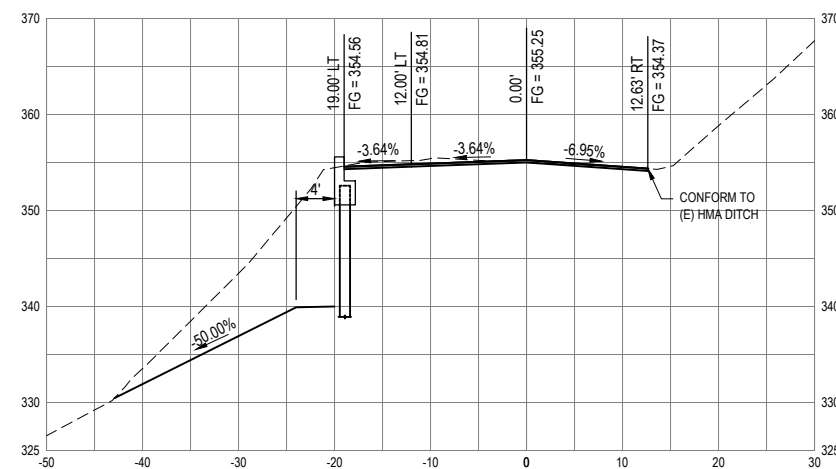
STA "MRCL" 2+90.00



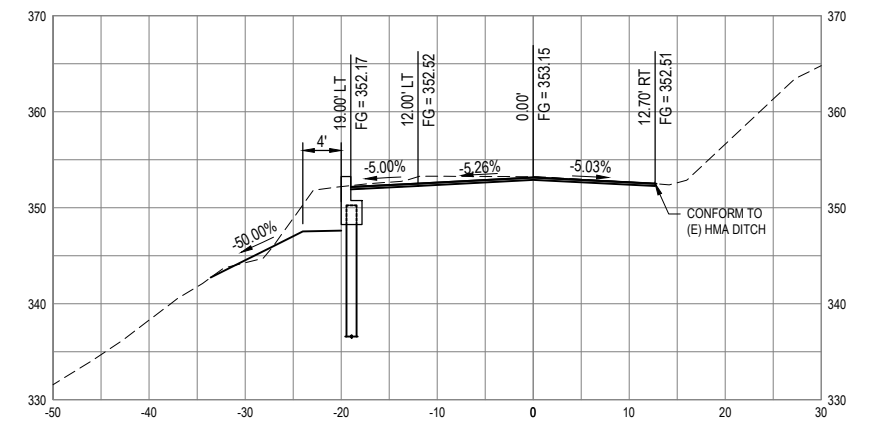
STA "MRCL" 3+20.00



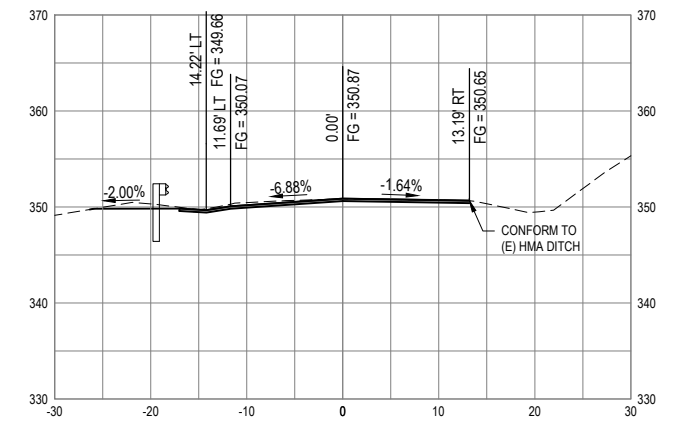
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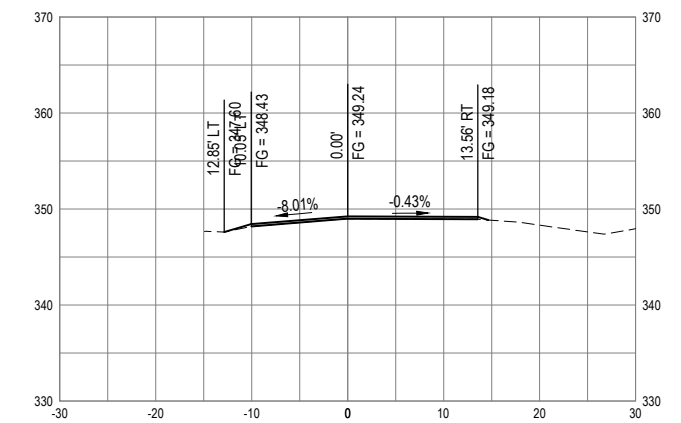
STA "MRCL" 3+80.00



STA "MRCL" 4+10.00



STA "MRCL" 4+40.00



STA "MRCL" 4+61.00



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ROAD NAME: MATTOLE ROAD  
 ROAD NO: F3C010 MILE POST: 5.00 & 13.67  
 PROJECT NO.: ER-32LO(118) & ER-32LO(240)  
 CONTRACT NO.: 217224 & 217219  
 DRAWING FILE NAME: 20190481S101  
 PLOT DATE: 9/4/2020 SHEET: S101

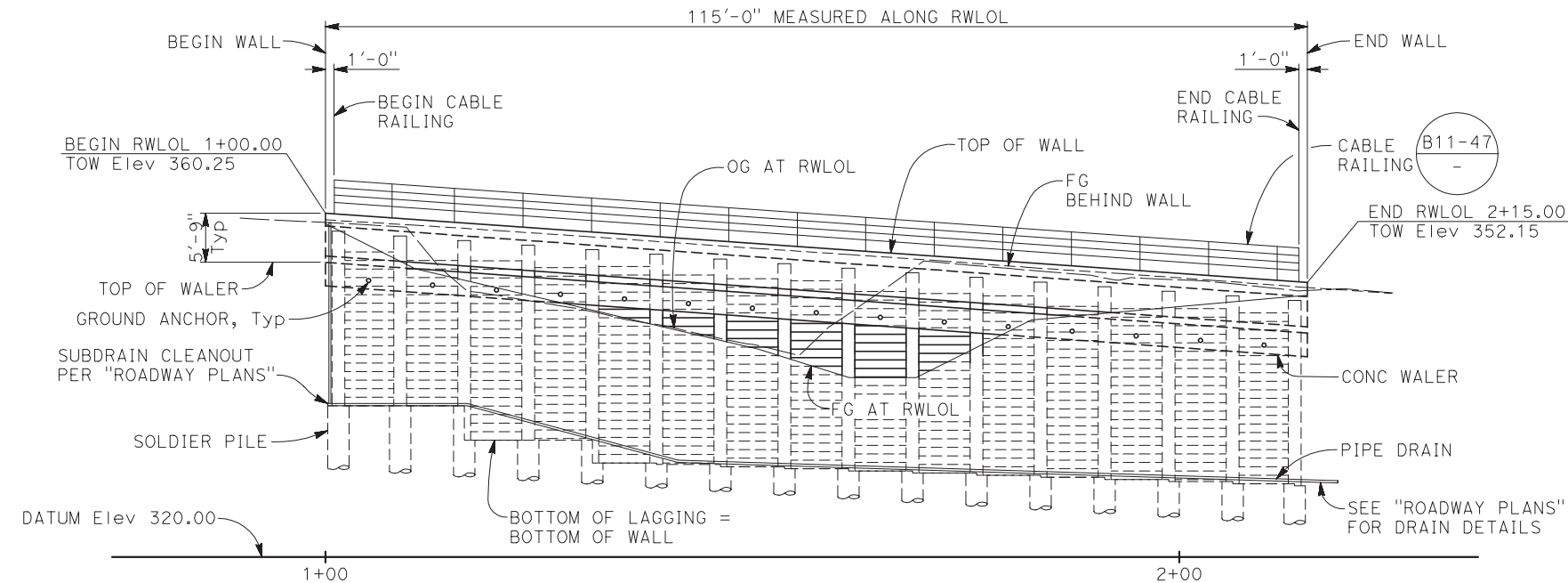
DESIGN SECTION ENGINEERING  
 DESIGNED BY: RMY  
 DRAWN BY: SMH  
 REVIEWED BY: GPK  
 APPROVED BY: AWR

COUNTY OF HUMBOLDT  
 DEPARTMENT OF PUBLIC WORKS  
 STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67  
**PM 5.00 RETAINING WALL GENERAL PLAN**

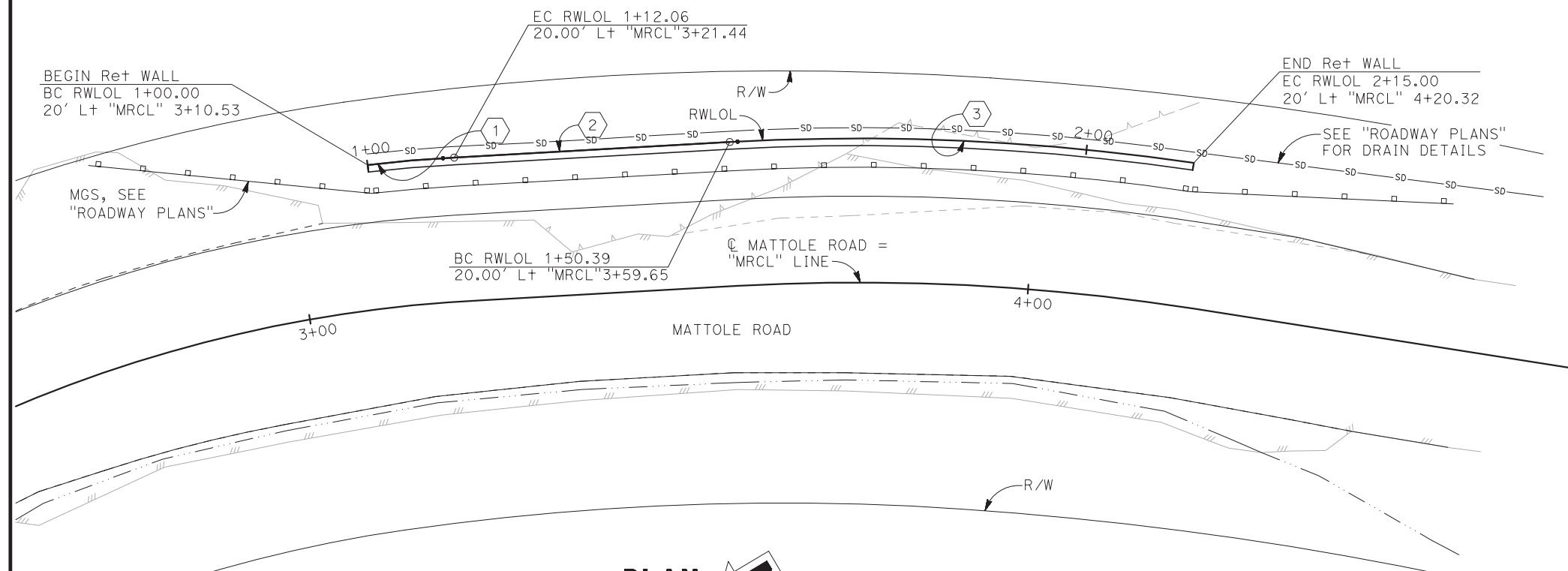
SHEET **10** OF **26**

LINE TABLE		
LINE #	LENGTH	DIRECTION
②	38.33	S 27°24'25" W

CURVE TABLE						
CURVE #	BC TANGENT BEARING	RADIUS	DELTA	TANGENT	LENGTH	EC TANGENT BEARING
①	S 24°03'41" W	205.00	3°20'44"	5.99'	11.97'	S 27°24'25" W
③	S 27°24'25" W	320.00	11°35'05"	32.46'	64.70'	S 38°59'30" W

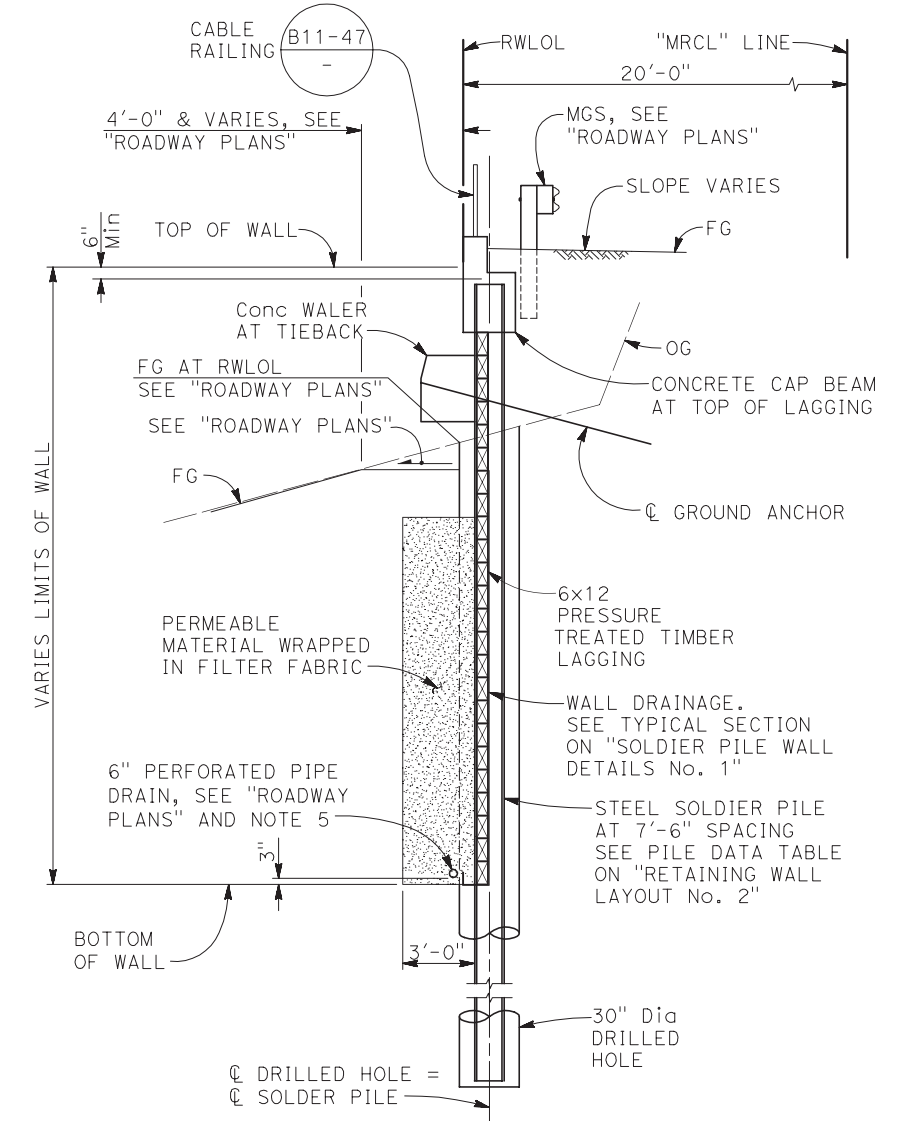


**MIRRORED DEVELOPED ELEVATION**  
 1" = 10'



**PLAN**  
 1" = 10'

- NOTES:
- Top of wall elevations shown are based on "ROADWAY PLANS". Verify elevations with "ROADWAY PLANS" prior to construction.
  - See "ROADWAY PLANS" for right-of-way, utility, drainage, roadway and layout information not noted.
  - Install cable railing full length of wall.
  - "MRCL" Line layout information shown is for informational purposes only, see "ROADWAY PLANS" for "MRCL" Line.
  - 6" perforated drain pipe to be 3" Cir of RWLOL. Slope drain at Min 1%.



**TYPICAL SECTION**  
 1/4" = 1'-0"

2019048.1 (20190481S1)



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BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET <b>11</b> OF <b>26</b>
	ROAD NO: F3C010	MILE POST: 5.00 & 13.67	STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: RMY	<b>PM 5.00 STRUCTURAL GENERAL NOTES &amp; ABBREVIATIONS</b>	
	CONTRACT NO.: 217224 & 217219	DRAWN BY: SMH		
	DRAWING FILE NAME: 20190481S102	REVIEWED BY: GPK		
	PLOT DATE: 9/4/2020	SHEET: S102	APPROVED BY: AWR	

## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications 6th Edition with Caltrans Amendments, preface dated January 2014 and Caltrans "Trenching and Shoring Manual" (Aug 2011)  
 Geotechnical Report by Crawford & Associates, Inc., September 30, 2019.

REINFORCED CONCRETE & Reinf: ASTM Designation: A706  
 $f_y = 60,000$  psi  
 $f'_c = 4,000$  psi

STRUCTURAL STEEL: Steel Piles ASTM Designation: A572/A, A572M Grade 50 Min or A992/A992M GRADE 50  
 Steel Plates ASTM Designation: ASTM A572/A572M Grade 50  
 Concrete Anchors AWS D1.1  
 Welding AWS D1.1

SOIL PARAMETERS: UNIT WEIGHT ( $\gamma$ ) = 130 pcf  
 Active Earth Pressure = 41 pcf  
 Passive Earth Pressure = 2800 pcf "INTACT" MATERIAL  
 Passive Arching Capability = 3.0  
 Seismic Earth Pressure = 16H pcf  
 Max Passive Pressure = 8,000 psf

LIVE LOAD Live Load Surcharge = 250 psf

TIMBER LAGGING: PRESSURE TREATED Douglas Fir No. 1 & Better, TIMBER TO BE FULL SAWN

### PRESTRESSING STEEL:

Bars - ASTM Designation: A722 Type II (150 ksi)

Strand Tendons-ASTM Designation: A416  
 (270 Ksi Low Relaxation steel)

FDL = Factored Design Load on Ground Anchor (kips)  
 FTL = Factored Test Load per anchor (Kips) = 1.0 FDL  
 LL = Lock-off Load (Kips) = 0.55 FDL  
 $f_{pu}$  = Minimum tensile strength of prestressing steel  
 $A_s$  = Minimum cross sectional area of prestressing steel in ground anchor (square inch)

$$A_s(\text{Min}) = \frac{1.0 \text{ FTL}}{0.75 f_{pu}} \text{ (Strands)}$$

$$A_s(\text{Min}) = \frac{1.0 \text{ FTL}}{0.80 f_{pu}} \text{ (Bars)}$$

For FDL, see "GROUND ANCHOR DATA TABLE" on "RETAINING WALL LAYOUT No. 2" sheet

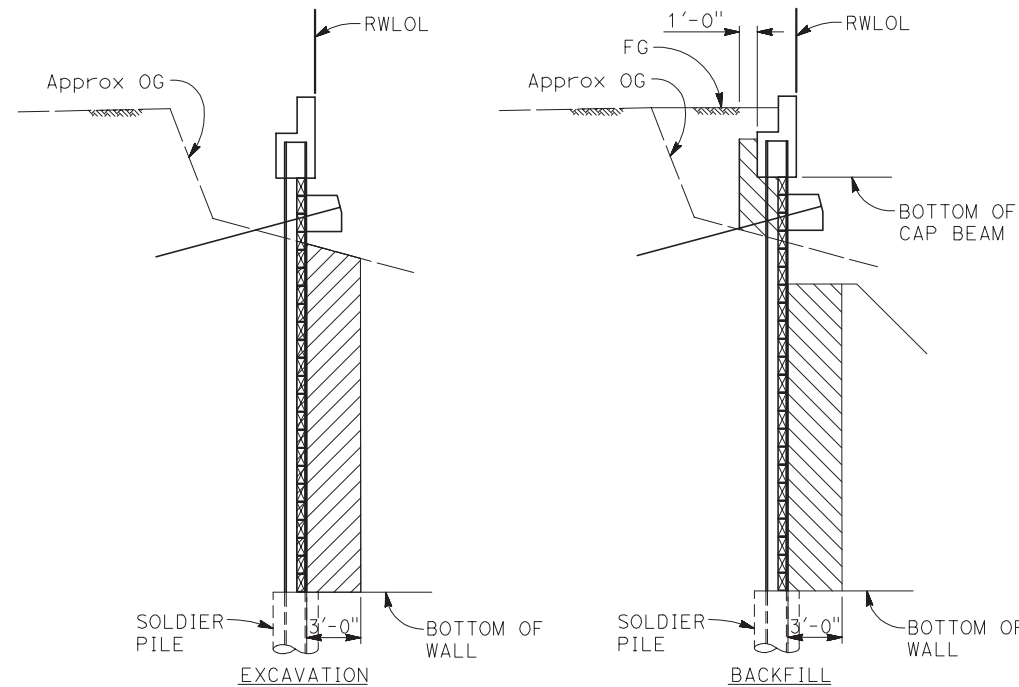
FINISH COAT ON ALL PILE SURFACES. LIMITS OF FINISH COAT EXTENDS FROM TOP OF PILE TO 5 FEET BELOW BOTTOM OF LAGGING FOR SOLDIER PILE, TYP



UNDERCOAT ON ALL PILE SURFACES, TYP

### LIMITS OF CLEAN AND PAINT STEEL SOLDIER PILE

NO SCALE



STRUCTURE EXCAVATION (RETAINING WALL)  
 STRUCTURE BACKFILL (SOLDIER PILE WALL)

### SOLDIER PILE WALL

### LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND BACKFILL (SOLDIER PILE WALL)

NO SCALE

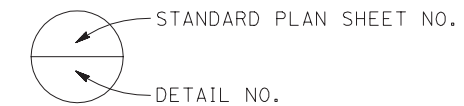
### INDEX TO SOLDIER PILE WALL PLANS

SHEET NO.	TITLE
10	S101 PM 5.00 RETAINING WALL GENERAL PLAN
11	S102 PM 5.00 STRUCTURAL GENERAL NOTES & ABBREVIATIONS
12	S103 PM 5.00 RETAINING WALL LAYOUT No. 1
13	S104 PM 5.00 RETAINING WALL LAYOUT No. 2
14	S105 PM 5.00 SOLDIER PILE WALL DETAILS No. 1
15	S106 PM 5.00 SOLDIER PILE WALL DETAILS No. 2
16	S107 PM 5.00 GROUND ANCHOR DETAILS

### 2018 STANDARD PLANS

A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
B0-3	BRIDGE DETAILS
B11-47	CABLE RAILING
D102	UNDERDRAINS

### LEGEND



### ABBREVIATIONS

CL	CENTER LINE
BOW	BOTTOM OF WALL
D/S	DOWN STATION
RWLLOL	RETAINING WALL LAYOUT LINE
TOW	TOP OF WALL
U/S	UP STATION



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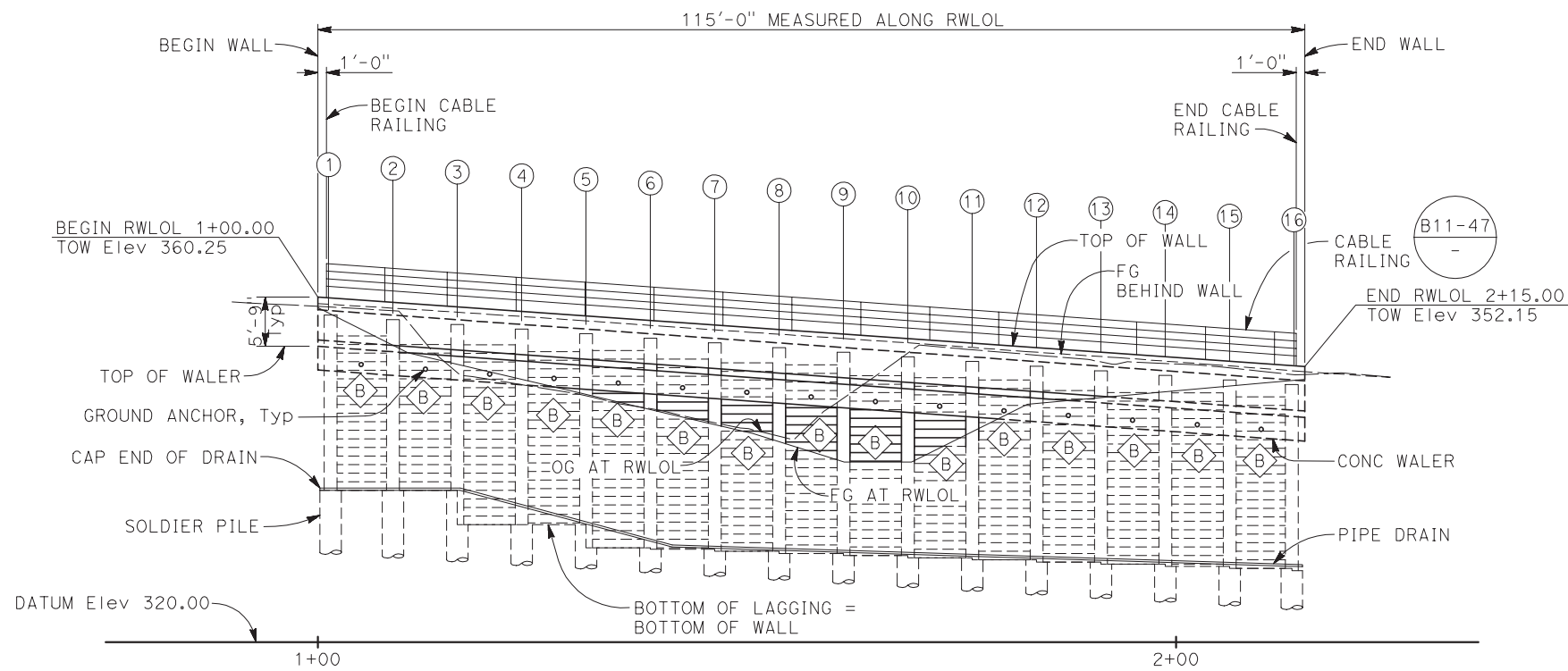
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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: RMY
CONTRACT NO.: 217224 & 217219	DRAWN BY: SMH
DRAWING FILE NAME: 20190481S103	REVIEWED BY: GPK
PLOT DATE: 9/4/2020	APPROVED BY: AWR
SHEET: S103	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
<b>PM 5.00 RETAINING WALL LAYOUT No. 1</b>

SHEET **12** OF **26**



LEGEND:

- ① Indicates Solder Pile No., see "PILE DATA TABLE"
- ◇ B Indicates GROUND ANCHOR TYPE, SEE "GROUND ANCHOR DATA TABLE"

NOTE:

1. Top of wall elevations shown are based on "ROADWAY PLANS", verify elevations with "ROADWAY PLANS" prior to construction.

**MIRRORED DEVELOPED ELEVATION - PILE LAYOUT**

1" = 10'



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ROAD NAME: MATTOLE ROAD  
 ROAD NO: F3C010 MILE POST: 5.00 & 13.67  
 PROJECT NO.: ER-32LO(118) & ER-32LO(240)  
 CONTRACT NO.: 217224 & 217219  
 DRAWING FILE NAME: 20190481S104  
 PLOT DATE: 9/4/2020 SHEET: S104

DESIGN SECTION ENGINEERING  
 DESIGNED BY: RMY  
 DRAWN BY: SMH  
 REVIEWED BY: GPK  
 APPROVED BY: AWR

COUNTY OF HUMBOLDT  
 DEPARTMENT OF PUBLIC WORKS  
 STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67  
**PM 5.00 RETAINING WALL LAYOUT No. 2**

SHEET  
**13**  
 OF  
**26**

**PILE DATA TABLE**

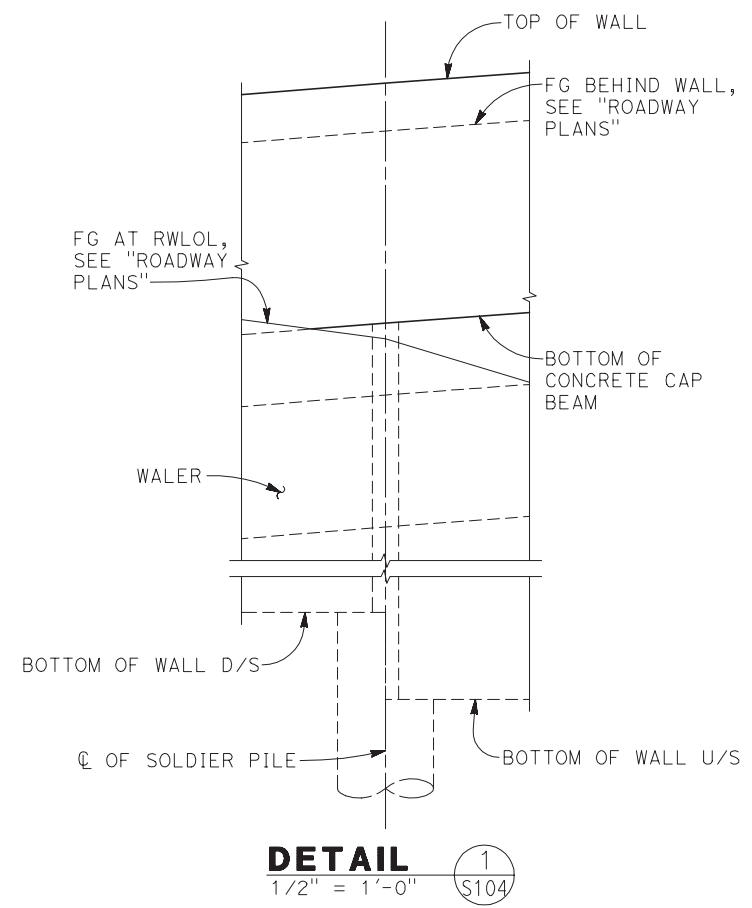
PILE #	RWLOL STATION (FT)	PILE SECTION (FT)	TOP OF WALL ELEVATION (FT), SEE NOTE 1	DRILLED HOLE SIZE (IN)	PILE CUTOFF ELEVATION (FT)	BOTTOM OF WALL ELEVATION (FT), SEE (1) S104	BOTTOM OF WALL ELEVATION (FT), SEE (1) S104	PILE LENGTH (FT)	PILE TIP ELEVATION (FT)
						D/S	U/S		
BEGIN WALL	1+00.00	-	360.25	-	-	-	-	-	-
(1)	1+01.25	W16x100	360.16	30	358.16	-	337.71	45	313.16
(2)	1+08.75	W16x100	359.63	30	357.63	337.71	337.71	45	312.63
(3)	1+16.25	W16x100	359.11	30	357.11	337.71	333.68	45	312.11
(4)	1+23.75	W16x100	358.58	30	356.58	333.68	333.68	45	311.58
(5)	1+31.25	W16x100	358.05	30	356.05	333.68	331.00	45	311.05
(6)	1+38.75	W16x100	357.52	30	355.52	331.00	330.83	45	310.52
(7)	1+46.25	W16x100	356.99	30	354.99	330.83	330.58	45	309.99
(8)	1+53.75	W16x100	356.46	30	354.46	330.58	330.33	45	309.46
(9)	1+61.25	W16x100	355.94	30	353.94	330.33	330.08	45	308.94
(10)	1+68.75	W16x100	355.41	30	353.41	330.08	329.83	45	308.41
(11)	1+76.25	W16x100	354.88	30	352.88	329.83	329.58	45	307.88
(12)	1+83.75	W16x100	354.35	30	352.35	329.58	329.33	45	307.35
(13)	1+91.25	W16x100	353.82	30	351.82	329.33	329.08	45	306.82
(14)	1+98.75	W16x100	353.29	30	351.29	329.08	328.83	45	306.29
(15)	2+06.25	W16x100	352.77	30	350.77	328.83	328.58	45	305.77
(16)	2+13.75	W16x100	352.24	30	350.24	328.58	-	45	305.24
END WALL	2+15.00	-	352.15	-	-	-	-	-	-

- NOTES:
- Top of Wall elevations shown are based on "ROADWAY PLANS"; verify elevations with "ROADWAY PLANS" prior to construction. Notify Engineer if top of wall elevations are higher than shown on plans.
  - Per the Geotechnical report by Crawford & Associates, Inc., dated April 2019, the ground anchor unbonded length shall extend at least 5 feet or H/5, whichever is greater (H = wall Height), beyond the "intact" material.

- LEGEND:
- (1) Indicates Soldier Pile No., see "PILE DATA TABLE"
  - (B) Indicates GROUND ANCHOR TYPE

**GROUND ANCHOR DATA TABLE**

GROUND ANCHOR TYPE	FACTORED DESIGN LOAD, FDL (kips)	MINIMUM UNBONDED LENGTH (FT) SEE NOTE 2
(B)	180	27'-0"





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 510-625-9900

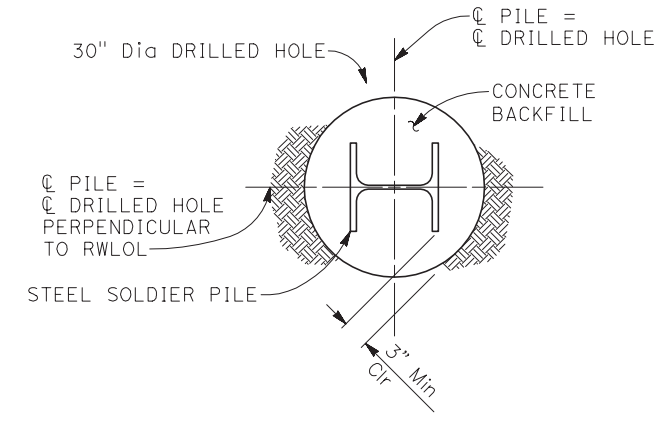
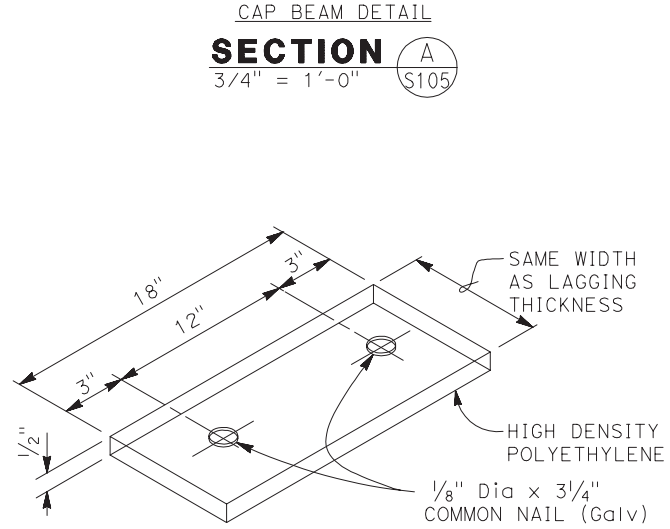
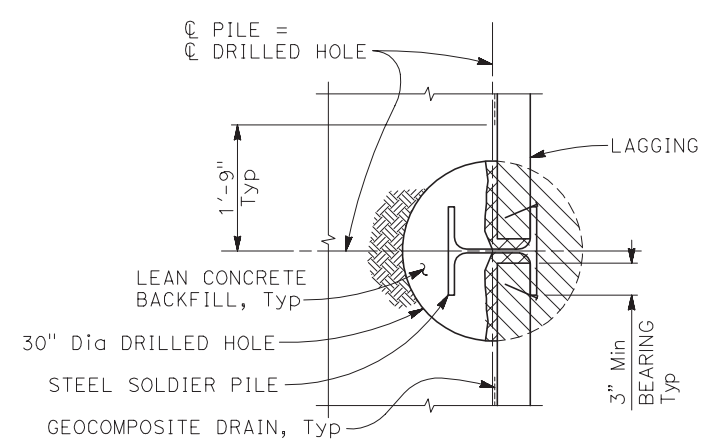
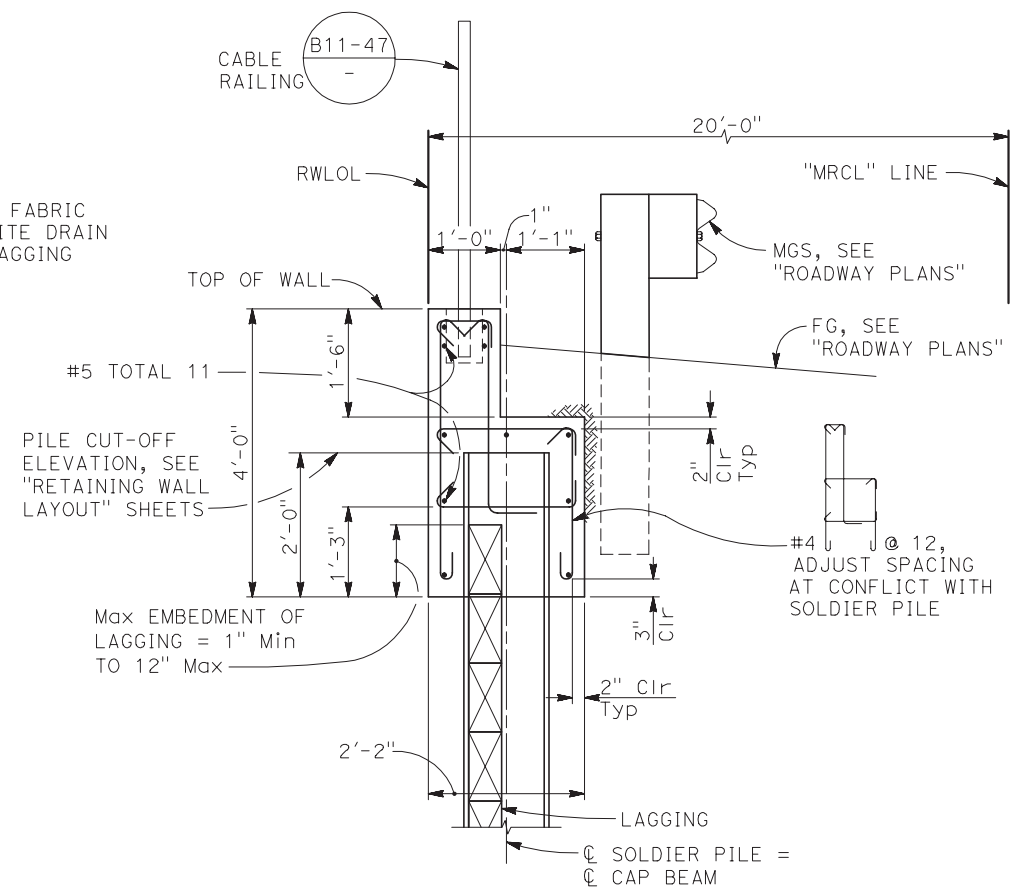
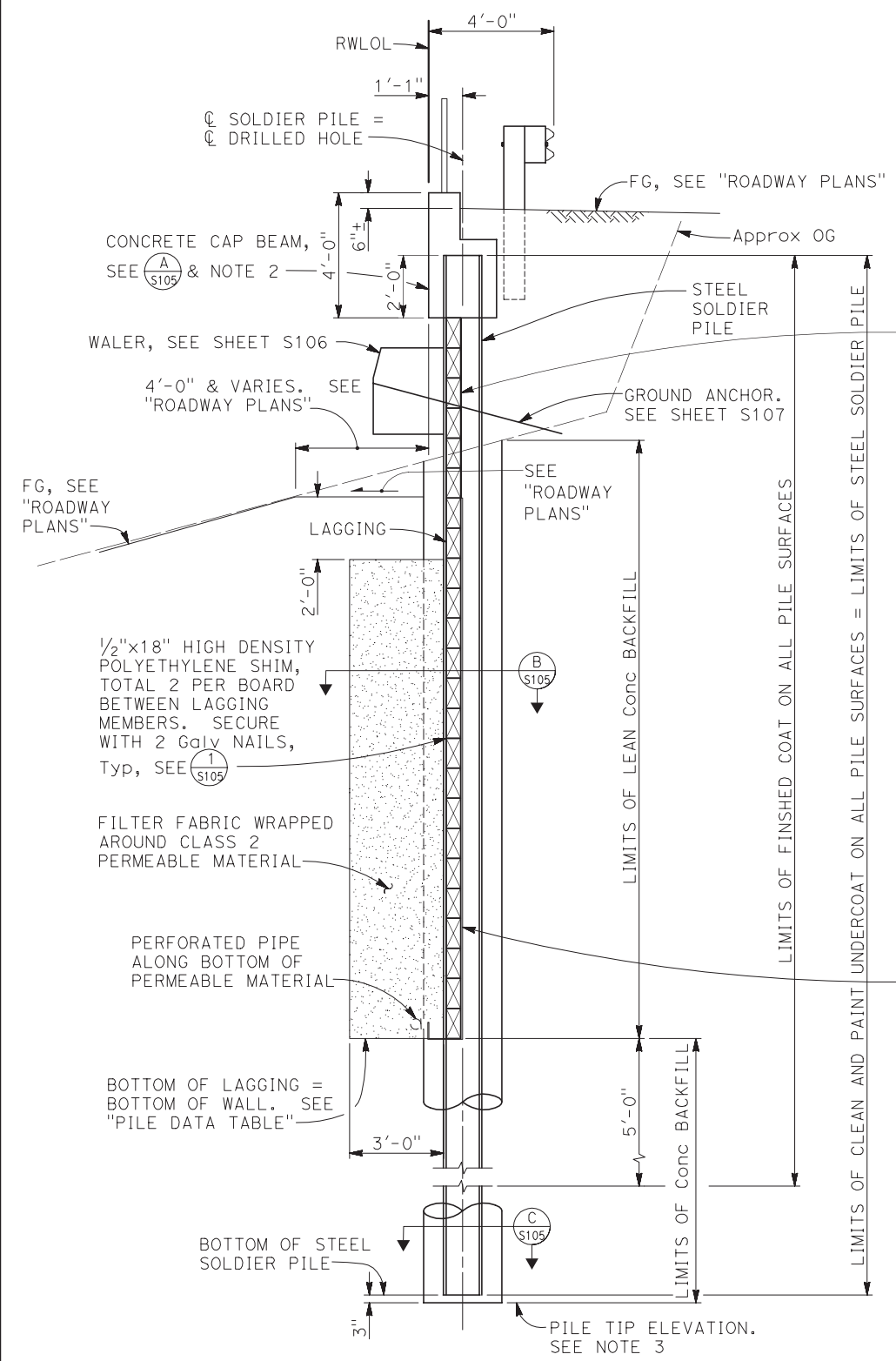
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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: RMY
CONTRACT NO.: 217224 & 217219	DRAWN BY: SMH
DRAWING FILE NAME: 20190481S105	REVIEWED BY: GPK
PLOT DATE: 9/4/2020	SHEET: S105
	APPROVED BY: AWR

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
<b>PM 5.00 SOLDIER PILE WALL DETAILS No. 1</b>

SHEET **14** OF **26**

- NOTES:  
 1. For "Pile Data Table", see "RETAINING WALL LAYOUT No. 2" sheet  
 2. Concrete cap beam must be  $f'c = 3.6 \text{ ksi}$  @ 28 days.





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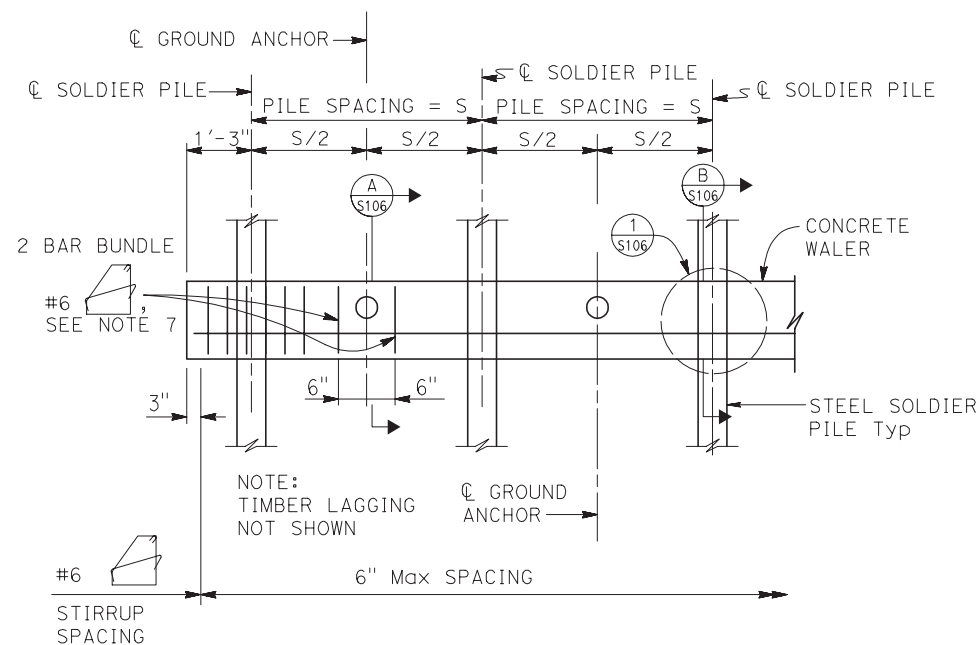
STRUCTURAL ENGINEERS  
1111 Broadway, Ste. 1510  
Oakland, California 94607  
510-625-9900

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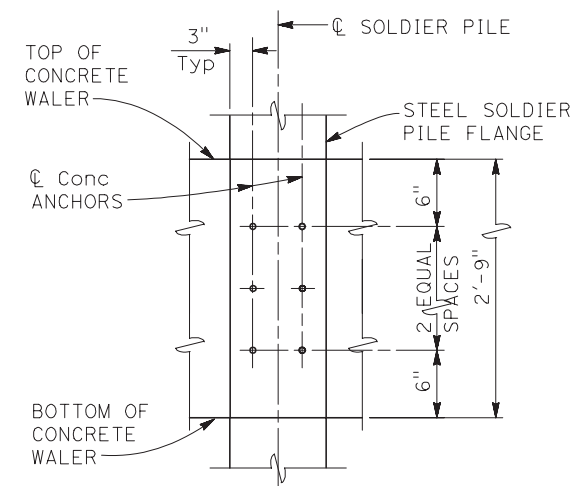
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ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: RMY
CONTRACT NO.: 217224 & 217219	DRAWN BY: SMH
DRAWING FILE NAME: 20190481S106	REVIEWED BY: GPK
PLOT DATE: 9/4/2020	APPROVED BY: AWR
SHEET: S106	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
<b>PM 5.00 SOLDIER PILE WALL DETAILS No. 2</b>

SHEET **15**  
OF  
**26**

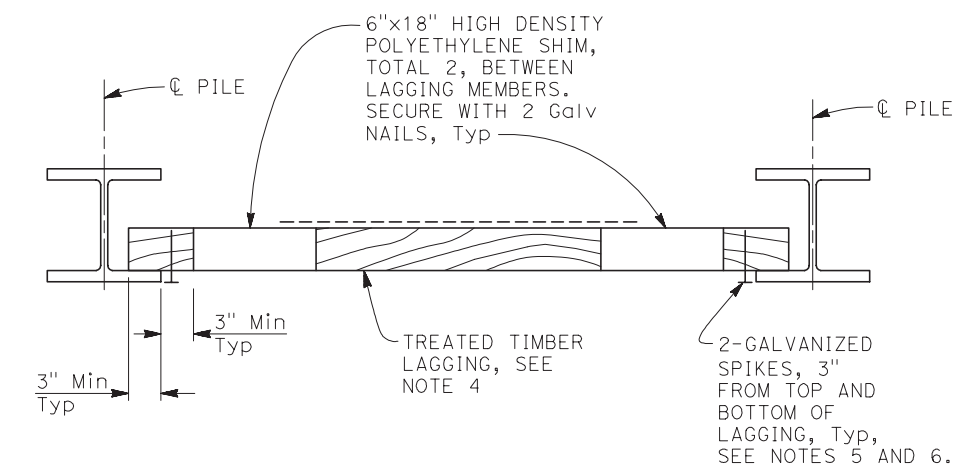


**WALER PART ELEVATION**  
NO SCALE

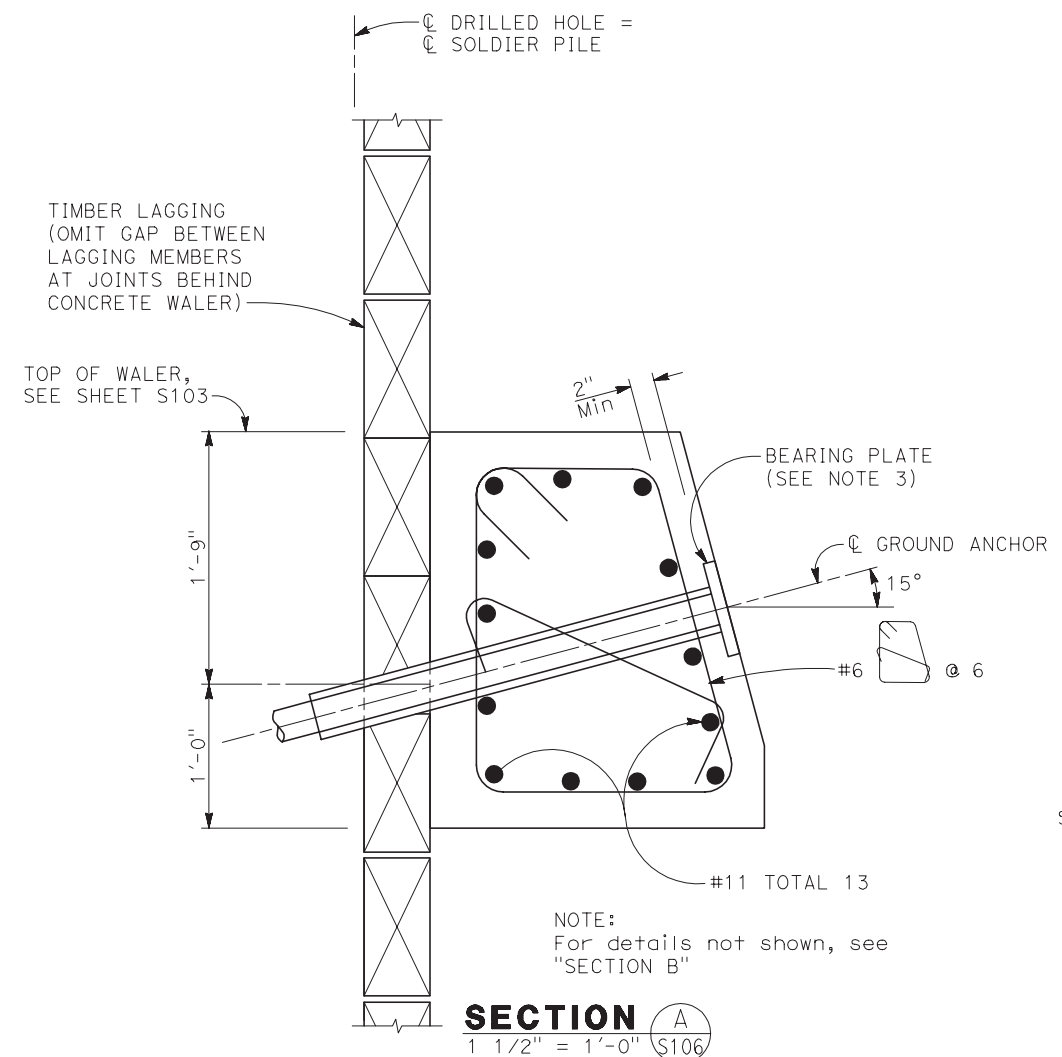


**DETAIL 1**  
NO SCALE

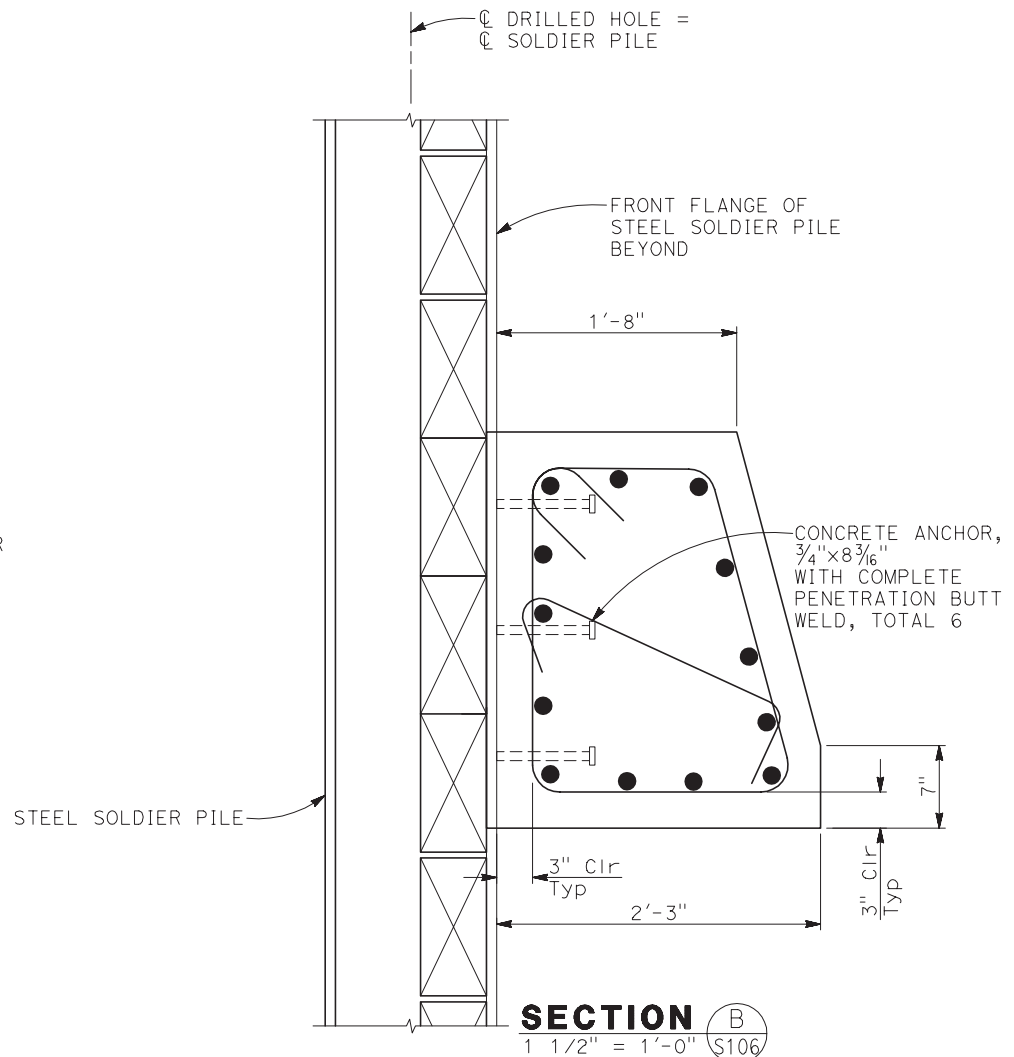
- NOTES:
1. For concrete waler location, see "SOLDIER PILE WALL SECTION" shown on "SOLDIER PILE WALL DETAILS" sheet.
  2. Concrete walers may be poured to face of lagging.
  3. Bearing plates may be recessed or on face of concrete waler.
  4. No clipping of timber lagging corners allowed.
  5. Use 40d Galv wire spikes for 6x12 lagging.
  6. Spikes shall not be bent.
  7. Place stirrups 1/2" clear of anchorage tube.



**PART PLAN**  
NO SCALE



**SECTION A**  
1 1/2" = 1'-0" S106



**SECTION B**  
1 1/2" = 1'-0" S106



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**BCA**  
 STRUCTURAL ENGINEERS  
 1111 Broadway, Ste. 1510  
 Oakland, California 94607  
 510-625-9900

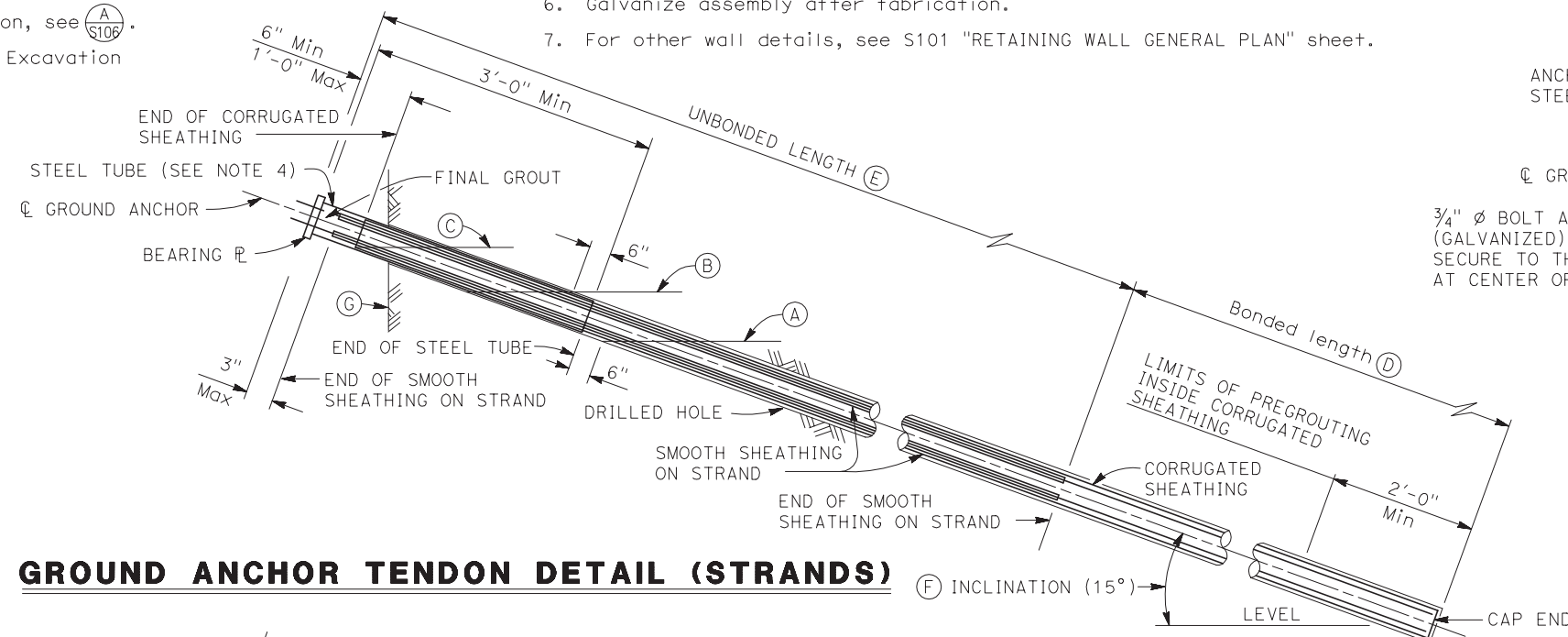
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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: RMY
CONTRACT NO.: 217224 & 217219	DRAWN BY: JJD
DRAWING FILE NAME: 20190481S107	REVIEWED BY: GPK
PLOT DATE: 9/4/2020	APPROVED BY: AWR
SHEET: S107	

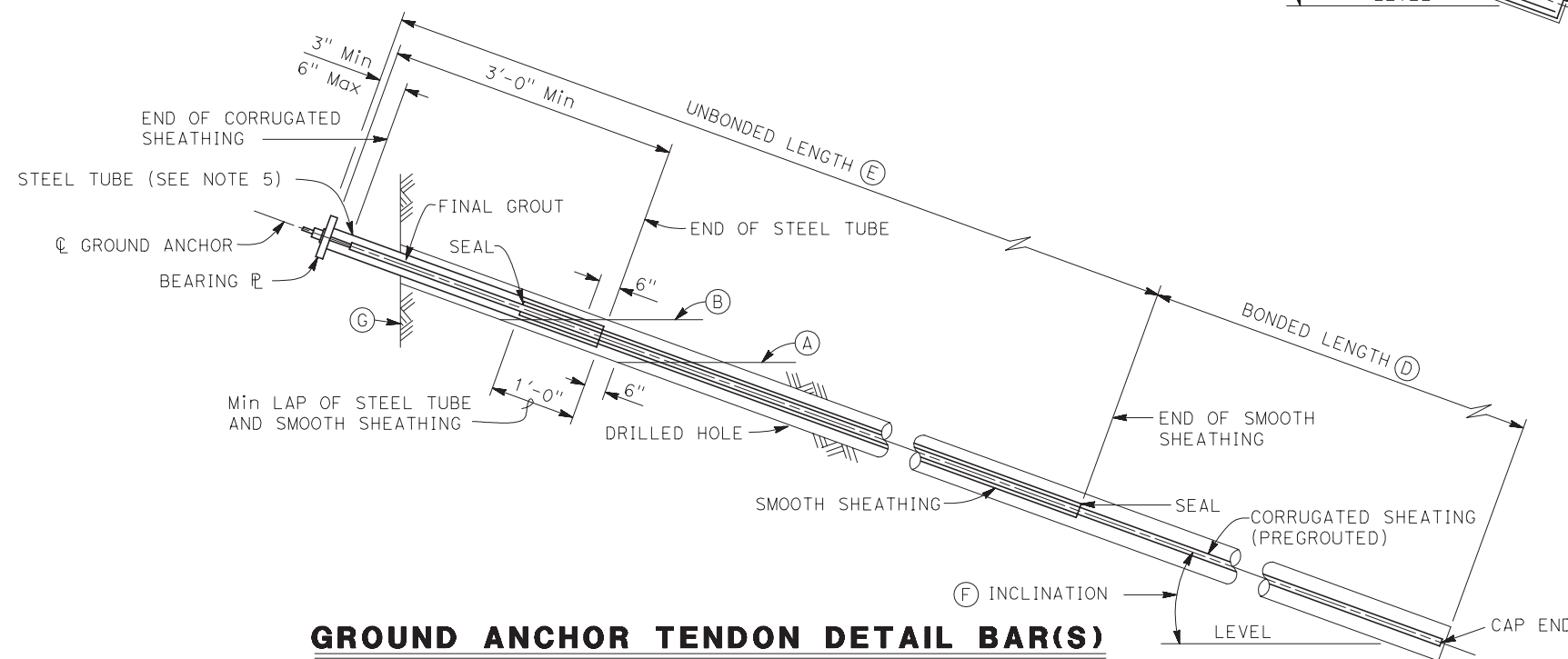
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET <b>16</b> OF <b>26</b>
<b>PM 5.00 GROUND ANCHOR DETAILS</b>	

- NOTES:
- (A) Level of initial grouting for drilled hole 6" in diameter or smaller
  - (B) Level of secondary grouting
  - (C) Level of initial grouting inside corrugated sheathing
  - (D) Bonded length shall be determined by the contractor
  - (E) For unbonded length, see "RETAINING WALL LAYOUT No. 2"
  - (F) For inclination, see (A/S106)
  - (G) Face of Wall Excavation

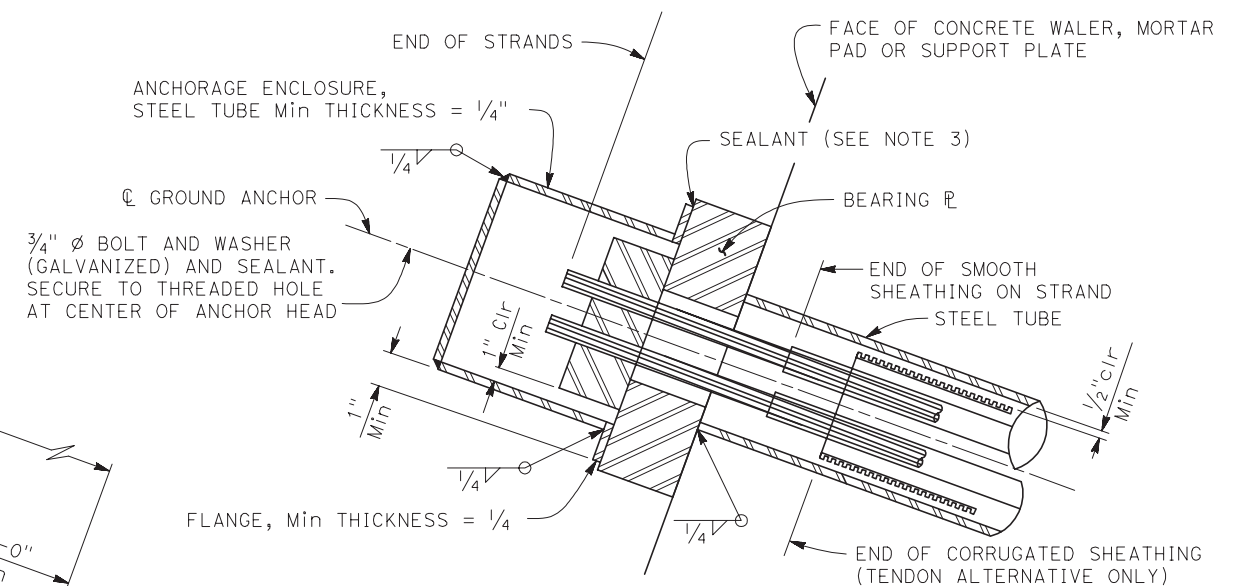
- NOTES:
1. Anchorage enclosure shall only be used when anchor head assembly is not enclosed in concrete.
  2. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
  3. Silicone sealant to cover full width of flange.
  4. Steel tube (Min thickness = 1/4") welded to bearing plate. Galvanize assembly after fabrication
  5. Steel tube welded to bearing plate. Inside diameter of steel tube (Min thickness = 1/4") to be 1" greater than outside diameter of smooth sheathing.
  6. Galvanize assembly after fabrication.
  7. For other wall details, see S101 "RETAINING WALL GENERAL PLAN" sheet.



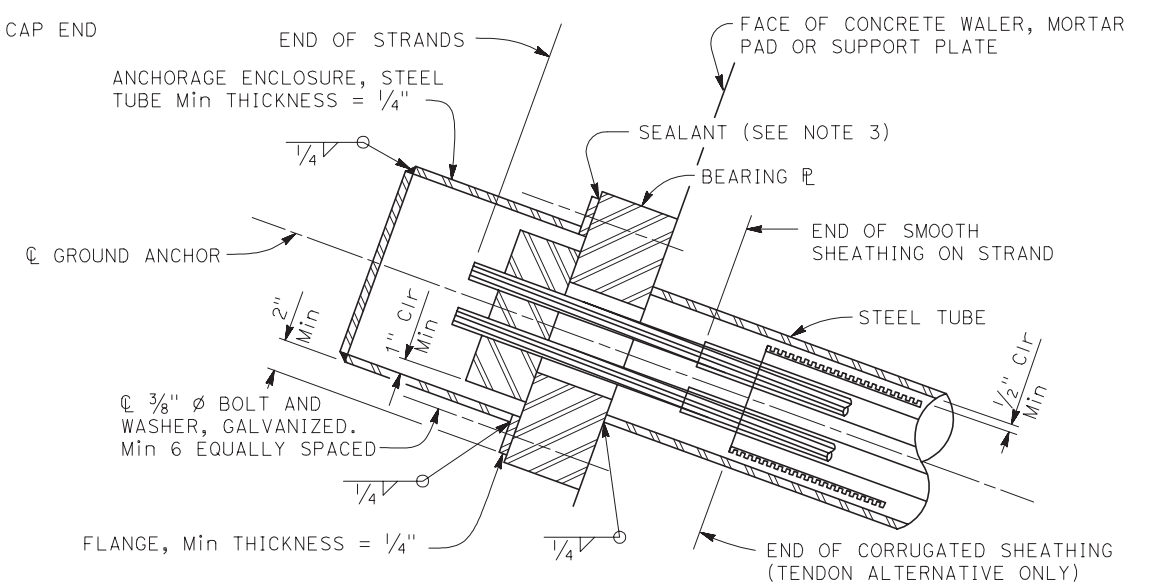
**GROUND ANCHOR TENDON DETAIL (STRANDS)**



**GROUND ANCHOR TENDON DETAIL BAR(S)**



**ALTERNATIVE X**



**ALTERNATIVE Y**

**ANCHORAGE ENCLOSURE DETAILS**

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL





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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.DAVIS
DRAWING FILE NAME: 11190326_17-C001-SURVEY CONTROL PLAN.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-201
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67	
PM 13.67 SURVEY CONTROL PLAN	

SHEET  
17  
OF  
26

Segment	Type	Length	Radius	Direction	Start Station	End Station
L1	LINE	89.74	-	S61° 59' 15.73"E	"MRCL1" 1+00.00	"MRCL1" 1+89.74
C1	CURVE	55.11	300.00		"MRCL1" 1+89.74	"MRCL1" 2+44.85
L2	LINE	102.02	-	S72° 30' 46.92"E	"MRCL1" 2+44.85	"MRCL1" 3+46.86

Segment	Type	Length	Radius	Direction	Start Station	End Station
C2	CURVE	75.00	282.00		"RWL0L1" -0+00.00	"RWL0L1" 0+75.00

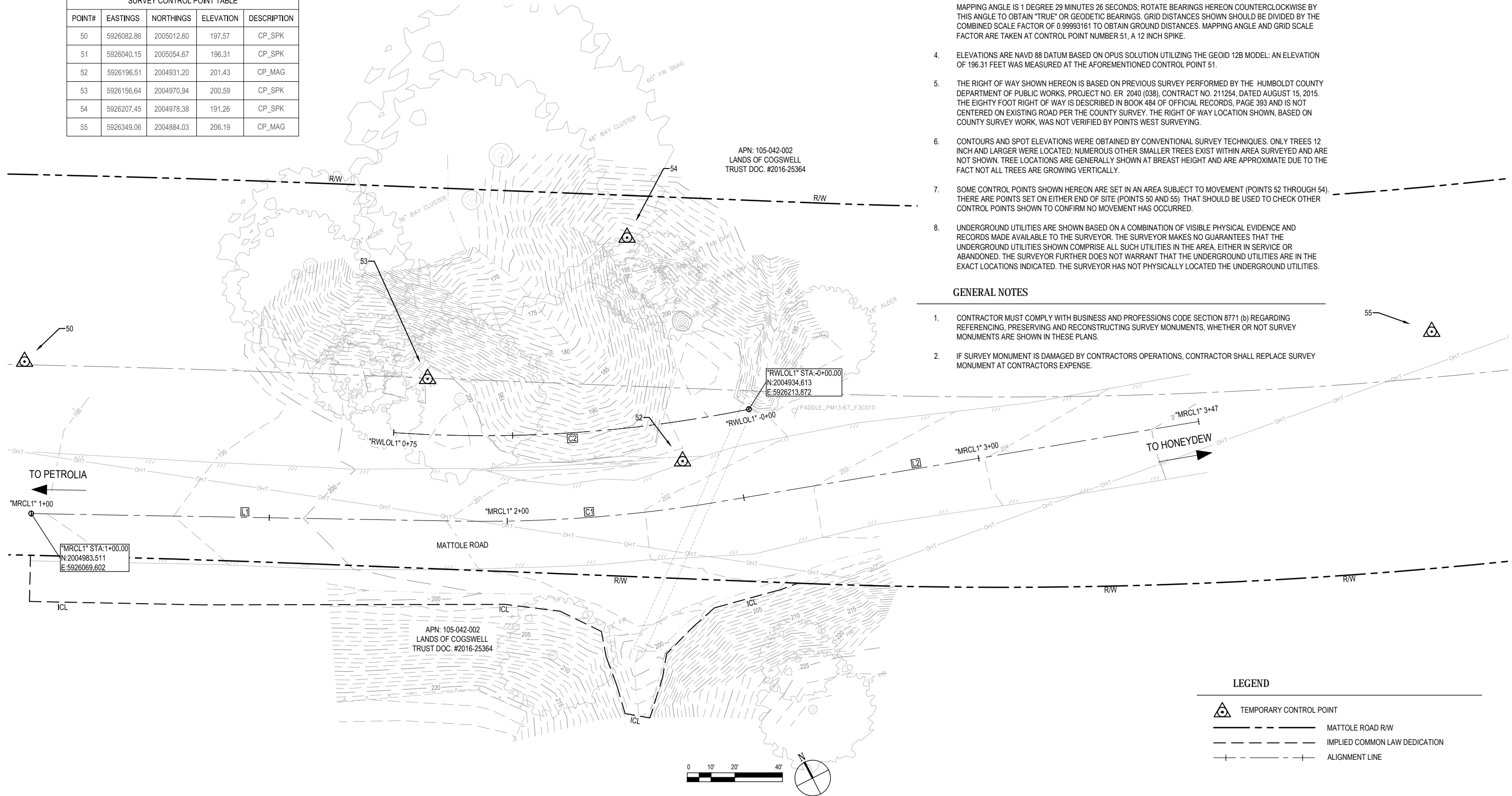
POINT#	EASTINGS	NORTHINGS	ELEVATION	DESCRIPTION
50	5926082.86	2005012.60	197.57	CP_SPK
51	5926040.15	2005054.67	196.31	CP_SPK
52	5926196.51	2004931.20	201.43	CP_MAG
53	5926156.64	2004970.94	200.59	CP_SPK
54	5926207.45	2004978.38	191.26	CP_SPK
55	5926349.06	2004884.03	206.19	CP_MAG

**SURVEY CONTROL NOTES**

- TOPOGRAPHIC AND RIGHT-OF-WAY SURVEY PREPARED BY POINTS WEST SURVEYING. FIELD WORK DATE: MARCH 4, 2019.
- THE PURPOSE OF THIS SURVEY IS TO DETERMINE TOPOGRAPHY FOR A STORM DAMAGE REPAIR SITE AT POST MILE 13.67 OF MATTOLE ROAD. THIS SURVEY REFLECTS CONDITIONS AT THE TIME OF SURVEY.
- COORDINATES FOR THIS SURVEY ARE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 1, NAD 83 (2011), EPOCH 2010.0 BASED ON A STATIC GPS CONTROL SURVEY USING THE NGS OPUS POST PROCESSING SOFTWARE. THE CONTROL POINT IDENTIFIED AS POINT 51 WAS HELD FOR HORIZONTAL POSITIONS SHOWN HEREON. THE MAPPING ANGLE IS 1 DEGREE 29 MINUTES 26 SECONDS; ROTATE BEARINGS HEREON COUNTERCLOCKWISE BY THIS ANGLE TO OBTAIN "TRUE" OR GEODETIC BEARINGS. GRID DISTANCES SHOWN SHOULD BE DIVIDED BY THE COMBINED SCALE FACTOR OF 0.99993161 TO OBTAIN GROUND DISTANCES. MAPPING ANGLE AND GRID SCALE FACTOR ARE TAKEN AT CONTROL POINT NUMBER 51, A 12 INCH SPIKE.
- ELEVATIONS ARE NAVD 88 DATUM BASED ON OPUS SOLUTION UTILIZING THE GEOD 12B MODEL: AN ELEVATION OF 196.31 FEET WAS MEASURED AT THE AFOREMENTIONED CONTROL POINT 51.
- THE RIGHT OF WAY SHOWN HEREON IS BASED ON PREVIOUS SURVEY PERFORMED BY THE HUMBOLDT COUNTY DEPARTMENT OF PUBLIC WORKS, PROJECT NO. ER 2040 (038), CONTRACT NO. 211254, DATED AUGUST 15, 2015. THE EIGHTY FOOT RIGHT OF WAY IS DESCRIBED IN BOOK 484 OF OFFICIAL RECORDS, PAGE 393 AND IS NOT CENTERED ON EXISTING ROAD PER THE COUNTY SURVEY. THE RIGHT OF WAY LOCATION SHOWN, BASED ON COUNTY SURVEY WORK, WAS NOT VERIFIED BY POINTS WEST SURVEYING.
- CONTOURS AND SPOT ELEVATIONS WERE OBTAINED BY CONVENTIONAL SURVEY TECHNIQUES. ONLY TREES 12 INCH AND LARGER WERE LOCATED; NUMEROUS OTHER SMALLER TREES EXIST WITHIN AREA SURVEYED AND ARE NOT SHOWN. TREE LOCATIONS ARE GENERALLY SHOWN AT BREAST HEIGHT AND ARE APPROXIMATE DUE TO THE FACT NOT ALL TREES ARE GROWING VERTICALLY.
- SOME CONTROL POINTS SHOWN HEREON ARE SET IN AN AREA SUBJECT TO MOVEMENT (POINTS 52 THROUGH 54). THERE ARE POINTS SET ON EITHER END OF SITE (POINTS 50 AND 55) THAT SHOULD BE USED TO CHECK OTHER CONTROL POINTS SHOWN TO CONFIRM NO MOVEMENT HAS OCCURRED.
- UNDERGROUND UTILITIES ARE SHOWN BASED ON A COMBINATION OF VISIBLE PHYSICAL EVIDENCE AND RECORDS MADE AVAILABLE TO THE SURVEYOR. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATIONS INDICATED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

**GENERAL NOTES**

- CONTRACTOR MUST COMPLY WITH BUSINESS AND PROFESSIONS CODE SECTION 8771 (b) REGARDING REFERENCING, PRESERVING AND RECONSTRUCTING SURVEY MONUMENTS, WHETHER OR NOT SURVEY MONUMENTS ARE SHOWN IN THESE PLANS.
- IF SURVEY MONUMENT IS DAMAGED BY CONTRACTORS OPERATIONS, CONTRACTOR SHALL REPLACE SURVEY MONUMENT AT CONTRACTORS EXPENSE.





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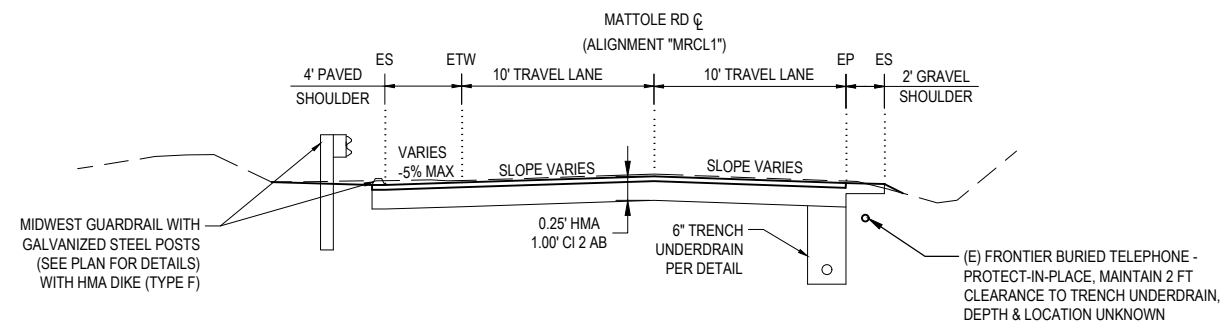


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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11190326_18-CD02-TYP SECTIONS.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	APPROVED BY: J.WOLF
Sheet: C-202	

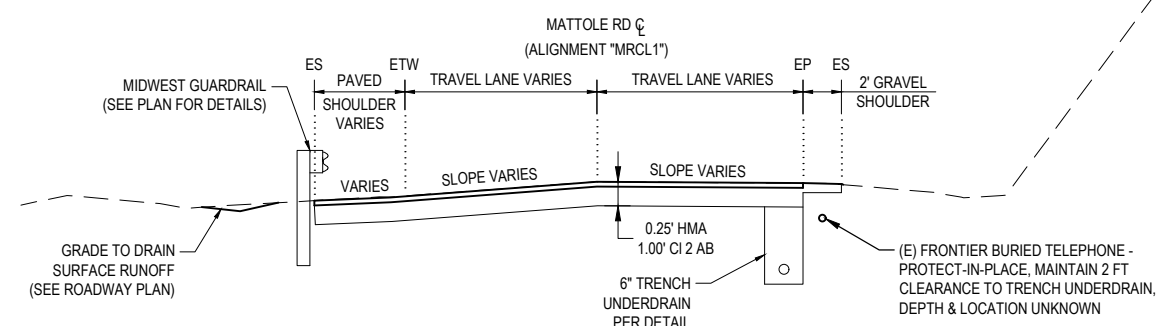
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 13.67 TYPICAL SECTIONS

SHEET 18 OF 26



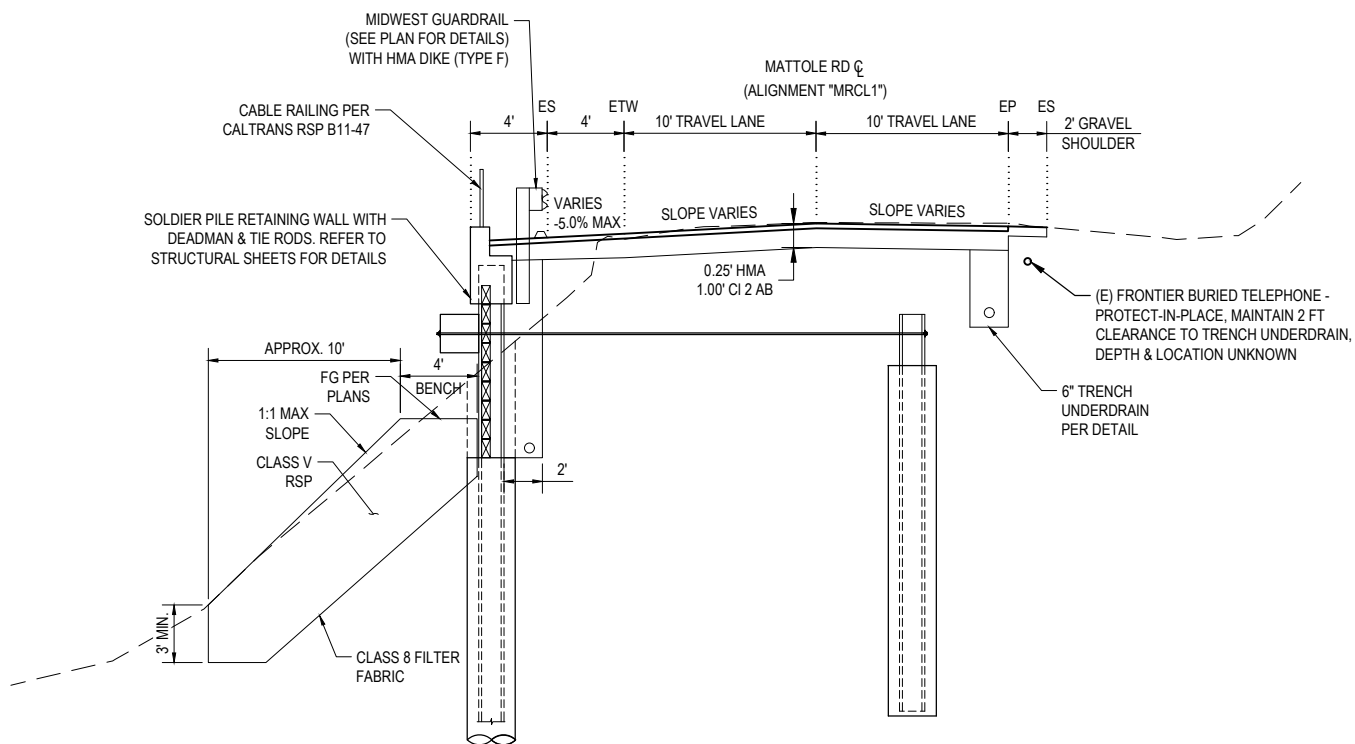
TYPICAL SECTION - MATTOLE ROAD

NOT TO SCALE STA "MRCL1" 1+38 - 1+85.8



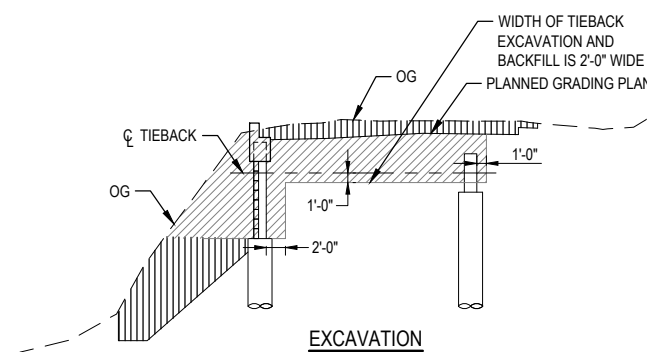
TYPICAL SECTION - MATTOLE ROAD

NOT TO SCALE STA "MRCL1" 2+44.1 - 2+60

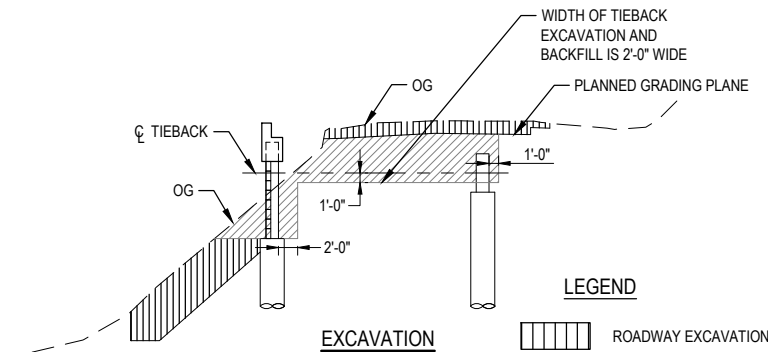


TYPICAL SECTION - MATTOLE ROAD

NOT TO SCALE STA "MRCL" 1+85.8 - 2+44.1

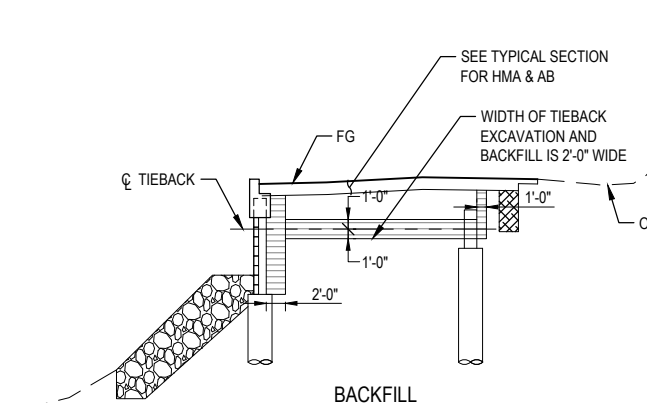


EXCAVATION

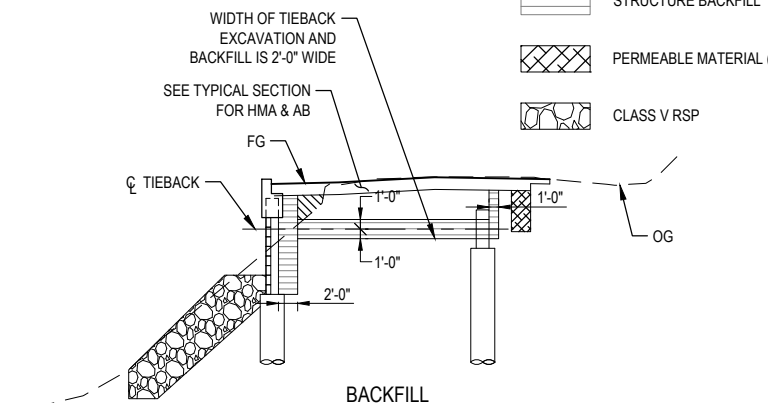


EXCAVATION

- LEGEND
- ROADWAY EXCAVATION
  - STRUCTURE EXCAVATION
  - ROADWAY EMBANKMENT
  - STRUCTURE BACKFILL
  - PERMEABLE MATERIAL (UNDERDRAIN)
  - CLASS V RSP



BACKFILL



BACKFILL

LIMITS OF PAYMENT FOR EXCAVATION AND EMBANKMENT FOR CUT AREAS

NOT TO SCALE

LIMITS OF PAYMENT FOR EXCAVATION AND EMBANKMENT FOR FILL AREAS

NOT TO SCALE

NOTE: FOR "MRCL1" AND "RWLOL1"  
ALIGNMENT DATA SEE SHEET 17.



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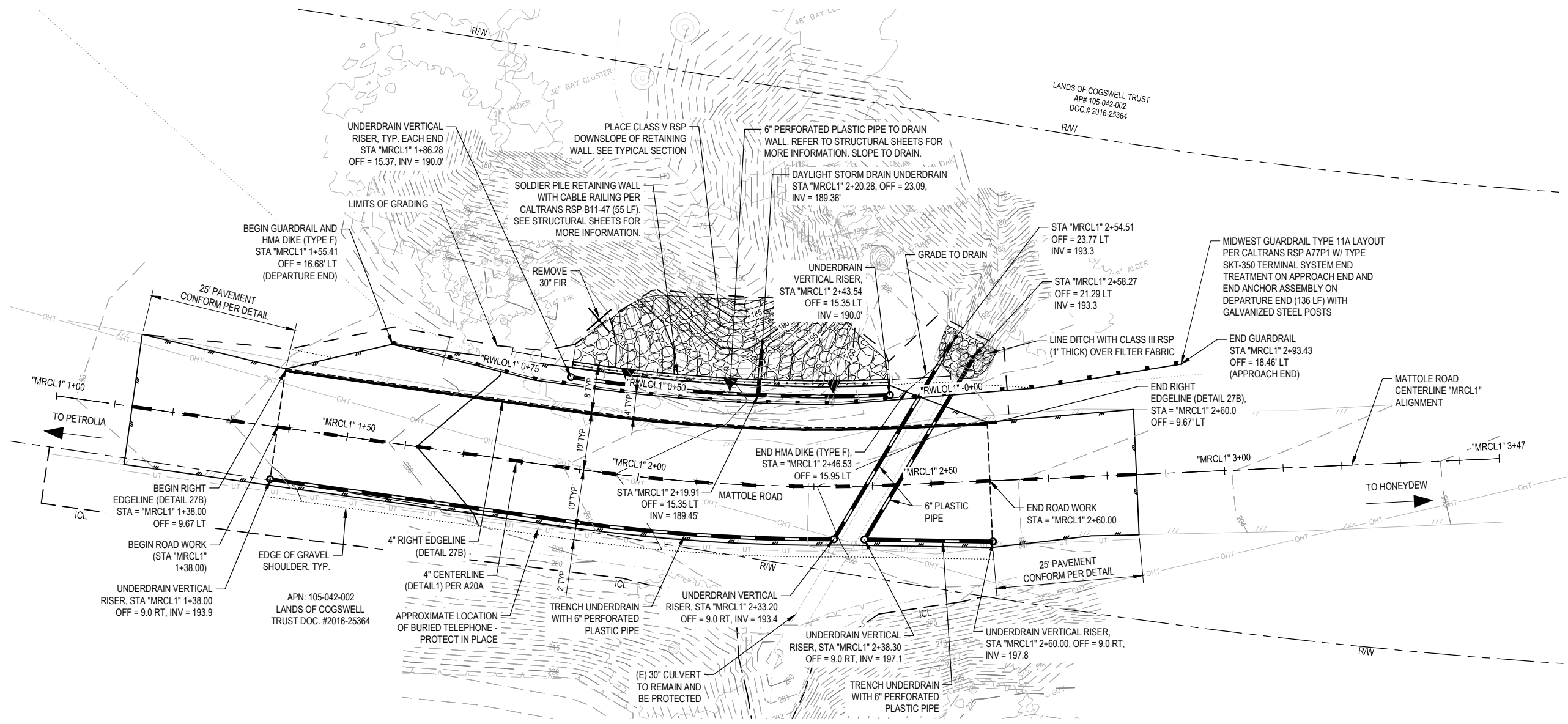
ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11190326_19-C101-PLAN AND PROFILE.DWG	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-203
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 13.67 ROADWAY PLAN

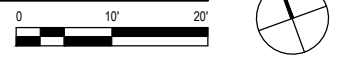
SHEET 19 OF 26

LEGEND

- EDGE OF HMA PAVEMENT SECTION
- EDGE OF GRAVEL SHOULDER
- STORM DRAIN PIPE
- RETAINING WALL
- MIDWEST GUARDRAIL SYSTEM (MGS) OR TERMINAL SYSTEM END TREATMENT (SRT-350)
- REMOVE TREE



MATTOLE ROAD PM 13.67 PLAN VIEW



NOTE: FOR "MRCL1" AND "RWL01" ALIGNMENT DATA SEE SHEET 17.



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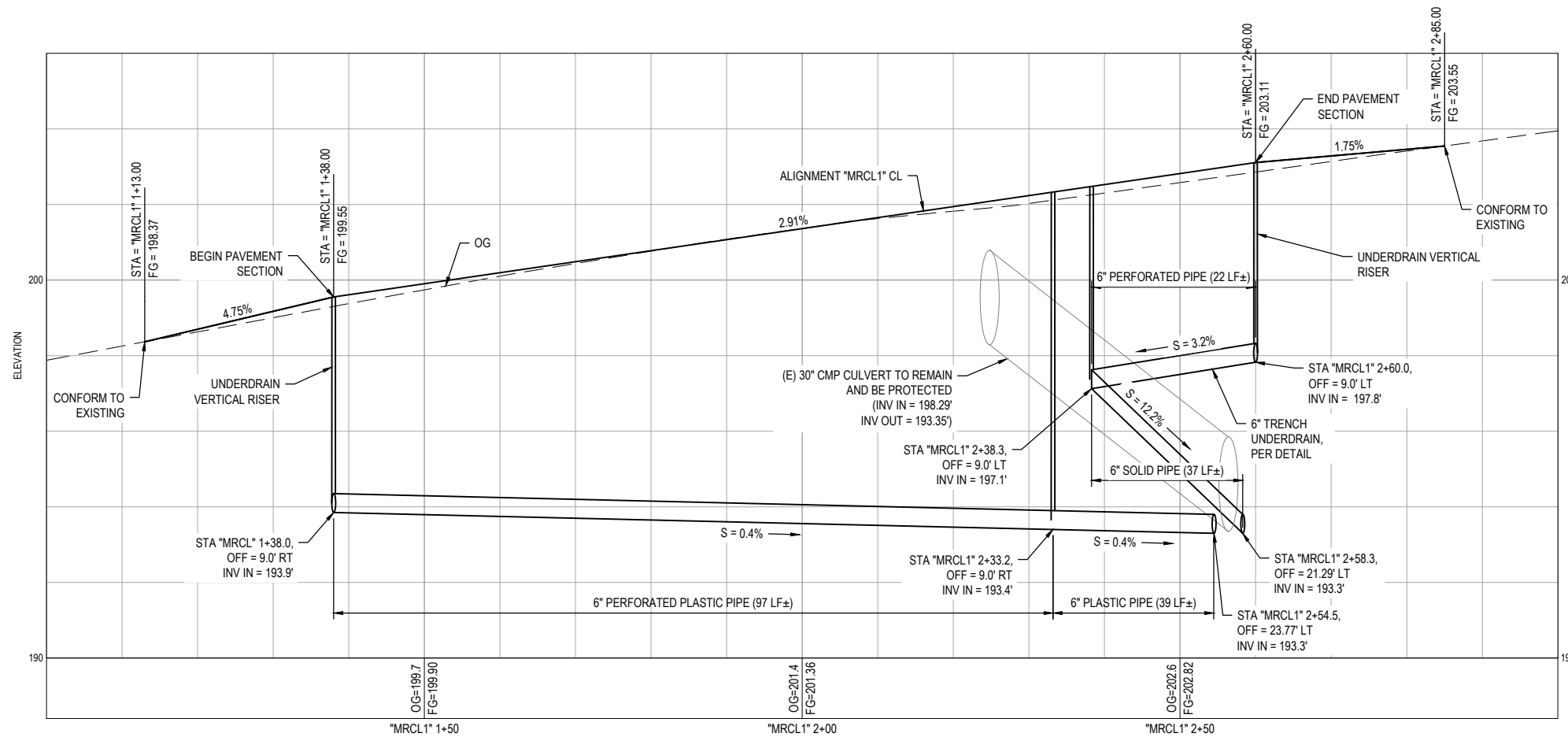
ROAD NAME: MATTOLE ROAD	DESIGN SECTION ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: O.GOODIE
DRAWING FILE NAME: 11190326_19-C101-PLAN AND PROFILE.DWG	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-204
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 13.67 ROADWAY PROFILE

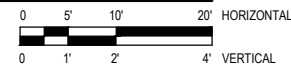
SHEET 20 OF 26

ROADWAY GEOMETRY - SUPERELEVATION TRANSITION					
STATION	LEFT TRAVEL LANE CROSS SLOPE	LEFT EP ELEVATION	CROWN ELEVATION	RIGHT EP ELEVATION	RIGHT TRAVEL LANE CROSS SLOPE
"MRCL1" 1+38.0	-2.66%	199.00	199.30	198.86	-4.57%
"MRCL1" 1+54.2	-2.00%	199.56	199.77	199.37	-4.00%
"MRCL1" 1+60.0	-2.00%	199.74	199.94	199.56	-3.80%
"MRCL1" 1+76.8	-3.00%	200.14	200.44	200.12	-3.20%
"MRCL1" 1+84.5	-3.46%	200.31	200.66	200.36	-3.00%
"MRCL1" 1+93.7	-4.00%	200.53	200.93	200.67	-2.61%
"MRCL1" 2+11.0	-5.00%	200.92	201.42	201.22	-2.00%
"MRCL1" 2+27.3	-6.00%	201.30	201.90	201.76	-1.43%
"MRCL1" 2+39.7	-6.74%	201.58	202.27	201.17	-1.00%
"MRCL1" 2+44.2	-7.00%	201.66	202.40	202.32	-0.74%
"MRCL1" 2+60.0	-7.94%	201.97	202.86	202.83	-0.28%

1. NEGATIVE CROSS SLOPES INDICATE DOWNWARD SLOPING AWAY FROM THE CENTERLINE OF THE ROAD.
2. SHOULDER CROSS SLOPES SHALL MATCH THE LANE CROSS SLOPE UP TO -5% FROM THE ADJACENT TRAVEL WAY SHOULDER THROUGH THE SUPERELEVATED TRANSITION.



MATTOLE ROAD PM 13.67 PROFILE VIEW



NOTE: THIS PLAN IS ACCURATE FOR EROSION CONTROL ONLY



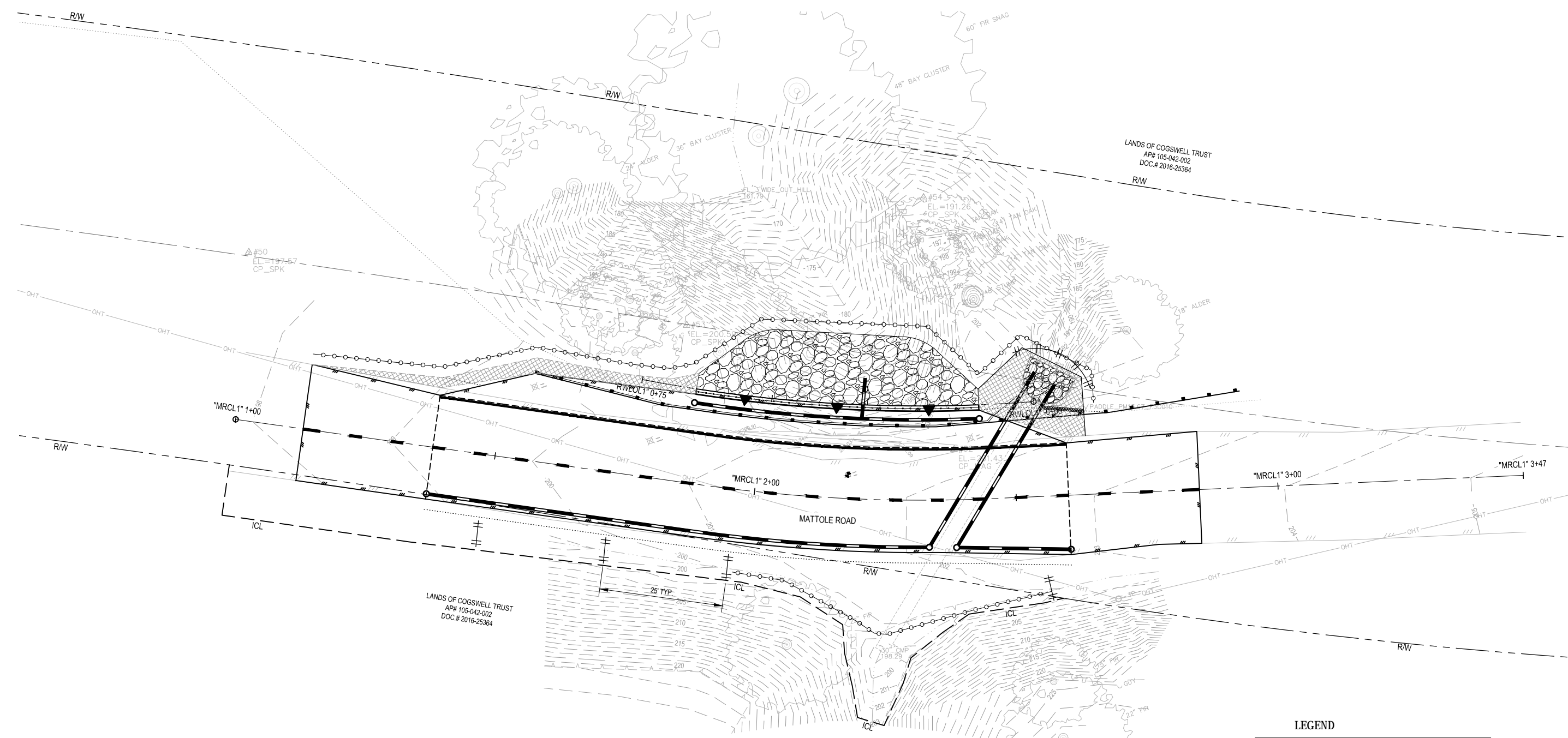
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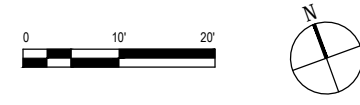
ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11190326_21_C102-EROSION CONTROL PLAN.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-205
	APPROVED BY: J.WOLF

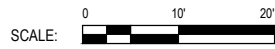
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 21 OF 26
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67	
PM 13.67 EROSION CONTROL PLAN	



**LEGEND**

	HAND SOWN SEED UNDER ROLLED EROSION CONTROL PRODUCT
	TEMPORARY CHECK DAMS
	TEMPORARY SILT FENCE
	FIBER ROLLS





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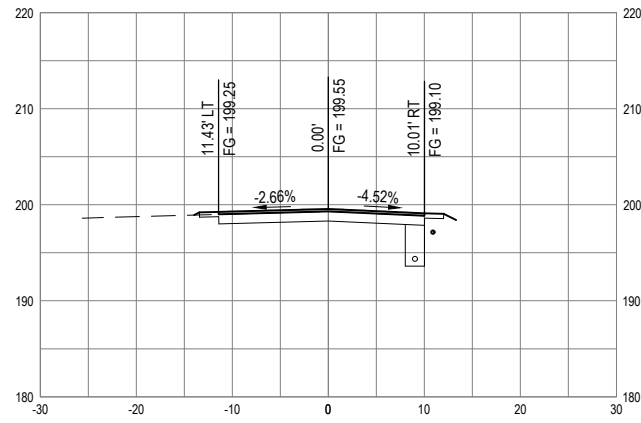
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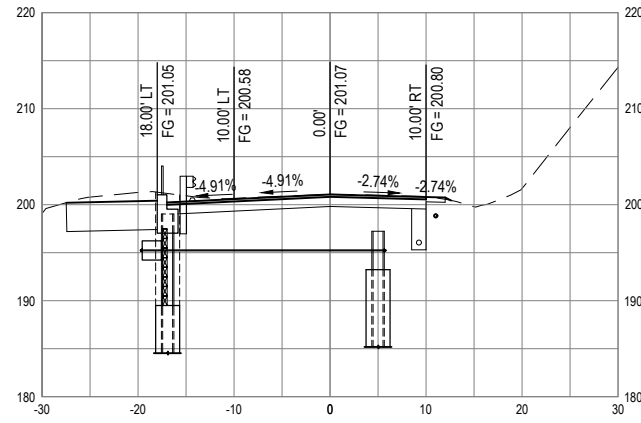
ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: S.GOULD
DRAWING FILE NAME: 11190326_22_C103-CROSS SECTIONS.dwg	REVIEWED BY: J.WOLF
PLOT DATE: 10/21/2020	Sheet: C-206
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS <b>STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 &amp; 13.67</b> <b>PM 13.67 CROSS SECTIONS</b>
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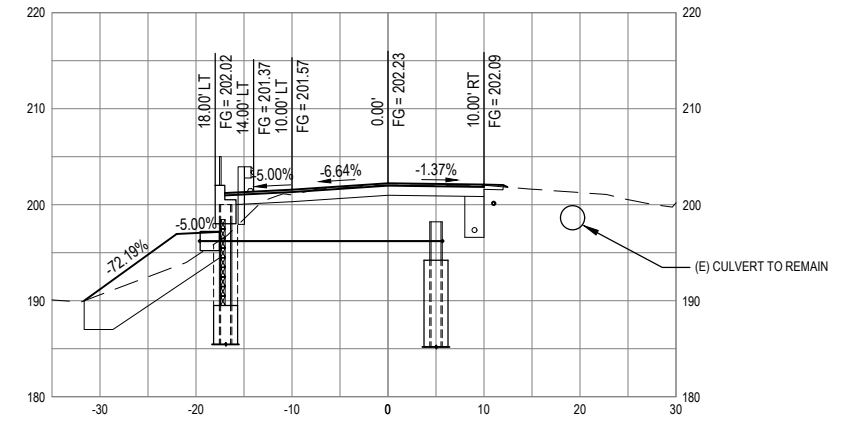
SHEET 22 OF 26



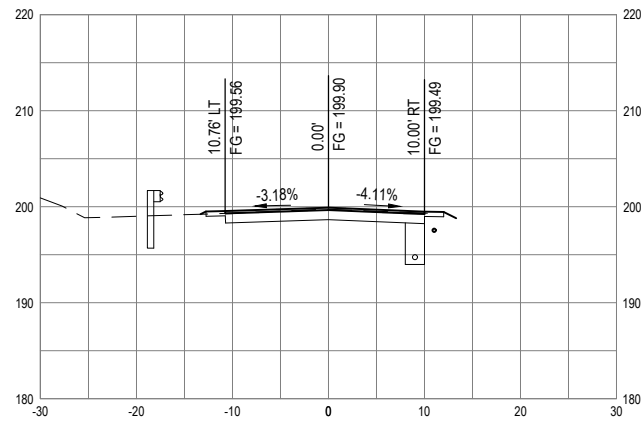
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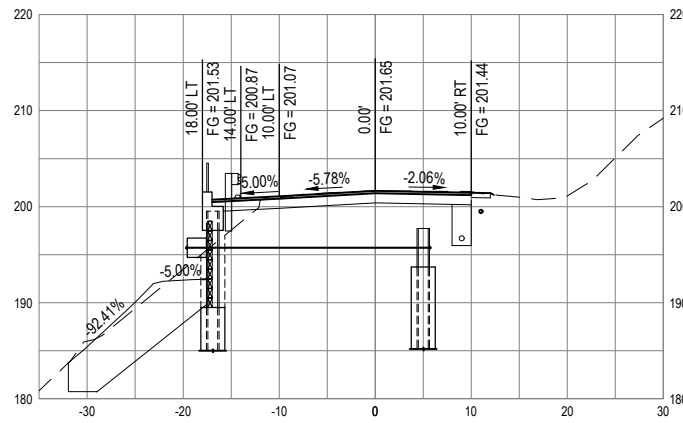
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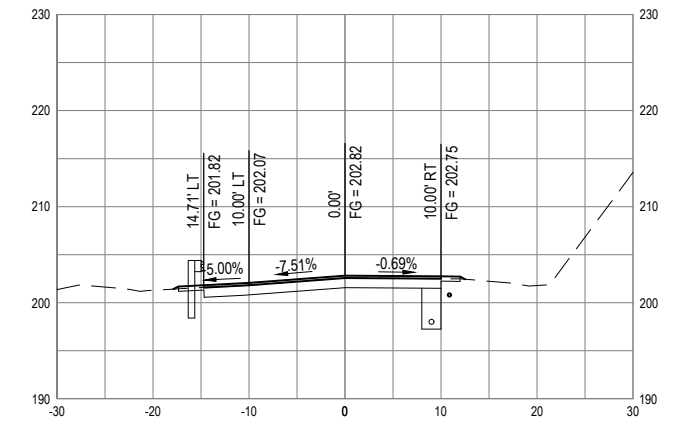
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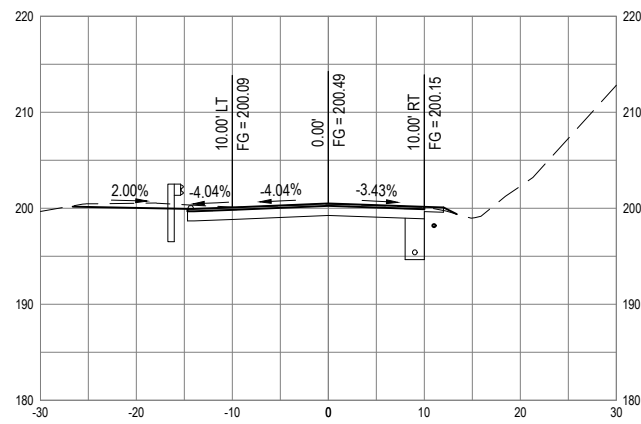
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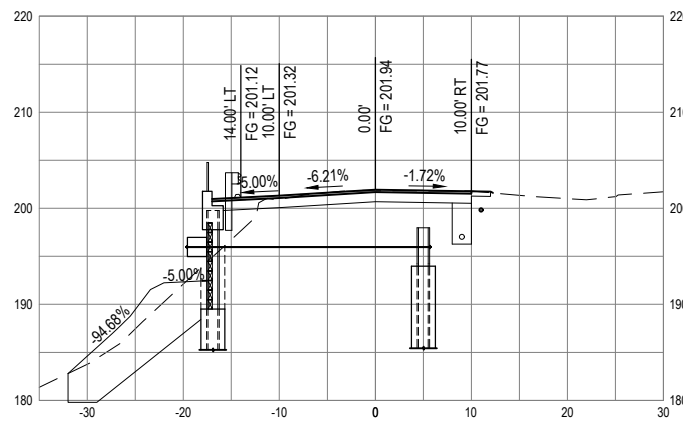
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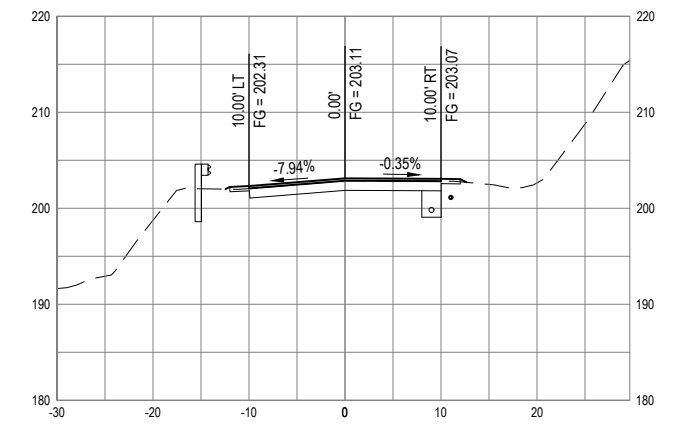
STA "MRCL1" 2+50.00



STA "MRCL1" 1+70.00



STA "MRCL1" 2+20.00



STA "MRCL1" 2+60.00



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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010 MILE POST: 5.00 & 13.67	DESIGNED BY: S.GOULD
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DRAWN BY: S.GOULD
CONTRACT NO.: 217224 & 217219	REVIEWED BY: B.CROWELL
DRAWING FILE NAME: 11190326_23_S001-STRUCTURAL GENERAL NOTES.dwg	APPROVED BY: J.WOLF
PLOT DATE: 10/21/2020 Sheet: S-201	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 13.67 STRUCTURAL GENERAL NOTES

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23  
OF  
26

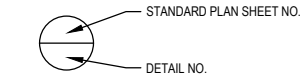
## RETAINING WALL GENERAL NOTES

- DESIGN CRITERIA:
  - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6TH EDITION WITH CALTRANS AMENDMENTS, PREFACE DATED JANUARY 2014 AND CALTRANS "TRENCHING AND SHORING MANUAL" (AUG 2011)
  - RETAINING WALL DESIGN IS BASED ON CRITERIA AND RECOMMENDATIONS PRESENTED IN THE GEOTECHNICAL REPORT TASK ORDER 06 - MATTOLE ROAD PM 13.67 BY CRAWFORD & ASSOCIATES, INC, DATED SEPTEMBER, 2019.
- REINFORCED CONCRETE AND REINFORCING:
  - ASTM DESIGNATIONS: A706
  - Fy = 60,000 PSI
  - f<sub>c</sub> = 3,600 PSI
- STRUCTURAL STEEL:
  - STEEL PILES ASTM DESIGNATION: A572/A, A572M GRADE 50 MIN. OR A992/A992M GRADE 50
  - STEEL PLATES ASTM DESIGNATION: ASTM A572/A572M GRADE 50
  - WELDED STUDS ASTM DESIGNATION: A108, AASHTO/AWS D1.5
  - HIGH STRENGTH TIE RODS ASTM DESIGNATION: ASTM A722 (DYWIDAG THREADBAR, GRADE 150 OR APPROVED EQUAL)
  - WELDING: AWS D1.1
- SOIL PARAMETERS:
  - UNIT WEIGHT: 125 PCF
  - ACTIVE EARTH PRESSURE: 36 PSF/FT
  - PASSIVE EARTH PRESSURE: 410 PSF/FT
  - SEISMIC EARTH PRESSURE: 16.5 PSF/FT (ADD'L)
  - PASSIVE ARCHING CAPABILITY: 3.0
- LIVE LOAD:
  - LIVE LOAD SURCHARGE: 250 PSF/FT (2' EQUIV. EARTH PRESSURE)
- TIMBER LAGGING:
  - PRESSURE TREATED DOUGLAS FIR NO. 1 & BETTER, TIMBER TO BE FULL SAWN

## 2018 STANDARD PLANS

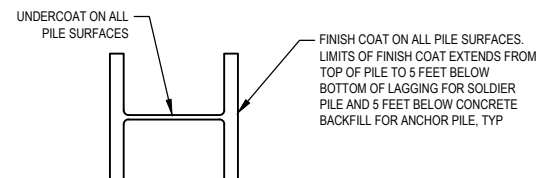
- A3A ABBREVIATIONS (SHEET 1 OF 3)
- A3B ABBREVIATIONS (SHEET 2 OF 3)
- A3C ABBREVIATIONS (SHEET 3 OF 3)
- A10A LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
- A10B LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
- A10C LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
- A10D LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
- A10E LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
- B0-3 BRIDGE DETAILS
- B11-47 CABLE RAILINGS
- D102 UNDERDRAINS

## LEGEND



## ABBREVIATIONS

- CL CENTER LINE
- BOW BOTTOM OF WALL
- DIS DOWN STATION
- RWL0L1 RETAINING WALL LAYOUT LINE
- TOW TOP OF WALL
- US UP STATION



### LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE

NO SCALE

REFER TO PM 13.67 TYPICAL SECTIONS (SHEET 18)  
FOR PAYMENT LIMITS

### LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND BACKFILL (SOLDIER PILE WALL)

LEGEND

- 1 INDICATES SOLDIER PILE NO. SEE PILE DATA TABLE.
- 1A INDICATES ANCHOR PILE NO. SEE PILE DATA TABLE.

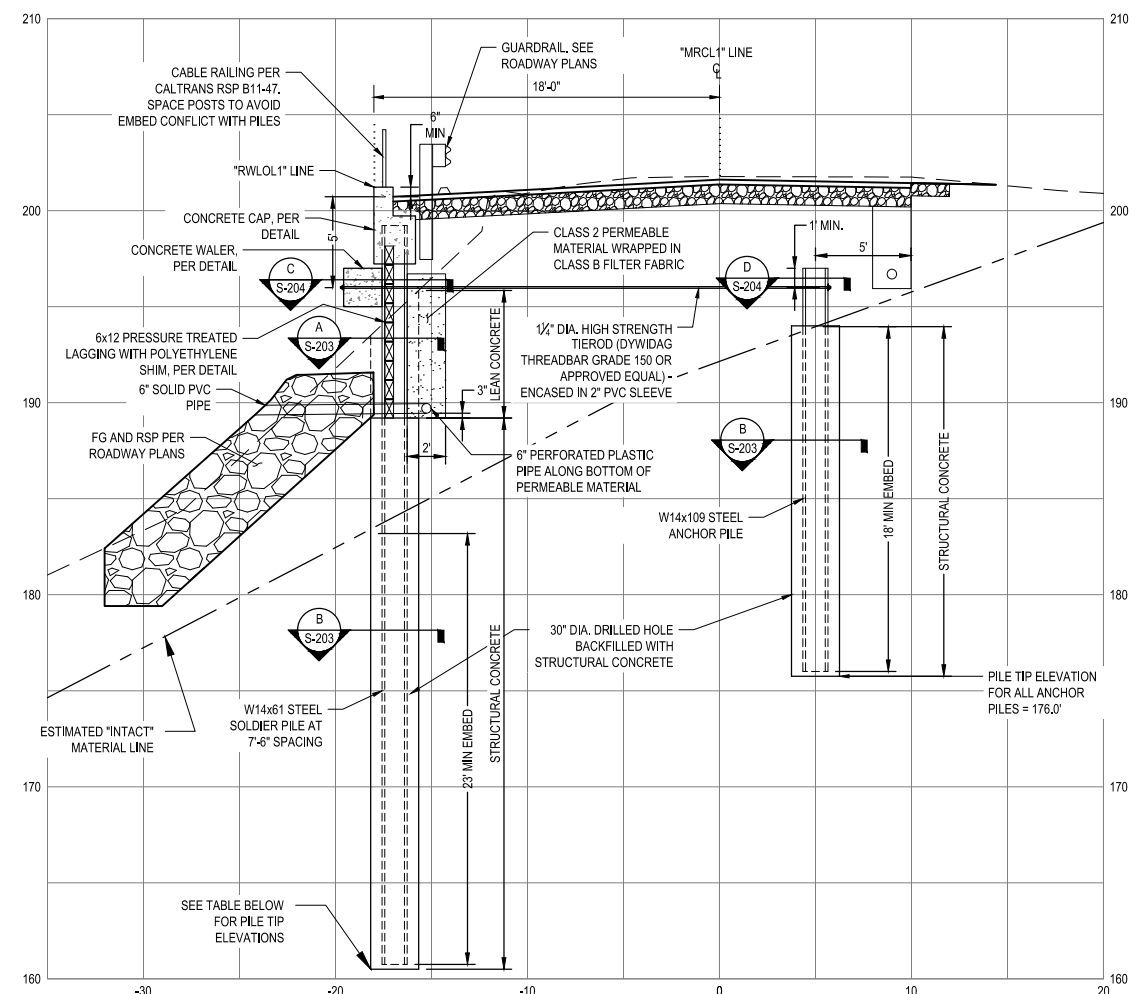
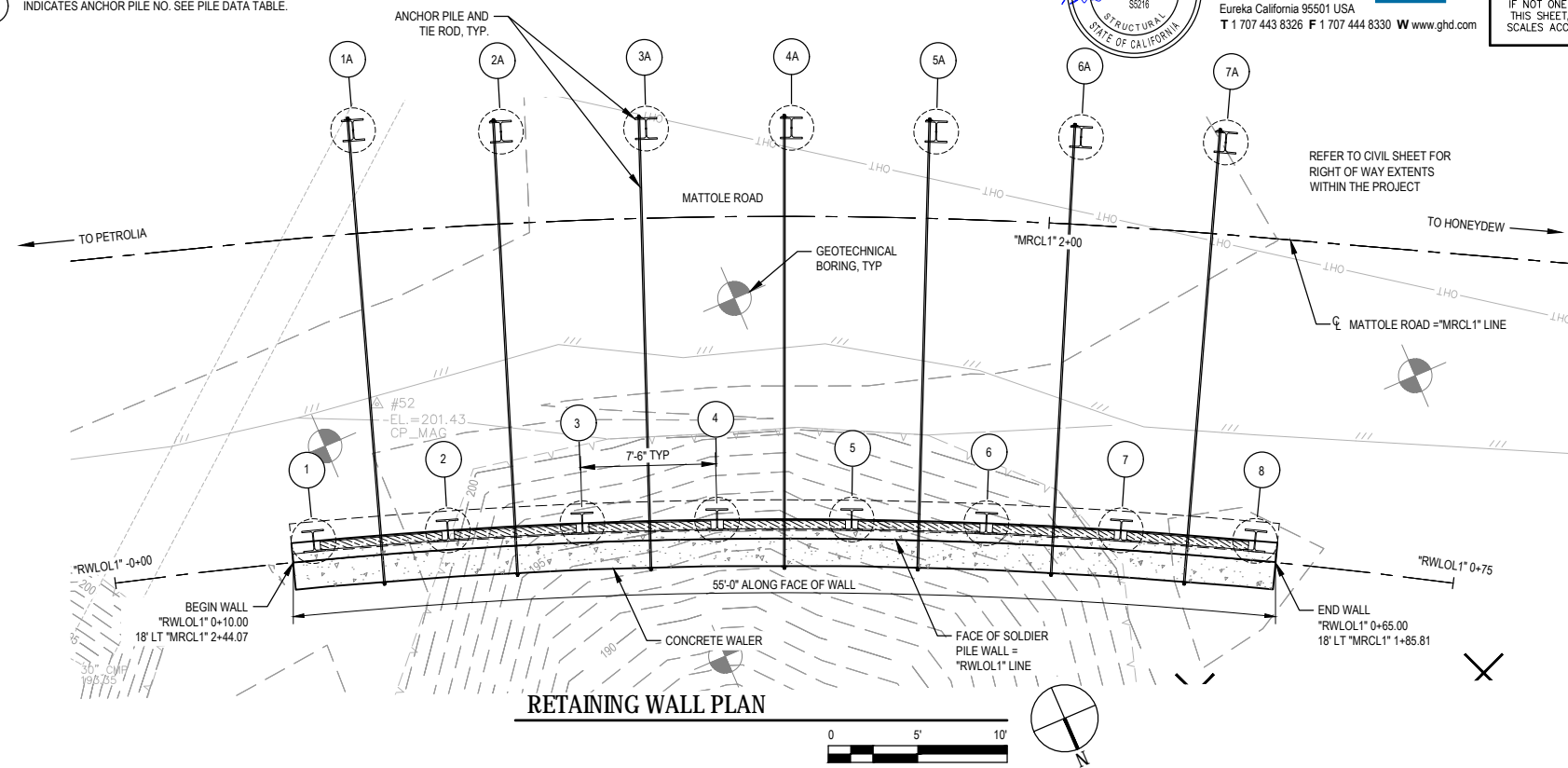

  
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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010 MILE POST: 5.00 & 13.67	DESIGNED BY: S.GOULD
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DRAWN BY: S.GOULD
CONTRACT NO.: 217224 & 217219	REVIEWED BY: B.CROWELL
DRAWING FILE NAME: 11190326_24-S101- RETAINING WALL LAYOUT.dwg	APPROVED BY: J.WOLF
PLOT DATE: 10/21/2020 Sheet: S-202	

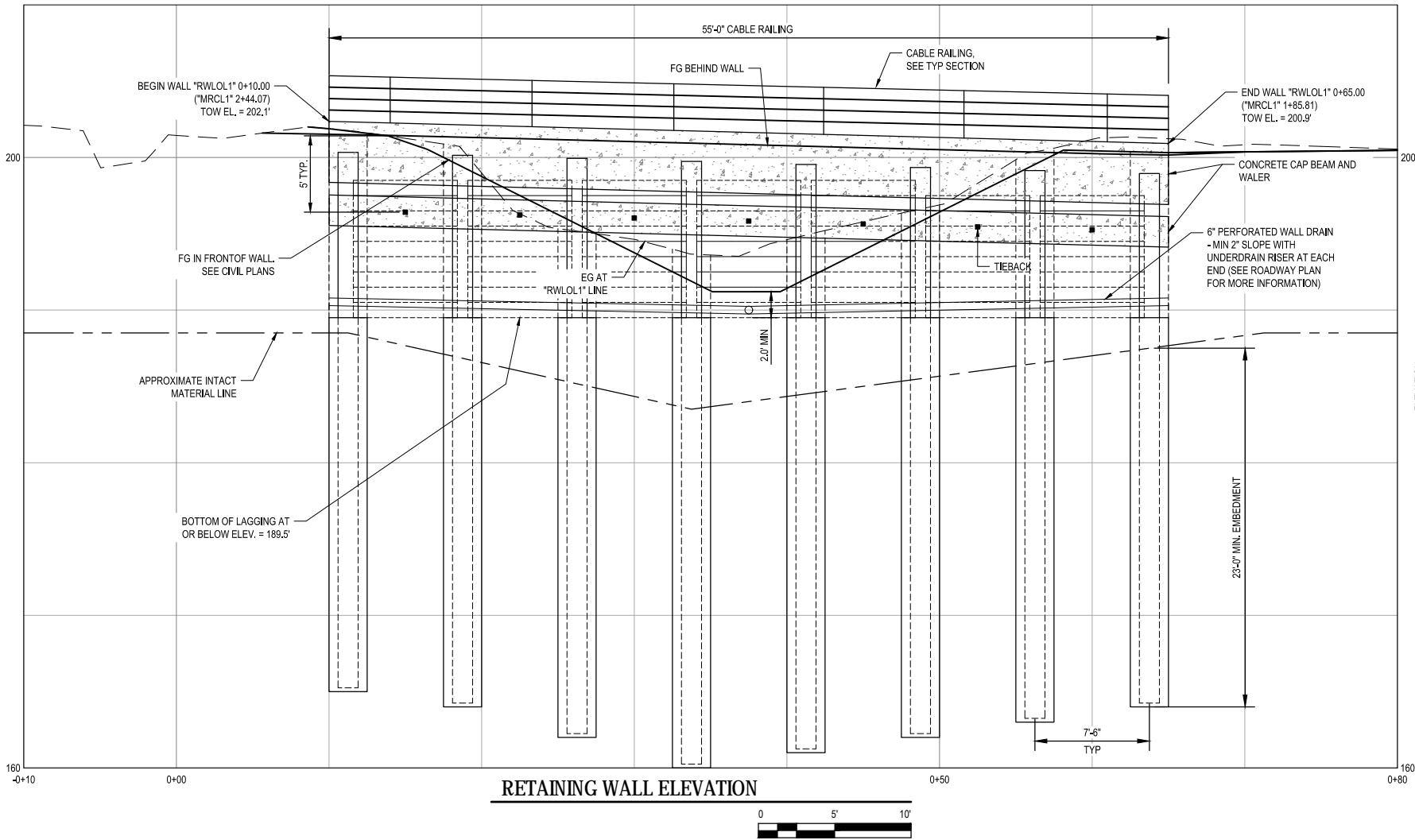
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
<b>STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 &amp; 13.67</b>
<b>PM 13.67 RETAINING WALL LAYOUT</b>

SHEET **24**  
 OF  
**26**



RETAINING WALL TYPICAL SECTION

- NOTES:
- ANCHOR PILES SHALL BE LOCATED HALFWAY BETWEEN SOLDIER PILE, OFFSET AND PERPENDICULAR FROM RWLOL1.
  - TOP OF WALL ELEVATIONS SHOWN ARE BASED ON ROADWAY PLANS. VERIFY ELEVATIONS WITH ROADWAY PLANS PRIOR TO CONSTRUCTION.
  - FG ELEVATIONS AT RWLOL1 SHOWN ARE FOR INFORMATION PURPOSES ONLY, SEE ROADWAY PLANS.
  - PILE CUTOFF ELEVATION SHOWN IS APPROXIMATE. VERIFY WITH GRADING SHOWN ON ROADWAY PLANS.



RETAINING WALL ELEVATION

PILE DATA TABLE								
SOLDIER PILE NO.	SOLDIER PILE SECTION	PILE STA "RWLOL1 LINE"	PILE CUTOFF ELEV. (FT), SEE NOTE 4	PILE TIP ELEV. (FT)	ANCHOR PILE NO.	ANCHOR PILE SECTION	ANCHOR PILE CUTOFF ELEV. (FT), SEE NOTE 4	ANCHOR PILE TIP ELEV. (FT)
BEGIN WALL		0+10.00						
1	W14x61	0+11.25	200.34	165.0	1A	W14x109	197.42	176.0
2	W14x61	0+18.75	200.14	164.0	2A	W14x109	197.23	176.0
3	W14x61	0+26.25	199.94	162.0	3A	W14x109	197.03	176.0
4	W14x61	0+33.75	199.74	160.0	4A	W14x109	196.84	176.0
5	W14x61	0+41.25	199.55	161.0	5A	W14x109	196.65	176.0
6	W14x61	0+48.75	199.35	162.0	6A	W14x109	196.45	176.0
7	W14x61	0+56.25	199.15	163.0	7A	W14x109	196.26	176.0
8	W14x61	0+63.75	198.95	164.0				
END WALL		0+65.00						





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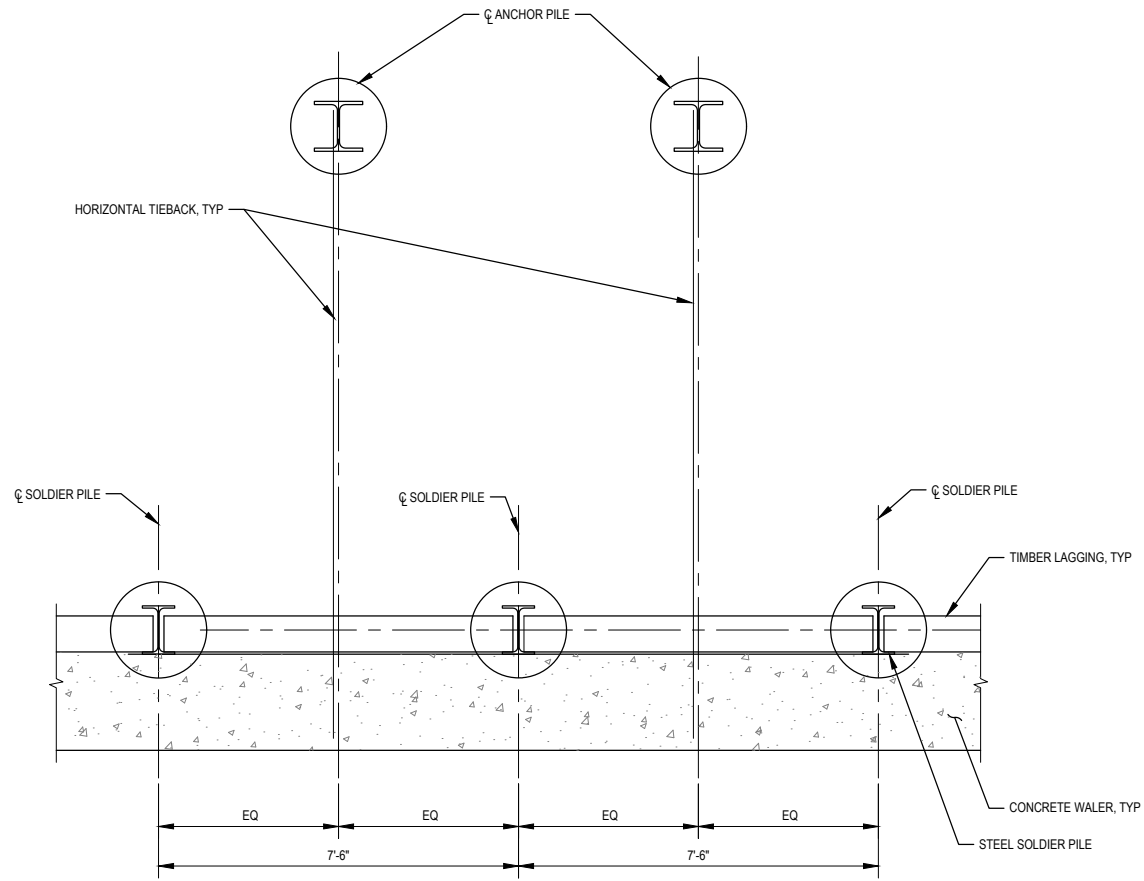


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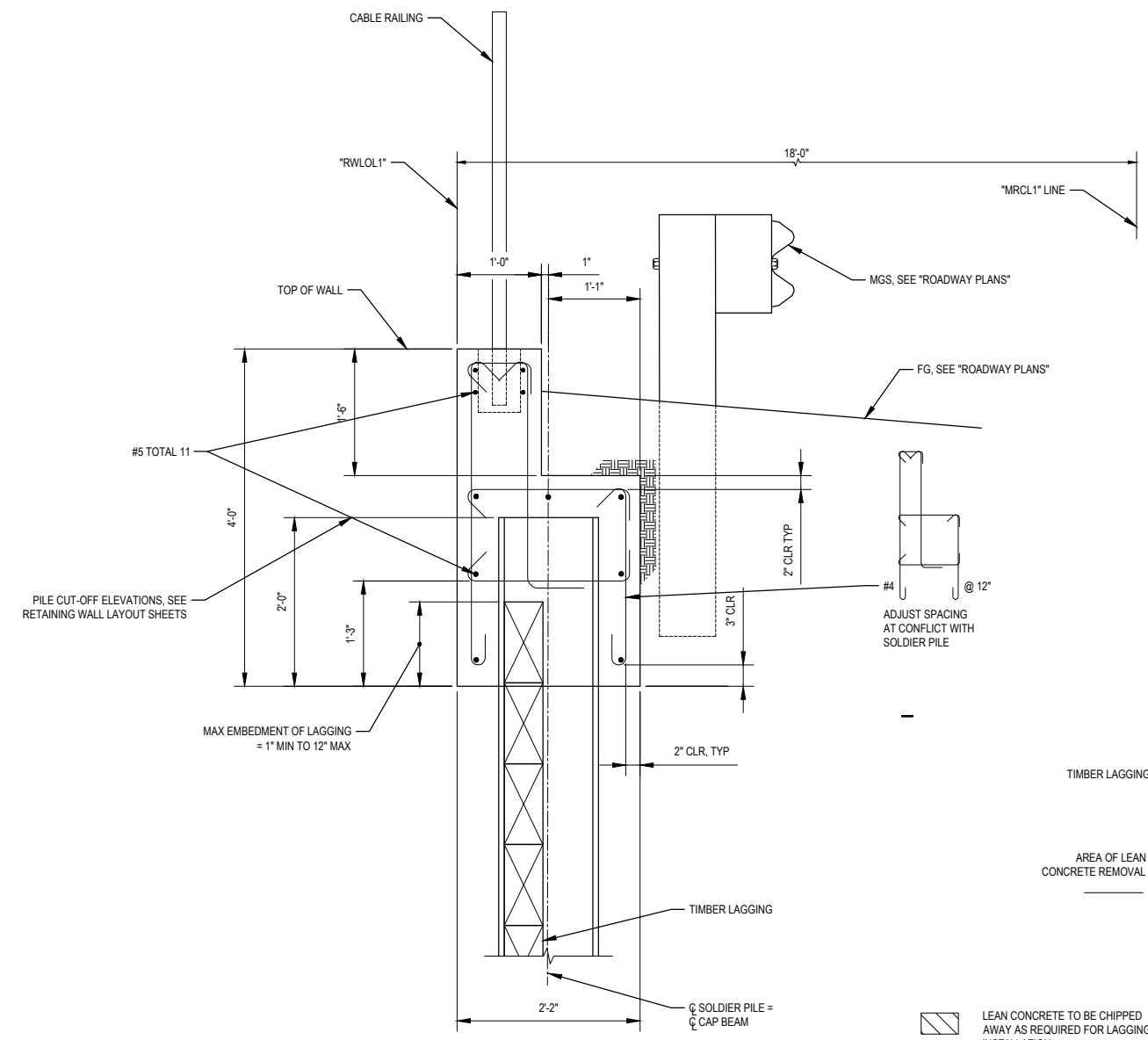
ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
PROJECT NO.: ER-32LO(118) & ER-32LO(240)	DESIGNED BY: S.GOULD
CONTRACT NO.: 217224 & 217219	DRAWN BY: A.PRATT
DRAWING FILE NAME: 11190326_25-26_S500-STRUCTURAL DETAILS.dwg	REVIEWED BY: B.CROWELL
PLOT DATE: 10/21/2020	Sheet: S-203
	APPROVED BY: J.WOLF

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 13.67 RETAINING WALL DETAILS NO. 1

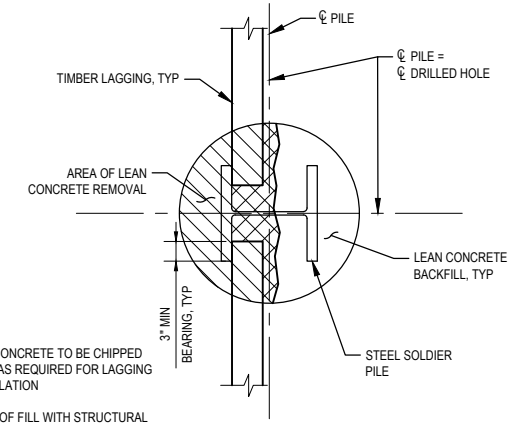
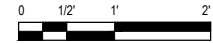
SHEET 25 OF 26



**SOLDIER PILES RETAINING WALL PARTIAL LAYOUT**  
SCALE: 1/2" = 1'-0"

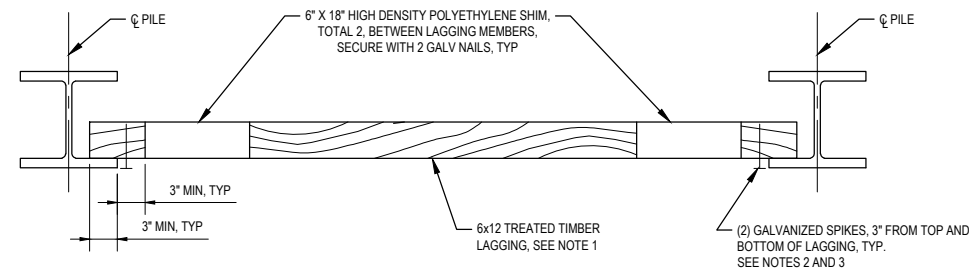


**CAP BEAM DETAIL**  
SCALE: 1" = 1'-0"



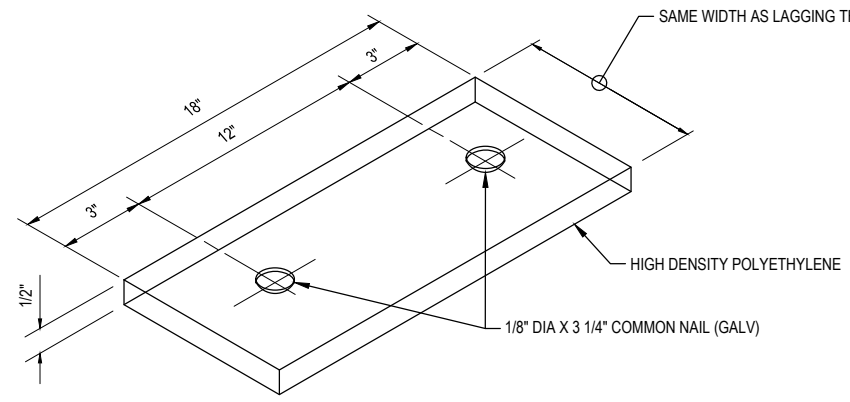
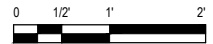
LEAN CONCRETE TO BE CHIPPED AWAY AS REQUIRED FOR LAGGING INSTALLATION  
LIMITS OF FILL WITH STRUCTURAL BACKFILL AFTER LAGGING INSTALLATION

**A SECTION AT LAGGING**  
SCALE: 3/4" = 1'-0"

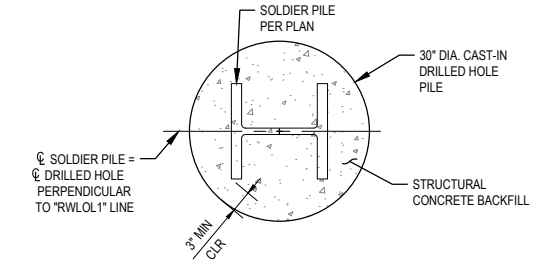


- NOTES:**
- NO CLIPPING OF TIMBER LAGGING CORNERS ALLOWED.
  - USE 40d GALV WIRE SPIKES FOR 6X12 LAGGING.
  - SPIKES SHALL NOT BE BENT.

**PART PLAN**  
SCALE: 1" = 1'-0"



**SHIM DETAIL**  
SCALE: NOT TO SCALE



**B SECTION AT DRILLED HOLE**  
SCALE: 3/4" = 1'-0"





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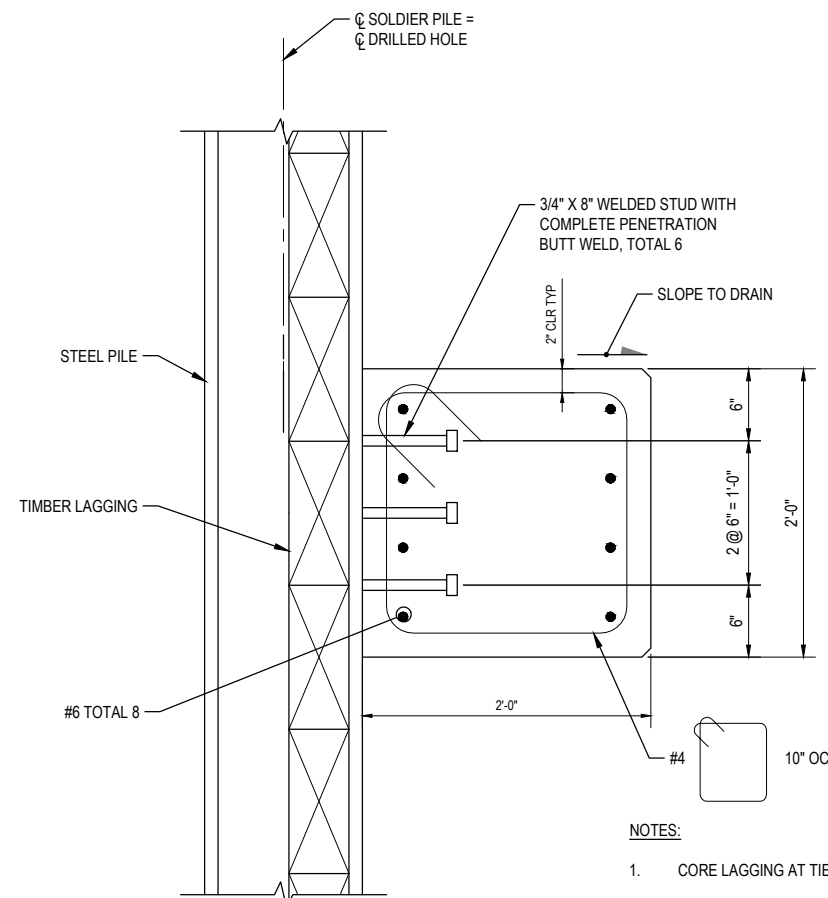


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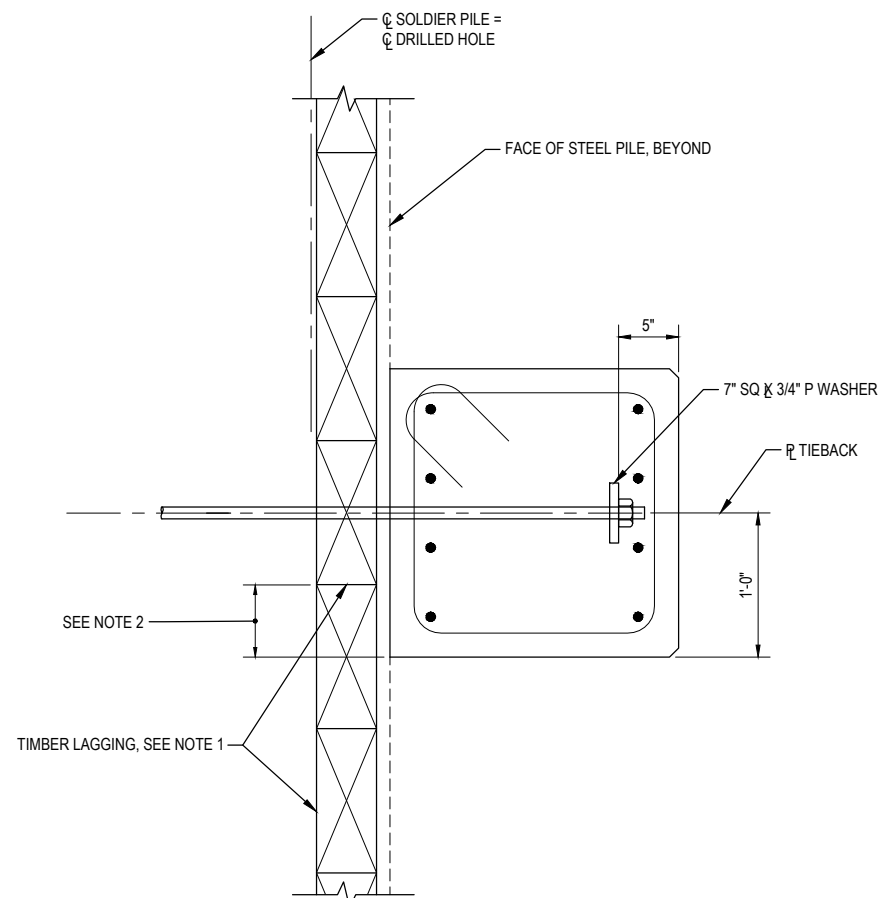
ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F3C010	MILE POST: 5.00 & 13.67
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DRAWING FILE NAME: 11190326_25-26_S500-STRUCTURAL DETAILS.dwg	REVIEWED BY: B.CROWELL
PLOT DATE: 10/21/2020	Sheet: S-204
	APPROVED BY: J.WOLF

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STORM DAMAGE REPAIR MATTOLE ROAD PM 5.00 & 13.67
PM 13.67 RETAINING WALL DETAILS NO. 2

SHEET 26 OF 26



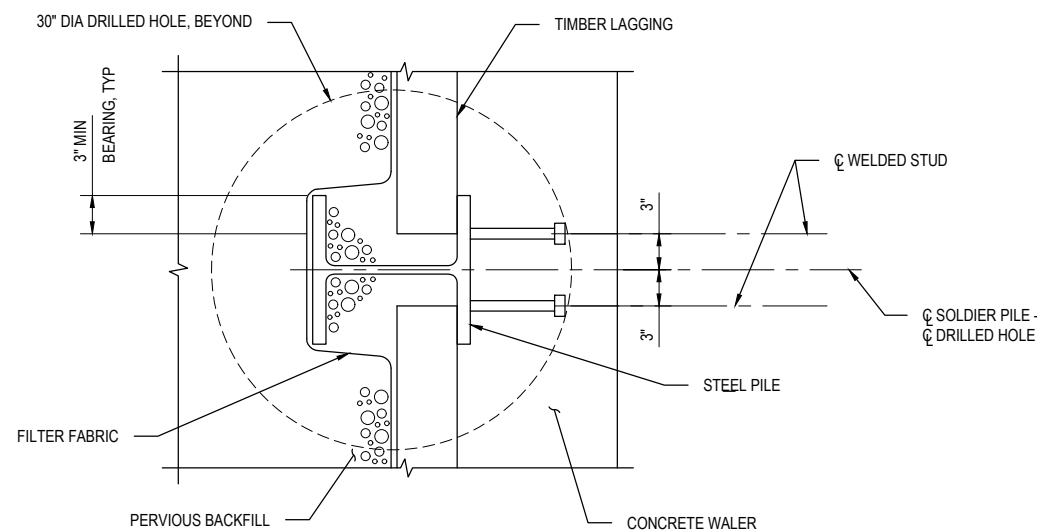
AT STEEL PILE



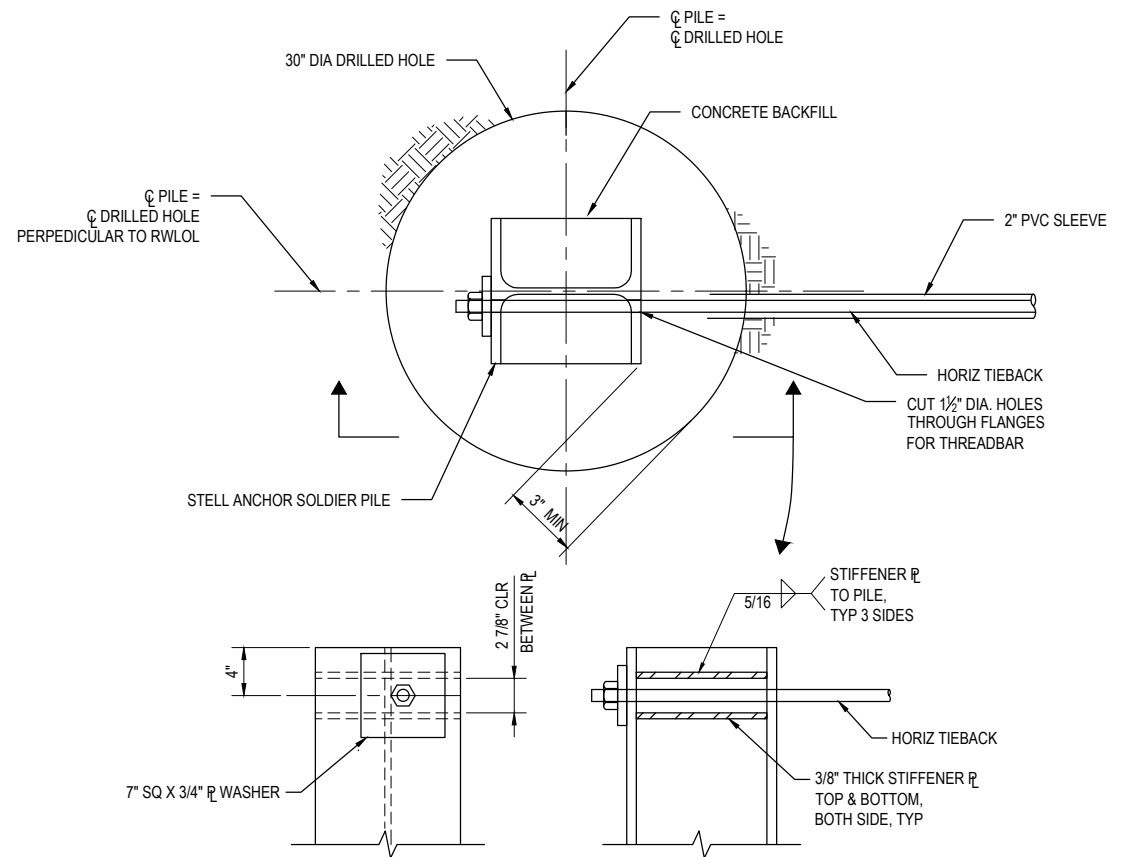
AT TIEBACK

- NOTES:
1. CORE LAGGING AT TIEBACK LOCATIONS
  2. CONTINUOUS TAGGING SHALL OVERLAP CONCRETE WATER BY 2" MIN, TYP.
  3. THREADED ROD PLATE WASHER SHALL BE HOT-DIPPED GALVANIZED.

**1** CONCRETE WALER DETAIL  
SCALE: 1-1/2" = 1'-0"



**C** SECTION AT CONCRETE WALER  
SCALE: 1-1/2" = 1'-0"



**D** THREADED ROD TIEBACK TO STEEL PILE DETAIL  
SCALE: 1-1/2" = 1'-0"