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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN NEVADA COUNTY
NEAR GRASS VALLEY
AT ALTA SIERRA DRIVE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

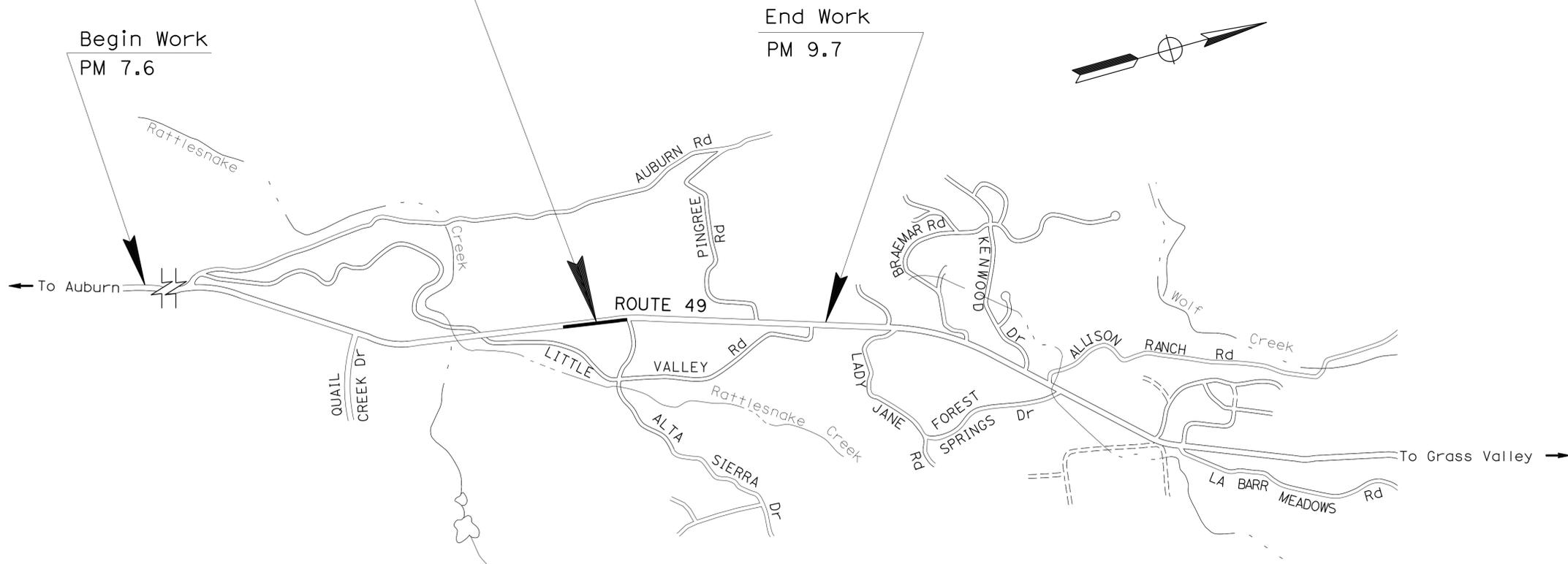
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	1	50





LOCATION MAP

LOCATION OF CONSTRUCTION
PM 9.1



PROJECT MANAGER
NAJED DAKAK
 DESIGN ENGINEER
STEPHEN T. WRIGHT


 PROJECT ENGINEER DATE 2-3-14
 REGISTERED CIVIL ENGINEER
February 3, 2014
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 USERNAME => s119538 DGN FILE => 0313000218ab001.dgn

DATE PLOTTED => 30-JAN-2014
 TIME PLOTTED => 12:38
 LAST REVISION 11-21-13

NOTES:
 1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

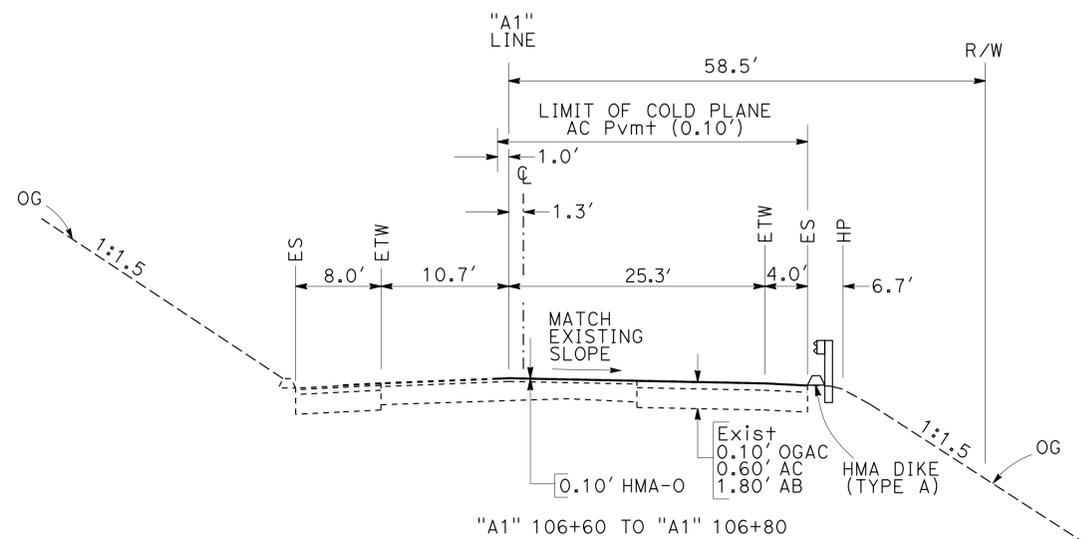
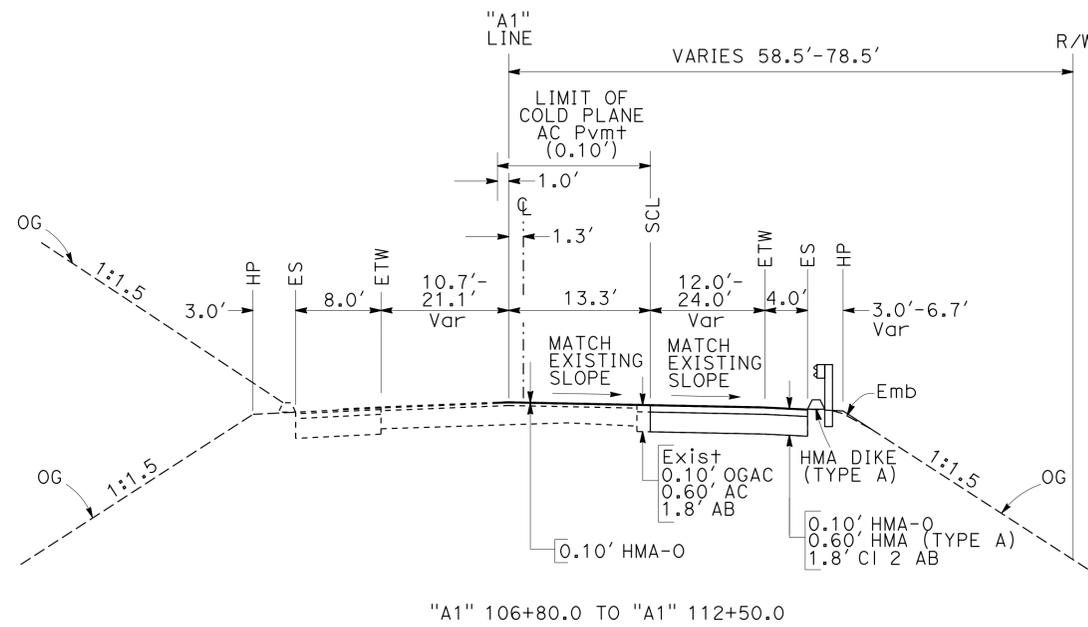
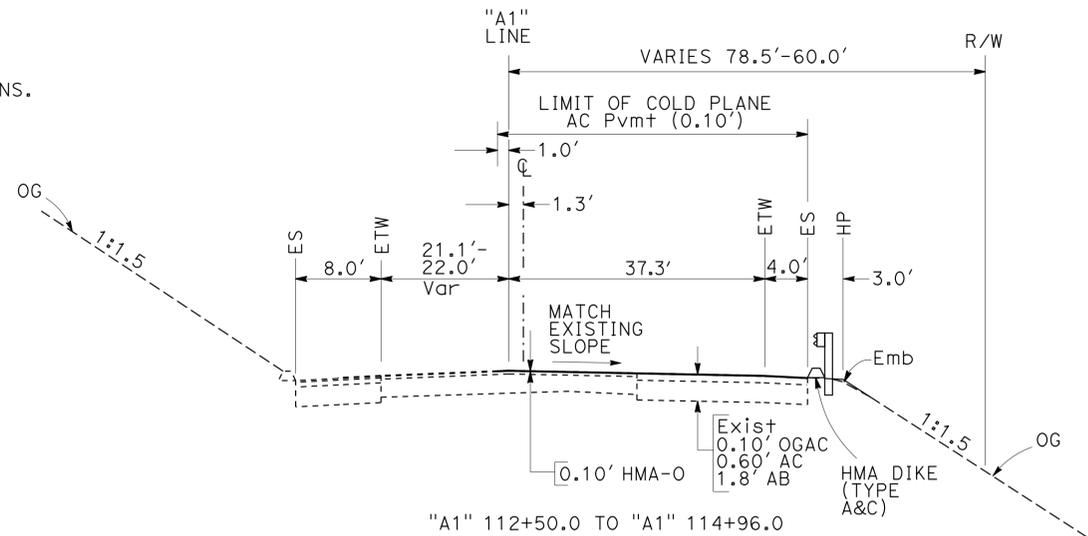
ABBREVIATION:
 SCL SAWCUT LINE
 HMA-O HMA (OPEN GRADED)

PAVEMENT CLIMATE REGION

LOW MOUNTAIN

DESIGN DESIGNATION

ADT (2014)	23,300	D	55%
ADT (2034)	34,200	T	4%
DHV	2,260	V	55 mph
		TI ₂₀	10.0



TYPICAL CROSS SECTIONS
 NO SCALE

ROUTE 49

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

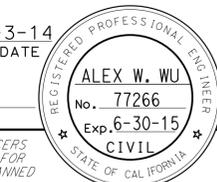
FUNCTIONAL SUPERVISOR
 STEPHEN T. WRIGHT

CALCULATED/DESIGNED BY
 CHECKED BY

ALEX WU
 AL CHIN

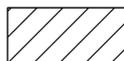
REVISED BY
 DATE REVISED

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	3	50

 2-3-14
 REGISTERED CIVIL ENGINEER DATE
 2-3-14
 PLANS APPROVAL DATE


THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

- NOTES:**
- BIAXIAL GEOGRID SHALL HAVE THE MINIMUM LONG TERM DESIGN STRENGTH (LTDS) OF 500 POUNDS PER FEET. (SEE C-1)
 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

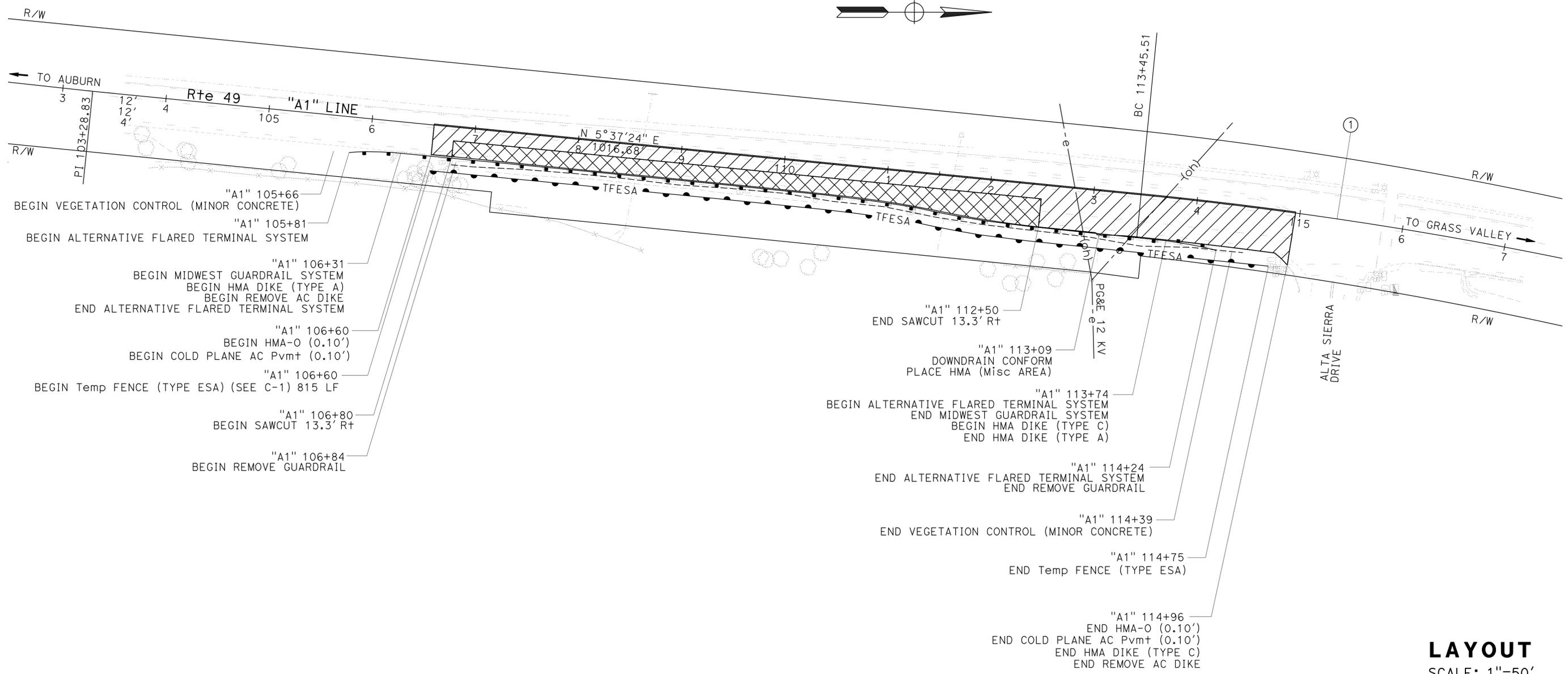
- LEGEND:**
-  0.10' HMA-0
0.60' HMA (TYPE A)
1.80' CI 2 AB
 -  0.10' HMA-0
COLD PLANE AC Pvm+ (0.10')

ABBREVIATIONS:

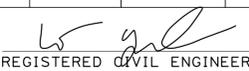
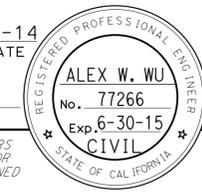
PG&E PACIFIC GAS & ELECTRIC
HMA-O HMA (OPEN GRADED)

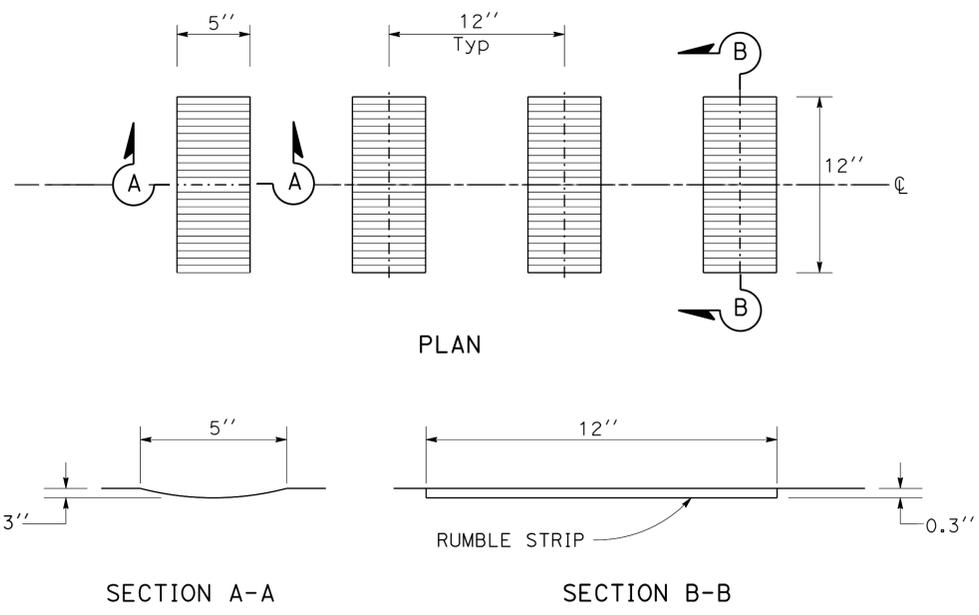
No.	R	Δ	T	L
①	4003'	8° 24' 46"	294.38'	587.71'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: STEPHEN T. WRIGHT
 CALCULATED/DESIGNED BY: ALEX WU
 CHECKED BY: AL CHIN
 REVISIONS: (None)
 REVISOR: (None)
 DATE: (None)
 REVISOR: (None)
 DATE: (None)

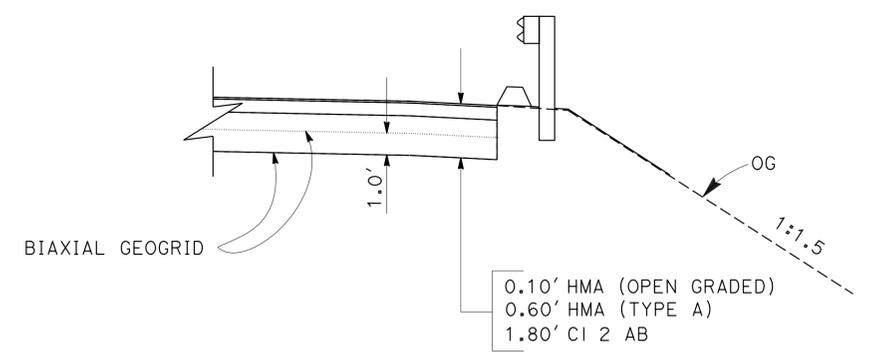


LAYOUT
SCALE: 1"=50'

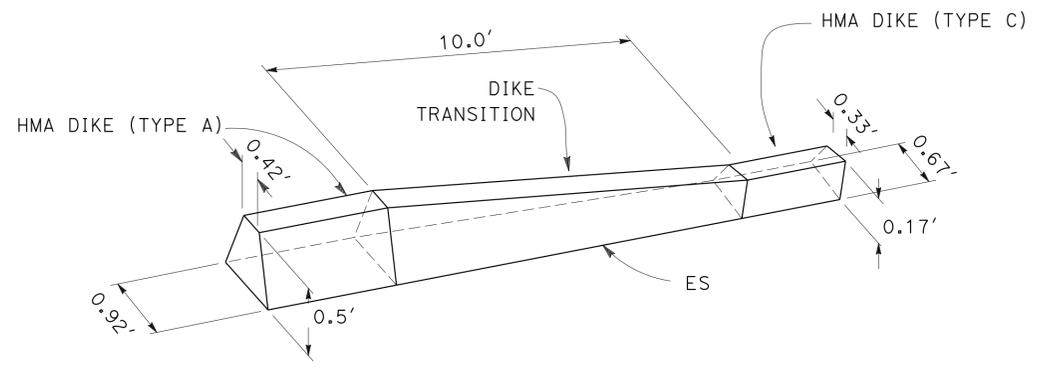
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	NeV	49	9.1	4	50
 REGISTERED CIVIL ENGINEER DATE 2-3-14					
PLANS APPROVAL DATE 2-3-14					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



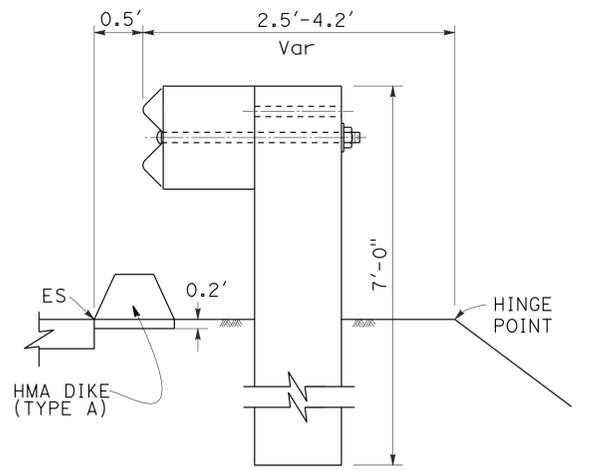
**CENTERLINE RUMBLE STRIP
(HMA, GROUND-IN INDENTATIONS)**



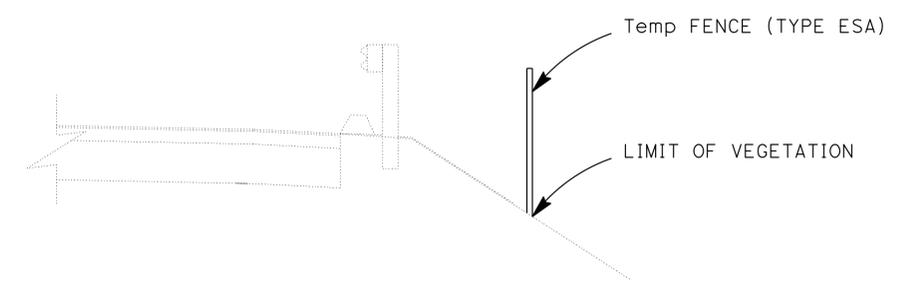
**BIAXIAL GEOGRID PLACEMENT DETAIL
"A1" 106+80 to 112+50**



HMA DIKE (TYPE A) TO HMA DIKE (TYPE C)



GUARDRAIL PLACEMENT DETAIL



Temp FENCE (TYPE ESA) (815 LF)

CONSTRUCTION DETAILS

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: STEPHEN T. WRIGHT
 REVISIONS: DZUNG BUI, ALEX WU
 REVISIONS: [blank], [blank]
 REVISIONS: [blank], [blank]

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1	C23	48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	4
B		C40(Mod)	72" x 42"	TRAFFIC FINES DOUBLED IN WORK ZONES	2 - 4" x 6"	2
C	G20-2	C14	36" x 18"	END ROAD WORK	1 - 4" x 4"	4

NOTES:

1. EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
2. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE TRAFFIC HANDLING PLANS.

(B) C40(Mod) <CA>

TRAFFIC FINES
DOUBLED IN
WORK ZONES

72" x 42"

6" D SERIES LETTERS

RETROREFLECTIVE WHITE BACKGROUND WITH BLACK LEGEND AND BORDER.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	5	50

REGISTERED CIVIL ENGINEER DATE 2-3-14

PLANS APPROVAL DATE 2-3-14

ALEX W. WU
No. 77266
Exp. 6-30-15
CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



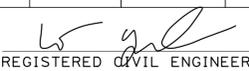
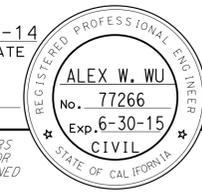
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: SERGIO ACEVES
 CALCULATED/DESIGNED BY: CHUCK COOK
 CHECKED BY: ALEX WU
 REVISED BY: DATE
 TRAFFIC

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	6	50
 REGISTERED CIVIL ENGINEER DATE 2-3-14					
PLANS APPROVAL DATE 2-3-14					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES

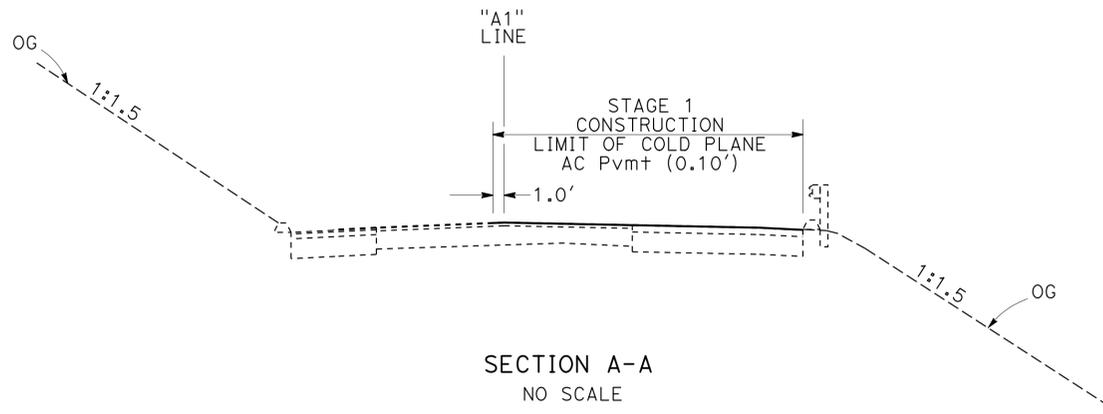
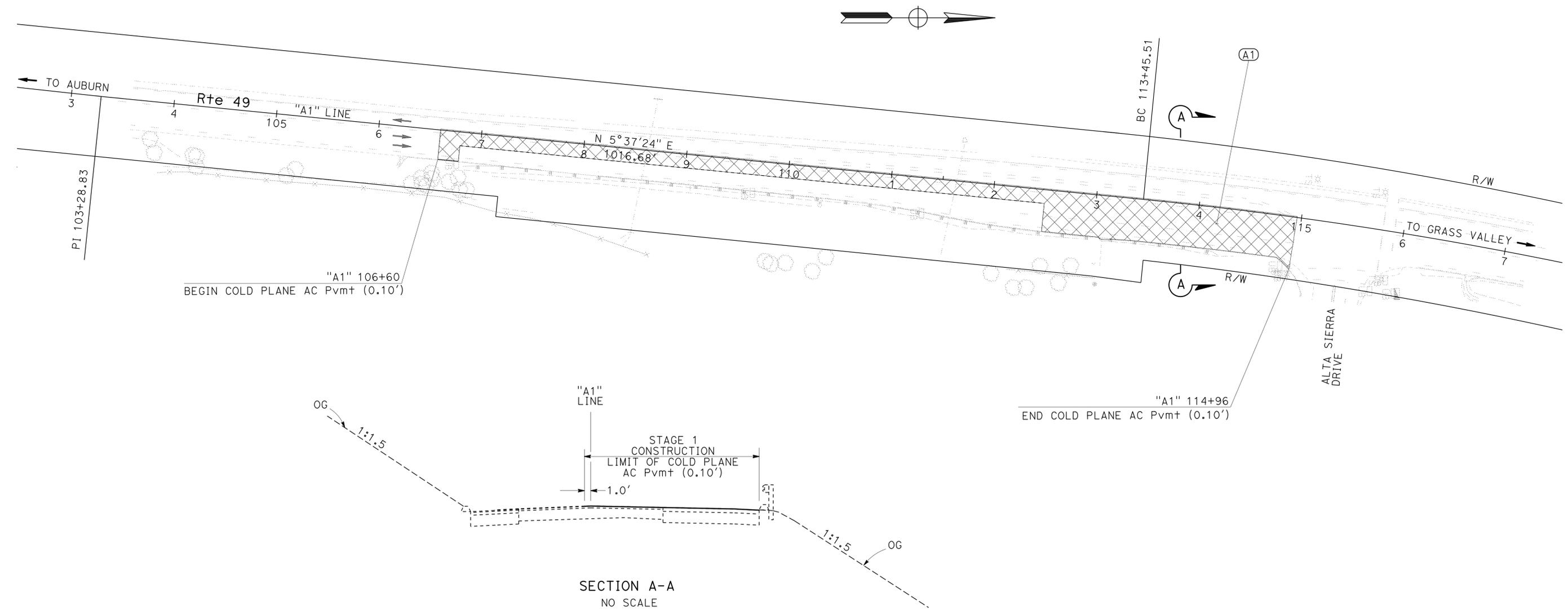
1. FOR SAWCUT LINES, SEE LAYOUT PLAN.
2. FOR FINAL EROSION CONTROL, SEE EROSION CONTROL PLAN.
3. INDEX NOTES DO NOT REPRESENT AN ORDER OF WORK EXCEPT AS INDICATED.
4. FOR UTILITY INFORMATION, SEE LAYOUT PLAN.

LEGEND:

 CONSTRUCTION THIS STAGE

STAGE 1

(A1) COLD PLANE AC Pvm+ (0.10')



**STAGE 1
STAGE CONSTRUCTION PLAN
SC-1**

APPROVED FOR STAGE CONSTRUCTION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans TRAFFIC DESIGN	STEPHEN T. WRIGHT	ALEX WU	ALEX WU
		AL CHIN	AL CHIN
		DATE	DATE
		REVISOR	REVISOR
		DATE	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	7	50

2-3-14
 REGISTERED CIVIL ENGINEER DATE
 2-3-14
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 ALEX W. WU
 No. 77266
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STAGE 2

- (B1) PLACE TEMPORARY CRASH CUSHIONS
PLACE TEMPORARY RAILING (TYPE K)
- (B2) RECONSTRUCT NORTHBOUND NUMBER 2 LANE AND SHOULDER
- (B3) CONSTRUCT HMA DIKE (SEE LAYOUT)
- (B4) CONSTRUCT EMBANKMENT
- (B5) CONSTRUCT MIDWEST GUARDRAIL SYSTEM (SEE LAYOUT)
CONSTRUCT END TREATMENT (SEE LAYOUT)

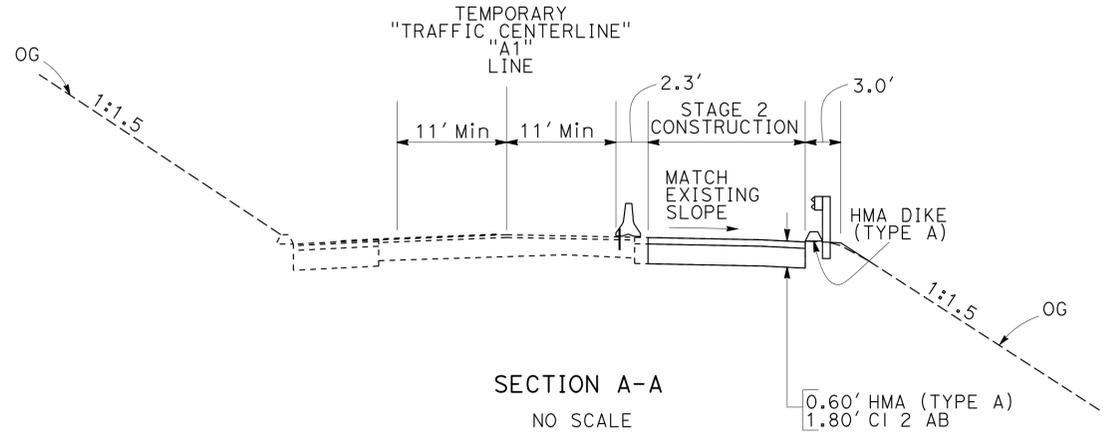
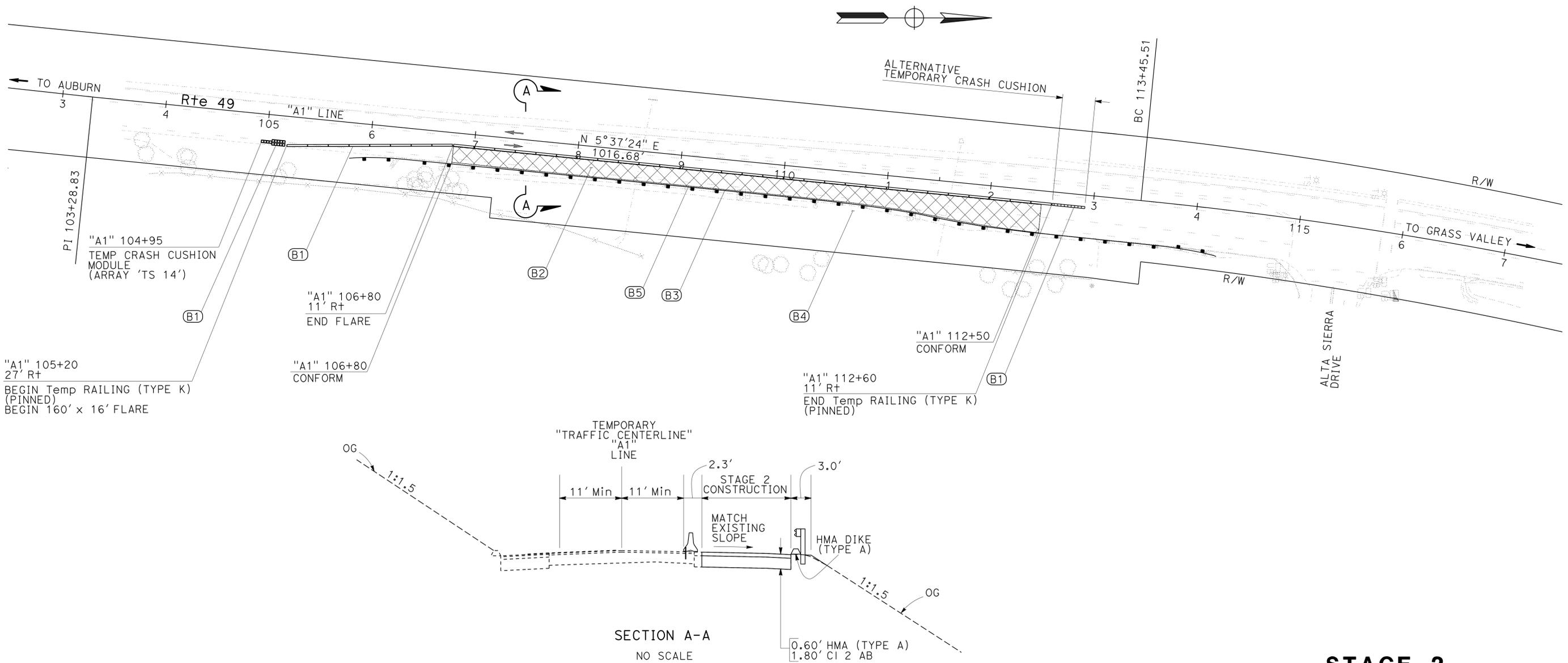
REVISED BY
ALEX WU

DATE REVIS
AL CHIN

CALCULATED-DESIGNED BY
ALEX WU

FUNCTIONAL SUPERVISOR
STEPHEN T. WRIGHT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN



**STAGE 2
STAGE CONSTRUCTION PLAN**
SCALE 1" = 50'
SC-2

APPROVED FOR STAGE CONSTRUCTION WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	9	50

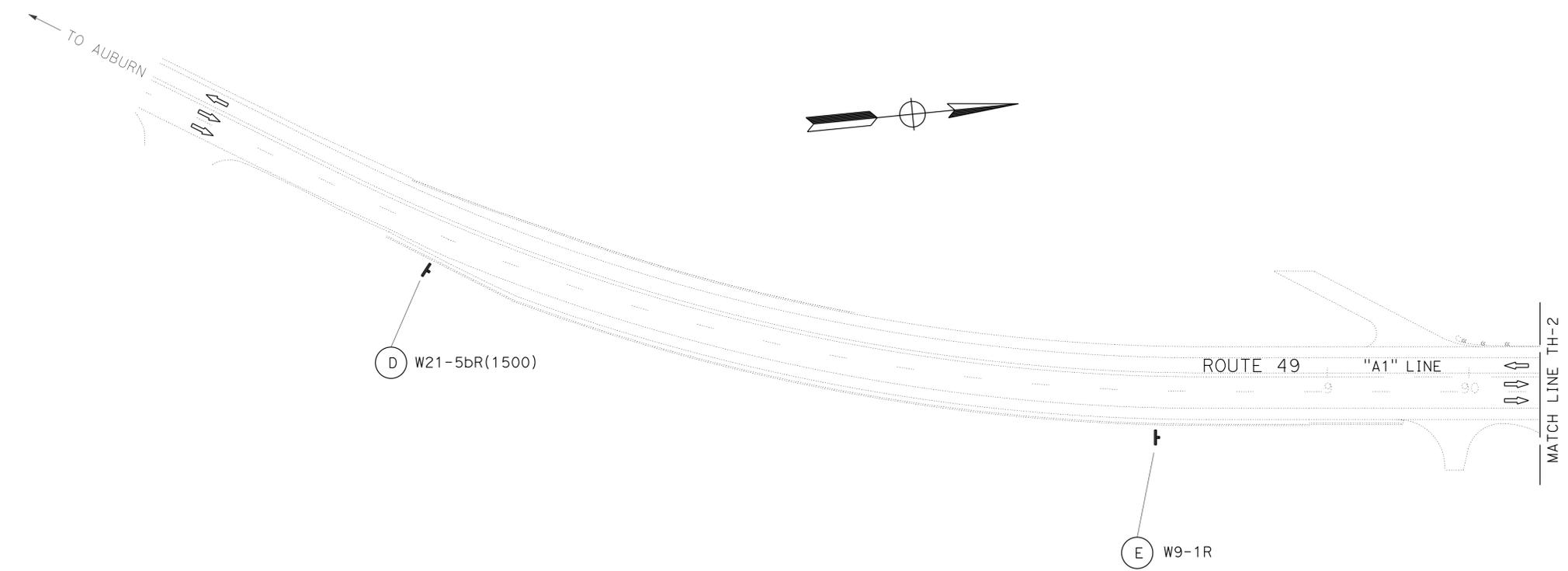
<i>[Signature]</i>	2-3-14
REGISTERED CIVIL ENGINEER	DATE
2-3-14	
PLANS APPROVAL DATE	

ALEX W. WU
No. 77266
Exp. 6-30-15
CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

- | | | | |
|-------|---|------|-------------------------------|
| No./P | PAVEMENT DELINEATION DETAIL NUMBER
P=PAINT | X | CONSTRUCTION AREA SIGN LETTER |
| LL/P | LIMIT LINE, P=TPMP | <CA> | CALIFORNIA SIGN CODE |
| PAINT | TEMPORARY TRAFFIC STRIPE (PAINT) | | TRAFFIC PLASTIC DRUM |
| TPMP | TEMPORARY PAVEMENT MARKING (PAINT) | ‡ | TYPE III BARRICADE |
| | TYPE I (24) ARROW - TPMP | | DIRECTION OF TRAVEL |
| | TYPE III ARROW - TPMP | | |
| | TYPE IV ARROW - TPMP | | |
| Si | "SIGNAL" - TPMP | | |
| A | "AHEAD" - TPMP | | |



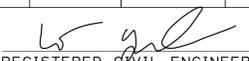
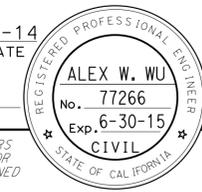
- NOTES:
1. ALL LANES SHALL BE 12' WIDE UNLESS OTHERWISE SHOWN.
 2. ALL TRAFFIC PLASTIC DRUMS SHALL BE INSTALLED ON 50' CENTERS UNLESS OTHERWISE SHOWN.
 3. ALL EXISTING SIGNS NOT SHOWN FOR RESETTING SHALL REMAIN IN PLACE.
 4. ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS CALIFORNIA SIGN CODES.

**TRAFFIC HANDLING PLAN
STAGE 2
SCALE: 1"=50'**

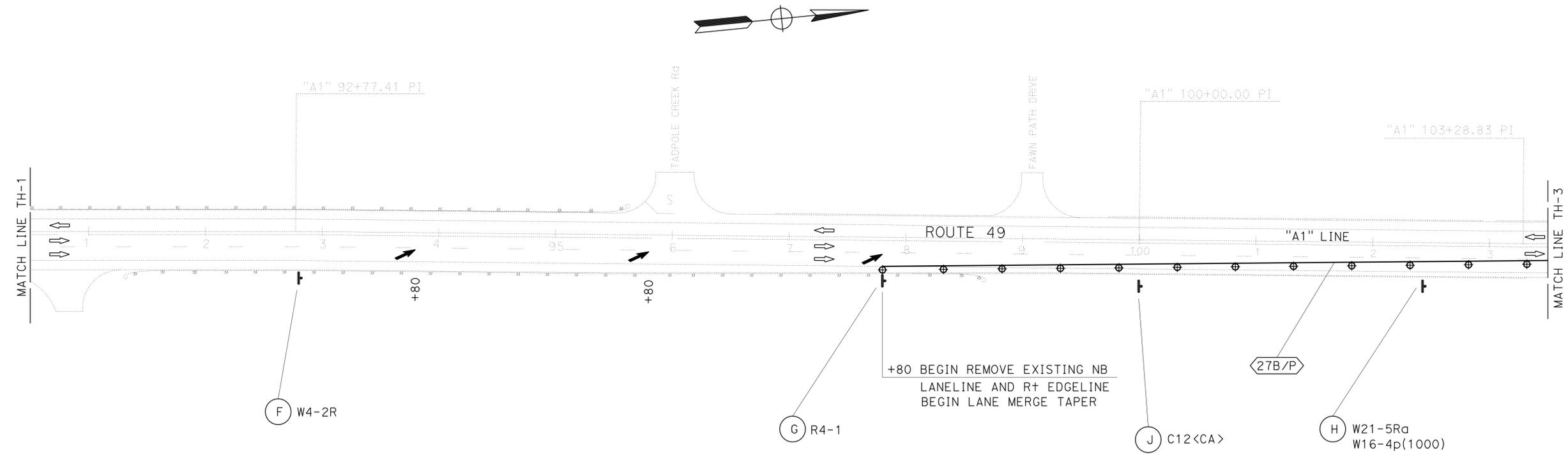
APPROVED FOR TRAFFIC HANDLING WORK ONLY

TH-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	SERGIO ACEVES	CHUCK COOK	
		ALEX WU	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	10	50
 REGISTERED CIVIL ENGINEER DATE 2-3-14					
PLANS APPROVAL DATE 2-3-14					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	CHUCK COOK	REVISED BY
	SERGIO ACEVES	CHECKED BY	ALEX WU	DATE REVISED
TRAFFIC				



TRAFFIC HANDLING PLAN
STAGE 2
 SCALE: 1"=50'

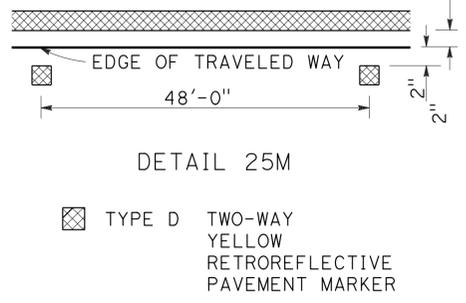
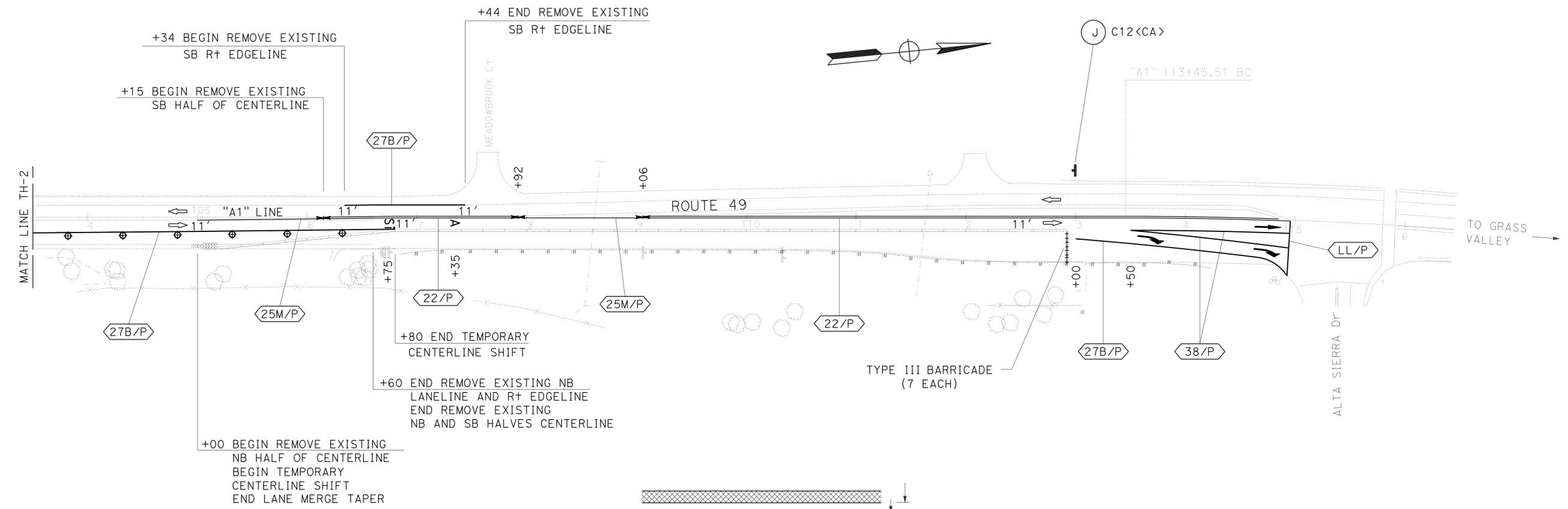
APPROVED FOR TRAFFIC HANDLING WORK ONLY

TH-2

ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
D	W21-5bR(AHEAD)		48" x 48"	RIGHT SHOULDER CLOSED 1500 FT	1 - 4" X 6"	1
E	W9-1R		48" x 48"	RIGHT LANE ENDS	1 - 4" X 6"	1
F	W4-2R		48" x 48"	RIGHT LANE ENDS (SYMBOL)	1 - 4" X 6"	1
G	R4-1		36" x 48"	DO NOT PASS	1 - 4" X 6"	1
H	W21-5aR W16-4p(1000)		48" x 48" 30" x 24"	RIGHT SHOULDER CLOSED NEXT 1000 FT	1 - 4" X 6"	1
J		C12	36" x 36"	NARROW LANES	1 - 4" X 6"	2

- NOTES:**
- EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
 - FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGN PLAN.



STRIPING DETAIL

TRAFFIC HANDLING PLAN STAGE 2 SCALE: 1"=50'

TH-3

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CHUCK COOK
 ALEX WU
 SERGIO ACEVES
 TRAFFIC
 Caltrans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	12	50

W. G. ... 2-3-14
 REGISTERED CIVIL ENGINEER DATE

2-3-14
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR
 THE ACCURACY OR COMPLETENESS OF SCANNED
 COPIES OF THIS PLAN SHEET.

REMOVE THERMOPLASTIC TRAFFIC STRIPE (WATER BLASTING)

DESCRIPTION	STAGE 2
	LF
LANELINE	220
CENTERLINE	205
R+ EDGELINE	990
TOTAL	1415

TEMPORARY PAVEMENT MARKING (PAINT)

STAGE	TYPE I (24') ARROW	TYPE III ARROW	TYPE VI ARROW	SIGNAL	AHEAD	LIMIT LINE
	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT
2	31	84	126	32	31	50
TOTAL	354					

TEMPORARY TRAFFIC STRIPE (PAINT)

DETAIL NUMBER	STAGE 2
	LF
22	1514
25M	229
27B	1206
38	292
TOTAL	3241

TEMPORARY PAVEMENT MARKER

STAGE	DETAIL NUMBER	TYPE D	TYPE G
		EA	EA
2	22,25M,38	77	14
TOTAL		91	

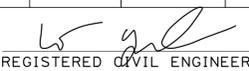
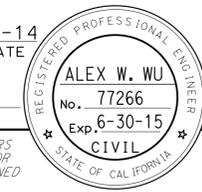
BARRICADE - TRAFFIC PLASTIC DRUM

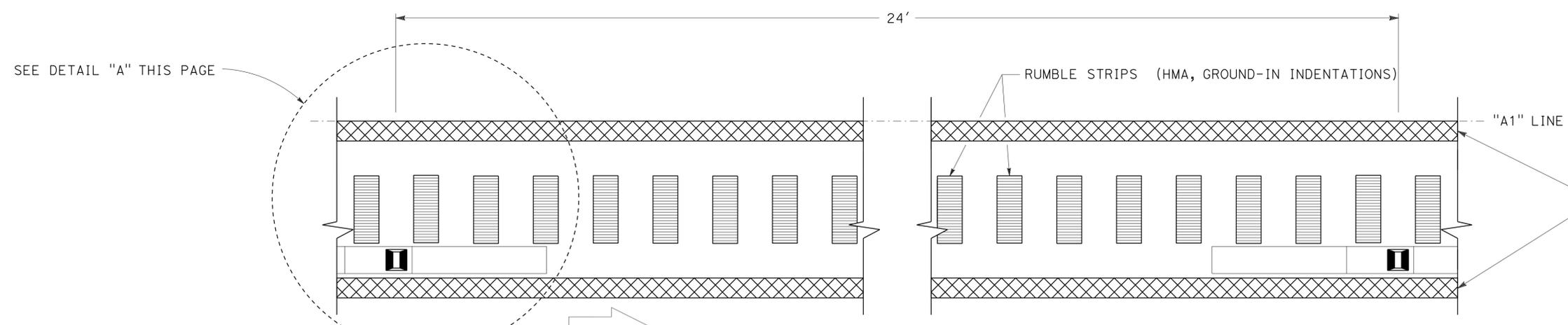
STAGE	TYPE III BARRICADE		TRAFFIC PLASTIC DRUM	
	FURNISH	INSTALL	FURNISH	INSTALL
	EA		EA	
2	7	7	18	18
TOTAL	7	7	18	18

TRAFFIC HANDLING QUANTITIES

THQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: SERGIO ACEVES
 CHUCK COOK
 ALEX WU
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

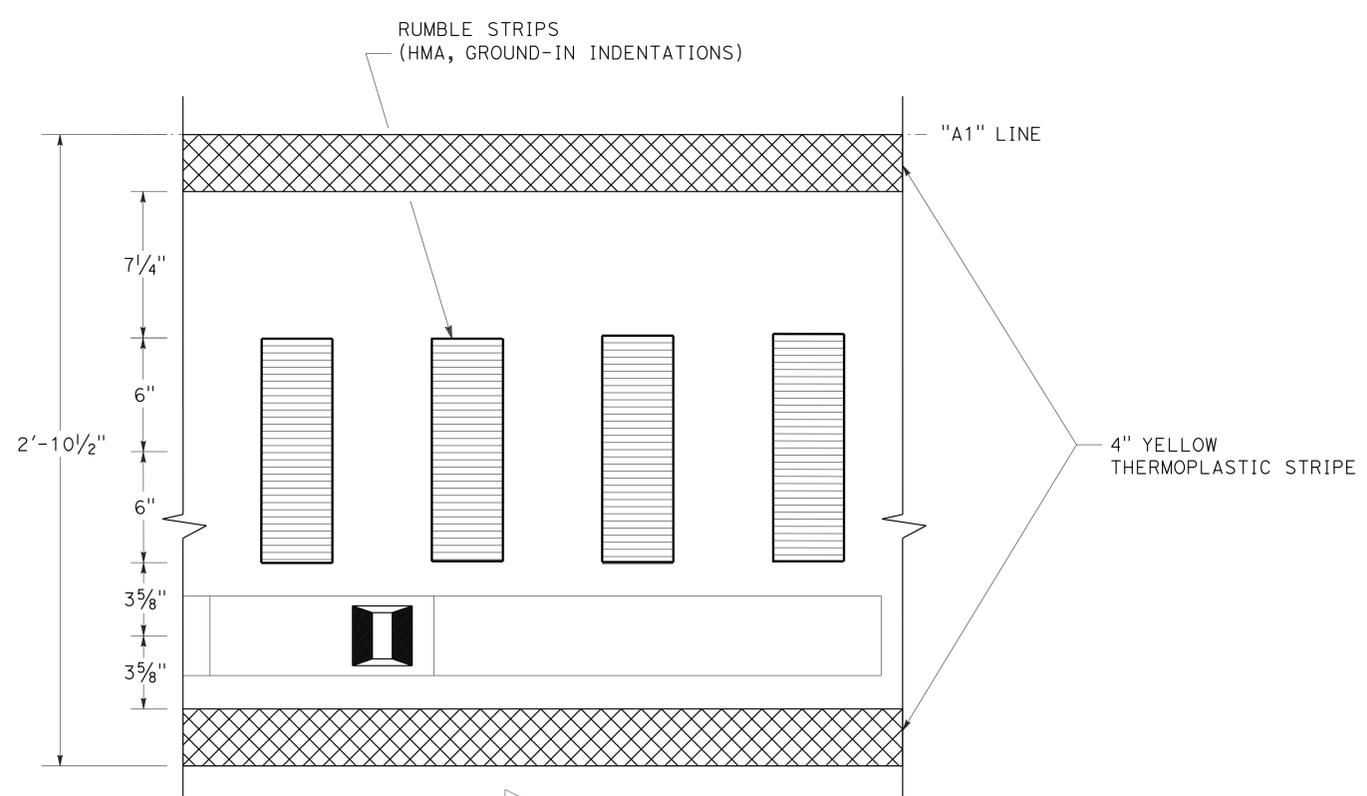
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	16	50
 REGISTERED CIVIL ENGINEER DATE 2-3-14					
2-3-14 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



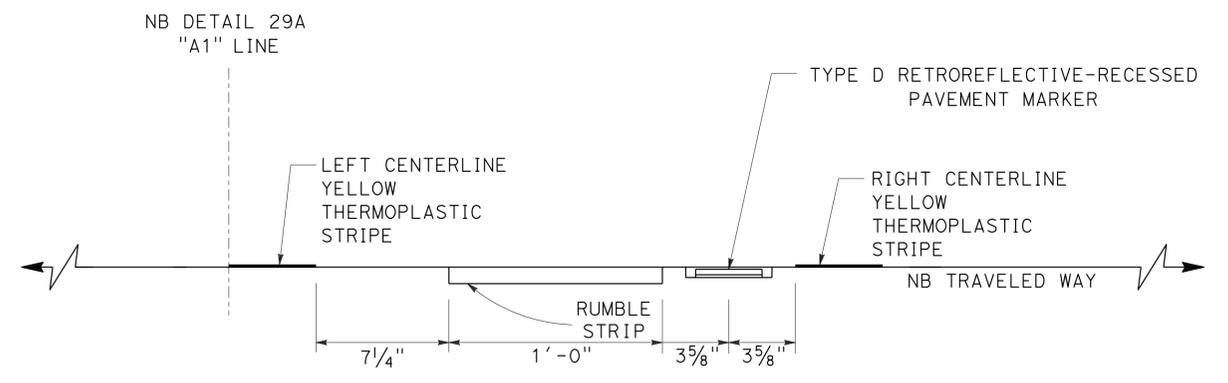
**DETAIL 29A (TYPICAL)
CENTERLINE
NB ROUTE 49**

LEGEND

-  TYPE D TWO-WAY YELLOW RETROREFLECTIVE-RECESSED PAVEMENT MARKER
-  DIRECTION OF TRAVEL



**DETAIL A
PLAN**



**DETAIL 29A PLACEMENT
ELEVATION**

NOTES:

1. SEE STANDARD PLAN SHEET A20D FOR DETAIL OF RETROREFLECTIVE PAVEMENT MARKER RECESS.
2. SEE SHEET C-1 FOR RUMBLE STRIP DETAIL.

**PAVEMENT DELINEATION
DETAILS
NO SCALE**

PDD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	SERGIO ACEVES	CHUCK COOK	
TRAFFIC		ALEX WU	
	CHECKED BY	DESIGNED BY	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	17	50

REGISTERED CIVIL ENGINEER DATE 2-3-14
 PLANS APPROVAL DATE 2-3-14

REGISTERED PROFESSIONAL ENGINEER
ALEX W. WU
 No. 77266
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REMOVE PAINTED TRAFFIC STRIPE (WATER BLASTING)

DESCRIPTION	LINEAR FEET
CENTERLINE	205
R+ EDGELINE	990
TOTAL	1195

4" THERMOPLASTIC TRAFFIC STRIPE

DETAIL NUMBER	LINEAR FEET
22A	115
27B	1826
29A	1742
TOTAL	3683

REMOVE PAINTED PAVEMENT MARKING (WATER BLASTING)

DESCRIPTION	NUMBER	SQUARE FEET
TYPE VI ARROW	3	126
TOTAL		126

THERMOPLASTIC PAVEMENT MARKING

DESCRIPTION	NUMBER	SQUARE FEET
TYPE I(24') ARROW	1	31
TYPE III(R) ARROW	2	84
"SIGNAL"	2	64
"AHEAD"	2	62
LIMIT LINE	1	52
TOTAL		293

OBJECT MARKER

DESCRIPTION	EACH
TYPE L-1	1
TOTAL	1

4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36 - 12)

DETAIL NUMBER	LINEAR FEET
12	1716
TOTAL	1716

PAVEMENT MARKER

DETAIL NUMBER	RETROREFLECTIVE - RECESSED	
	TYPE D EA	TYPE G EA
12		37
22A	6	
29A	74	
38		12
SUBTOTAL	80	49
TOTAL	129	

8" THERMOPLASTIC TRAFFIC STRIPE

DETAIL NUMBER	LINEAR FEET
38	246
TOTAL	246

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: SERGIO ACEVES
 CALCULATED/DESIGNED BY: CHUCK COOK
 CHECKED BY: ALEX WU
 REVISED BY: CHUCK COOK
 DATE REVISED: ALEX WU





1.25" BORDER WITH 6" RADIUS
 "Alta Sierra" E Mod
 "Drive" E Mod
 ARROW - 8"UC-1LINE - 9.6" O*

G8-22<CA>
2-4

NOTE:
ALL SIGN PANEL DIMENSIONS ARE IN INCHES.

ROADSIDE SIGN QUANTITIES

SIGN NUMBER (Sh+No.)	SIGN CODE		PANEL SIZE INCHES	"C" DIM IN FEET	POST SIZE AND LENGTH		ROADSIDE SIGN		REMOVE ROADSIDE SIGN	
	FEDERAL	CALIFORNIA			METAL POST 2 1/2" x 2 1/2"	WOOD POST 4" x 6"	ONE POST EA	TWO POST EA		
2-1		G17(2000)							1	
2-2		G17(2000)	36 x 18	5	8'			1		
2-3	D9-8	G8-22 G200-80							1	
2-4	D9-8	G8-22 G200-80	90 x 42 24 x 24 24 x 24	4		14'		1		
TOTAL								1	1	2

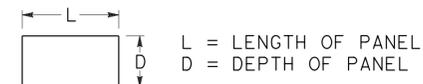
NOTES:

- EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.
- POST LENGTHS GIVEN ARE APPROXIMATE.
- "C" DIM = VERTICAL CLEARANCE EP TO BOTTOM OF SIGN PANEL.

ROADSIDE SIGN PANEL QUANTITIES

SIGN CODE		SIGN MESSAGE/DESCRIPTION	PANEL SIZE L x D		PANEL AREA SQFT	NUMBER OF PANELS	BACKGROUND		LEGEND		PROTECTIVE OVERLAY	FURNISH SINGLE SHEET ALUMINUM SIGN	
FEDERAL	CALIFORNIA		SHEETING COLOR	RETROREFLECTIVE ASTM TYPE			SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	PREMIUM	UNFRAMED	FRAMED		
	G8-22	SIGN 2-4, SEE NOTE	90 x 42	26.25	1	GREEN	IV	WHITE	IX	X	0.063"	0.080"	
	G17(2000)	ELEVATION 2000 FT	36 x 18	4.50	1	GREEN	III	WHITE	III	X	SQFT	SQFT	
	G200-80	GOLF (SYMBOL)	24 x 24	4.00	1	BROWN	III	WHITE	III	X	4.00	26.25	
D9-8		FOOD (SYMBOL)	24 x 24	4.00	1	BLUE	III	WHITE	III	X	4.00		
TOTAL											12.50	26.25	

NOTE:
FOR SIGN MESSAGE/DESCRIPTION INFORMATION, SEE DETAIL THIS SHEET.



SIGN DETAILS AND QUANTITIES

SD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CHUCK COOK
 ALEX WU
 SERGIO ACEVES
 TRAFFIC

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	19	50

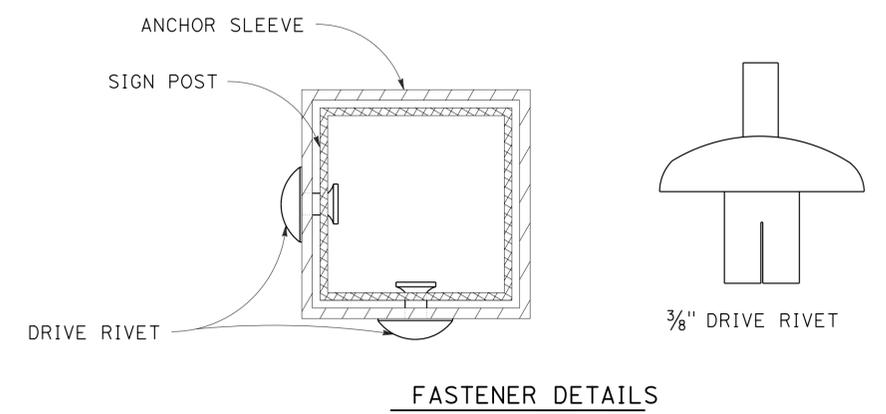
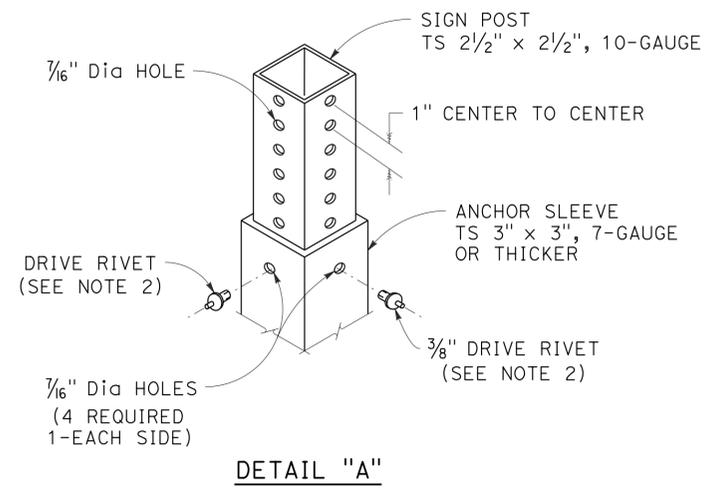
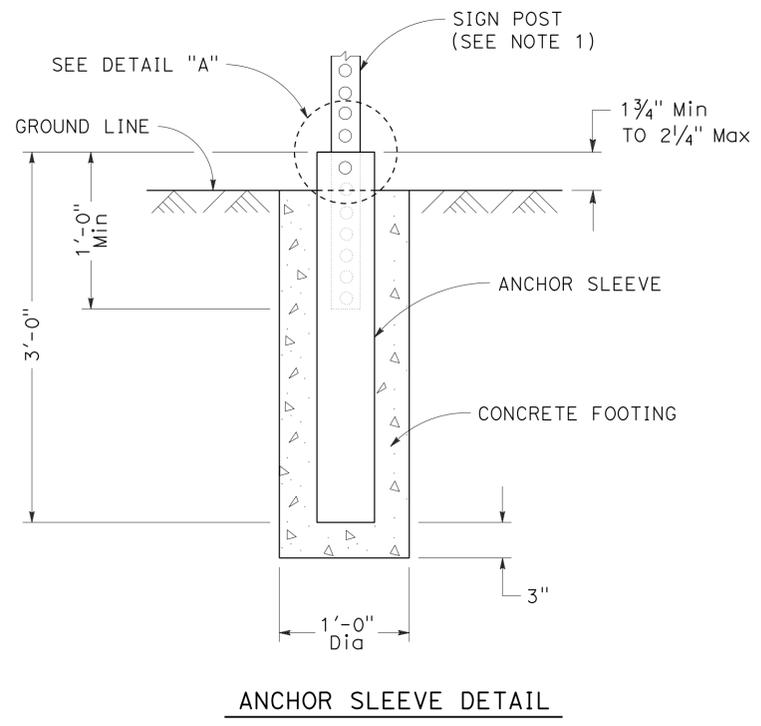
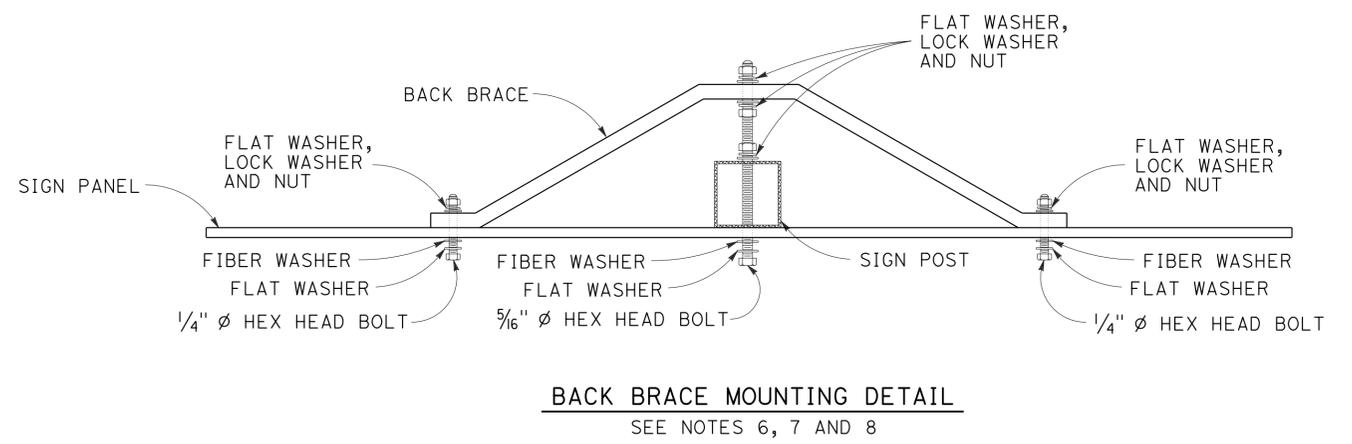
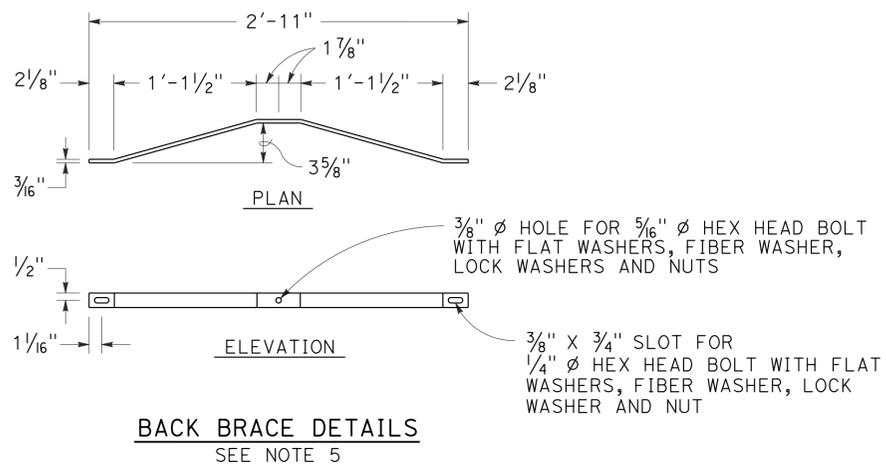
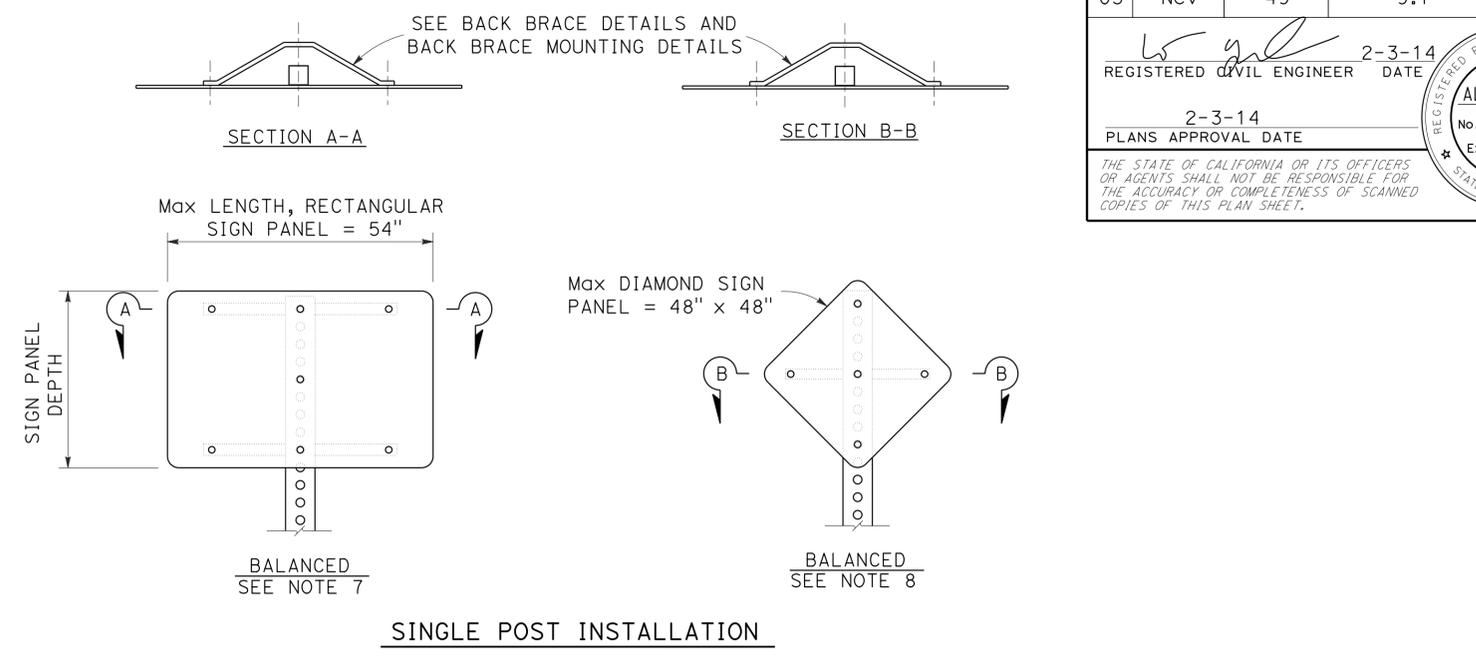
REGISTERED CIVIL ENGINEER	DATE
<i>W. Wu</i>	2-3-14
PLANS APPROVAL DATE	
	2-3-14

REGISTERED PROFESSIONAL ENGINEER
ALEX W. WU
No. 77266
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. THE SIGN POST SHALL HAVE 1/16" DIAMETER PERFORATIONS 1" ON CENTER ON ALL FOUR SIDES FOR THE FULL LENGTH.
2. USE TWO DRIVE RIVETS TO FASTEN ASSEMBLED SIGN AND SIGN POST INTO ANCHOR SLEEVE. INSTALL DRIVE RIVETS INTO THE SIDES FACING TRAFFIC.
3. ALL METAL SIGN POSTS AND ANCHOR SLEEVES SHALL BE GALVANIZED.
4. ALL ANCHOR SLEEVES SHALL BE EMBEDDED IN PCC.
5. BALANCED SINGLE POST INSTALLATIONS OF SINGLE SHEET ALUMINUM PANEL SIGNS REQUIRE BACK BRACES WHEN 2'-10" OR MORE IN LENGTH.
6. WOOD BLOCK SPACERS ARE NOT REQUIRED FOR SIGNS MOUNTED ON METAL POSTS.
7. ATTACH RECTANGULAR SIGN PANEL TO SIGN POST WITH BOLTS AT TOP AND BOTTOM. CENTER MAY BE ATTACHED WITH EITHER BOLT OR 3/8" DRIVE RIVET.
8. ATTACH DIAMOND SIGN PANEL TO SIGN POST WITH BOLT AT CENTER. TOP AND BOTTOM MAY BE ATTACHED WITH EITHER BOLTS OR 3/8" DRIVE RIVETS.
9. FOR DETAILS NOT SHOWN, SEE STANDARD PLANS RS1 AND RS2.



SIGN DETAILS
NO SCALE

SD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: SERGIO ACEVES
 REVISIONS: CHUCK COOK, ALEX WU, SERGIO ACEVES
 REVISIONS: CHUCK COOK, ALEX WU, SERGIO ACEVES
 REVISIONS: CHUCK COOK, ALEX WU, SERGIO ACEVES

APPROVED FOR SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	20	50

2-3-14
 REGISTERED CIVIL ENGINEER DATE
 2-3-14
 PLANS APPROVAL DATE

ALEX W. WU
 No. 77266
 Exp. 6-30-15
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TEMPORARY RAILING (TYPE K)

STAGE	STATION	LF
STAGE 2	R+ STA "A1" 105+20 TO STA "A1" 112+60	740
TOTAL		740

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

STATION	TEMPORARY FIBER ROLL (6")		TEMPORARY DRAINAGE INLET PROTECTION	
	LF	EA	LF	EA
R+ STA "A1" 106+74 TO STA "A1" 114+96	822			
R+ STA "A1" 113+09			1	1
TOTAL	822		1	1

VEGETATION CONTROL (MINOR CONCRETE)

STATION	SQYD
R+ STA "A1" 105+66 TO STA "A1" 114+39	250
TOTAL	250

TEMPORARY CRASH CUSHION MODULE

STAGE	STATION	ARRAY 'TS' 14' (EA)
STAGE 2	R+ STA "A1" 104+95	14
TOTAL		14

MINOR HMA

	TON
HMA DIKE	30
TOTAL	30

TREATED WOOD WASTE

	LB
TREATED WOOD WASTE	9600
TOTAL	9600

ALTERNATIVE TEMPORARY CRASH CUSHION

STAGE	STATION	(EA)
STAGE 2	R+ STA "A1" 112+60	1
TOTAL		1

CENTERLINE RUMBLE STRIP

STATION	CENTERLINE RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)
	Sta
STA "A1" 106+60 TO STA "A1" 114+96	8.36
TOTAL	8.36

ROADWAY ITEMS

STATION	(N)				(Z)								
	ROADWAY EXCAVATION	EMBANKMENT	HMA (TYPE A)	TACK COAT	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE A)	REMOVE ASPHALT CONCRETE DIKE	COLD PLANE AC PAVEMENT	HMA (OPEN GRADED)	BIAXIAL GEOGRID	CLASS 2 AB	PLACE HMA (Misc AREA)	Temp FENCE (TYPE ESA)
	CY	CY	TON	TON	LF	LF	LF	SQYD	TON	SQYD	CY	SQYD	LF
R+ STA "A1" 106+31 TO STA "A1" 114+96	930	30	520	2.4	122	743	865	2120	210	3800	800	5	
R+ STA "A1" 106+60 TO STA "A1" 114+75													815
SUBTOTAL	930	30	520	2.4	122	743	865	2120	210	3800	800	5	815
TOTAL	930		520	2.4	122	743	865	2120	210		800	5	815

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

GUARD RAILING QUANTITIES

STATION	REMOVE GUARDRAIL	ALTERNATIVE FLARED TERMINAL SYSTEM	MIDWEST GUARDRAIL SYSTEM (7' WOOD POST)
	LF	EA	LF
STA "A1" 106+84 TO STA "A1" 114+24	740		
STA "A1" 105+81 TO STA "A1" 106+31		1	
STA "A1" 113+74 TO STA "A1" 114+24		1	
STA "A1" 106+31 TO STA "A1" 113+74			743
TOTAL	740	2	743

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

TRAFFIC

FUNCTIONAL SUPERVISOR: STEPHEN T. WRIGHT

REVISOR: ALEX WU, AL CHIN

DATE: 7/2/2010

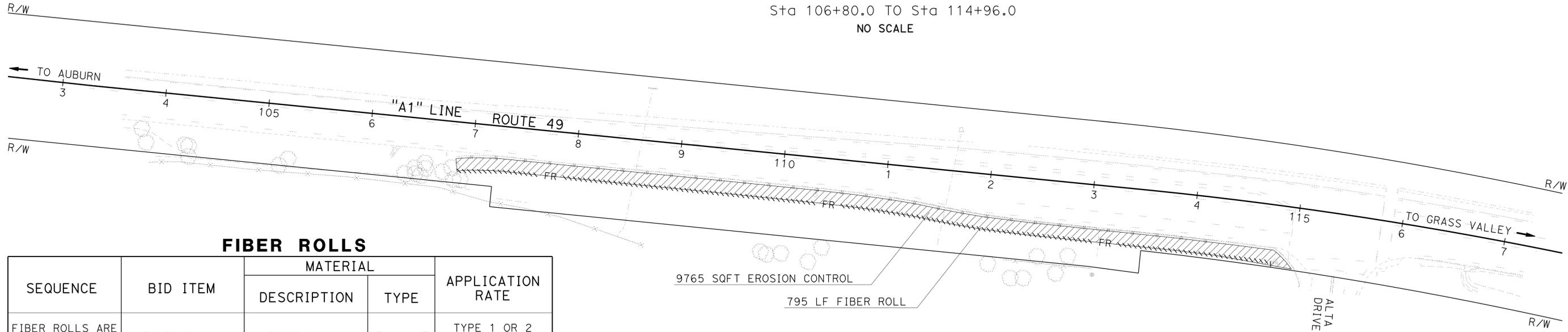
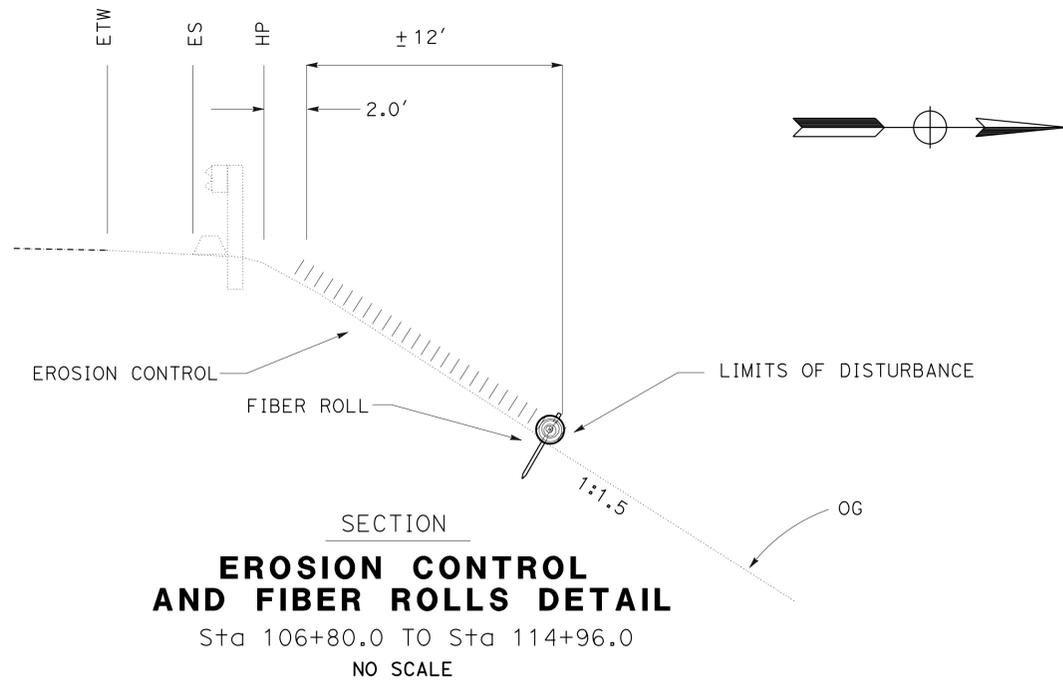


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	21	50

LICENSED LANDSCAPE ARCHITECT
 2-3-14
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- LEGEND:**
-  EROSION CONTROL - COMPOST
 -  FR FIBER ROLLS



FIBER ROLLS

SEQUENCE	BID ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
	FIBER ROLLS ARE INSTALLED PRIOR TO COMPOST	FIBER ROLLS	8" TO 10" DIA	TYPE 1 OR 2 FIBER ROLL INSTALLATION

SEED MIX

BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
BROMUS CARINATUS ¹ (CALIFORNIA BROME)	80	15
ESCHSCHOLZIA CALIFORNICUM (CALIFORNIA POPPY)	75	3
ELYMUS GLAUCUS ¹ (BLUE WILDRYE)	80	9
LUPINUS BICOLOR ¹ (PIGMY-LEAVED LUPINE)	80	9
NASSELLA PULCHRA ¹ (PURPLE NEEDLEGRASS)	70	9
		45

¹ SEED PRODUCED IN NORTHERN CALIFORNIA ONLY.

EROSION CONTROL

BID ITEM	MATERIAL		DEPTH	APPLICATION RATE
	DESCRIPTION	TYPE		
COMPOST	COMPOST	MEDIUM	2"	--
	SEED	--	--	45 LB/ACRE

EROSION CONTROL QUANTITIES

STATION	COMPOST	FIBER ROLLS
	SQFT	LF
106+80.0 TO 114+96.0 R+	9765	--
106+80.0 TO 114+75.0 R+	--	795

EROSION CONTROL DETAILS
SCALE 1"= 50'
ECD-1

APPROVED FOR EROSION CONTROL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	23	50

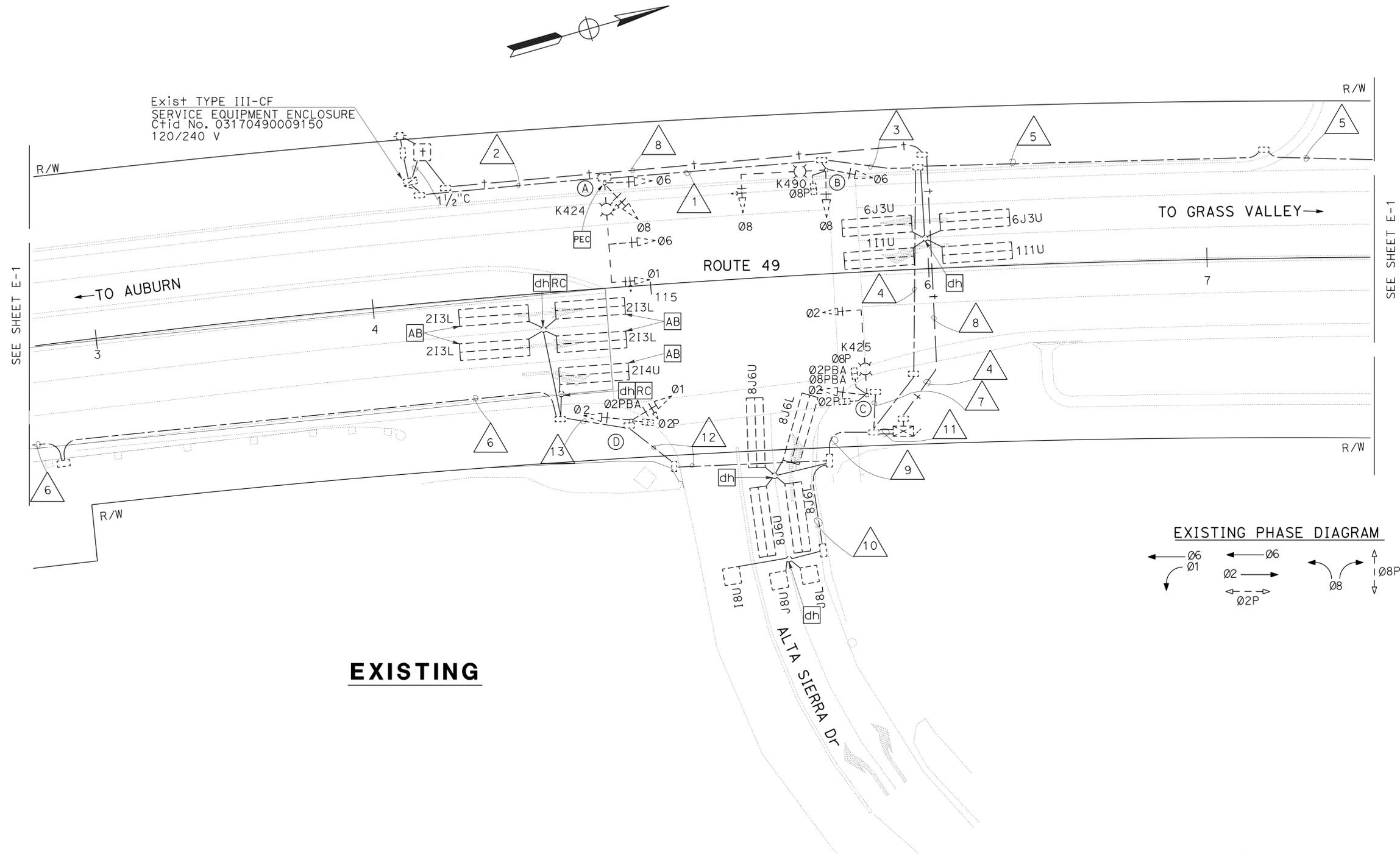
<i>H. Golban</i> 2-3-14 REGISTERED ELECTRICAL ENGINEER DATE	
2-3-14 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER HABIB GOLBAN No. 17928 Exp. 09-30-14 ELECTRICAL STATE OF CALIFORNIA

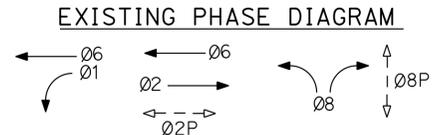
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NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



EXISTING



MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 20'

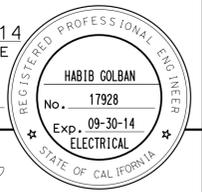
APPROVED FOR ELECTRICAL WORK ONLY

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans ELECTRICAL DESIGN	NELSON LEE	NATHAN DEKENS HABIB GOLBAN	NATHAN DEKENS HABIB GOLBAN
		CHECKED BY	DATE REVISED

LAST REVISION DATE PLOTTED => 30-JAN-2014 11-19-13 TIME PLOTTED => 12:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	24	50
H. Golban 2-3-14 REGISTERED ELECTRICAL ENGINEER DATE					
2-3-14 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

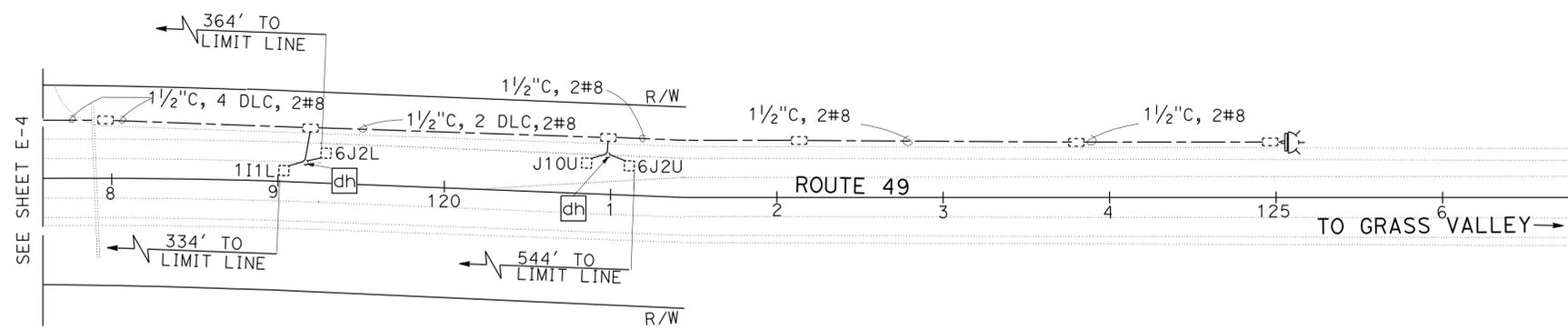
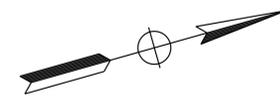
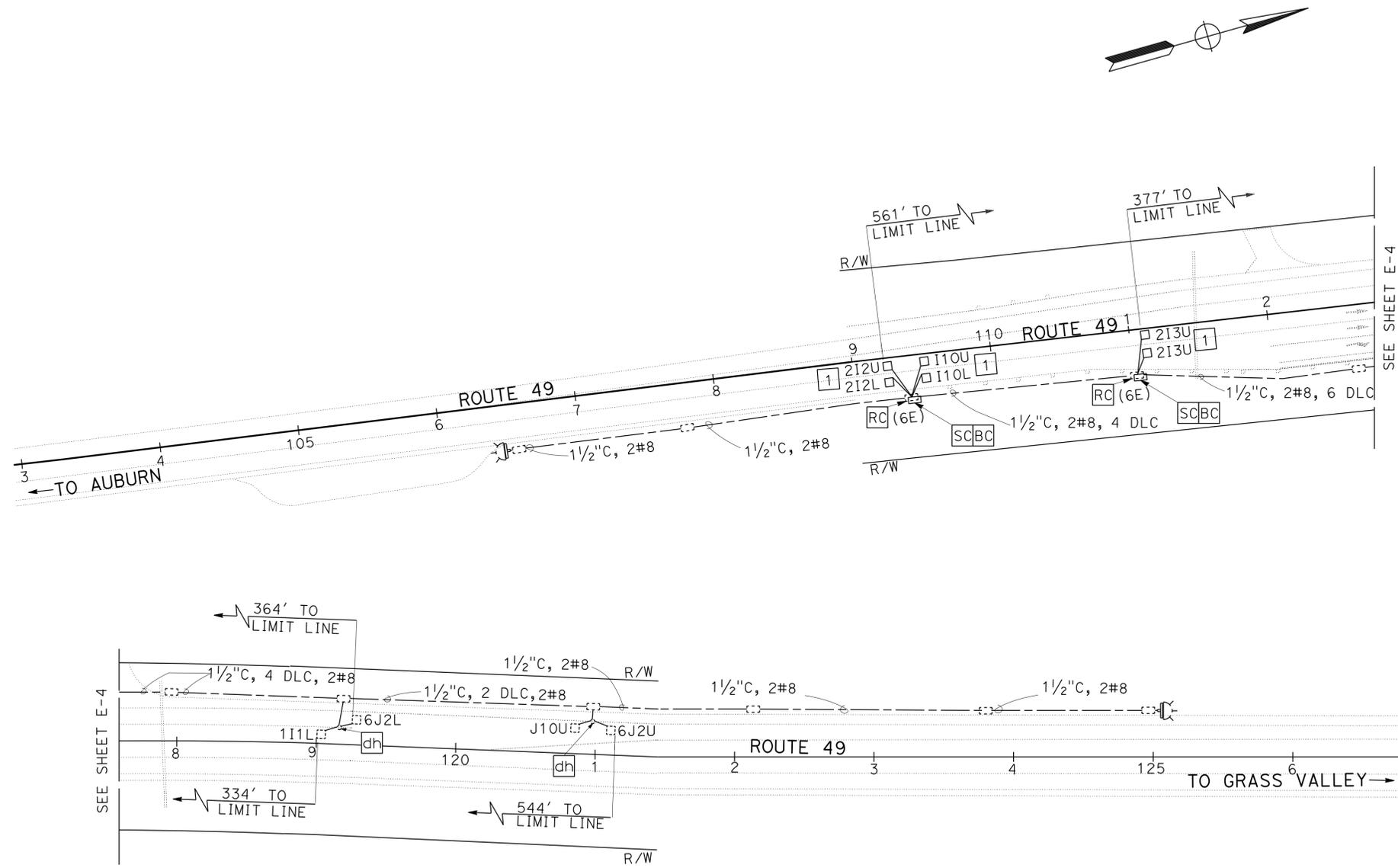


NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND: (THIS SHEET ONLY)

- 1 INSTALL PREFORMED LOOP BEFORE GRINDING, TO REMAIN AS PERMANENT



TEMPORARY

MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans ELECTRICAL DESIGN	NELSON LEE	NATHAN DEKENS	
		HABIB GOLBAN	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	25	50

<i>H. Golban</i> 2-3-14 REGISTERED ELECTRICAL ENGINEER DATE	
2-3-14 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER HABIB GOLBAN No. 17928 Exp. 09-30-14 ELECTRICAL STATE OF CALIFORNIA

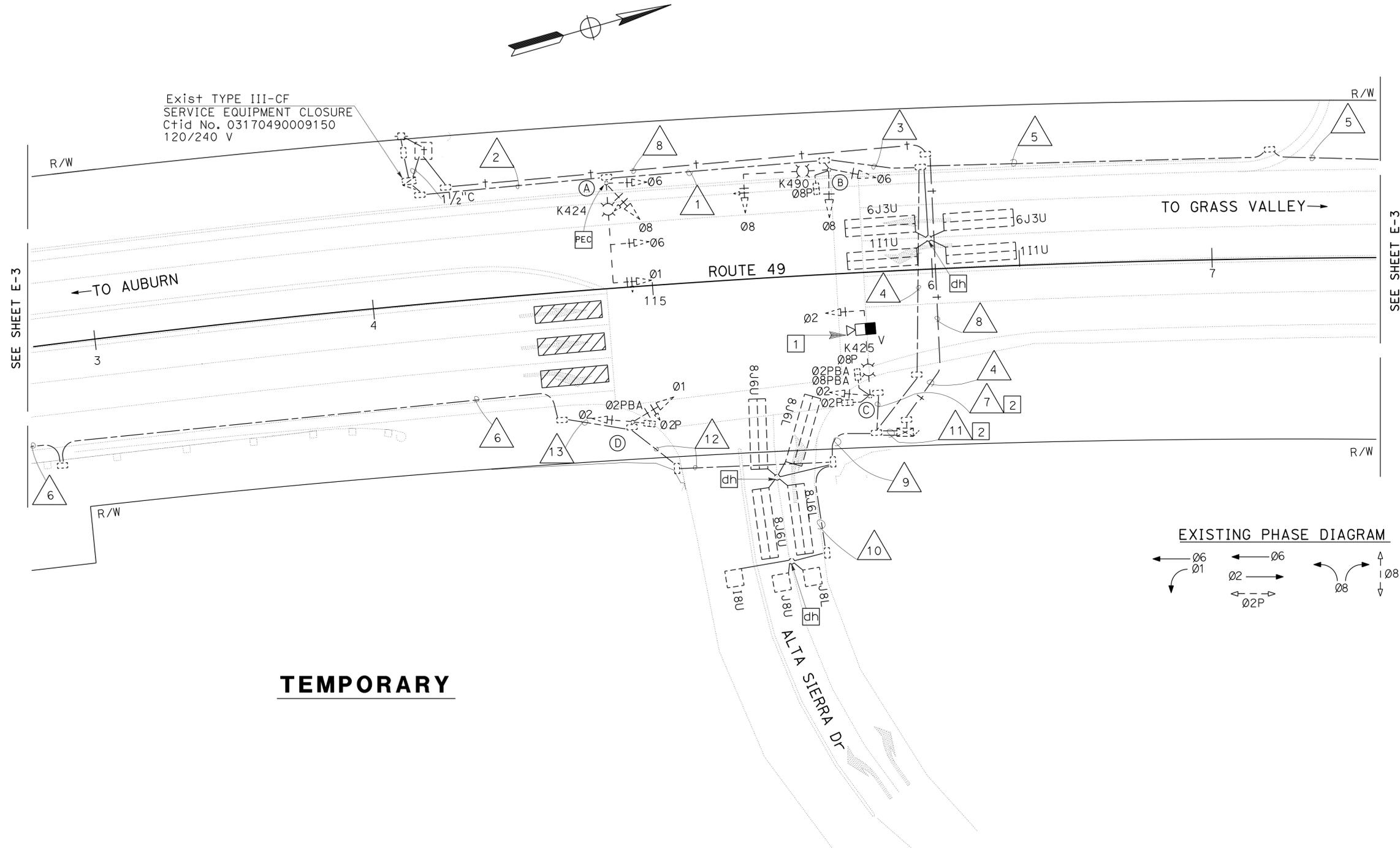
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NOTE:

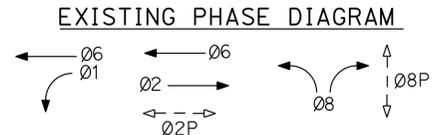
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND: (THIS SHEET ONLY)

- 1 INSTALL VIVDS CAMERA FOR TEMPORARY DETECTION VIVDS REMOVAL WILL BE DECIDED BY ENGINEER.
- 2 ADD VIVDS CABLE.



TEMPORARY



MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

E-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	NATHAN DEKENS	REVISOR BY	
Caltrans ELECTRICAL DESIGN	NELSON LEE	CHECKED BY	HABIB GOLBAN	DATE REVISED	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	26	50

<i>H. Golban</i> 2-3-14 REGISTERED ELECTRICAL ENGINEER DATE	
2-3-14 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER HABIB GOLBAN No. 17928 Exp. 09-30-14 ELECTRICAL STATE OF CALIFORNIA
--

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

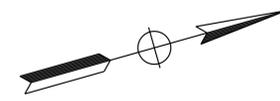
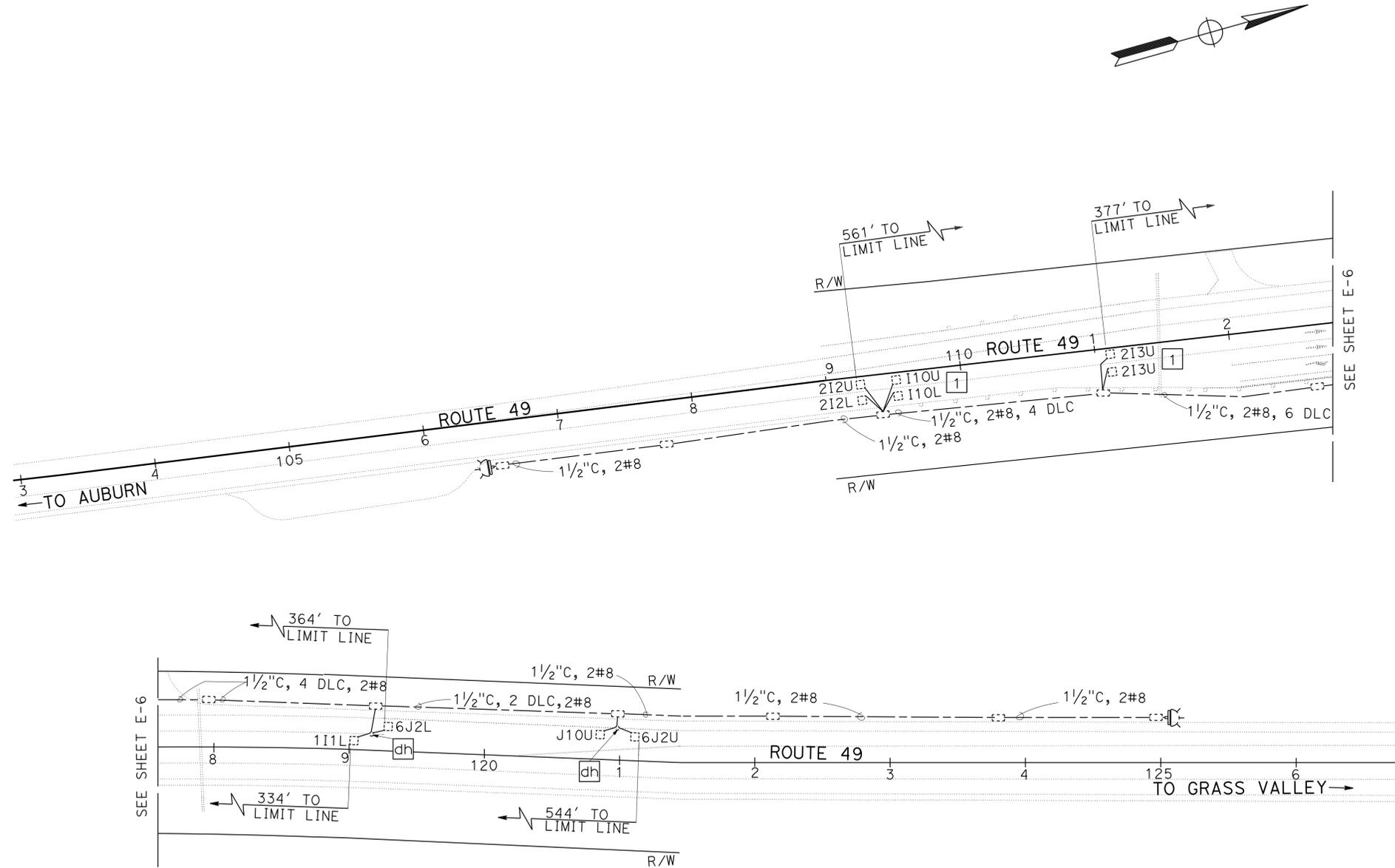
NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND: (THIS SHEET ONLY)

1 SEE SHEET E-3.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans ELECTRICAL DESIGN	NELSON LEE	CHECKED BY	DATE REVISED
		NATHAN DEKENS	
		HABIB GOLBAN	



MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 50'

E-5

APPROVED FOR ELECTRICAL WORK ONLY



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	27	50

<i>H. Golban</i> 2-3-14 REGISTERED ELECTRICAL ENGINEER DATE	
2-3-14 PLANS APPROVAL DATE	

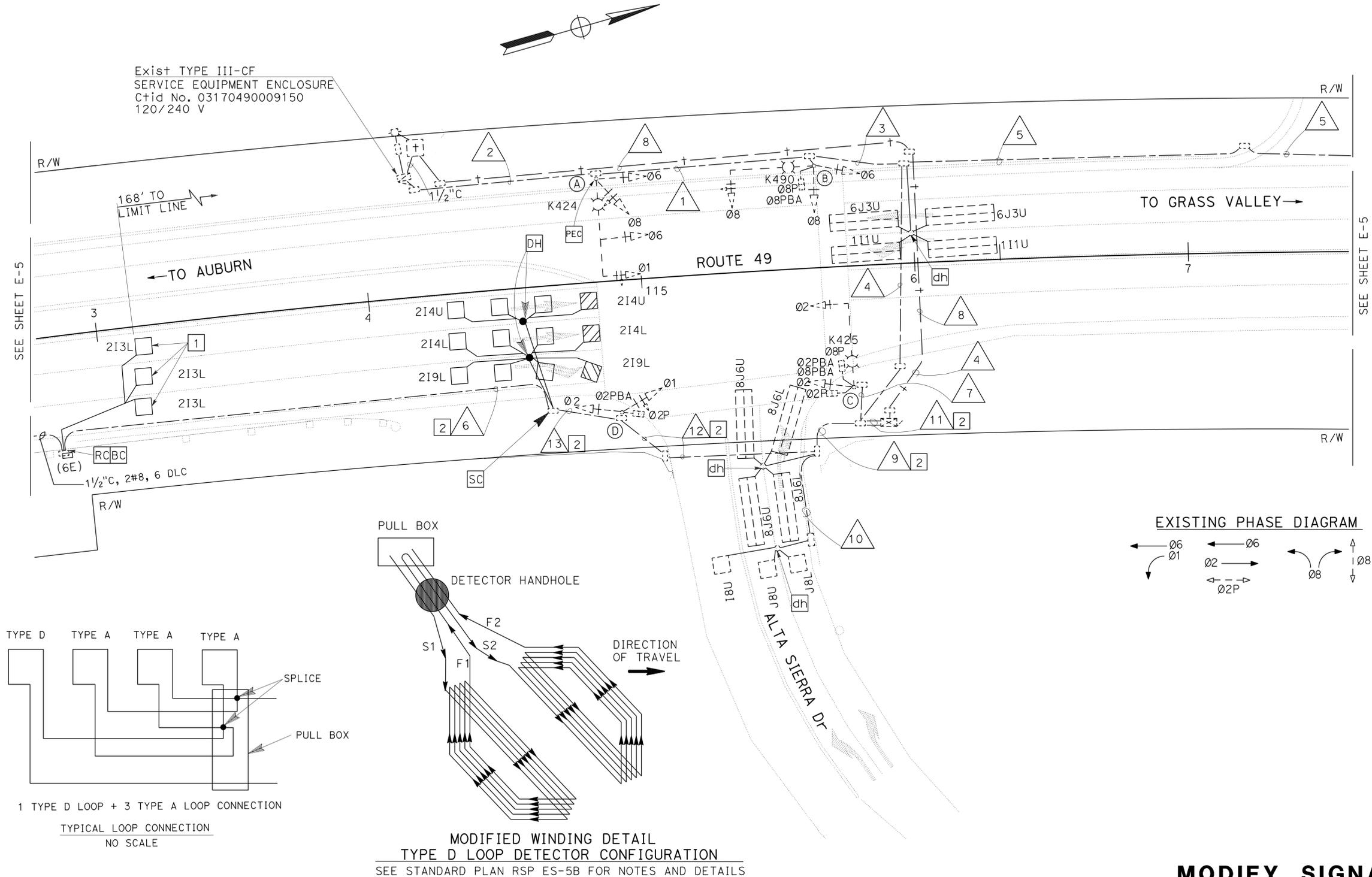
REGISTERED PROFESSIONAL ENGINEER No. 17928 Exp. 09-30-14 ELECTRICAL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- 1 INSTALL PREFORMED LOOP
- 2 ADD 1 DLC



MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

E-6

MODIFIED CONDUCTOR AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	
#14	Ø1	3		3						3		6	3		
	Ø2							3		3		3	3		
	Ø6	3		3	3							3			
	Ø8	3		3	3							3			
	Ø2P							2		2		2	2		
	Ø8P			2	2			2				2			
	Ø2PPB							1		1		1	1		
	Ø8PPB				1	1		1				1			
	PPB NEUTRAL			1	1			1				1	1		
	PEU		3												
SPARES	3		3	3			3		3		6	3			
TOTAL	12	3	16	16			13		13		29	13			
#8	LUMINAIRES	2	2	2	2		2								
	SIGNAL NEUTRAL	1		1	1		1		1		2	1			
	FLASH BEACON	4	4	4	2	2	2		2		2	2	2		
	TOTAL	7	6	7	5	2	2	3		3		2	3	2	
#4	SIGNAL SERVICE	2	2	2	2							2			
	TOTAL	2	2	2	2							2			
DLC	Ø1 DET				1							1			
	Ø2 DET						4*	4*			7*	7*	7*		
	Ø6 DET				5	3						5			
	Ø8 DET										2	2			
	EB COUNT										1	1	1		
	SB COUNT				1	1						2			
	NB COUNT						2				2	2	2		
	WB COUNT										2	2			
	TOTAL				7	4	6*	4*			14*	3	20*	9*	9*
	PHONE	6 PAIR CABLE									1				
TOTAL										1					
CONDUIT SIZE		3"	2"	3"	3"	1 1/2"	1 1/2"	2"	1 1/2"	3"	1 1/2"	2-3"	3"	2"	

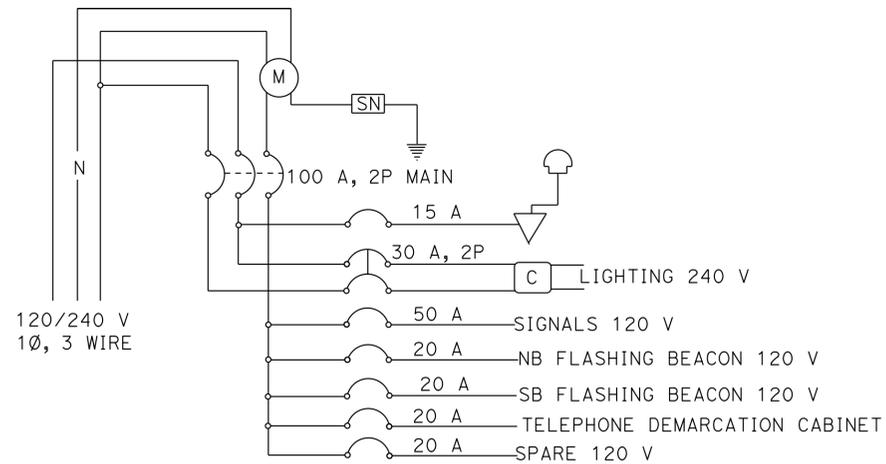
* ADD 1 DLC

Exist POLE AND EQUIPMENT SCHEDULE

No.	STANDARD		Ø	Veh Sig Mtg	Ped SIGNAL	PBA		HPS LUMINAIRE	SPECIAL REQUIREMENTS					
	TYPE	SMA				LMA	Ø			ARROW				
A	19-3-129	35'	12'	1	MAT									
				6	MAT				200 W	PEU				
				6		SV-2-TB	12"							
				8		SV-2-TB	8"							
B	19-3-129	30'	12'	6		SV-2-TB	12"	SP-1-T	A	8	→	200 W		
				8		SV-2-TB	12"							
				8	MAT		12"							
C	19-3-129	30'	12'	2		SV-1-T	12"	SP-2-T	A	8	←	200 W		
				2	MAT		12"			2	→			
D	1-B			1		TV-2-TB	12"							
				2		TV-2-TB	8"	SP-1-T	A	2	←			

LEGEND:

- (M) METER SOCKET
- [SN] SOLID NEUTRAL
- ☉ PHOTOELECTRIC UNIT
- ▽ AUTO TEST SWITCH
- [C] CONTACTOR



Exist SERVICE WIRING DIAGRAM

Ctid No. 03170490009150

MODIFY SIGNAL AND LIGHTING

E-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 NATHAN DEKENS
 HABIB GOLBAN
 NATHAN DEKENS
 HABIB GOLBAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 FUNCTIONAL SUPERVISOR
 NELSON LEE
 REVISOR BY
 DATE REVISED
 REVISOR BY
 DATE REVISED

LAST REVISION DATE PLOTTED => 30-JAN-2014
 11-19-13 TIME PLOTTED => 12:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	29	50

H. Golban 2-3-14
REGISTERED ELECTRICAL ENGINEER DATE

2-3-14
PLANS APPROVAL DATE

HABIB GOLBAN
No. 17928
Exp. 09-30-14
ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
NELSON LEE

CALCULATED/DESIGNED BY
CHECKED BY

NATHAN DEKENS
HABIB GOLBAN

REVISED BY
DATE REVISED

MODIFY SIGNAL AND LIGHTING

SHEET No.	(N)	(N)	(N)	(N)	(N)	TYPE A LOOP	TYPE D LOOP
	DETECTOR HANDHOLE	PREFORMED TYPE A LOOP	DLC CABLE	VIVDS CABLE	TEMPORARY VIVDS CAMERA		
E-3	2	6					
E-4				150	1		
E-6	2	3	1000			9	3

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

ELECTRICAL QUANTITIES

E-8



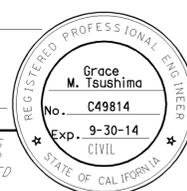
	M	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	N	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	O	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	P	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	P continued	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PREFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	Q	
Qty	QUANTITY	
	R	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
±	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	T	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	T continued	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	U
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	V
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	W
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWLOL	WINGWALL LAYOUT LINE	X
X Sec	CROSS SECTION	
Xing	CROSSING	Y
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	30	50



Grace M. Tsushima
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR
 THE ACCURACY OR COMPLETENESS OF SCANNED
 COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 2-3-14

UNIT OF MEASUREMENT SYMBOLS:
 Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
∅	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

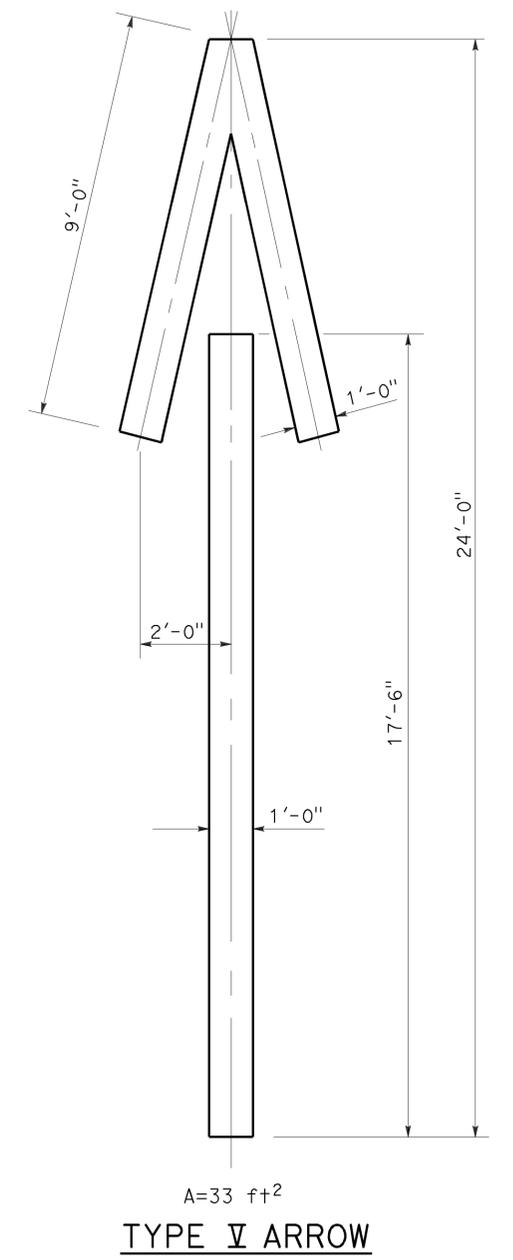
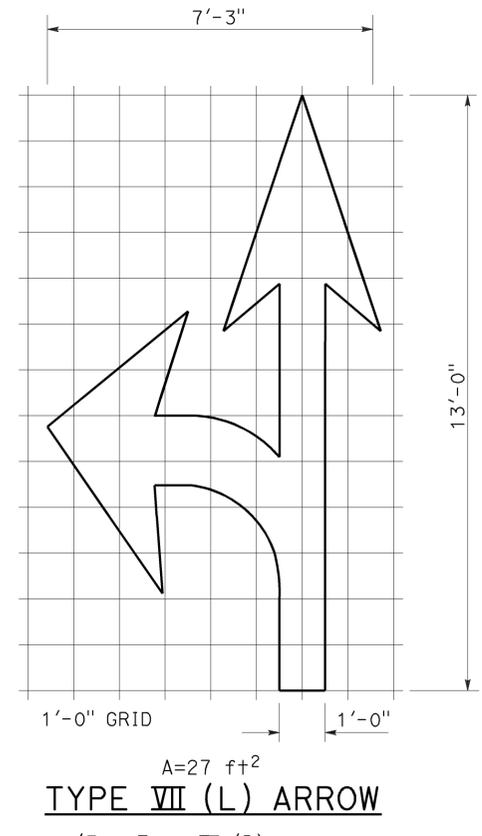
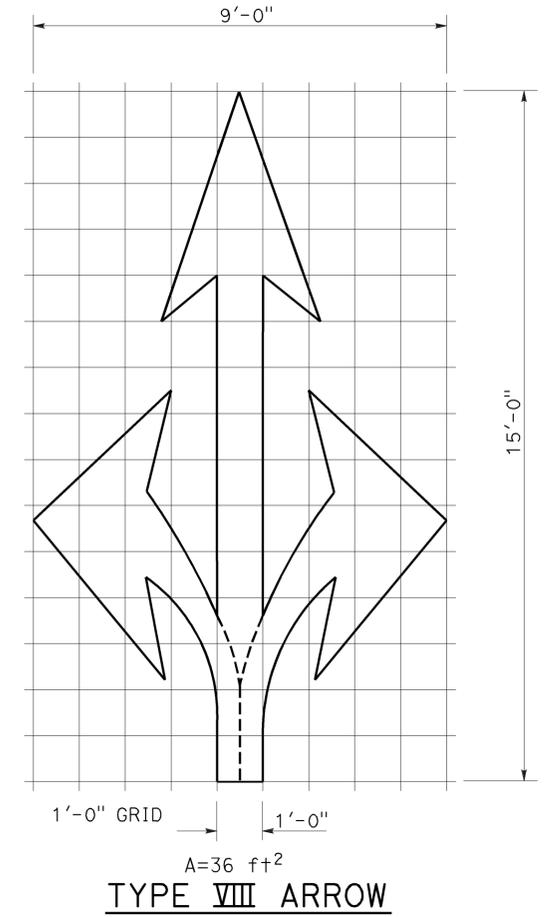
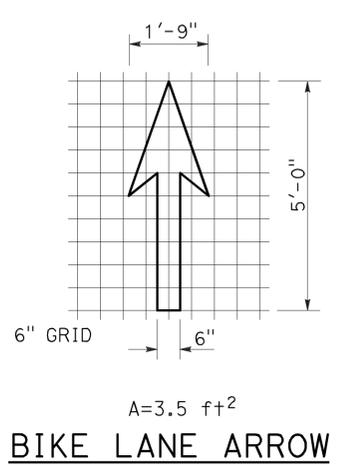
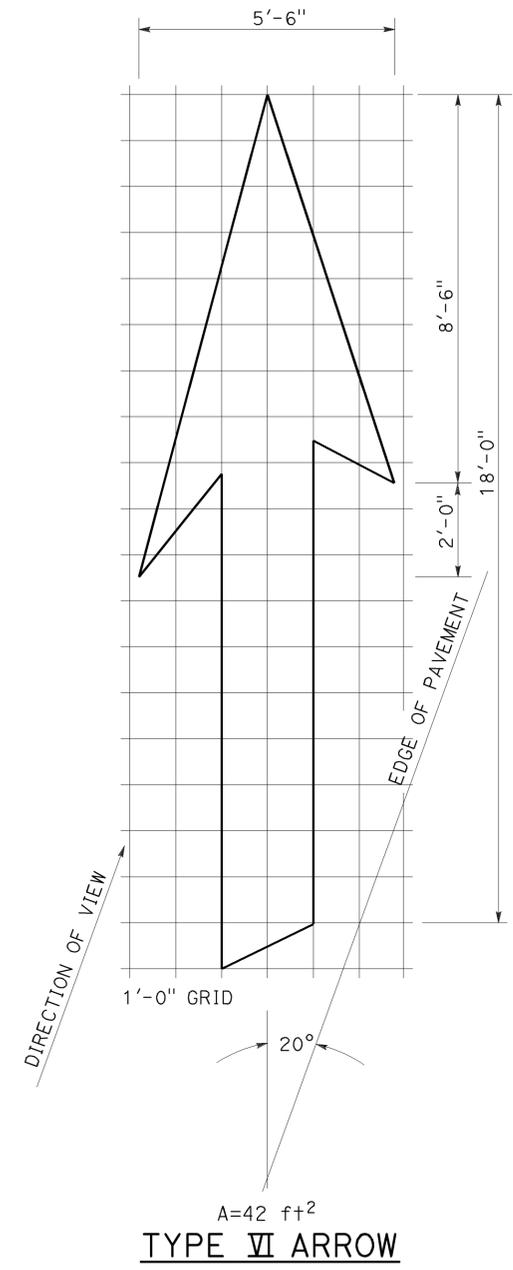
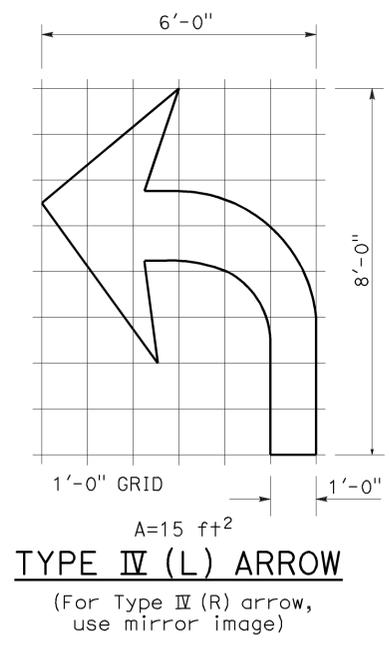
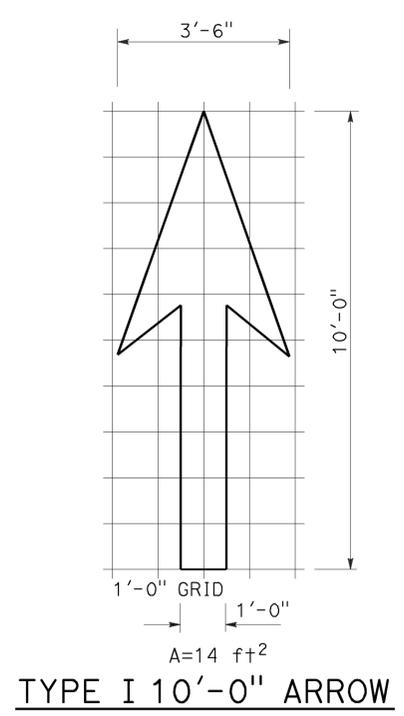
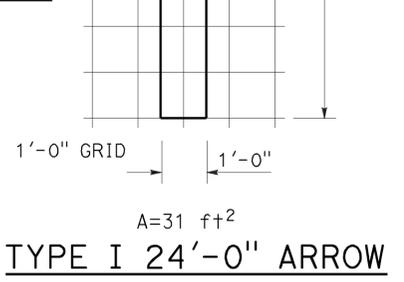
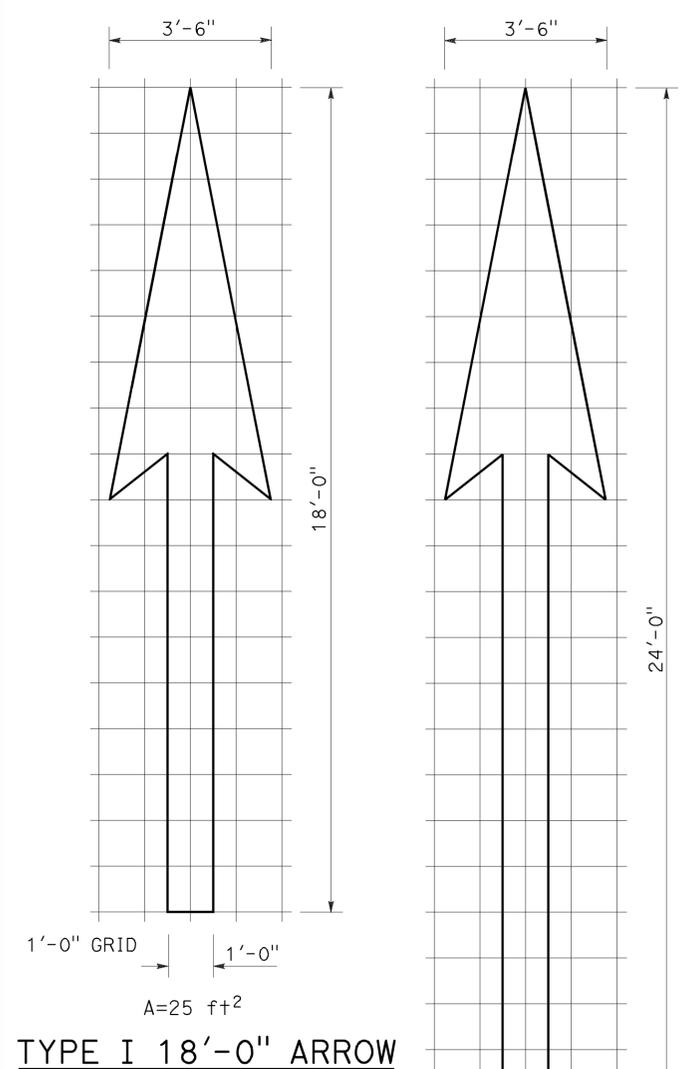
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Nev	49	9.1	31	50

Registered Professional Engineer
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

April 20, 2012
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 2-3-14



NOTE:
 Minor variations in dimensions may be accepted by the Engineer.

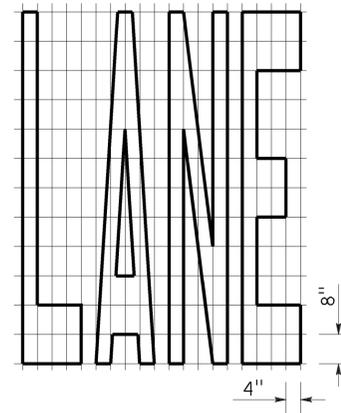
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
 ARROWS**
 NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

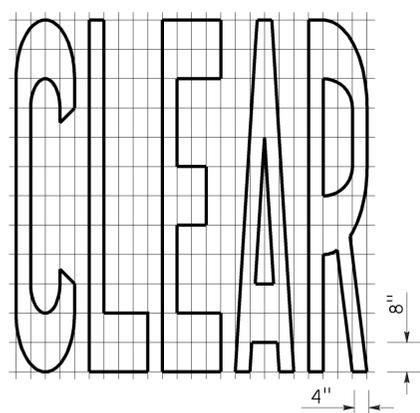
REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

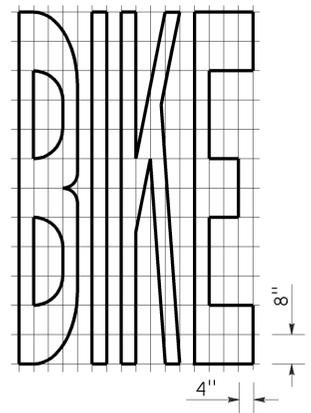
TO ACCOMPANY PLANS DATED 2-3-14



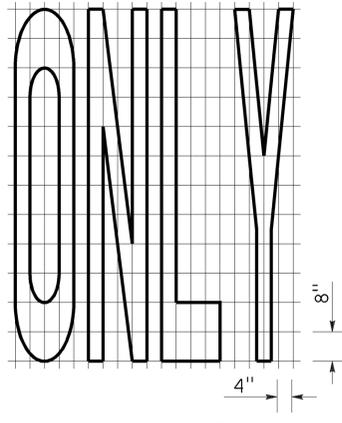
A=24 ft²



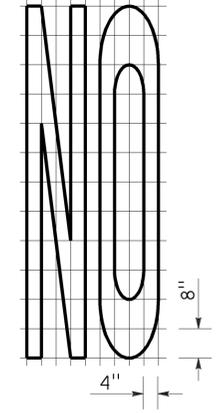
A=27 ft²



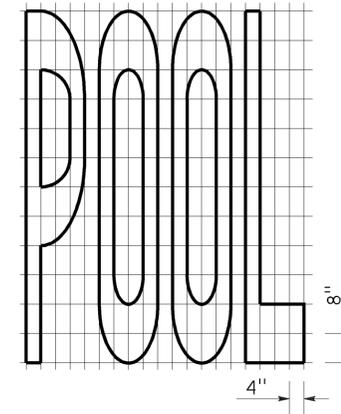
A=21 ft²



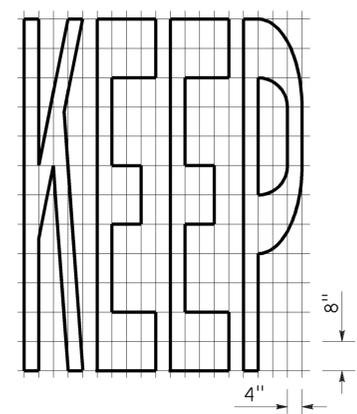
A=22 ft²



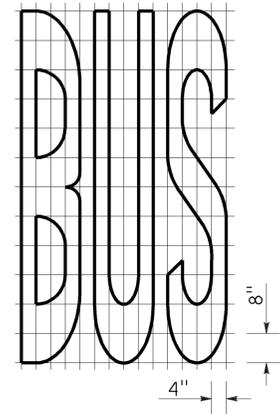
A=14 ft²



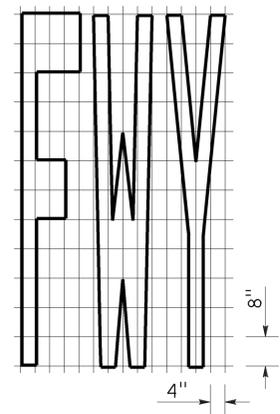
A=23 ft²



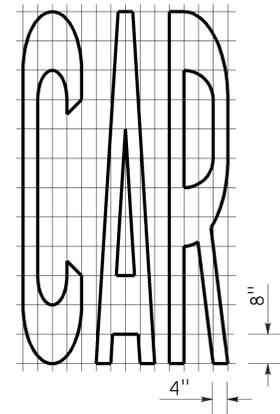
A=24 ft²



A=20 ft²

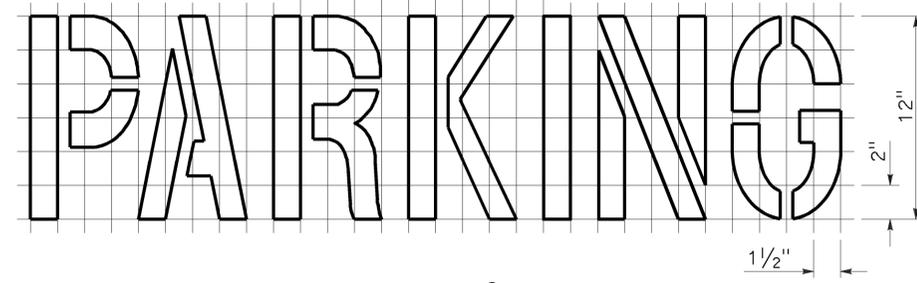
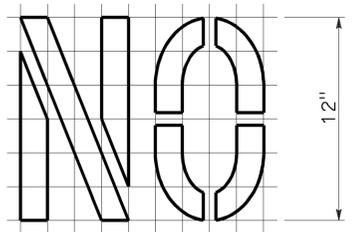


A=16 ft²

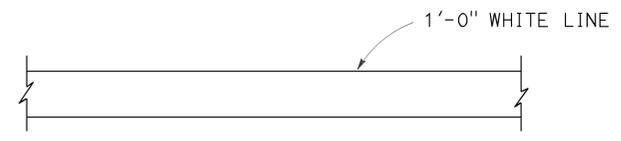


A=17 ft²

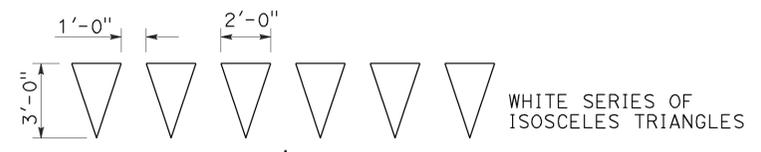
WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**
NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	33	50

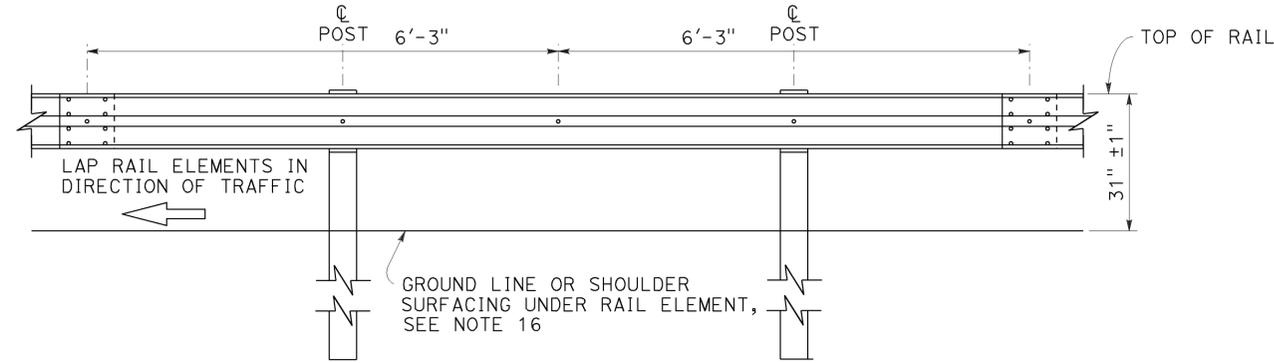
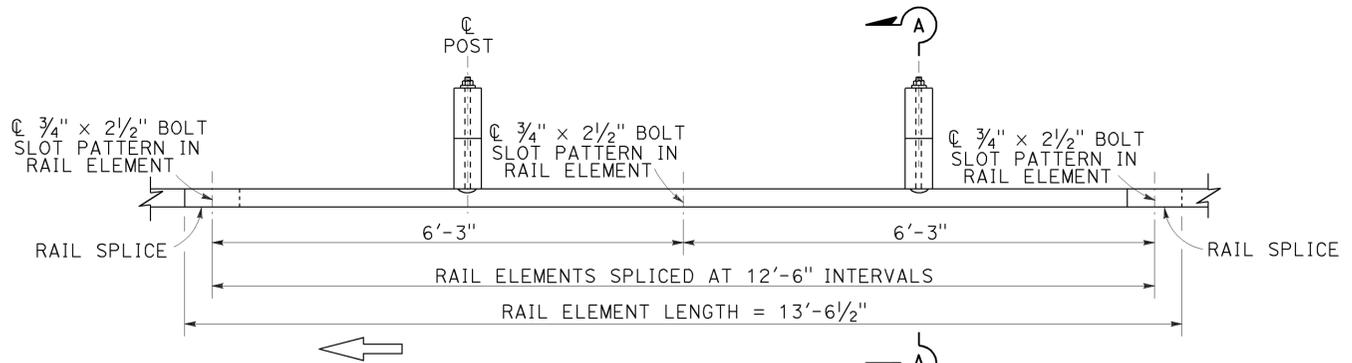
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

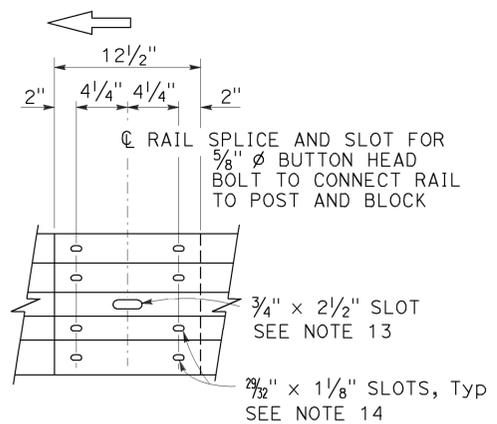
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NO. C50200
Exp. 6-30-15
CIVIL

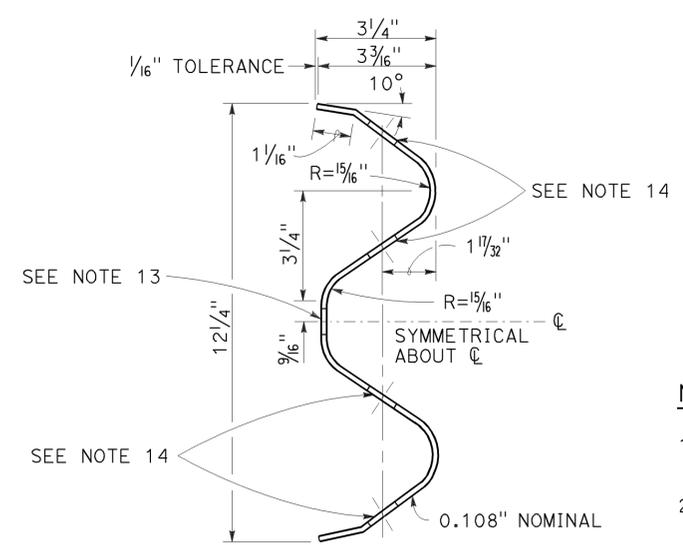
TO ACCOMPANY PLANS DATED 2-3-14



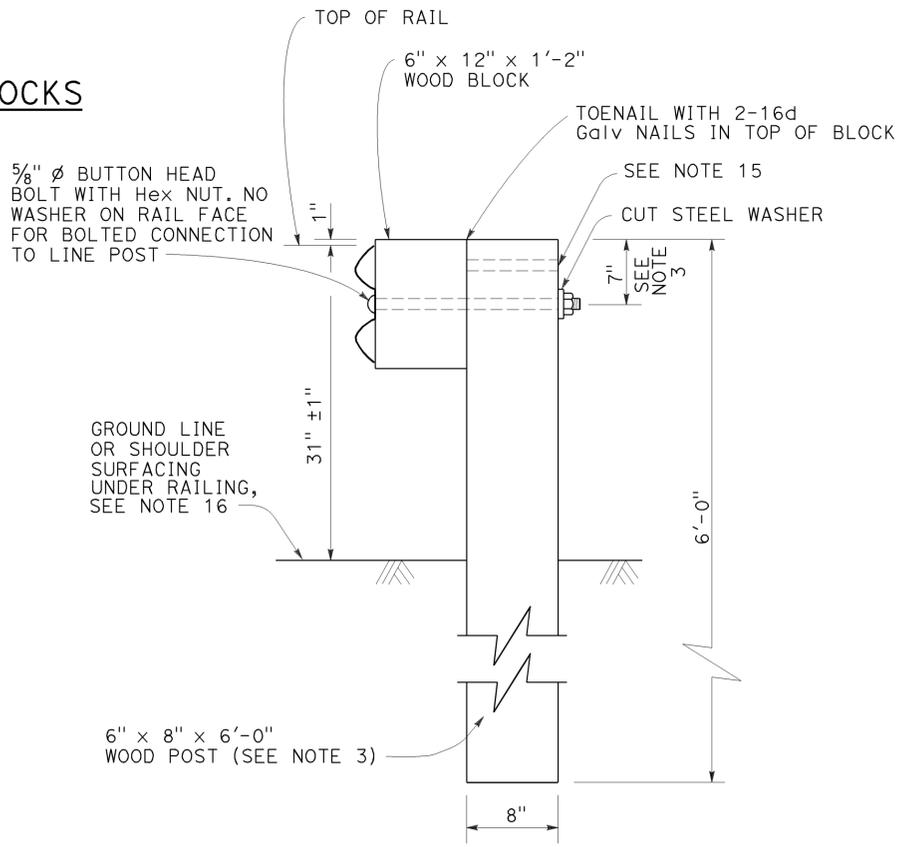
MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



- Connect the over lapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 7/32" x 1 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.



SECTION THRU RAIL ELEMENT



SECTION A-A TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP 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 Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH WOOD BLOCK)

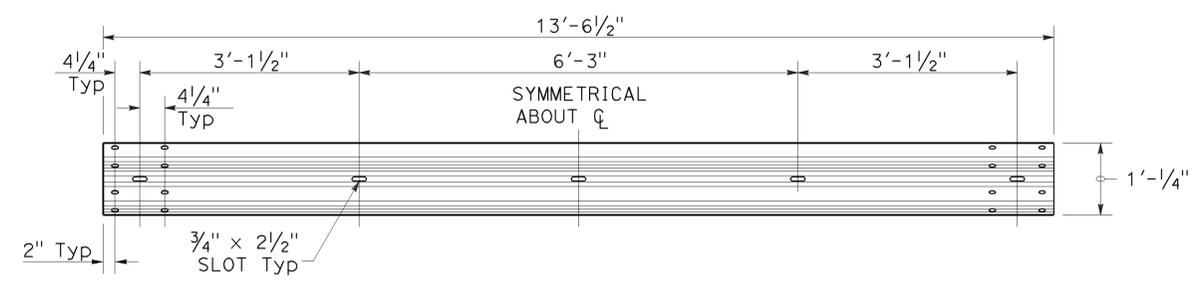
NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

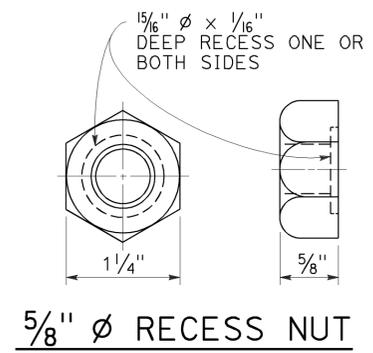
TO ACCOMPANY PLANS DATED 2-3-14



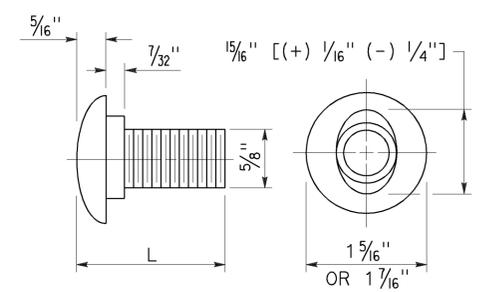
TYPICAL RAIL ELEMENT

NOTE:

1. Slotted holes for splice bolts to overlap ends of rail element.



5/8" Ø RECESS NUT

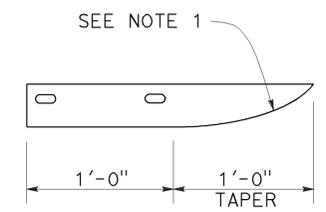


5/8" Ø BUTTON HEAD BOLT

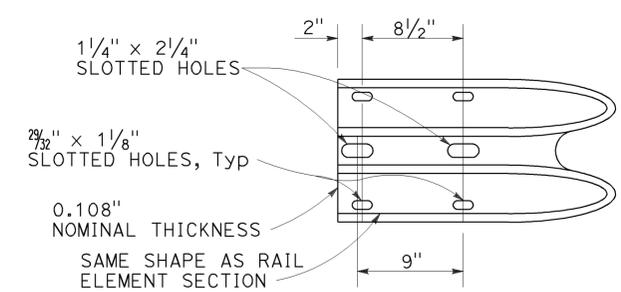
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	35	50

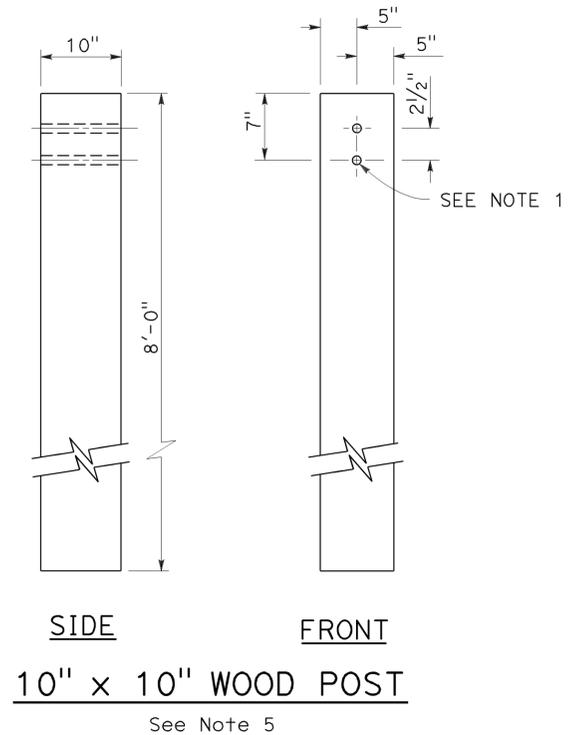
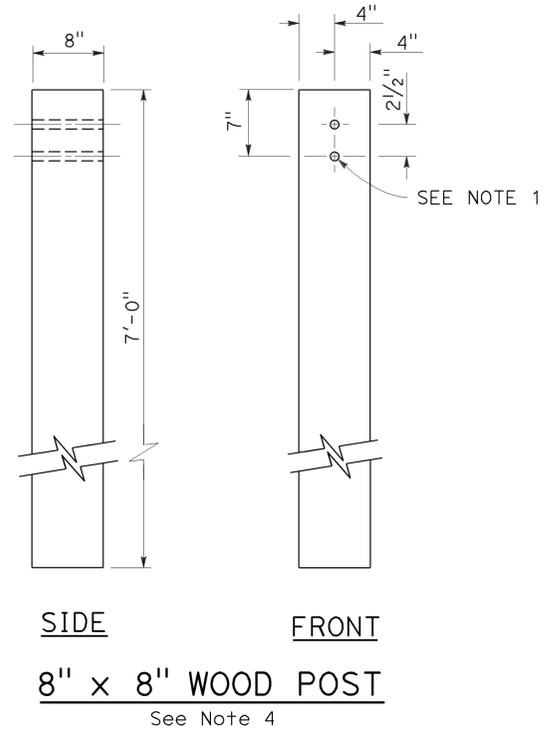
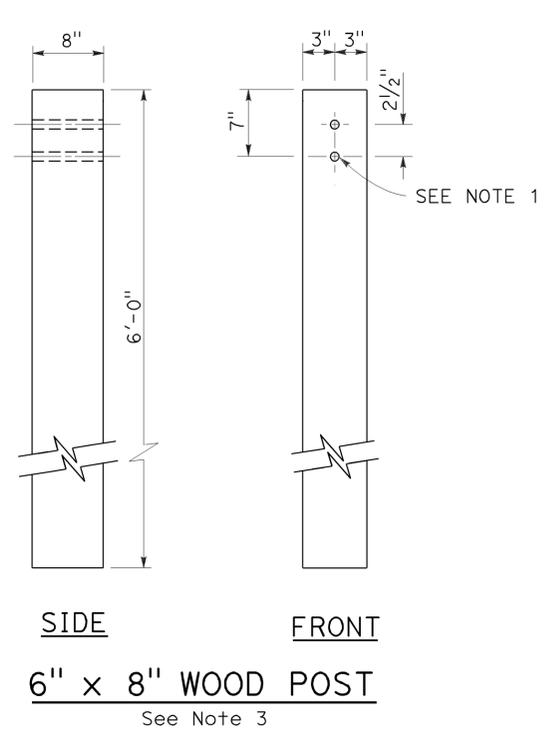
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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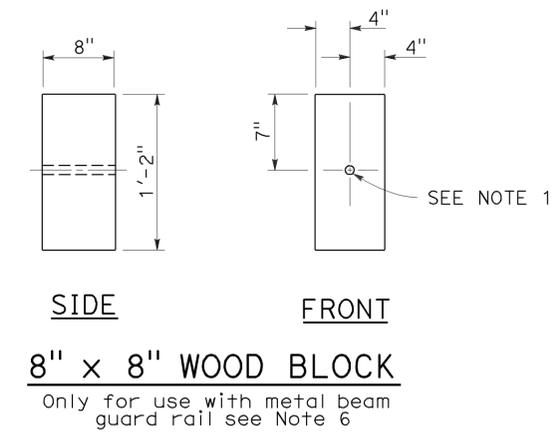
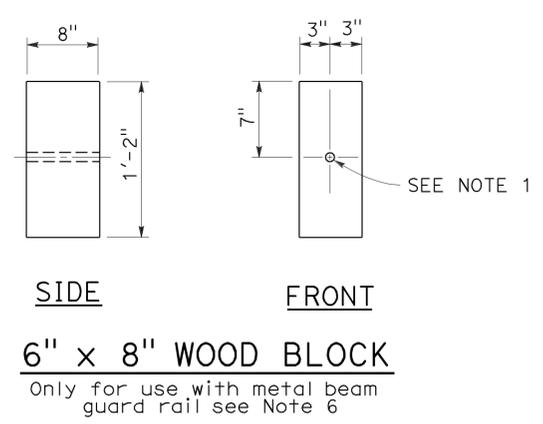
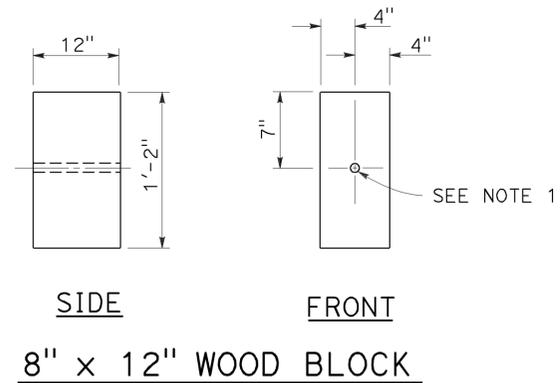
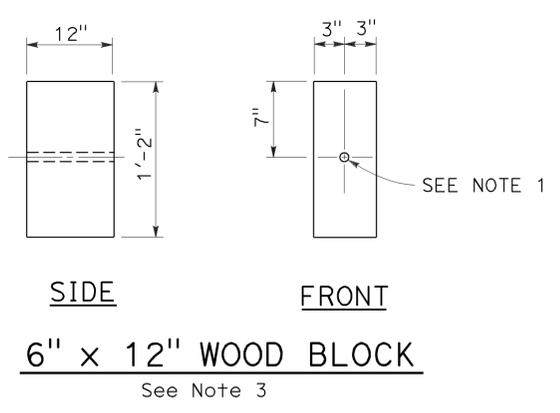
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-3-14



NOTES:

1. All holes in wood posts and blocks shall be $\frac{3}{4}$ " Dia \pm $\frac{1}{16}$ ".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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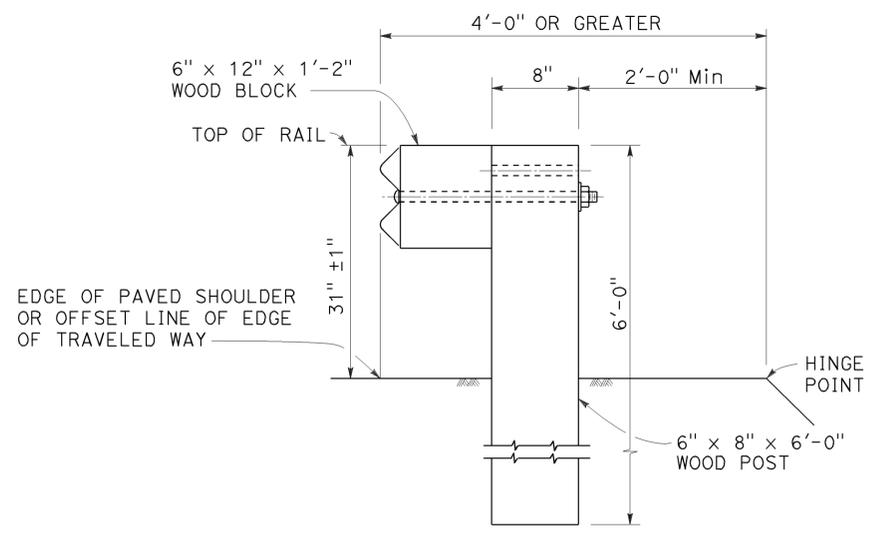
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REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

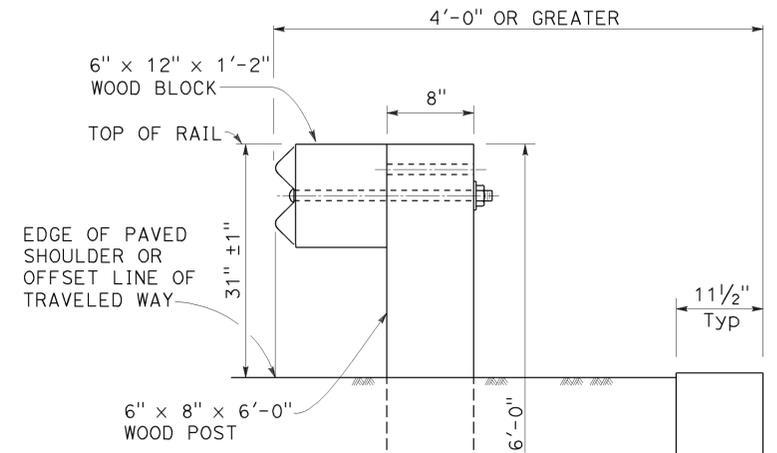
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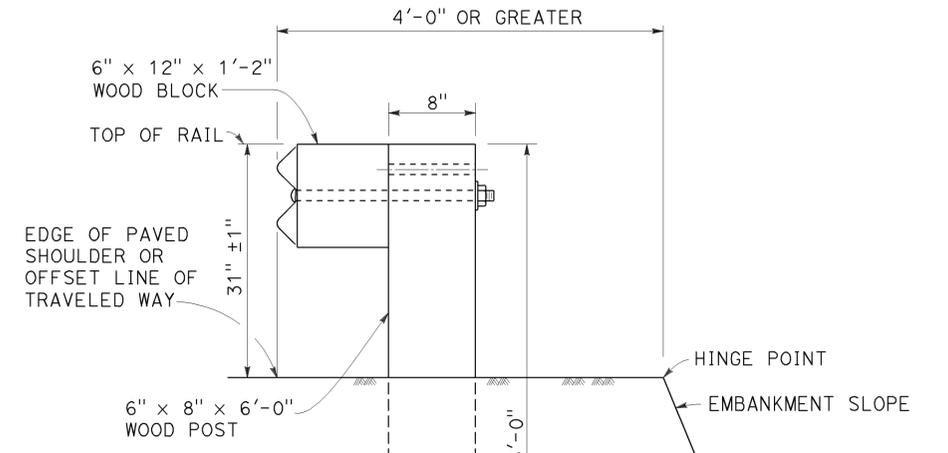
TO ACCOMPANY PLANS DATED 2-3-14



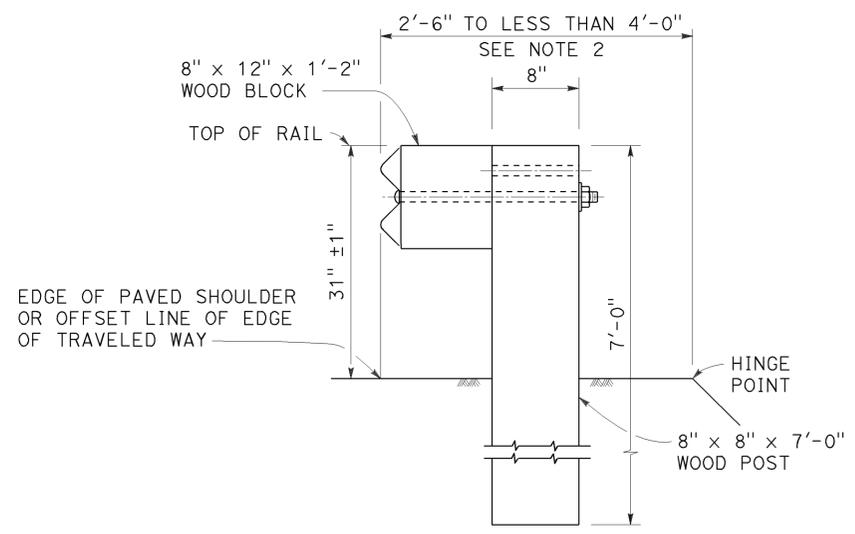
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	37	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

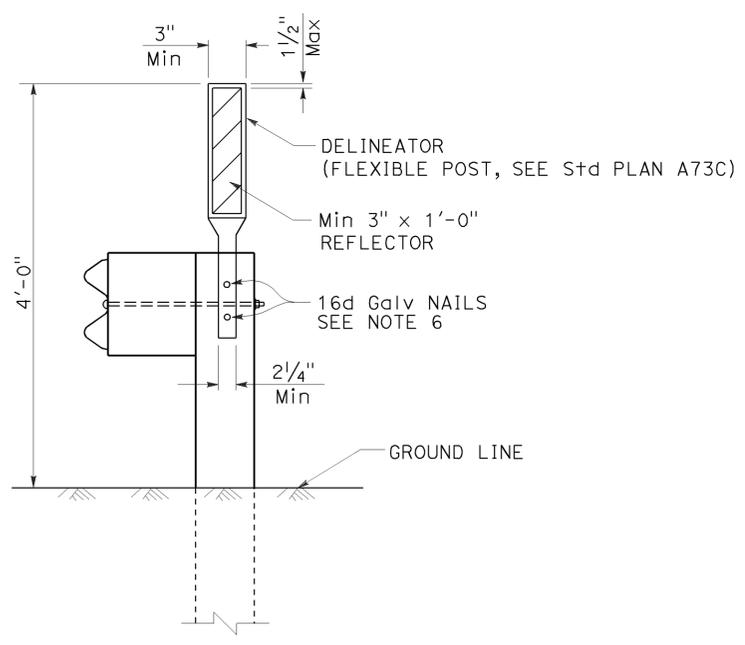
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STATE OF CALIFORNIA

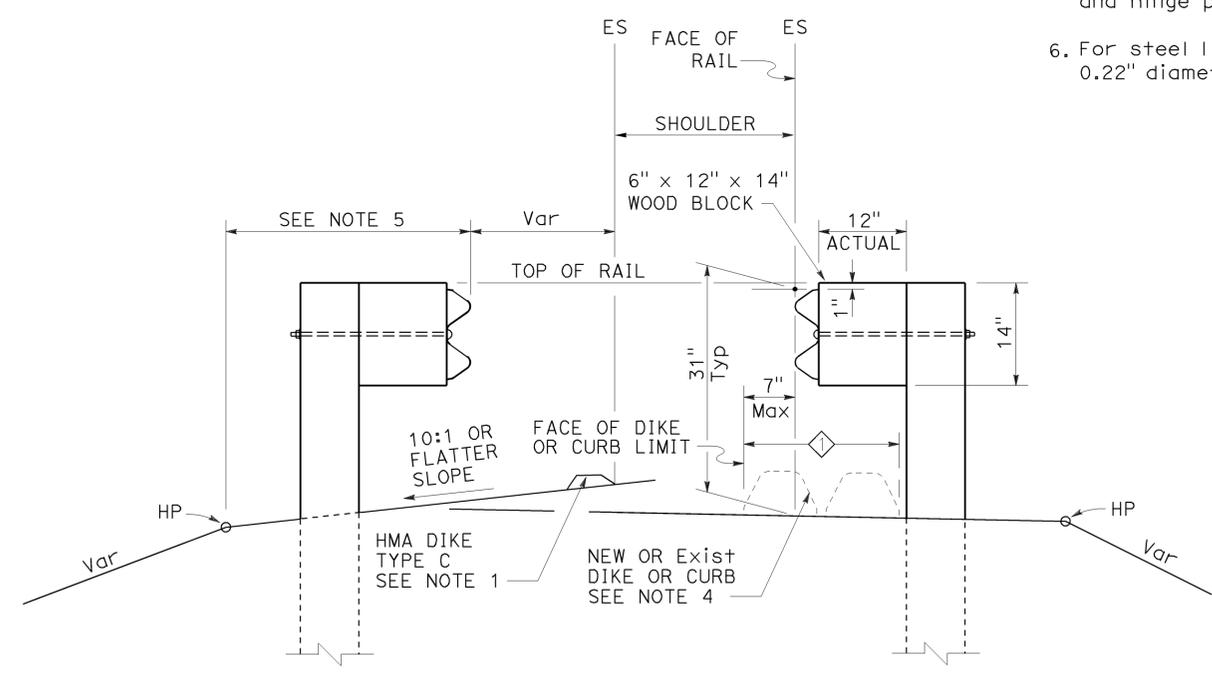
TO ACCOMPANY PLANS DATED 2-3-14

NOTES:

1. 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 Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. 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 Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. 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.



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 JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Nev	49	9.1	38	50

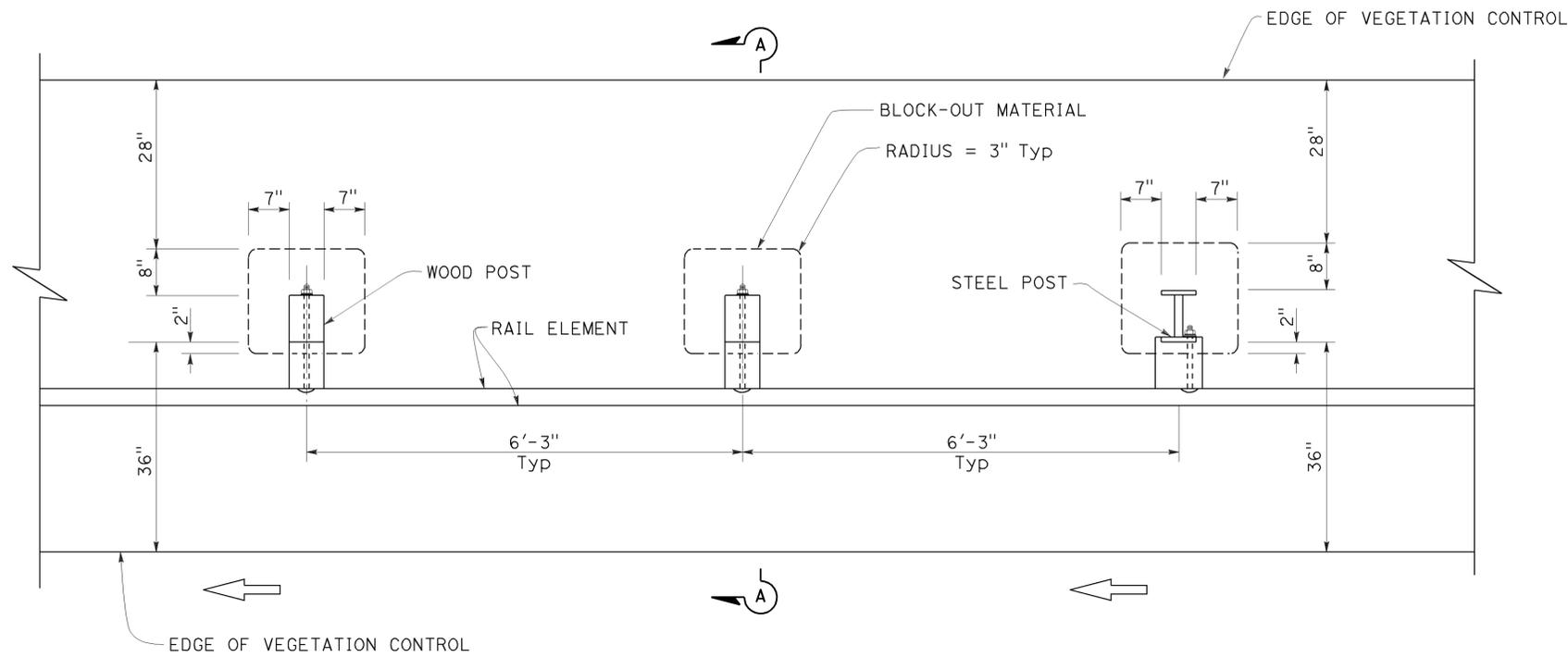
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July 19, 2013
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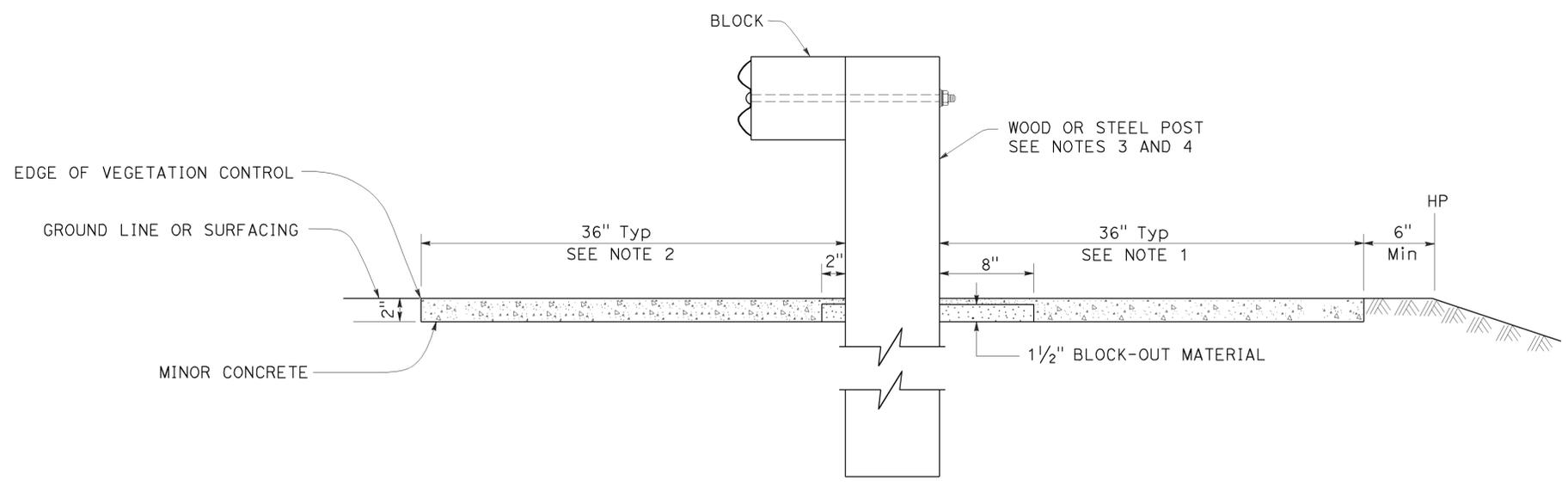
TO ACCOMPANY PLANS DATED 2-3-14



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	39	50

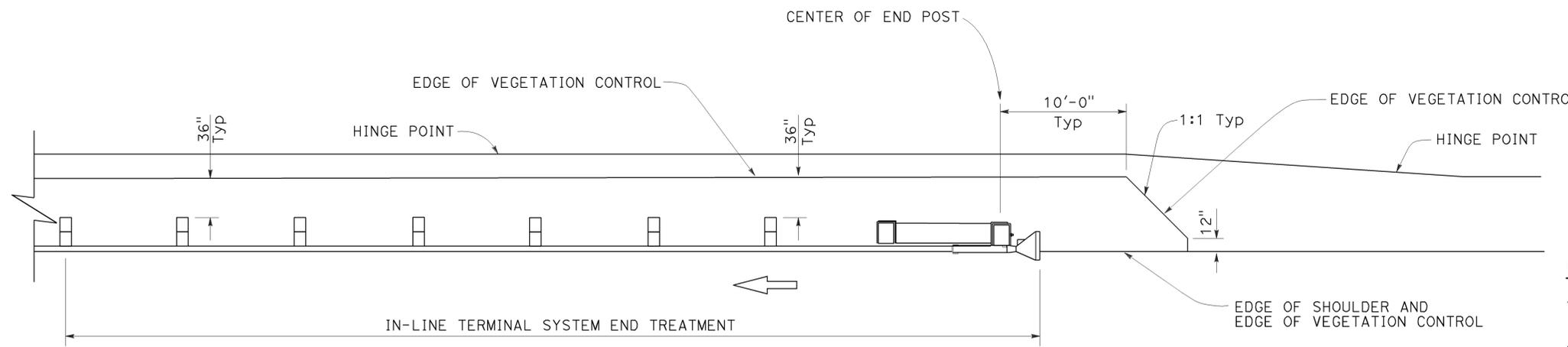
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

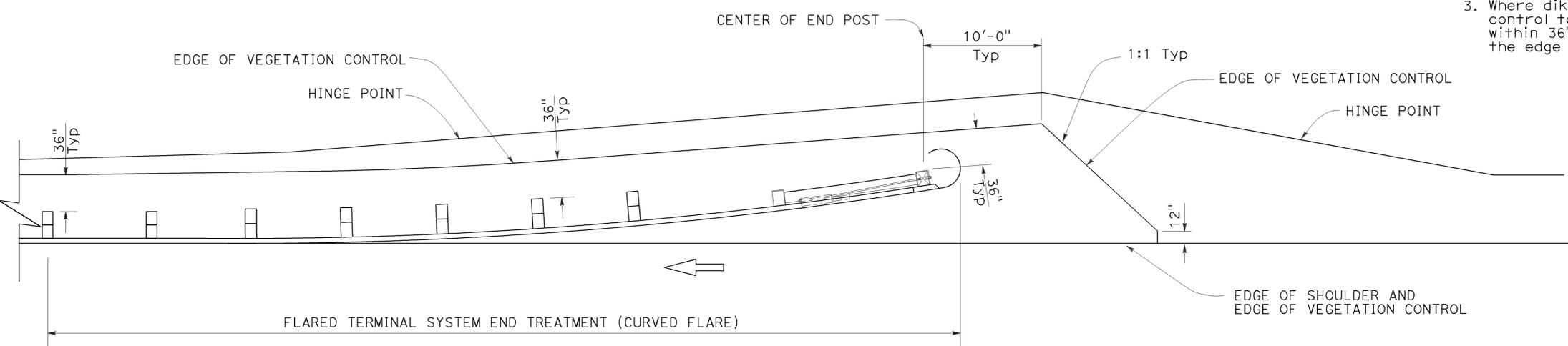
TO ACCOMPANY PLANS DATED 2-3-14



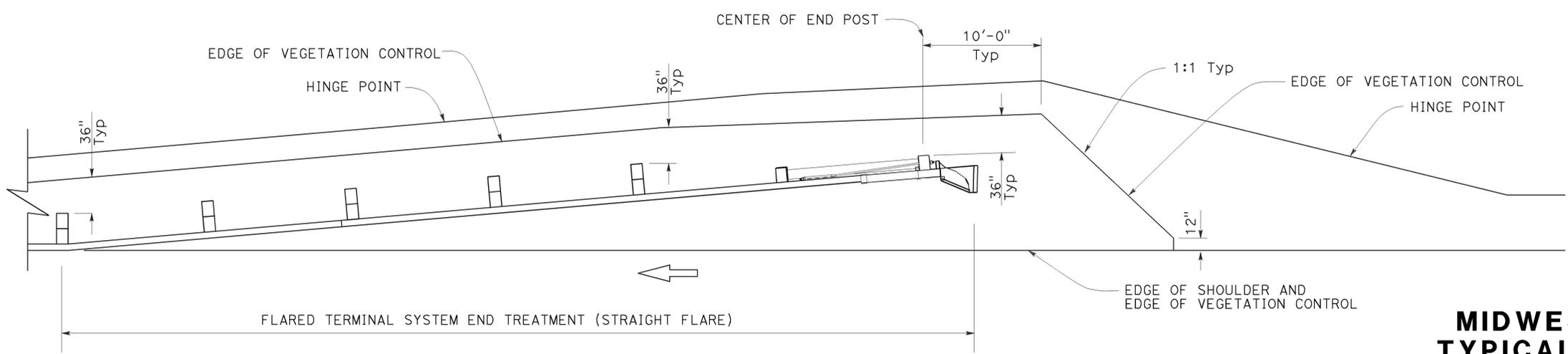
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	40	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

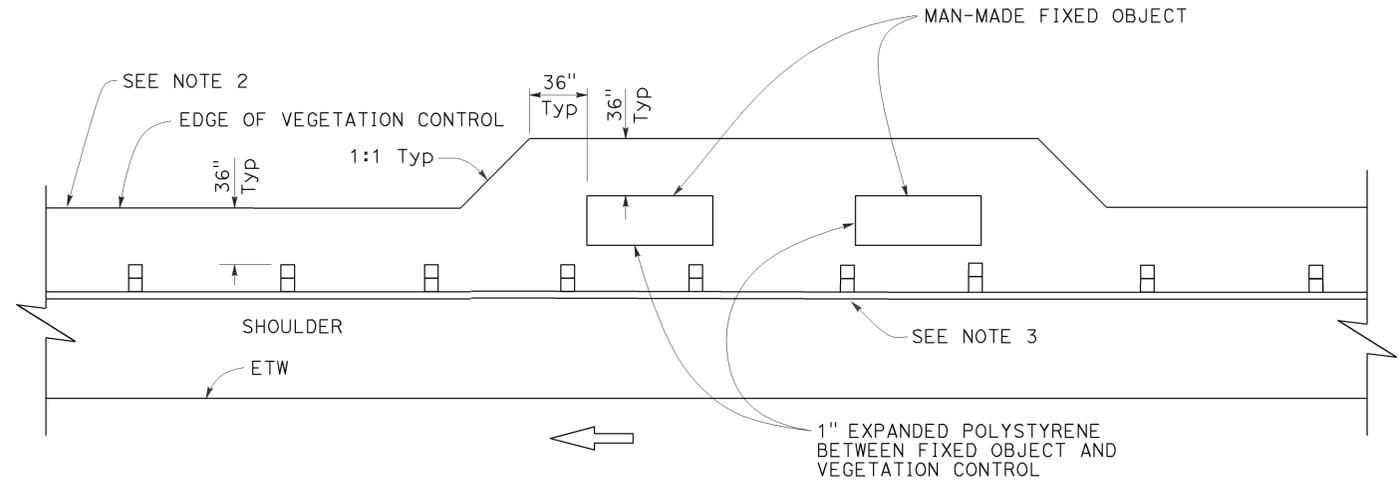
July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 2-3-14

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN
Fixed object(s) on shoulder

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

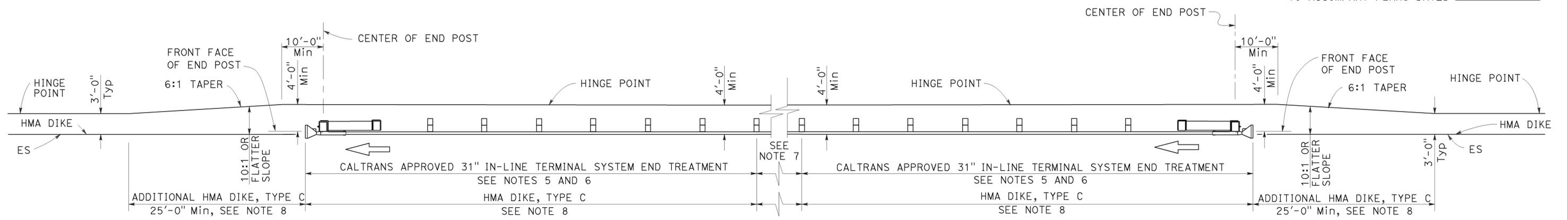
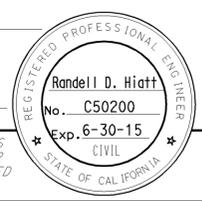
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	41	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

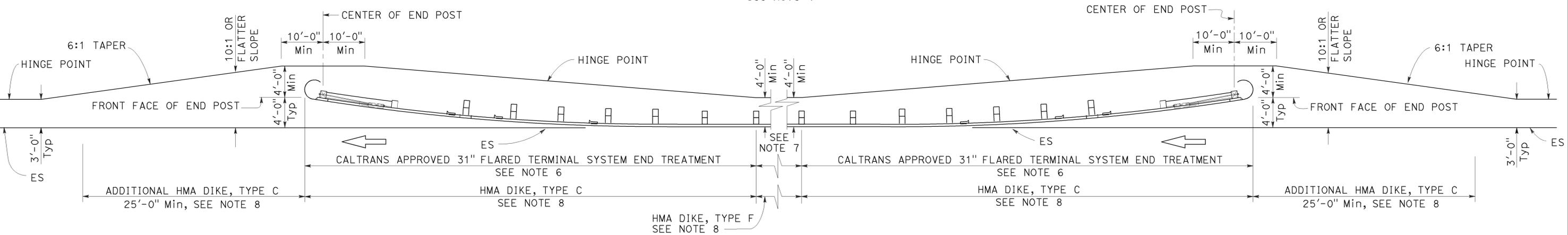
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TO ACCOMPANY PLANS DATED 2-3-14



TYPE 11D LAYOUT

(Embankment MGS installation with 31" in-line end treatment at each end of railing)
See Note 4



TYPE 11E LAYOUT

(Embankment MGS installation with 31" flared end treatment at each end of railing)
See Note 4

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. Layout Types 11D through 11L, shown on the A77P Series of Standard Plans, are typically used where MGS is recommended to shield embankment slopes and a crashworthy 31" end treatment is required for both directions of traffic.
5. 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
6. The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77P2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P2

2010 REVISED STANDARD PLAN RSP A77P2

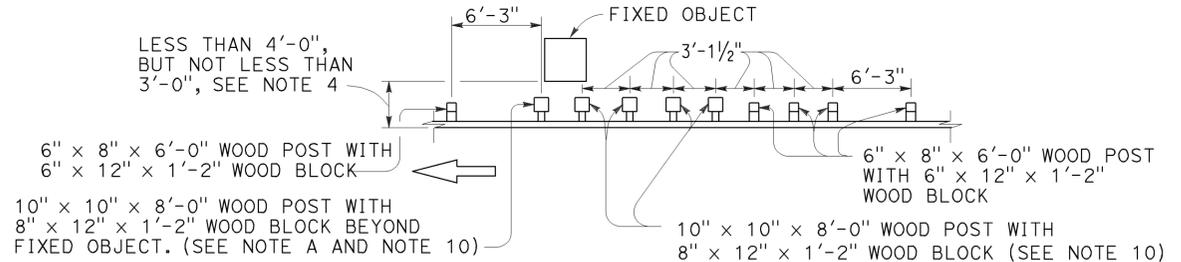
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	42	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

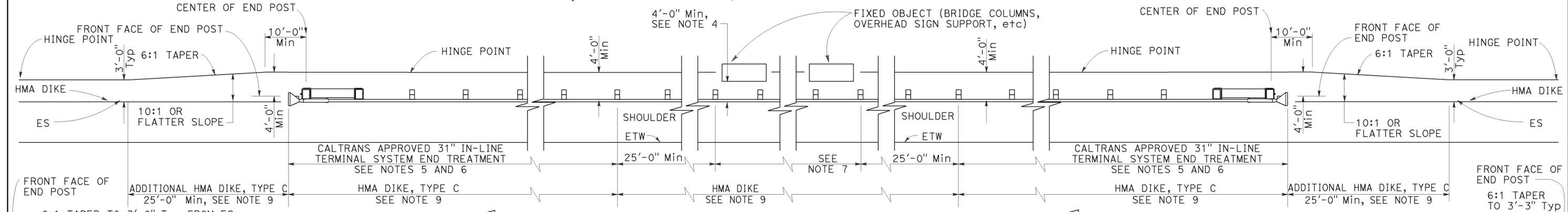
TO ACCOMPANY PLANS DATED 2-3-14



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

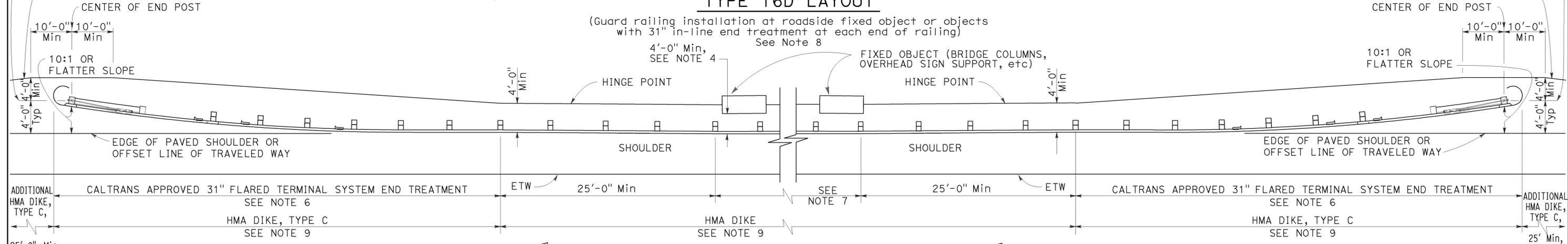
STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

Use strengthened MGS sections with layout Types 16D or 16E where minimum clearance between the face of the MGS and fixed object(s) is less than 4'-0", but not less than 3'-0". See Note 4.



TYPE 16D LAYOUT

(Guard railing installation at roadside fixed object or objects with 31" in-line end treatment at each end of railing) See Note 8



TYPE 16E LAYOUT

(MGS installation at roadside fixed object or objects with 31" flared end treatment at each end of railing) See Note 8

- NOTES:**
- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
 - MGS post spacing to be 6'-3" center to center, except as otherwise noted.
 - Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
 - A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing at 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object". on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
 - 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
 - The type of 31" terminal system to be used will be shown on the Project Plans.
 - As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
 - Layout Types 16D through 16L, shown on the A77R Series of Standard Plans, are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for both directions of traffic.
 - Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
 - W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

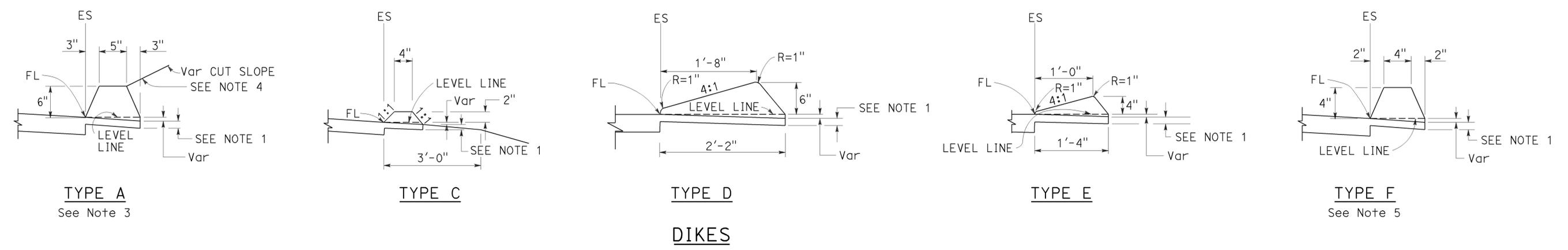
NO SCALE

RSP A77R4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R4

2010 REVISED STANDARD PLAN RSP A77R4

TO ACCOMPANY PLANS DATED 2-3-14



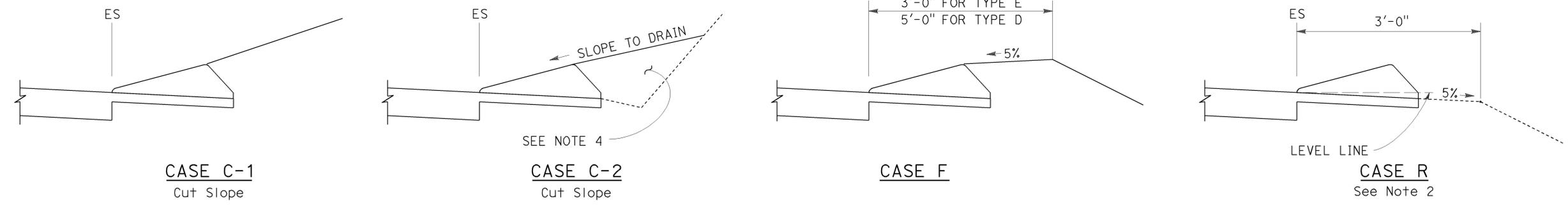
TYPE A
See Note 3

TYPE C

TYPE D

TYPE E

TYPE F
See Note 5



CASE C-1
Cut Slope

CASE C-2
Cut Slope

CASE F

CASE R
See Note 2

NOTES:

- For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

**DIKE
QUANTITIES**

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

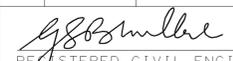
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

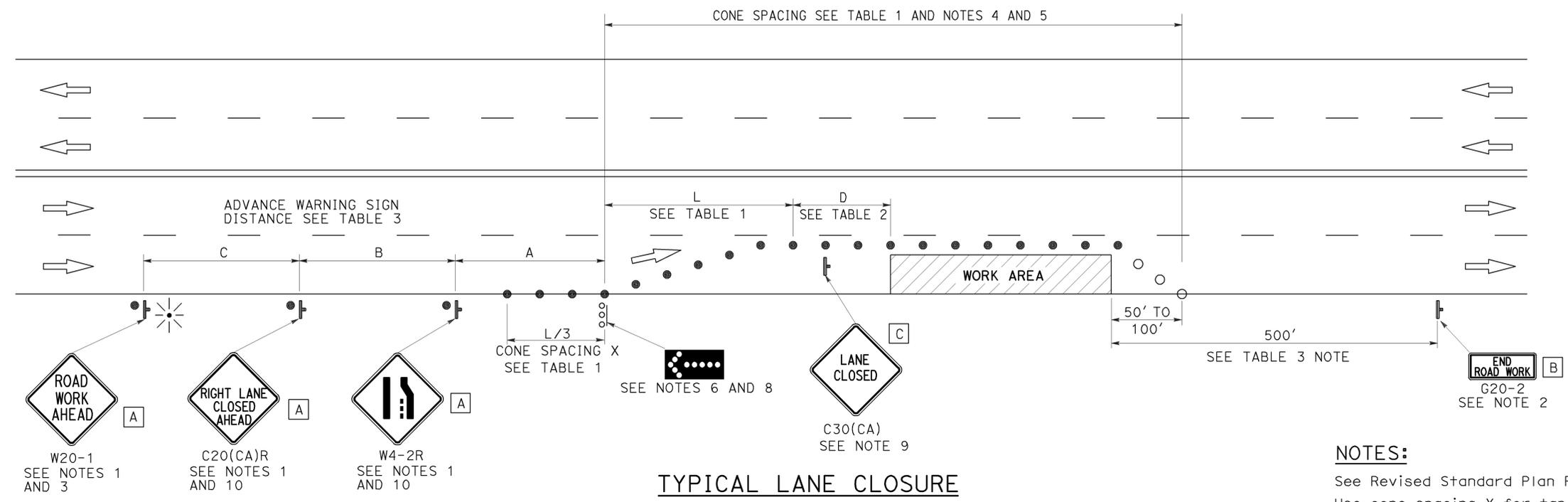
RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	44	50


 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 2-3-14



TYPICAL LANE CLOSURE

NOTES:

See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

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

NOTES:

- Each advance warning sign 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 G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure 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 G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) 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.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- ⌋ TEMPORARY TRAFFIC CONTROL SIGN
-  FLASHING ARROW SIGN (FAS)
-  FAS SUPPORT OR TRAILER
-  PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
MULTILANE CONVENTIONAL
HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11
DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	TELEPHONE SERVICE POINT

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
C+id	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	45	50

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 2-3-14

SOFFIT AND WALL MOUNTED LUMINAIRES

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
HZ	HERTZ

MISCELLANEOUS ELECTROLIERS

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
 - LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
 - Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	46	50

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 2-3-14

CONDUIT

SIGNAL EQUIPMENT

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

SERVICE EQUIPMENT

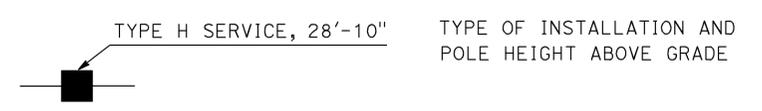
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.

POLE-MOUNTED SERVICE DESIGNATION



FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

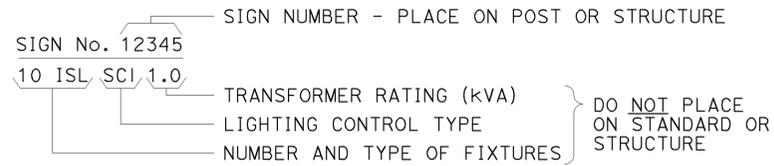
2010 REVISED STANDARD PLAN RSP ES-1B



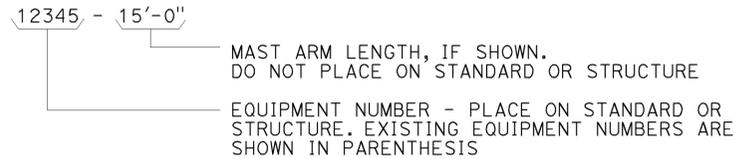
TO ACCOMPANY PLANS DATED 2-3-14

EQUIPMENT IDENTIFICATION

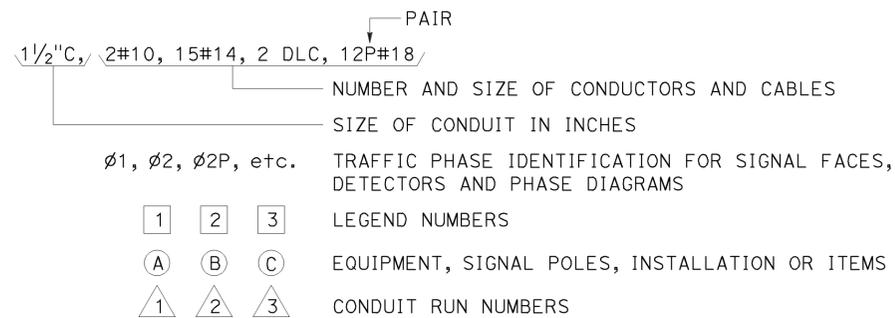
ILLUMINATED SIGN IDENTIFICATION NUMBER:



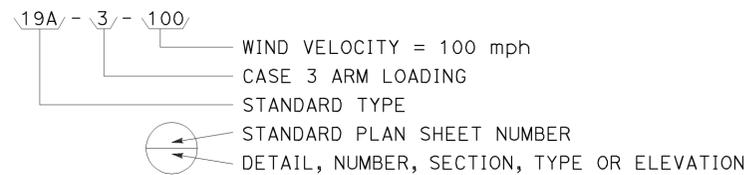
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



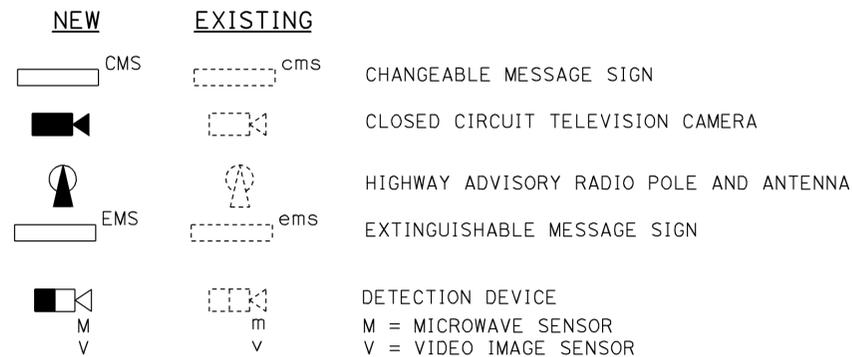
CONDUIT AND CONDUCTOR IDENTIFICATION:



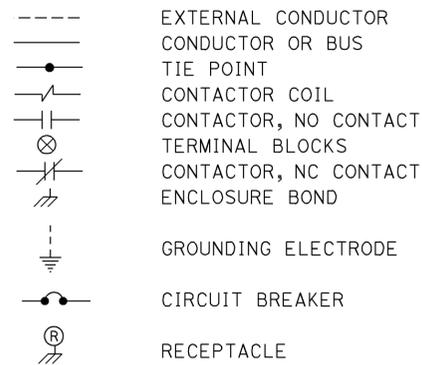
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



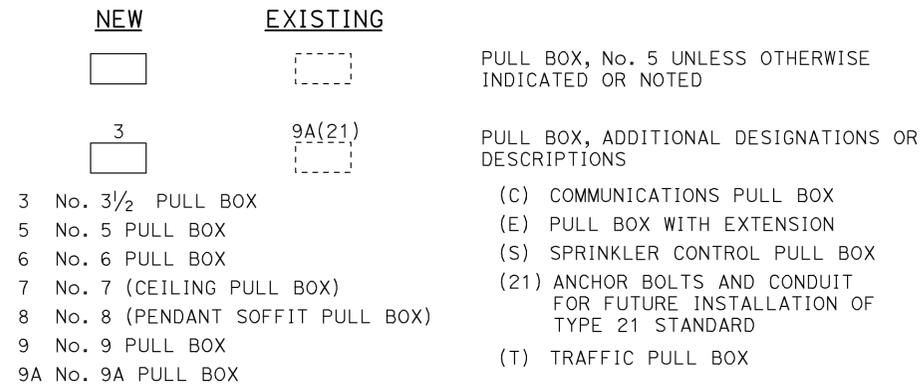
MISCELLANEOUS EQUIPMENT



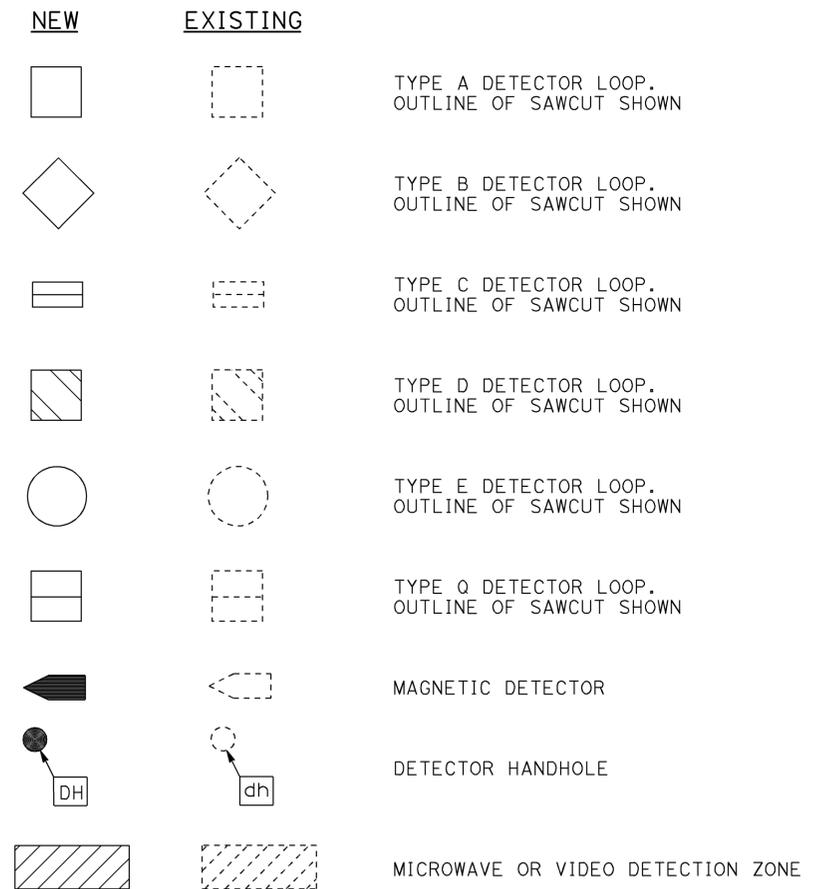
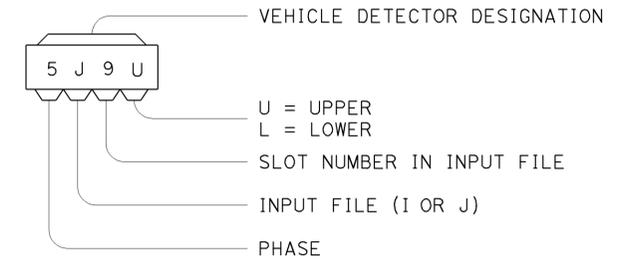
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	48	50

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

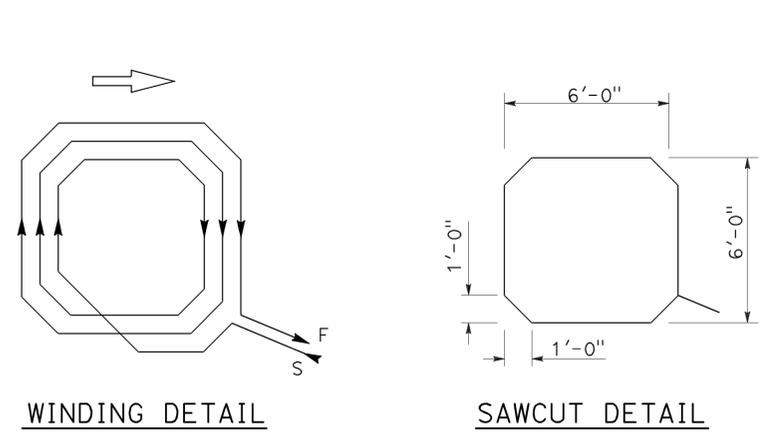
July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
REGISTERED PROFESSIONAL ENGINEER
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

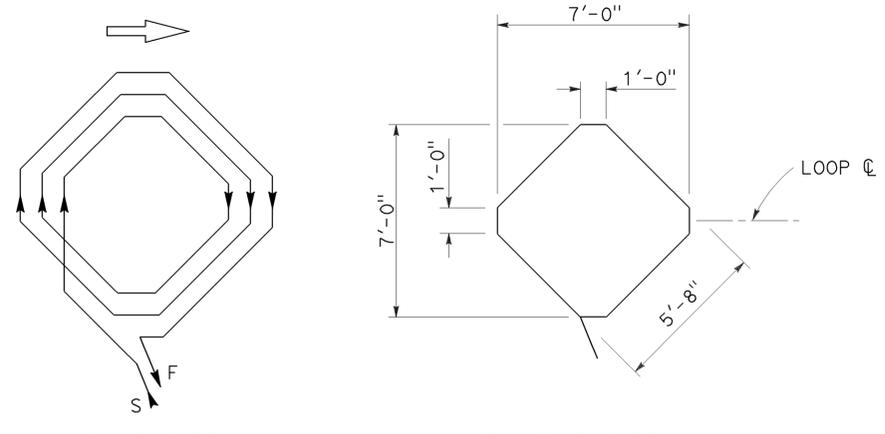
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TO ACCOMPANY PLANS DATED 2-3-14

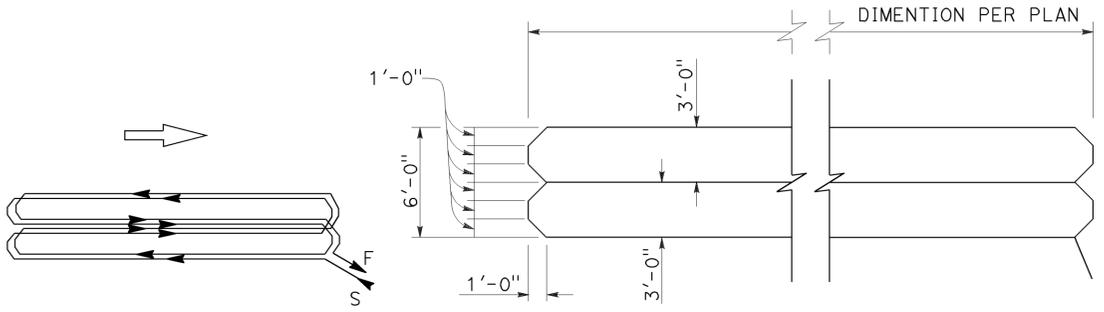
2010 REVISED STANDARD PLAN RSP ES-5B



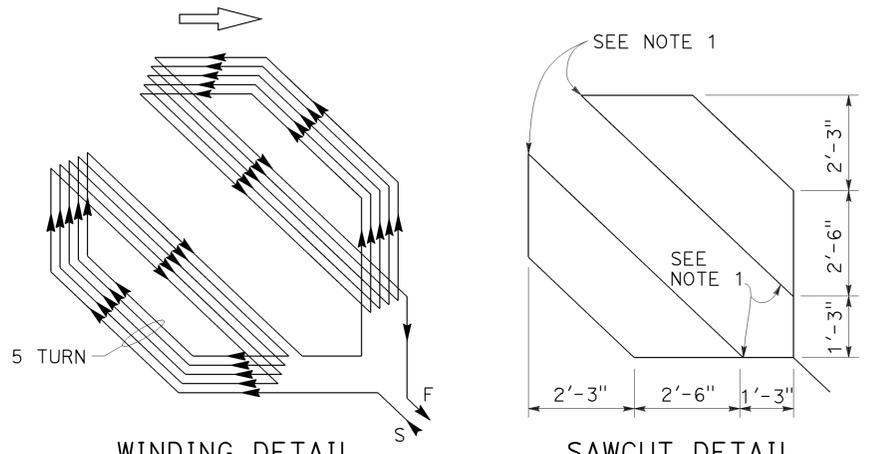
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



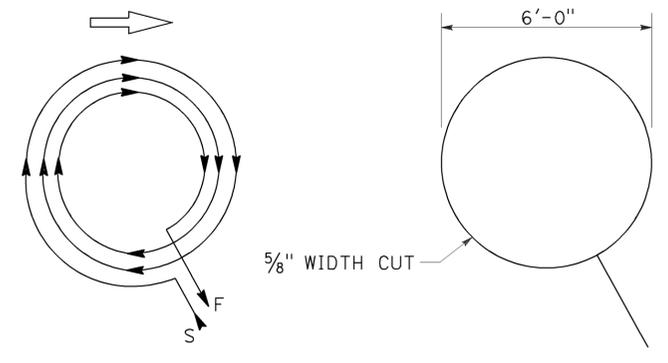
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



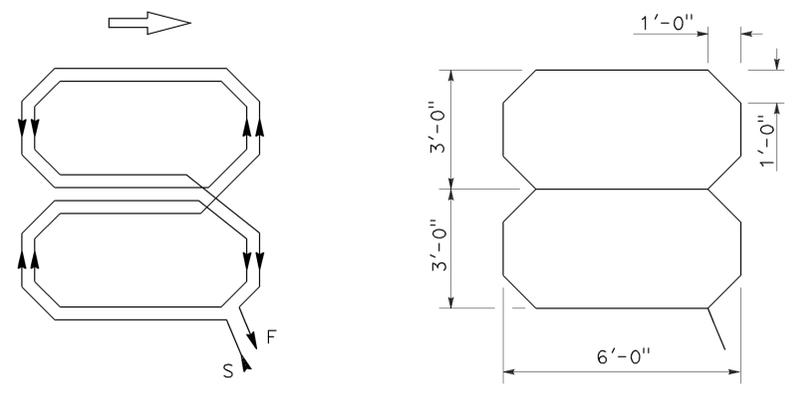
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



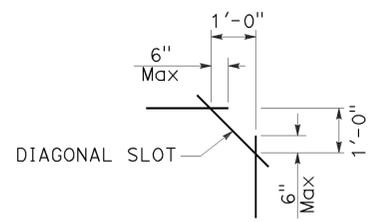
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF
DIAGONAL SLOT
AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(DETECTORS)**

NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

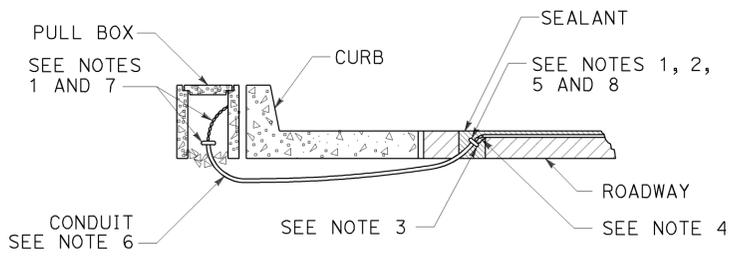
REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Nev	49	9.1	49	50

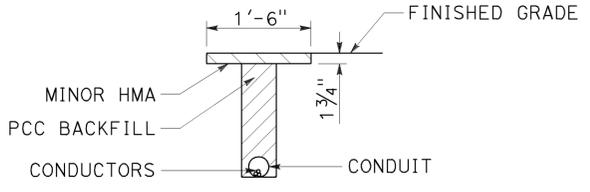
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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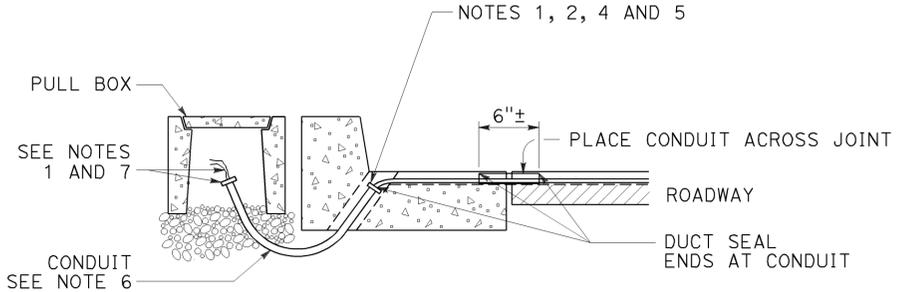
TO ACCOMPANY PLANS DATED 2-3-14



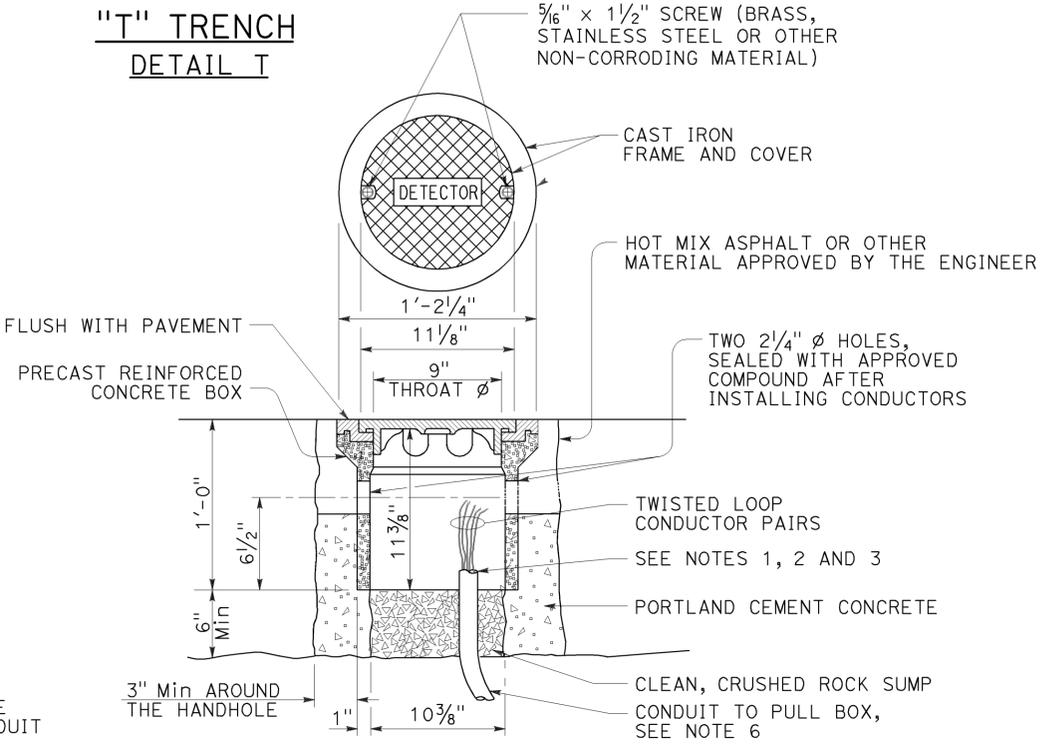
**TYPE A
CURB TERMINATION DETAIL**



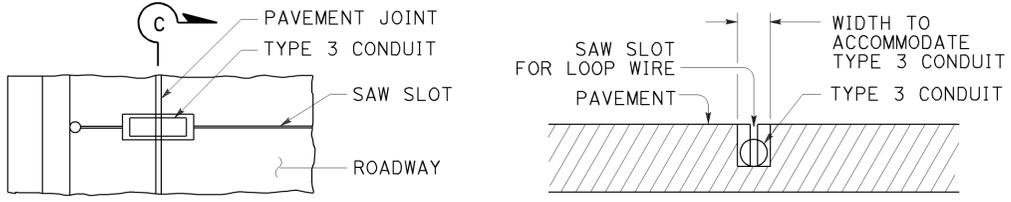
**"T" TRENCH
DETAIL T**



CROSS SECTION



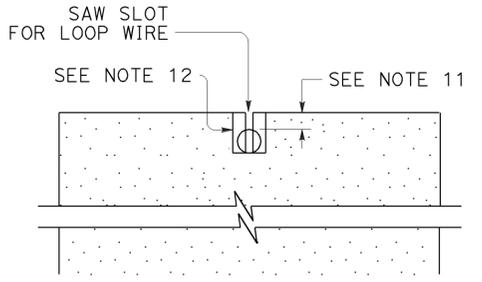
DETECTOR HANDHOLE DETAIL



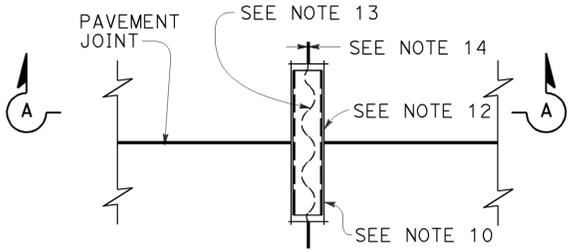
PLAN VIEW

SECTION C-C

**TYPE B
CURB TERMINATION DETAIL**

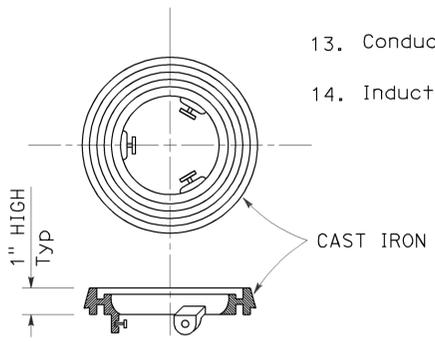


SECTION A-A

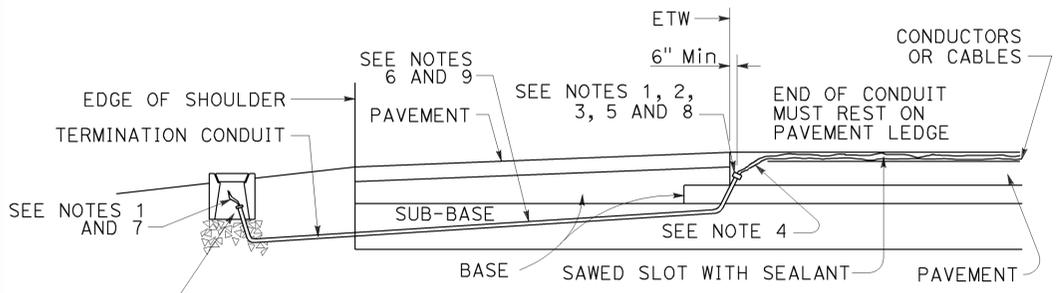


PLAN VIEW

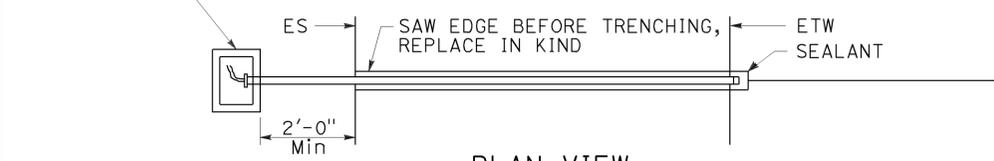
**TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT**



LOCKING GRADE RING



CROSS SECTION



**PLAN VIEW
SHOULDER TERMINATION DETAILS**

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)**
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

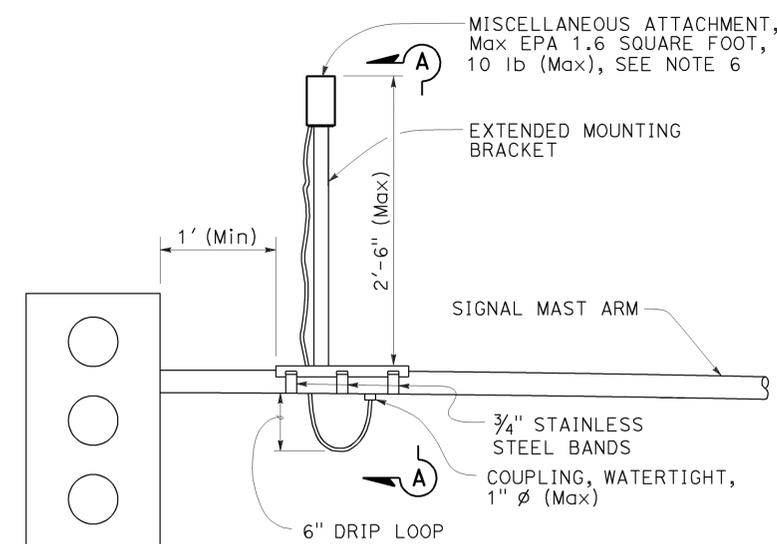
REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

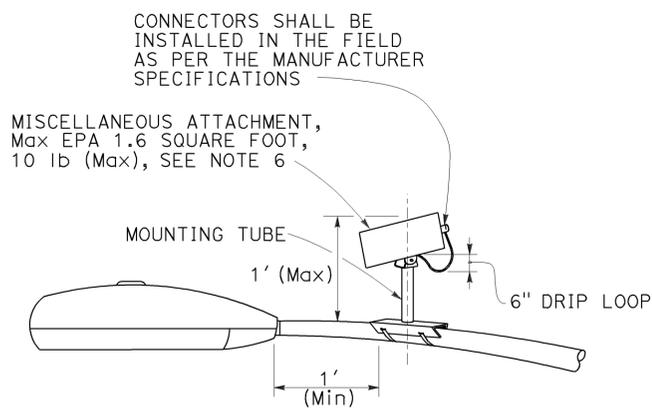
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Nev	49	9.1	50	50

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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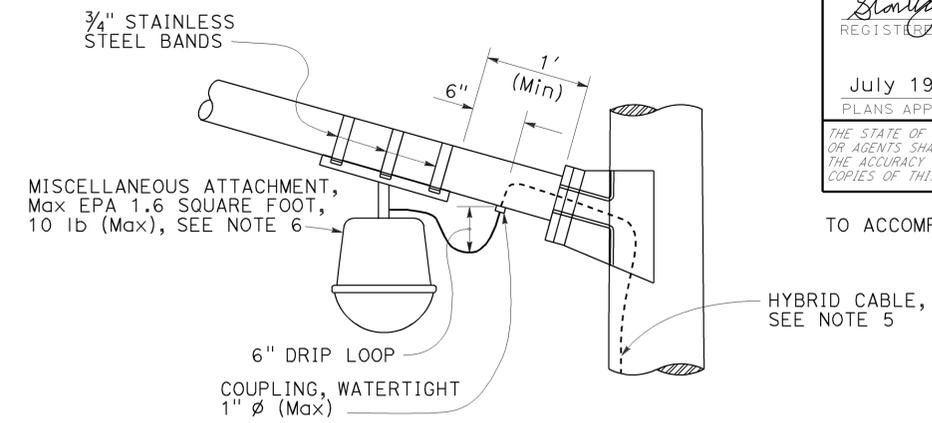
2010 REVISED STANDARD PLAN RSP ES-7R



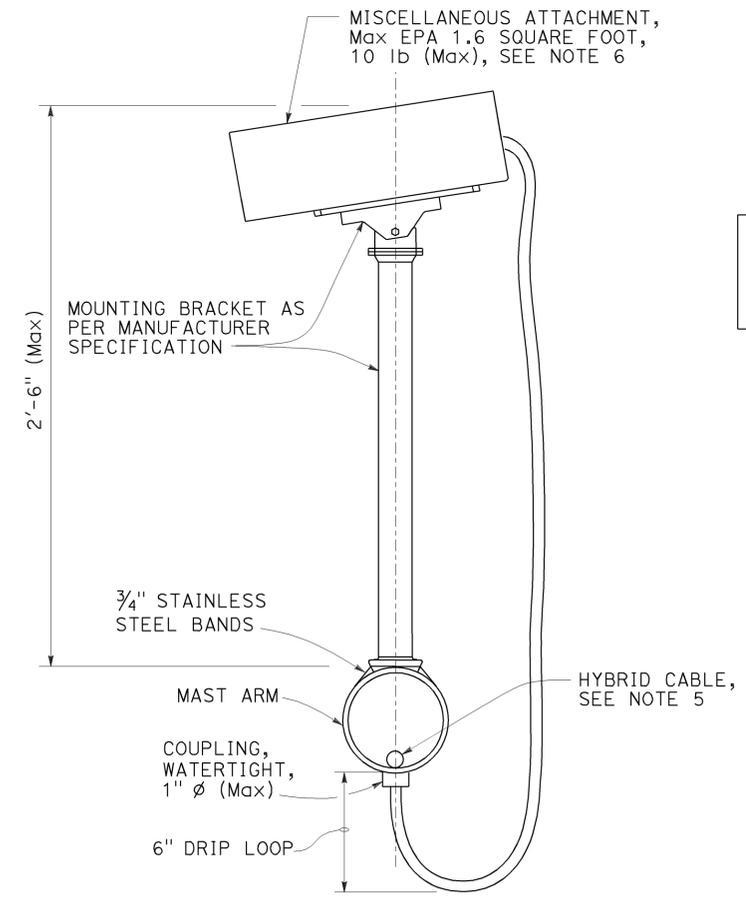
**SIGNAL MAST ARM MOUNT
DETAIL A**



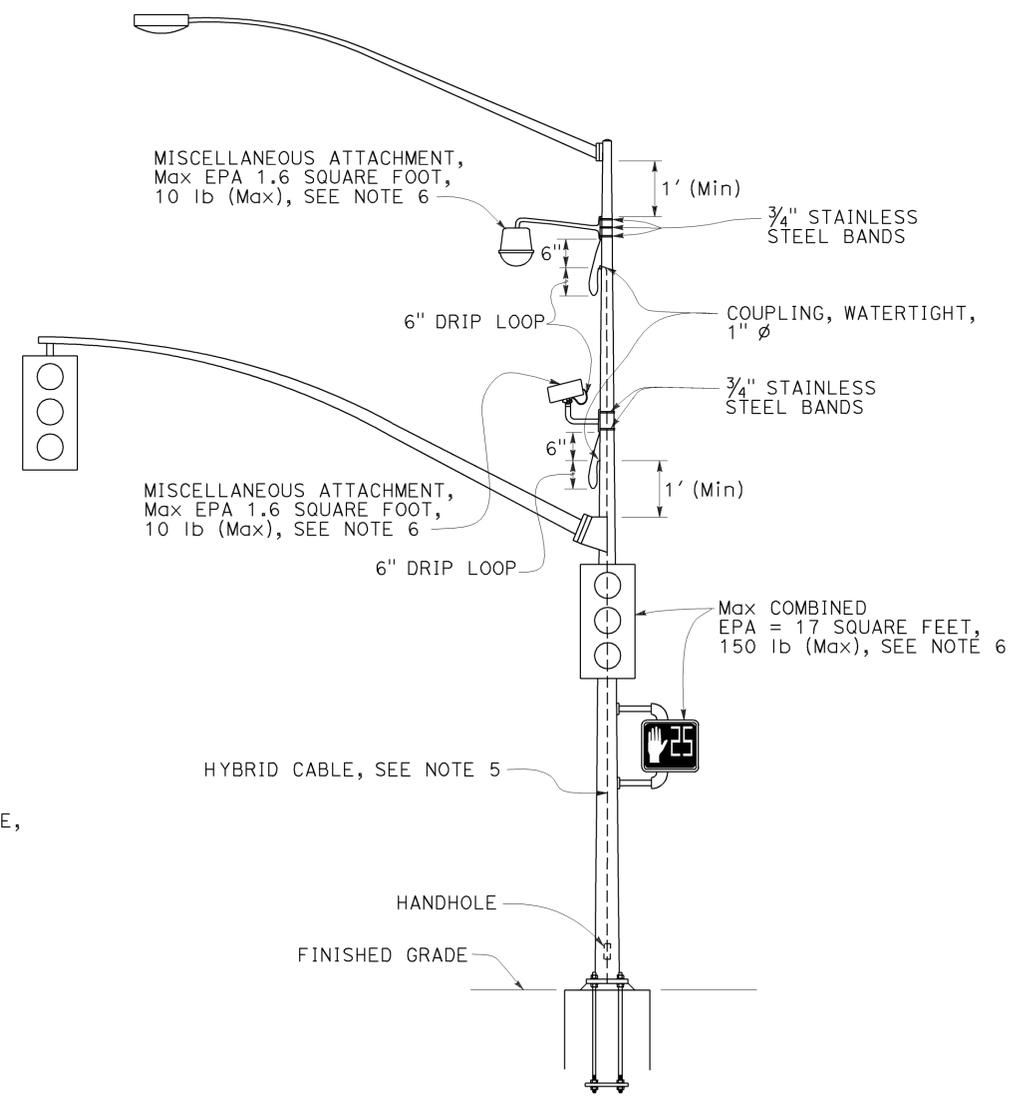
**LUMINAIRE MAST ARM MOUNT
DETAIL B**



**LUMINAIRE MAST ARM MOUNT
DETAIL C**



SECTION A-A



**SIGNAL POLE MOUNT
DETAIL D**

NOTES:

1. Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
2. Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
3. Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
4. Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
5. A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
6. Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet.
7. Maximum of two miscellaneous attachments per traffic signal structure.
8. Maximum of one miscellaneous attachment per mast arm.
9. Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING,
MISCELLANEOUS ATTACHMENT)**

NO SCALE

RSP ES-7R DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7R DATED MAY 20, 2011 - PAGE 479 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7R