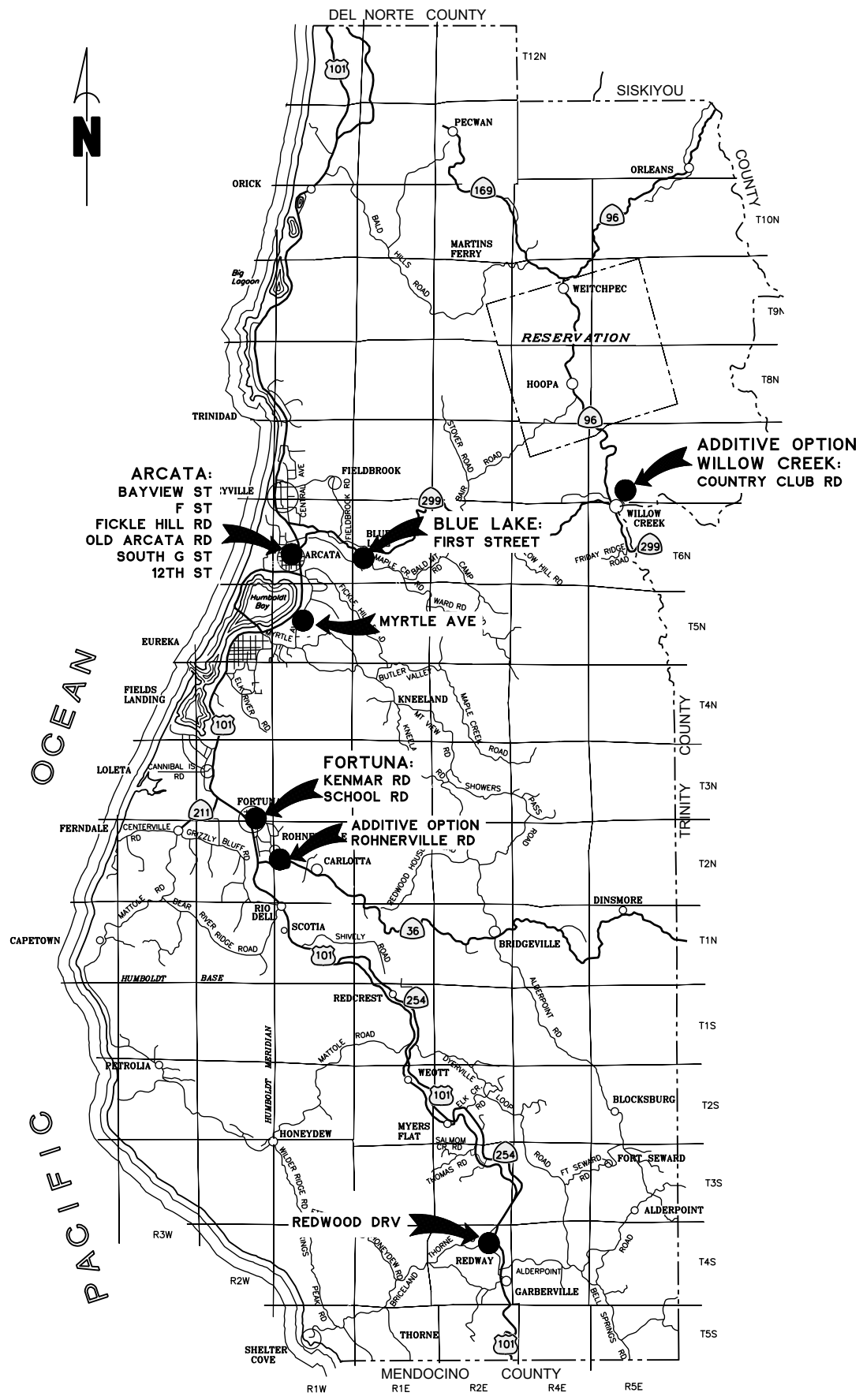


BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN ENGINEERING DIVISION	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS COVER SHEET, INDEX AND LOCATION MAP	SHEET 1 OF 18	
	ROAD NO.: N/A	MILE POST: N/A			DESIGNED BY: ENGR
	PROJECT NO.: HSIPL 5904(161)	STATE PROJ NO.: 0117000041L-N			DRAWN BY: ENGR
	CONTRACT NO.: 217101				REVIEWED BY: JAB
	DRAWING FILE NAME: 217101_GUARDRAIL.DWG	APPROVED BY: TRS			
	PLOT DATE: 11/01/2021	REVISION DATE:			

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION OF GUARDRAIL REPLACEMENT AT VARIOUS LOCATIONS PROJECT NO. HSIPL 5904(161) CONTRACT NO. 217101



LOCATION MAP
SCALE: 1" = ~30,000'

FUNDING SOURCE

THIS PROJECT IS FUNDED BY THE US DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION HIGHWAY SAFETY IMPROVEMENT PROGRAM



RECOMMENDED

Jeffrey A. Ball

 JEFFREY A. BALL
 RCE 70631, EXP. 6/30/2023
 11/1/2021
 DATE



APPROVED

Tony R. Seghetti

 TONY R. SEGHETTI
 RCE 63714, EXP. 9/30/2022
 11/1/2021
 DATE



INDEX OF SHEETS

- 1 COVER SHEET, INDEX AND LOCATION MAP
- 2 GUARDRAIL QUANTITY SUMMARY AND BID QUANTITIES
- 3 TRAFFIC CONTROL PLAN
- 4 CONNECTION TO CONCRETE BARRIER
- 5 MIDWEST GUARDRAIL POST DETAILS
- 6-8 CITY OF ARCATA SITE PLAN LAYOUT
- 9 CITY OF BLUE LAKE AND FORTUNA SITE PLAN LAYOUT
- 10-14 COUNTY SITE PLAN LAYOUT
- 15 ADDITIVE OPTION PLAN LAYOUT
- 16-18 REVISED CALTRANS STANDARD PLANS

NOTES

THE CONTRACTOR SHALL HAVE A CLASS "A" LICENSE FOR THIS PROJECT.
 PROJECT PLANS AND SPECIAL PROVISIONS TO BE SUPPLEMENT BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS, STANDARD SPECIFICATIONS AND THE LATEST REVISED 2018 STANDARD SPECIFICATIONS
 (SEE APPLICABLE STANDARD PLAN LIST IN SPECIAL PROVISIONS)

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

NOTES

1. PAY LIMITS ARE THE SAME FOR IN-LINE AND FOR FLARED TERMINAL END SYSTEMS IN THE PAY LIMITS TABLE.
2. IF CONTRACTOR SUPPLIED TERMINAL SYSTEMS HAVE A DIFFERENT LENGTH THAN WHAT IS SHOWN IN THE PAY LIMITS TABLE, THEN THE MIDWEST GUARDRAIL SYSTEM (MGS) PAY QUANTITIES SHALL BE MEASURED AND ADJUSTED ACCORDINGLY.
3. PAYMENT FOR MGS IS PER SECTION 83-2.03D OF THE CALTRANS STANDARD SPECIFICATIONS AND AS MODIFIED BY THE SPECIAL PROVISIONS
4. CONTRACTOR TO VERIFY ALL EXISTING GUARDRAIL LENGTHS.
5. SITE PLANS ARE NOT A PRODUCT OF SURVEY.
6. GUARDRAIL SHALL BE SALVAGED AND DELIVERED TO COUNTY MAINTENANCE YARD LOCATED IN LOLETA, CA.
7. GUARDRAIL DELINEATORS TO BE SPACED 18.75FT ON NEW MGS.

PAY LIMITS TABLE

ITEM	MASH TEST LEVEL	PAY LIMIT LENGTH
TERMINAL SYSTEM	TL-1	25.0FT
TERMINAL SYSTEM	TL-2	37.5FT
TERMINAL SYSTEM	TL-3	50.0FT
END ANCHOR	N/A	6.25FT
BURIED END SYSTEM	N/A	6.25FT
WB-31 TRANSITION	N/A	25.0FT
CRASH CUSHION	TL-2	12.5FT



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	ROAD NO: N/A	MILE POST: N/A		DESIGNED BY: ENGR
	PROJECT NO.: HSIPL 5904(161)	STATE PROJ NO.: 0117000041L-N		DRAWN BY: ENGR
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	PLOT DATE: 11/01/2021	REVISION DATE:		

SHEET
2
OF
18

BID QUANTITIES

GUARDRAIL QUANTITY SUMMARY

LOCATION				REMOVE GUARDRAIL	MIDWEST GUARDRAIL SYSTEM	DOUBLE THRIE BEAM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM	BURIED POST END ANCHOR	END ANCHOR ASSEMBLY	TRANSITION RAILING (TYPE WB-31)	GUARD RAIL DELINEATOR	RESET ROADSIDE SIGN (ONE POST)	TREATED WOOD WASTE (36LB/CF)	DESCRIPTION / COMMENTS
SITE #	ROAD NAME	CITY OR PM	LATITUDE, LONGITUDE	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	LB	
1	Bayview Street	Arcata	40.869980, -124.075131	275	244		1			1		12	6	3090	REDWOOD PARK SOUTH ENTRANCE
2	Bayview Street	Arcata	40.8679, -124.075683	210	169		1			3		8	1	2360	T-INTERSECTION WITH PARK; 3 NON-STANDARD ENDS NEAR HOUSE
3	F Street	Arcata	40.874233, -124.082883	50	38					2		2		560	L-CORNER BARRIER; PLACE BEHIND EXISTING DIKE
4	F Street	Arcata	40.872266, -124.083316	98	69		1			1		3	1	1100	CUL-DE-SAC BARRIER; PLACE BEHIND EXISTING DIKE
5	Fickle Hill	Arcata	40.868735, -124.066649	41	25					2		2		460	NEAR REDWOOD PARK TRAIL ENTRANCE. DO NOT BLOCK PATH/TRAIL
6	Fickle Hill	Arcata	40.868633, -124.065783												FICKLE HILL LN 3 SECTIONS; (THESE WERE REPLACED IN 2015)
7	LK Wood Blvd	Arcata	40.88315, -124.080116	63	19		1			1		2		700	T-INTERSECTION BARRIER; IN-LINE BEHIND DIKE; DOUBLE BLOCKS
8	Old Arcata	Arcata	40.853916, -124.070049	63	19		1			1		2	1	700	UTILITY POLE PROTECTION
9	Old Arcata	Arcata	40.85545, -124.070583	229	160		1			5		8	1	2570	THREE LOCATIONS NEAR ROUNDABOUT AT BUTTERMILK LN
10	South G Street	Arcata	40.856256, -124.089381	38	38		4					4		420	CONCRETE CULVERT; SHORT POST INSTALLATION
11	Twelfth Street	Arcata	40.870883, -124.083366	26	25					2		1	1	290	BARRIER AT END OF ROAD
12	1st Ave	Blue Lake	40.880335, -123.987868	14	6		1			1		1		150	T-INTERSECTION WITH "I" STREET
13	2nd Ave	Blue Lake	40.881699, -123.987994	25	13					2		1		15	NEAR PEDESTRIAN BRIDGE
14	Riverwalk Drive	Fortuna	40.574482, -124.149620	238	194		1			1		9	4	2670	WEST OF HWY 101 & KENMAR INTERSECTION; PLACE BEHIND EX. DIKE
15	School Street	Fortuna	40.570116, -124.1387	138		123				1		4	2	1550	DOUBLE THRIE-BEAM; CRASH CUSHION ON APPROACH; END ANCHOR
16	Myrtle Ave	2.25	40.786966, -124.108883	250			4				4	8	1	2810	DEVOY ROAD CONNECT TO EXISTING STRUCTURES
17	Myrtle Ave	2.47	40.785966, -124.105049	150	106		1			1		4	1	1680	INTERSECTION WITH SPEARS RD - RESET MAILBOX
18	Myrtle Ave	2.60-2.66	40.785207, -124.102685	1800	1669		1	4		1		84	2	20260	PIGEON POINT TO BETTE LANE; PLACE BEHIND EXISTING DIKE
19	Redwood Dr.	0.57	40.10476, -123.79611	300	288					2		15	1	3370	PULLOUT BEAR GULCH BRIDGE; CHAIN LINK FENCE ON GUARDRAIL
20	Redwood Dr.	0.86	40.108826, -123.795097	735	463		2	2			4	24		8270	BEAR GULCH BRIDGE STRUCTURE CONNECTIONS
21	Redwood Dr.	1.0	40.110678, -123.794649	227	150			2				8		2550	NEAR RENNER STATION EXIT
22	Redwood Dr.	1.13	40.11273, -123.79448	476	400		2					21	1	5350	NEAR RENNER STATION EXIT
23	Redwood Dr.	1.26-1.61	40.11683, -123.80033	1885	1813			2				96		21210	ALONG BLUFFS; VERY STEEP; ENDS AT EVERGREEN RD
24	Redwood Dr.	1.71	40.1167, -123.80208	200	188					2		6	2	2250	PULLOUT NEAR EVERGREEN RD
25	Redwood Dr.	2.58	40.116631, -123.818009	73	63					2		3		820	NEAR DAISEY'S SUPPLY IN REDWAY
26	Redwood Dr.	3.41	40.12558, -123.82306	300	257		1			1		12		3370	GUARDRAIL ON WIRE WALL
27	Redwood Dr.	3.6	40.12756, -123.821	993	955			1		1		49		11170	NEAR OLD SLIDE
TOTALS				8897	7371	123	23	11	2	31	8	389	25	99745	

ADDITIVE OPTION GUARDRAIL QUANTITY SUMMARY

SITE #	ROAD NAME	CITY OR PM	LATITUDE, LONGITUDE	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	LB	DESCRIPTION / COMMENTS	
28	Country Club Rd	0.24	40.940818, -123.627657	220	206					1	1			10	2	2470	NEAR WILLOW CREEK
29	Rohnerville Rd	0.94	40.556922, -124.105994	350	275			1	1					14	4	3930	WOLVERTON GULCH - RECENT STORM DAMAGE
30	Rohnerville Rd	1.85	40.552953, -124.120317	225	150		1				1			8		2530	NEAR FORTUNA CITY LIMITS; TRIPLE K PLACE
31	Rohnerville Rd	1.87	40.552300, -124.118758	275	200		1	1						10	3	3090	NEAR FORTUNA CITY LIMITS; TRIPLE K PLACE
TOTALS				1070	831	0	2	2	2	2	0	42	9	12020			

Base Bid

ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	QUANTITY
1	120100	Traffic Control System	LS	1
2	130100	Job Site Management	LS	1
3	130200	Prepare Water Pollution Control Program	LS	1
4	130680	Temporary Silt Fence	LF	500
5	141120	Treated Wood Waste	LBS	99,745
6	170103	Clearing and Grubbing	LS	1
7	803180	Reconstruct Chain Link Fence	LF	300
8	810190	Guard Railing Delineator	EA	389
9	820510	Reset Roadside Sign (One Post)	EA	25
10	832006	Midwest Guardrail System (Steel Post)	LF	7,371
11	838499	Guardrail Retaining Wall	LF	75
12	839312	Double Thrie Beam Barrier (Steel Post)	LF	123
13	839543	Transition Railing (Type WB-31)	EA	8
14	839572	Return Cap (Type TA)	EA	1
15	839581	End Anchor Assembly (Type SFT)	EA	31
16	839582	End Anchor Assembly (Type CA)	EA	1
17	839584	Alternative In-line Terminal System	EA	23
18	839585	Alternative Flared Terminal System	EA	11
19	839590X	Buried Post End Anchor	EA	2
20	839600	Crash Cushion (Double Thrie-Beam Barrier, TL-2)	EA	1
21	839752	Remove Guardrail	LF	8,897
22	999990	Mobilization	LS	1

ADDITIVE OPTION

A1	120100	Traffic Control System	LS	1
A2	141120	Treated Wood Waste	LB	12,020
A3	170103	Clearing and Grubbing (LS)	LS	1
A4	810190	Guard Railing Delineator	EA	42
A5	820510	Reset Roadside Sign (One Post)	EA	9
A6	832006	Midwest Guardrail System (Steel Post)	LF	831
A7	839581	End Anchor Assembly (Type SFT)	EA	2
A8	839584	Alternative In-line Terminal System	EA	2
A9	839585	Alternative Flared Terminal System	EA	2
A10	839590X	Buried Post End Anchor	EA	2
A11	839752	Remove Guardrail	LF	1,070



ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY		DESIGN ENGINEERING DIVISION	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS TRAFFIC CONTROL PLAN	SHEET 3 OF 18
ROAD NO: N/A	MILE POST: N/A	DESIGNED BY: ENGR		
PROJECT NO.: HSIPL 5904(161)	STATE PROJ NO.: 0117000041L-N	DRAWN BY: ENGR		
CONTRACT NO.: 217101		REVIEWED BY: JAB		
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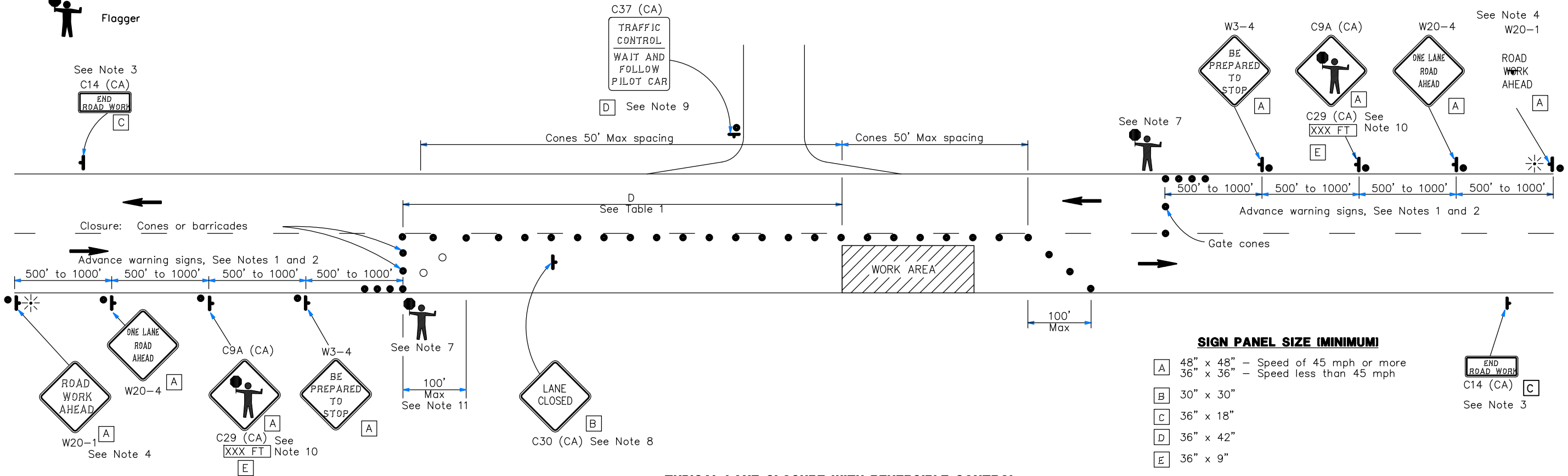
LEGEND

- Traffic Cone
- Traffic Cone (optional taper)
- † Temporary Sign
- ← Direction of Travel
- ☀ Portable Flashing Beacon
- 👤 Flagger

NOTES:

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



SIGN PANEL SIZE (MINIMUM)

- A 48" x 48" - Speed of 45 mph or more
36" x 36" - Speed less than 45 mph
- B 30" x 30"
- C 36" x 18"
- D 36" x 42"
- E 36" x 9"

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

SITE TRAFFIC CONTROL

SITE #	ROAD NAME	CITY OR PM	RECOMMENDED TRAFFIC CONTROL SYSTEM	DESCRIPTION
1	Bayview Street	Arcata	T13	
2	Bayview Street	Arcata	T13	
3	F Street	Arcata	T13	
4	F Street	Arcata	TA-4	SHOULDER CLOSURE
5	Fickle Hill	Arcata	T13	
6	Fickle Hill	Arcata	T13	
7	LK Wood Blvd	Arcata	T13	
8	Old Arcata	Arcata	T13	
9	Old Arcata	Arcata	TA-4	SHOULDER CLOSURE
10	South G Street	Arcata	T13	
11	Twelfth Street	Arcata	-	
12	1st Ave	Blue Lake	TA-4	SHOULDER CLOSURE
13	2nd Ave	Blue Lake	-	
14	Kenmar Rd	Fortuna	T13	
15	School Road	Fortuna	TA-4	SHOULDER CLOSURE
16	Myrtle Ave	2.25	T13	MAY NEED OVERNIGHT TRAFFIC CONTROL
17	Myrtle Ave	2.47	T13	
18	Myrtle Ave	2.60-2.66	T13	
19	Redwood Dr.	0.57	TA-4	SHOULDER CLOSURE
20	Redwood Dr.	0.86	T13	MAY NEED OVERNIGHT TRAFFIC CONTROL
21	Redwood Dr.	1.0	T13	
22	Redwood Dr.	1.13	T13	
23	Redwood Dr.	1.26-1.61	T13	MAY NEED OVERNIGHT TRAFFIC CONTROL
24	Redwood Dr.	1.71	TA-4	SHOULDER CLOSURE
25	Redwood Dr.	2.58	T13	
26	Redwood Dr.	3.41	TA-4	SHOULDER CLOSURE
27	Redwood Dr.	3.6	T13	
28A	Country Club Rd	0.24	T13	
29A	Rohnerville Rd	0.94	T13	
30A	Rohnerville Rd	1.85	T13	
31A	Rohnerville Rd	1.87	T13	

NOTES:

- Where approach speeds are low, advance warning signs may be placed at 300' spacing, and closer in urban areas.
- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT MILES", use a W20-4 sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
- Place C30 (CA) "LANE CLOSED" sign at 500' to 1000' intervals Throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37 (CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign at all intersections within traffic control area. Signs shall be clean and visible at all times.
- An optional C29 (CA) sign may be placed below the C9A (CA) sign.
- Traffic cones or barricades may be placed on the optional taper as shown, barricades shall be Type I, II, OR III.

TABLE 1

Approach Speed	Minimum D	Downgrade Minimum D *		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
25 and below	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785

* Use on sustained downgrade steeper than -3 percent and longer than 1 mile.



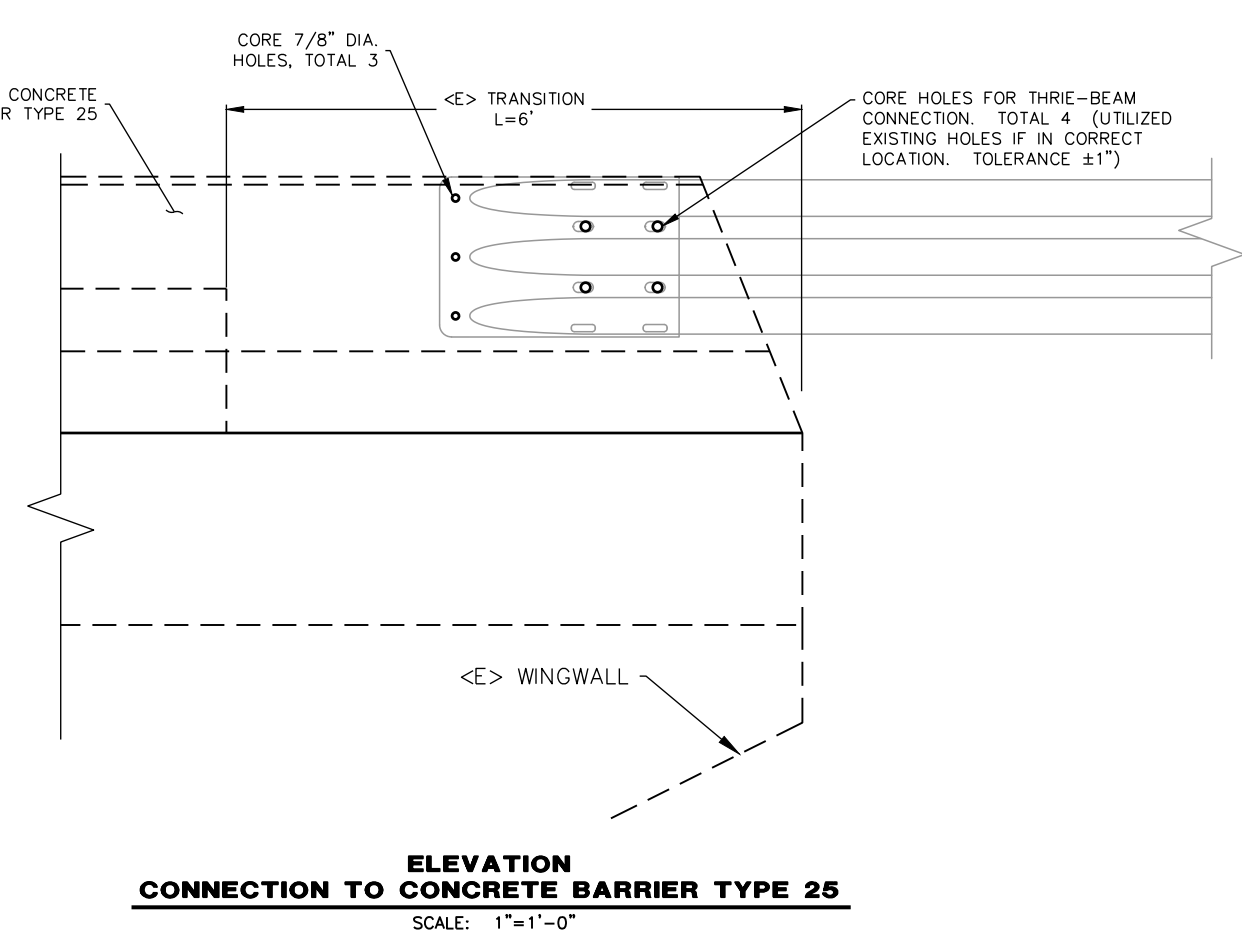
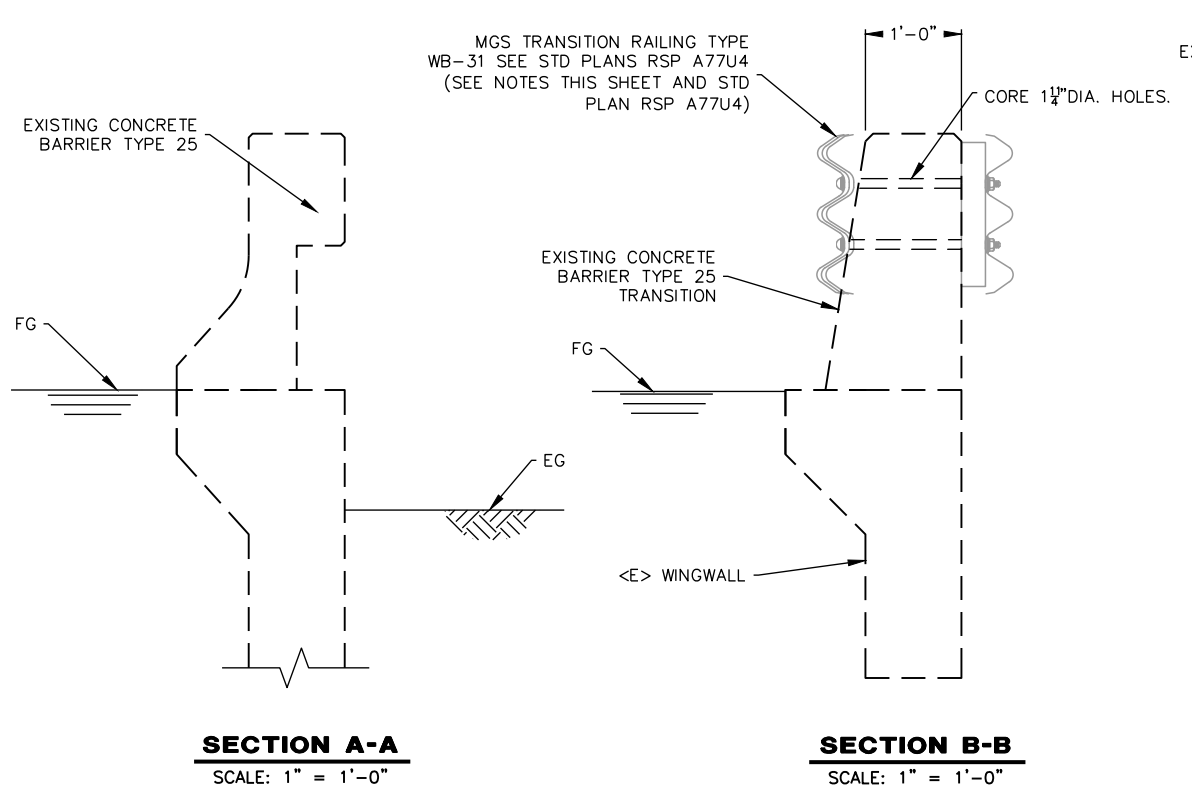
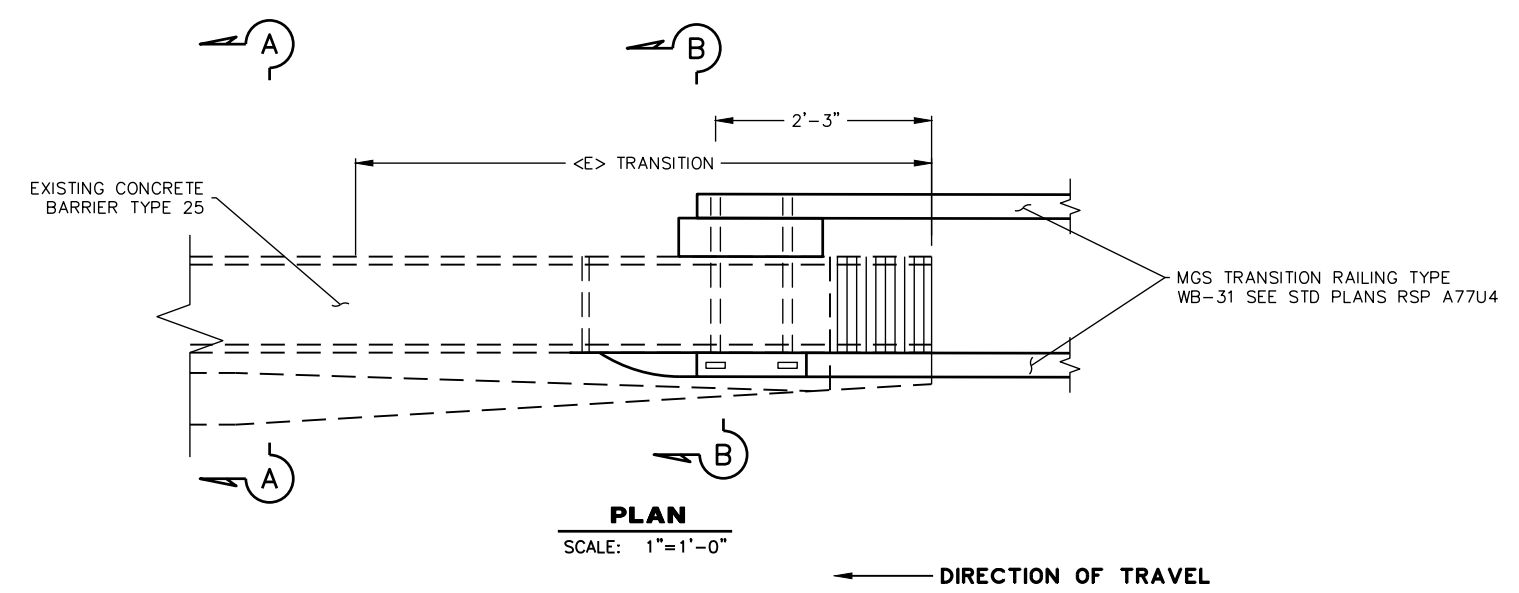
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY		DESIGN
	ROAD NO.: N/A	MILE POST: N/A	ENGINEERING DIVISION
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS
CONNECTION TO CONCRETE BARRIER

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NOTES

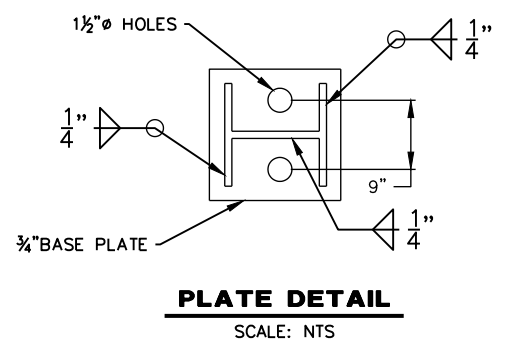
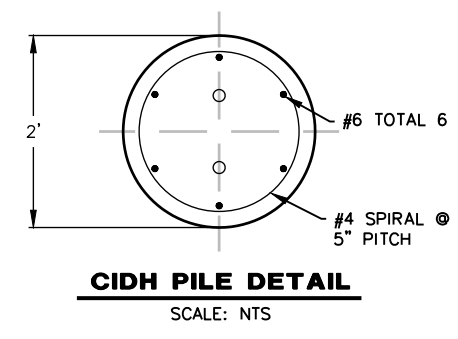
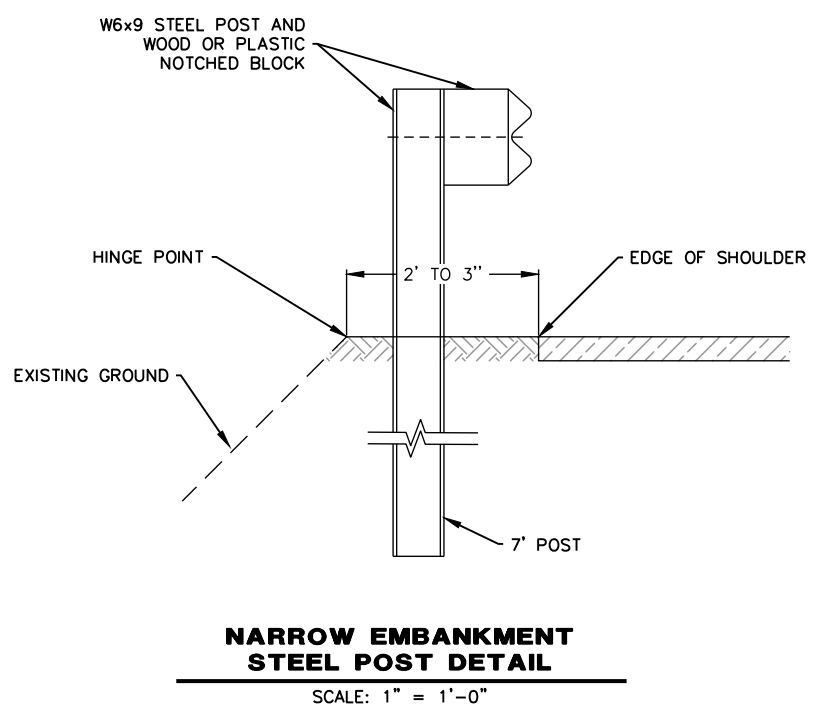
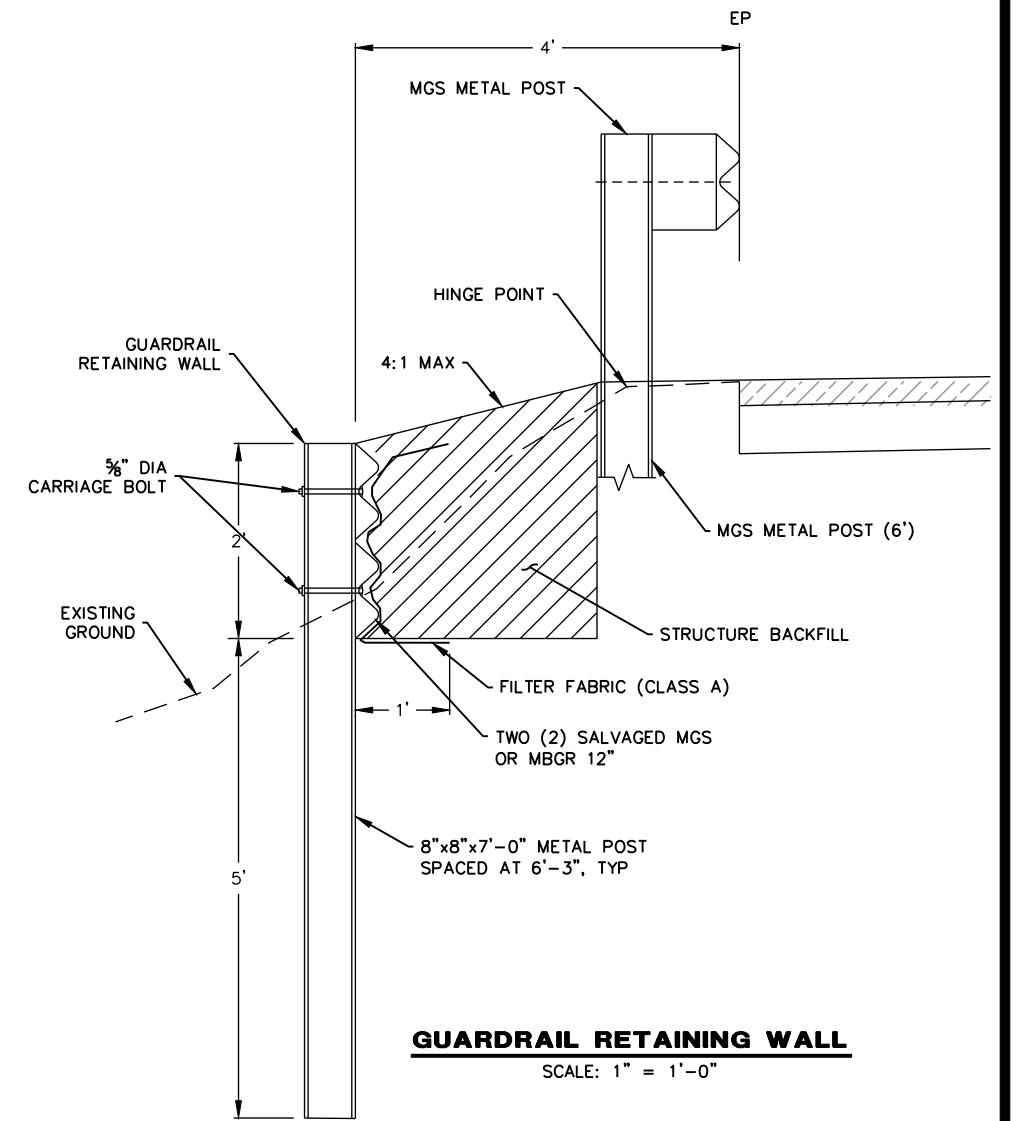
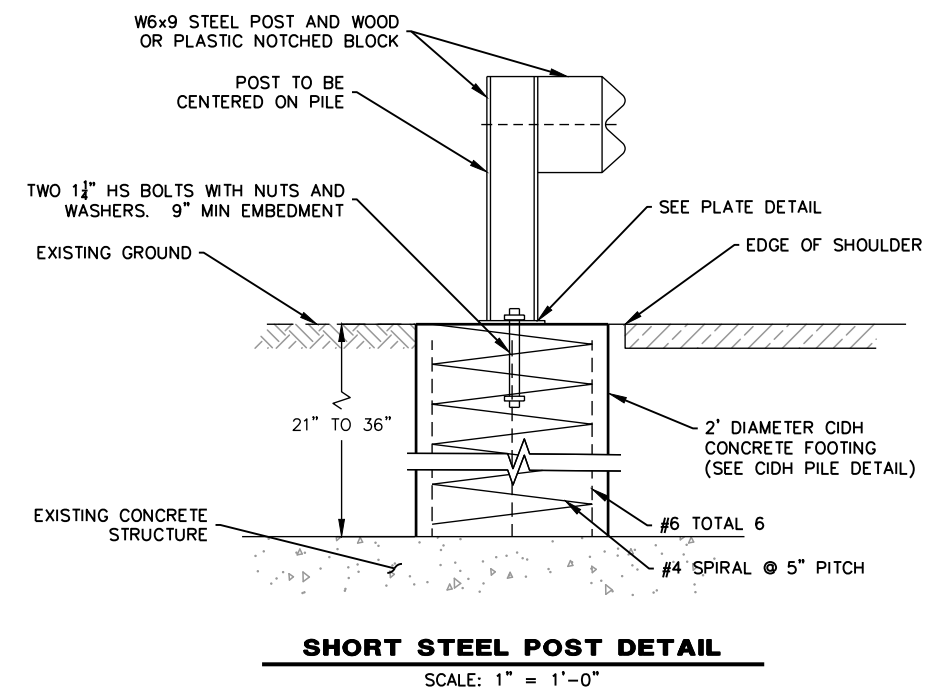
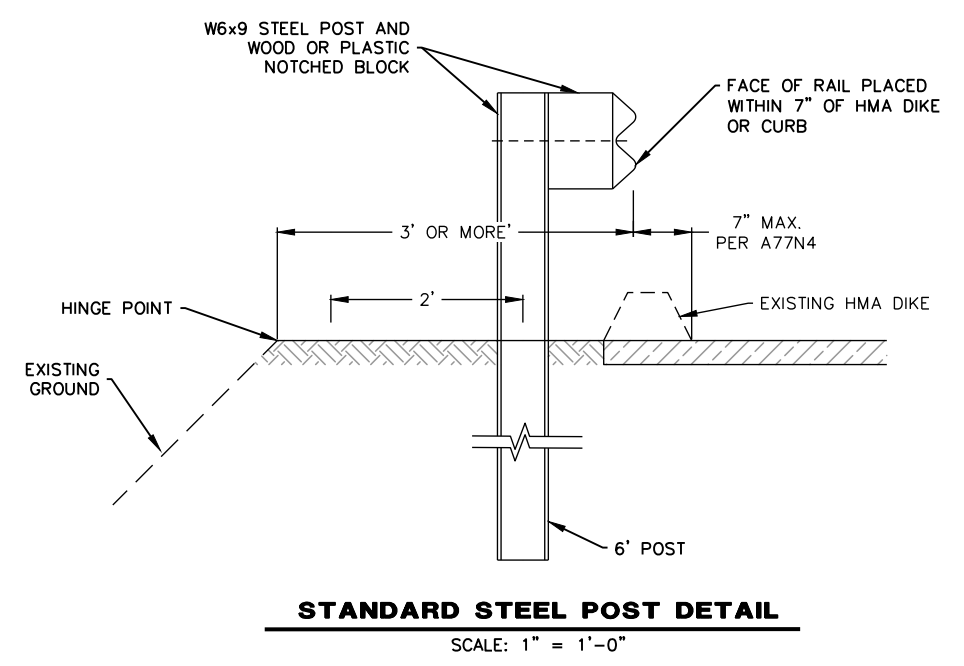
1. THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
2. <E> CONCRETE BARRIER HEIGHTS VARY DUE TO SETTLEMENT.
3. EPOXY FILL DRILLED HOLES THAT ARE NOT USED, UNLESS HOLES WERE CAST USING PIPE SLEEVES.
4. FIT THRIE-BEAM TO FACE OF TYPE 25 RAIL





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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS MIDWEST GUARDRAIL POST DETAILS	SHEET
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- NOTE:
1. STEEL POST TO CIDH PILE DETAILS DERIVED FROM CALTRANS TRAFFIC SAFETY SYSTEMS GUIDANCE, TOPIC 3, FIGURE 6B, MARCH 2019
 2. FIGURE 13, SPECIAL POST FOOTING DETAIL, TSSG, IS ALTERNATE DESIGN CONTRACTOR MAY USE
 3. FIGURE 12a, LONG SPAN OF MIDWEST GUARDRAIL SYSTEM, OF TSSG MAY ALSO BE USED

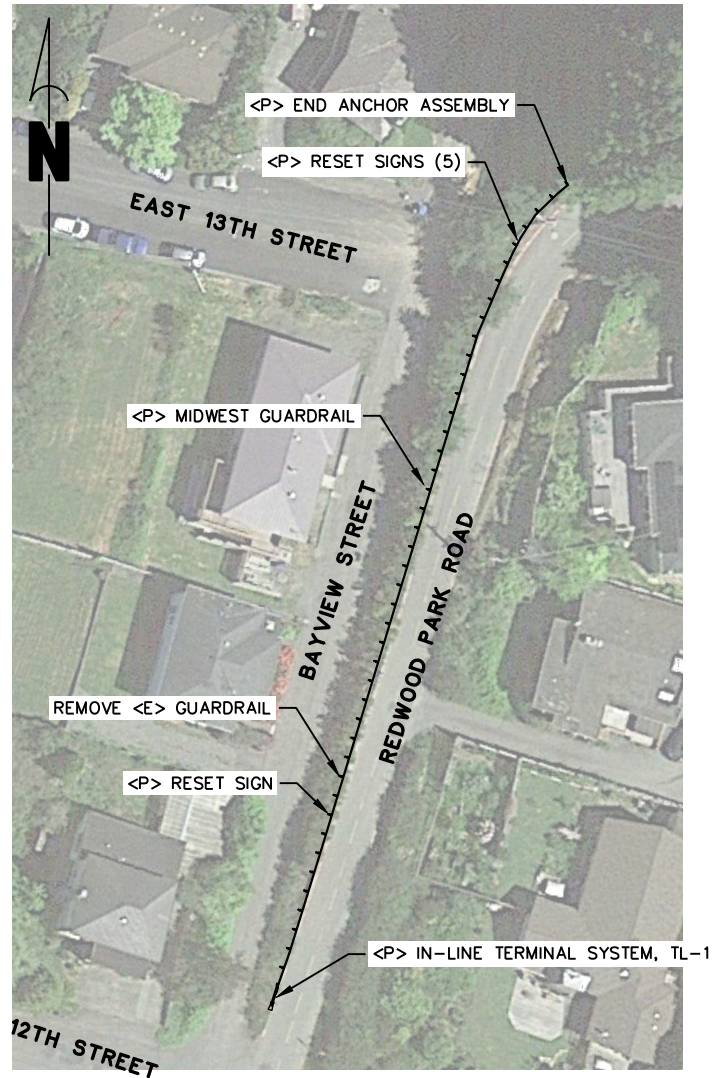
NOTE: GUARDRAIL RETAINING WALL DETAIL FROM CALTRANS PROJECT PLANS (01-0f6904) FOR CONSTRUCTION NEAR BLUE LAKE HWY 299 DATED JULY 25TH, 2019



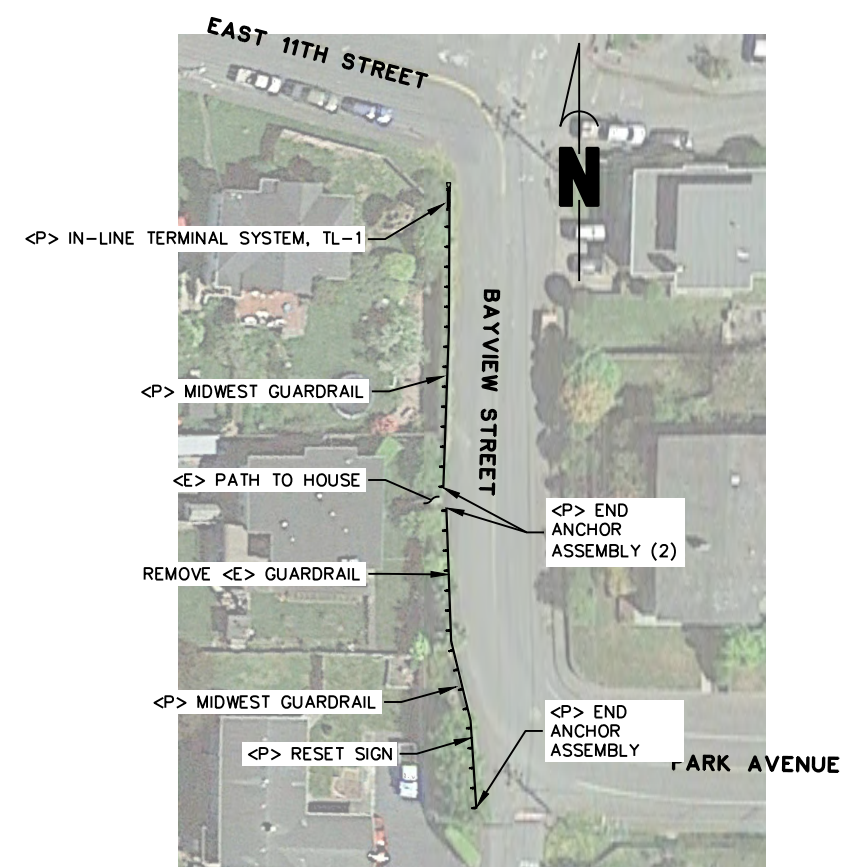
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS
ARCATA SITE PLAN LAYOUT

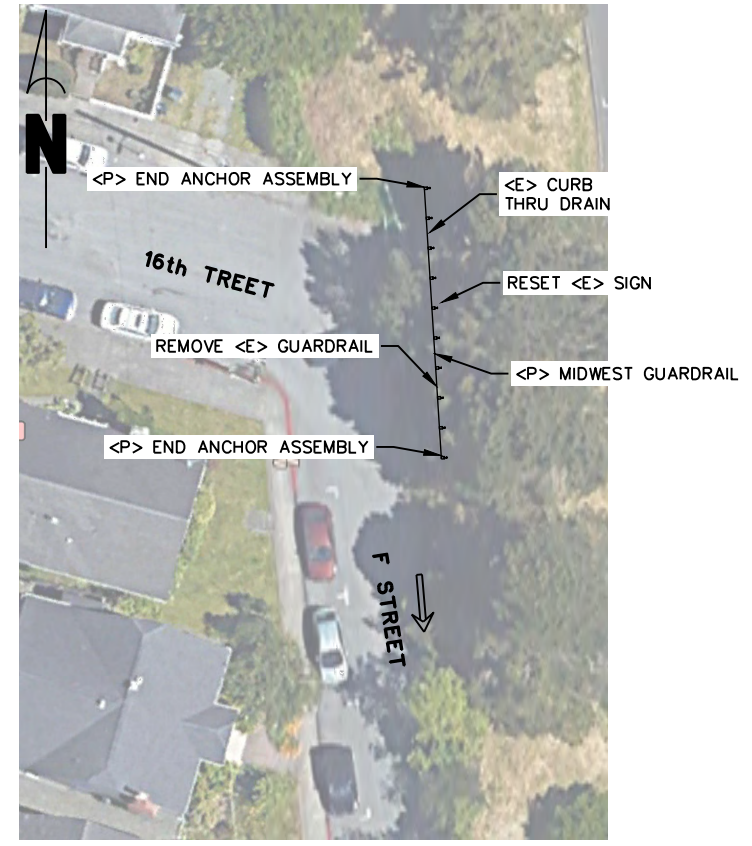
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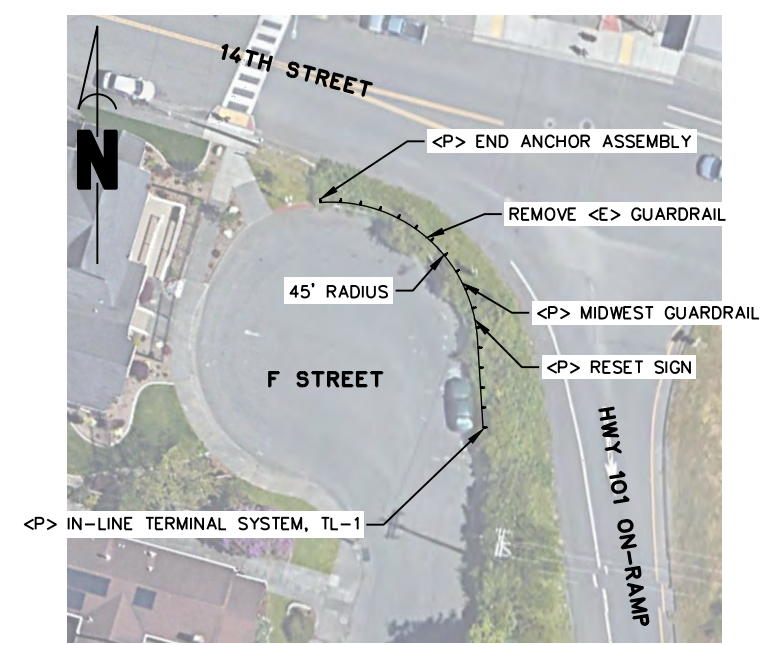
SITE 1 BAYVIEW
SCALE: 1" = 30'



SITE 2 BAYVIEW
SCALE: 1" = 30'



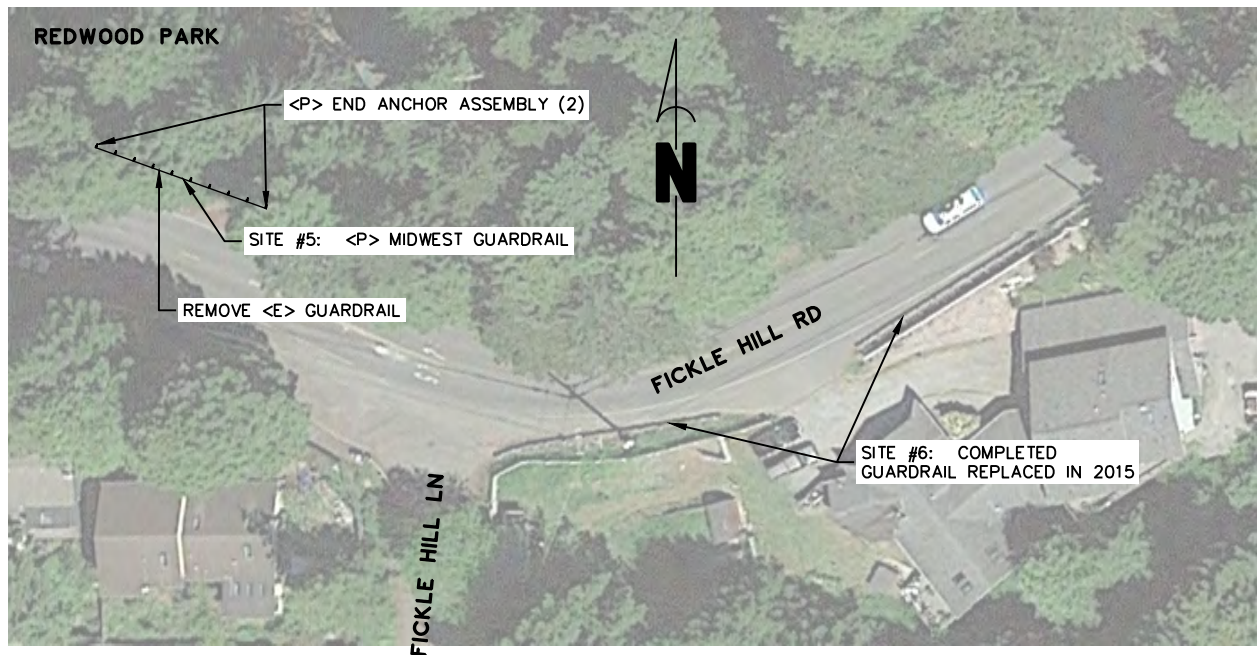
SITE 3 F STREET
SCALE: 1" = 30'



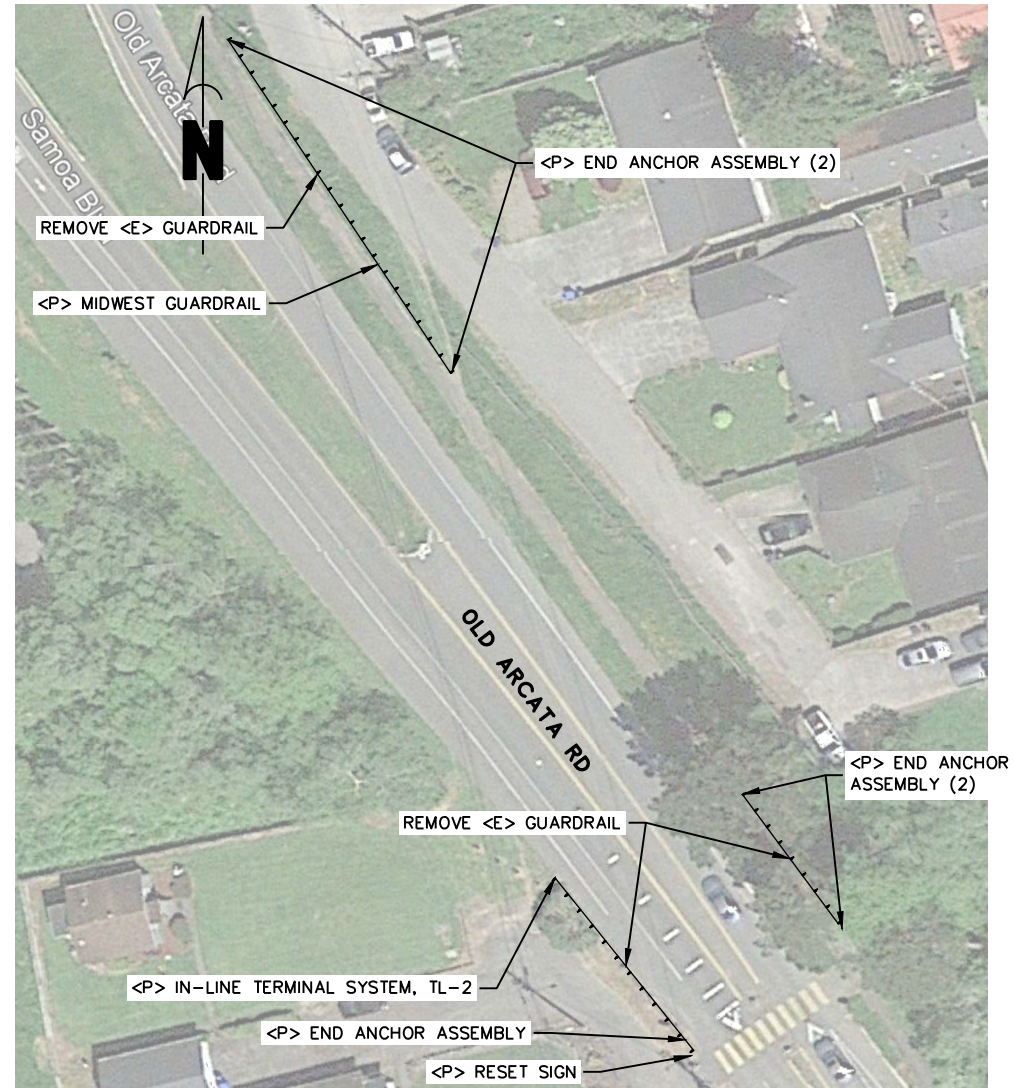
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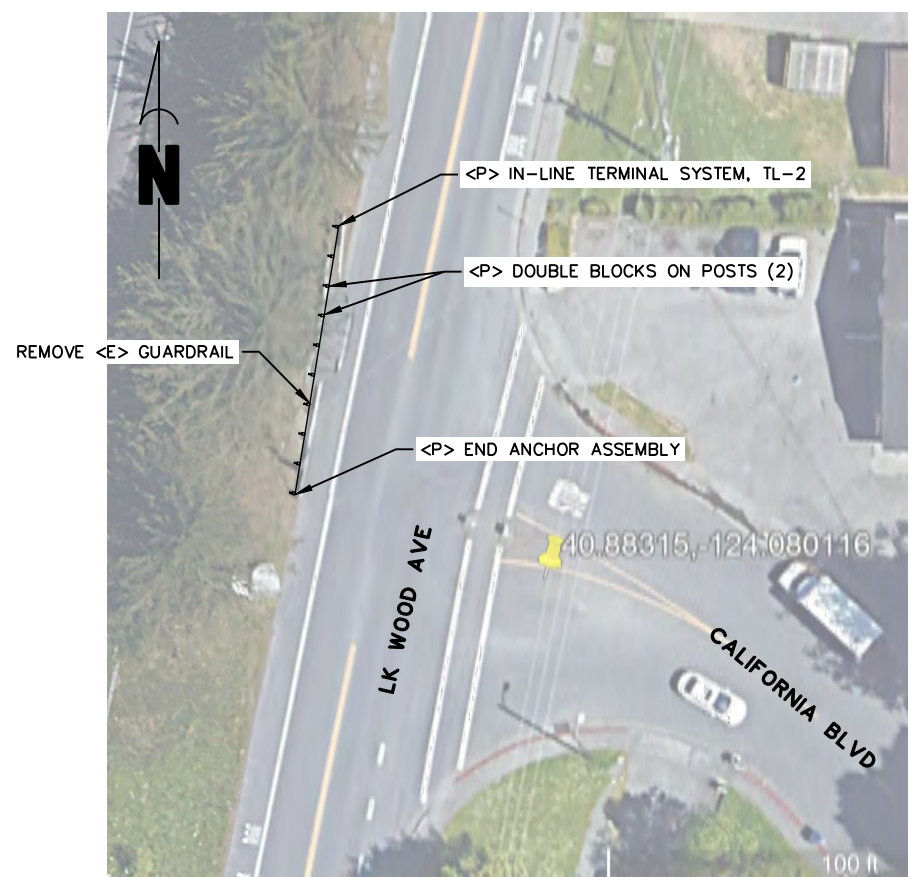
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: N/A MILE POST: N/A	DESIGNED BY: ENGR
	PROJECT NO.: HSIPL 5904(161) STATE PROJ NO.: 0117000041L-N	DRAWN BY: ENGR
	CONTRACT NO.: 217101	REVIEWED BY: JAB
	DRAWING FILE NAME: 217101_GUARDRAIL.DWG	APPROVED BY: TRS
	PLOT DATE: 11/01/2021 REVISION DATE:	



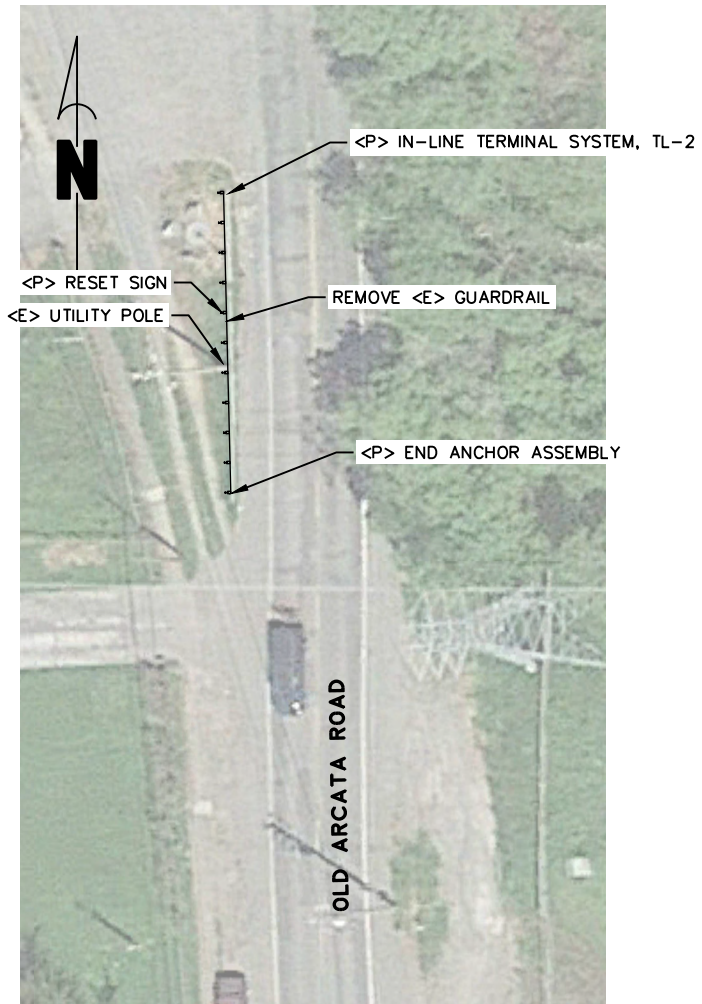
SITE 5 & 6 FICKLE HILL ROAD
SCALE: 1" = 30'



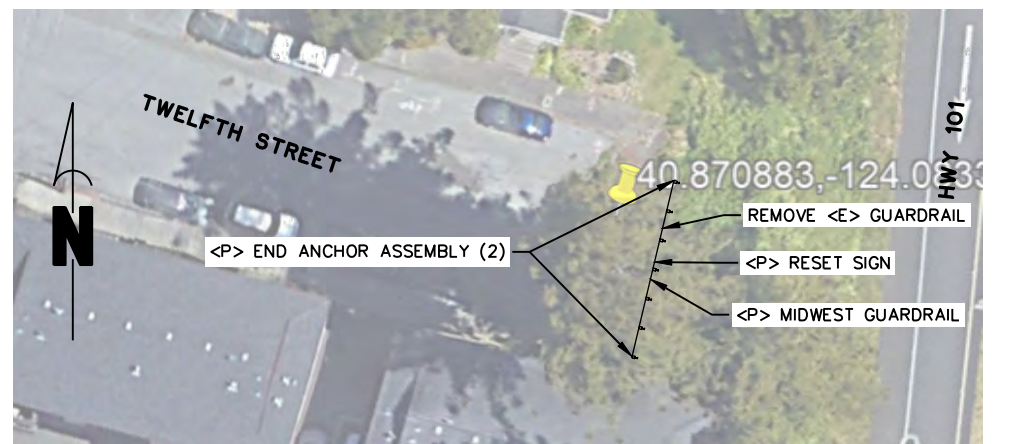
SITE 9 OLD ARCATA ROAD
SCALE: 1" = 30'



SITE 7 LK WOOD AVE
SCALE: 1" = 10'



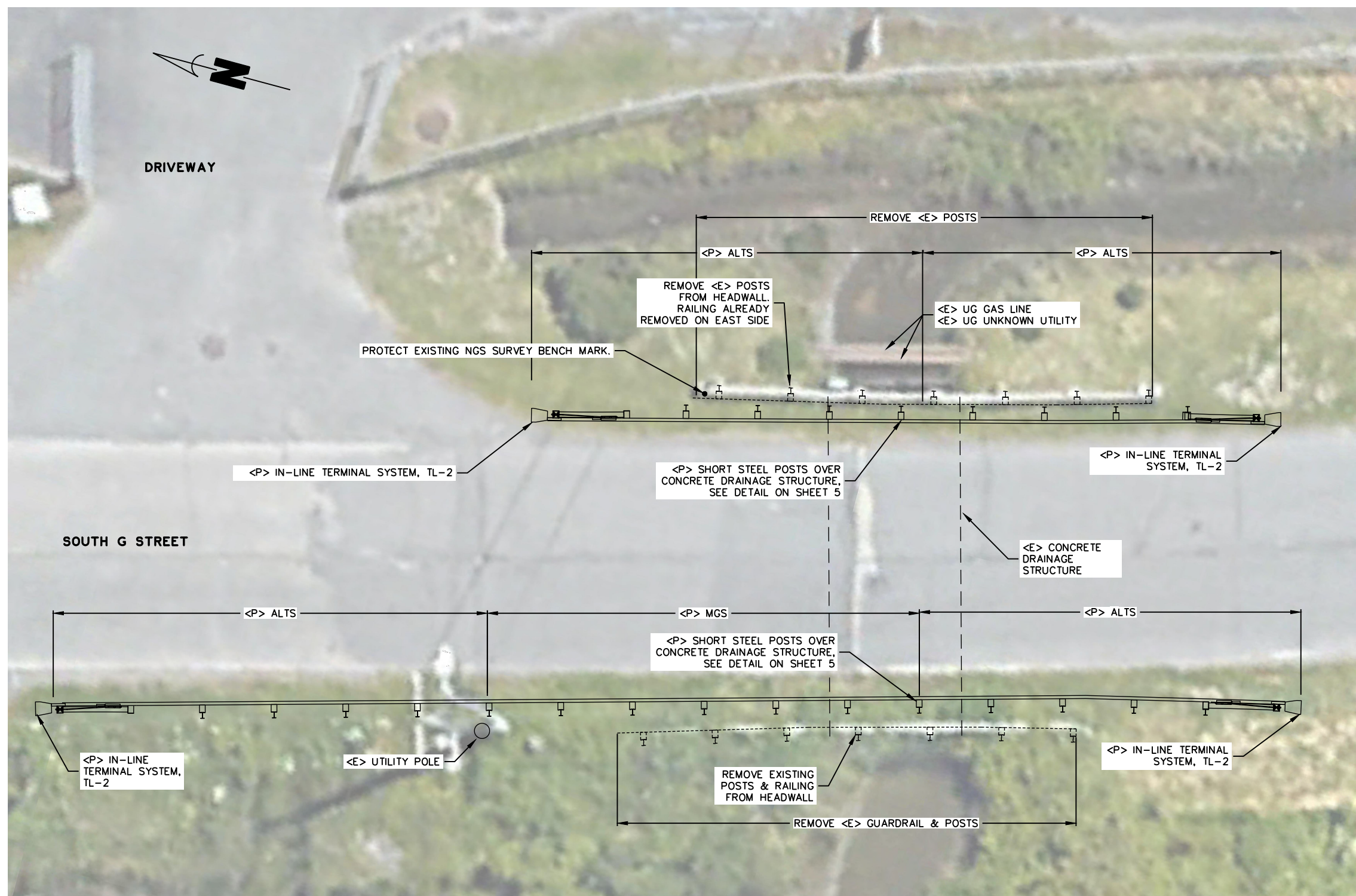
SITE 8 OLD ARCATA ROAD
SCALE: 1" = 20'



SITE 11 TWELFTH STREET
SCALE: 1" = 20'



BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY		DESIGN	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT—GUARDRAILS ARCATA SITE PLAN LAYOUT	SHEET 8 OF 18
	ROAD NO.: N/A	MILE POST: N/A	ENGINEERING DIVISION		
	PROJECT NO.: HSIPL 5904(161)	STATE PROJ NO.: 0117000041L-N	DESIGNED BY: ENGR		
	CONTRACT NO.: 217101		DRAWN BY: ENGR		
	DRAWING FILE NAME: 217101_GUARDRAIL.DWG		REVIEWED BY: JAB		
	PLOT DATE: 11/01/2021	REVISION DATE:	APPROVED BY: TRS		



LEGEND

ALTS = ALTERNATE IN-LINE TERMINAL SYSTEM
 MGS = MIDWEST GUARDRAIL SYSTEM
 EA = END ANCHOR SYSTEM
 WB = WB-31 TRANSITION RAILING
 <P> = PROPOSED
 <E> = EXISTING

SITE 10 PROPOSED MGS & ALTS WILL EXTEND <E> GUARDRAILS TO COVER THE UTILITY POLE AND MEET MINIMUM TERMINAL END STANDARDS

- NOTES FOR SOUTH G STREET:**
1. INSTALL SILT FENCING OR ESA FENCING TO PROTECTIVE SENSITIVE AREAS.
 2. REMOVE OLD POSTS THAT ARE CONNECTED TO EXISTING HEADWALLS.
 3. POST INSTALLATION SHALL BE ABOVE CULVERT AND NOT CONNECTED TO HEADWALL.
 4. SHORT STEEL POST INSTALLATION IS ANTICIPATED DUE TO CONCRETE DRAINAGE STRUCTURE. 1 OR 2 SHORT STEEL POSTS WILL BE NECESSARY ON EACH SIDE. LONG SPAN MGS MAY BE USED AS AN ALTERNATIVE.
 5. EXTEND TERMINAL SYSTEM 38 FEET BEYOND UTILITY POLE ON WEST SIDE
 6. DUE TO UNDERGROUND UTILITIES, LOCATE GUARDRAIL AND END TREATMENTS 2' MIN. AND 4' MAX. FROM EDGE OF ROAD
 7. POSTED SPEED LIMIT IS 35 MPH
 8. NATIONAL GEODETIC SURVEY (NGS) P735 SURVEY BENCH MARK IS LOCATED AT THE NORTH END OF THE EAST HEADWALL. DO NOT DISTURB THIS SURVEY MONUMENT.

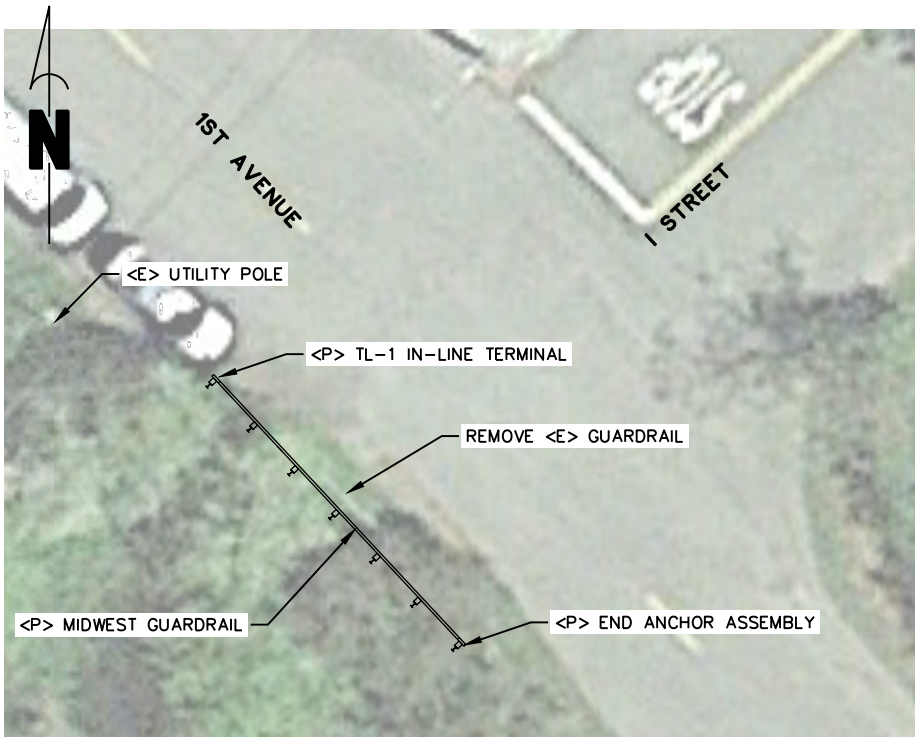
SITE 10 SOUTH G STREET
 SCALE: 1" = 10'



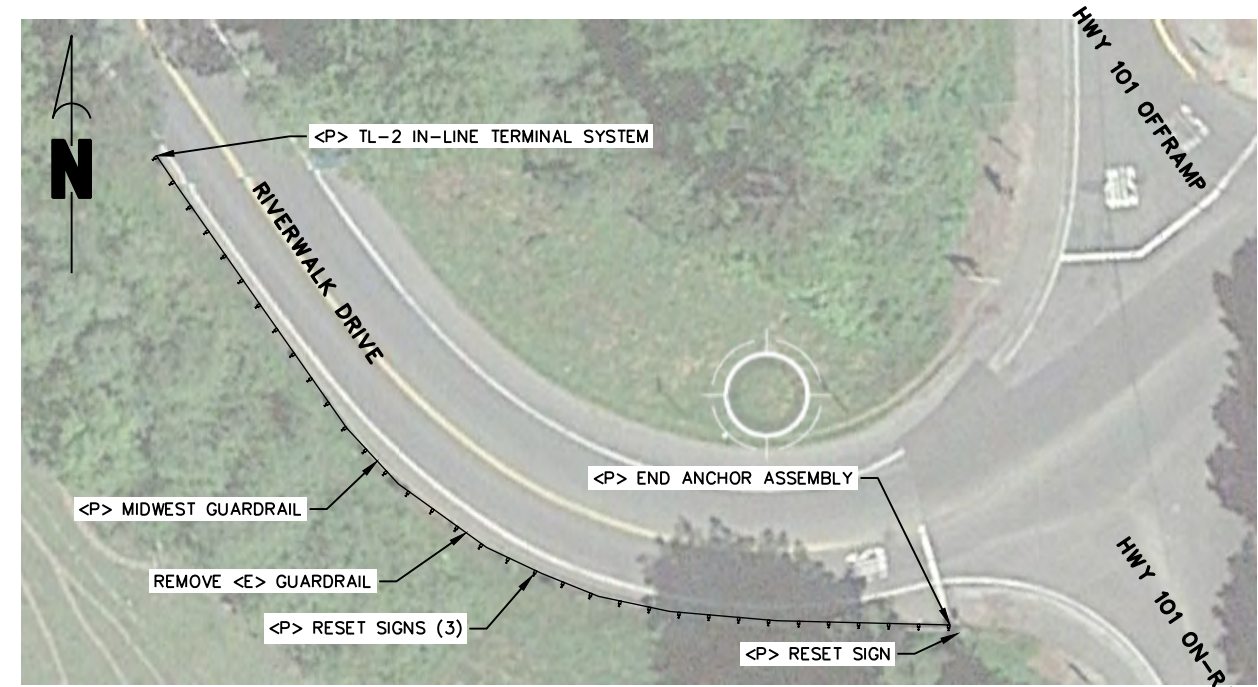
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN
	ROAD NO.: N/A MILE POST: N/A	ENGINEERING DIVISION
	PROJECT NO.: HSIPL 5904(161) STATE PROJ NO.: 0117000041L-N	DESIGNED BY: ENGR
	CONTRACT NO.: 217101	DRAWN BY: ENGR
	DRAWING FILE NAME: 217101 GUARDRAIL.DWG	REVIEWED BY: JAB
	PLOT DATE: 11/01/2021 REVISION DATE:	APPROVED BY: TRS

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS
BLUE LAKE & FORTUNA SITE PLAN LAYOUT

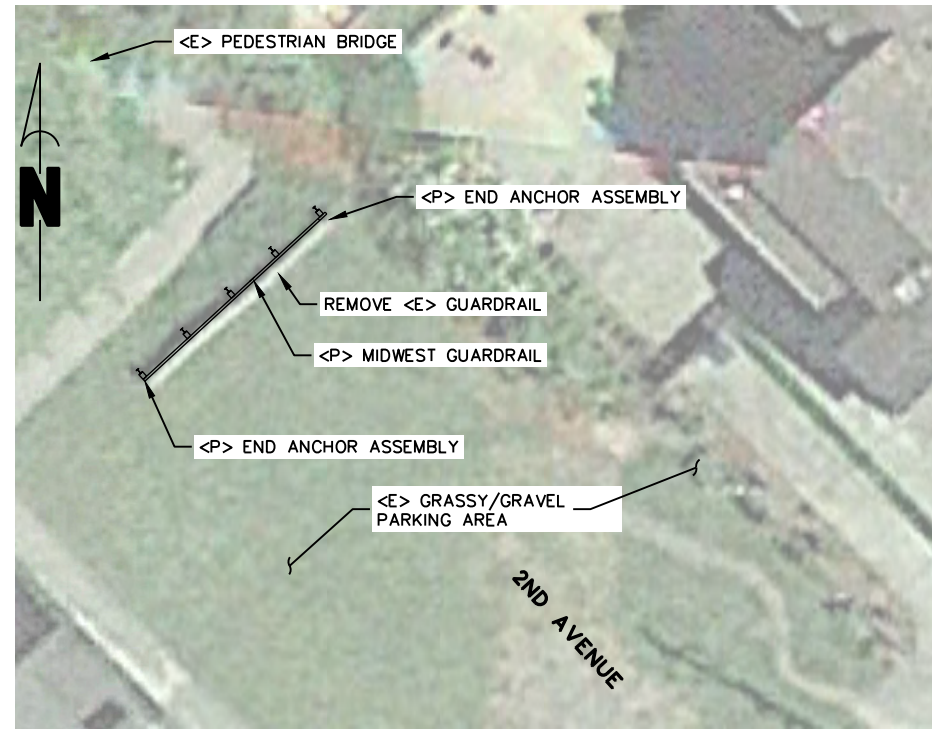
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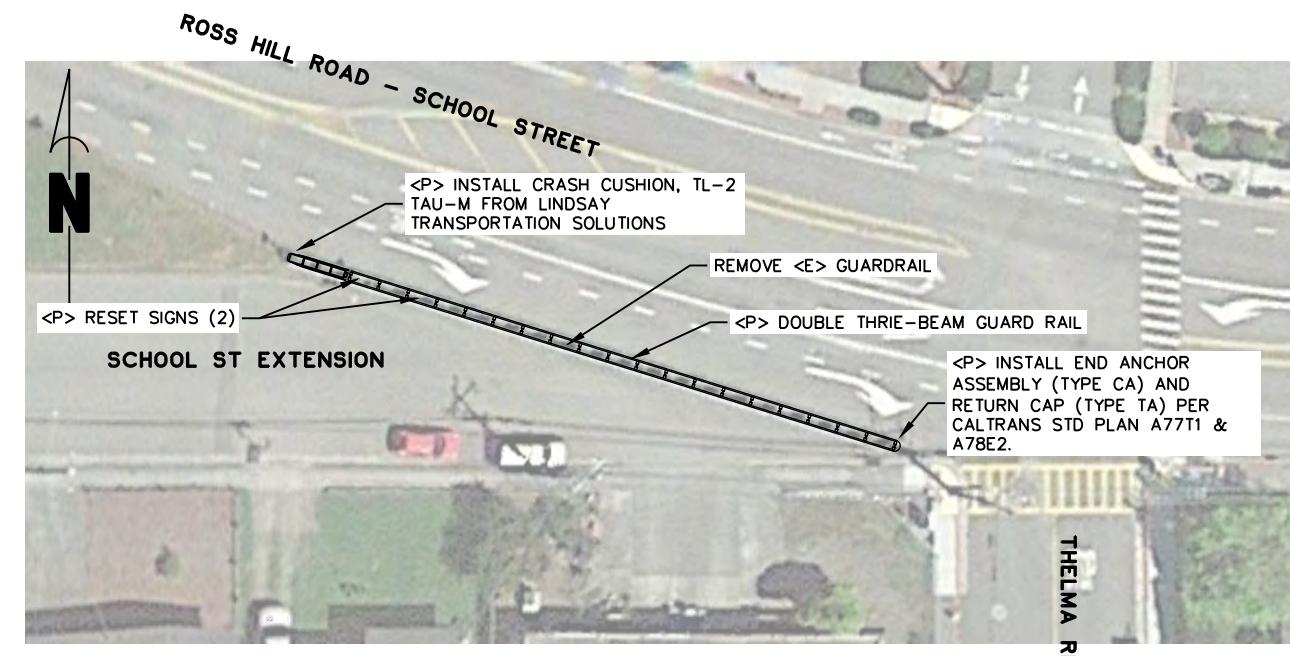
SITE 12 1ST AVENUE
SCALE: 1" = 10'



SITE 14 RIVERWALK DRIVE - KENMAR INTERSECTION
SCALE: 1" = 20'



SITE 13 2ND AVENUE
SCALE: 1" = 10'



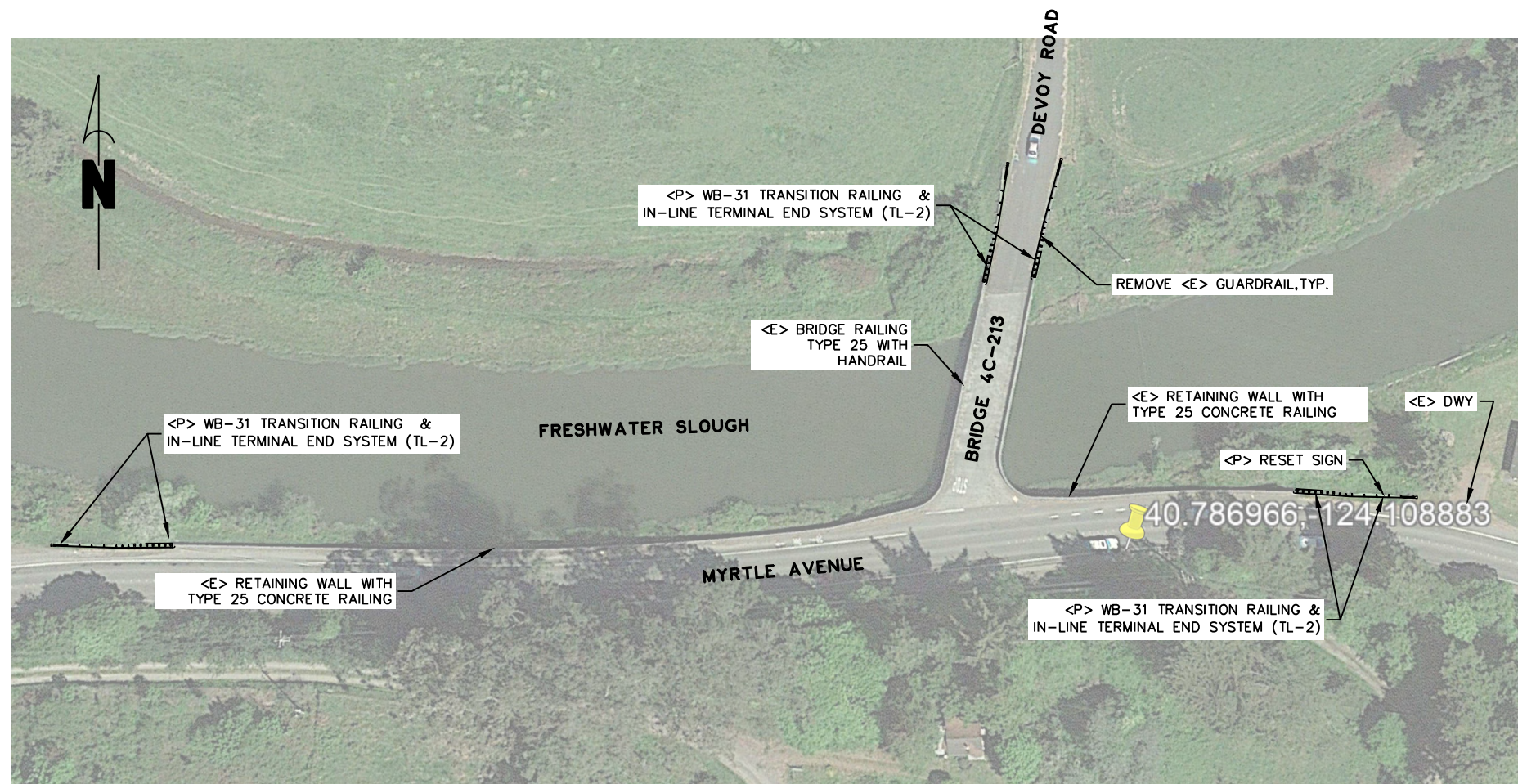
SITE 15 SCHOOL STREET
SCALE: 1" = 20'

NOTES FOR SCHOOL STREET:

1. INSTALL NEW DOUBLE THRIE-BEAM BARRIER WITH STEEL POSTS.
2. INSTALL CRASH CUSHION AT NORTHWEST END OF DOUBLE THRIE-BEAM BARRIER. CRASH CUSHION SHALL BE TAU-M (TL-2) WITH BACKSTOP, MANUFACTURED BY LINDSAY TRANSPORTATION SOLUTIONS. INSTALLATION INCLUDES REMOVAL OF AC DIKE AND PLACEMENT OF NEW HMA OR CONCRETE AS NECESSARY PER MANUFACTURER'S SPECIFICATIONS.
3. INSTALL END ANCHOR FOR DOUBLE THRIE-BEAM BARRIER CALTRANS STD PLANS A77T1 & A78E2 AT THE SOUTH EAST END.



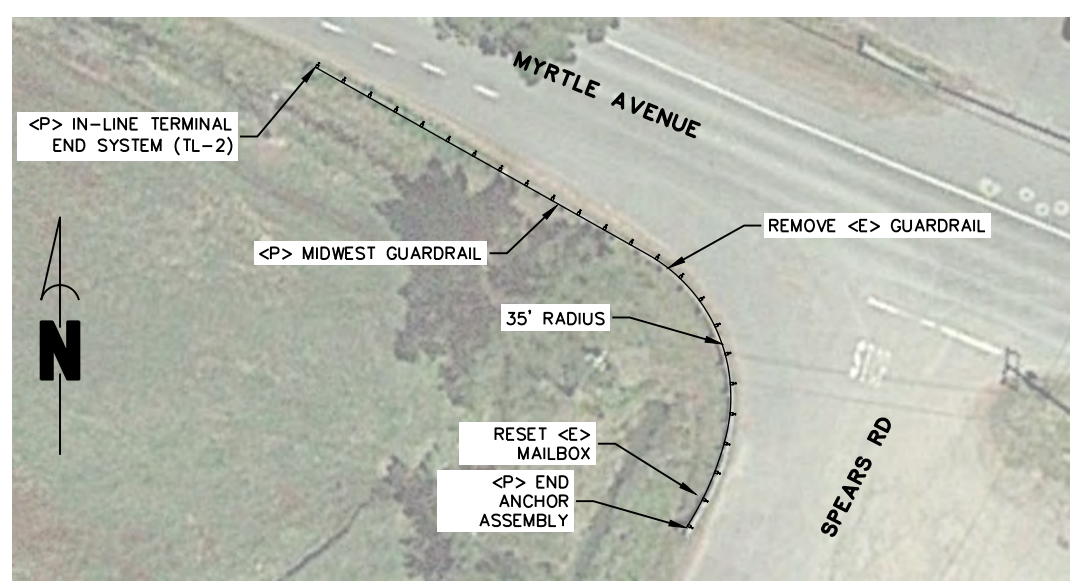
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: N/A MILE POST: N/A	DESIGNED BY: ENGR
	PROJECT NO.: HSIPL 5904(161) STATE PROJ NO.: 0117000041L-N	DRAWN BY: ENGR
	CONTRACT NO.: 217101	REVIEWED BY: JAB
	DRAWING FILE NAME: 217101 GUARDRAIL.DWG	APPROVED BY: TRS
	PLOT DATE: 11/01/2021 REVISION DATE:	



SITE 16 MYRTLE AVENUE AND DEVOY ROAD NOTES:

1. DEVOY ROAD BRIDGE 4C-213. APPROACHES TERMINAL SYSTEMS ARE TL-2, ADT AND SPEED ARE VERY LOW.
2. REMOVE GUARDRAIL AND CONNECTING PIECES.
3. CONNECTION TO CONCRETE RAILING TYPE 25 PER CALTRANS STANDARD PLANS A78F1, A78F2, AND RSP A78J
4. UTILIZE EXISTING HOLES IN BARRIER.
5. INSTALL TEMPORARY SILT FENCE AND/OR ESA FENCING TO PROTECT SENSITIVE AREAS.

SITE 16 MYRTLE AVE PM 2.25 DEVOY RD - BRIDGE
 SCALE: 1" = 40'



SITE 17 MYRTLE AVENUE AND SPEARS ROAD NOTES:

1. RESETTING THE MAILBOX AT SITE #17 IS INCLUDED IN THE BID ITEM RESET ROADSIDE SIGN (ONE POST)

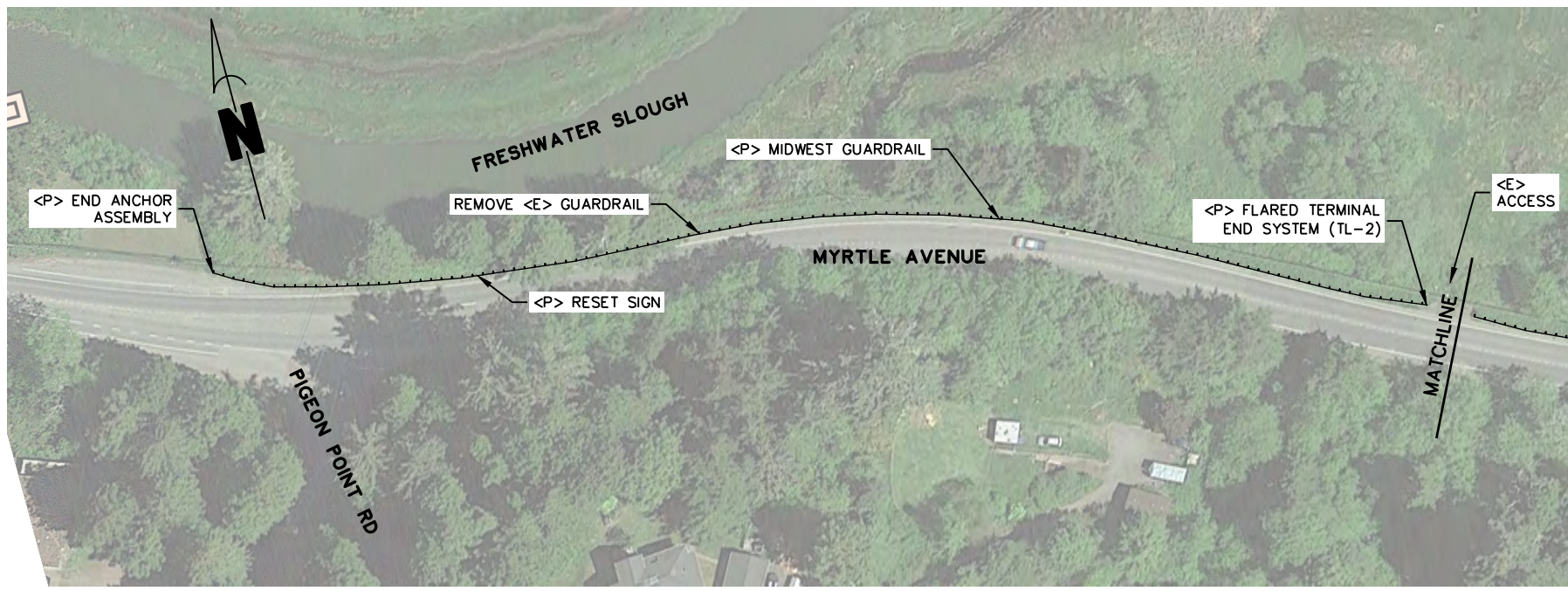
SITE 17 MYRTLE AVE PM 2.47
 SCALE: 1" = 20'



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN ENGINEERING DIVISION
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: N/A MILE POST: N/A	DESIGNED BY: ENGR
	PROJECT NO.: HSIPL 5904(161) STATE PROJ NO.: 0117000041L-N	DRAWN BY: ENGR
	CONTRACT NO.: 217101	REVIEWED BY: JAB
	DRAWING FILE NAME: 217101 GUARDRAIL.DWG	APPROVED BY: TRS
	PLOT DATE: 11/01/2021 REVISION DATE:	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS
COUNTY SITE PLAN LAYOUT

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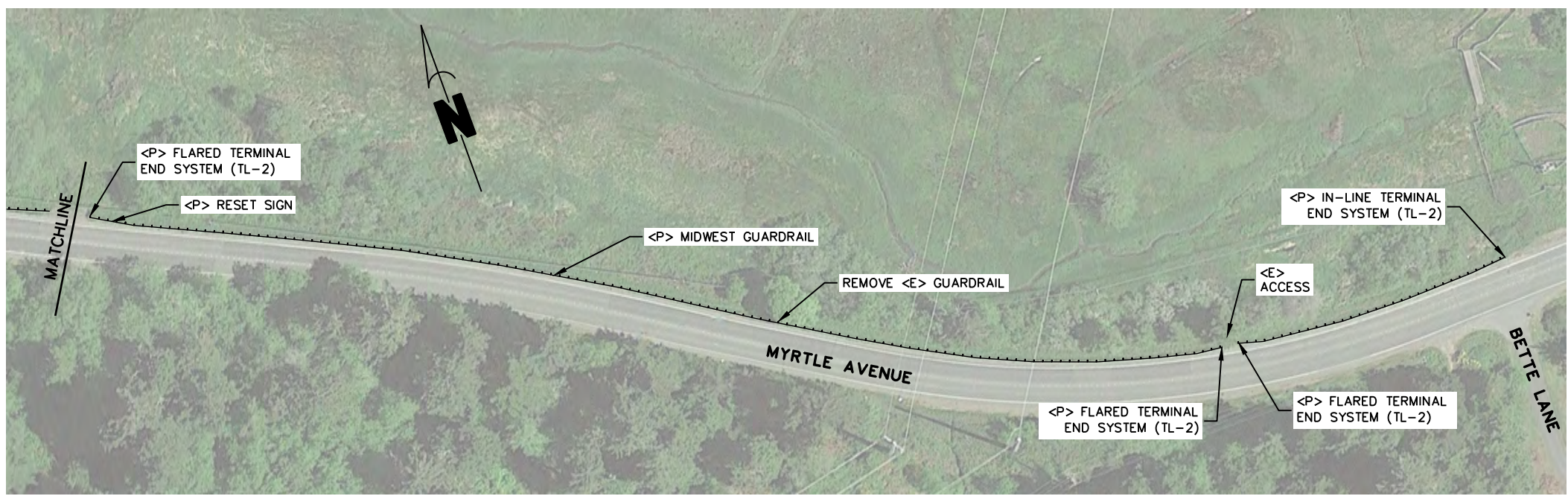


SITE 18 MYRTLE AVE PM 2.60 - 2.66

SCALE: 1" = 40'

NOTES:

1. INSTALL SILT FENCING OR ESA FENCING TO PROTECTIVE SENSITIVE AREAS.
2. ADDITIONAL BLOCKS MAY BE REQUIRED ON POSTS TO MAKE ROOM FOR OVERSIDE DRAINS



SITE 18 MYRTLE AVE PM 2.60 - 2.66

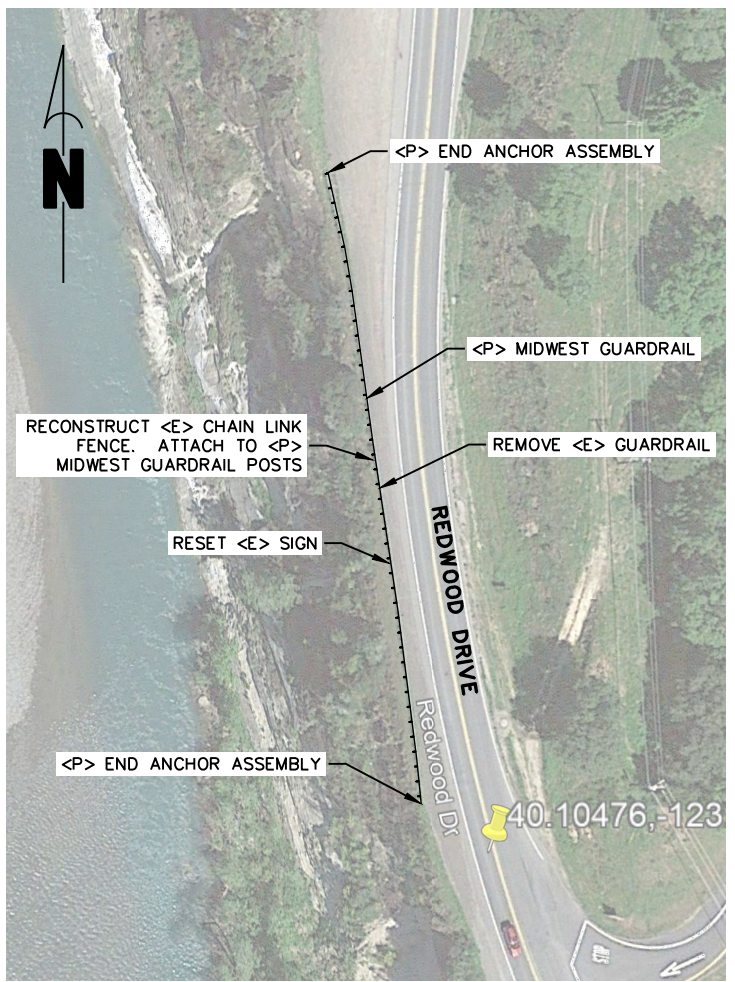
SCALE: 1" = 40'



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN ENGINEERING DIVISION
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: N/A MILE POST: N/A	DESIGNED BY: ENGR
	PROJECT NO.: HSIPL 5904(161) STATE PROJ NO.: 0117000041L-N	DRAWN BY: ENGR
	CONTRACT NO.: 217101	REVIEWED BY: JAB
	DRAWING FILE NAME: 217101 GUARDRAIL.DWG	APPROVED BY: TRS
	PLOT DATE: 11/01/2021 REVISION DATE:	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS COUNTY SITE PLAN LAYOUT
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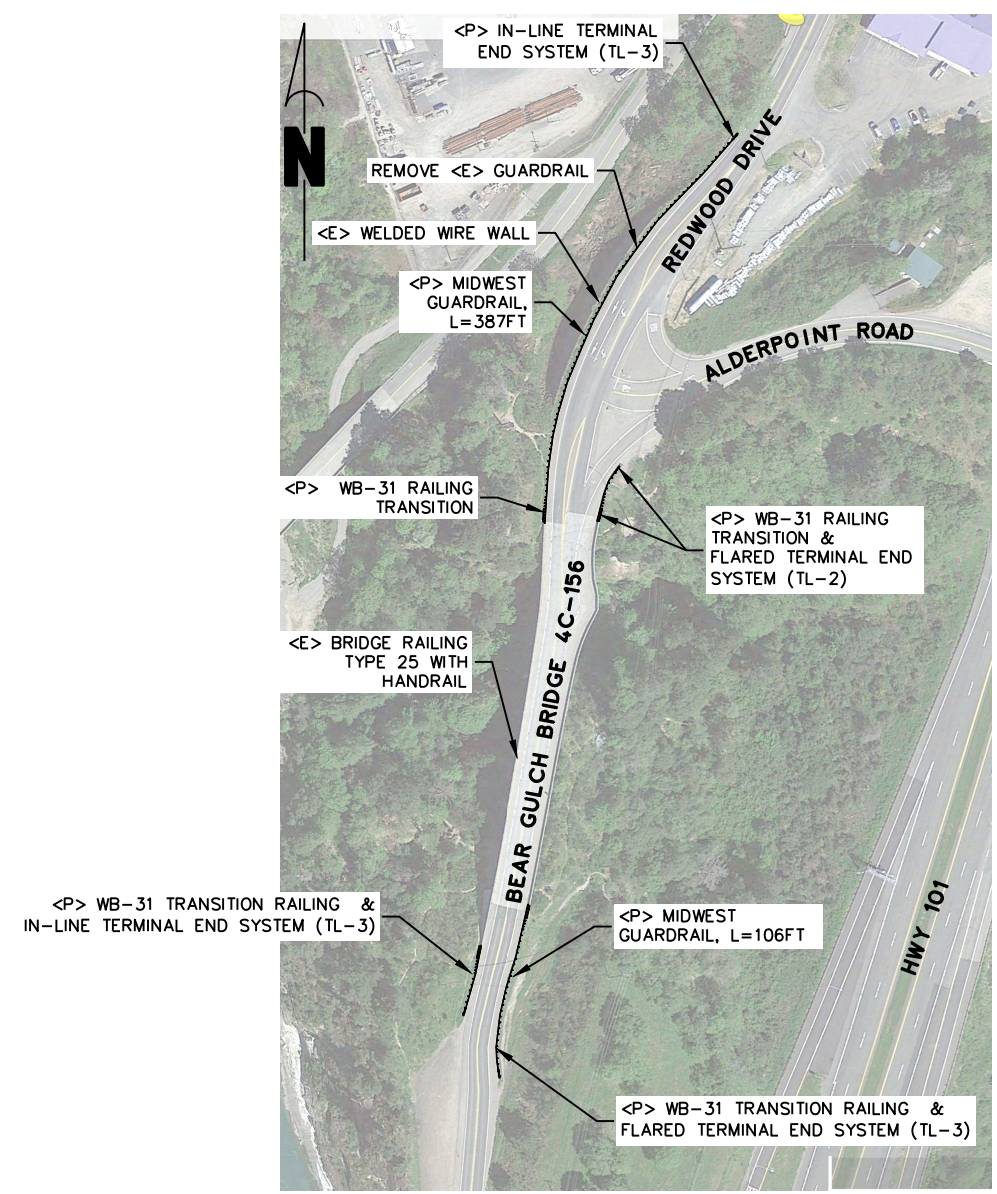
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SITE 19 REDWOOD DRIVE PM 0.57
SCALE: 1" = 40'

NOTES:

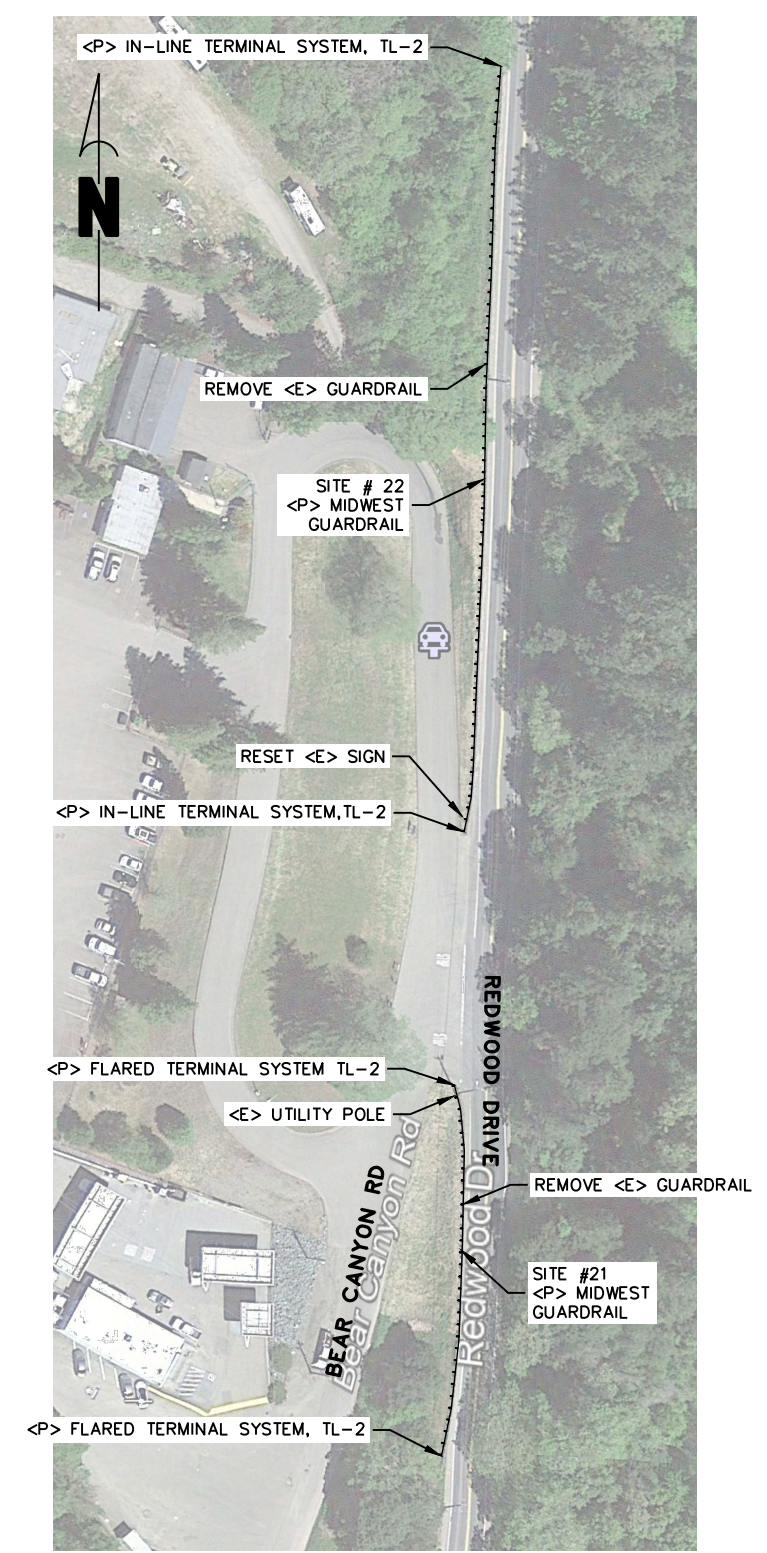
1. SITE #19: PROHIBIT PUBLIC ACCESS TO BLUFF DURING CONSTRUCTION.
2. ATTACH CHAIN LINK FENCE POST TO NEW STEEL MGS GUARDRAIL POSTS WITH CARRIAGE BOLTS.



SITE 20 REDWOOD DRIVE PM 0.86 BEAR GULCH BRIDGE
SCALE: 1" = 100'

NOTES:

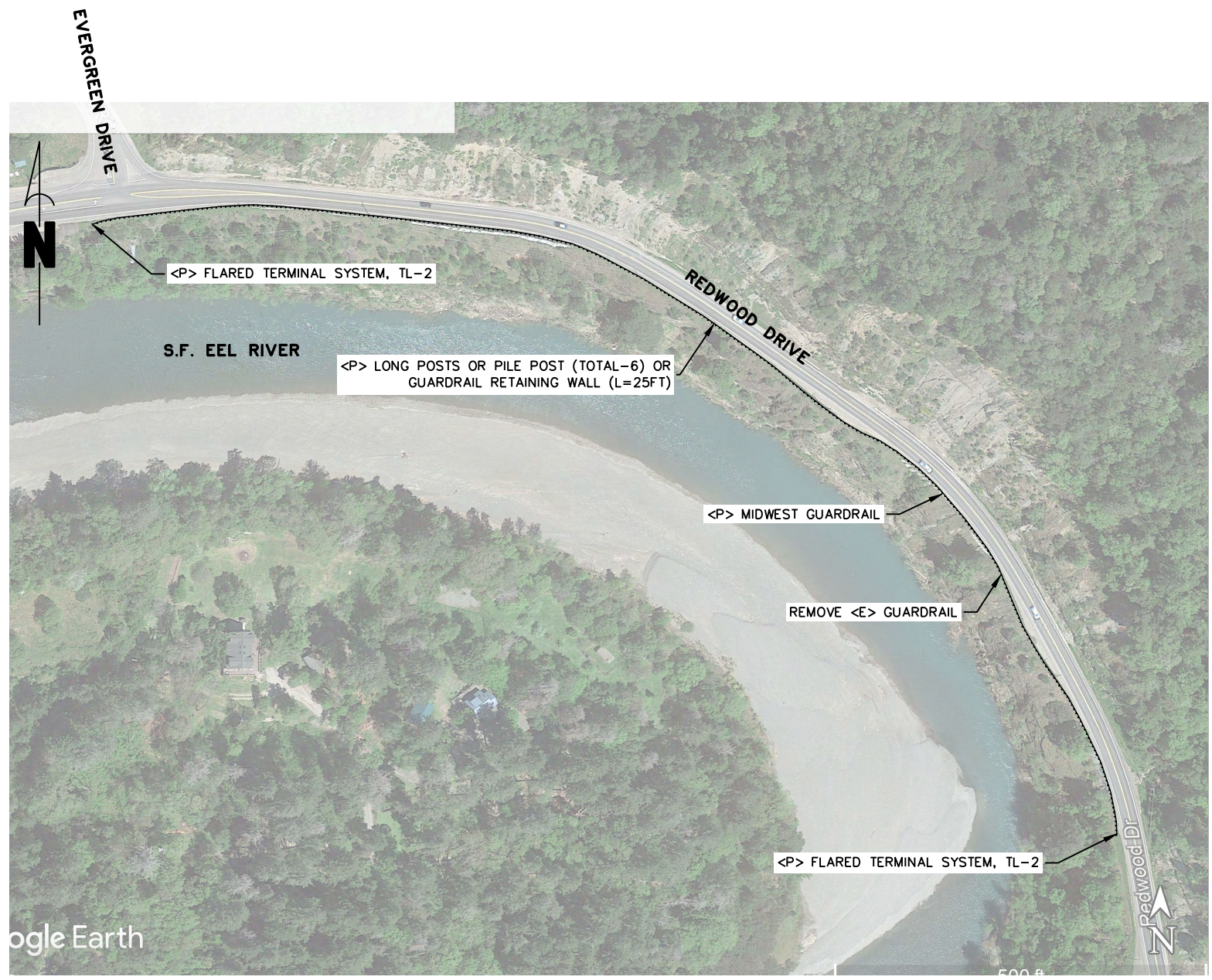
1. SITE #20 BRIDGE 4C-156. APPROACHES TERMINAL SYSTEMS ARE TL-2.
2. REMOVE EXISTING GUARDRAIL AND CONNECTION PIECES.
3. CONNECTION TO CONCRETE RAILING TYPE 25 PER CALTRANS STANDARD PLANS A78F1, A78F2, AND RSP A78J
4. UTILIZE EXISTING HOLES IN BARRIERS.



SITE 21 & 22 REDWOOD DRIVE PM 1.10 & 1.13
SCALE: 1" = 40'



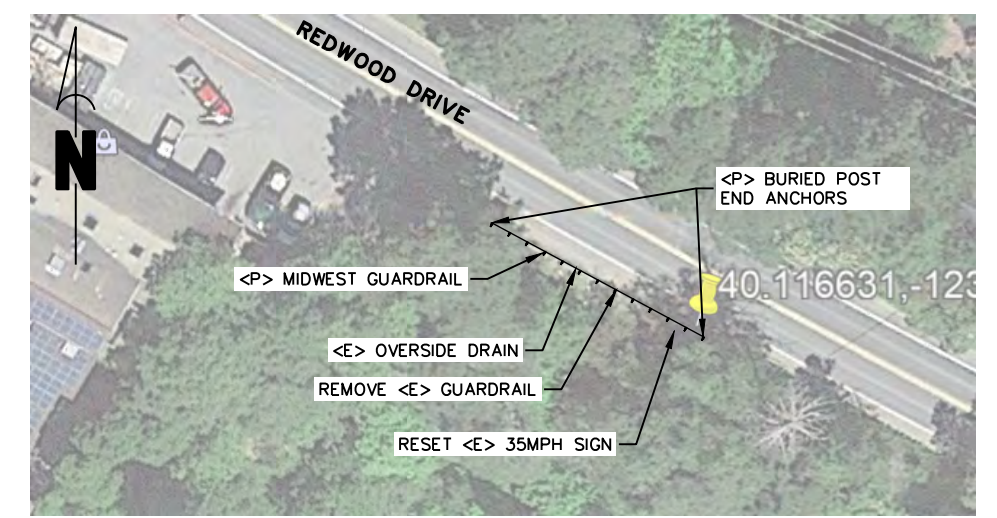
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN ENGINEERING DIVISION	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS COUNTY SITE PLAN LAYOUT	SHEET 13 OF 18	
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	PROJECT NO.: HSIPL 5904(161)	STATE PROJ NO.: 0117000041L-N			DRAWN BY: ENGR
	CONTRACT NO.: 217101				REVIEWED BY: JAB
	DRAWING FILE NAME: 217101 GUARDRAIL.DWG	APPROVED BY: TRS			
	PLOT DATE: 11/01/2021	REVISION DATE:			



SITE 23 REDWOOD DRIVE PM 1.26 TO 1.61
 SCALE: 1" = 100'



SITE 24 REDWOOD DRIVE PM 1.71
 SCALE: 1" = 40'



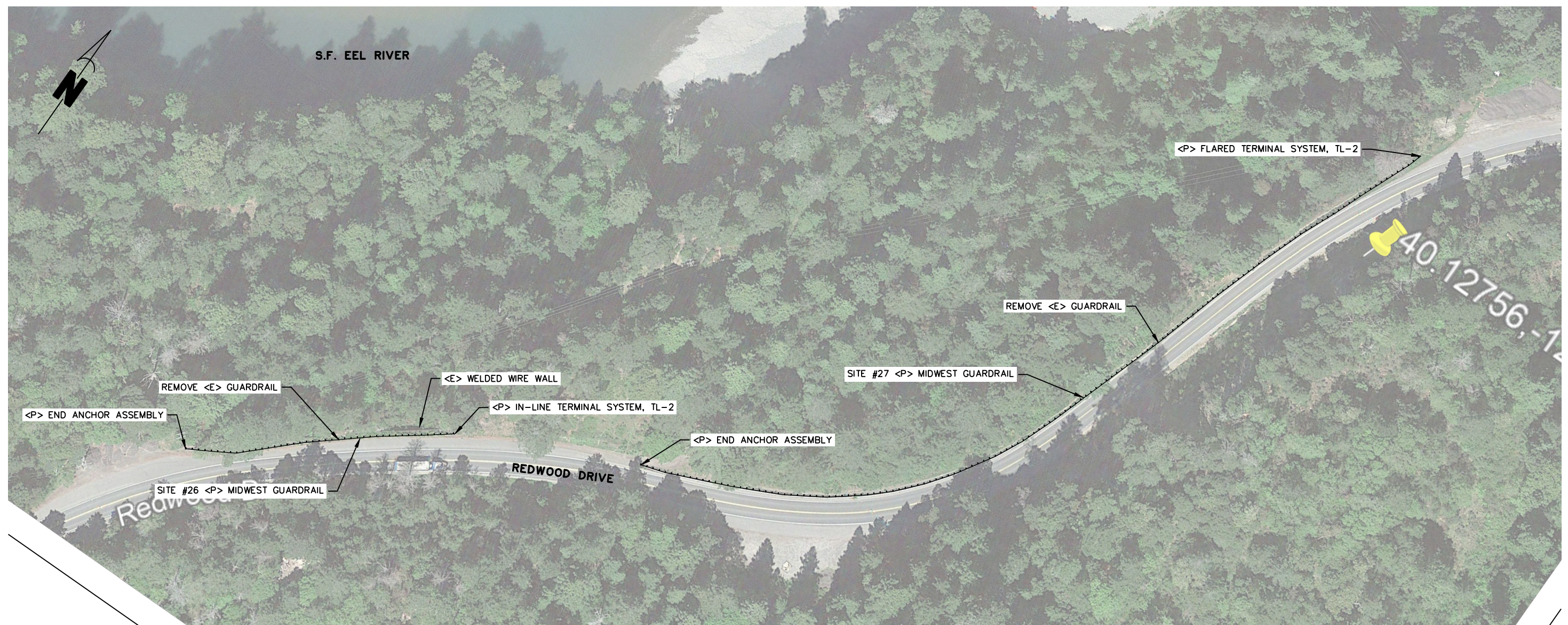
SITE 25 REDWOOD DRIVE PM 2.58
 SCALE: 1" = 40'



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN ENGINEERING DIVISION
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: N/A MILE POST: N/A	DESIGNED BY: ENGR
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	CONTRACT NO.: 217101	REVIEWED BY: JAB
	DRAWING FILE NAME: 217101 GUARDRAIL.DWG	APPROVED BY: TRS
	PLOT DATE: 11/01/2021 REVISION DATE:	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS
COUNTY SITE PLAN LAYOUT

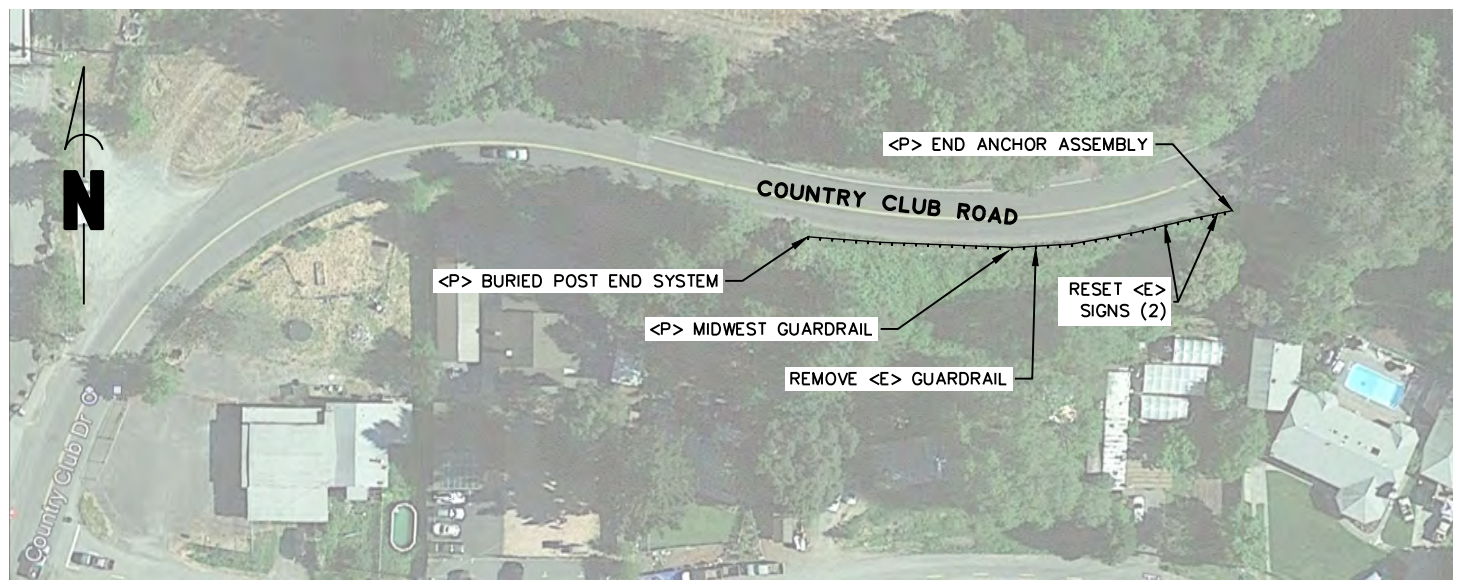
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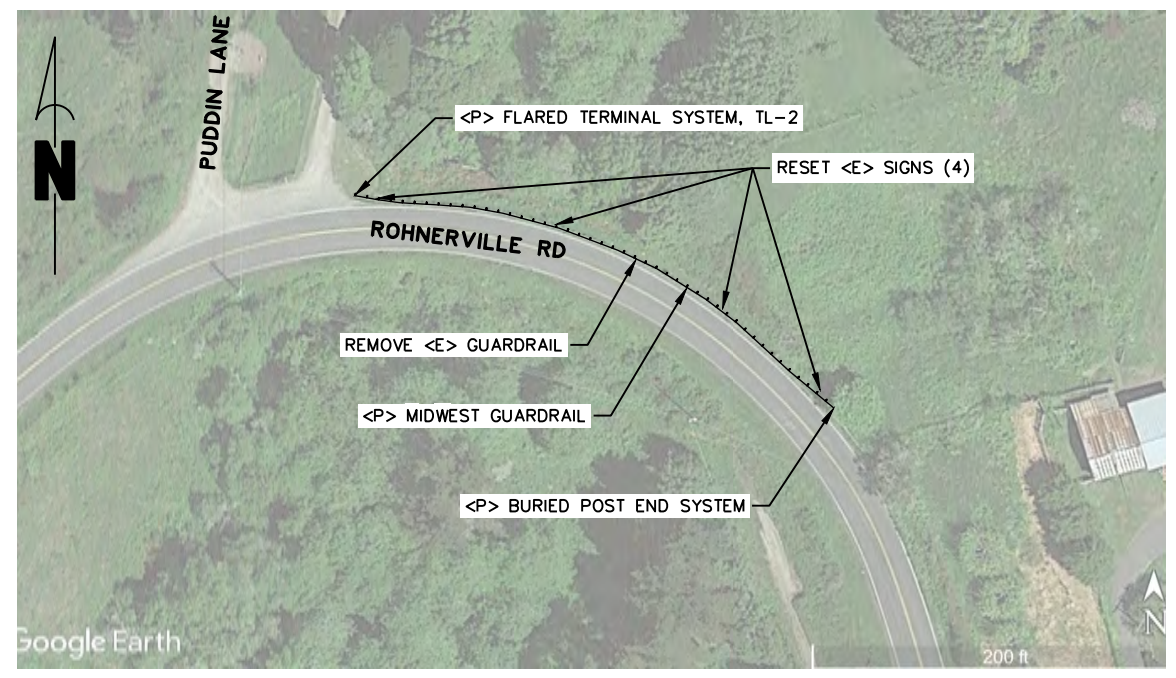
SITE 26 & 27 REDWOOD DRIVE PM 3.41 & 3.6
SCALE: 1" = 50'



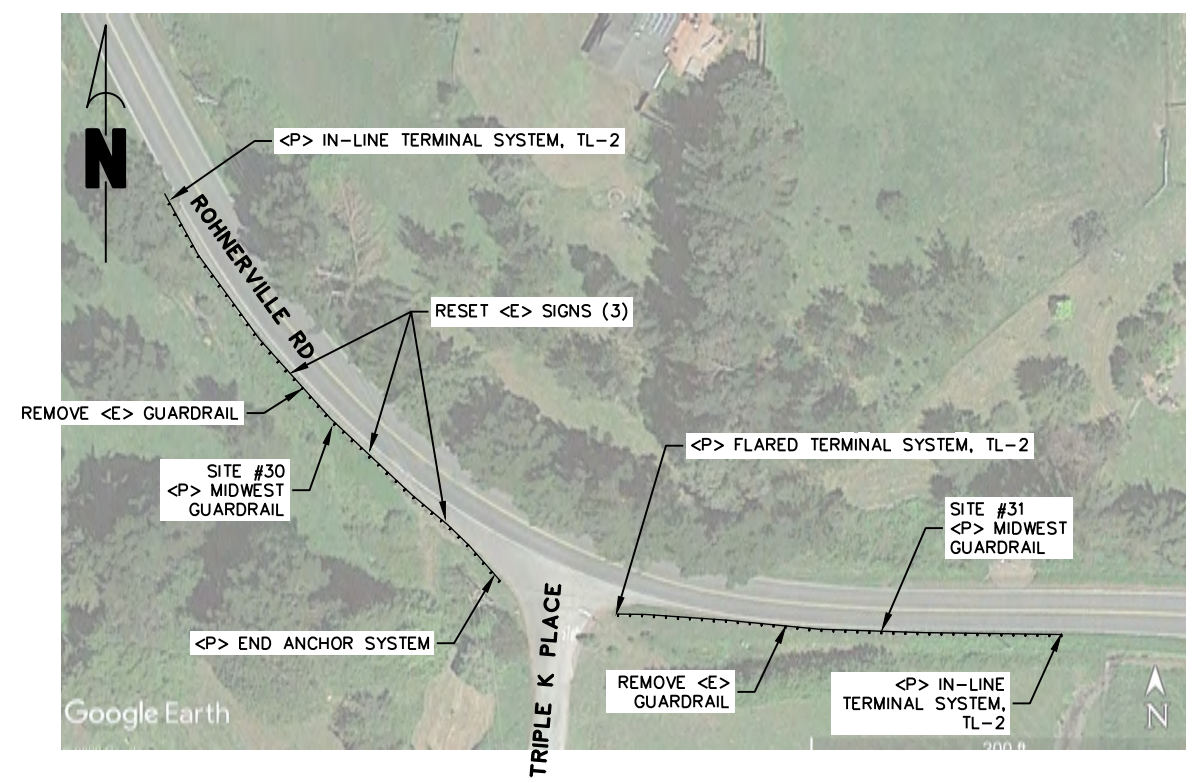
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: VARIOUS LOCATIONS CITY AND COUNTY	DESIGN ENGINEERING DIVISION	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS HIGHWAY SAFETY IMPROVEMENT PROJECT-GUARDRAILS ADDITIVE OPTION SITE PLAN LAYOUT	SHEET 15 OF 18	
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	CONTRACT NO.: 217101				REVIEWED BY: JAB
	DRAWING FILE NAME: 217101_GUARDRAIL.DWG	APPROVED BY: TRS			
	PLOT DATE: 11/01/2021	REVISION DATE:			



SITE 28 COUNTRY CLUB ROAD - ADDITIVE OPTION
SCALE: 1" = 50'

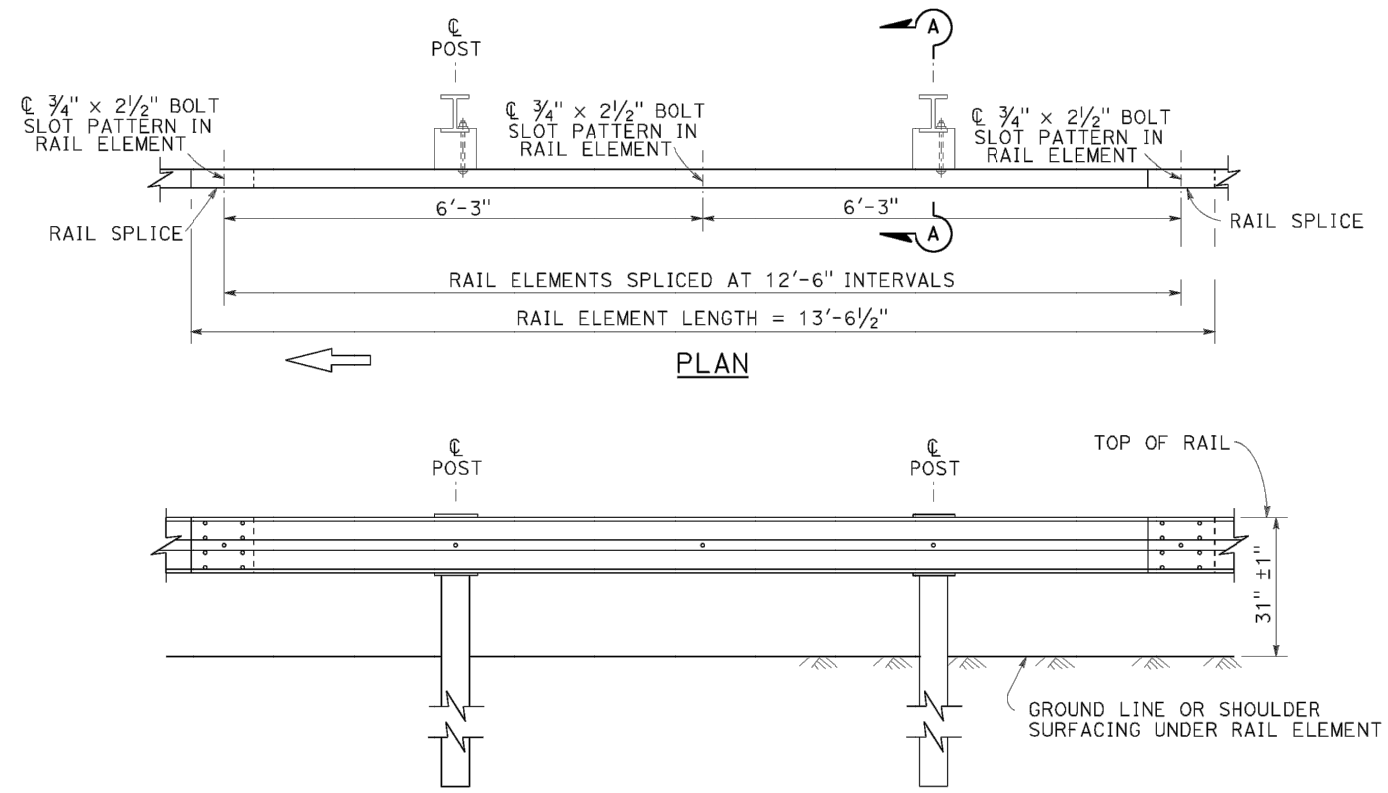


SITE 29 ROHNERVILLE ROAD PM 0.94 - ADDITIVE OPTION
SCALE: 1" = 50'



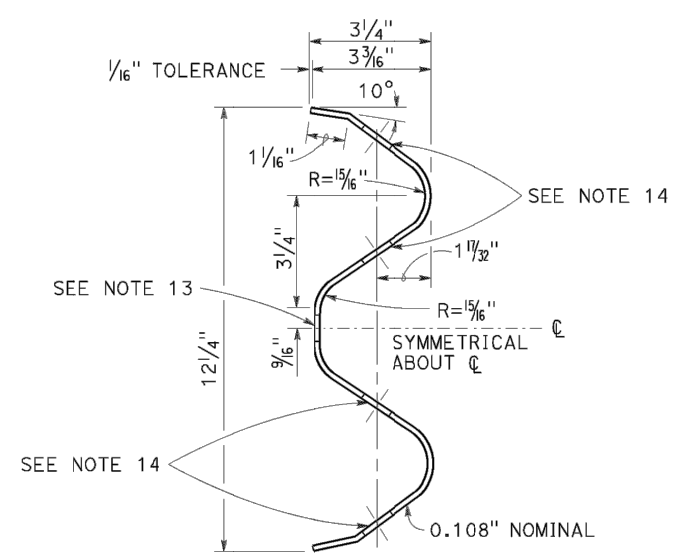
SITE 30 & 31 ROHNERVILLE ROAD PM 1.85 & 1.87 - ADDITIVE OPTION
SCALE: 1" = 50'

TO ACCOMPANY PLANS DATED 6-18-19



ELEVATION

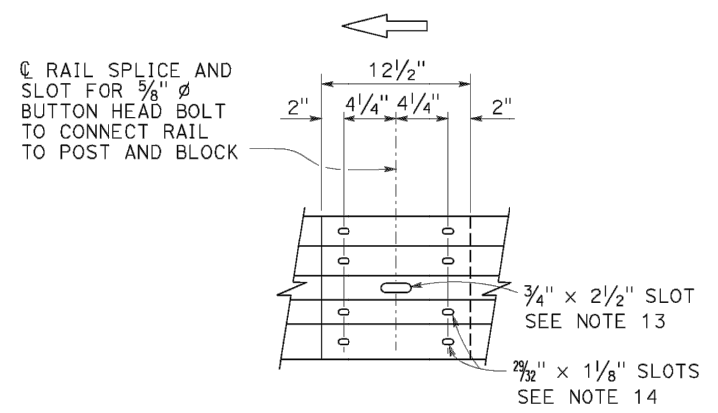
MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



SECTION THRU RAIL ELEMENT

NOTES:

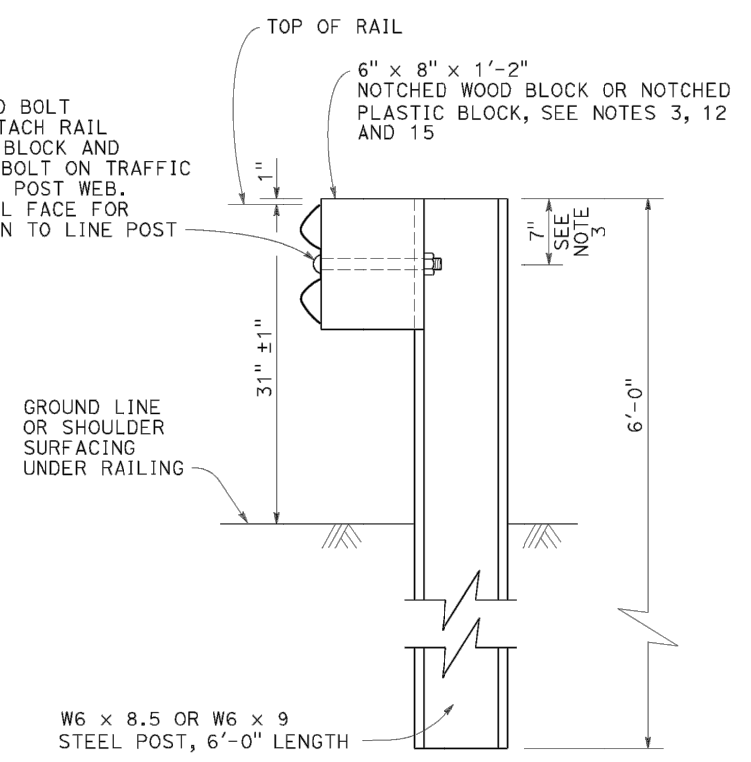
- For details of steel post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Standard Plan A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Standard Plan A77N2. For additional installation details, see Standard Plan A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Standard Plans A77S1 and A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railings, see Standard Plans A77U1, A77U2 and A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post.
- Slotted holes for splice bolts to overlap ends of rail element.
- 6" x 12" x 1'-2" block must be used with 6" dike.
- Install posts in soil.



ELEVATION RAIL ELEMENT SPLICE DETAIL

- Connect the overlapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 2 7/32" x 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.

5/8" ϕ BUTTON HEAD BOLT WITH Hex NUT. ATTACH RAIL ELEMENT TO WOOD BLOCK AND STEEL POST WITH BOLT ON TRAFFIC APPROACH SIDE OF POST WEB. NO WASHER ON RAIL FACE FOR BOLTED CONNECTION TO LINE POST



SECTION A-A TYPICAL STEEL LINE POST INSTALLATION

See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

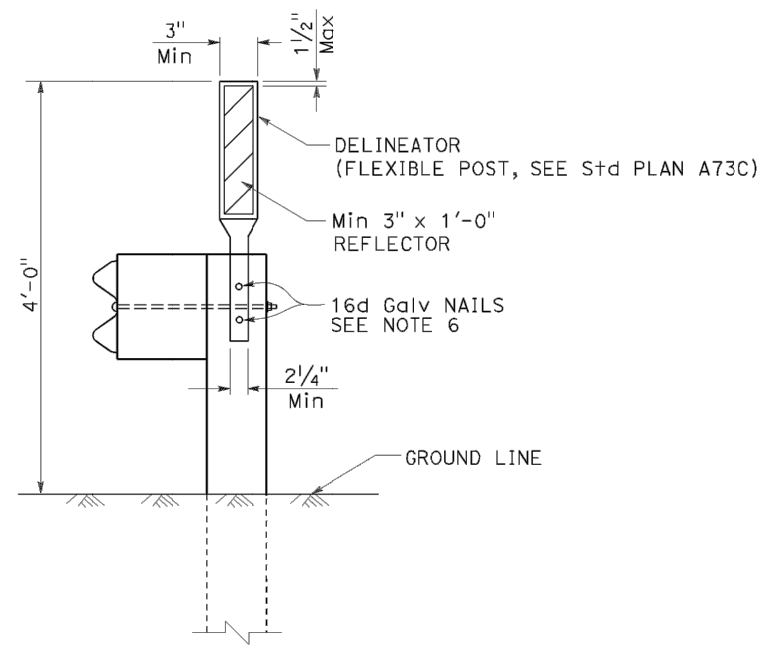
NO SCALE

RSP A77L2 DATED APRIL 19, 2019 SUPERSEDES STANDARD PLAN A77L2 DATED MAY 31, 2018 - PAGE 58 OF THE STANDARD PLANS BOOK DATED 2018.

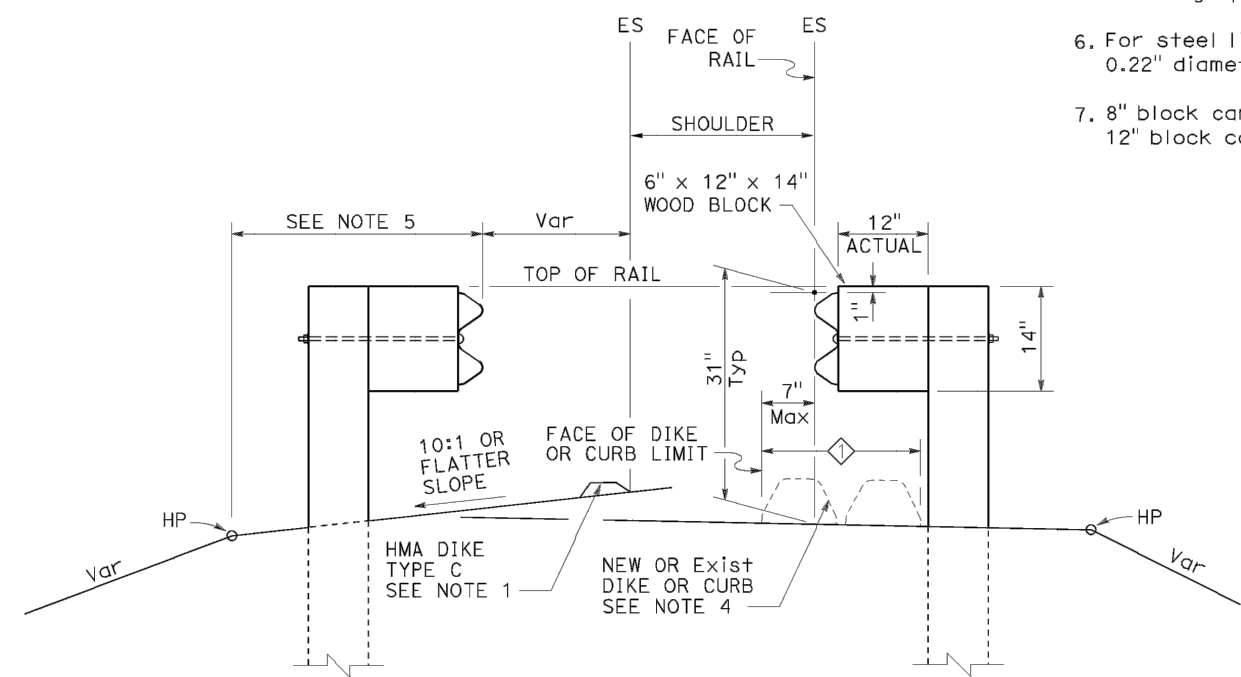
TO ACCOMPANY PLANS DATED 6-18-19

NOTES:

- When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Standard Plan A87B.
- For standard railing post embedment, see Standard Plan A77N3.
- MGS delineation to be used where shown on the Project Plans.
- When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Standard Plans A87A and A87B.
- For details of typical distance between the face of rail and hinge point, see Standard Plan A77N3.
- For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.
- 8" block can be used with 4" or lower dike, or no dike. 12" block can be used with 6" or lower dike, or no dike.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

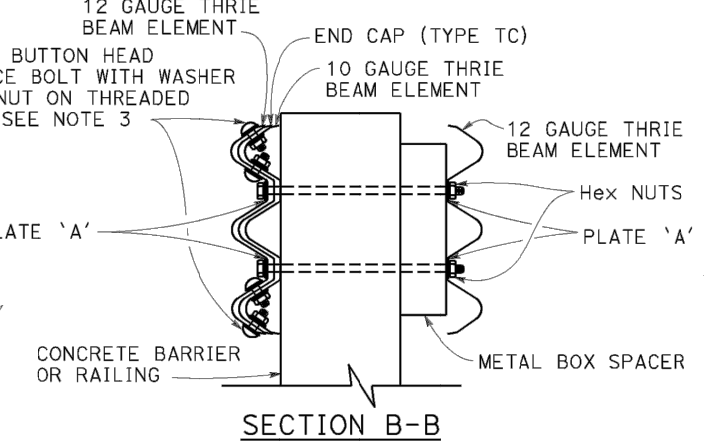
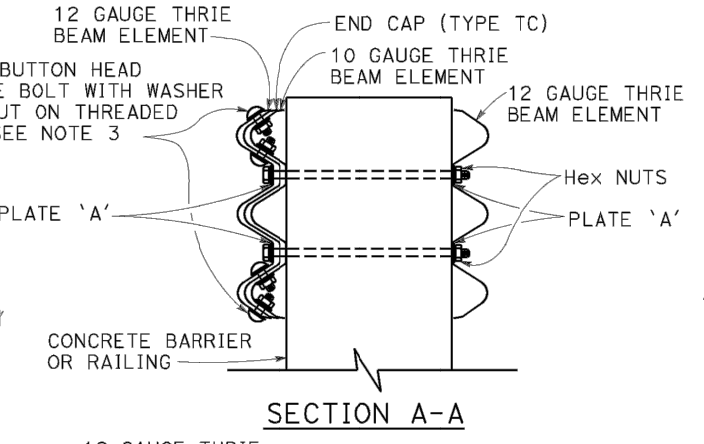
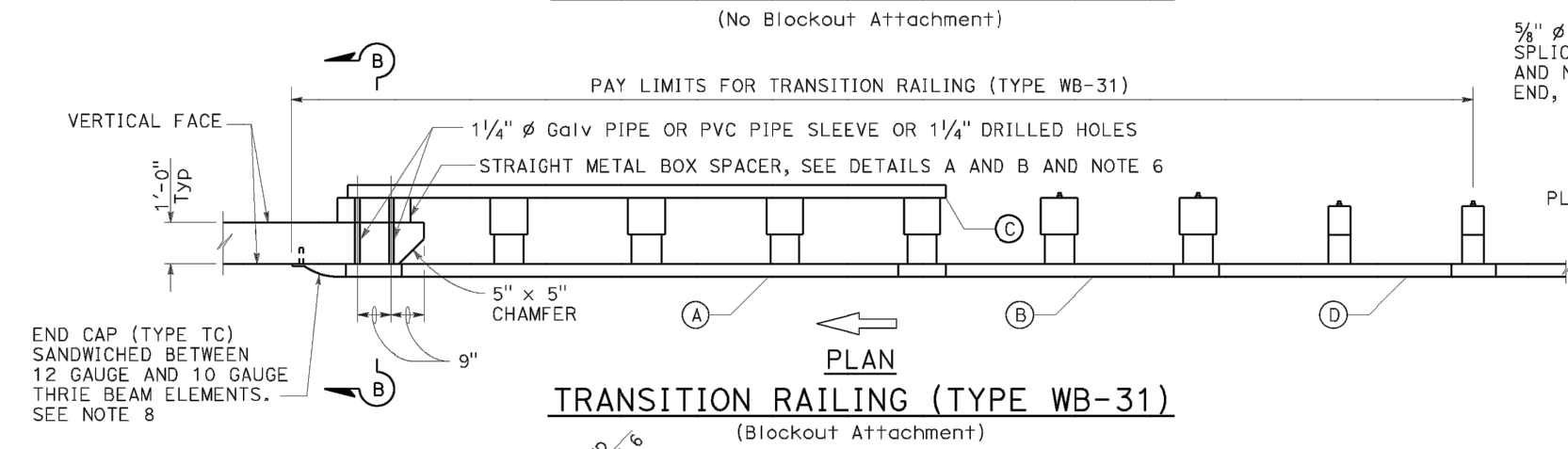
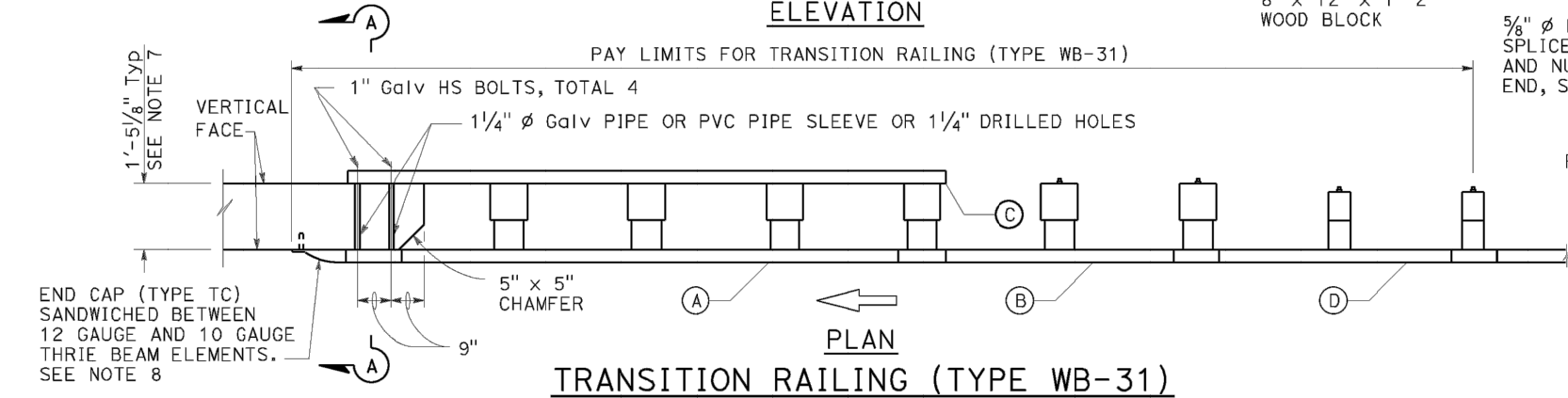
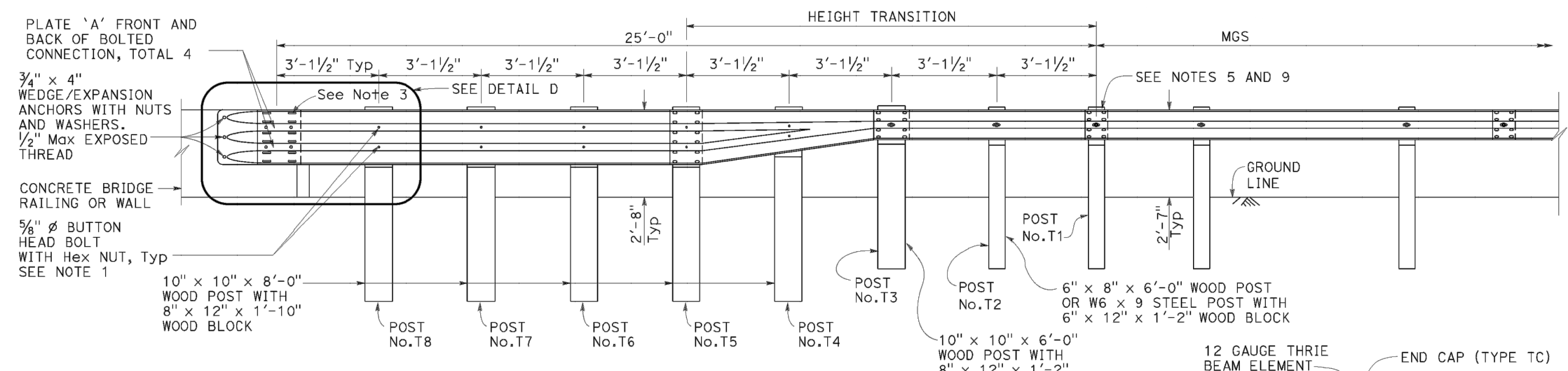
◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

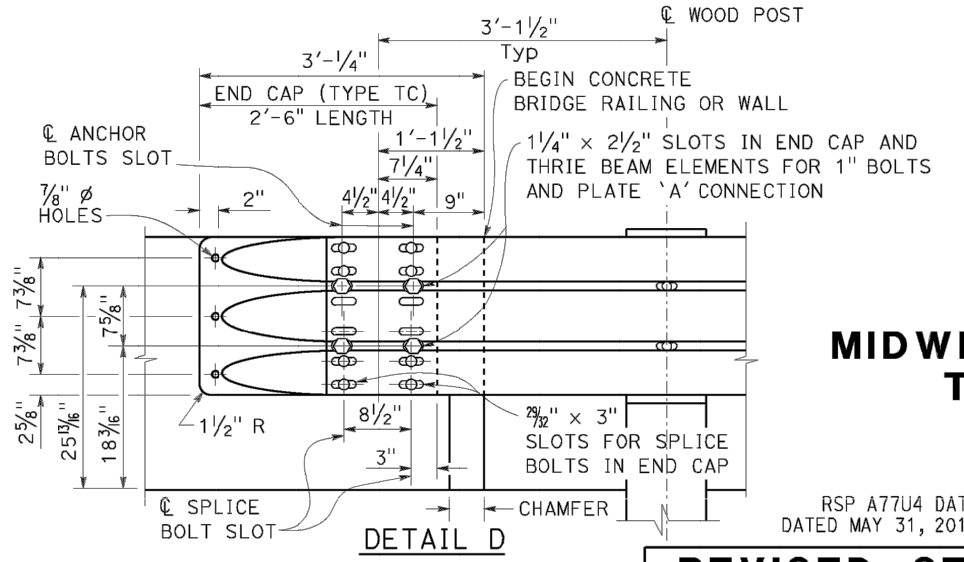
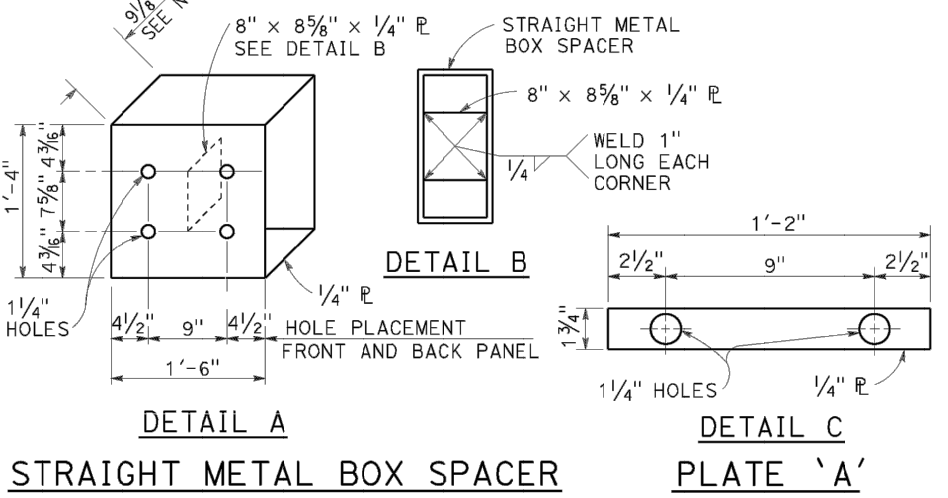
**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77N4 DATED APRIL 19, 2019 SUPERSEDES STANDARD PLAN A77N4
DATED MAY 31, 2018 - PAGE 64 OF THE STANDARD PLANS BOOK DATED 2018.



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
 - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3 1/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



- NOTES:**
- TO ACCOMPANY PLANS DATED 6-18-19
1. Use 5/8" Ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 3/32" x 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4" Ø. Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
 4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
 6. The depth of the metal box spacer varies from the 9/8" to 1 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 21 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 7. Where the width of the concrete railing or wall is greater than 17/8", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
 9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1. MGS tolerance at post No. T1 is ± 1".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TRANSITION RAILING (TYPE WB-31)

NO SCALE

RSP A77U4 DATED APRIL 19, 2019 SUPERSEDES STANDARD PLAN A77U4
DATED MAY 31, 2018 - PAGE 107 OF THE STANDARD PLANS BOOK DATED 2018.