



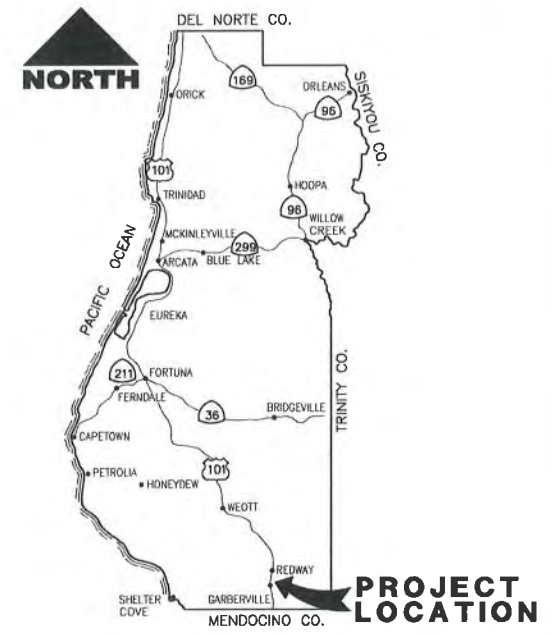
VICINITY MAP
NOT TO SCALE

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION OF STORM DAMAGE REPAIRS ON ALDERPOINT ROAD (F6B165) AT P.M. 0.22

PROJECT NO. ER-40A0(045) CONTRACT NO. 219205

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



LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS

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- 4 LAYOUT
- 5 PROFILE AND SUPERELEVATION
- 6 DRAINAGE PLAN
- 7-8 STAGE CONSTRUCTION
- 9 EROSION CONTROL
- 10 SIGNING AND STRIPING
- 11-18 STRUCTURES PLAN

NOTES

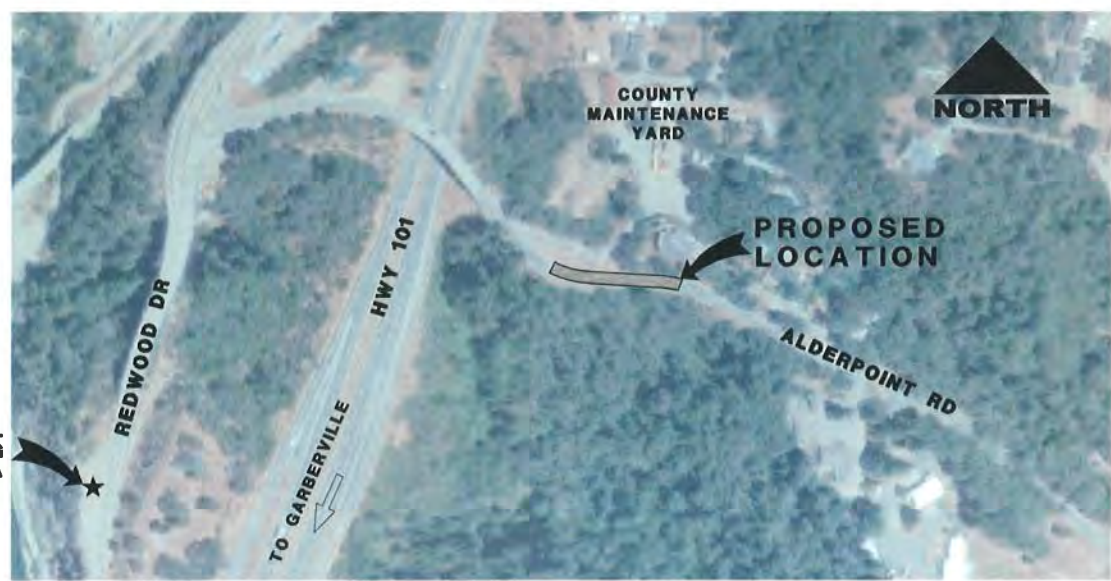
1. THE CONTRACTOR SHALL HAVE A CLASS "A" LICENSE FOR THIS PROJECT.
2. STANDARD PLAN LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE SPECIAL PROVISIONS.
3. LATITUDE: 40.107046
LONGITUDE: -123.792777

ABBREVIATIONS

AB	AGGREGATE BASE	MAX	MAXIMUM
AP	ANGLE POINT	MGS	MIDWEST GUARDRAIL SYSTEM
Beg	BEGIN	MIN	MINIMUM
BOW	BACK OF WALL	O/C	ON CENTER
CLR	CLEAR	OG	ORIGINAL GROUND
CP	CATCH POINT	OH	OVERHEAD
CSP	CORRUGATED STEEL PIPE	PG	PROFILE GRADE
CT	CALTRANS	P/L	PROPERTY LINE
DI	DRAIN INLET	RSP	ROCK SLOPE PROTECTION
EL/Elev	ELEVATION	Rt	RIGHT
EP	EDGE OF PAVEMENT	R/W	RIGHT OF WAY
EXIST	EXISTING	S	SLOPE
FG	FINISHED GRADE	SC	SAWCUT
FL	FLOWLINE	SD	STORM DRAIN
FT	FOOT (FEET)	SHLD	SHOULDER
GB	GRADE BREAK	STD	STANDARD
HMA	HOT MIX ASPHALT	TEMP	TEMPORARY
INV	INVERT	TYP	TYPICAL
LF	LINEAR FEET	Var	VARIES
Lt	LEFT		

GEOTECH REPORT

OCTOBER 2019 CRAWFORD & ASSOCIATES, INC.



Tony Seghetti 10/23/19
 TONY SEGHETTI, RCE 63714
 COUNTY OF HUMBOLDT
 PUBLIC WORKS DIRECTOR
 DATE



J. B. Hickey
 JASON B. HICKEY
 RSE 5783, EXP. 6/30/2020
 DATE

ORIGINAL LOW BID PRICE	CONSTRUCTED BY	RESIDENT ENGINEER
	PROJECT COMPLETED	CONSTRUCTION COST \$

NOTES:

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

ABBREVIATIONS:

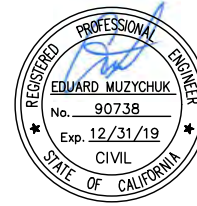
NGS NATIONAL GEODETIC SURVEY
PID PERMANENT IDENTIFIER

LEGEND:

▲ CONTROL POINT

DATUM:

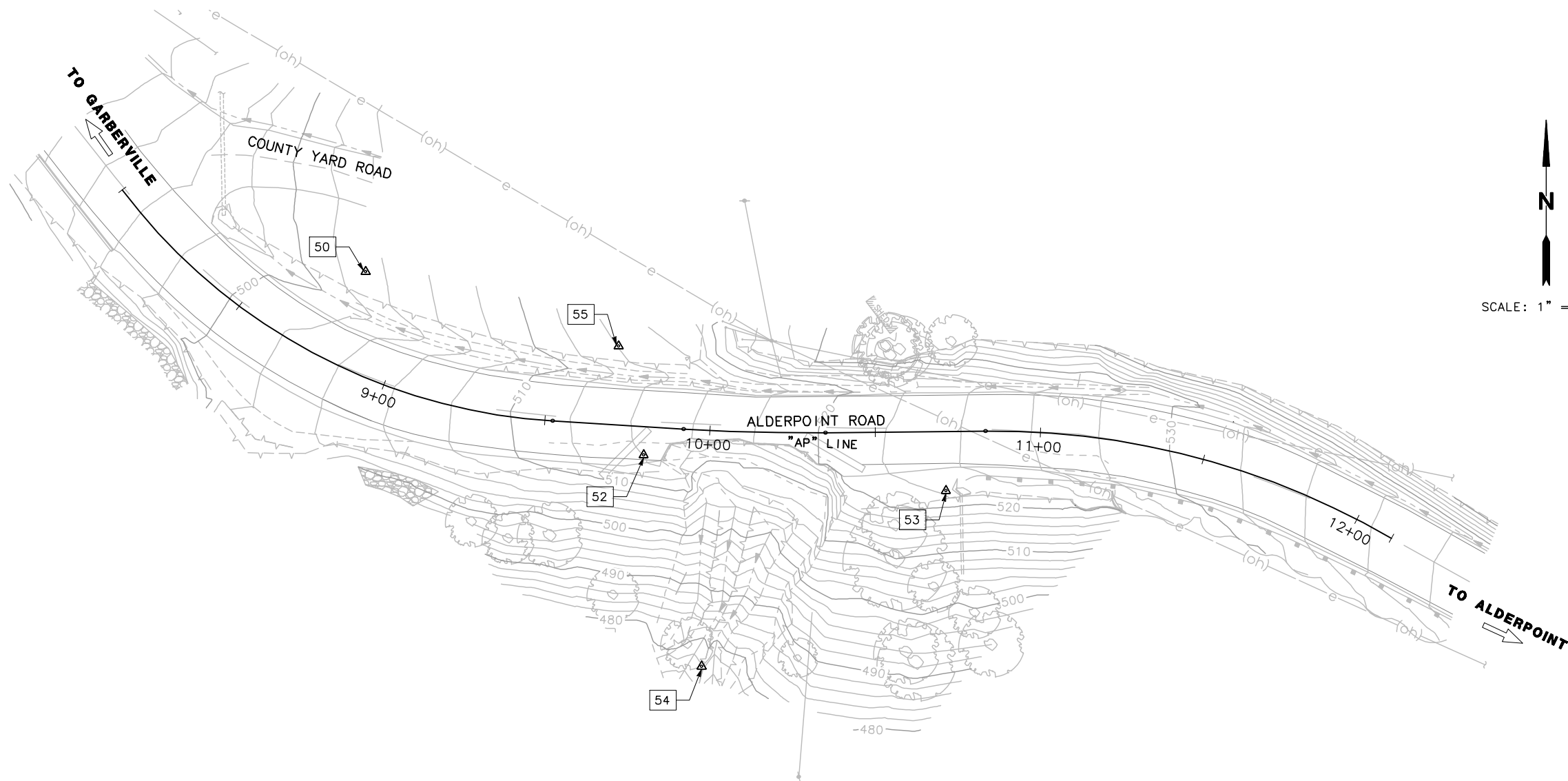
1. COORDINATES FOR THIS SURVEY ARE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 1, NAD 83 (2011), EPOCH 2010.0 BASED ON A STATIC GPS CONTROL SURVEY USING THE NGS OPUS POST PROCESSING SOFTWARE. THE CONTROL POINT IDENTIFIED AS POINT 150 WAS HELD FOR HORIZONTAL POSITIONS SHOWN HEREON. THE MAPPING ANGLE IS 1 DEGREE 10 MINUTES 21 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 0.99995543 TO OBTAIN GROUND DISTANCES. MAPPING ANGLE AND GRID SCALE FACTOR ARE TAKEN AT CONTROL POINT NUMBER 50, A 5/8 INCH REBAR AND PLASTIC CAP MARKED "PWS CONTROL". ELEVATIONS AND NAVD 88 DATUM BASED ON OPUS SOLUTION UTILIZING THE GEOID 12B: AN ELEVATION OF 503.52' FEET WAS MEASURED AT THE AFOREMENTIONED CONTROL POINT 50.
2. THE RIGHT OF WAY SHOWN IS BASED ON THE MAP RECORDED FOR "THE MEADOWS UNIT 1 PHASE 1" SUBDIVISION MAP, TRACT NO. 129, RECORDED IN BOOK 16 OF MAPS, PAGES 116-124. THE SLIDE FALLS WITHIN LOT 24 AS SHOWN ON PAGE 3 OR 9 (BOOK 16 MAPS, PAGE 118) OF SAID MAP. A FIFTY FOOT RIGHT OF WAY, PARCEL "Y", IS DEDICATED ON SAID MAP AND IS SHOWN HEREON. ITS LOCATION WAS DETERMINED FROM THE MONUMENT LINE ON ARTHUR ROAD AS SHOWN ON PAGE 8 OR 9 (BOOK 16 MAPS, PAGE 123). BEARINGS ON THE MAP WERE ROTATED CLOCKWISE 1°03'39" TO BE ON GRID. MAP DISTANCES WERE SCALED BY COMBINED SCALE FACTOR OF 0.99995543. PARCEL "Y" NOTED ABOVE INCLUDES A "MAINTENANCE EASEMENT" THAT EXTENDS 10 FEET BEYOND CATCH POINTS OF ALL CUTS AND FILLS. THE NORTH SIDE OF THE ROAD DOES HAVE DEFINITE TOP OF CUT (NOT ON SLIDE SIDE OF ROAD) BUT THE SOUTH SIDE SLOPE DOES NOT HAVE A DEFINED TOE; IT CONTINUES FALLING TOWARD BOTTOM OF BEAR CANYON. FOR THIS REASON THIS SURVEYOR HAS NOT DEFINED THE LIMITS OF THE "MAINTENANCE EASEMENT" DEDICATED BY SAID MAP.
3. SOME CONTROL POINTS SHOWN HEREON ARE SET IN AN AREA SUBJECT TO MOVEMENT (POINT 52 FOR EXAMPLE). THERE ARE POINTS SET ON EITHER END OF SITE THAT SHOULD BE USED TO CHECK OTHER CONTROL POINTS SHOWN TO CONFIRM NO MOVEMENT HAS OCCURRED.



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MARK THOMAS
	ROAD NO: F6B165	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DESIGNED BY: EM
	PROJECT NO.: ER-40A0(045)	DRAWN BY: EM
	CONTRACT NO.: 219205	REVIEWED BY: JT
	DATE: OCTOBER 2019	APPROVED BY: EM

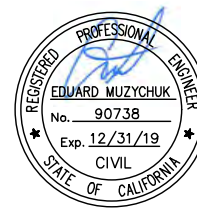
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 2 OF 18
ALDERPOINT RD STORM DAMAGE (PM 0.22)	
PROJECT CONTROL	

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	APPROX. LOCATION
50	1927468.97	6060100.08	503.52	5/8" REBAR W/ PLASTIC CAP	"AP" 8+79.41' 29.13' Lt
52	1927416.53	6060184.17	514.05	MAGNETIC NAIL	"AP" 9+80.47 8.63' Rt
53	1927402.74	6060275.58	522.40	SPIKE	"AP" 10+71.22 17.93' Rt
54	1927349.66	6060201.69	477.01	SPIKE	"AP" 10+0.86 71.37' Rt
55	1927446.50	606076.62	514.18	SPIKE	"AP" 9+70.91 23.82' Lt



NOTES:

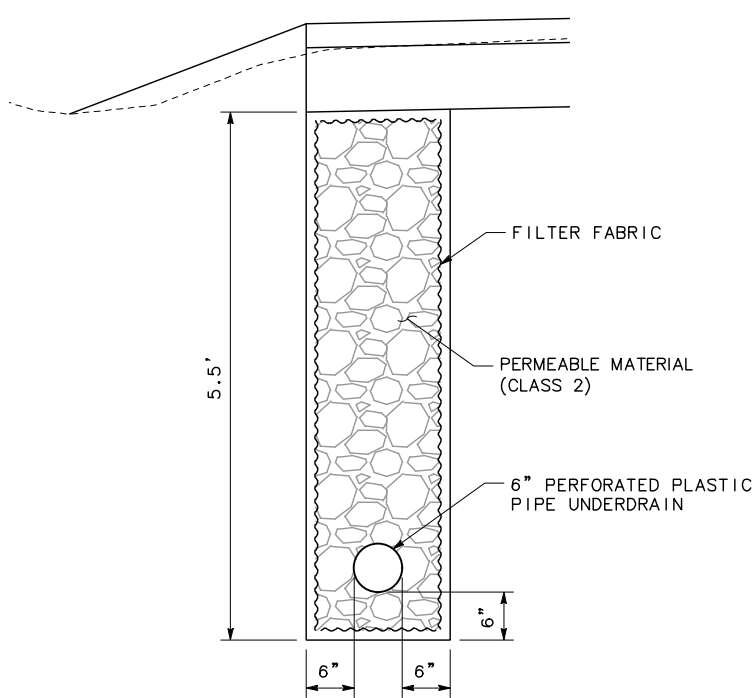
1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATION.
2. FOR HMA DIKE LOCATION AND TYPE, SEE LAYOUT SHEET.
3. FOR UNDERDRAIN DETAILS NOT SHOWN, SEE CALTRANS STANDARD PLANS, D102.
4. FOR PLASTIC CULVERT EXCAVATION AND BACKFILL NOT SHOWN, SEE CALTRANS STANDARD PLANS, A62F.
5. FOR NARROW ROADWAY INSTALLATION OF MGS SEE CALTRANS STANDARD PLANS, A77N3



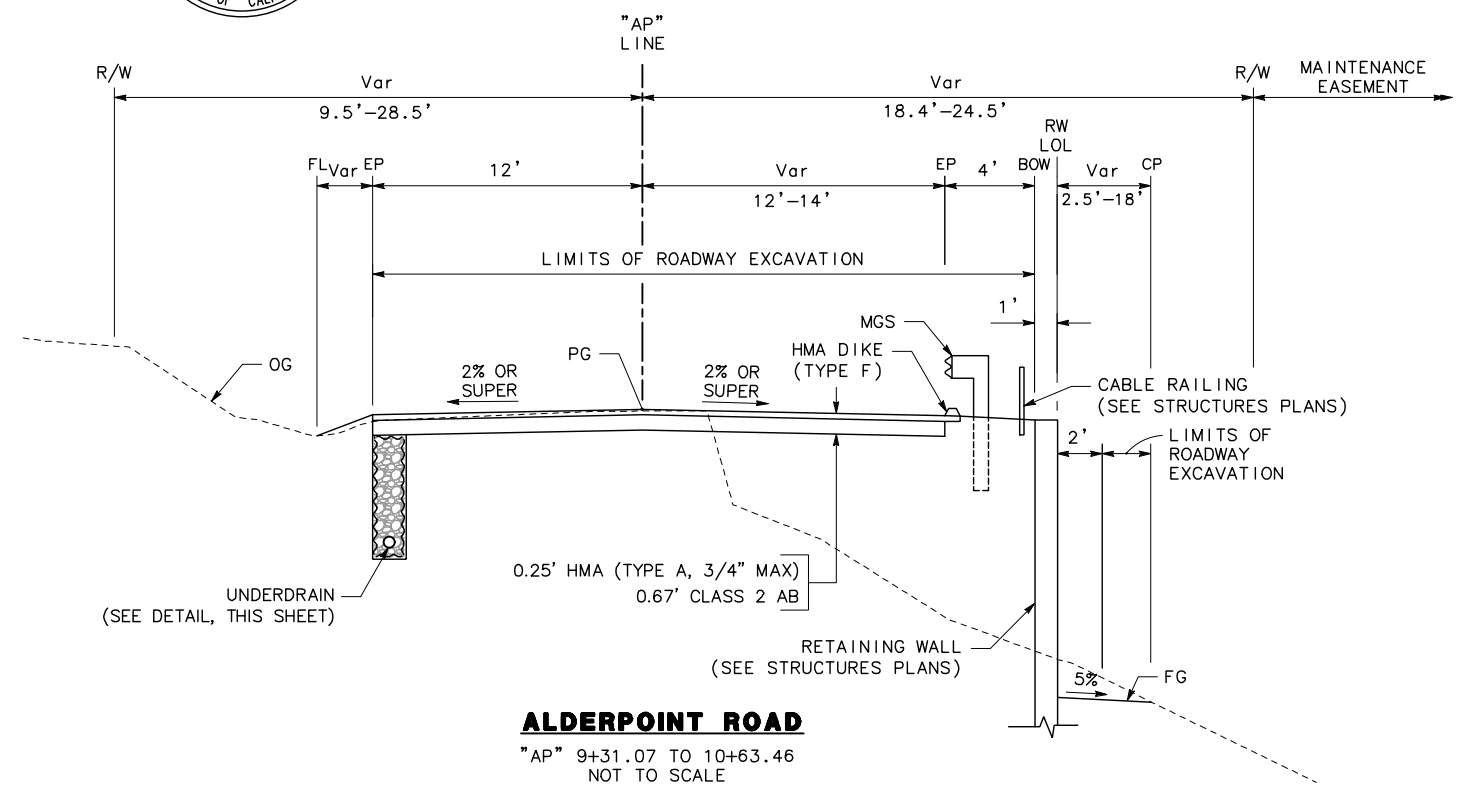
ROAD NAME: ALDERPOINT ROAD	MARK THOMAS
ROAD NO: F6B165	DESIGNED BY: EM
MILE POST: 0.22	DRAWN BY: EM
PROJECT NO.: ER-40A0(045)	REVIEWED BY: JT
CONTRACT NO.: 219205	APPROVED BY: EM
DATE: OCTOBER 2019	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ALDERPOINT RD STORM DAMAGE (PM 0.22)
TYPICAL ROAD SECTIONS

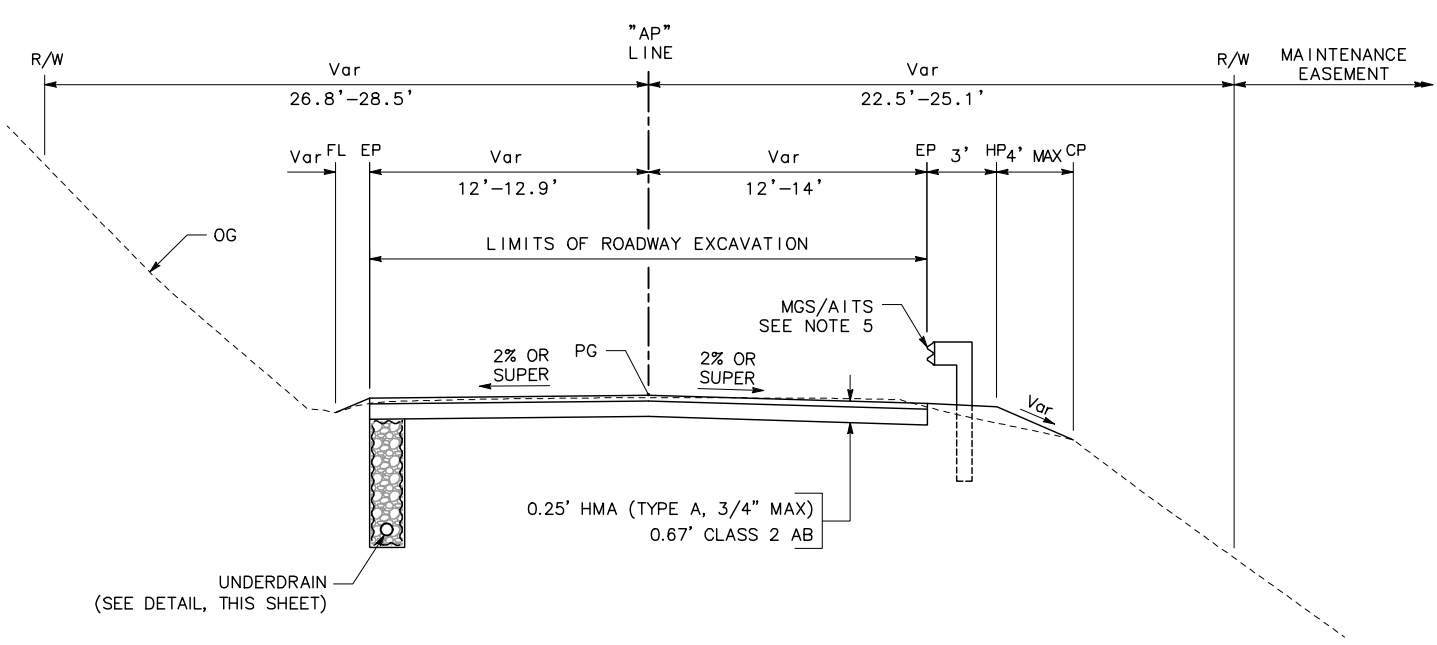
SHEET 3 OF 18



UNDERDRAIN DETAIL
NOT TO SCALE



ALDERPOINT ROAD
"AP" 9+31.07 TO 10+63.46
NOT TO SCALE



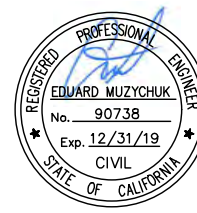
ALDERPOINT ROAD
"AP" 8+85.00 TO 9+31.07
"AP" 10+63.46 TO 11+25
NOT TO SCALE

NOTE:

1. PROVIDE CONCRETE VEGETATION CONTROL UNDER MIDWEST GUARDRAIL SYSTEM, (MGS) AND ALTERNATIVE IN-LINE TERMINAL SYSTEM PER CALTRANS STANDARD PLANS A77N5, A77N5A & A77N6.
2. MAINTENANCE EASEMENT EXTENDS 10 FEET BEYOND CATCH POINT OF ALL CUTS AND FILLS (BOOK 16 OF MAPS, PAGES 116-124).

LEGEND

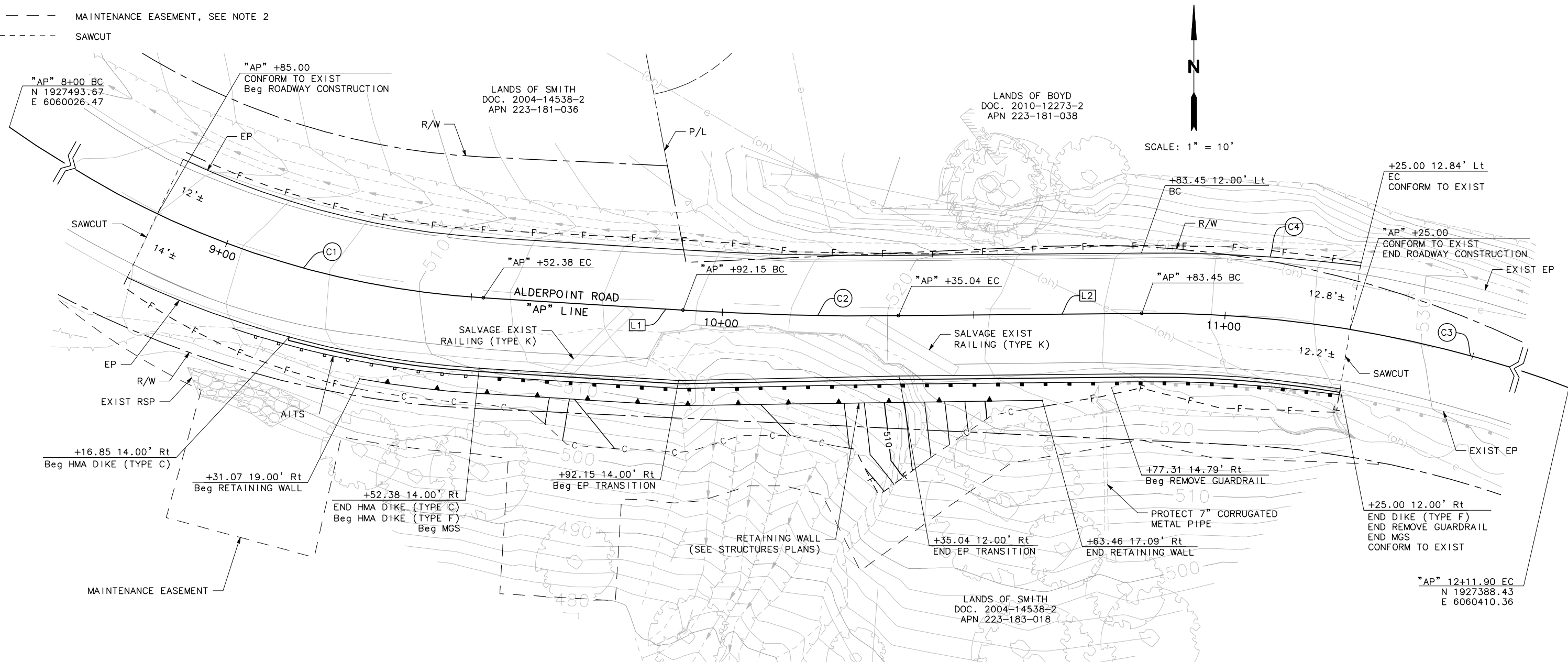
- EXIST GUARDRAIL
- EXIST UTILITY POLE
- - -C- CUT LINE
- - -F- FILL LINE
- MGS
- ALTERNATIVE IN-LINE TERMINAL SYSTEM (AITS)
- ▲— RETAINING WALL
- — — RIGHT OF WAY
- — — PROPERTY LINE
- - - - - MAINTENANCE EASEMENT, SEE NOTE 2
- - - - - SAWCUT



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
	ROAD NO: F6B165		DESIGNED BY: EM	ALDERPOINT RD STORM DAMAGE (PM 0.22)
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DRAWN BY: EM	LAYOUT	
	PROJECT NO: ER-40AD(045)	REVIEWED BY: JT		
	CONTRACT NO: 219205	APPROVED BY: EM	SHEET 4 OF 18	
	DATE: OCTOBER 2019			

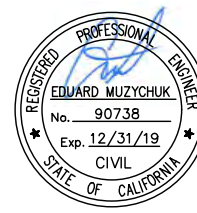
CURVE #	RADIUS	DELTA	TANGENT	LENGTH
C1	177.00'	49°32'27"	81.67'	153.04'
C2	600.00'	4°05'44"	21.45'	42.89'
C3	240.00'	30°39'56"	65.80'	128.45'
C4	324.00'	7°43'35"	21.88'	43.69'

LINE #	LENGTH	DIRECTION
L1	39.76'	S86°28'03"E
L2	48.41'	N89°26'13"E

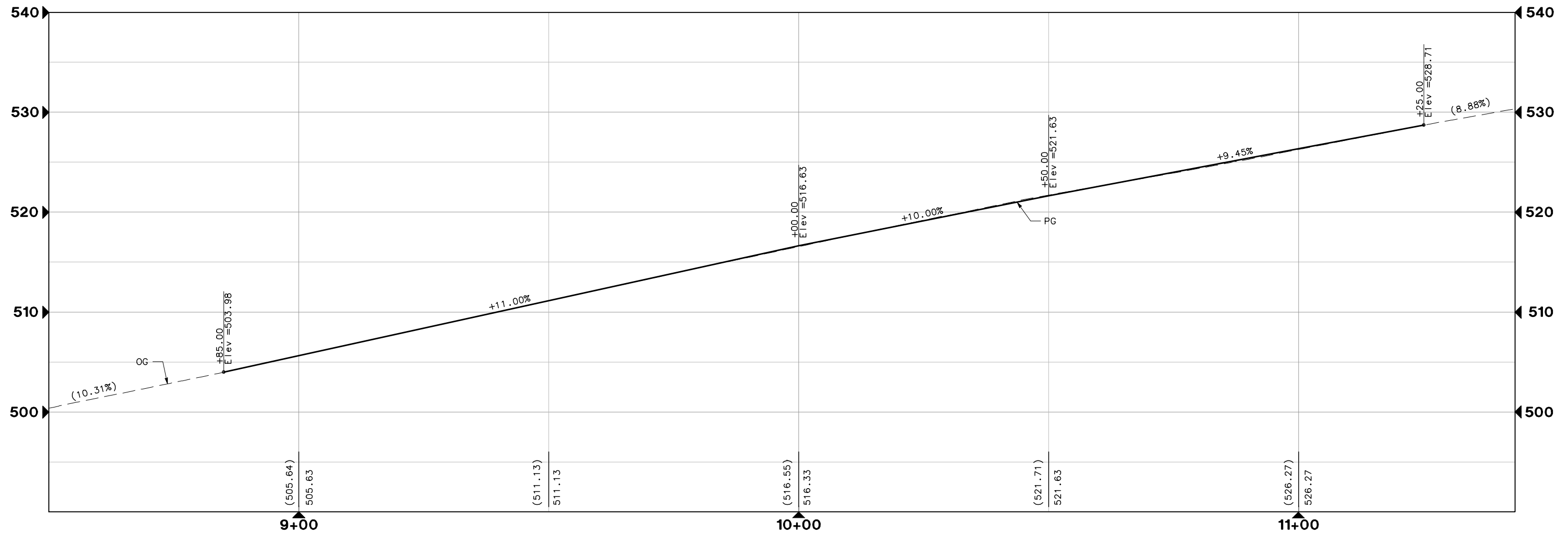
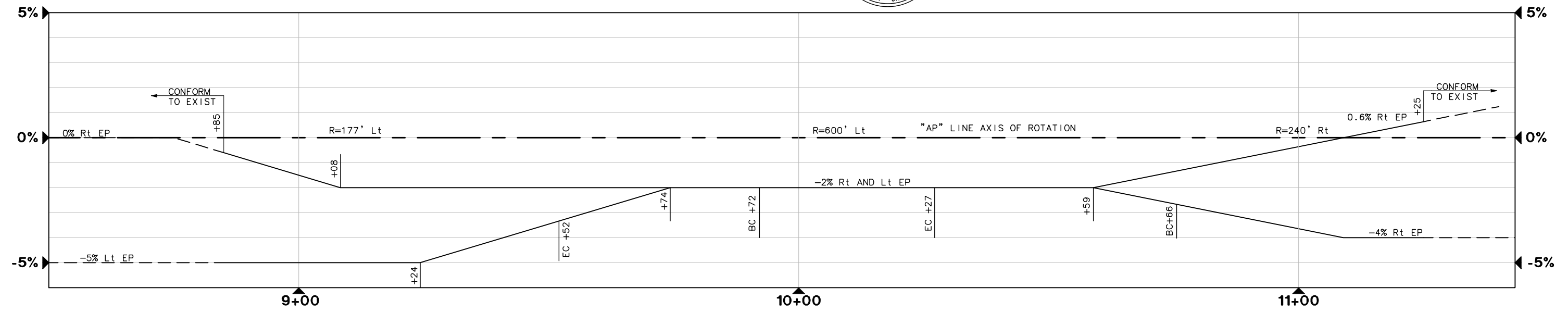


LEGEND

(XXX.XX) EXIST ELEVATION



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
	ROAD NO: F6B165		DESIGNED BY: EM	ALDERPOINT RD STORM DAMAGE (PM 0.22)
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DRAWN BY: EM	PROFILE AND SUPERELEVATION	
	PROJECT NO.: ER-40A0(045)	REVIEWED BY: JT		
	CONTRACT NO.: 219205	APPROVED BY: EM	SHEET 5 OF 18	
	DATE: OCTOBER 2019			

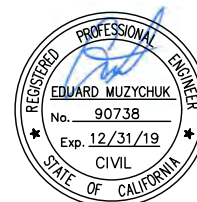


NOTES:

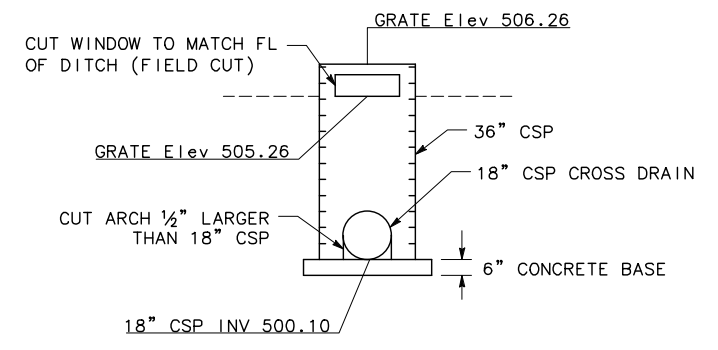
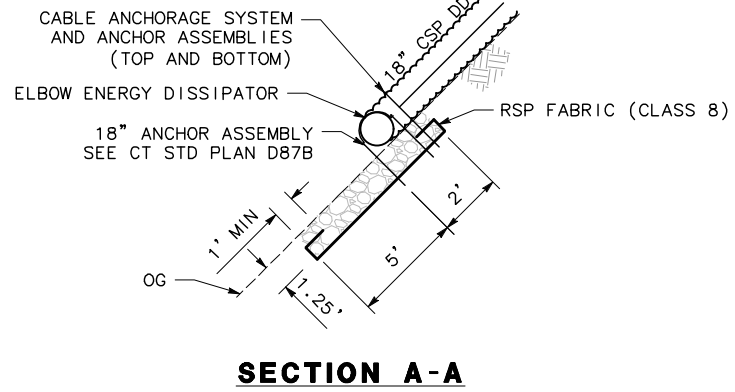
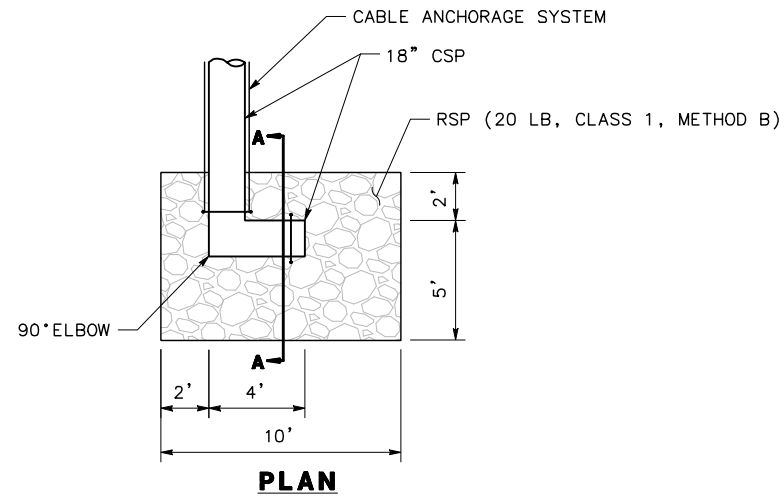
- FOR UNDERDRAIN AND RISER DETAILS NOT SHOWN, SEE CALTRANS STANDARD PLAN D102.
- FOR CABLE ANCHORAGE SYSTEM AND ANCHOR ASSEMBLY DETAILS NOT SHOWN, SEE CALTRANS STANDARD PLAN D87A AND D87C.
- FOR FOR INLET DETAILS NOT SHOWN, SEE CALTRANS STANDARD PLAN D72E AND D75A.

LEGEND:

- +---(oh)--- EXIST OVERHEAD ELECTRIC & TELEPHONE LINE
- EXIST STORM DRAIN
- SD --- STORM DRAIN
- UNDERDRAIN



ROAD NAME: ALDERPOINT ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 6
ROAD NO: F6B165	DESIGNED BY: EM	ALDERPOINT RD STORM DAMAGE (PM 0.22)	OF
MILE POST: 0.22	DRAWN BY: EM	DRAINAGE AND UTILITIES	18
PROJECT NO: ER-40A0(045)	REVIEWED BY: JT		
CONTRACT NO: 219205	APPROVED BY: EM		
DATE: OCTOBER 2019			

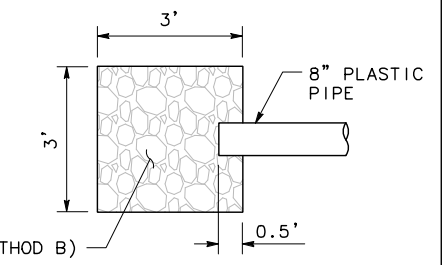
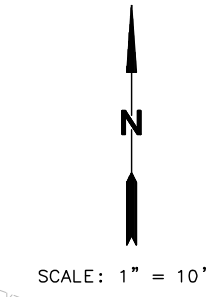
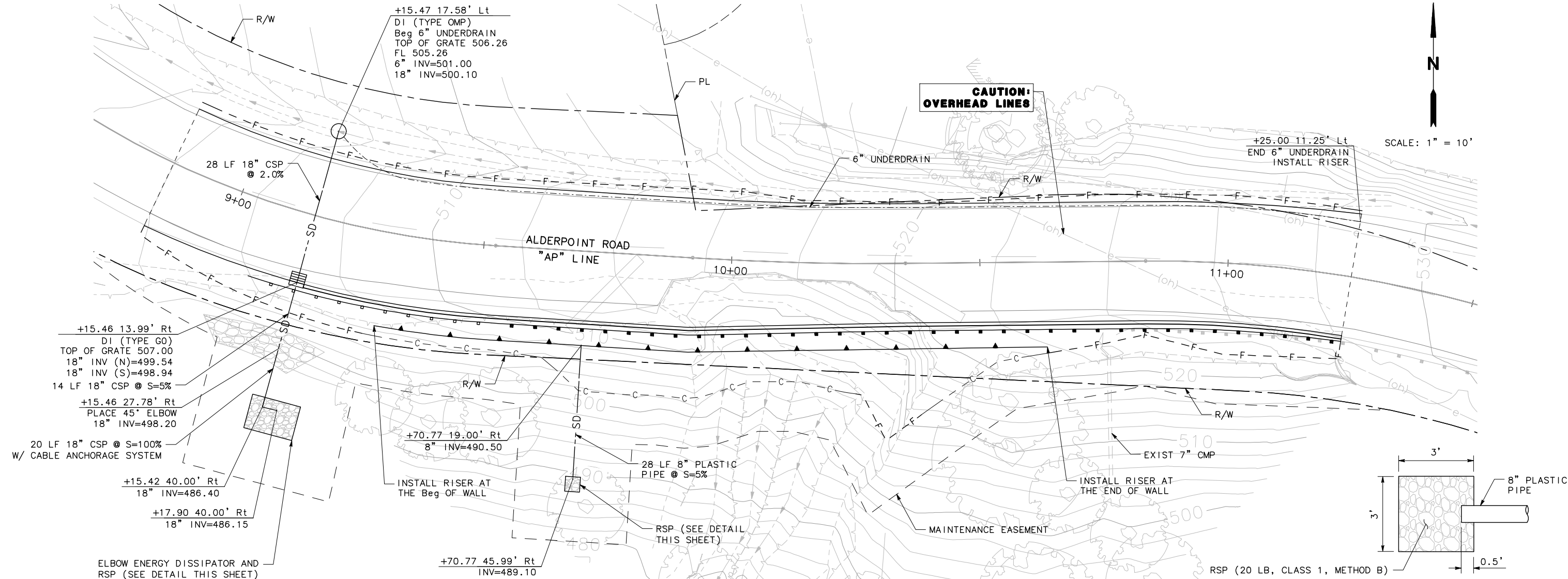


ELBOW ENERGY DISSIPATOR & ROCK SLOPE PROTECTION (RSP)

NOT TO SCALE

OMP DETAIL

NOT TO SCALE



RETAINING WALL DRAIN OUTFALL








NOT TO SCALE

THIS PLAN ACCURATE FOR DRAINAGE AND UTILITY WORK ONLY

NOTES:

- PERMANENT DRAINAGE AND UTILITIES NOT SHOWN ON THESE PLANS. SEE DRAINAGE AND UTILITY PLAN.
- CONSTRUCT PAVING UNDER TRAFFIC CONTROL. MAINTAIN AT LEAST 11' FOR TWO-WAY ONE-LANE TRAFFIC.

LEGEND

-  WORK AREA
-  CHANNELIZERS
-  TEMP TRAFFIC SIGNAL
-  TEMP RAILING (TYPE K)
-  TEMP 12" WHITE LIMIT LINE
-  CONSTRUCTION AREA SIGN SINGLE POST
-  TRAVEL DIRECTION



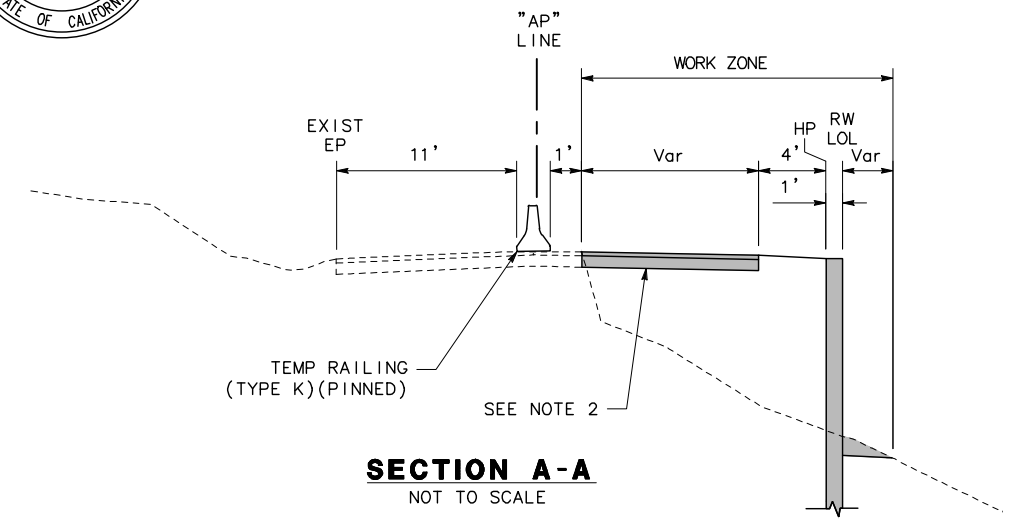
PROJECT FUNDING SIGN DETAIL

PROJECT FUNDING SIGN NOTE:

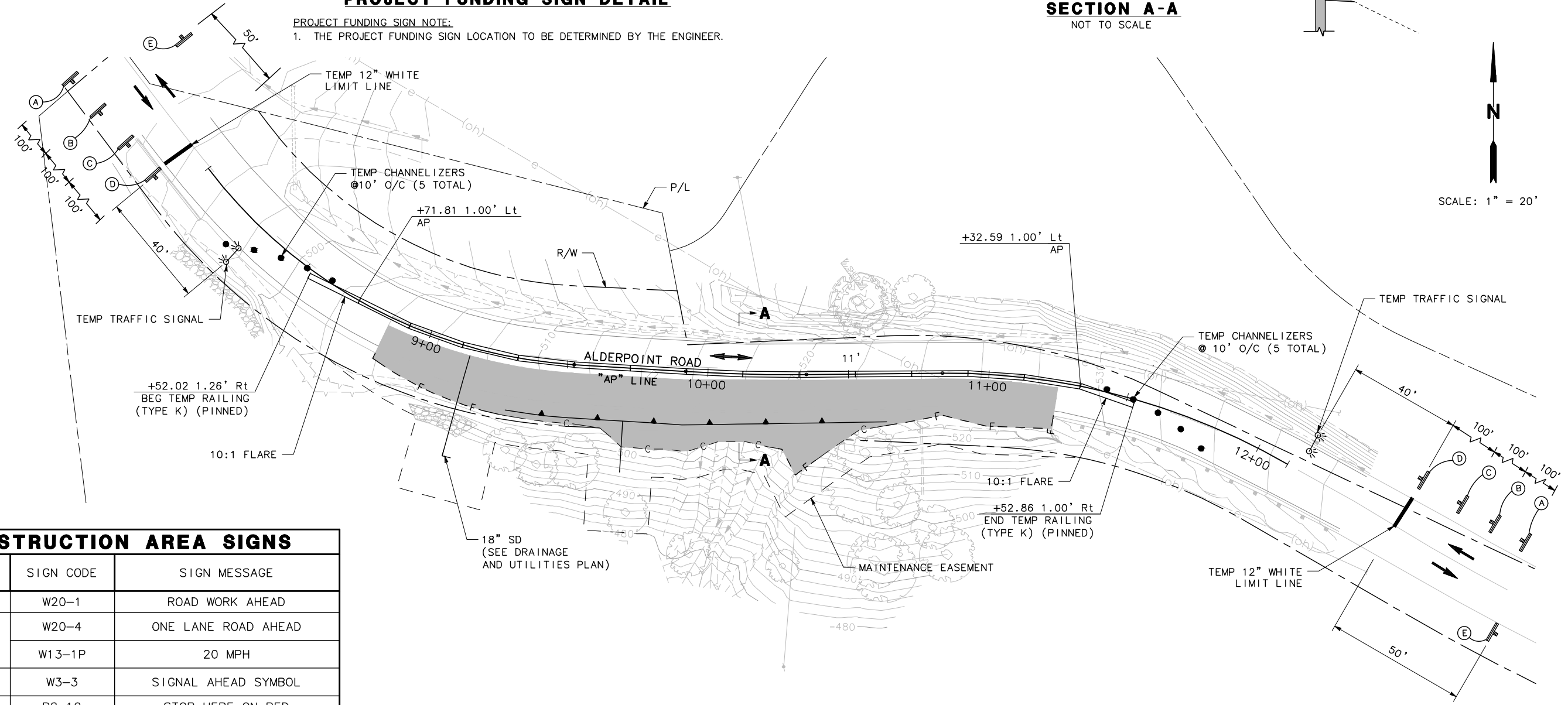
- THE PROJECT FUNDING SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
	ROAD NO: F6B165		DESIGNED BY: EM	ALDERPOINT RD STORM DAMAGE (PM 0.22)
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DRAWN BY: EM	STAGE CONSTRUCTION - STAGE 1	
	PROJECT NO.: ER-40AD(045)	REVIEWED BY: JT		
	CONTRACT NO.: 219205	APPROVED BY: EM		
	DATE: OCTOBER 2019			



SECTION A-A
NOT TO SCALE










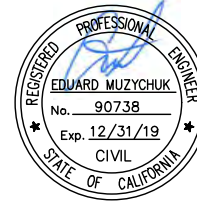
CONSTRUCTION AREA SIGNS		
SIGN LETTER	SIGN CODE	SIGN MESSAGE
A	W20-1	ROAD WORK AHEAD
B	W20-4	ONE LANE ROAD AHEAD
	W13-1P	20 MPH
C	W3-3	SIGNAL AHEAD SYMBOL
D	R8-10	STOP HERE ON RED
E	G20-2	END ROAD WORK

NOTES:

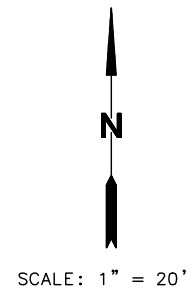
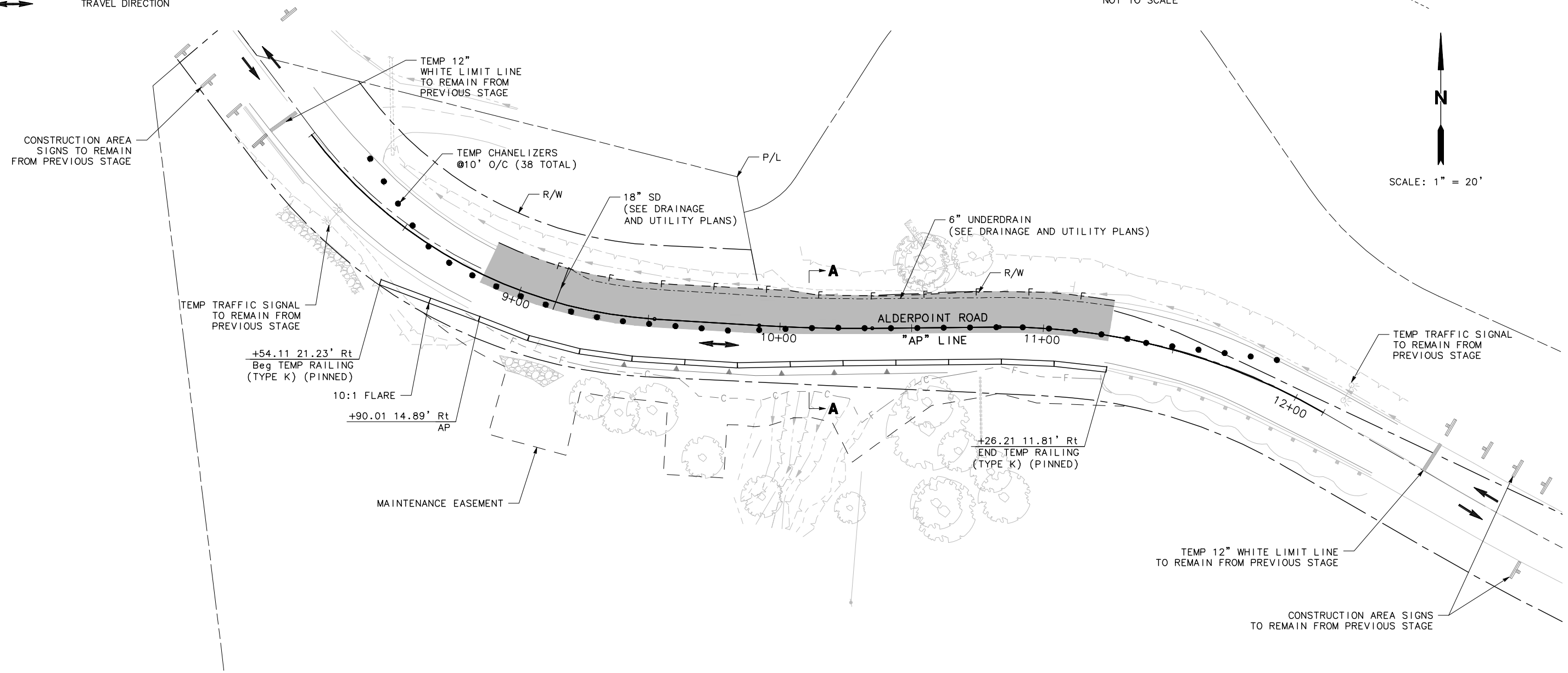
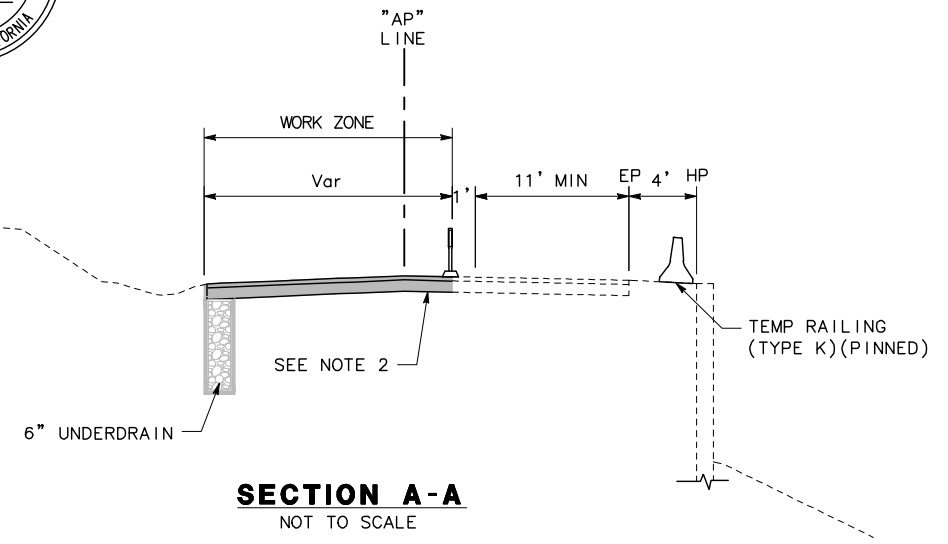
1. PERMANENT DRAINAGE AND UTILITIES NOT SHOWN ON THESE PLANS. SEE DRAINAGE AND UTILITY PLAN.
2. CONSTRUCT PAVING UNDER TRAFFIC CONTROL. MAINTAIN AT LEAST 11' TWO-WAY ONE-LANE TRAFFIC.
3. MIDWEST GUARDRAIL SYSTEM TO INSTALLED LAST.
4. ALL CONSTRUCTION AREA SIGNS FROM STAGE 1 OF STAGE CONSTRUCTION ARE TO REMAIN IN STAGE 2.

LEGEND

-  WORK AREA
-  CHANNELIZERS
-  TEMP TRAFFIC SIGNAL
-  TEMP RAILING (TYPE K)
-  TEMP 12" WHITE LIMIT LINE
-  CONSTRUCTION AREA SIGN SINGLE POST
-  TRAVEL DIRECTION


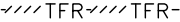
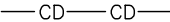





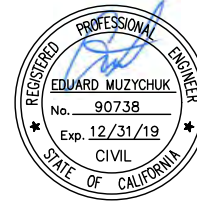
BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS		SHEET 8 OF 18
	ROAD NO: F6B165		DESIGNED BY: EM	ALDERPOINT RD STORM DAMAGE (PM 0.22)	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DRAWN BY: EM	STAGE CONSTRUCTION -		
	PROJECT NO.: ER-40A0(045)	REVIEWED BY: JT	STAGE 2		
	CONTRACT NO.: 219205	APPROVED BY: EM			
	DATE: OCTOBER 2019				




THIS PLAN ACCURATE FOR STAGE CONSTRUCTION ONLY

LEGEND

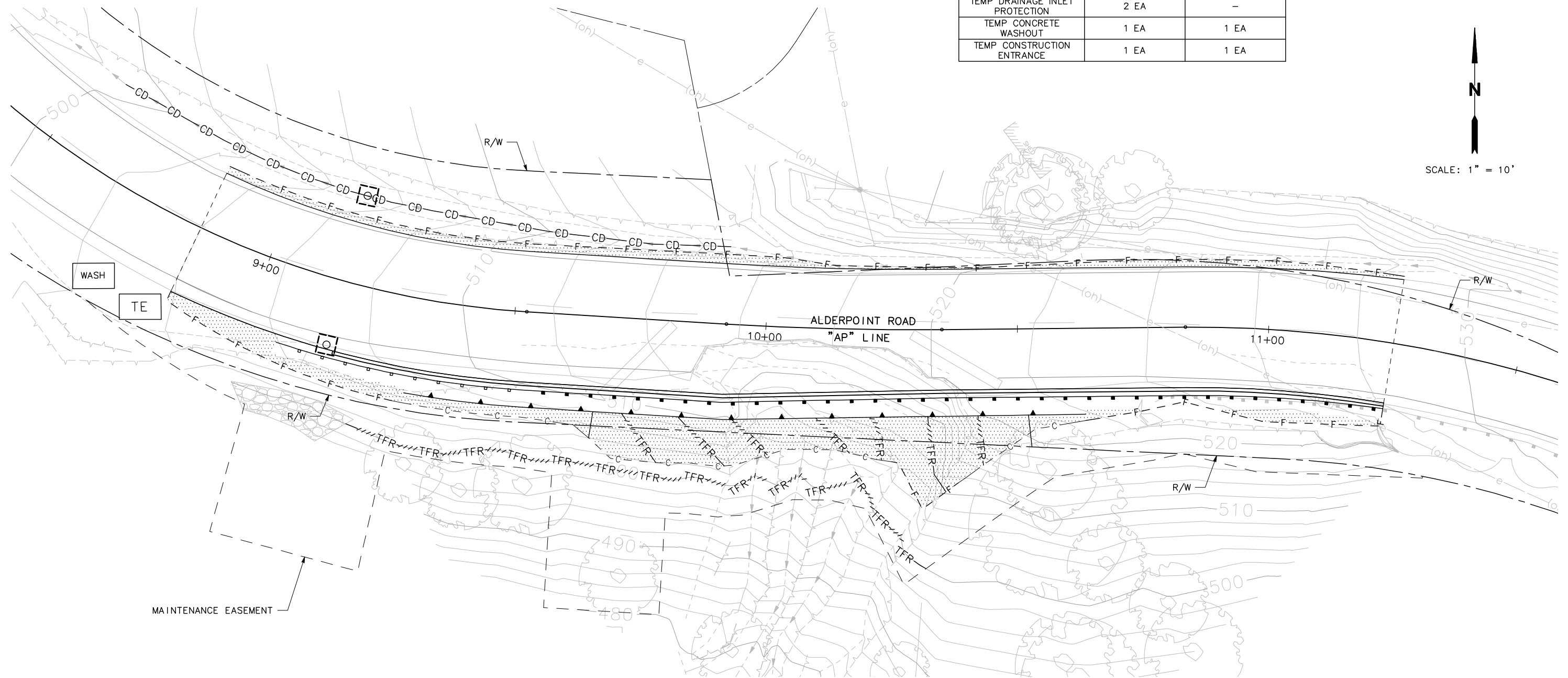
-  HYDROSEED
-  TFR-TFR TEMP FIBER ROLL
-  CD-CD TEMP CHECK DAM
-  TEMP DRAINAGE INLET PROTECTION
-  WASH TEMP CONCRETE WASHOUT
-  TE TEMP CONSTRUCTION ENTRANCE



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	 MARK THOMAS
	ROAD NO: F6B165	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DESIGNED BY: EM
	PROJECT NO: ER-40A0(045)	DRAWN BY: EM
	CONTRACT NO: 219205	REVIEWED BY: JT
DATE: OCTOBER 2019		APPROVED BY: EM

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 9 OF 18
ALDERPOINT RD STORM DAMAGE (PM 0.22)	
EROSION CONTROL	

EROSION CONTROL QUANTITIES		
ITEM	ALDERPOINT RD	REDWOOD DR
HYDROSEED	1450 SF	-
TEMP CHEK DAM	65 LF	-
TEMP FIBER ROLL	220 LF	290 LF
TEMP DRAINAGE INLET PROTECTION	2 EA	-
TEMP CONCRETE WASHOUT	1 EA	1 EA
TEMP CONSTRUCTION ENTRANCE	1 EA	1 EA



SCALE: 1" = 10'

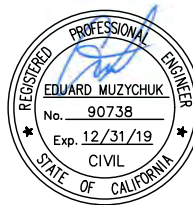
THIS PLAN IS ACCURATE FOR EROSION CONTROL ONLY

NOTE:

1. CA MUTCD CODES SHOWN AS DESIGNATED BY <CA> WHICH INDICATED A CALIFORNIA SIGN CODE. OTHERWISE, FEDERAL MUTCD CODES ARE SHOWN.

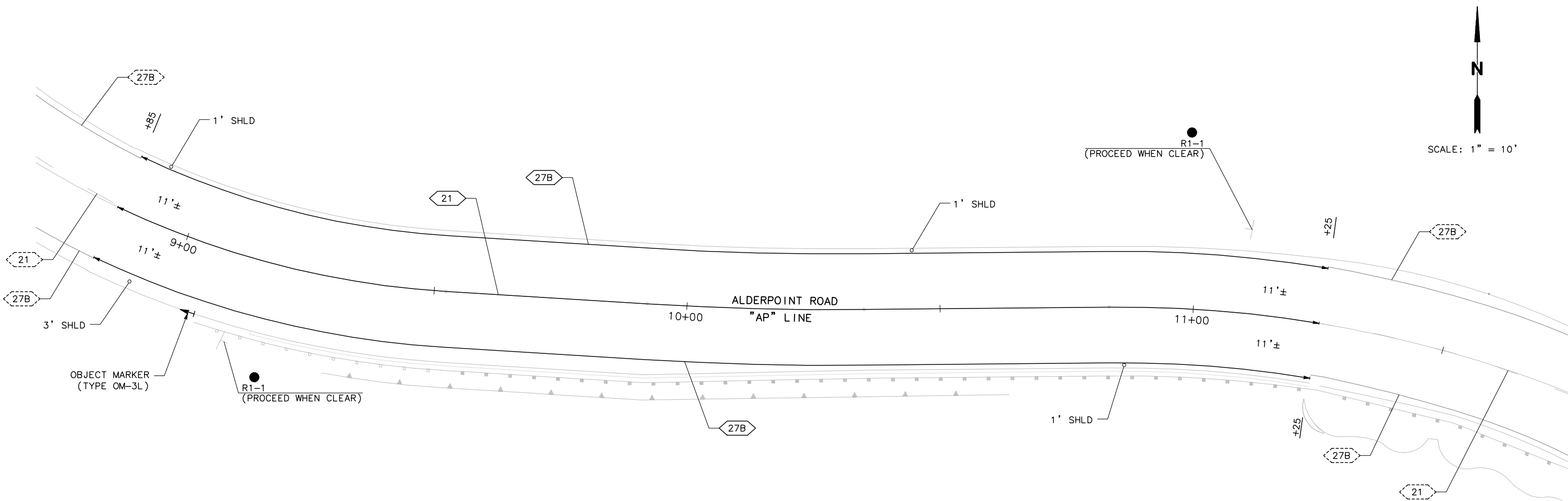
LEGEND:

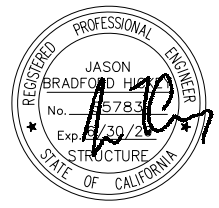
- REMOVE ROADSIDE SIGN
- ◊ No. PAVEMENT DELINEATION DETAIL
- ◊ No. EXIST PAVEMENT DELINEATION DETAIL
- + EXIST ROADSIDE SIGN
- ← OBJECT MARKER
- ▲ MARKER BEG/END OF TRAFFIC STRIPE DETAIL



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
	ROAD NO: F6B165		DESIGNED BY: EM	ALDERPOINT RD STORM DAMAGE (PM 0.22)
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 0.22	DRAWN BY: EM	SIGNING AND STRIPING	
	PROJECT NO.: ER-40A0(045)	REVIEWED BY: JT		
	CONTRACT NO.: 219205	APPROVED BY: EM		
DATE: OCTOBER 2019				

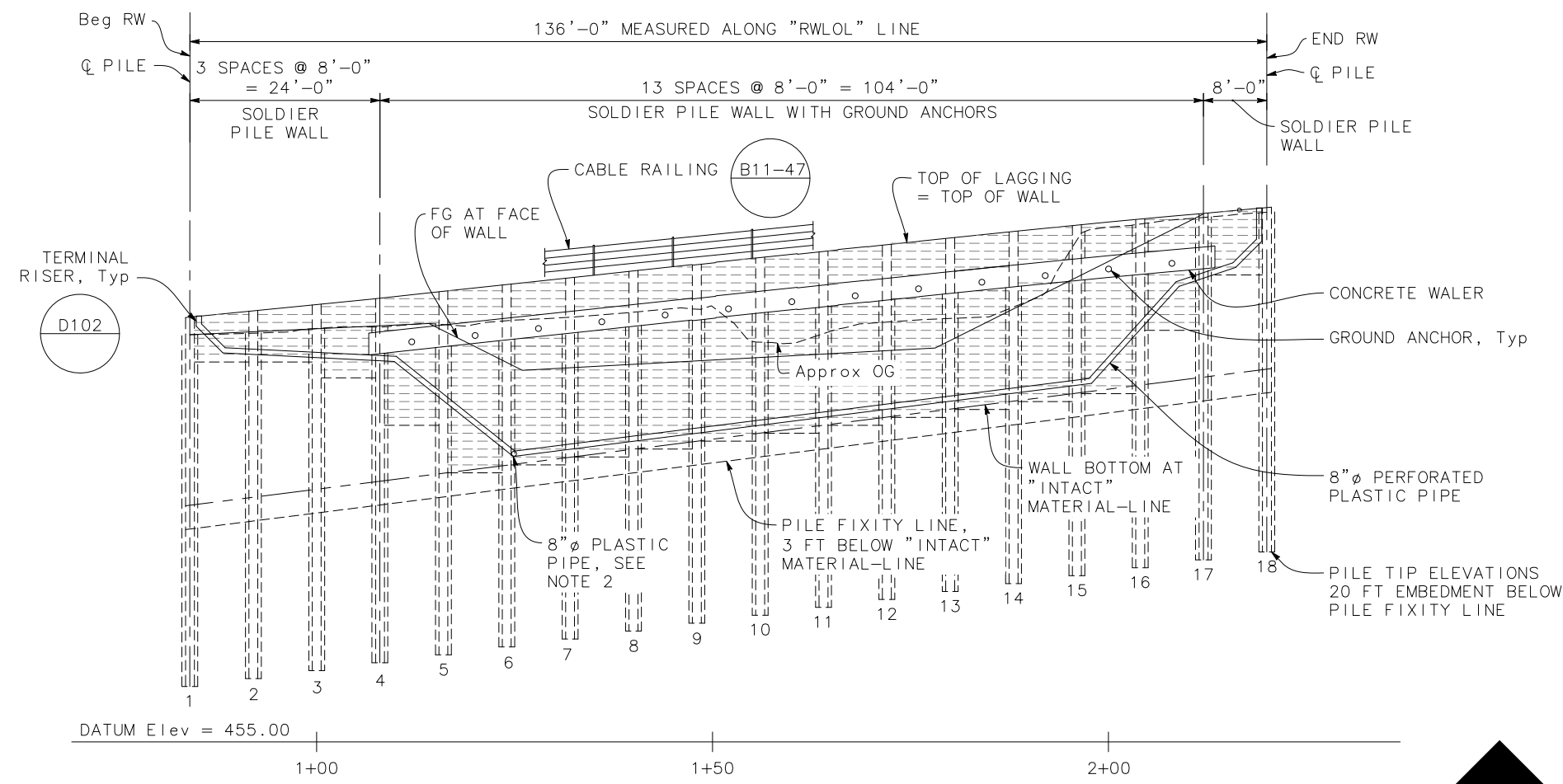
SHEET 10 OF 18





ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22	MARK THOMAS
ROAD NO: F6B165	EA NO: N/A	DESIGNED BY: MM
PROJECT NO: ER-32L0(XXX)	BRIDGE NO: N/A	DRAWN BY: GB
CONTRACT NO: 219205	DRAWING FILE NAME:	REVIEWED BY: TP
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019	APPROVED BY: JH

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 11 OF 18
ALDERPOINT RD STORM DAMAGE (PM 0.22)	
GENERAL PLAN	



QUANTITIES

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	176	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	47	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	57	CY
LEAN CONCRETE BACKFILL	28	CY
GROUND ANCHOR SUBHORIZONTAL	13	EA
24" DRILLED HOLE	730	LF
FURNISH STEEL PILING (W12X72)	813	LF
STRUCTURAL CONCRETE, RETAINING WALL	23	CY
BAR REINFORCING STEEL (RETAINING WALL)	6,260	LB
TIMBER LAGGING	15	MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	1	LS
8" PERFORATED PLASTIC PIPE UNDERDRAIN	144	LF
CLASS 3 PERMEABLE MATERIAL	91	CY
MISCELLANEOUS METAL (RETAINING WALL)	125	LB
CABLE RAILING	136	LF

INDEX TO PLANS

SHEET NO.	TITLE
11	GENERAL PLAN
12	GENERAL NOTES
13	FOUNDATION PLAN
14	TYPICAL SECTION
15	SOLDIER PILE WALL LAGGING DETAILS
16	WALER DETAILS
17	SOLDIER PILE WALL DETAILS
18	SUB HORIZONTAL GROUND ANCHOR DETAILS

DEVELOPED ELEVATION
1" = 10'

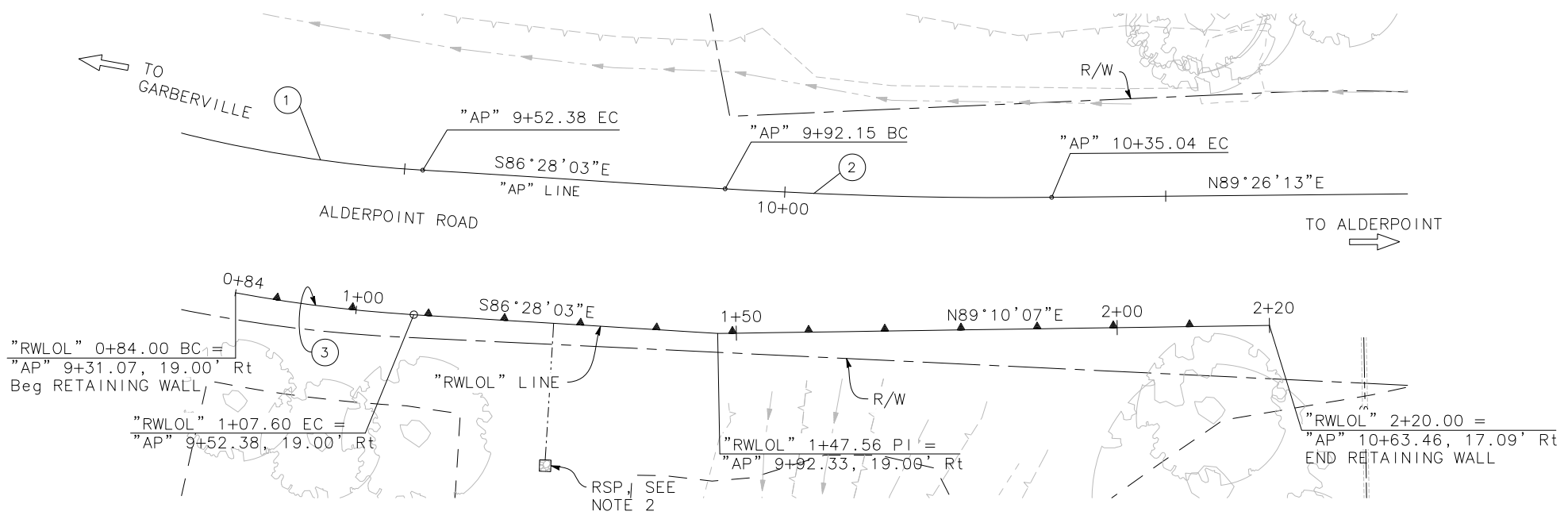


NOTES:

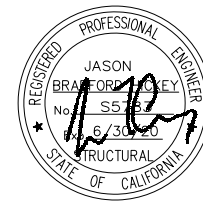
- For MGS, see "ROADWAY PLANS"
- For 8"ø plastic pipe outfall and RSP details, see "ROADWAY PLANS"
- For "TYPICAL SECTION", see "TYPICAL SECTION" sheet

CURVE TABLE

CURVE #	RADIUS	DELTA	TANGENT	LENGTH
①	177.00'	49°19'37"	81.27'	152.38'
②	600.00'	4°05'44"	21.45'	42.89'
③	196.00'	6°54'00"	11.82'	23.60'



PLAN
1" = 10'



ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22
ROAD NO: F6B16S	EA NO: N/A
PROJECT NO: ER-32LO(XXX)	BRIDGE NO: N/A
CONTRACT NO: 219205	DRAWING FILE NAME:
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019

MARK THOMAS
DESIGNED BY: MM
DRAWN BY: GB
REVIEWED BY: TP
APPROVED BY: JH

GENERAL NOTES

DESIGN: AASHTO LRFD Bridge Design Specifications, 6th Edition with California Amendments.

LIVE LOAD: 240 psf equivalent to 2 feet soil weight.

SOIL PARAMETERS: (For determination of Design Lateral Earth Pressures)
Backfill soil weight = 124 lb/ft^3
Friction Angle = 31°
Active Pressure coefficient, $K_a = 0.32$

SEISMIC PARAMETERS: $k_h = 0.26$
Active (seismic) pressure coefficient. $k_e = 0.097$

STEEL PILING: ASTM A572/A, ASTM 572M Grade 50 Min, or ASTM A992

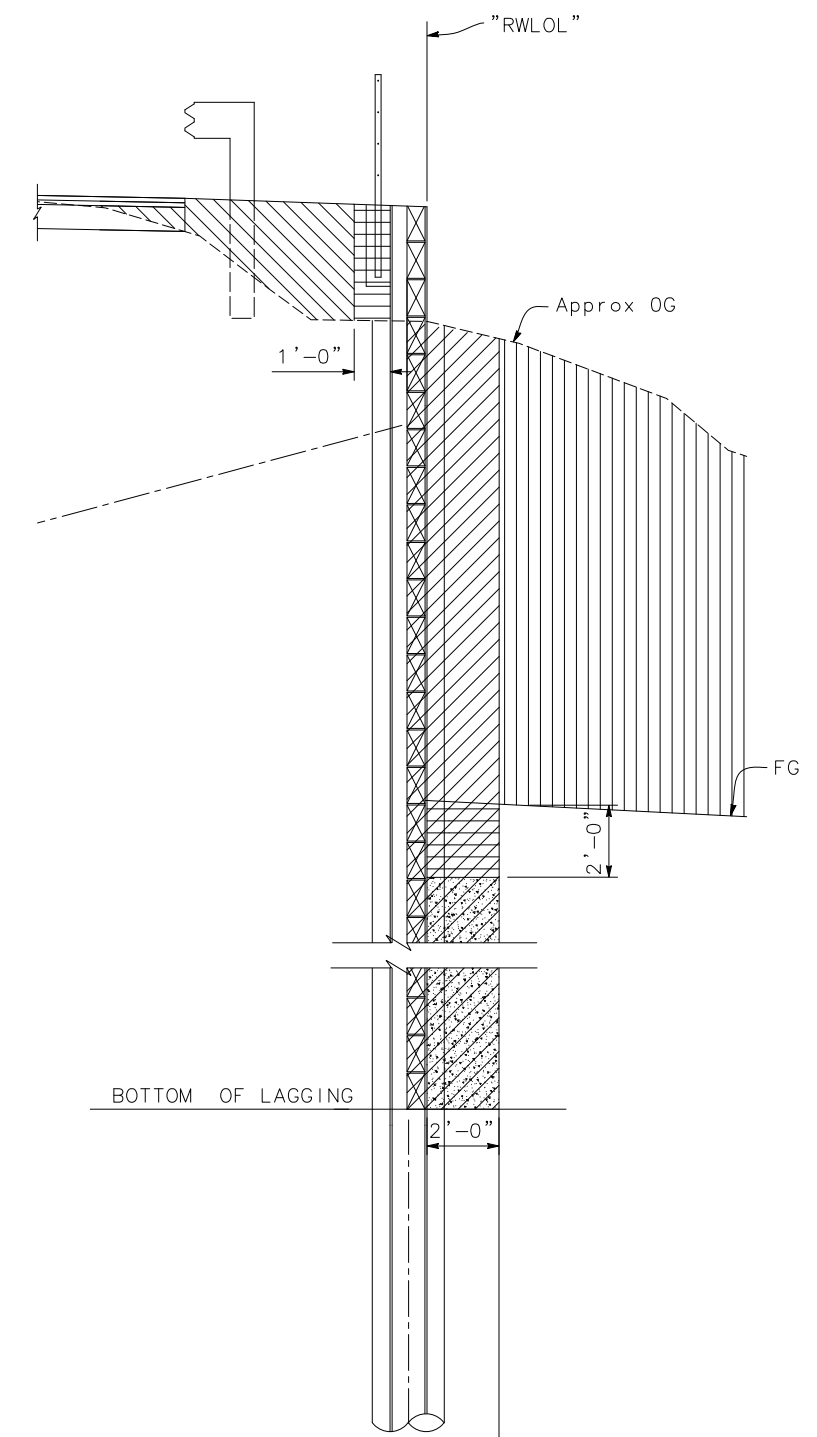
REINFORCED CONCRETE: $f'_c = 4000 \text{ psi}$
 $f_y = 60 \text{ ksi}$

STRUCTURAL TIMBER: Treated Douglas Fir, Grade No. 1 or better Timber to be full sawn.

PRESTRESSING STEEL (GROUND ANCHORS):
Bars - ASTM Designation: A722 Type II (150 ksi)
Strand Tendons - ASTM Designation: A416 (270 ksi Low relaxation steel)
 T = Design force on ground anchor (kips)
 f_{pu} = Minimum ultimate tensile strength of ground anchor steel
 $A_s (\text{Min})$ = Minimum cross sectional area of steel in ground anchor. (sq. in)
 $A_s (\text{Min}) = \frac{1.0T}{0.75 f_{pu}}$ (STRANDS)
 $A_s (\text{Min}) = \frac{1.0T}{0.80 f_{pu}}$ (BARS)

STANDARD PLANS DATED 2018

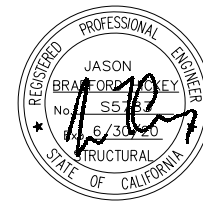
- A3A ABBREVIATIONS (SHEET 1 OF 3)
- A3B ABBREVIATIONS (SHEET 2 OF 3)
- A3C ABBREVIATIONS (SHEET 3 OF 3)
- A10A LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
- A10B LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
- A10C LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
- A10D LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
- A10E LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
- A10F LEGEND - SOIL (SHEET 1 OF 2)
- A10G LEGEND - SOIL (SHEET 2 OF 2)
- A10H LEGEND - ROCK
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
- D102 UNDERDRAINS
- B11-47 CABLE RAILING



STRUCTURE BACKFILL AND EXCAVATION

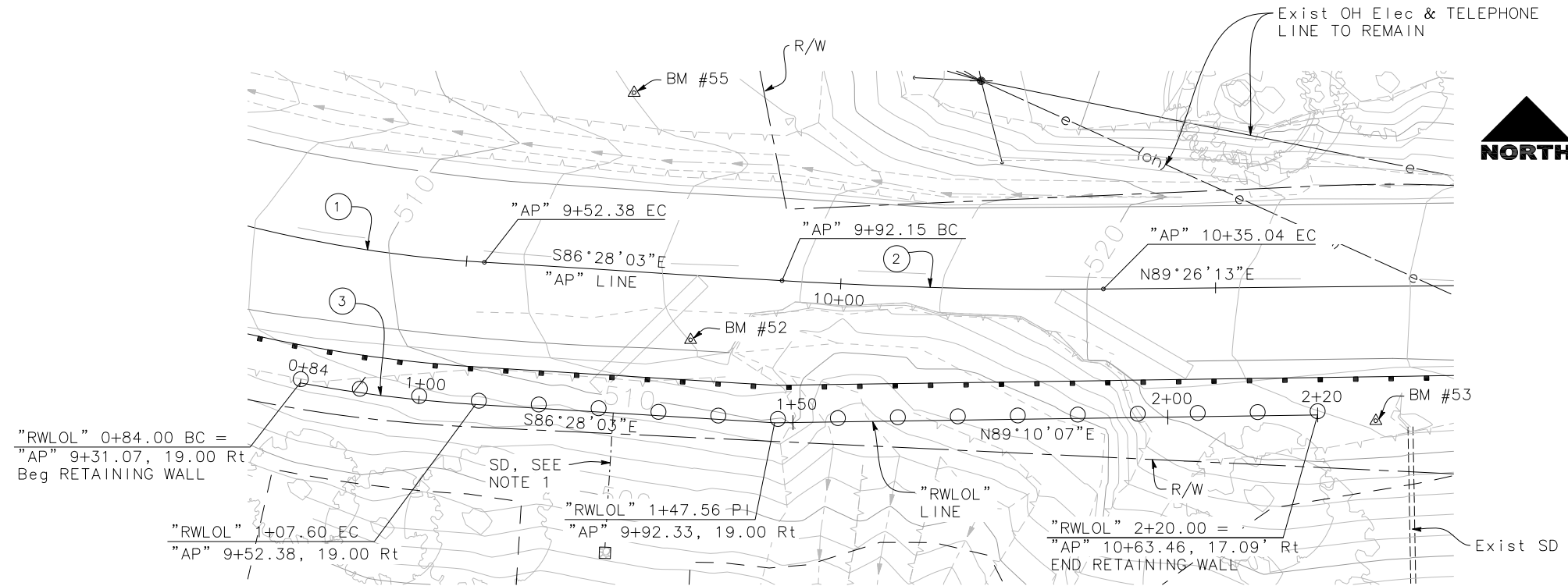
NO SCALE

- Indicates Structure Excavation, Soldier Pile Wall
- Indicates Structure Backfill, Soldier Pile Wall
- Indicates Permeable Material Class 2
- Roadway Excavation
- Roadway Embankment



ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22
ROAD NO: F6B16S	EA NO: N/A
PROJECT NO: ER-32L0(XXX)	BRIDGE NO: N/A
CONTRACT NO: 219205	DRAWING FILE NAME:
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019

MARK THOMAS
DESIGNED BY: MM
DRAWN BY: GB
REVIEWED BY: TP
APPROVED BY: JH



PLAN
1" = 10'

CURVE TABLE				
CURVE #	RADIUS	DELTA	TANGENT	LENGTH
①	177.00'	49°19'37"	81.27'	152.38'
②	600.00'	4°05'44"	21.45'	42.89'
③	196.00'	6°54'00"	11.82'	23.60'

LEGEND

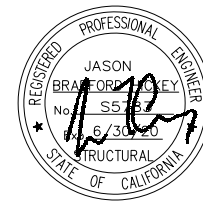
○ - 24 Inch Diameter Drilled Hole

BENCHMARK

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 50 was held for horizontal positions shown hereon. The mapping angle is 1 degree 10 minutes 21 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 0.99995543 to obtain ground distances. Mapping angle and grid scale factor are taken at control point number 50, a 5/8 inch rebar and plastic cap marked "PWS CONTROL". Elevations are NAVD 88 datum based on OPUS solution utilizing the GEOID 12B model: an elevation of 503.52 feet was measured at the aforementioned Control Point 50.

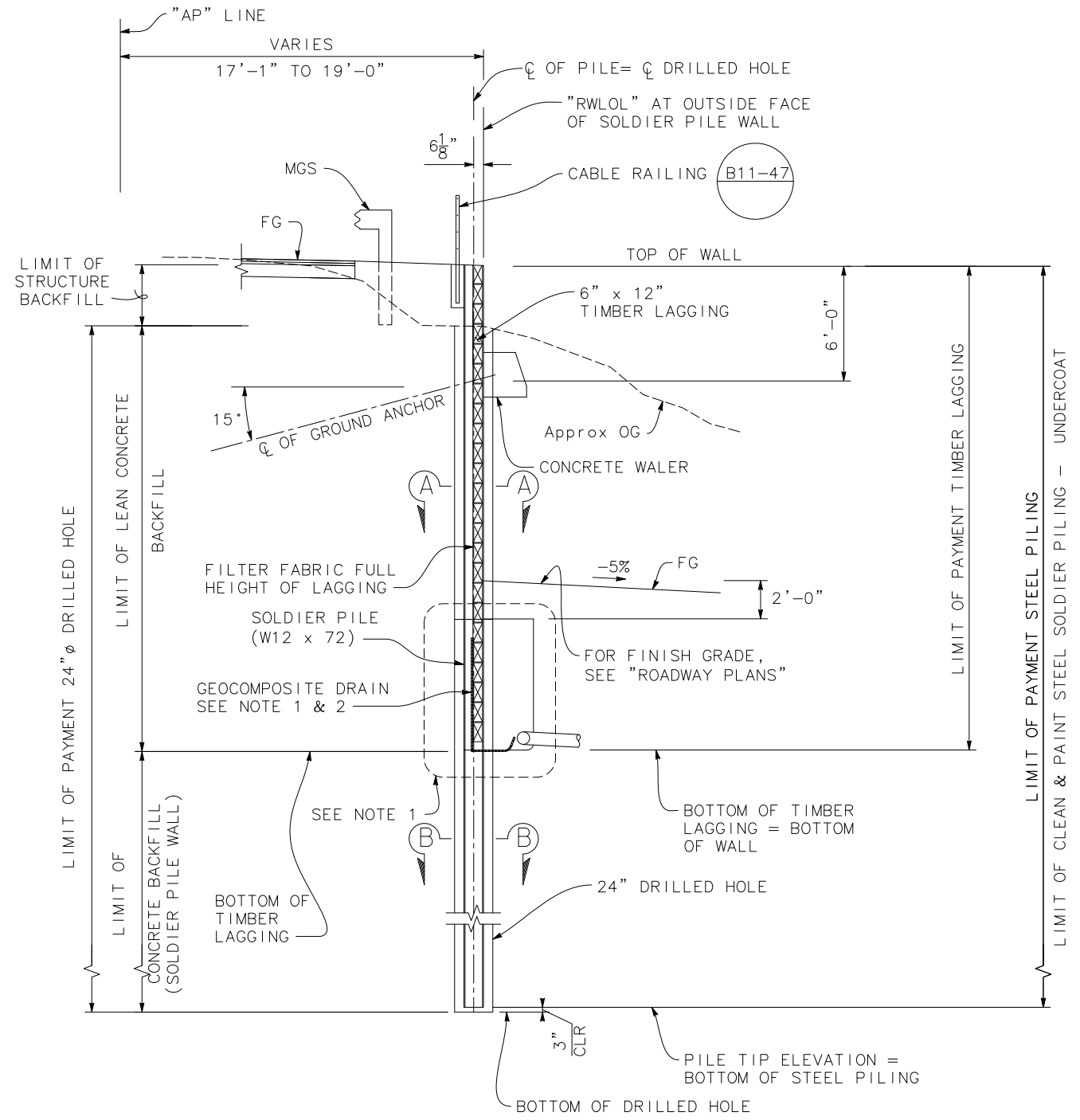
NOTES:

- For 8" perforated pipe underdrain outlet location details, see "ROADWAY PLANS"



ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22
ROAD NO: F6B165	EA NO: N/A
PROJECT NO: ER-32L0(XXX)	BRIDGE NO: N/A
CONTRACT NO: 219205	DRAWING FILE NAME:
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019

MARK THOMAS
DESIGNED BY: MM
DRAWN BY: GB
REVIEWED BY: TP
APPROVED BY: JH

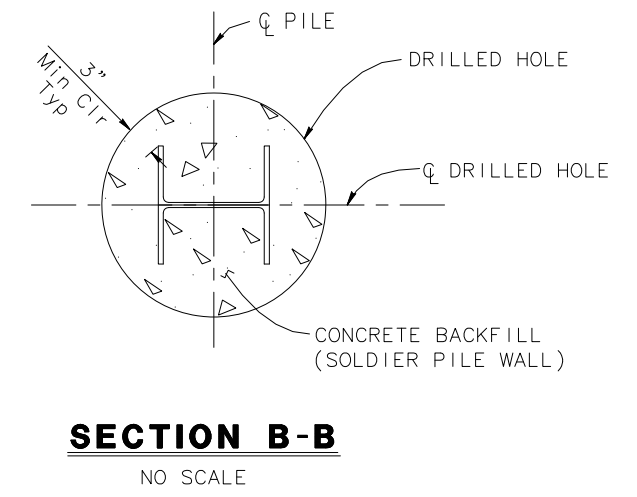
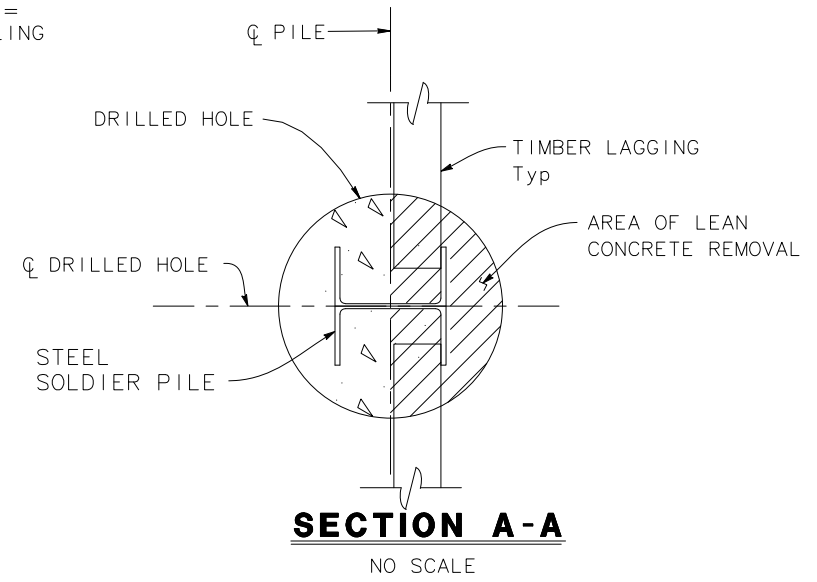


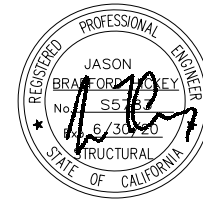
TYPICAL SECTION - GROUND ANCHOR WALL
1/4" = 1'-0"

PILE NUMBER, N	"RWLOL" LINE STATION	TOP OF WALL ELEVATION (ft)	BOTTOM OF LAGGING ELEVATION (SEE NOTE 1) (ft)	PILE TIP ELEVATION (ft)	GROUND ANCHORS	
					T (SEE NOTE 2) (kips)	UNBONDED LENGTH (ft)
1	0+84.00	508.56	503.0	462.0	N/A	N/A
2	0+92.00	509.32	503.0	463.0	N/A	N/A
3	1+00.00	510.15	501.0	464.0	N/A	N/A
4	1+08.00	510.95	495.0	465.0	160	30.0
5	1+16.00	511.83	489.0	466.0	160	30.0
6	1+24.00	512.71	490.0	467.0	160	30.0
7	1+32.00	513.59	491.0	468.0	160	30.0
8	1+40.00	514.47	492.0	469.0	160	30.0
9	1+48.00	515.34	493.0	470.0	160	30.0
10	1+56.00	516.11	494.0	471.0	160	30.0
11	1+64.00	516.99	495.0	472.0	160	30.0
12	1+72.00	517.74	496.0	473.0	160	30.0
13	1+80.00	518.55	497.0	474.0	160	30.0
14	1+88.00	519.34	498.0	475.0	160	30.0
15	1+96.00	520.13	499.0	476.0	160	30.0
16	2+04.00	520.93	500.0	477.0	160	30.0
17	2+12.00	521.70	507.0	478.0	N/A	N/A
18	2+20.00	522.43	514.0	479.0	N/A	N/A

- NOTE:
- Bottom of lagging indicates lower lagging elevation.
 - Ground anchor indicates down station ground anchor. Ground anchors centered between piles N and N+1.

- NOTES:
- For "WALL DRAIN DETAIL", see "SOLDIER PILE WALL DETAILS" sheet.
 - Continue geocomposite drain under timber lagging into permeable material



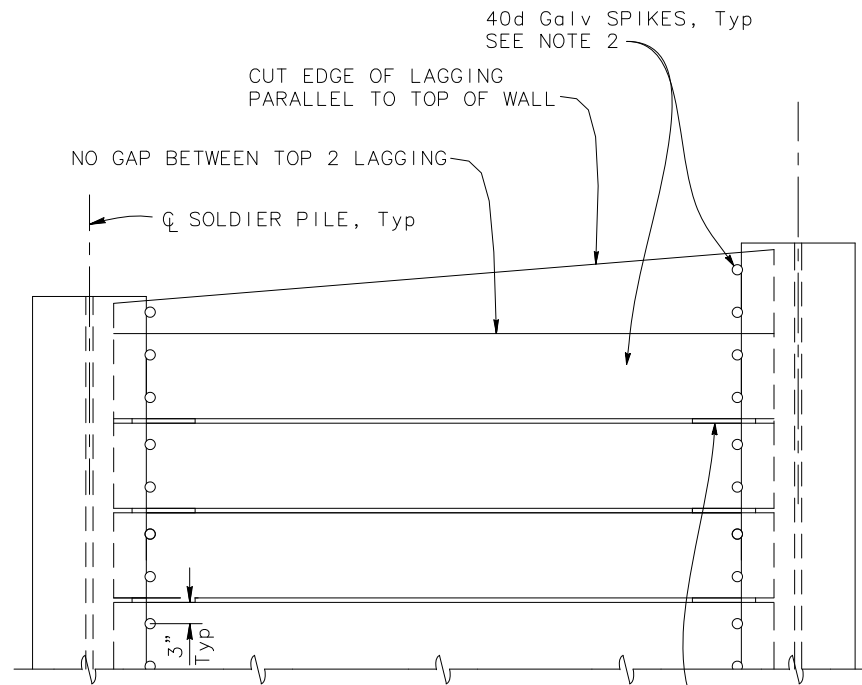


ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22
ROAD NO: F6B16S	EA NO: N/A
PROJECT NO: ER-32L0(XXX)	BRIDGE NO: N/A
CONTRACT NO: 219205	DRAWING FILE NAME:
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019

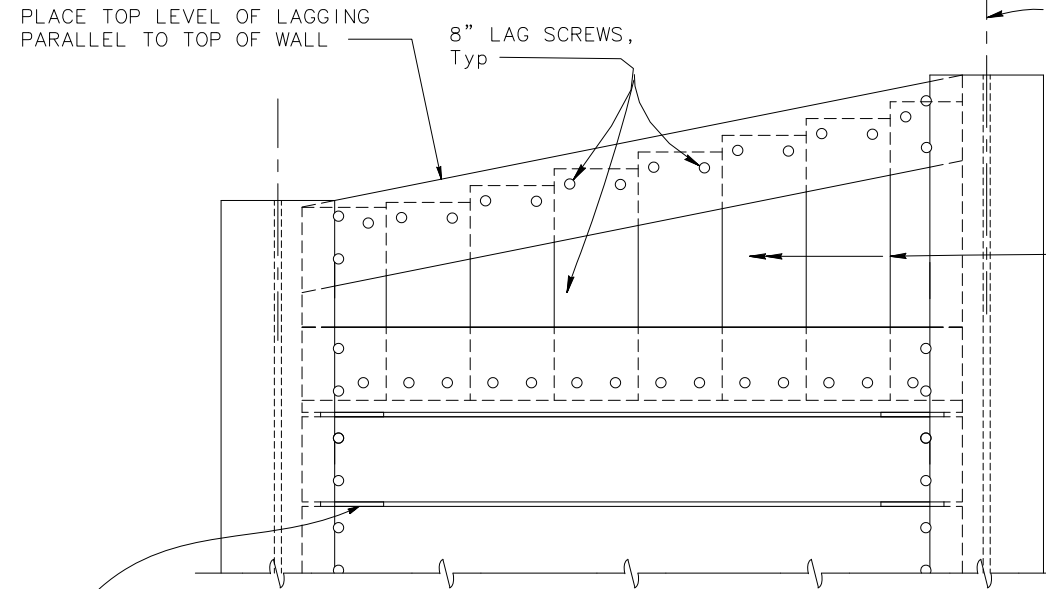
MARK THOMAS
DESIGNED BY: MM
DRAWN BY: GB
REVIEWED BY: TP
APPROVED BY: JH

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ALDERPOINT RD STORM DAMAGE (PM 0.22)
SOLDIER PILE WALL LAGGING DETAILS

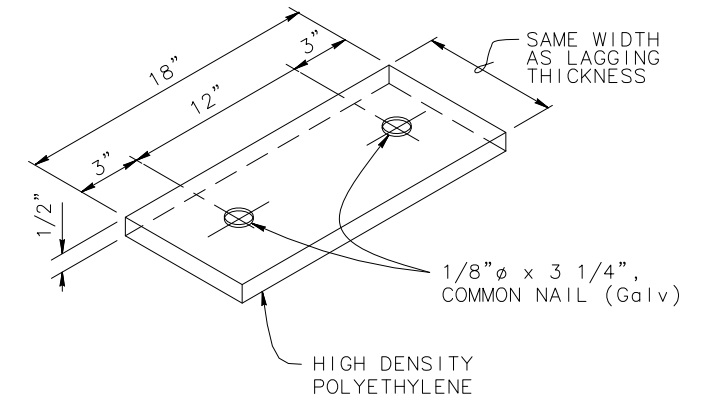
SHEET **15**
OF
18



PART ELEVATION



PART ELEVATION

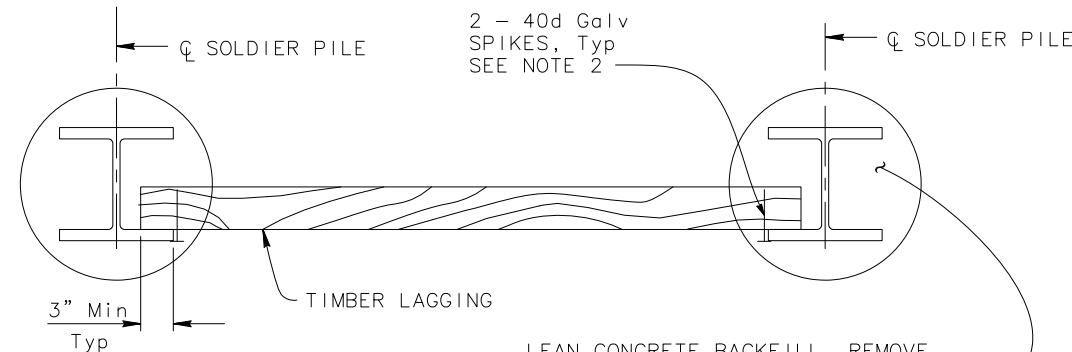


SHIM DETAIL

NO SCALE

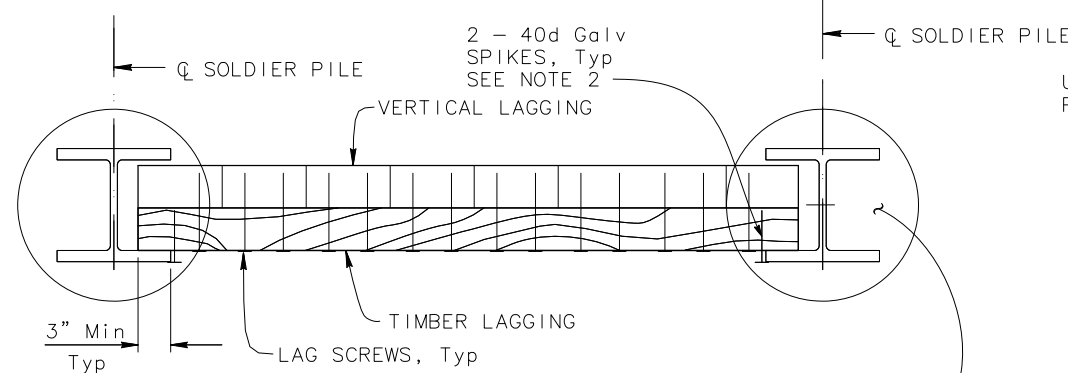
LAGGING DETAILS (ALTERNATIVE 1)

NO SCALE



LAGGING DETAILS (ALTERNATIVE 2)

NO SCALE

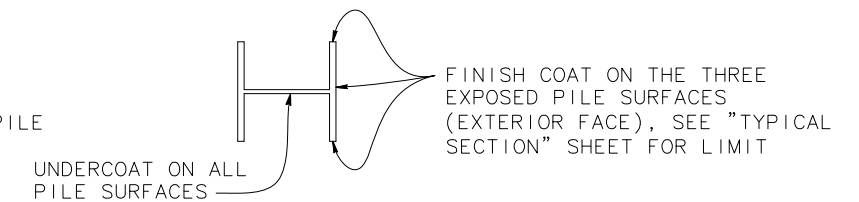


LEAN CONCRETE BACKFILL. REMOVE PORTION IN FRONT OF FLANGE OF W-SECTION AS REQUIRED FOR LAGGING PLACEMENT. SEE SECTION B-B, Typ

LEAN CONCRETE BACKFILL. REMOVE PORTION IN FRONT OF FLANGE OF W-SECTION AS REQUIRED FOR LAGGING PLACEMENT. SEE SECTION B-B, Typ

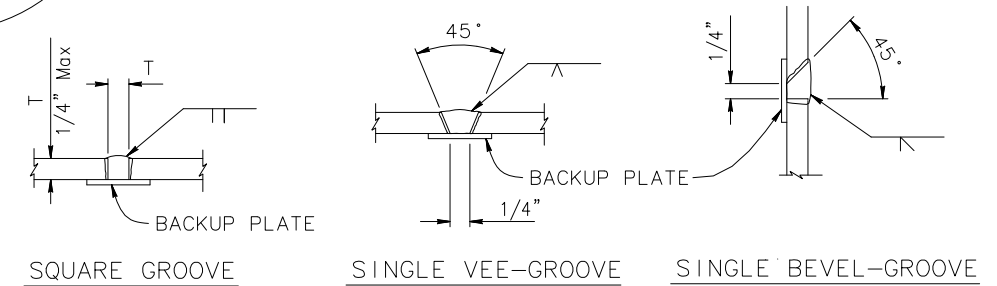
PART PLAN OF TIMBER LAGGING MEMBER

NO SCALE



LIMITS OF CLEAN & PAINT STEEL SOLDIER PILING

NO SCALE



PILE WELDING DETAIL-BUTT JOINTS

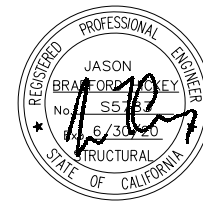
NO SCALE

NOTES:

1. No clipping of timber lagging corners allowed. Lagging corners may be chamfered to facilitate placement. Max 2 corner per lagging
2. Spikes shall not be bent

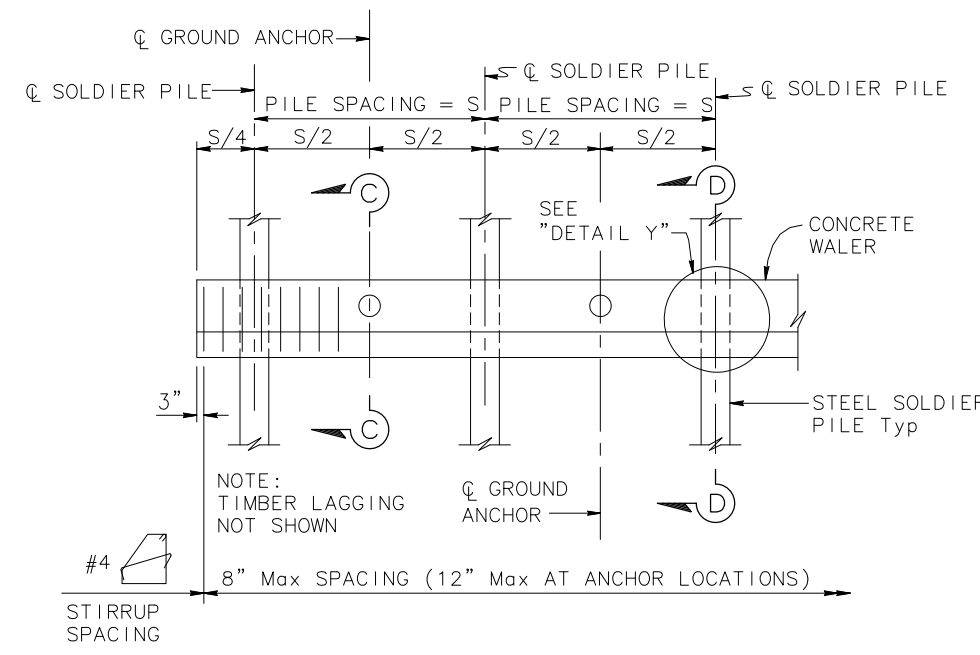
NOTES:

1. Single vee-groove and square groove permitted for all positions.
2. Single bevel-groove permitted for horizontal joints only.

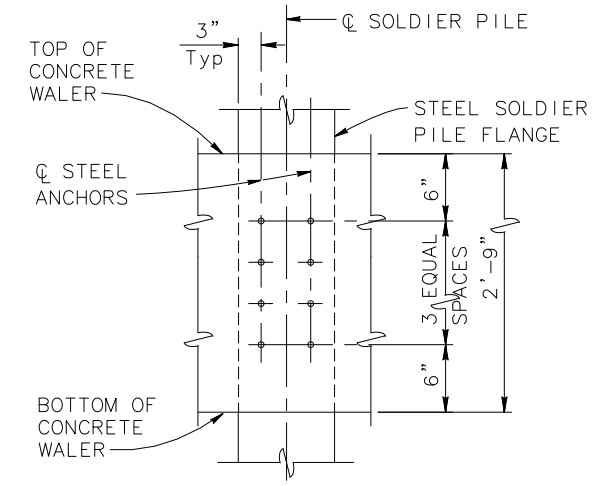


ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22
ROAD NO: F6B165	EA NO.: N/A
PROJECT NO.: ER-32L0(XXX)	BRIDGE NO: N/A
CONTRACT NO.: 219205	DRAWING FILE NAME:
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019

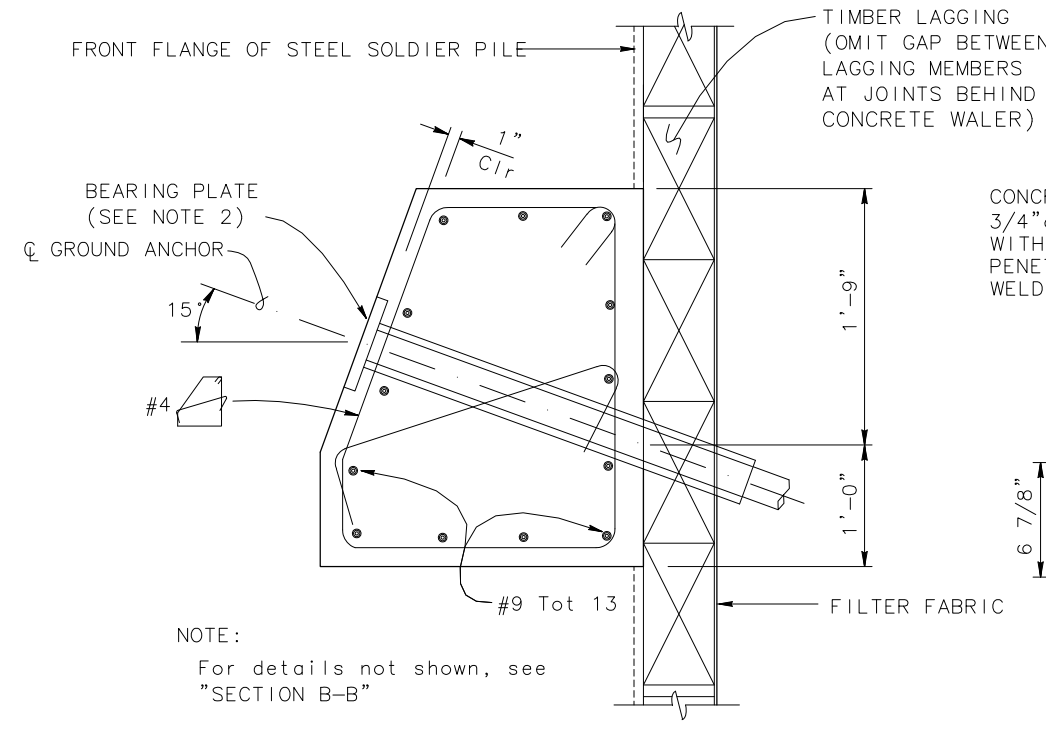
MARK THOMAS
DESIGNED BY: MM
DRAWN BY: GB
REVIEWED BY: TP
APPROVED BY: JH



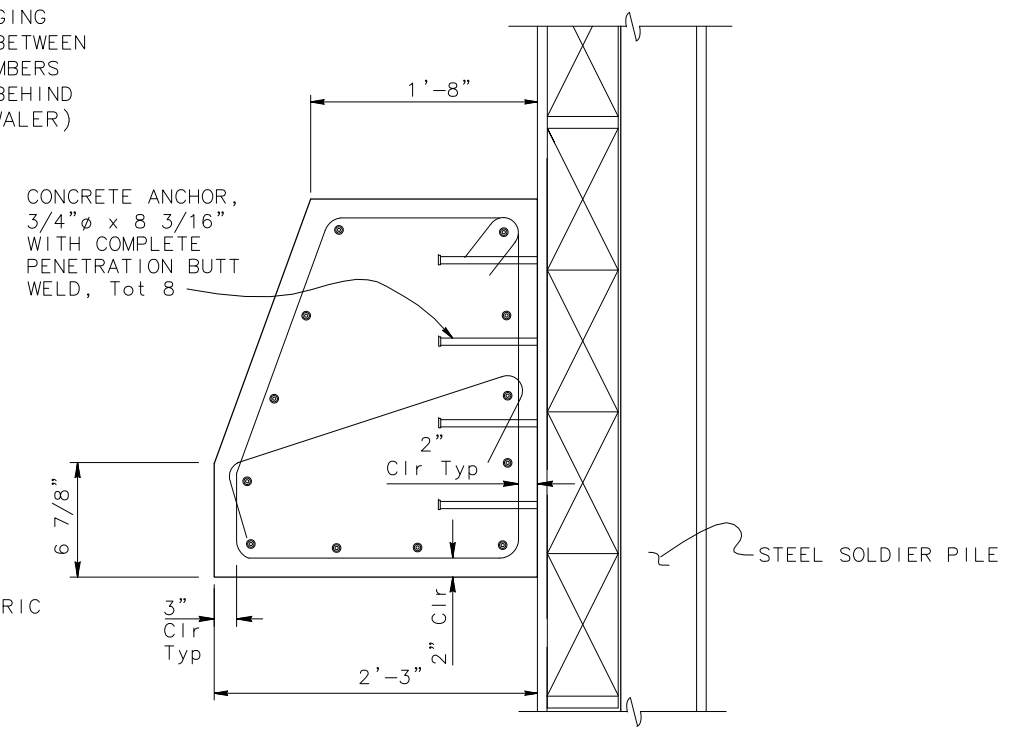
WALER PART ELEVATION
NO SCALE



DETAIL Y
NO SCALE

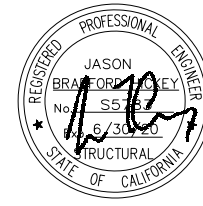


SECTION C-C
1 1/2" = 1'-0"



SECTION D-D
1 1/2" = 1'-0"

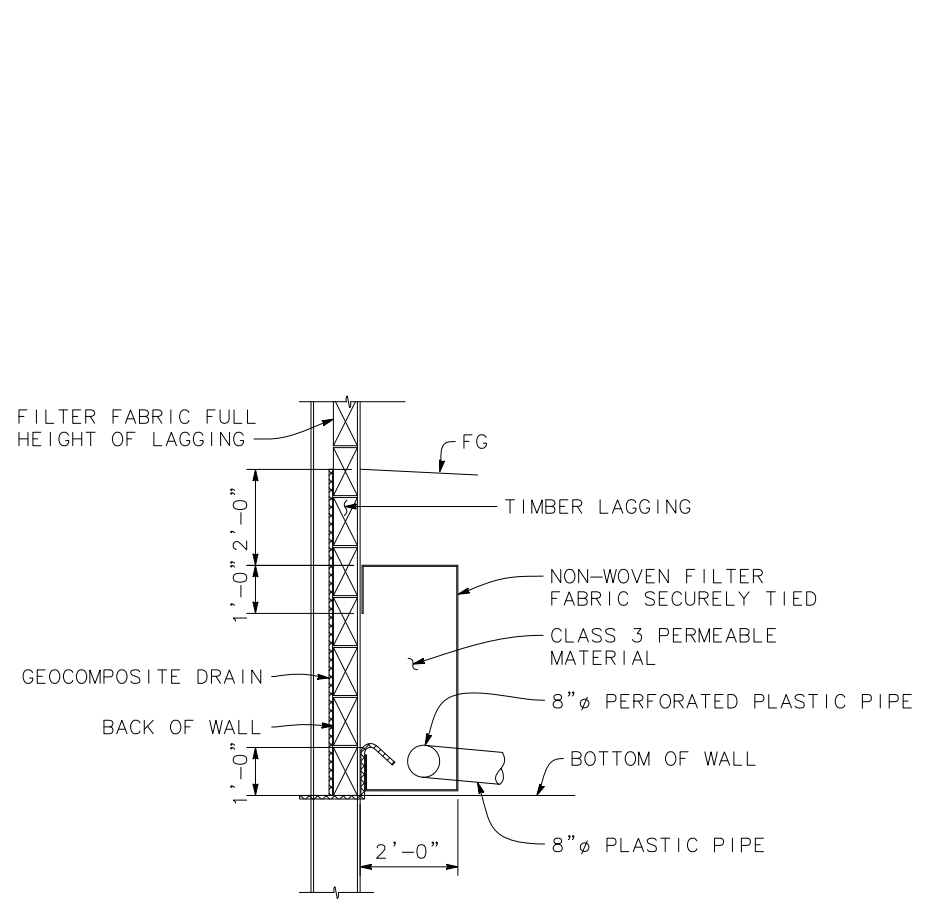
- NOTES:
1. Concrete walers may be poured to face of lagging.
 2. Bearing plates may be recessed or on face of concrete waler.



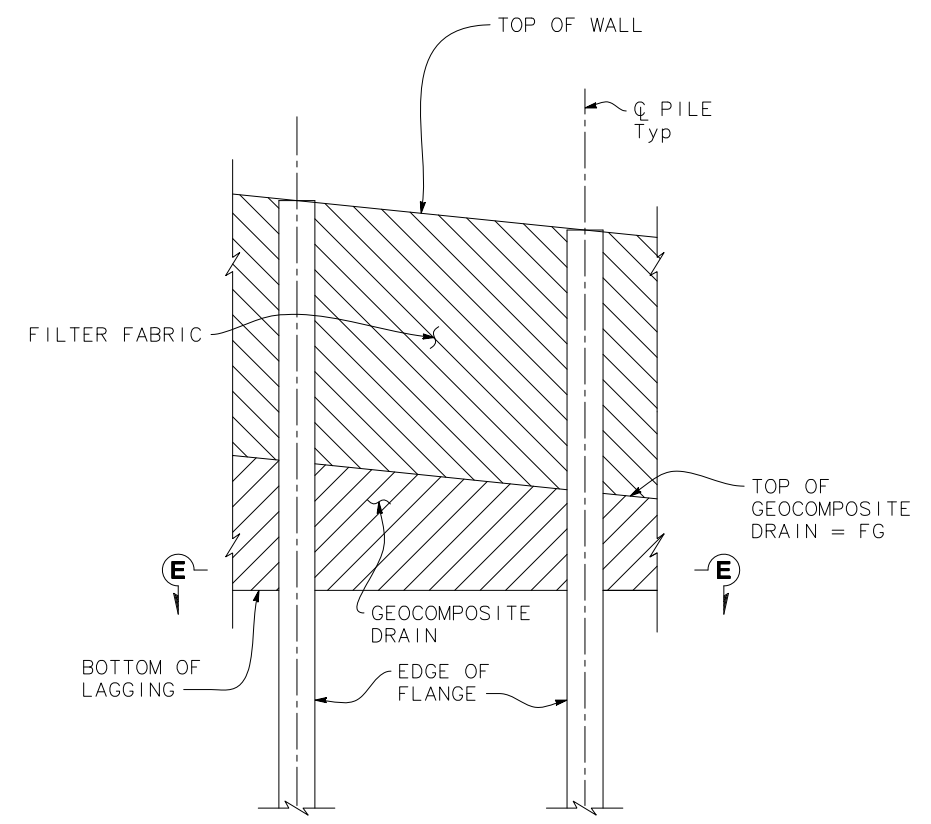
BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22	MARK THOMAS
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: F6B165	EA NO.: N/A	DESIGNED BY: MM
	PROJECT NO.: ER-32L0(XXX)	BRIDGE NO: N/A	DRAWN BY: GB
	CONTRACT NO.: 219205	DRAWING FILE NAME:	REVIEWED BY: TP
	PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019	APPROVED BY: JH

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ALDERPOINT RD STORM DAMAGE (PM 0.22)
SOLDIER PILE WALL DETAILS

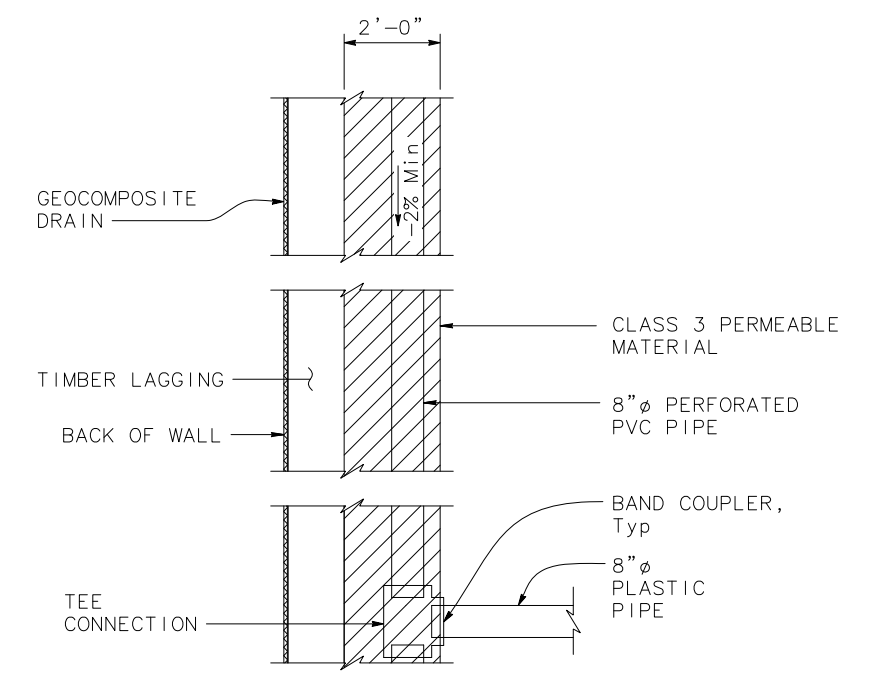
SHEET
17
OF
18



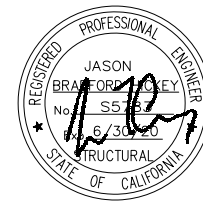
WALL DRAIN DETAIL
NO SCALE



PART ELEVATION DRAIN AT SOLDIER PILE WALL
NO SCALE



SECTION E-E
NO SCALE

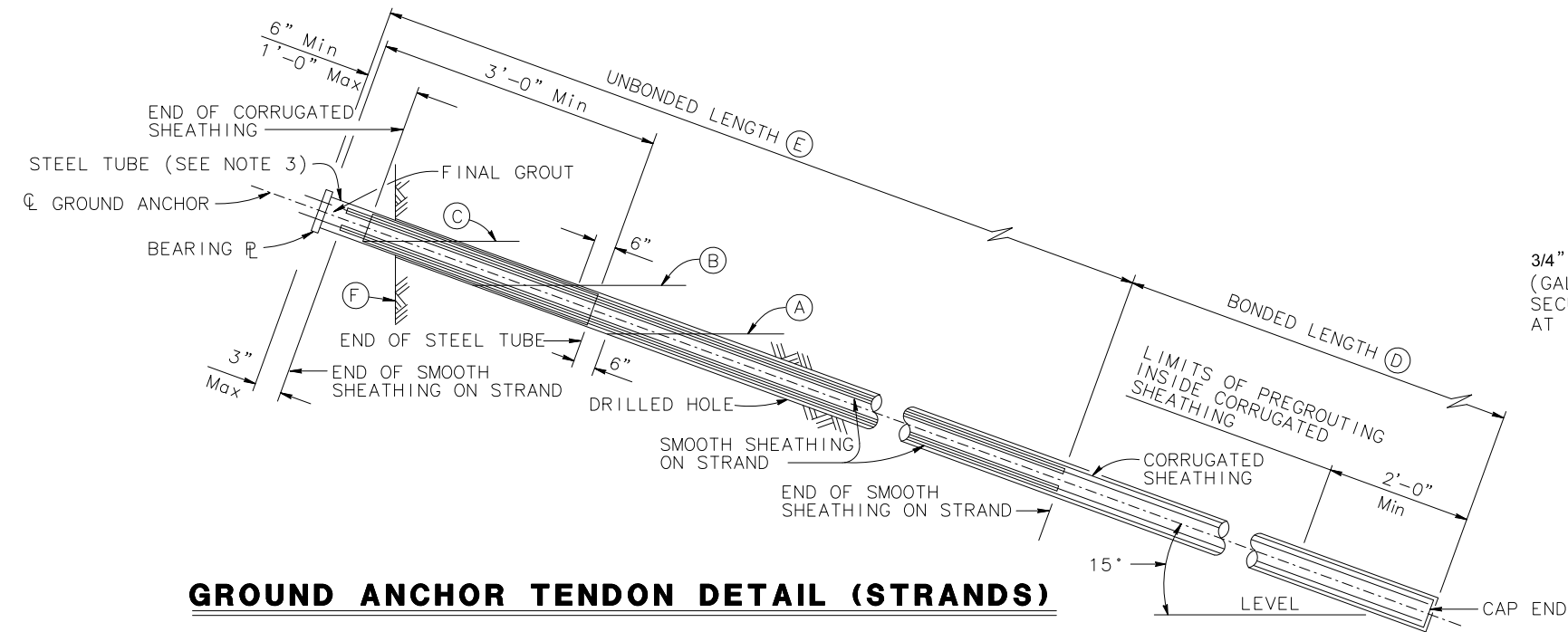


ROAD NAME: ALDERPOINT ROAD	MILE POST: 0.22	MARK THOMAS
ROAD NO: F6B165	EA NO: N/A	DESIGNED BY: MM
PROJECT NO: ER-32L0(XXX)	BRIDGE NO: N/A	DRAWN BY: GB
CONTRACT NO: 219205	DRAWING FILE NAME:	REVIEWED BY: TP
PLOT DATE: 10/23/2019	REVISION DATE: OCTOBER 2019	APPROVED BY: JH

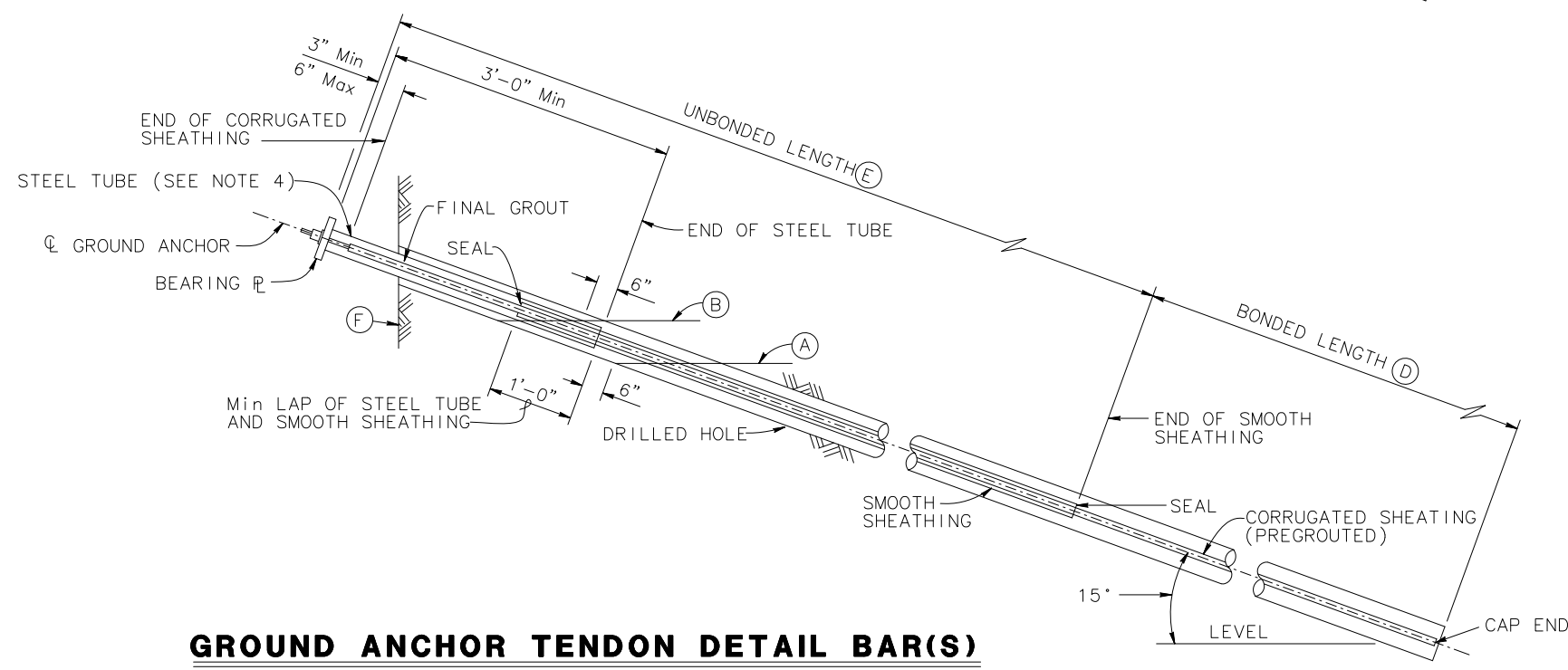
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 18
ALDERPOINT RD STORM DAMAGE (PM 0.22)	OF
SUB HORIZONTAL GROUND ANCHOR DETAILS	18

- 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 "PILE AND GROUND ANCHOR DATA TABLE" ON "TYPICAL SECTION" SHEET
 - (F) Face of Wall Excavation

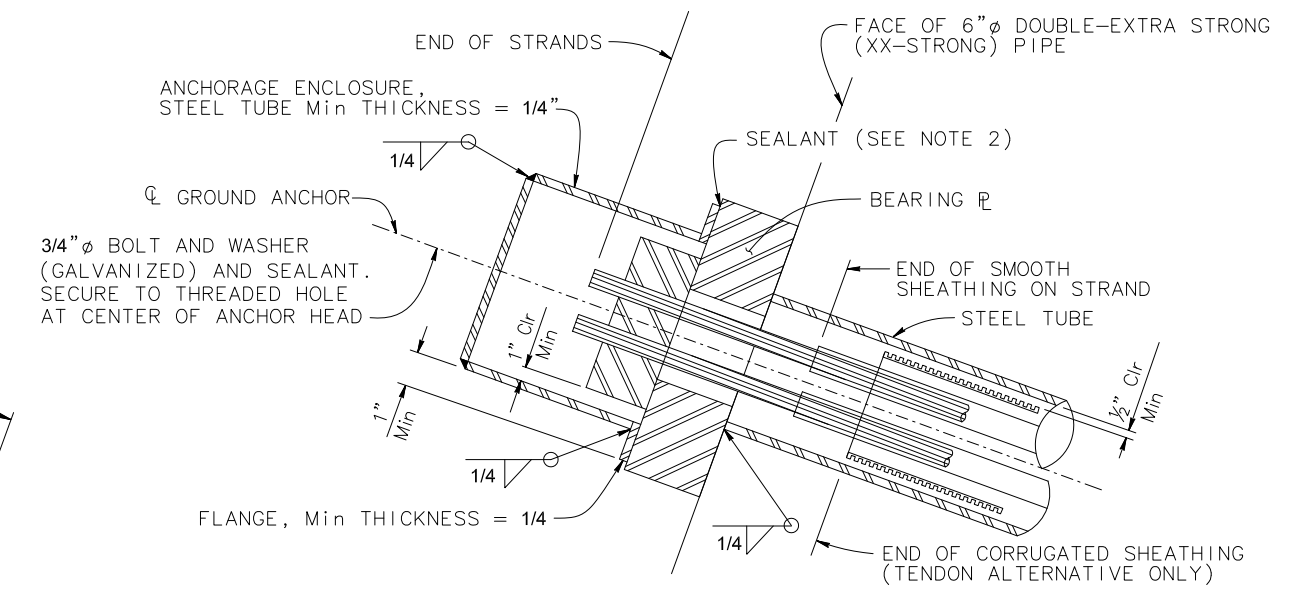
- NOTES:
1. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
 2. Silicone sealant to cover full width of flange.
 3. Steel tube (Min thickness = 1/4") welded to bearing plate. Galvanize assembly after fabrication
 4. Steel tube welded to bearing plate. Inside diameter of steel tube (Min thickness = 1/4") to be 1" greater than outside diameter of smooth sheathing.
 5. Galvanize assembly after fabrication.



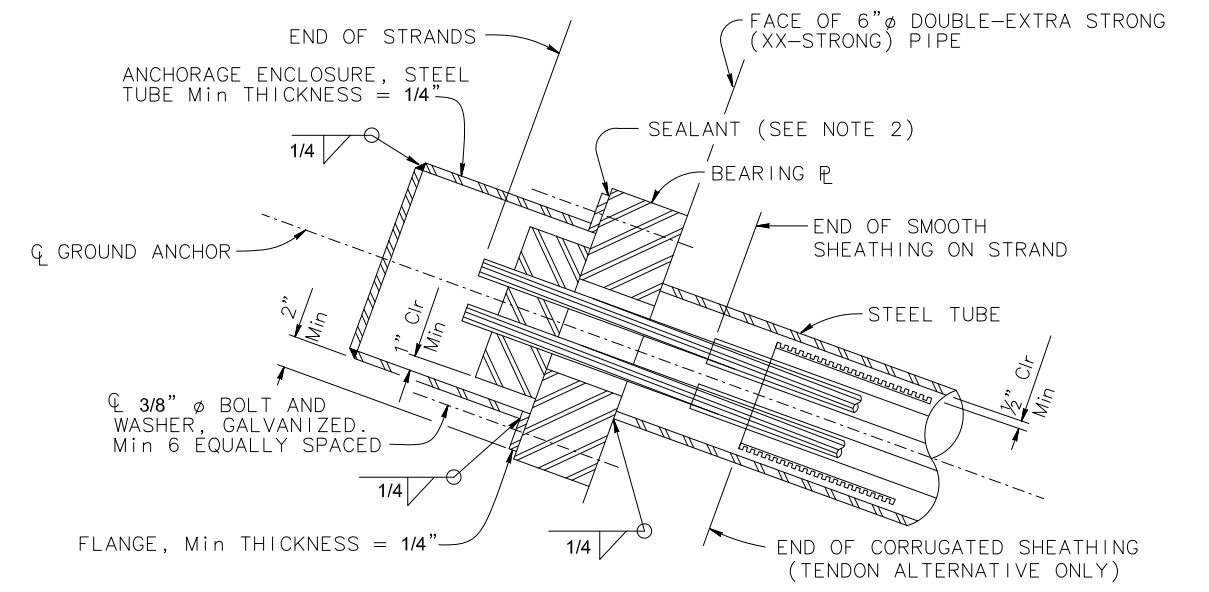
GROUND ANCHOR TENDON DETAIL (STRANDS)



GROUND ANCHOR TENDON DETAIL BAR(S)



ALTERNATIVE X



ALTERNATIVE Y

ANCHORAGE ENCLOSURE DETAILS