

# CALIFORNIA HIGH-SPEED TRAIN

Project Environmental Impact Report/Environmental Impact Statement

**DRAFT**

Merced to Fresno Section  
Draft EIR-EIS

## **Volume III: Section L – Roadway and Grade Separation Plans**

Hybrid Alternative with Ave 21 Wye

August 2011



**CALIFORNIA**  
High-Speed Rail Authority



**U.S. Department of Transportation**  
Federal Railroad Administration



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LOCATION NO.	SHT NO.	DWG NO.	DRAWING TITLE LINE 3	DRAWING TITLE LINE 4	DRAWING TITLE LINE 5	DRAWING TITLE LINE 6
GENERAL						
		B4990-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 1 OF 4
		B4991-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 2 OF 4
		B4992-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 3 OF 4
		B4993-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 4 OF 4
		B4994-B	AVE 21 HYBRID	GENERAL	ABBREVIATIONS, SYMBOLS & NOTES	SHEET 1 OF 1
		B5000-B	AVE 21 HYBRID		INDEX MAP	SHEET 1 OF 2
		B5001-B	AVE 21 HYBRID		INDEX MAP	SHEET 2 OF 2
		CB5000-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	KEY MAP	SHEET 1 OF 1
		CB5002-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 17 1/2	KEY MAP	SHEET 1 OF 1
		CB5005-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 22	KEY MAP	SHEET 1 OF 1
		CB5006-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 21 1/2	KEY MAP	SHEET 1 OF 1
		CT4990-B	AVE 21 HYBRID	GRADE SEPARATIONS	TYPICAL CROSS SECTIONS	SHEET 1 OF 1
		CT4992-B	AVE 21 HYBRID		GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN	SHEET 1 OF 2
		CT4993-B	AVE 21 HYBRID		GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN	SHEET 2 OF 2
AVENUE 21 HYBRID - (LAYOUT)						
1		CT0001-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 9	LAYOUT	SHEET 1 OF 3
1		CT0002-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 9	LAYOUT	SHEET 2 OF 3
1		CT0003-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 9	LAYOUT	SHEET 3 OF 3
2		CT0004-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 10	LAYOUT	SHEET 1 OF 3
2		CT0005-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 10	LAYOUT	SHEET 2 OF 3
2		CT0006-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 10	LAYOUT	SHEET 3 OF 3
3		CT0007-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 11	LAYOUT	SHEET 1 OF 3
3		CT0008-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 11	LAYOUT	SHEET 2 OF 3
3		CT0009-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 11	LAYOUT	SHEET 3 OF 3
4		CT0010-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 12	LAYOUT	SHEET 1 OF 3
4		CT0011-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 12	LAYOUT	SHEET 2 OF 3
4		CT0012-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 12	LAYOUT	SHEET 3 OF 3
5		CT0013-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	LAYOUT	SHEET 1 OF 4
5		CT0014-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	LAYOUT	SHEET 2 OF 4
5		CT0015-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	LAYOUT	SHEET 3 OF 4
5		CT0016-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	LAYOUT	SHEET 4 OF 4
6		CT0017-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15	LAYOUT	SHEET 1 OF 3
6		CT0018-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15	LAYOUT	SHEET 2 OF 3
6		CT0019-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15	LAYOUT	SHEET 3 OF 3
7		CT0020-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15 1/2	LAYOUT	SHEET 1 OF 3
7		CT0021-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15 1/2	LAYOUT	SHEET 2 OF 3
7		CT0022-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15 1/2	LAYOUT	SHEET 3 OF 3
8		CT0023-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - RAYMOND RD	LAYOUT	SHEET 1 OF 3
8		CT0024-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - RAYMOND RD	LAYOUT	SHEET 2 OF 3
8		CT0025-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - RAYMOND RD	LAYOUT	SHEET 3 OF 3
9		CT0026-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 17	LAYOUT	SHEET 1 OF 3
9		CT0027-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 17	LAYOUT	SHEET 2 OF 3
9		CT0028-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 17	LAYOUT	SHEET 3 OF 3
10		CT0029-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 27	LAYOUT	SHEET 1 OF 3
10		CT0030-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 27	LAYOUT	SHEET 2 OF 3
10		CT0031-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 27	LAYOUT	SHEET 3 OF 3
11		CT0032-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 26	LAYOUT	SHEET 1 OF 3
11		CT0033-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 26	LAYOUT	SHEET 2 OF 3
11		CT0034-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 26	LAYOUT	SHEET 3 OF 3
90		CT0066-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20	LAYOUT	SHEET 1 OF 3
90		CT0067-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20	LAYOUT	SHEET 2 OF 3
90		CT0068-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20	LAYOUT	SHEET 3 OF 3
91		CT0069-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20 1/2	LAYOUT	SHEET 1 OF 3
91		CT0070-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20 1/2	LAYOUT	SHEET 2 OF 3
91		CT0071-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20 1/2	LAYOUT	SHEET 3 OF 3
92		CT0073-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 22	LAYOUT	SHEET 1 OF 3
92		CT0074-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 22	LAYOUT	SHEET 2 OF 3
92		CT0075-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 22	LAYOUT	SHEET 3 OF 3
25		CT0076-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 20	LAYOUT	SHEET 1 OF 3
25		CT0077-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 20	LAYOUT	SHEET 2 OF 3
25		CT0078-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 20	LAYOUT	SHEET 3 OF 3
26		CT0079-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 18 1/2	LAYOUT	SHEET 1 OF 3
26		CT0080-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 18 1/2	LAYOUT	SHEET 2 OF 3
26		CT0081-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 18 1/2	LAYOUT	SHEET 3 OF 3
65		CT0146-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 7	LAYOUT	SHEET 1 OF 3
65		CT0147-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 7	LAYOUT	SHEET 2 OF 3
65		CT0148-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 7	LAYOUT	SHEET 3 OF 3
64		CT0149-A	BNSF MERCED CONNECTION - (AVE 21 HYBRID)	GRADE SEPARATION - G STREET	LAYOUT	SHEET 1 OF 1
12		CT5000-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	LAYOUT	SHEET 1 OF 4
12		CT5001-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	LAYOUT	SHEET 2 OF 4
12		CT5002-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	LAYOUT	SHEET 3 OF 4
12		CT5003-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	LAYOUT	SHEET 4 OF 4

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID  
GENERAL  
INDEX OF DRAWINGS  
SHEET 1 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
B4990-B  
SCALE  
NONE  
SHEET NO.  
### OF ###



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LOCATION NO.	SHT NO.	DWG NO.	DRAWING TITLE LINE 3	DRAWING TITLE LINE 4	DRAWING TITLE LINE 5	DRAWING TITLE LINE 6
13		CT5004-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 17 1/2	LAYOUT	SHEET 1 OF 4
13		CT5005-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 17 1/2	LAYOUT	SHEET 2 OF 4
13		CT5006-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 17 1/2	LAYOUT	SHEET 3 OF 4
13		CT5007-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 17 1/2	LAYOUT	SHEET 4 OF 4
14		CT5016-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 22	LAYOUT	SHEET 1 OF 3
14		CT5017-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 22	LAYOUT	SHEET 2 OF 3
14		CT5018-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 22	LAYOUT	SHEET 3 OF 3
15		CT5019-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 21 1/2	LAYOUT	SHEET 1 OF 4
15		CT5020-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 21 1/2	LAYOUT	SHEET 2 OF 4
15		CT5021-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 21 1/2	LAYOUT	SHEET 3 OF 4
15		CT5022-B	UPRR/SR99 WYE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 21 1/2	LAYOUT	SHEET 4 OF 4
AVENUE 21 HYBRID - (PROFILE)						
		CT5700-B	AVE 21 HYBRID	GRADE SEPARATION	SUPERELEVATION TEMPLATE	SHEET 1 OF 4
		CT5701-B	AVE 21 HYBRID	GRADE SEPARATION	SUPERELEVATION TEMPLATE	SHEET 2 OF 4
		CT5702-B	AVE 21 HYBRID	GRADE SEPARATION	SUPERELEVATION TEMPLATE	SHEET 3 OF 4
		CT5703-B	AVE 21 HYBRID	GRADE SEPARATION	SUPERELEVATION TEMPLATE	SHEET 4 OF 4
1		CT1000-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 9	PROFILE	SHEET 1 OF 3
1		CT1001-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 9	PROFILE	SHEET 2 OF 3
1		CT1002-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 9	PROFILE	SHEET 3 OF 3
2		CT1003-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 10	PROFILE	SHEET 1 OF 3
2		CT1004-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 10	PROFILE	SHEET 2 OF 3
2		CT1005-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 10	PROFILE	SHEET 3 OF 3
3		CT1006-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 11	PROFILE	SHEET 1 OF 3
3		CT1007-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 11	PROFILE	SHEET 2 OF 3
3		CT1008-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 11	PROFILE	SHEET 3 OF 3
4		CT1009-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 12	PROFILE	SHEET 1 OF 3
4		CT1010-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 12	PROFILE	SHEET 2 OF 3
4		CT1011-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 12	PROFILE	SHEET 3 OF 3
5		CT1012-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	PROFILE	SHEET 1 OF 3
5		CT1013-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	PROFILE	SHEET 2 OF 3
5		CT1014-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 13	PROFILE	SHEET 3 OF 3
6		CT1015-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15	PROFILE	SHEET 1 OF 3
6		CT1016-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15	PROFILE	SHEET 2 OF 3
6		CT1017-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15	PROFILE	SHEET 3 OF 3
7		CT1018-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15 1/2	PROFILE	SHEET 1 OF 3
7		CT1019-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15 1/2	PROFILE	SHEET 2 OF 3
7		CT1020-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 15 1/2	PROFILE	SHEET 3 OF 3
8		CT1021-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - RAYMOND RD	PROFILE	SHEET 1 OF 3
8		CT1022-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - RAYMOND RD	PROFILE	SHEET 2 OF 3
8		CT1023-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - RAYMOND RD	PROFILE	SHEET 3 OF 3
9		CT1024-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 17	PROFILE	SHEET 1 OF 3
9		CT1025-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 17	PROFILE	SHEET 2 OF 3
9		CT1026-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 17	PROFILE	SHEET 3 OF 3
10		CT1029-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 27	PROFILE	SHEET 1 OF 3
10		CT1030-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 27	PROFILE	SHEET 2 OF 3
10		CT1031-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 27	PROFILE	SHEET 3 OF 3
11		CT1032-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 26	PROFILE	SHEET 1 OF 3
11		CT1033-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 26	PROFILE	SHEET 2 OF 3
11		CT1034-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 26	PROFILE	SHEET 3 OF 3
90		CT1063-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20	PROFILE	SHEET 1 OF 3
90		CT1064-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20	PROFILE	SHEET 2 OF 3
90		CT1065-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20	PROFILE	SHEET 3 OF 3
91		CT1066-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20 1/2	PROFILE	SHEET 1 OF 3
91		CT1067-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20 1/2	PROFILE	SHEET 2 OF 3
91		CT1068-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 20 1/2	PROFILE	SHEET 3 OF 3
92		CT1069-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 22	PROFILE	SHEET 1 OF 3
92		CT1070-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 22	PROFILE	SHEET 2 OF 3
92		CT1071-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 22	PROFILE	SHEET 3 OF 3
25		CT1072-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 20	PROFILE	SHEET 1 OF 3
25		CT1073-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 20	PROFILE	SHEET 2 OF 3
25		CT1074-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 20	PROFILE	SHEET 3 OF 3
26		CT1075-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 18 1/2	PROFILE	SHEET 1 OF 3
26		CT1076-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 18 1/2	PROFILE	SHEET 2 OF 3
26		CT1077-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 18 1/2	PROFILE	SHEET 3 OF 3
65		CT1146-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 7	PROFILE	SHEET 1 OF 3
65		CT1147-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 7	PROFILE	SHEET 2 OF 3
65		CT1148-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 7	PROFILE	SHEET 3 OF 3
64		CT1149-A	BNSF MERCED CONNECTION - (AVE 21 HYBRID)	GRADE SEPARATION - G STREET	PROFILE	SHEET 1 OF 1
12		CT6000-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	PROFILE	SHEET 1 OF 4
12		CT6001-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	PROFILE	SHEET 2 OF 4
12		CT6002-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	PROFILE	SHEET 3 OF 4
12		CT6003-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	GRADE SEPARATION - ROAD 16	PROFILE	SHEET 4 OF 4

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
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A. SILVER  
IN CHARGE  
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DATE  
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID  
GENERAL  
INDEX OF DRAWINGS  
SHEET 2 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
B4991-B  
SCALE  
NONE  
SHEET NO.  
### OF ###





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LOCATION NO.	SHT NO.	DWG NO.	DRAWING TITLE LINE 3	DRAWING TITLE LINE 4	DRAWING TITLE LINE 5	DRAWING TITLE LINE 6
		CT9566-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	BELMONT AVE
		CT9567-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	N WESLEY AVE
		CT9568-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	N H ST
		CT9569-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	STANISLAUS ST
		CT9570-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	TUOLUMNE ST
		CT9571-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	FRESNO ST
		CT9572-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	H ST (FRESNO ST)
		CT9573-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	G ST (FRESNO ST)
		CT9574-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	TULARE ST (OVERHEAD)
		CT9575-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	TULARE ST (UNDERPASS)
		CT9576-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	G ST (TULARE ST UNDERPASS)
		CT9577-A	FRESNO SUBSECTION	ALIGNMENT F1	GRADE SEP PROFILE & SUPERELEVATION DIAGRAM	VENTURA ST
		CR9578-A	FRESNO SUBSECTION	ALIGNMENT F1	ROADWAY LAYOUT	N THORNE AVE
		CR9579-A	FRESNO SUBSECTION	ALIGNMENT F1	ROADWAY PROFILE & SUPERELEVATION DIAGRAM	N THORNE AVE
		CT9580-A	FRESNO SUBSECTION	ALIGNMENT F1	ROADWAY / GRADE SEPARATION	TYPICAL CROSS SECTIONS
		CT9581-A	FRESNO SUBSECTION	ALIGNMENT F1	ROADWAY / GRADE SEPARATION	TYPICAL CROSS SECTIONS
		CT9582-A	FRESNO SUBSECTION	ALIGNMENT F1	ROADWAY / GRADE SEPARATION	TYPICAL CROSS SECTIONS
		CT1477-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	ROAD 11 GRADE SEPARATION	PLAN AND PROFILE
		CT1478-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	ROAD 11 GRADE SEPARATION	PLAN AND PROFILE
		CT1481-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	ROBERTSON BLVD GRADE SEPARATION	PLAN AND PROFILE
		CT1482-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	ROBERTSON BLVD GRADE SEPARATION	PLAN AND PROFILE
		CT1484-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	ROAD 14 GRADE SEPARATION	PLAN AND PROFILE
		CT1485-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	ROAD 14 GRADE SEPARATION	PLAN AND PROFILE

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A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID  
GENERAL  
INDEX OF DRAWINGS  
SHEET 4 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
B4993-B  
SCALE  
NONE  
SHEET NO.  
### OF ###

**ABBREVIATIONS**

**ALIGNMENT**

HORIZONTAL  
 BC BEGINNING OF CURVE  
 EC END OF CURVE  
 PC POINT OF CURVE  
 PCC POINT OF COMPOUNT CURVES  
 PI POINT OF INTERSECTION OF TWO TANGENTS  
 POB POINT OF BEGINNING  
 POC POINT ON CURVE  
 POE POINT OF ENDING  
 POT POINT ON TANGENT  
 PRC POINT OF REVERSE CURVES  
 PT POINT OF TANGENCY  
 R RADIUS OF CURVATURE IN FEET  
 V, DS DESIGN VELOCITY IN MILES PER HOUR





VERTICAL  
 BVC BEGIN OF VERTICAL CURVE  
 EVC END OF VERTICAL CURVE  
 PVC POINT OF VERTICAL CURVE (BEGINNING OF CURVE)  
 PVI POINT OF VERTICAL INTERSECTION (OF TANGENTS)  
 PVT POINT OF VERTICAL TANGENCY (ENDING OF CURVE)  
 VC VERTICAL CURVE

**MISCELLANEOUS**

ALT ALTERNATIVE  
 AVE AVENUE  
 BB BEGIN BRIDGE  
 BEG BEGIN  
 BLVD BOULEVARD  
 CL CENTER LINE  
 CLR CLEAR  
 COL COLUMN  
 DWG DRAWING  
 EB END BRIDGE  
 ELEV ELEVATION  
 EQ EQUATION  
 ES EDGE OF SIDEWALK  
 ETW EDGE OF TRAVELED WAY  
 EXIST(E) EXISTING  
 FL FLOW LINE  
 HORIZ HORIZONTAL  
 HP HINGE POINT  
 HST HIGH SPEED TRAIN  
 HWY HIGHWAY  
 IC INTERCHANGE  
 IN INCH  
 L LENGTH  
 LT LEFT  
 MBGR METAL BEAM GUARD RAIL  
 ML MAINLINE  
 MPH MILES PER HOUR  
 MAX MAXIMUM  
 MIN MINIMUM  
 N NORTH  
 NB NORTH BOUND  
 No, NO NUMBER  
 NTS NOT TO SCALE  
 OG ORIGINAL GROUND  
 O/H OH OVERHEAD  
 PG&E PACIFIC GAS & ELECTRIC  
 PGL, FG PROFILE GRADE LINE  
 RET RETAINING  
 RR RAILROAD  
 RD ROAD  
 R/W RIGHT OF WAY  
 RT RIGHT  
 SB SOUTH BOUND  
 SHLD SHOULDER  
 SR STATE ROUTE  
 SHT SHEET  
 SS SANITARY SEWER  
 SSD STOPPING SIGHT DISTANCE  
 ST STREET  
 STA STATION  
 STD STANDARD  
 SD STORM DRAIN  
 STRUCT, STR STRUCTURE  
 T TANGENT  
 TEL TELEPHONE  
 (OH) OVERHEAD LINE  
 (UG) UNDERGROUND LINE

TOR TOP OF RAIL  
 TK TRACK  
 TYP TYPICAL  
 TBD TO BE DETERMINED  
 TF TELECOMMUNICATIONS FIBER OPTIC  
 UPRR UNION PACIFIC RAILROAD  
 VAR VARIES  
 V VERT VERTICAL  
 W WATER, WEST

**SYMBOLS**

————— MATCH LINE  
 ===== HST TRACK  
 - - - - - PROPOSED HST RIGHT-OF-WAY  
 +-----+ FREIGHT/PASSENGER TRACK - EXISTING  
 - - - - - EXISTING RIGHT-OF-WAY OR EXISTING BRIDGE FEATURES  
 ▲▲▲ RETAINING WALLS  
 - - - - - ORIGINAL GROUND  
 ——— G16 ——— GAS LINE (16")  
 - - - TC ——— COMMUNICATION LINE  
 - - - W ——— WATER LINE  
 ——— FO ——— FIBER OPTIC LINE  
 ——— E ——— ELECTRICAL LINE  
 X ELECTRICAL TOWER  
 - - - S ——— SEWER LINE  
 - - - SD ——— STORM DRAIN LINE  
 - - - O ——— FUEL LINE  
 - - - TC ——— TELEPHONE LINE  
 ——— P12 ——— PETROLEUM LINE (12")  
 ——— (OH) ——— OVERHEAD  
 NORTH ARROW  
 PVI  
 MBGR  
 DIRECTION OF TRAVEL  
 ——— 250 ——— PROPOSED CONTOUR

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DESIGNED BY  
R. LI  
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A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

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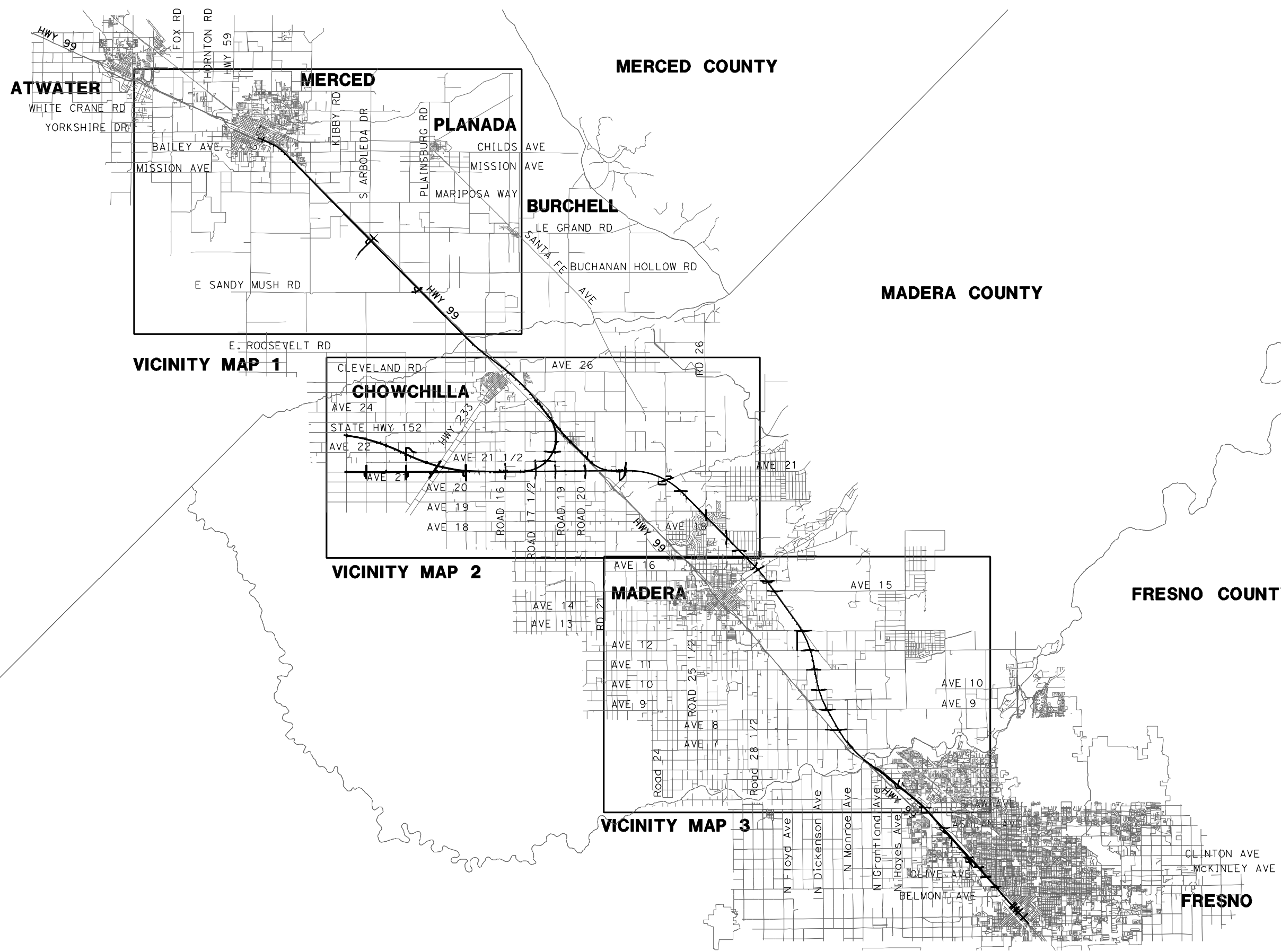
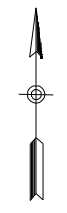


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID  
 GENERAL  
 ABBREVIATIONS, SYMBOLS AND NOTES  
 SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
B4993-B  
 SCALE  
NO SCALE  
 SHEET NO.  
### OF ###



7/22/2011 12:35:18 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - Ave 21 Hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Index Map\B5000-B.dgn



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DESIGNED BY  
**D. AYELE**  
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**A. TRINH**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
AVE 21 HYBRID

INDEX MAP  
SHEET 1 OF 2

CONTRACT NO.  
HSR06-007

DRAWING NO.  
B5000-B

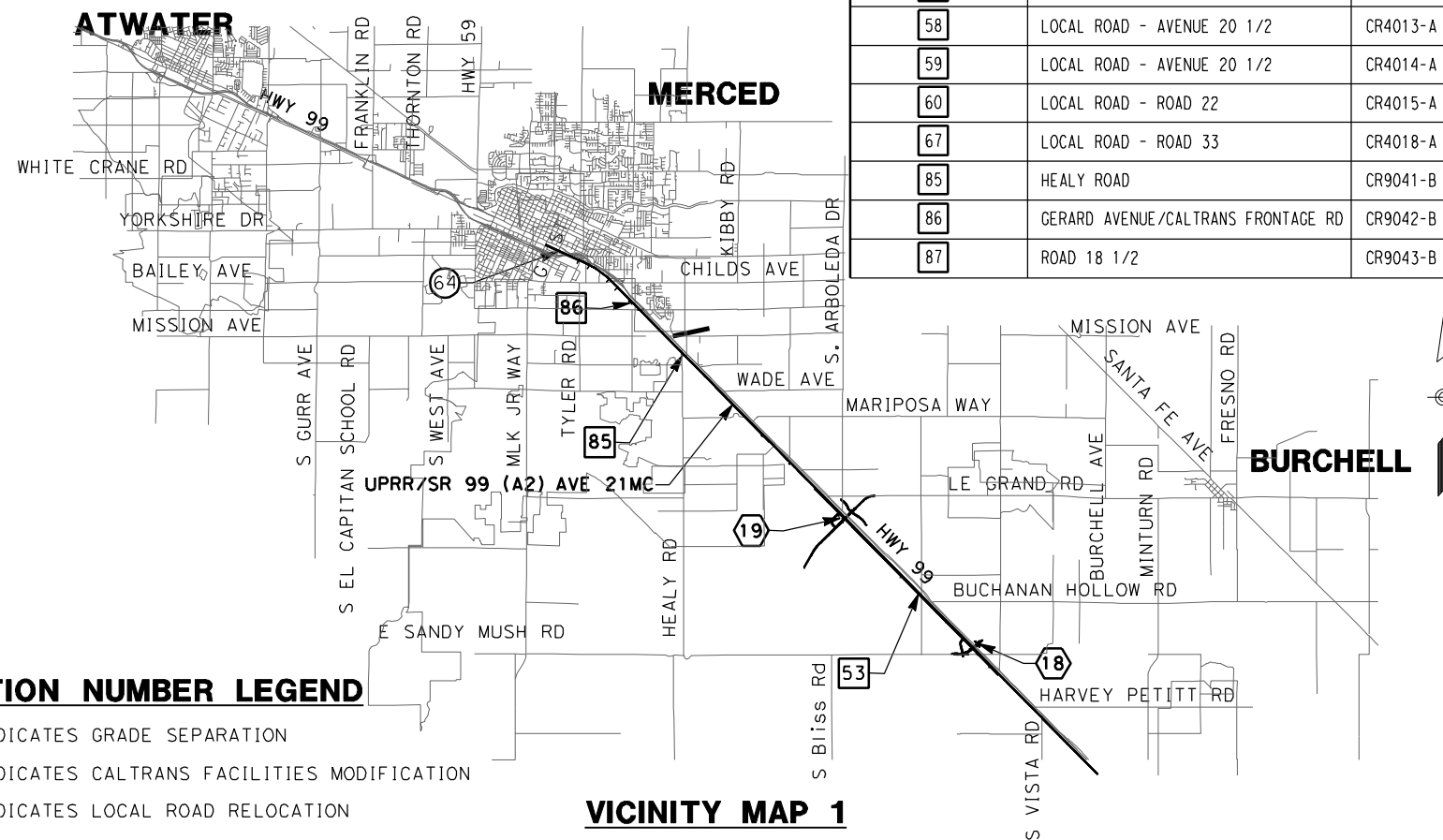
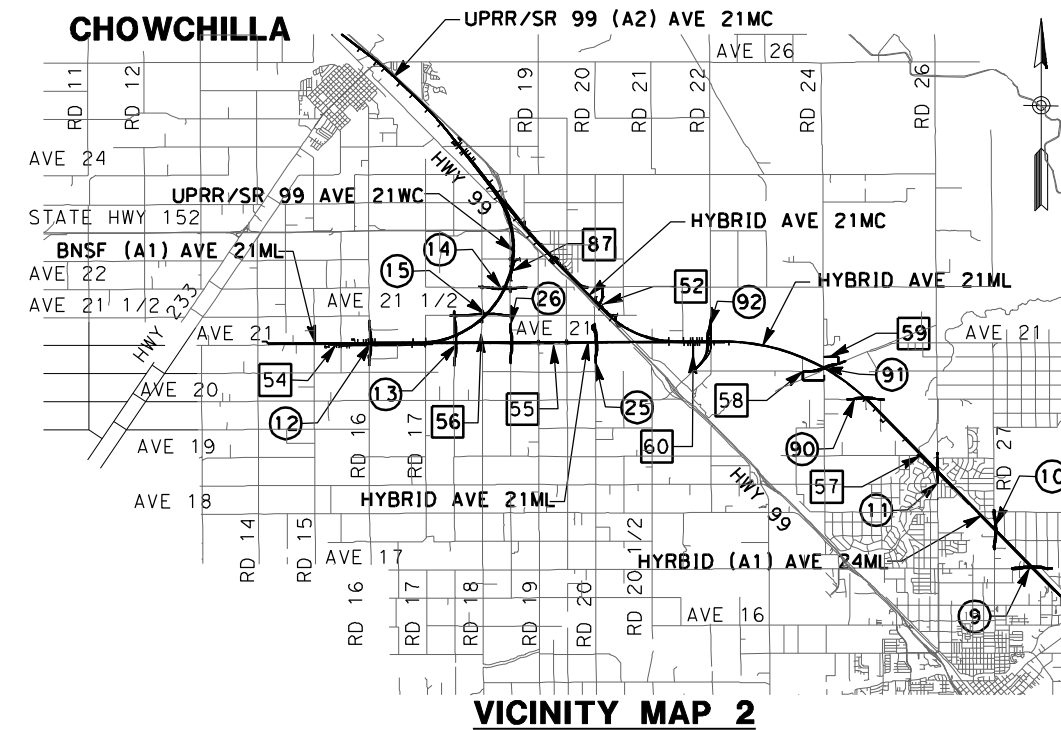
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SHEET NO.  
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LOCATION NO.	SHEET TITLE	ROADWAY DWG NO.	STR DWG NO.
1	GRADE SEPARATION - AVENUE 9	CT0001-A - CT0003-A	ST1001
2	GRADE SEPARATION - AVENUE 10	CT0004-A - CT0006-A	ST1002
3	GRADE SEPARATION - AVENUE 11	CT0007-A - CT0009-A	ST1003
4	GRADE SEPARATION - AVENUE 12	CT0010-A - CT0012-A	ST1004
5	GRADE SEPARATION - AVENUE 13	CT0013-A - CT0016-A	ST1005
6	GRADE SEPARATION - AVENUE 15	CT0017-A - CT0019-A	ST1006
7	GRADE SEPARATION - AVENUE 15 1/2	CT0020-A - CT0022-A	ST1007
8	GRADE SEPARATION - RAYMOND RD	CT0023-A - CT0025-A	ST1008
9	GRADE SEPARATION - AVENUE 17	CT0026-A - CT0028-A	ST1009
10	GRADE SEPARATION - ROAD 27	CT0029-A - CT0031-A	ST1010
11	GRADE SEPARATION - ROAD 26	CT0032-A - CT0034-A	ST1011
12	GRADE SEPARATION - ROAD 16	CT5000-B - CT5003-B	ST1101
13	GRADE SEPARATION - ROAD 17 1/2	CT5004-B - CT5007-B	ST1102 - ST1103
14	GRADE SEPARATION - AVENUE 22	CT5016-B - CT5018-B	ST1106
15	GRADE SEPARATION - AVENUE 21 1/2	CT5019-B - CT5022-B	ST1115
25	GRADE SEPARATION - ROAD 20	CT0076-A - CT0078-A	ST1026
26	GRADE SEPARATION - ROAD 18 1/2	CT0079-A - CT0081-A	ST1027
64	GRADE SEPARATION - G STREET	CT0149-A	ST1180

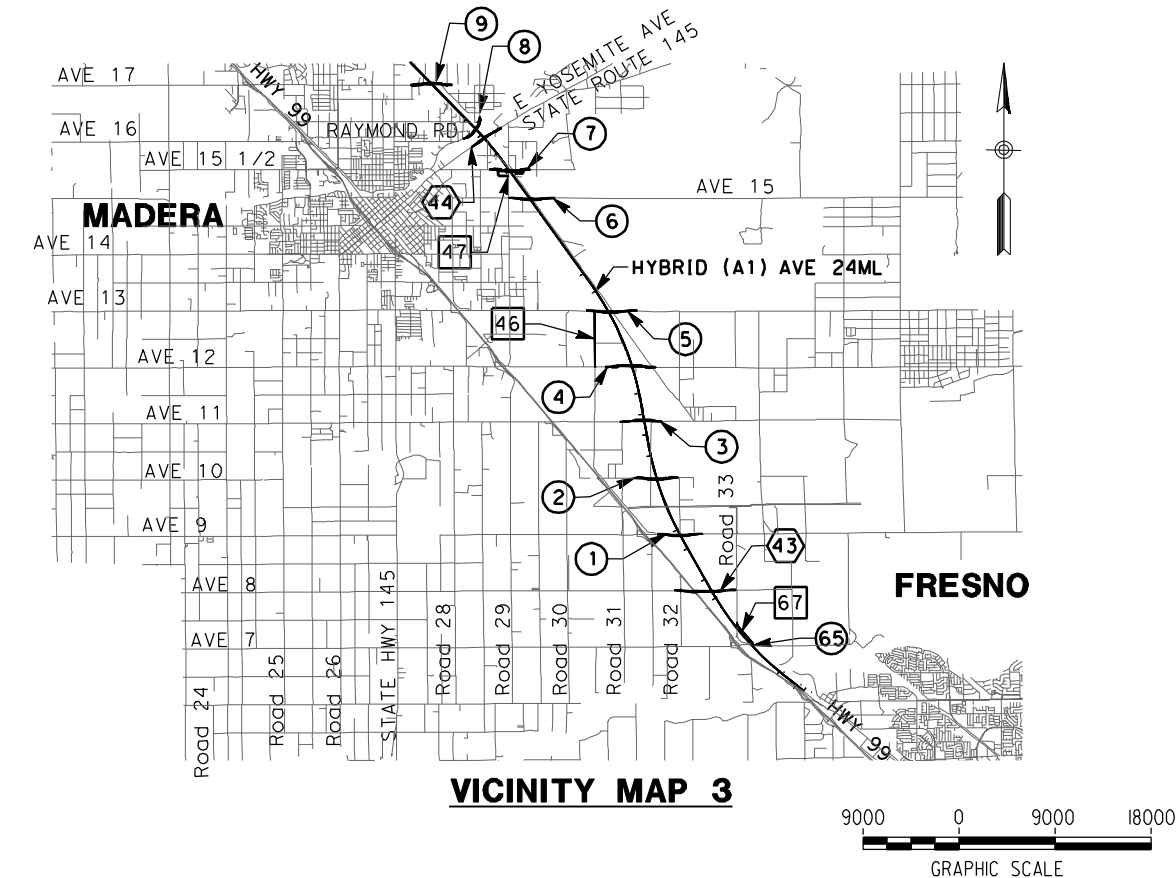
LOCATION NO.	SHEET TITLE	ROADWAY DWG NO.	STR DWG NO.
65	GRADE SEPARATION - AVENUE 7	CT0146-A - CT0148-A	ST1070
90	GRADE SEPARATION - AVENUE 20	CT0066-A - CT0068-A	ST1090
91	GRADE SEPARATION - AVENUE 20 1/2	CT0069-A - CT0071-A	ST1091
92	GRADE SEPARATION - ROAD 22	CT0073-A - CT0075-A	ST1092
18	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	CT7034-B - CT7036-B	ST1113
19	GRADE SEPARATION - LE GRAND RD INTERCHANGE	CT7037-B - CT7043-B	ST1114
43	CALTRANS - AVENUE 8	CT2001-A - CT2003-A	ST1000
44	CALTRANS - SR 145	CT2004-A - CT2006-A	
46	LOCAL ROAD - ROAD 30 1/2	CR4000-A	
47	LOCAL ROAD - ROAD 29	CR4001-A	
52	FAIRMEAD BLVD	CR9017-B - CR9020-B	
53	PROPOSED WEST FRONTAGE ROAD	CR9021-B - CR9028-B	
54	AVENUE 21	CR9029-B	
	AVENUE 21	CR9032-B - CR9033-B	
55	ROAD 19 & ROAD 19 1/2	CR9040-B	
56	ROAD 18	CR9035-B	
57	LOCAL ROAD - HANOVER RD	CR4012-A	
58	LOCAL ROAD - AVENUE 20 1/2	CR4013-A	
59	LOCAL ROAD - AVENUE 20 1/2	CR4014-A	
60	LOCAL ROAD - ROAD 22	CR4015-A	
67	LOCAL ROAD - ROAD 33	CR4018-A	
85	HEALY ROAD	CR9041-B	
86	GERARD AVENUE/CALTRANS FRONTAGE RD	CR9042-B	
87	ROAD 18 1/2	CR9043-B	



**LOCATION NUMBER LEGEND**

- (X) - INDICATES GRADE SEPARATION
- (X) - INDICATES CALTRANS FACILITIES MODIFICATION
- (X) - INDICATES LOCAL ROAD RELOCATION

**VICINITY MAP 1**



**VICINITY MAP 3**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. AYELE**  
DRAWN BY  
**A. TRINH**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
AVE 21 HYBRID

INDEX MAP  
SHEET 2 OF 2

CONTRACT NO.  
HSR06-007

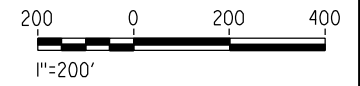
DRAWING NO.  
B5001-B

SCALE  
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SHEET NO.  
### OF ###



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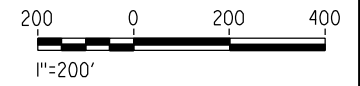
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALT 1  
 KEY MAP  
 SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CB5000-B  
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 SHEET NO.  
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
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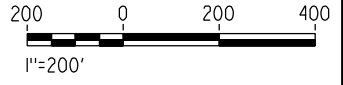
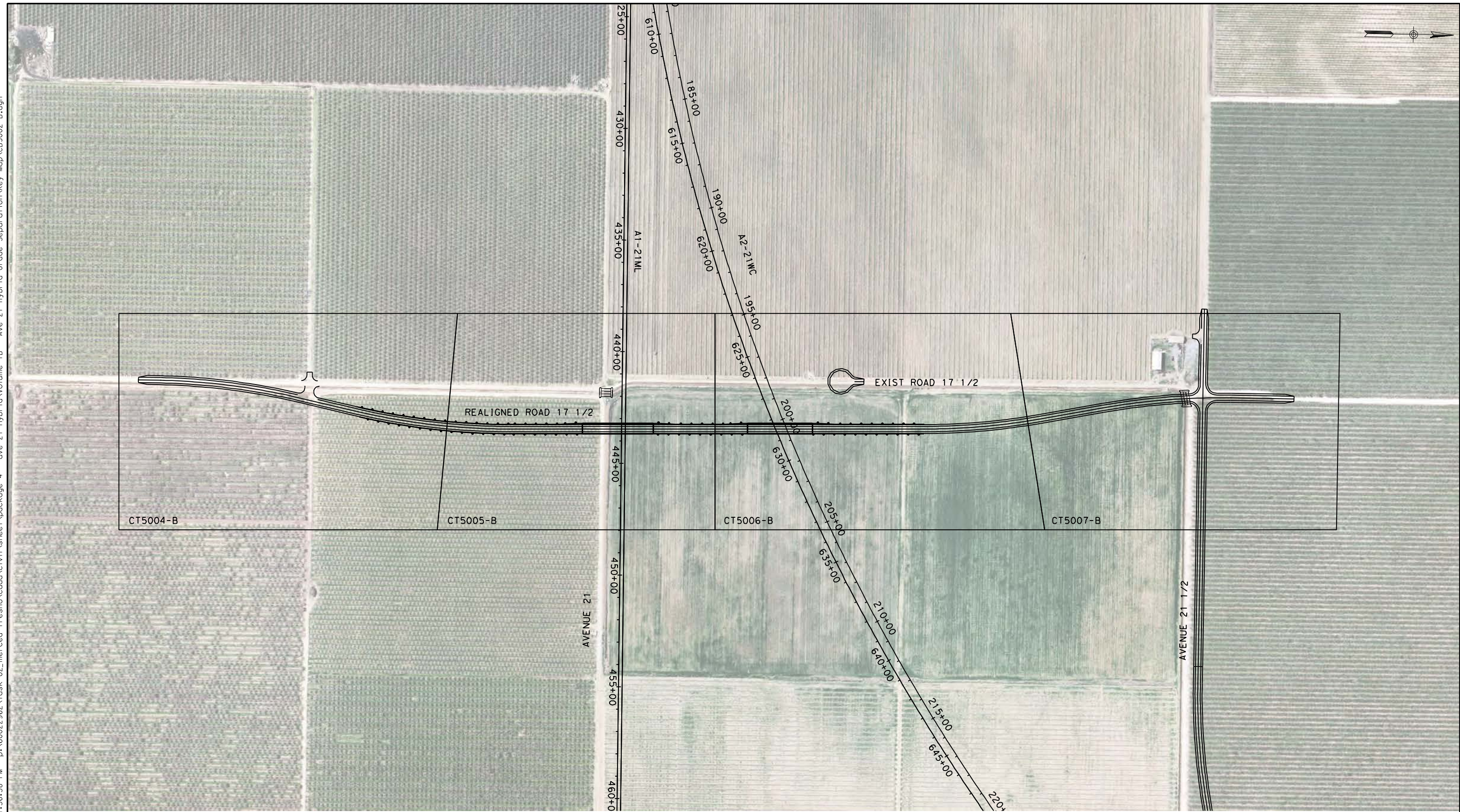
UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CB5001-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



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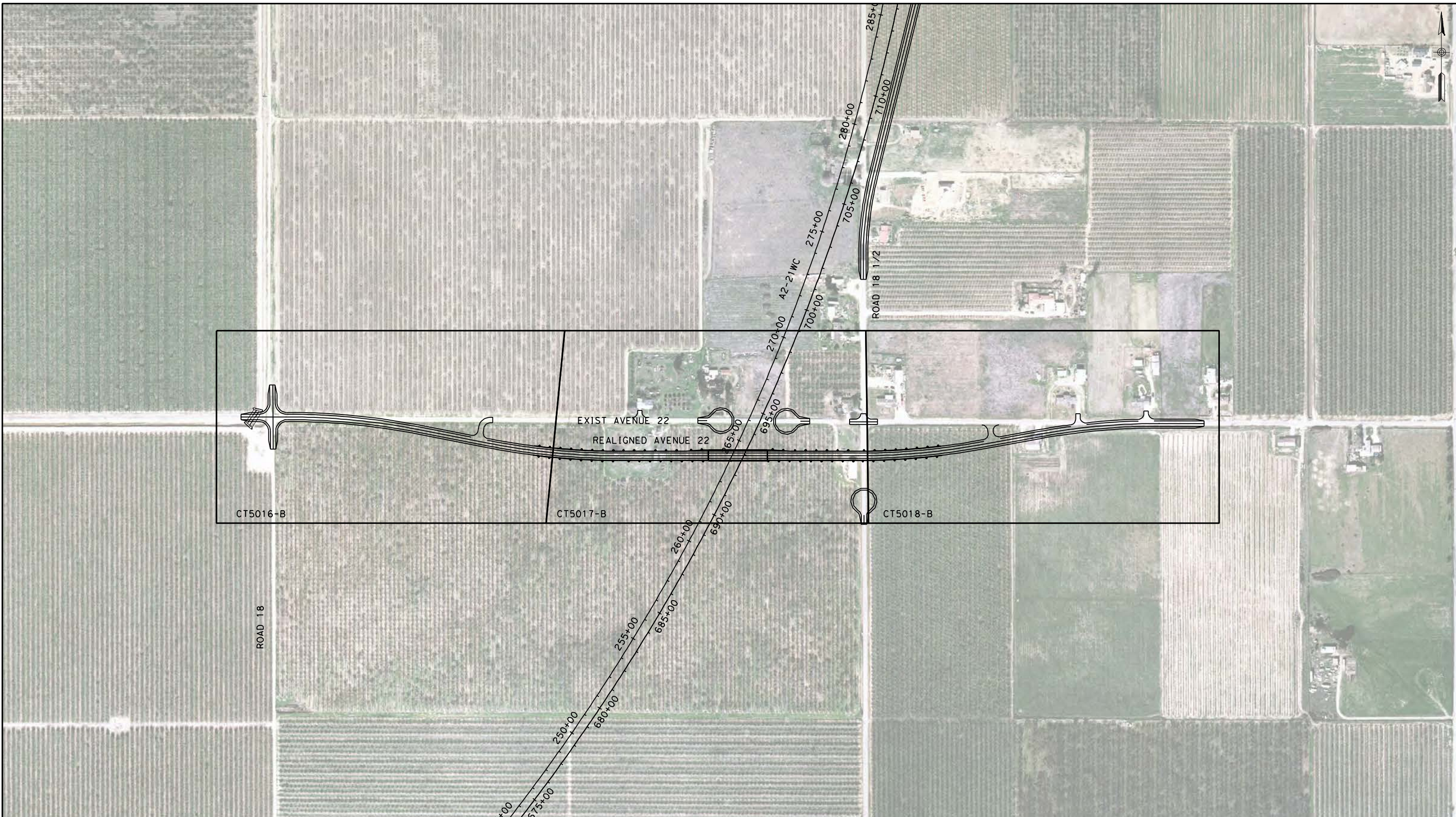
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 17 1/2  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CB5002-B  
SCALE  
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SHEET NO.  
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Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 22  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CB5005-B

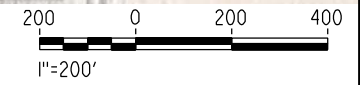
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 21 1/2  
KEY MAP  
SHEET 1 OF 1

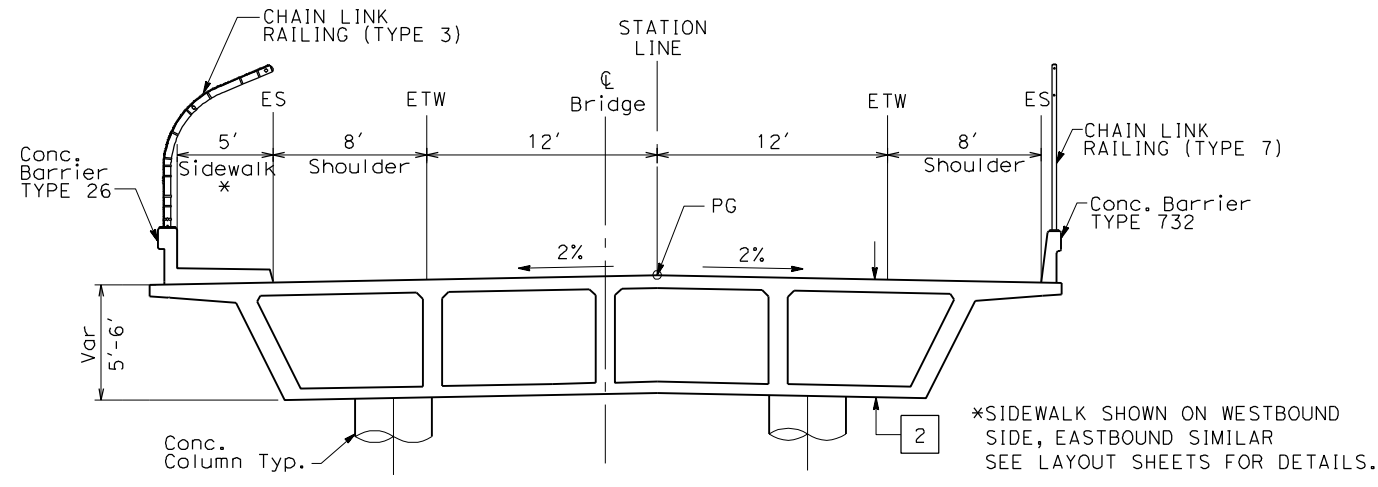
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DRAWING NO.  
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SHEET NO.  
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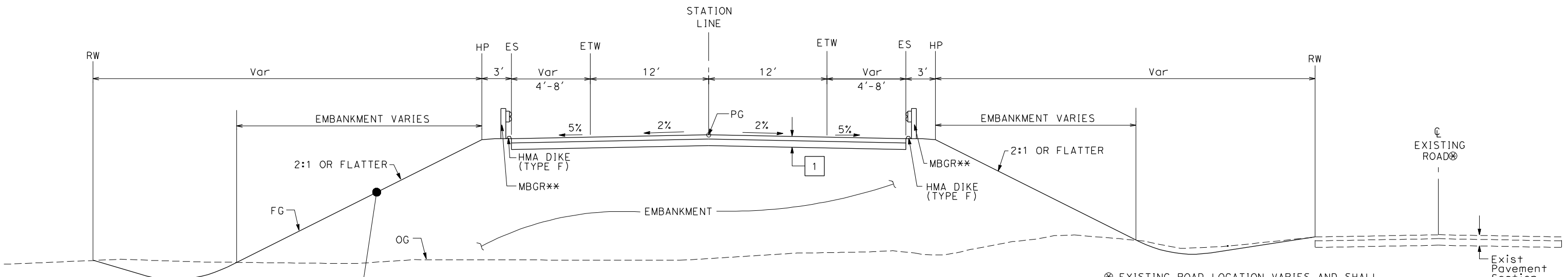
**NOTES:**

1. DIMENSIONS OF EXISTING PAVEMENT WIDTHS ARE BASED ON MEASUREMENTS MADE IN THE FIELD AND ARE APPROXIMATE.
2. PAVEMENT SECTIONS ARE TO BE DETERMINED. GEOTECHNICAL INVESTIGATIONS WILL BE CONDUCTED IN A SUBSEQUENT PHASE TO DETERMINE STRUCTURAL SECTIONS FOR EACH CROSSING.
3. SPACING OF BENCHES ON PROPOSED FILL SECTIONS ARE TO BE DETERMINED.
4. RIGHT-OF-WAY (R/W) WIDTH IS FOR INFORMATION ONLY. EXACT WIDTH TO BE DETERMINED IN COORDINATION WITH AFFECTED AGENCY.



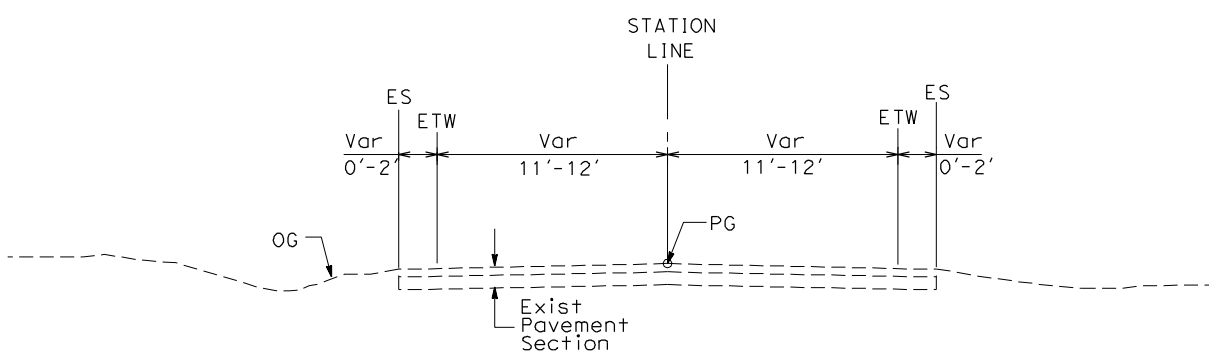
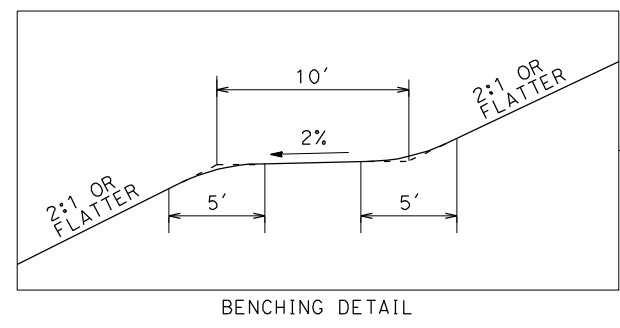
**STRUCTURAL SECTIONS:**

- 1 HMA TYPE A AB CLASS 2
- 2 CAST IN PLACE / PRESTRESSED BOX GIRDER (6' STRUCTURE DEPTH)



⊗ EXISTING ROAD LOCATION VARIES AND SHALL REMAIN OPEN DURING CONSTRUCTION. WHERE SHOWN ON THE PLAN CLOSE AND OBLITERATE EXISTING ROADWAY SUBSEQUENT TO CONSTRUCTION OF THE REALIGNED ROADWAY.

\*\* EXACT LIMITS OF MBGR PER AGENCY REQUIREMENTS.



TYPICAL CROSS SECTIONS ON THIS SHEET APPLY TO THE FOLLOWING ROADWAYS FOR AVE 21 HYBRID:

NO.	STREET NAME	NO.	STREET NAME
1	ROAD 16	11	AVENUE 15 1/2
2	ROAD 17-1/2	12	RAYMOND RD
3	AVENUE 22	13	AVENUE 17
4	AVENUE 21 1/2	14	AVENUE 20
5	AVENUE 9	15	AVENUE 20 1/2
6	AVENUE 10	16	ROAD 18 1/2
7	AVENUE 11	17	AVENUE 7
8	AVENUE 12	18	G ST
9	AVENUE 13	19	ROAD 20
10	AVENUE 15		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. OAKS**

DRAWN BY  
**K. OAKS**

CHECKED BY  
**A. SILVER**

IN CHARGE  
**A. BOONE**

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**06/30/2011**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

AVE 21 HYBRID  
GRADE SEPARATIONS  
TYPICAL CROSS SECTIONS  
SHEET 1 OF 2

CONTRACT NO.  
HSR06-007

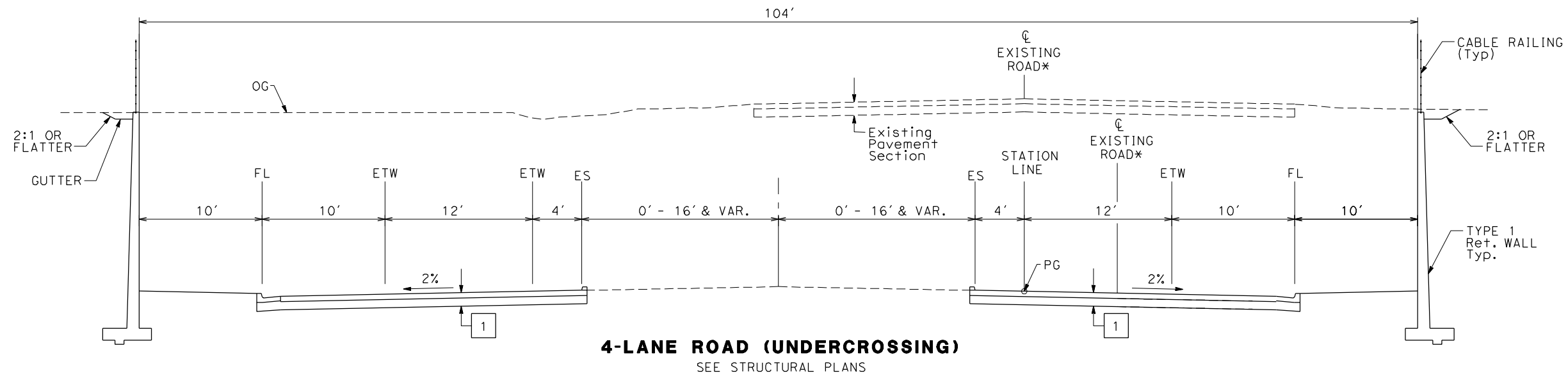
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CT4990-B

SCALE  
NTS

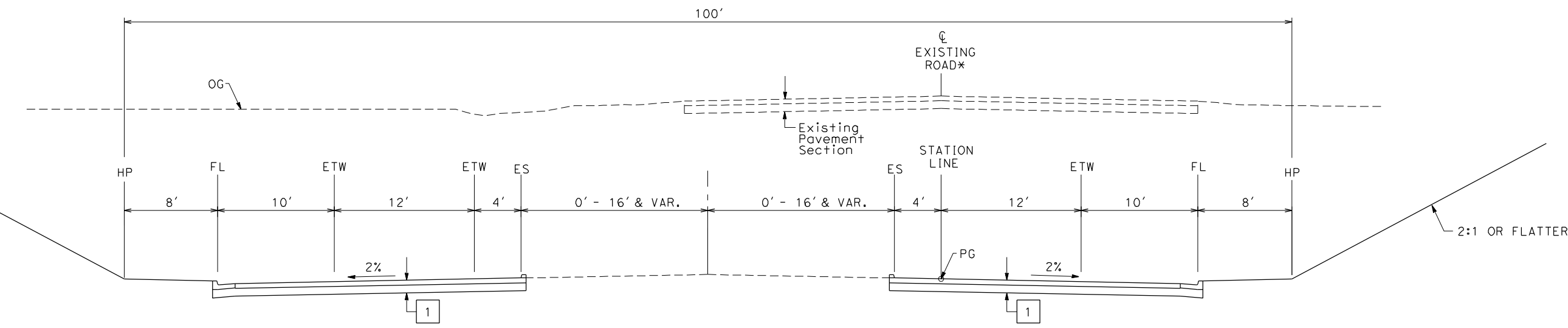
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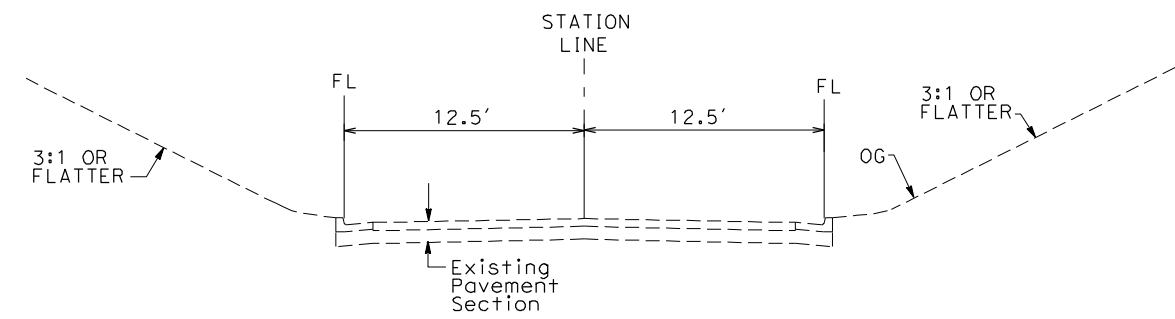


**4-LANE ROAD (UNDERCROSSING)**  
SEE STRUCTURAL PLANS



**4-LANE ROAD\***  
WEST SIDE SHOWN (EAST SIDE SIMILAR)

\* EXISTING ROAD LOCATION VARIES. CONSTRUCTION SHALL BE STAGED TO KEEP ROAD OPEN DURING CONSTRUCTION.



**EXISTING 2-LANE ROAD**  
EAST SIDE SHOWN (WEST SIDE SIMILAR)

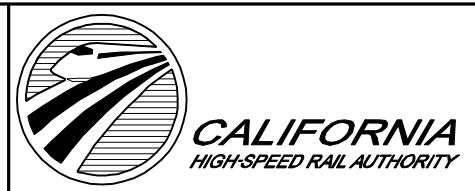
TYPICAL CROSS SECTIONS ON THIS SHEET APPLY TO THE FOLLOWING ROADWAYS FOR ALIGNMENT AVE 21 HYBRID:

NO.	STREET NAME
1	ROAD 26
2	ROAD 22

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
KO  
 DRAWN BY  
FD  
 CHECKED BY  
JZ  
 IN CHARGE  
AB  
 DATE  
06/30/2011

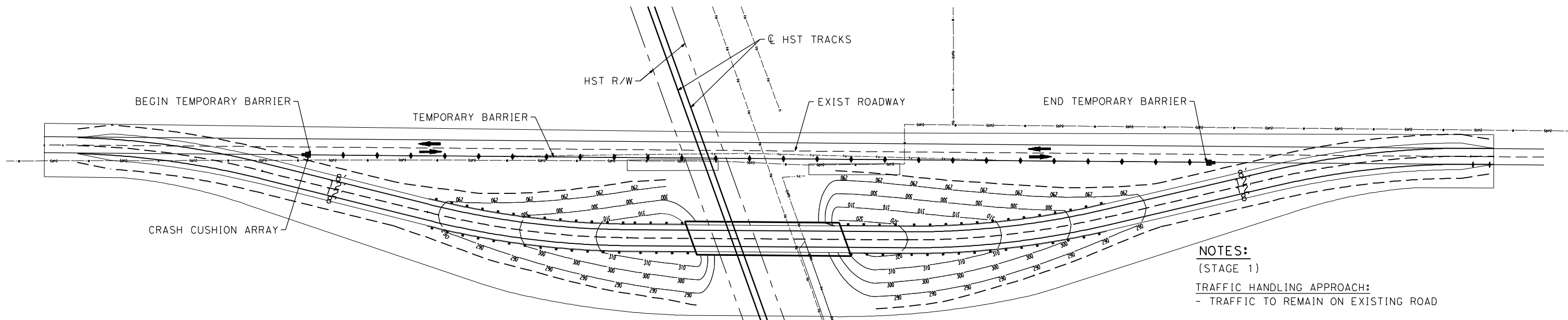
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID  
 GRADE SEPARATIONS  
 TYPICAL CROSS SECTIONS  
 SHEET 2 OF 2

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT4991-B  
 SCALE  
NTS  
 SHEET NO.  
### OF ###

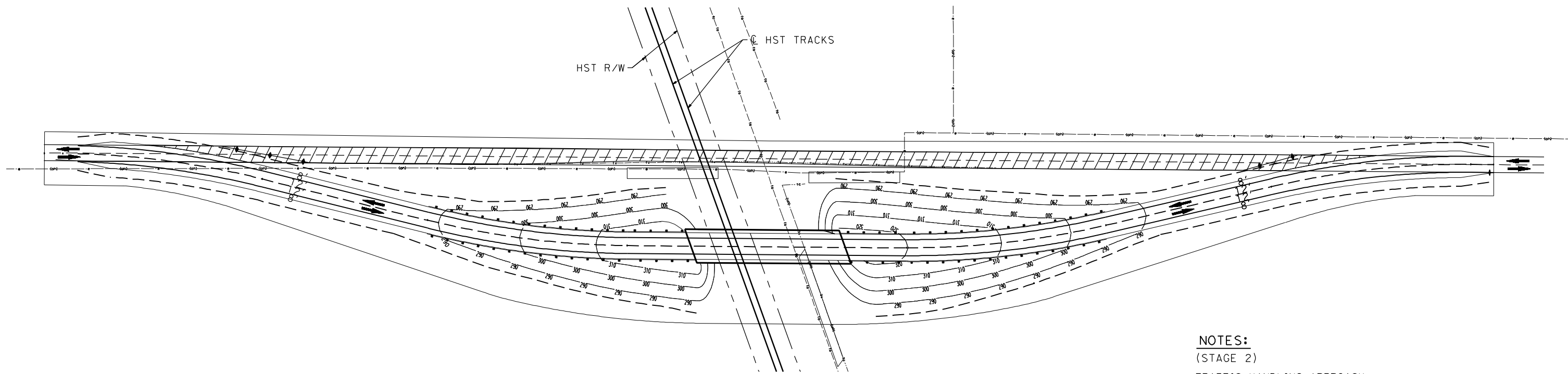
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**STAGE CONSTRUCTION (STAGE 1)**

**NOTES:**  
 (STAGE 1)  
**TRAFFIC HANDLING APPROACH:**  
 - TRAFFIC TO REMAIN ON EXISTING ROAD

**STAGE CONSTRUCTION ACTIVITIES:**  
 - CONSTRUCT NEW GRADE SEPARATION EMBANKMENT  
 - CONSTRUCT NEW GRADE SEPARATION STRUCTURE  
 - CONSTRUCT DRAINAGE FACILITY


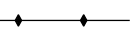

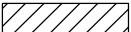


**STAGE CONSTRUCTION (STAGE 2)**

**NOTES:**  
 (STAGE 2)  
**TRAFFIC HANDLING APPROACH:**  
 - SHIFT TRAFFIC TO NEW GRADE SEPARATION FACILITY

**STAGE CONSTRUCTION ACTIVITIES:**  
 - CONSTRUCT REALIGNED ROAD CONFORMS  
 - COMPLETE DRAINAGE FACILITIES  
 - REMOVE BASE AND SURFACING OF EXIST ROAD

**LEGEND:**

-  CRASH CUSHION ARRAY (ARRAY TS 11)
-  TEMPORARY BARRIER (TYPE K)
-  DIRECTION OF TRAVEL
-  REMOVE BASE AND SURFACING (EXIST ROAD)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
SW

DRAWN BY  
SW/FD

CHECKED BY  
JZ

IN CHARGE  
AB

DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
 Technical Services, Inc.  
 2020 L Street, Suite 300  
 Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID

GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN  
 SHEET 1 OF 2

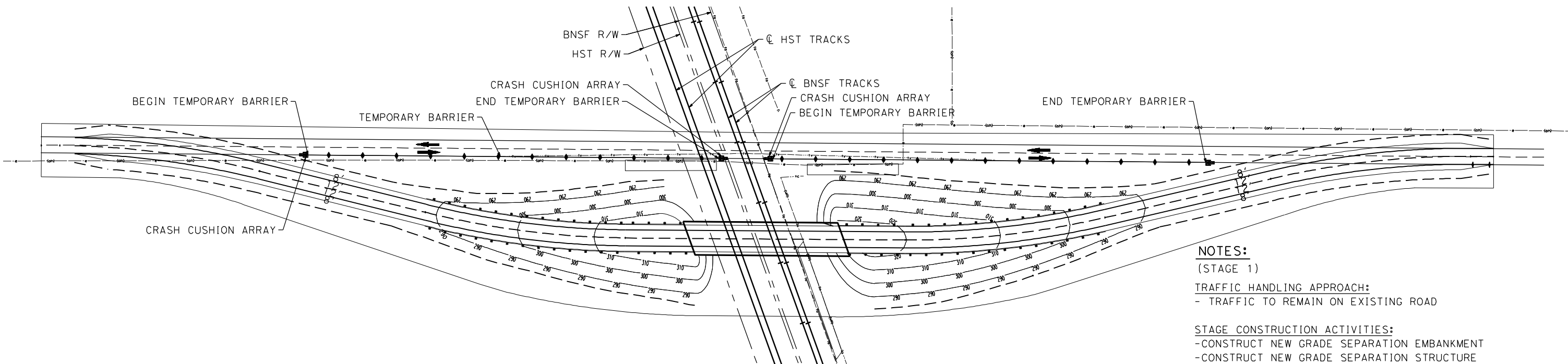
CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT4992-B

SCALE  
NO SCALE

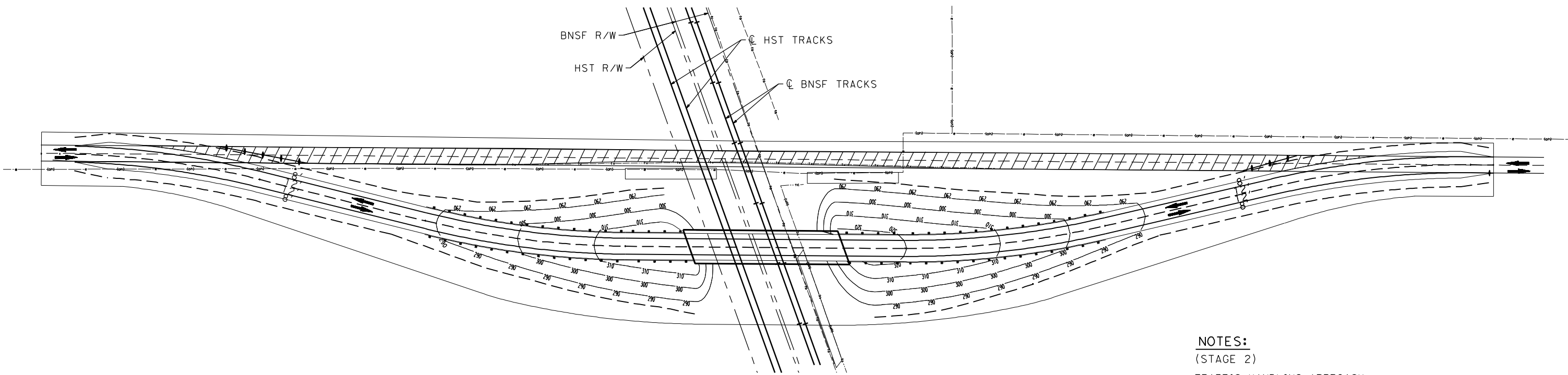
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6/28/2011 9:43:01 AM p:\60022962\task\_02\_merced-fresno\cadd\civil\sheet\_package\_4 - ave 21 hybrid\volume 1b - ave 21 hybrid\volume 1b - ave 21 hybrid\grade\_separation\CT4993-B.dgn



**STAGE CONSTRUCTION (STAGE 1)**

**NOTES:**  
 (STAGE 1)  
**TRAFFIC HANDLING APPROACH:**  
 - TRAFFIC TO REMAIN ON EXISTING ROAD  
  
**STAGE CONSTRUCTION ACTIVITIES:**  
 - CONSTRUCT NEW GRADE SEPARATION EMBANKMENT  
 - CONSTRUCT NEW GRADE SEPARATION STRUCTURE  
 - CONSTRUCT DRAINAGE FACILITY



**STAGE CONSTRUCTION (STAGE 2)**

**NOTES:**  
 (STAGE 2)  
**TRAFFIC HANDLING APPROACH:**  
 - SHIFT TRAFFIC TO NEW GRADE SEPARATION FACILITY  
  
**STAGE CONSTRUCTION ACTIVITIES:**  
 - CONSTRUCT REALIGNED ROAD CONFORMS  
 - COMPLETE DRAINAGE FACILITIES  
 - REMOVE SURFACE AND BASE OF EXIST ROAD

**LEGEND:**

- CRASH CUSHION ARRAY (ARRAY TS11)
- TEMPORARY BARRIER (TYPE K)
- DIRECTION OF TRAVEL
- REMOVE BASE AND SURFACING (EXIST ROAD)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
SW  
 DRAWN BY  
SW/FD  
 CHECKED BY  
JZ  
 IN CHARGE  
AB  
 DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**AECOM**  
 Technical Services, Inc.  
 2020 L Street, Suite 300  
 Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID

GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN  
SHEET 2 OF 2

CONTRACT NO.  
HSR06-007

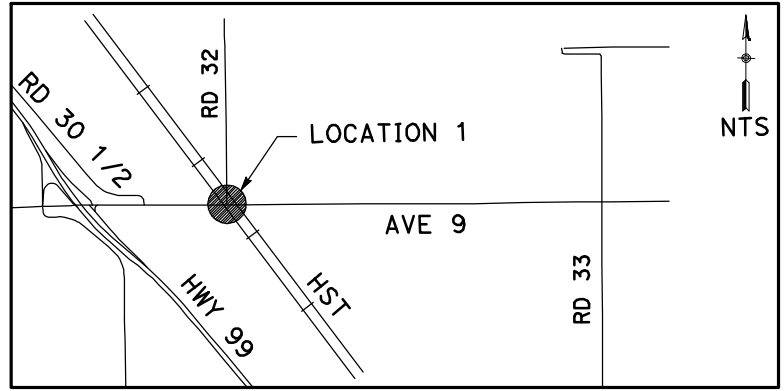
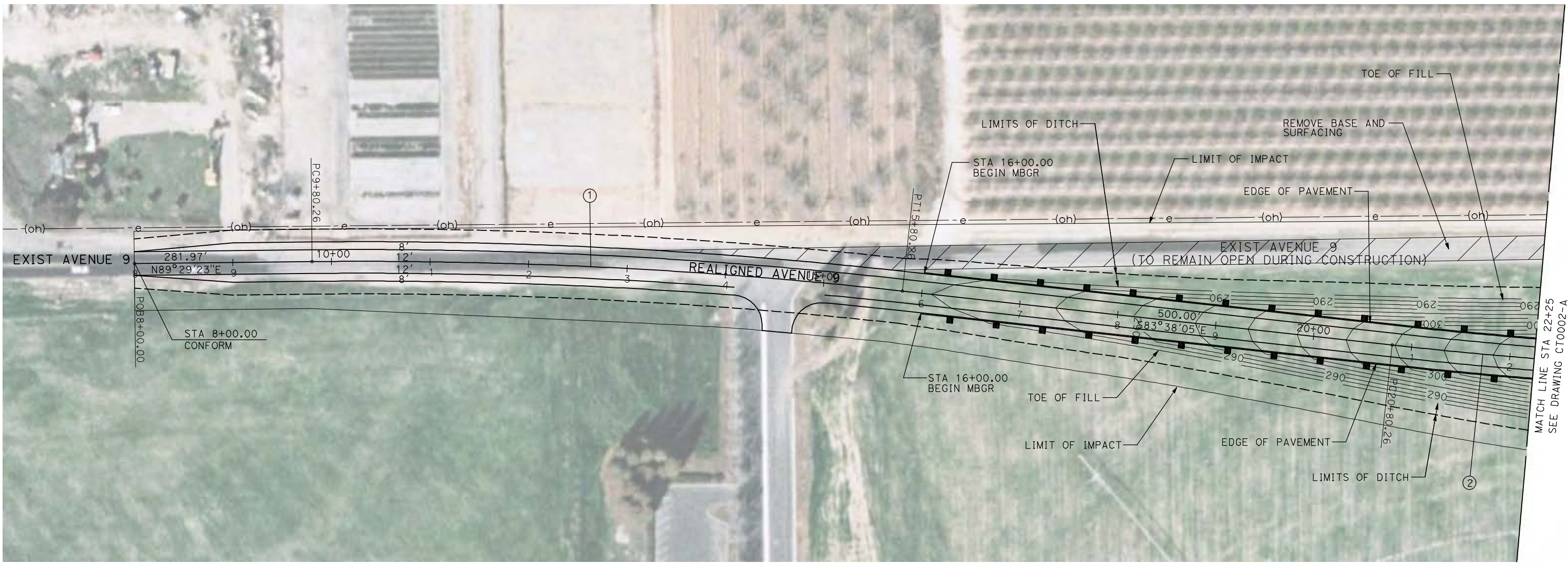
DRAWING NO.  
CT4993-B

SCALE  
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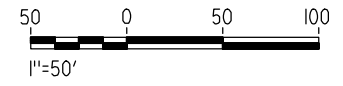
SHEET NO.  
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NO.	R	$\Delta$	T	L	V
①	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1000-A THROUGH CT1002-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



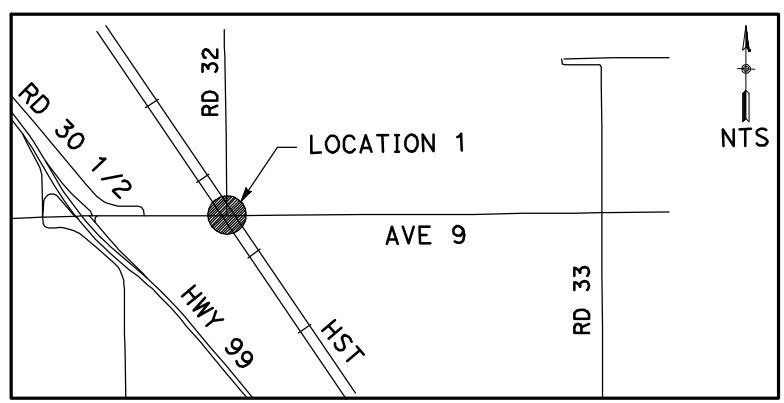
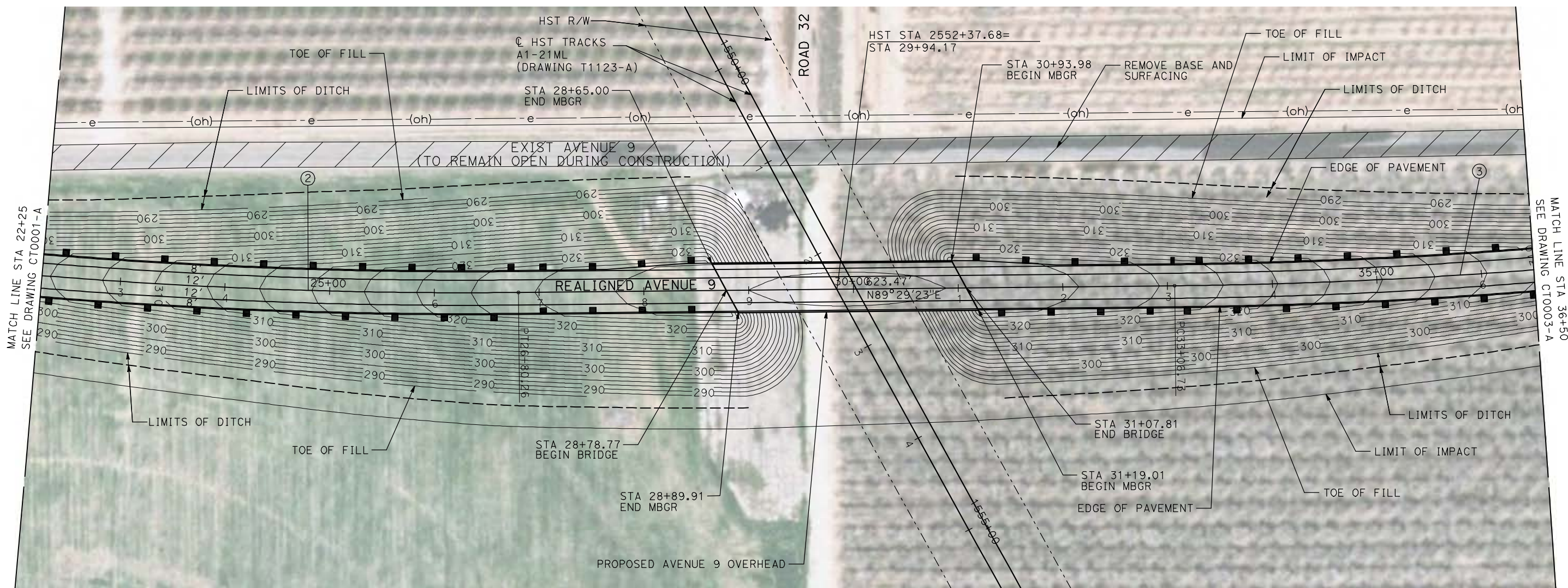
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 9  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0001-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

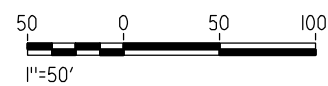


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CURVE DATA					
NO.	R	Δ	T	L	V
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1000-A THROUGH CT1002-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GIBSON**  
DRAWN BY  
**H. PHAN**  
CHECKED BY  
**J. ZANDIAN**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



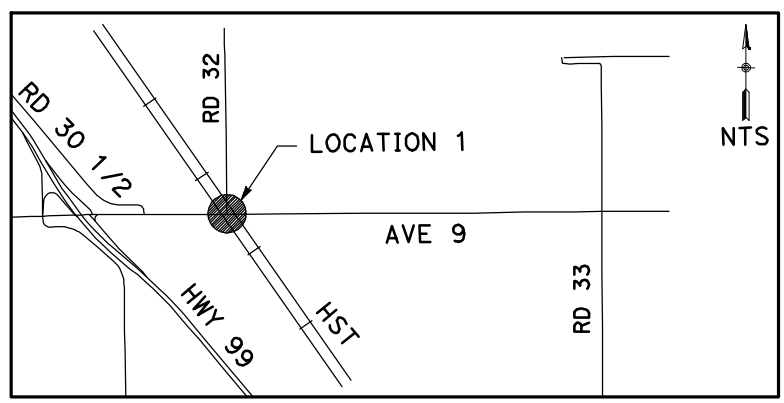
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 9  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0002-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

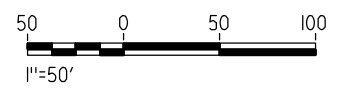


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CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
④	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1000-A THROUGH CT1002-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

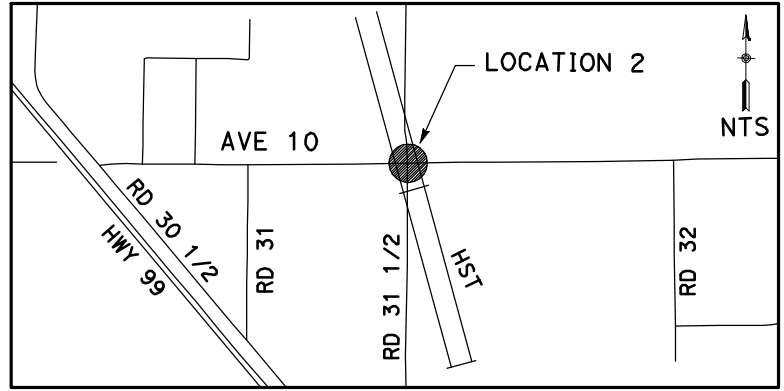
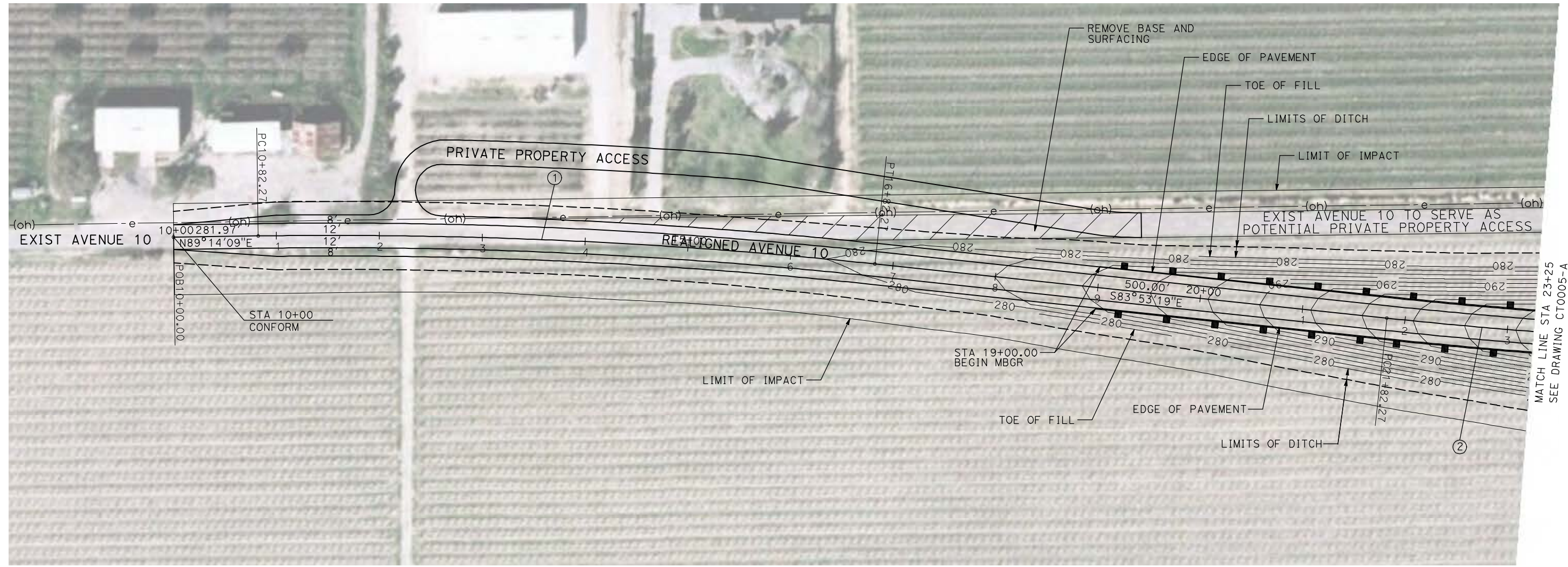
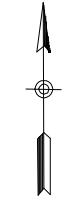
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 9  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0003-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

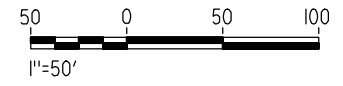


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CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR PROFILES, SEE DRAWINGS CT1003-A THROUGH CT1005-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 10  
LAYOUT  
SHEET 1 OF 3

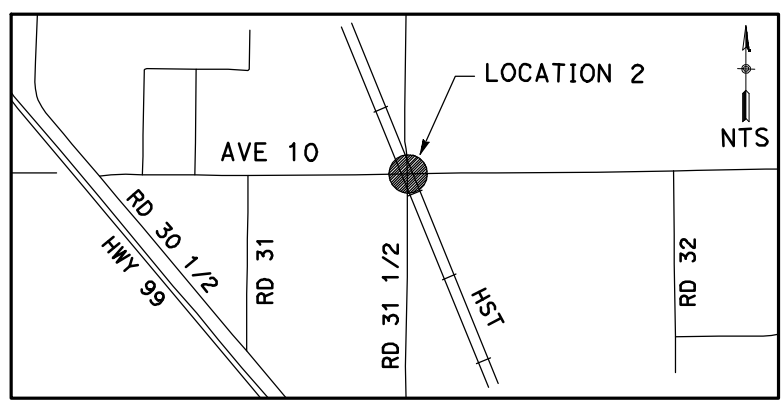
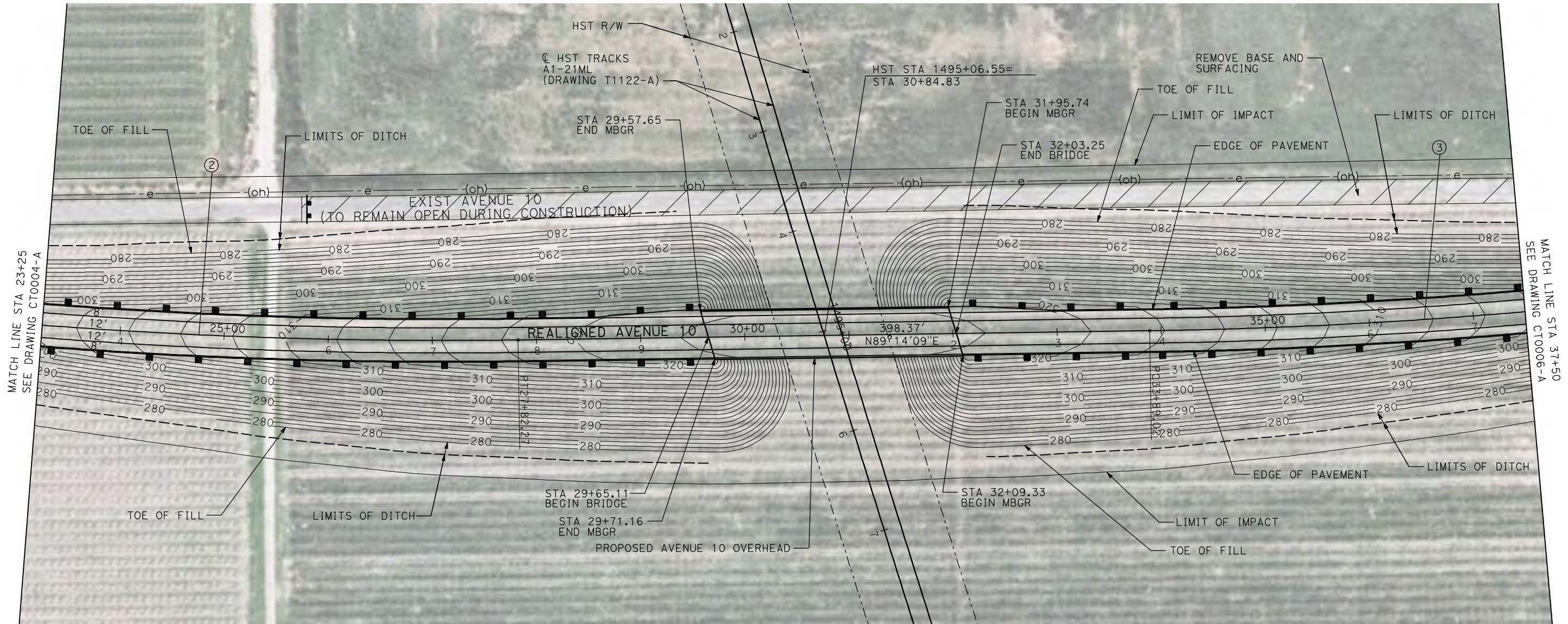
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0004-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



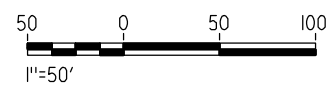
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CURVE DATA					
NO.	R	Δ	T	L	V
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③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1003-A THROUGH CT1005-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



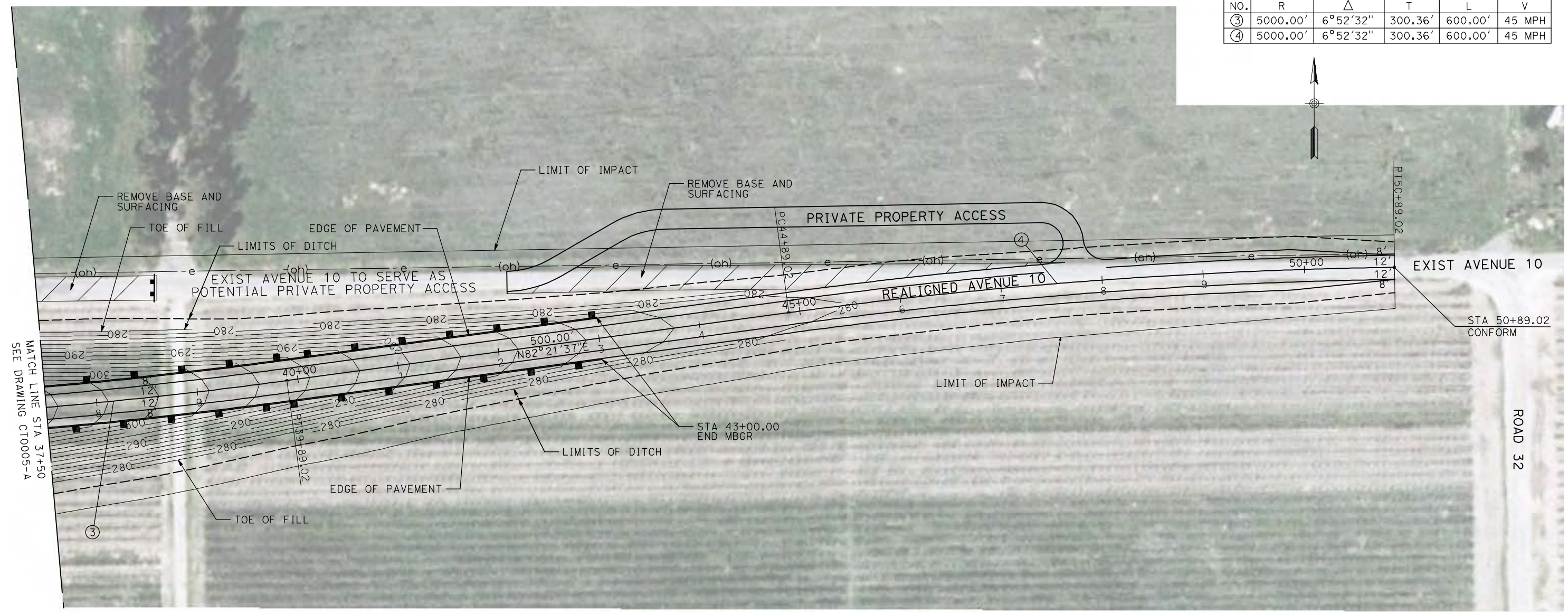
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 10  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0005-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

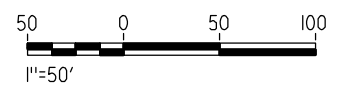
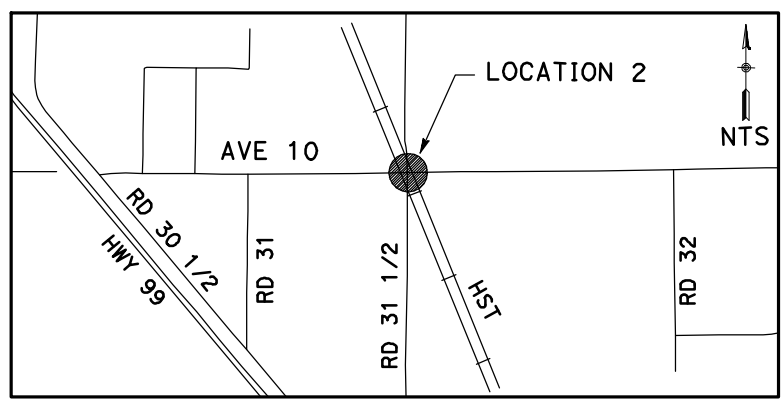


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CURVE DATA					
NO.	R	$\Delta$	T	L	V
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④	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1003-A THROUGH CT1005-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



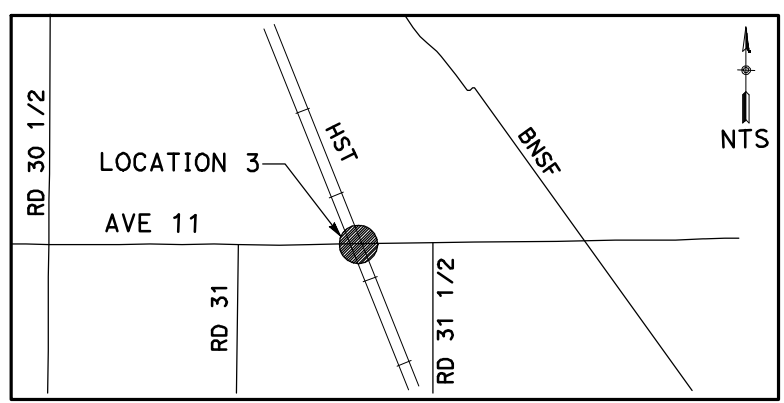
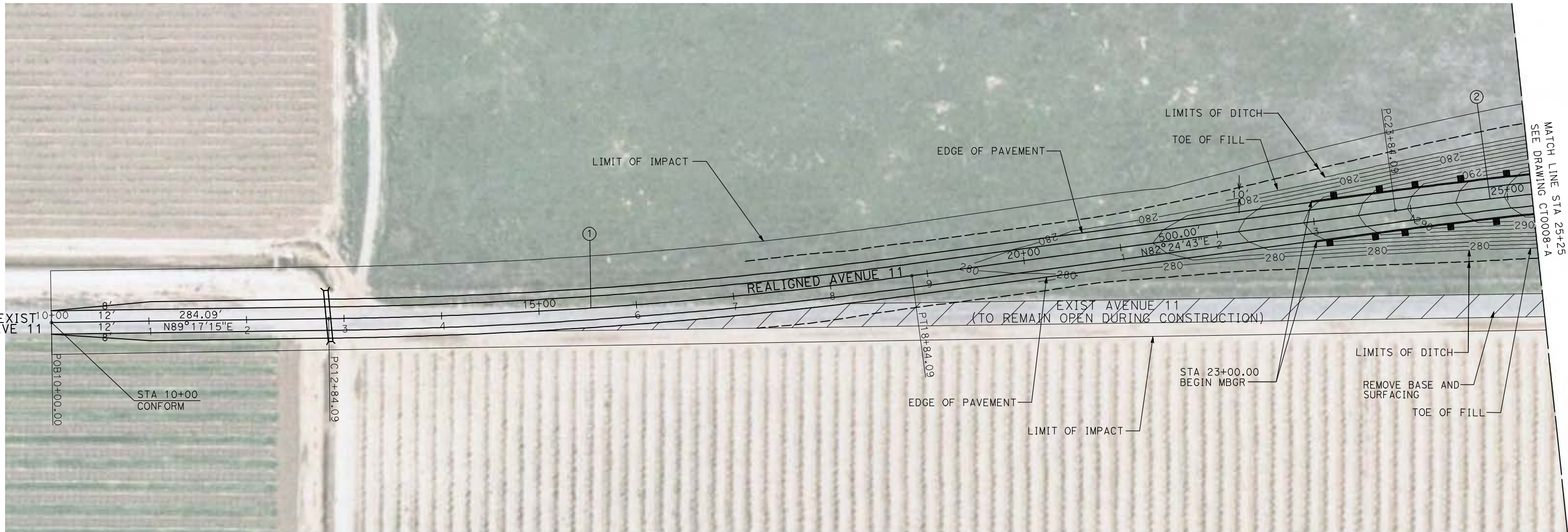
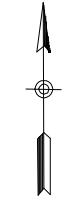
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 10  
 LAYOUT  
 SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0006-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

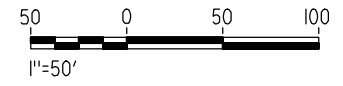


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CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1006-A THROUGH CT1008-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



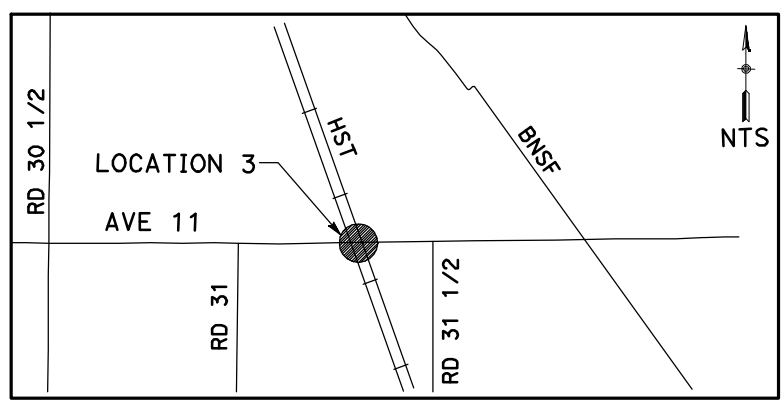
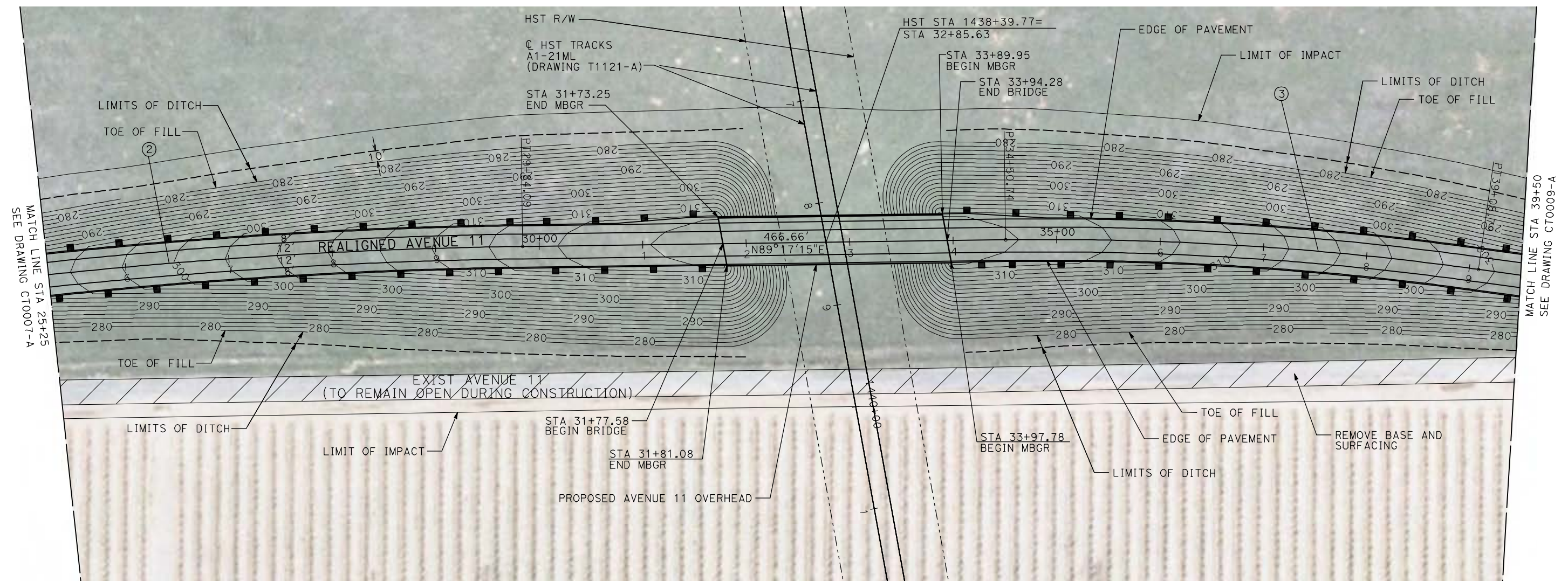
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 11  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0007-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

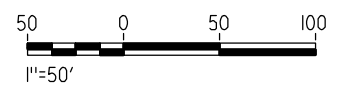


6/28/2011 4:26:39 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0008-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
③	3000.00'	8°44'53"	229.47'	458.05'	45 MPH



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1006-A THROUGH CT1008-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 11  
LAYOUT  
SHEET 2 OF 3

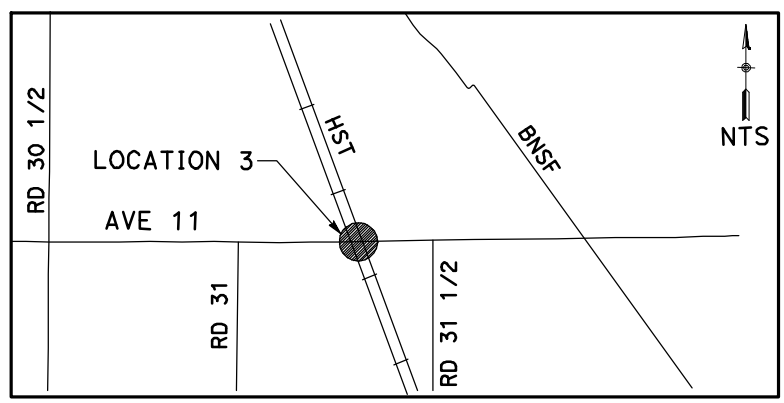
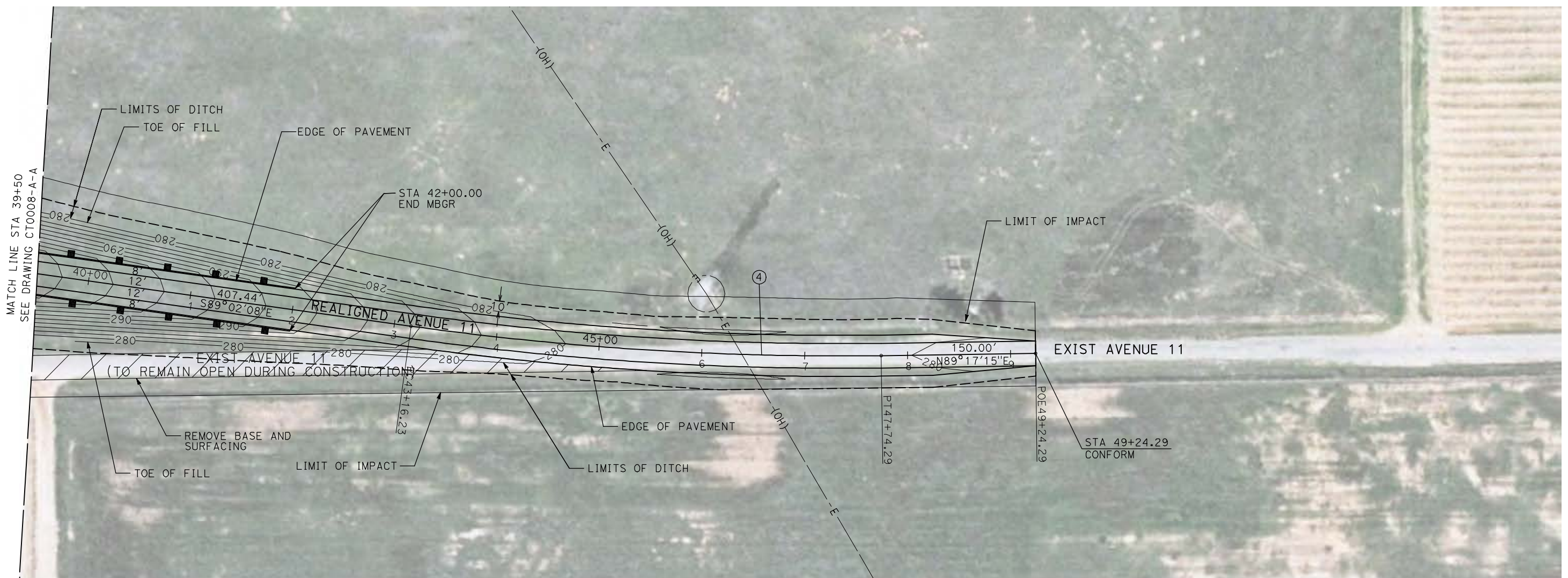
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0008-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



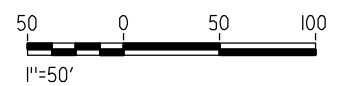
6/28/2011 4:26:48 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0009-A.dgn



CURVE DATA					
NO.	R	Δ	T	L	V
④	3000.00'	8°44'53"	229.47'	458.05'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1006-A THROUGH CT1008-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



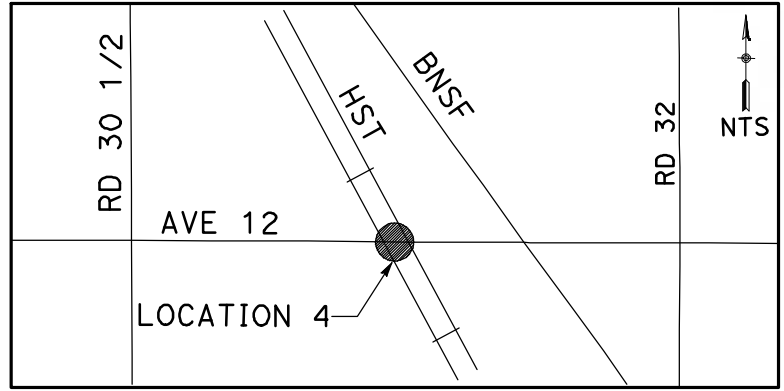
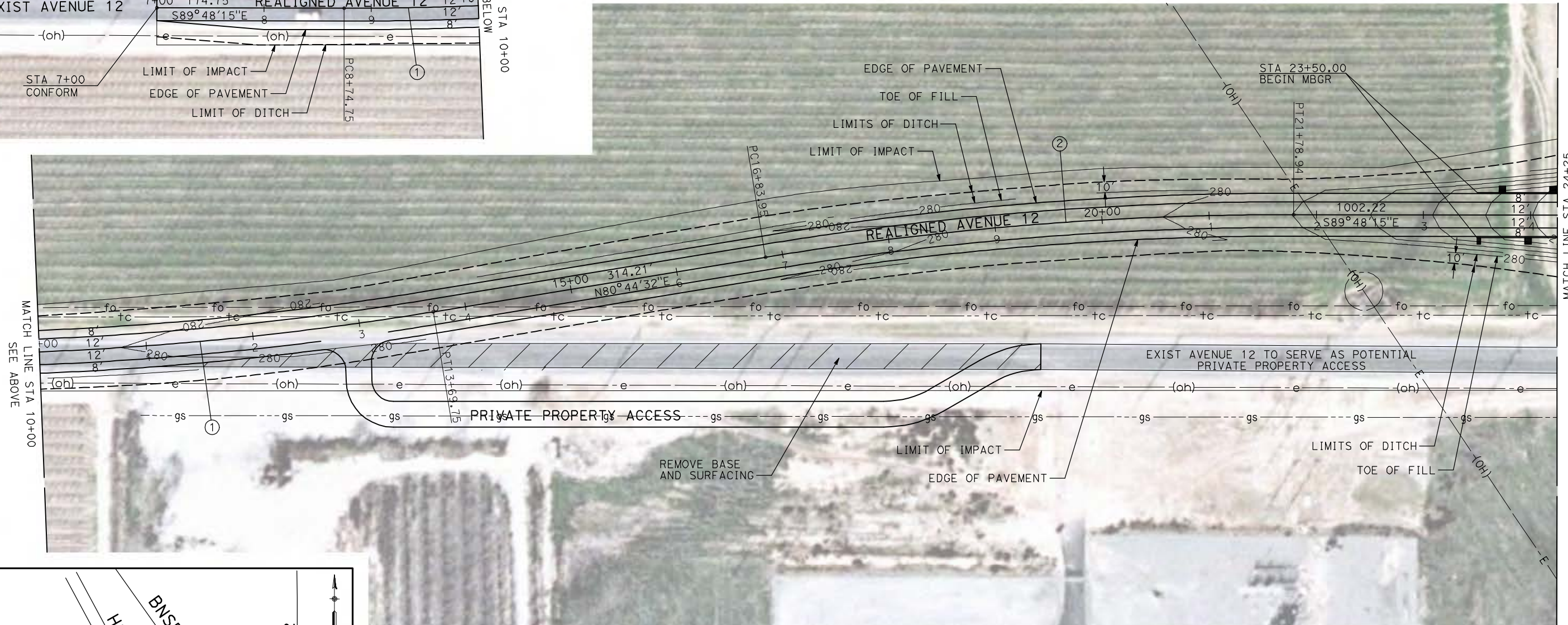
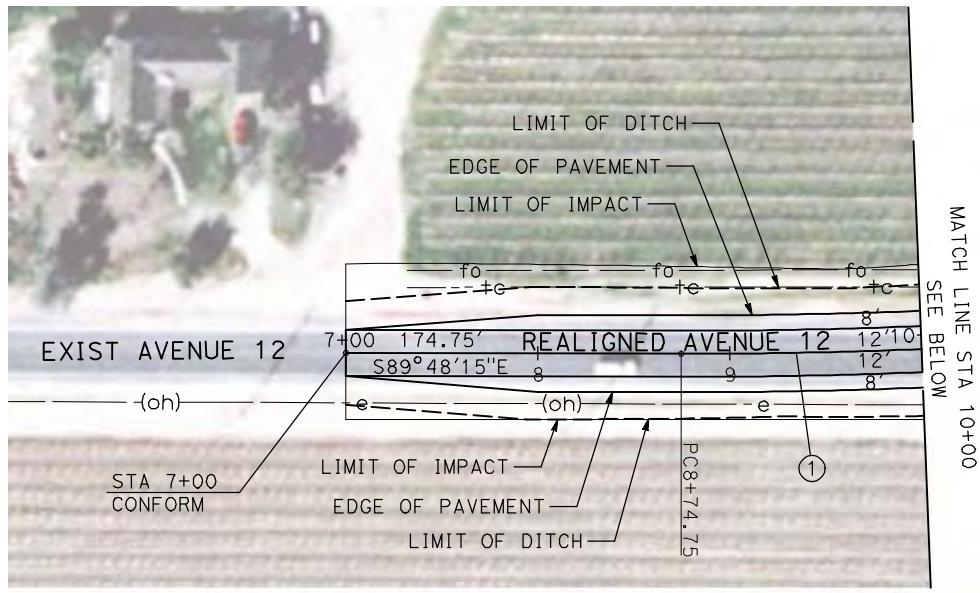
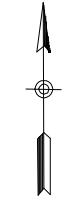
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 11  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0009-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

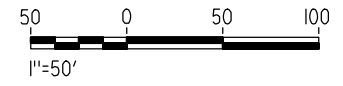


6/28/2011 4:26:55 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0010-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°27'13"	248.06'	494.99'	45 MPH
②	3000.00'	9°27'13"	248.06'	494.99'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1009-A THROUGH CT1011-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

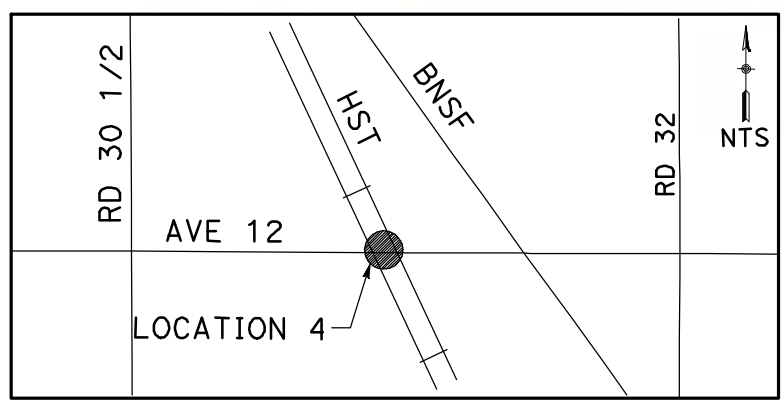
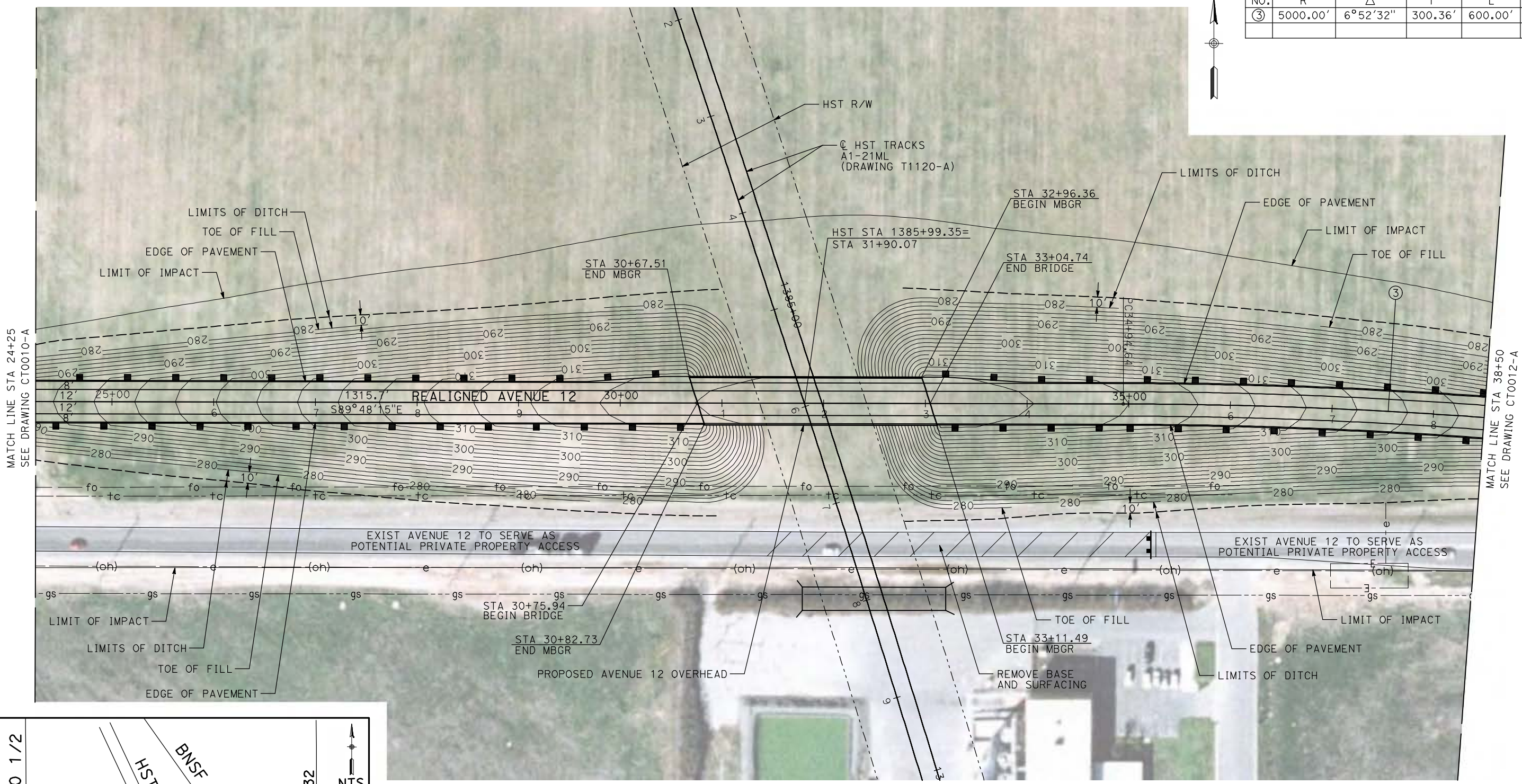
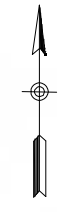
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 12  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0010-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

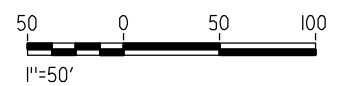


6/28/2011 4:27:03 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0011-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1009-A THROUGH CT1011-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

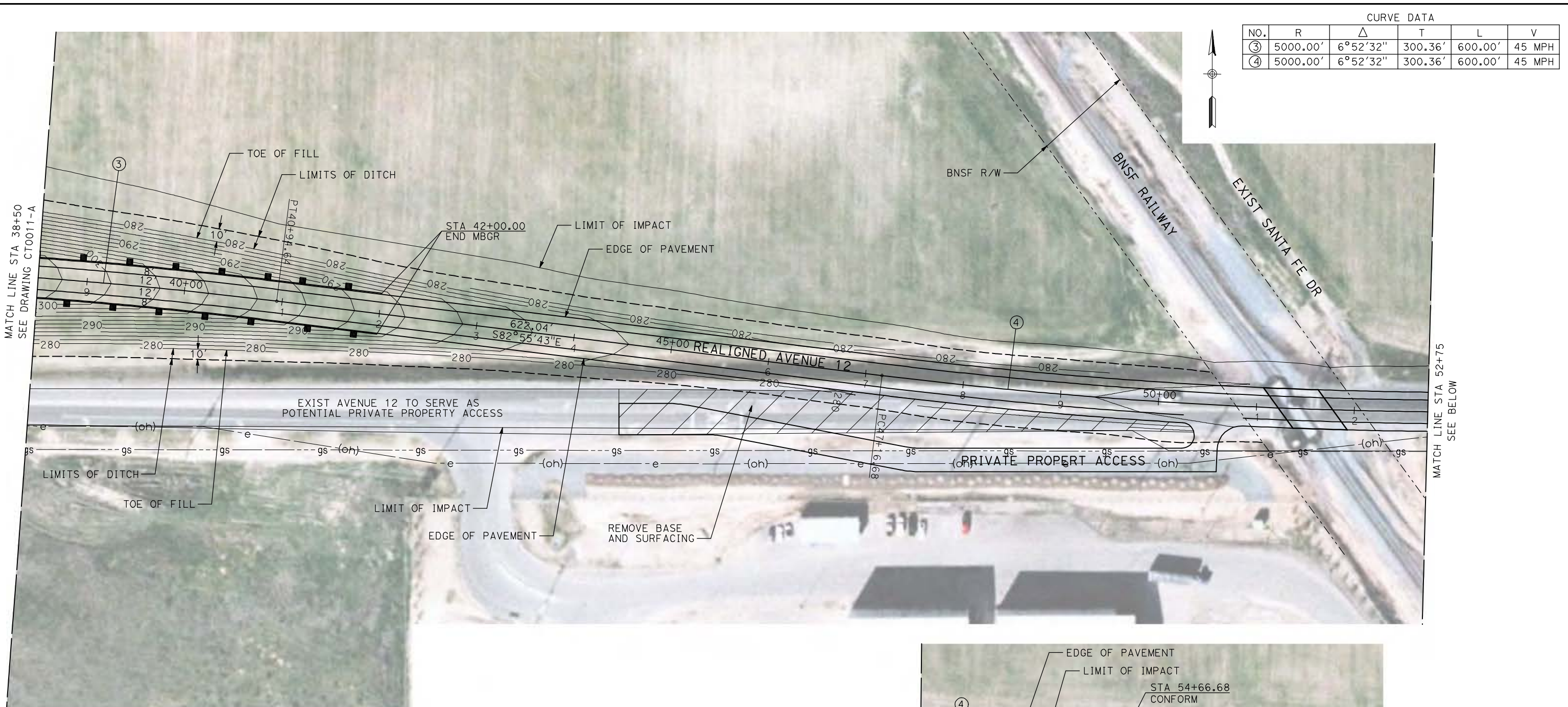


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 12  
LAYOUT  
SHEET 2 OF 3

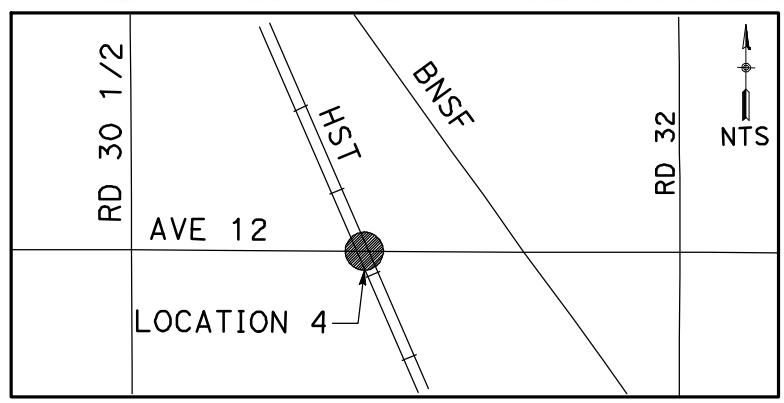
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0011-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



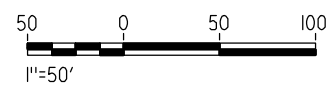
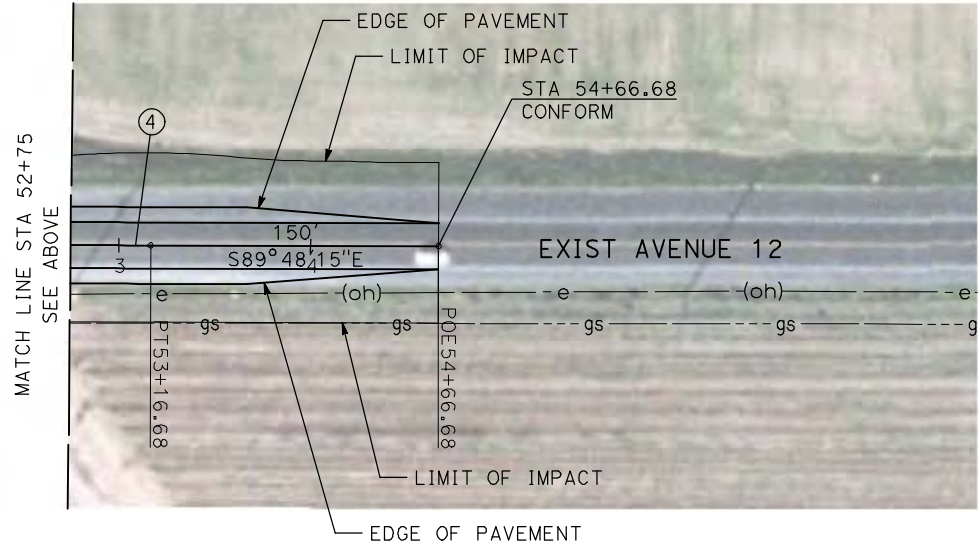
6/28/2011 4:27:12 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\WF-CT-0012-A.dgn



CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
④	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1009-A THROUGH CT1011-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

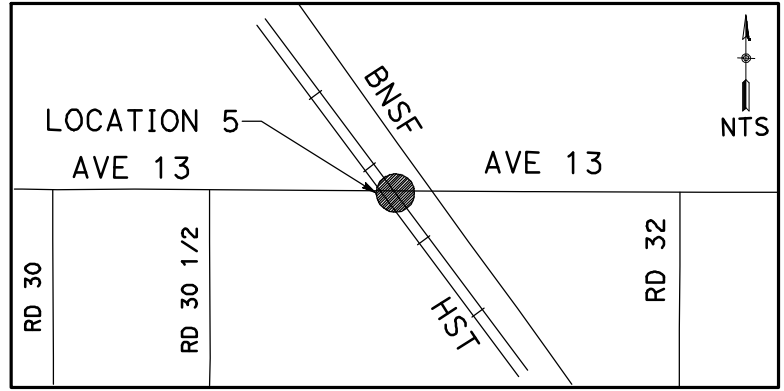
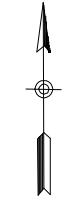
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 12  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0012-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

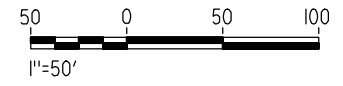


6/28/2011 4:27:20 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0013-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1012-A THROUGH CT1014-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



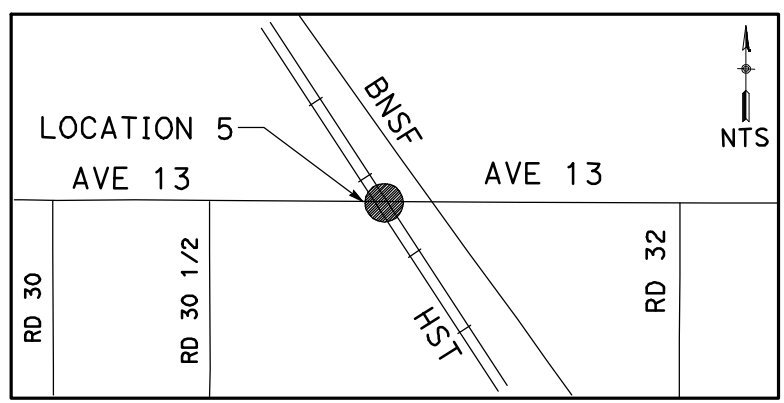
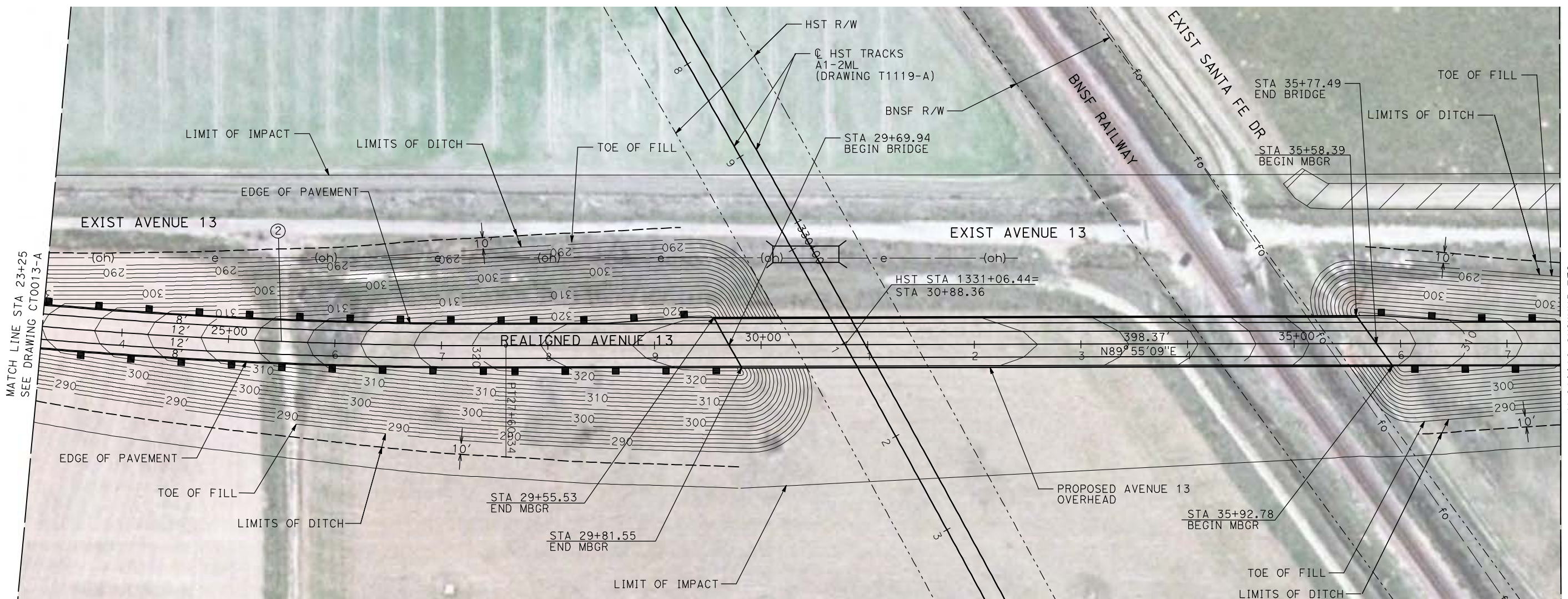
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 13  
LAYOUT  
SHEET 1 OF 4

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0013-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

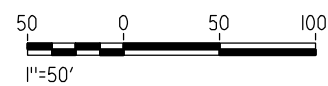


6/28/2011 4:27:27 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0014-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1012-A THROUGH CT1014-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



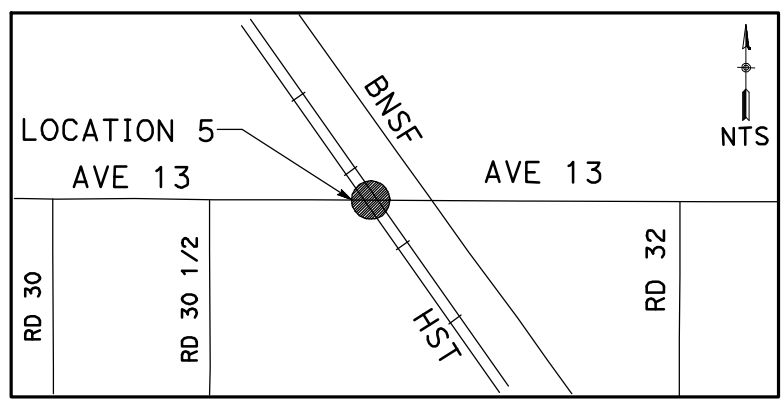
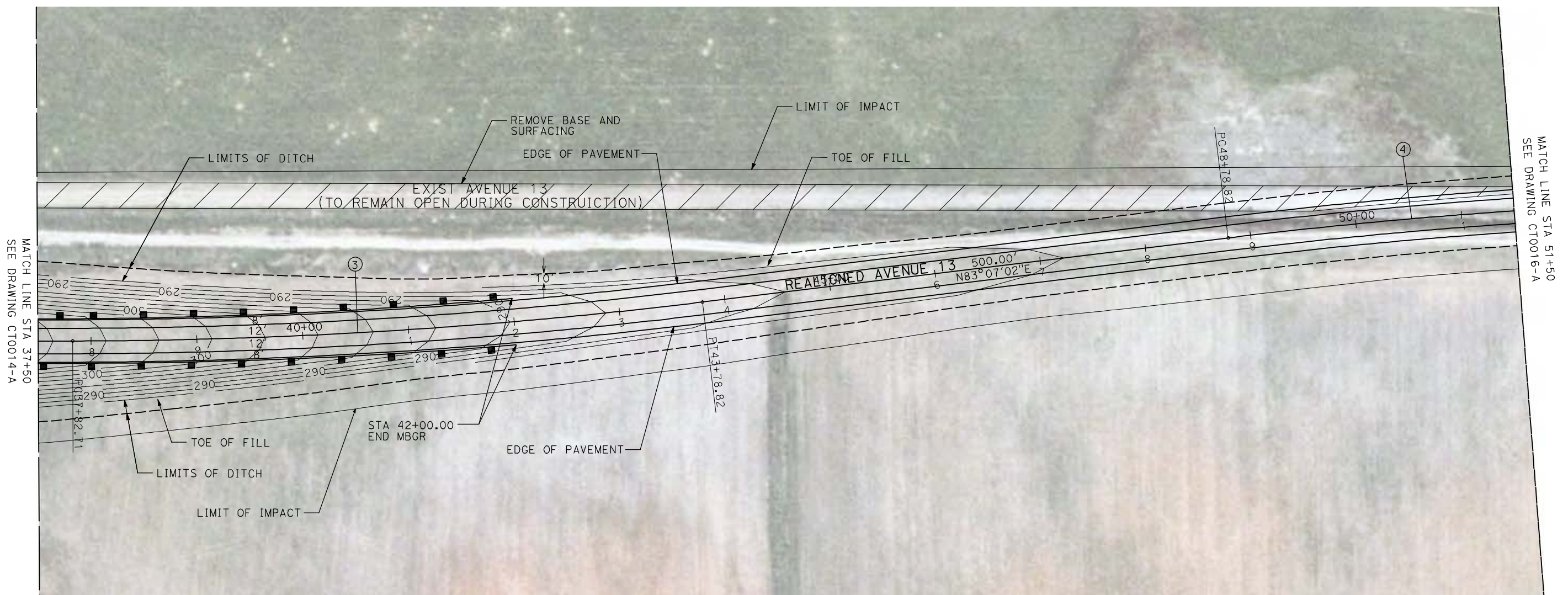
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 13  
LAYOUT  
SHEET 2 OF 4

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0014-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

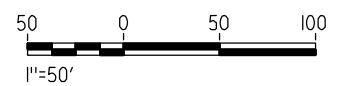


6/28/2011 4:27:35 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0015-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
④	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1012-A THROUGH CT1014-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



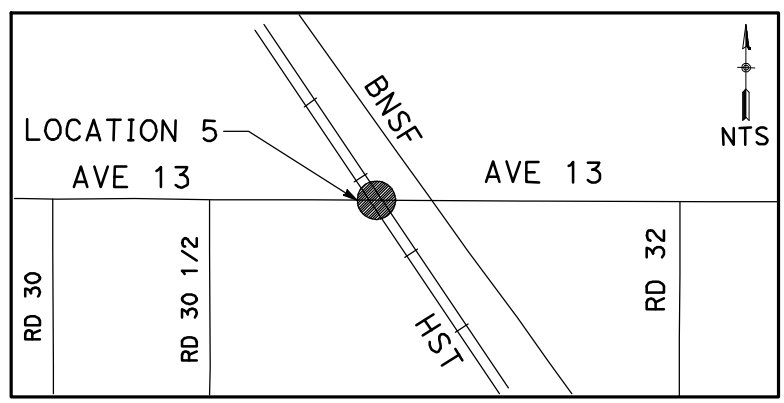
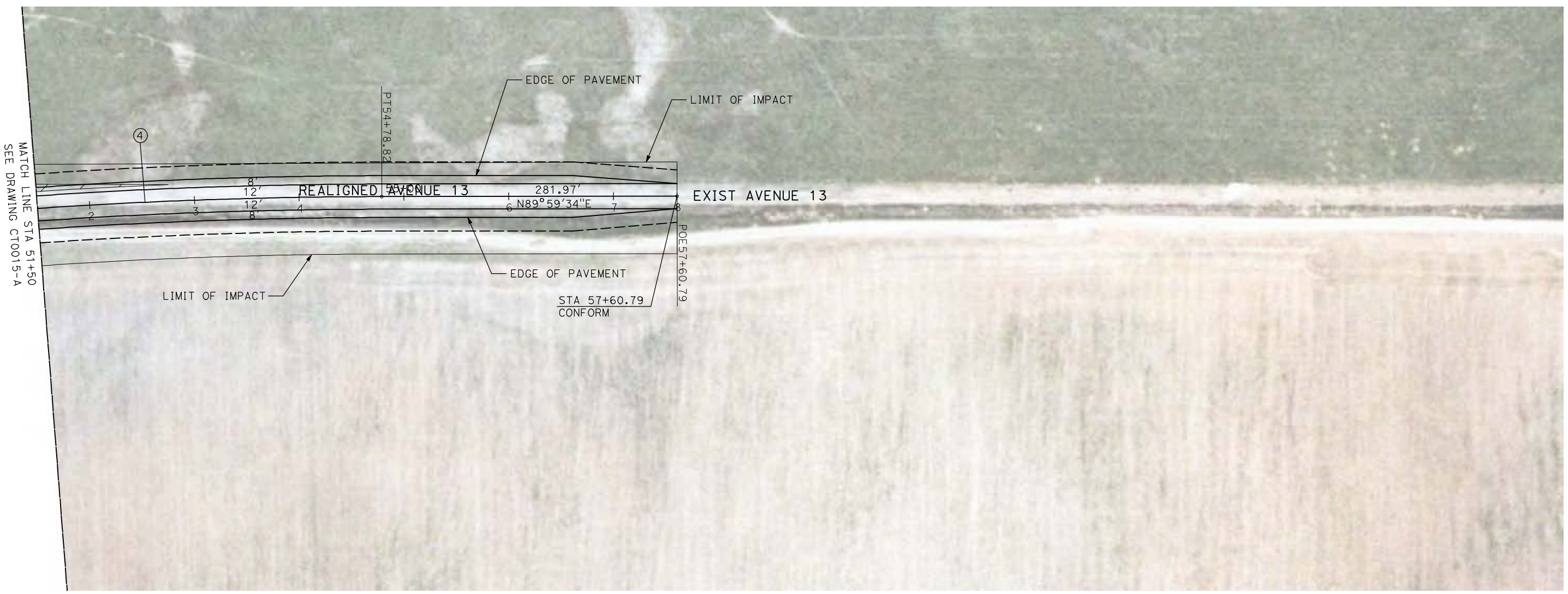
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 13  
 LAYOUT  
 SHEET 3 OF 4

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0015-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

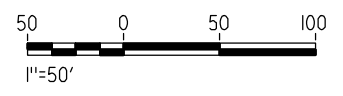


6/28/2011 4:27:41 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0016-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
④	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1012-A THROUGH CT1014-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

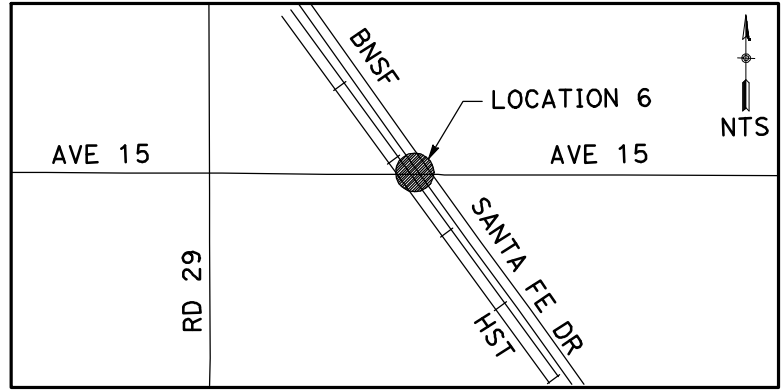
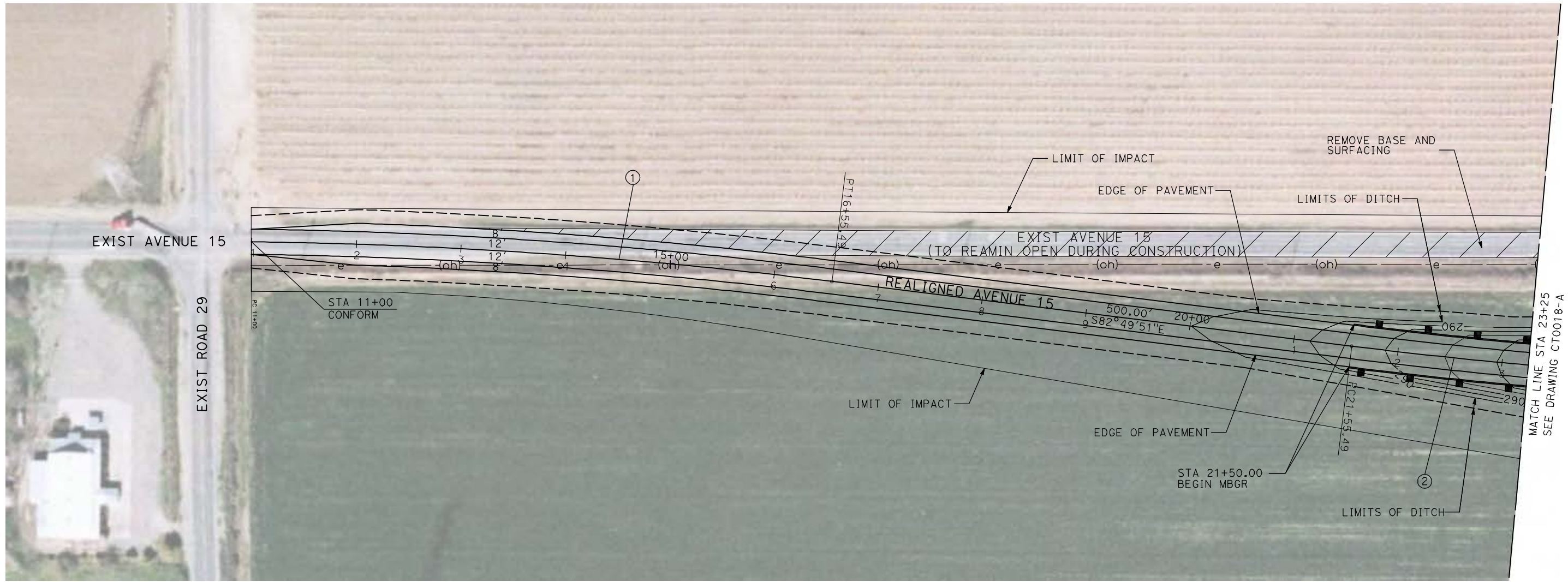
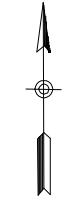
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 13  
LAYOUT  
SHEET 4 OF 4

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0016-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

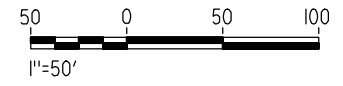


6/28/2011 4:27:47 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0017-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1015-A THROUGH CT1017-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

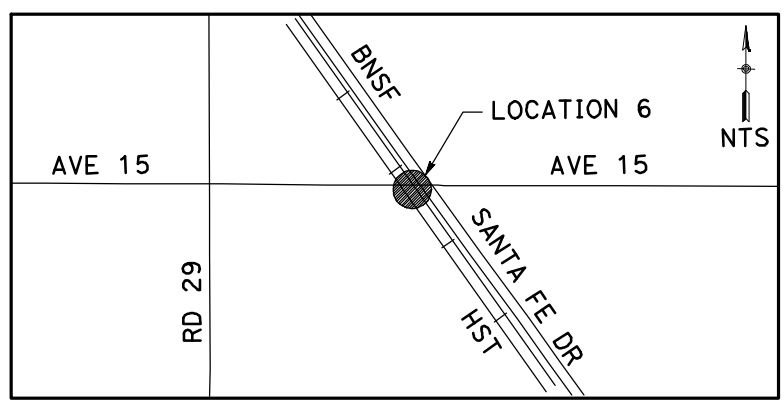
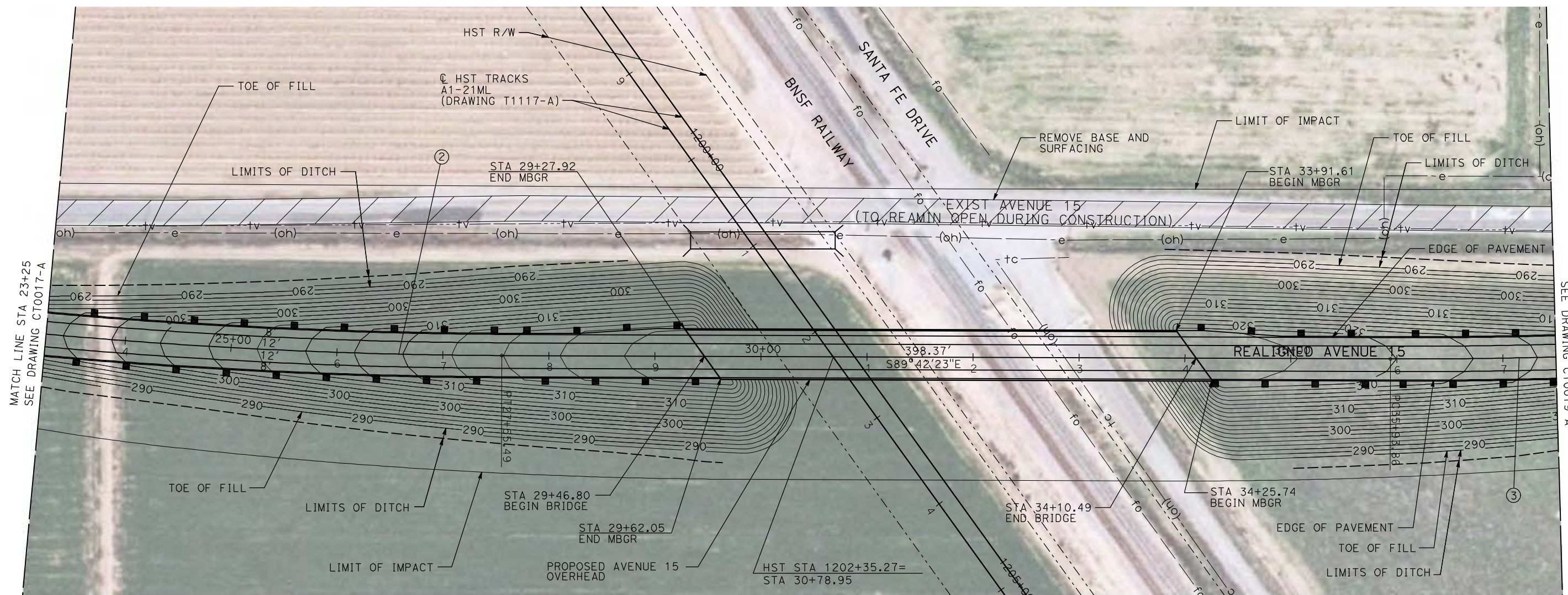
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 15  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0017-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

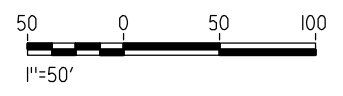


6/28/2011 4:27:54 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0018-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1015-A THROUGH CT1017-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



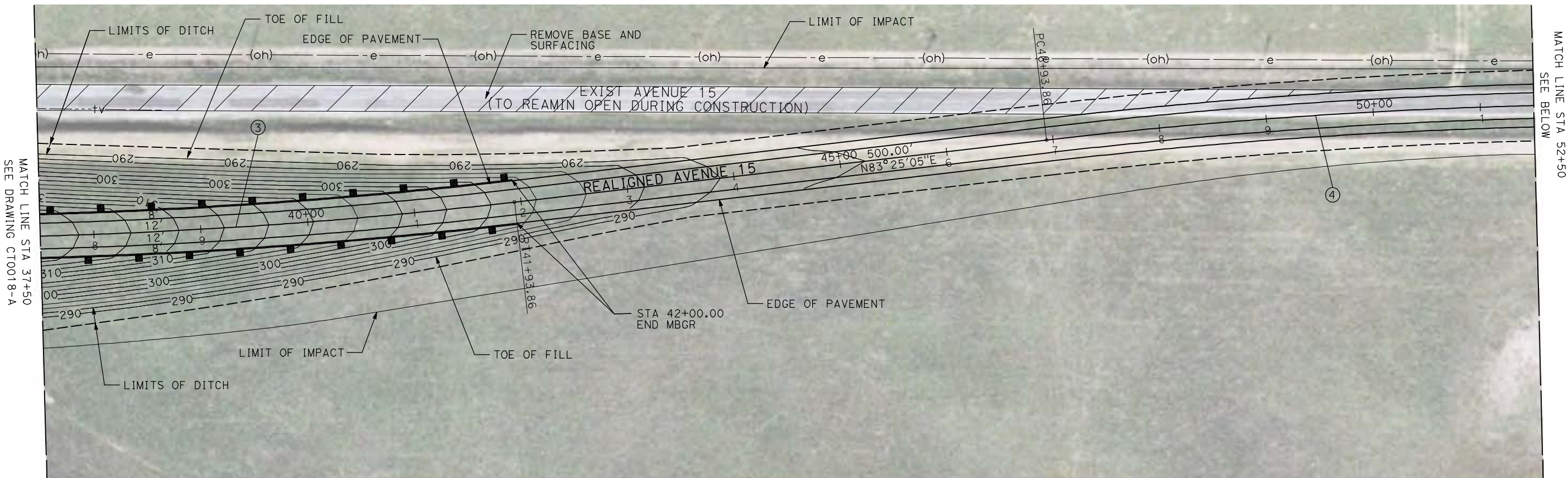
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0018-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###

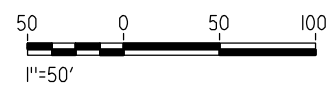
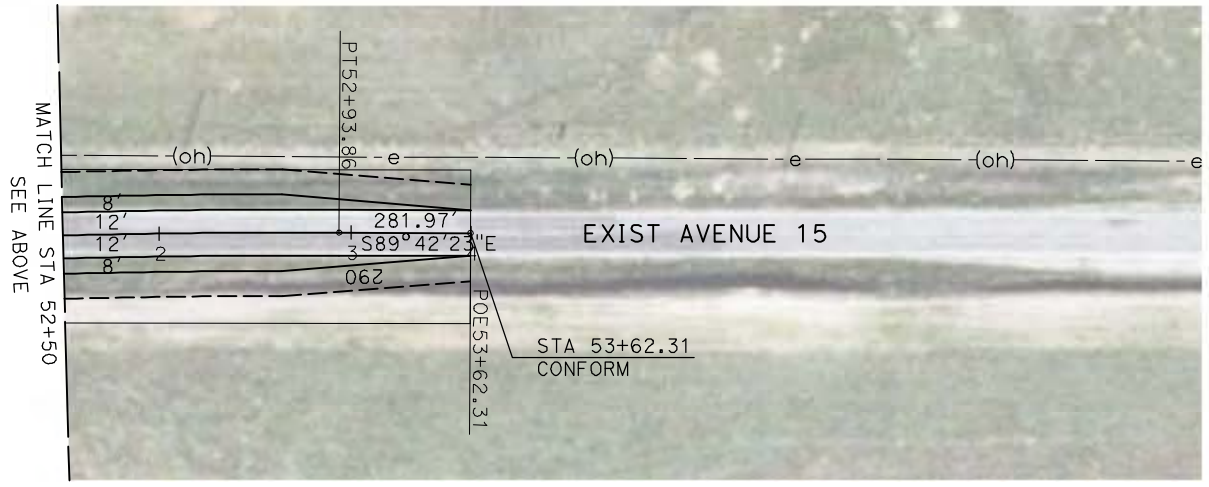
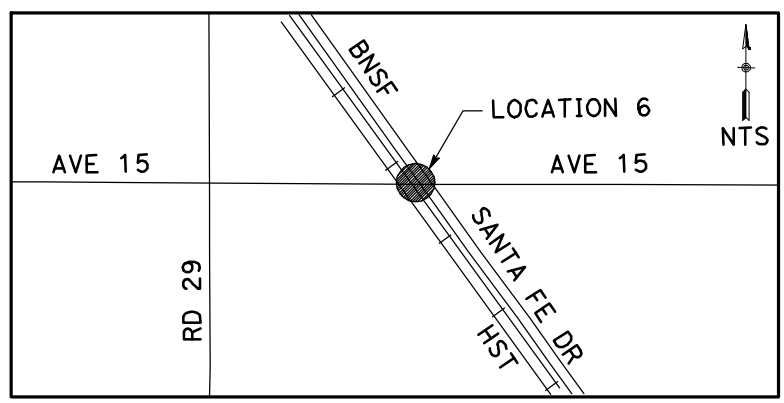


6/28/2011 4:28:02 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0019-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
④	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1015-A THROUGH CT1017-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



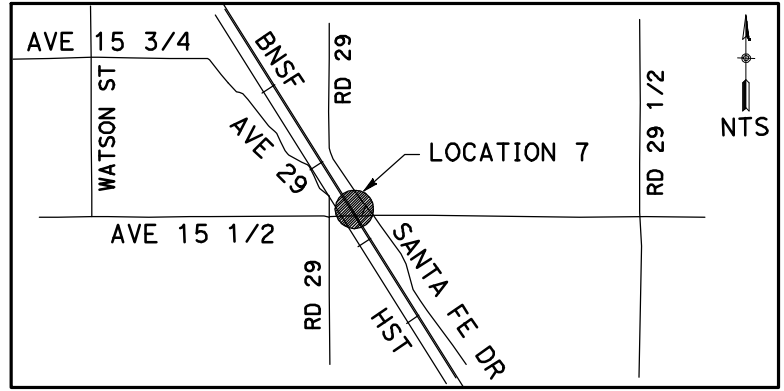
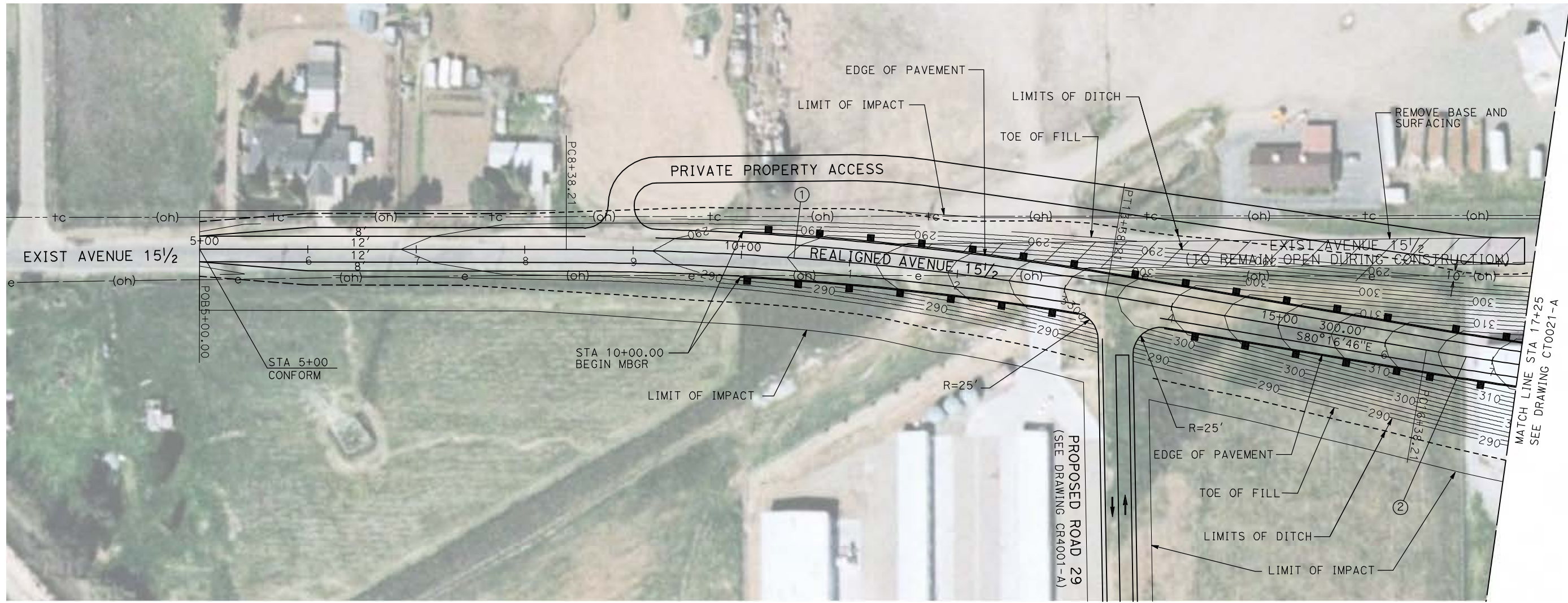
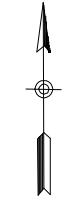
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15  
 LAYOUT  
 SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0019-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

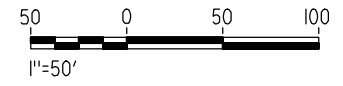


6/28/2011 4:28:09 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0020-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



NOTE:  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1018-A THROUGH CT1020-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15 1/2  
 LAYOUT  
 SHEET 1 OF 3

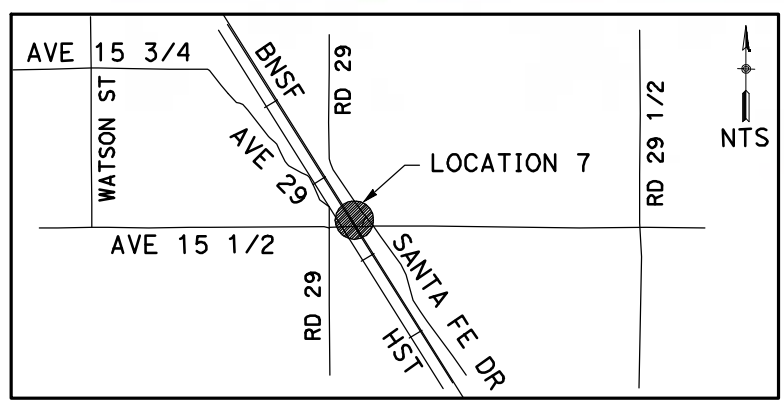
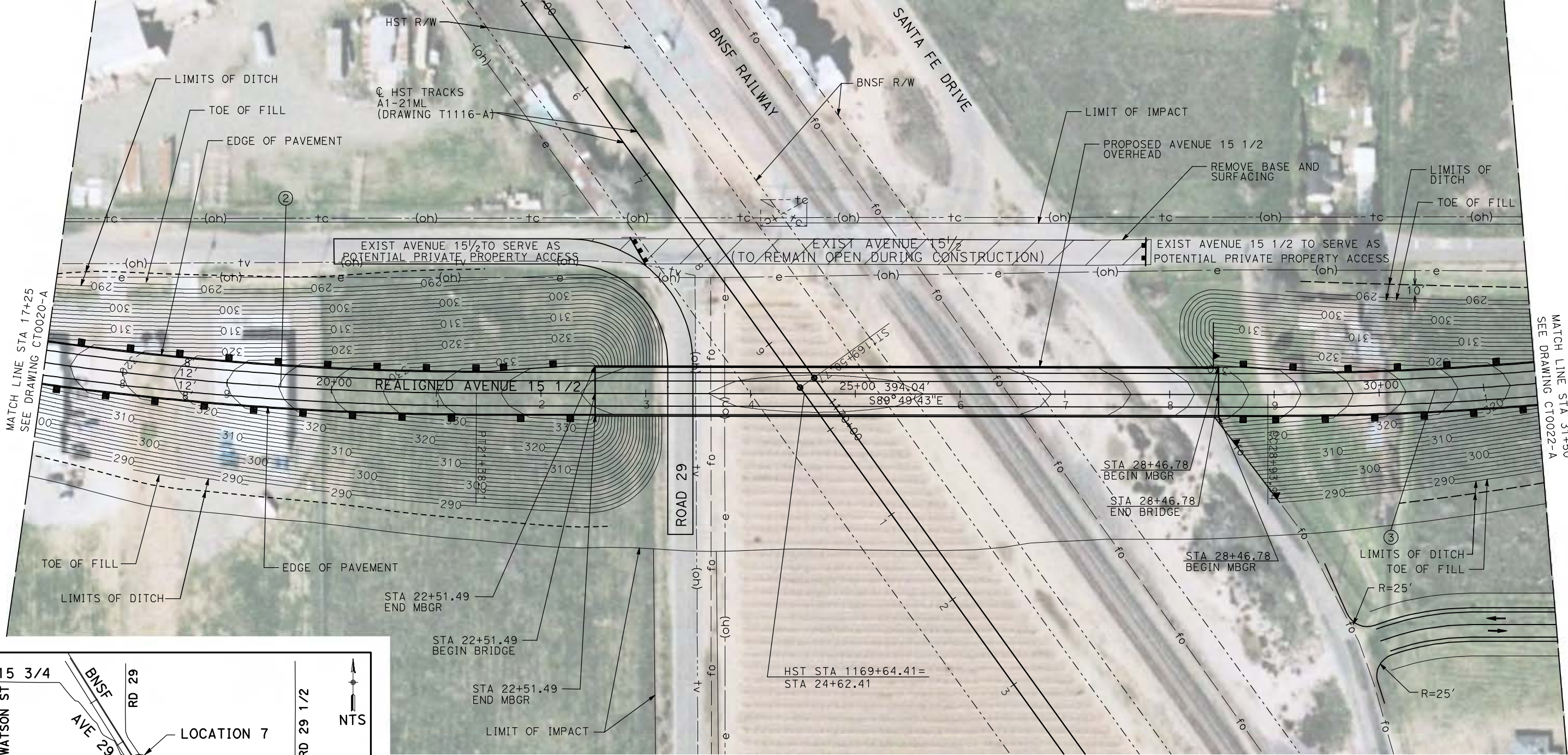
CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0020-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



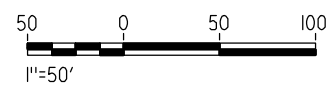
6/28/2011 4:28:16 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0021-A.dgn



CURVE DATA					
NO.	R	Δ	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1018-A THROUGH CT1020-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

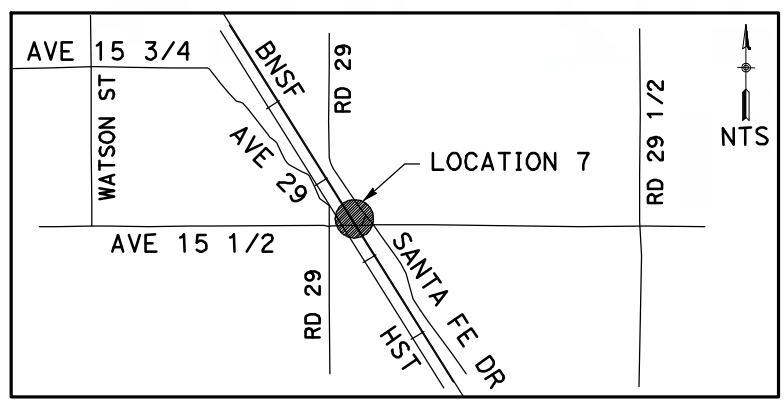
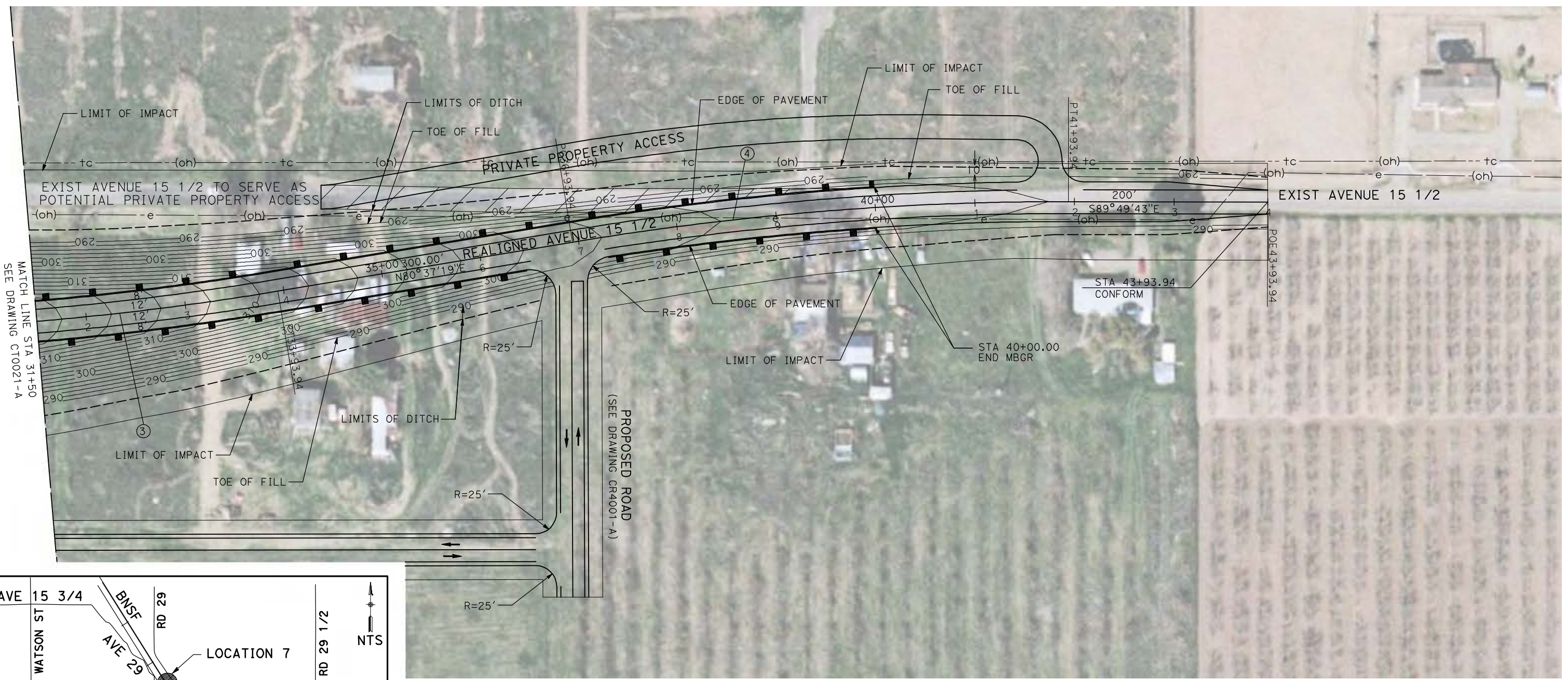
BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15 1/2  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0021-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

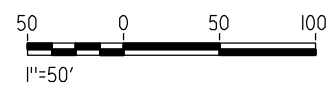


6/28/2011 4:28:25 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\WF-CT-0022-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1018-A THROUGH CT1020-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



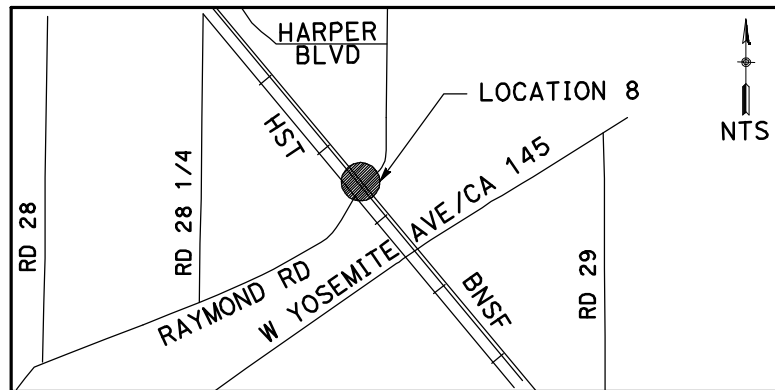
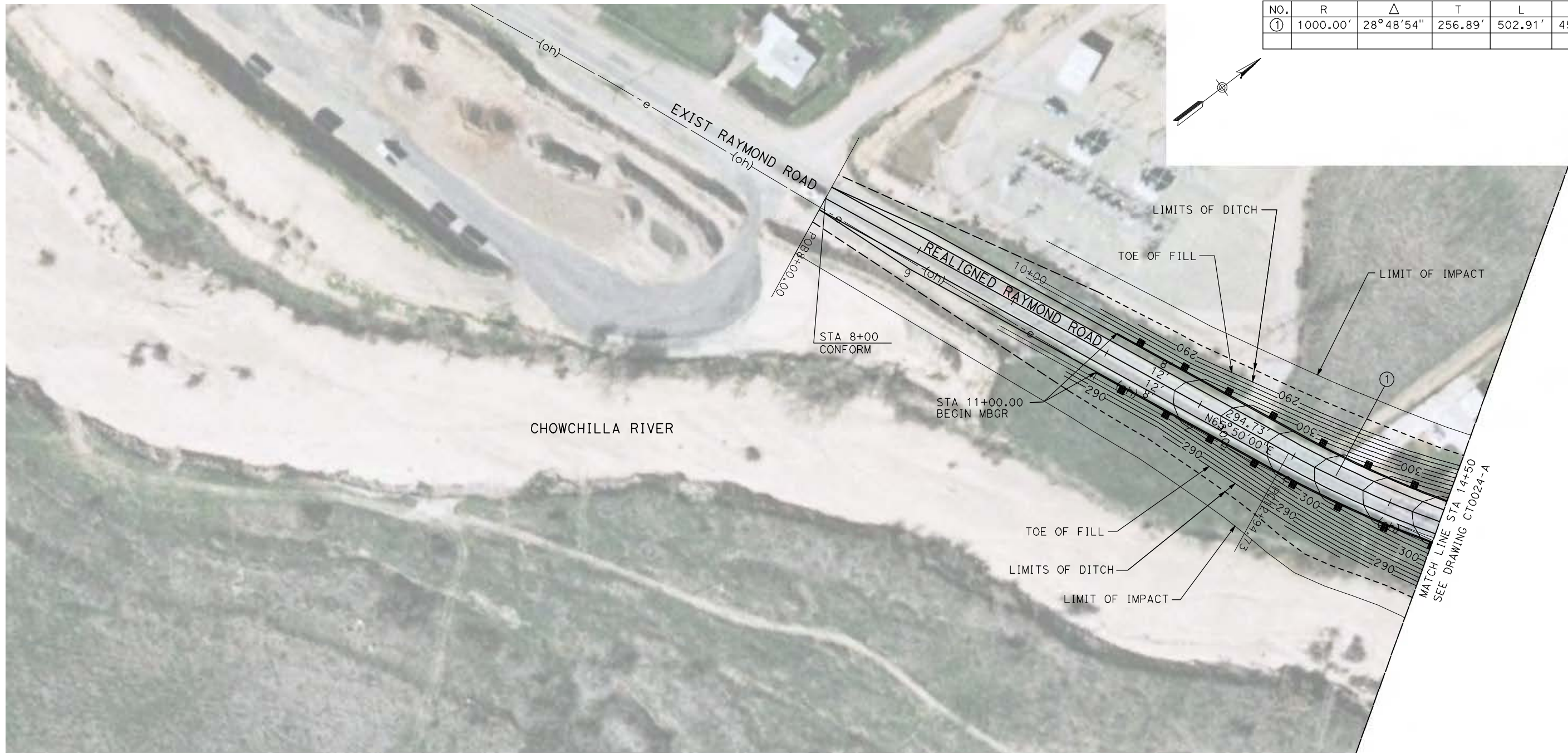
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 15 1/2  
LAYOUT  
SHEET 3 OF 3

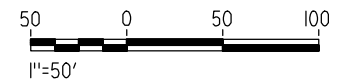
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0022-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:28:33 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0023-A.dgn



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1021-A THROUGH CT1023-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

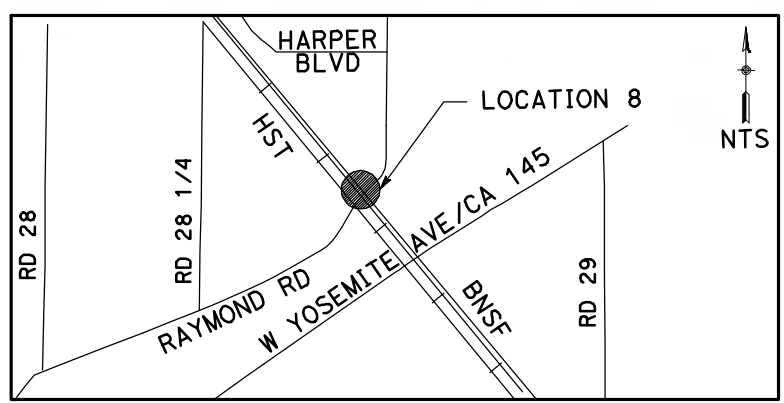
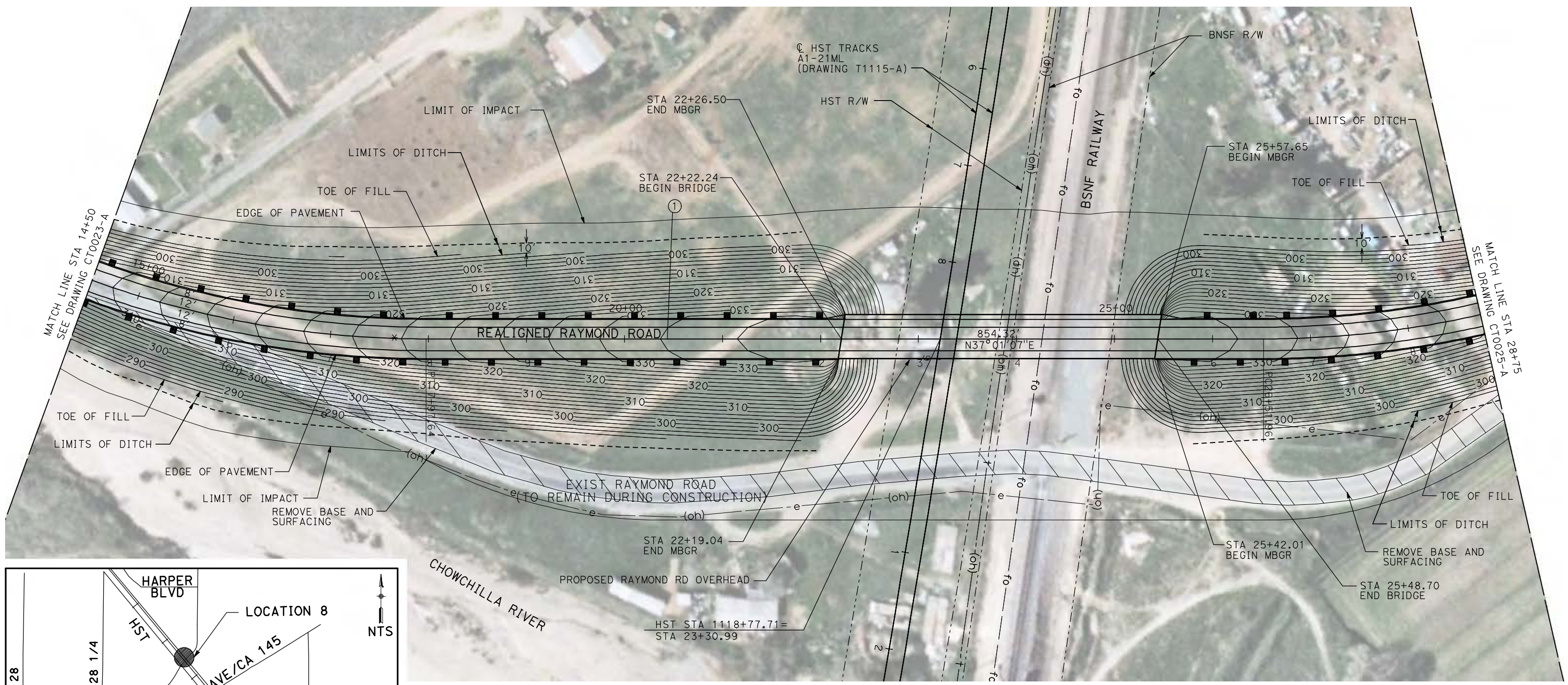
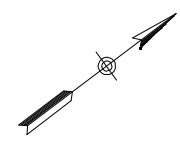
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - RAYMOND ROAD  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0023-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

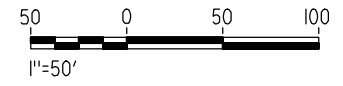


6/28/2011 4:28:40 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0024-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	1000.00'	37°01'07"	334.77'	646.09'	45 MPH



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1021-A THROUGH CT1023-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



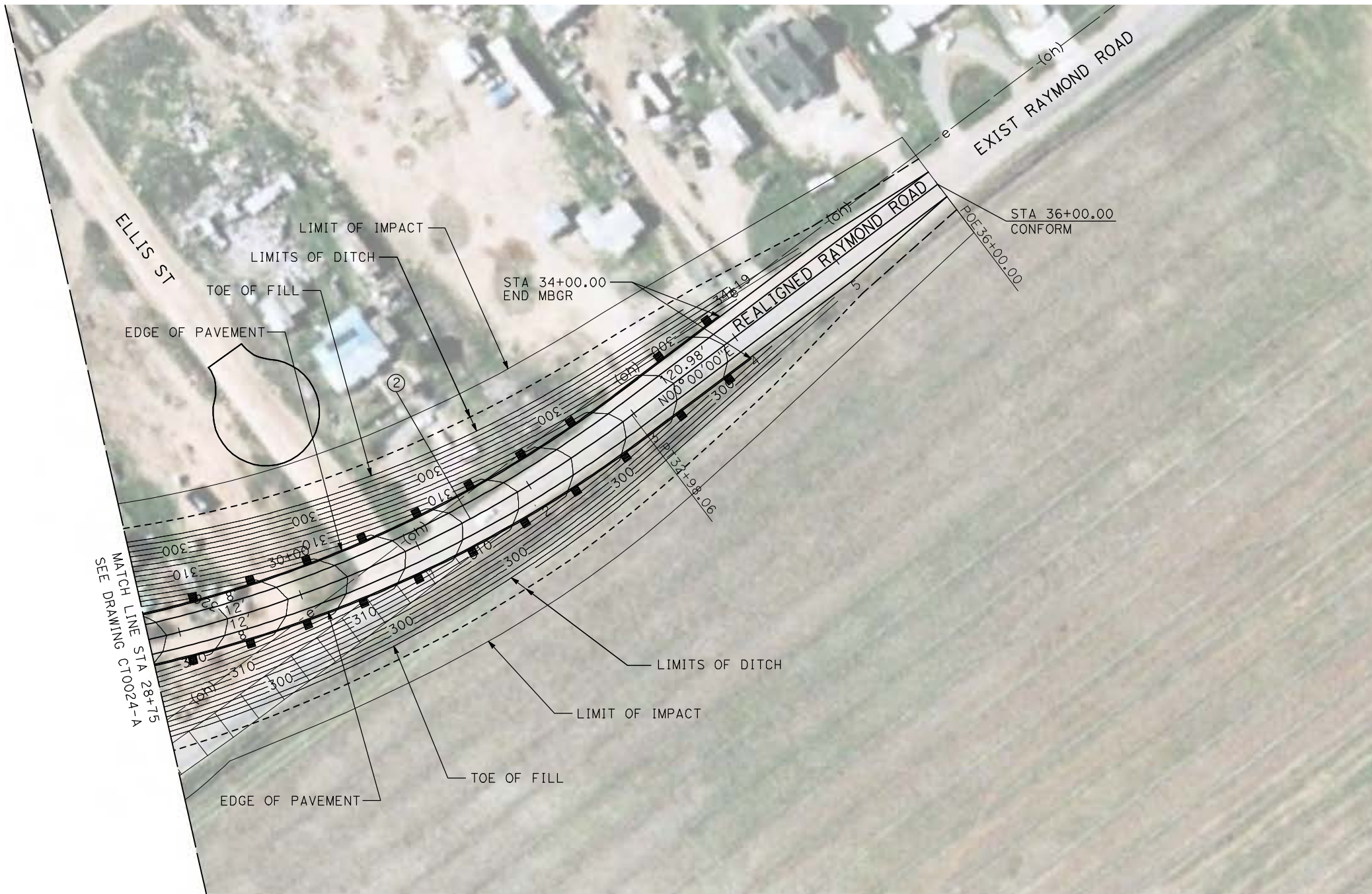
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - RAYMOND ROAD  
LAYOUT  
SHEET 2 OF 3

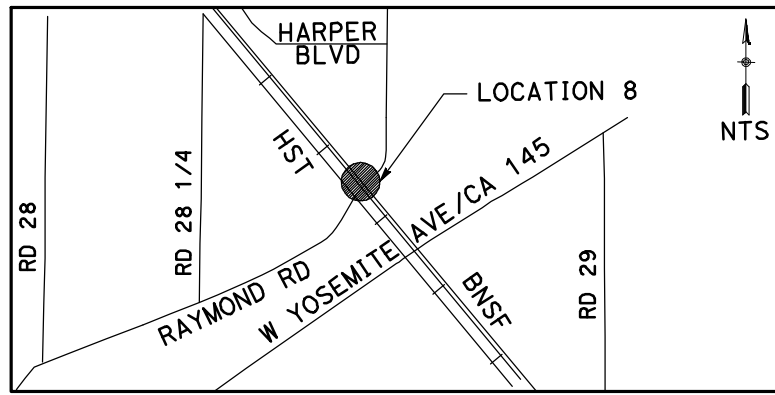
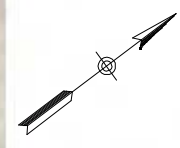
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0024-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



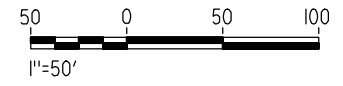
6/28/2011 4:28:49 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0025-A.dgn



CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	1000.00'	37°01'07"	334.77'	646.09'	45 MPH



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1021-A THROUGH CT1023-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - RAYMOND ROAD  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007

DRAWING NO.  
CT0025-A

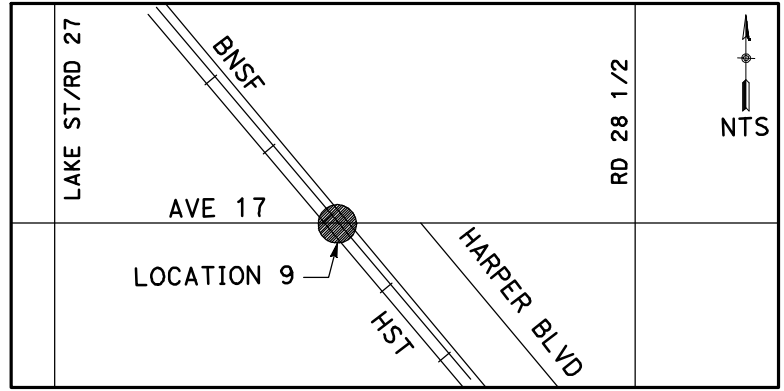
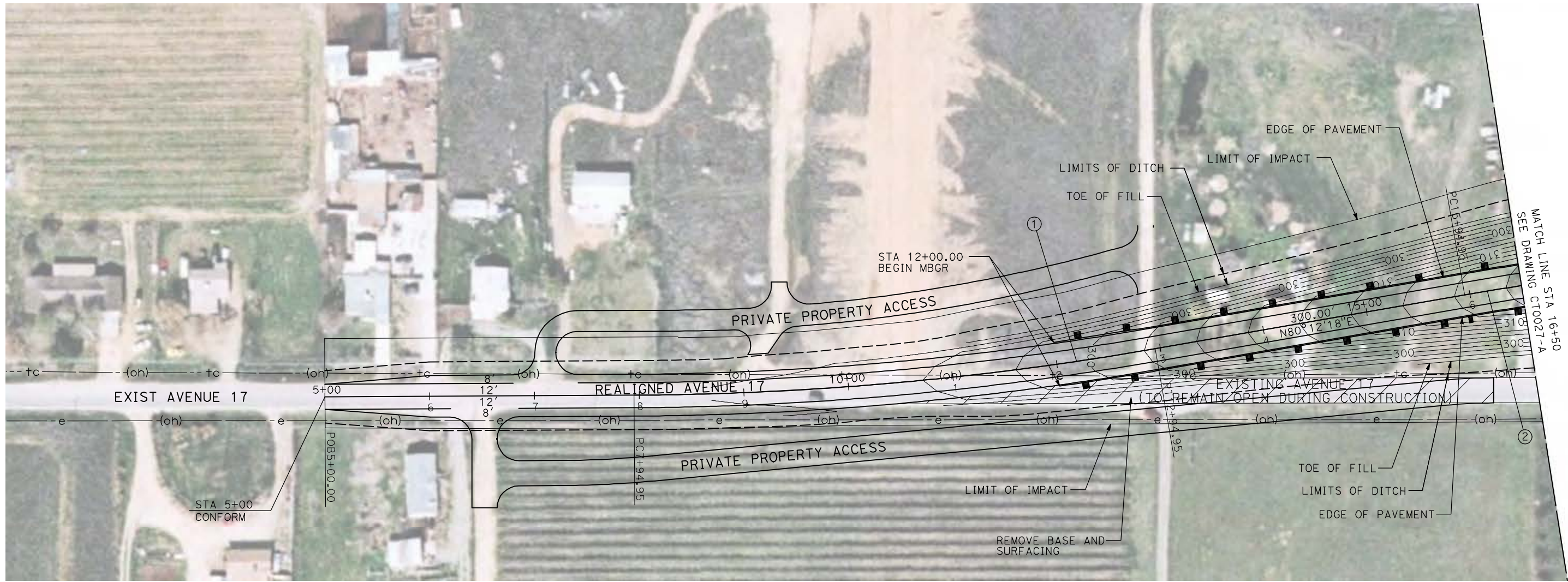
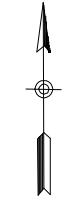
SCALE  
AS SHOWN

SHEET NO.  
### OF ###

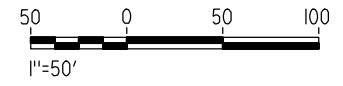


6/28/2011 4:28:56 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0026-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1024-A THROUGH CT1026-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 17  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007

DRAWING NO.  
CT0026-A

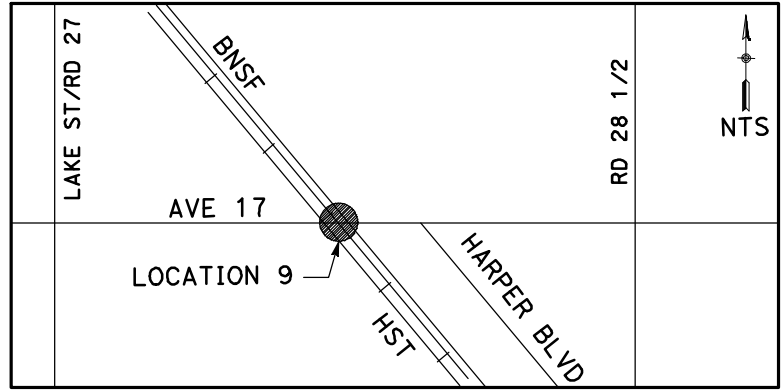
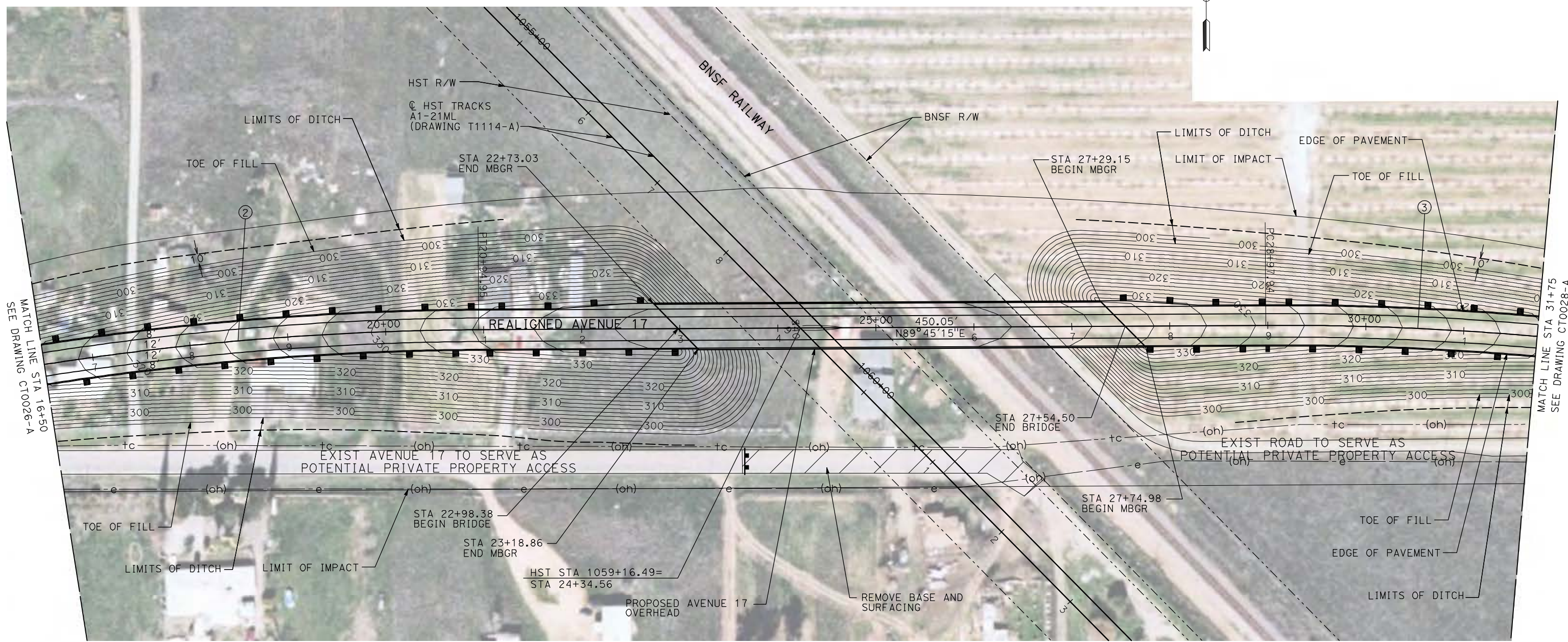
SCALE  
AS SHOWN

SHEET NO.  
### OF ###

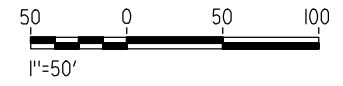


6/28/2011 4:29:03 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0027-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1024-A THROUGH CT1026-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



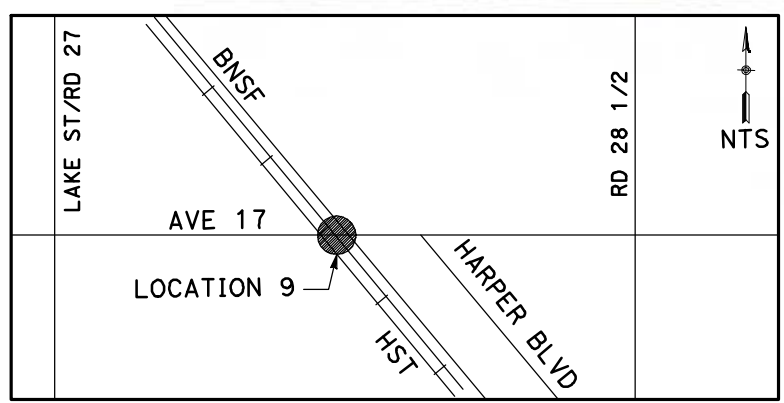
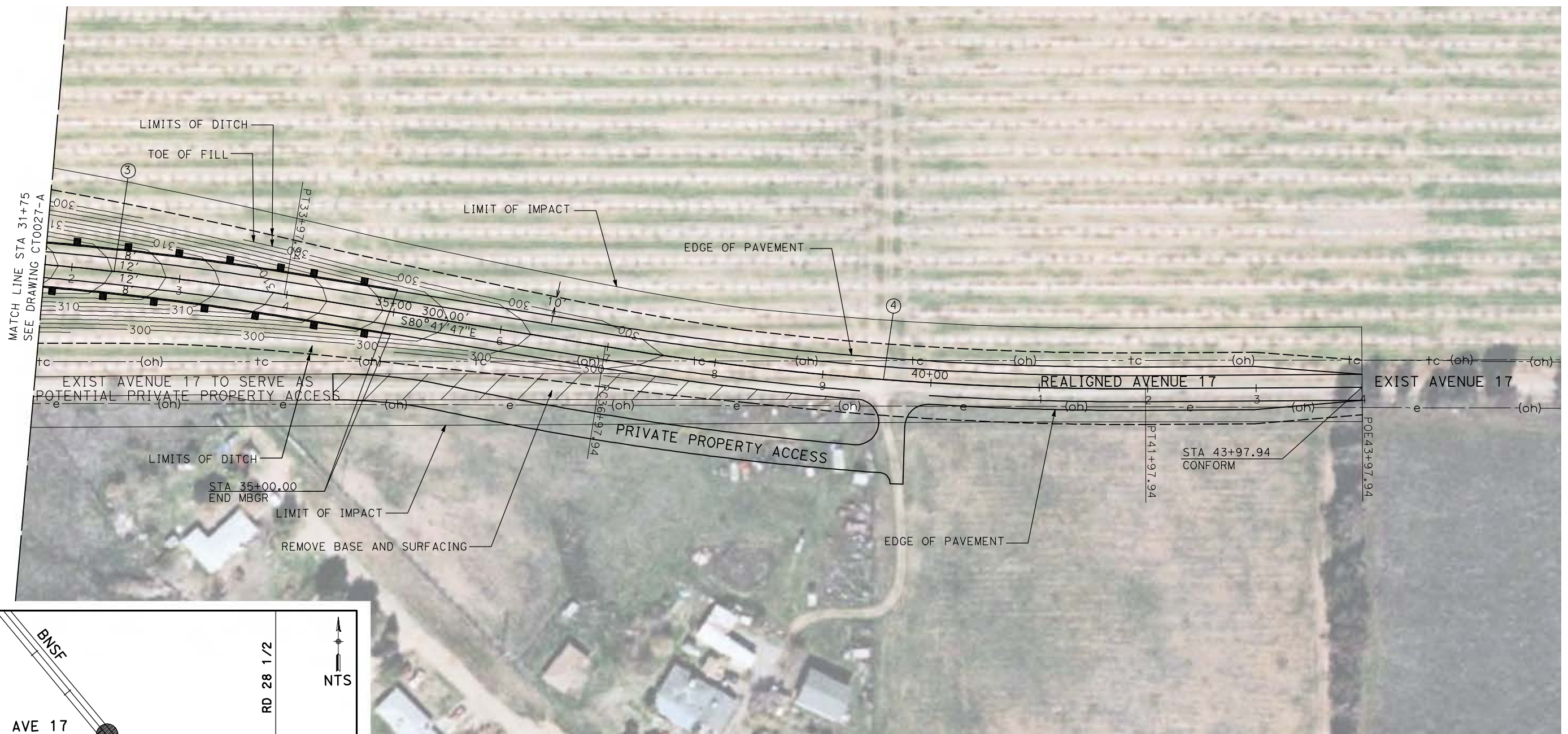
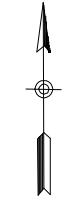
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 17  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0027-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

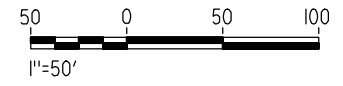


6/28/2011 4:29:12 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0028-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1024-A THROUGH CT1026-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



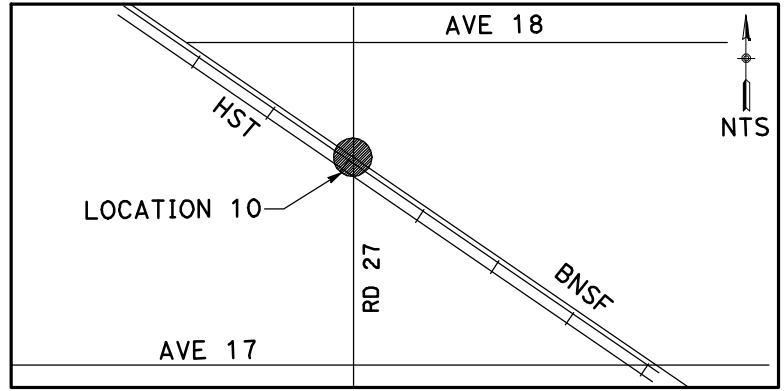
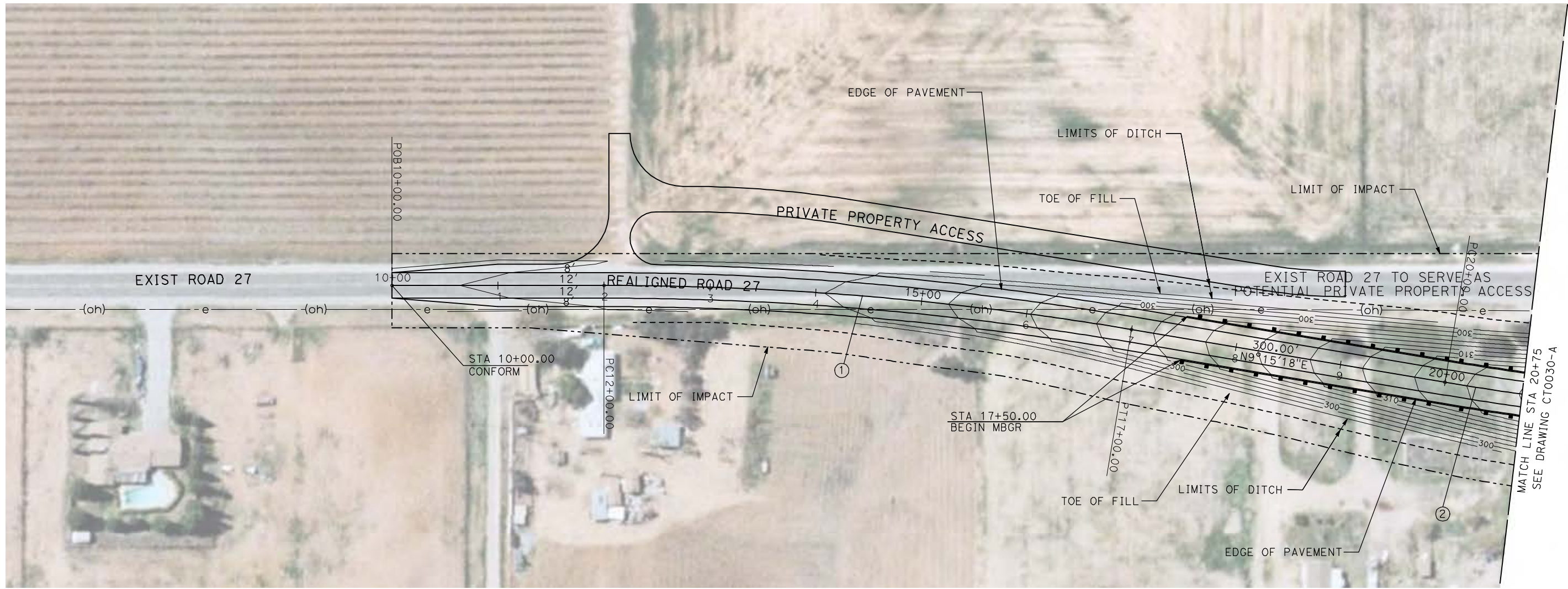
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 17  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0028-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

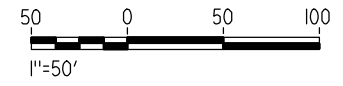


6/28/2011 4:29:21 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0029-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1029-A THROUGH CT1031-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



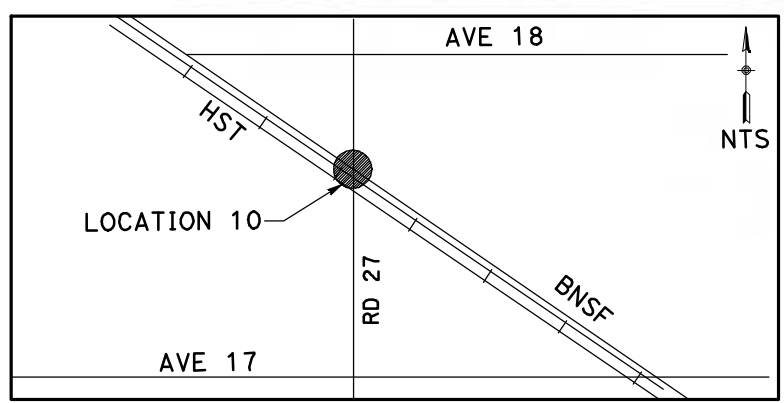
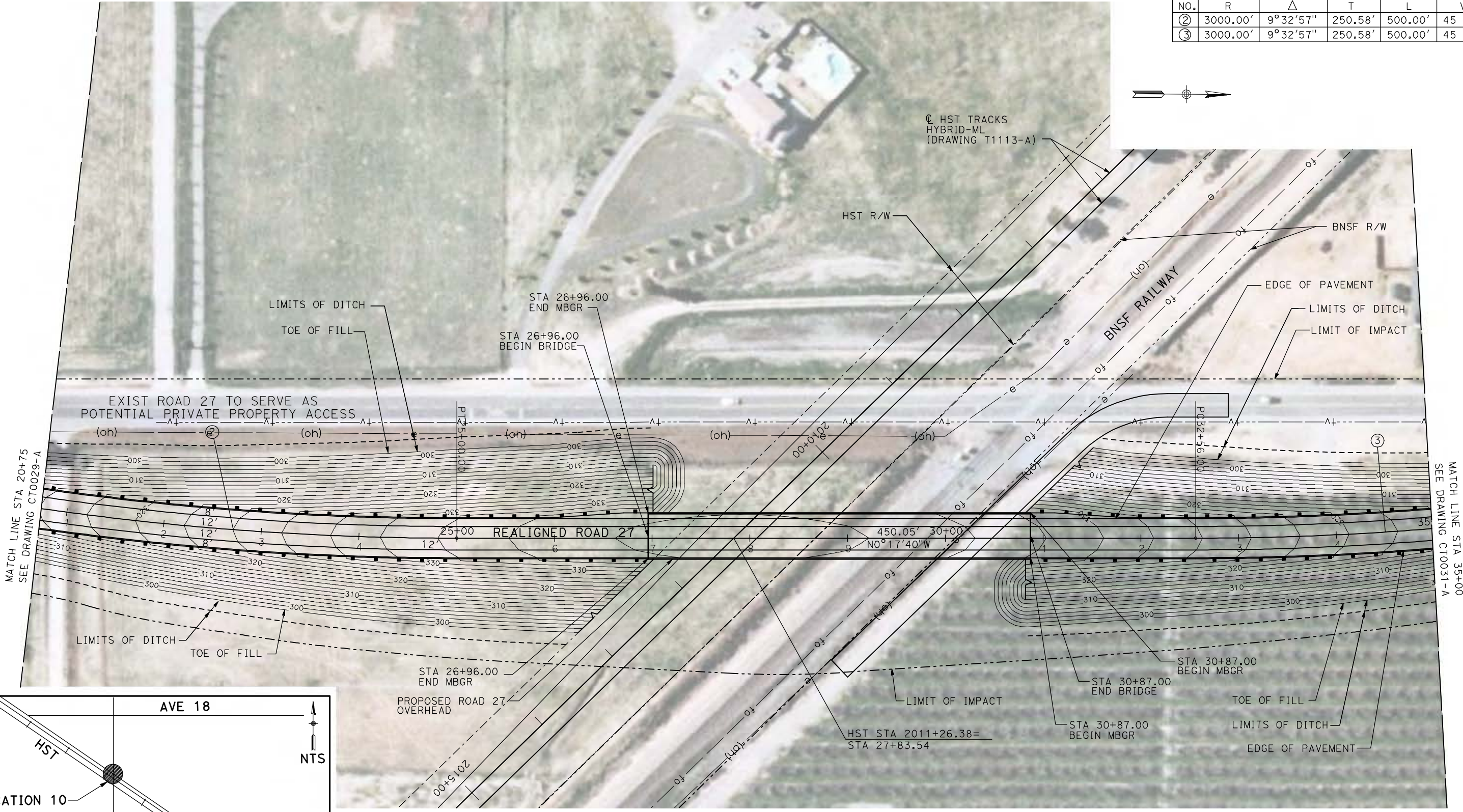
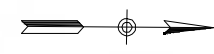
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 27  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0029-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

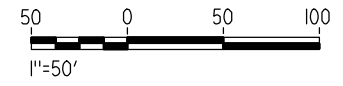


6/28/2011 4:29:28 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0030-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1029-A THROUGH CT1031-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



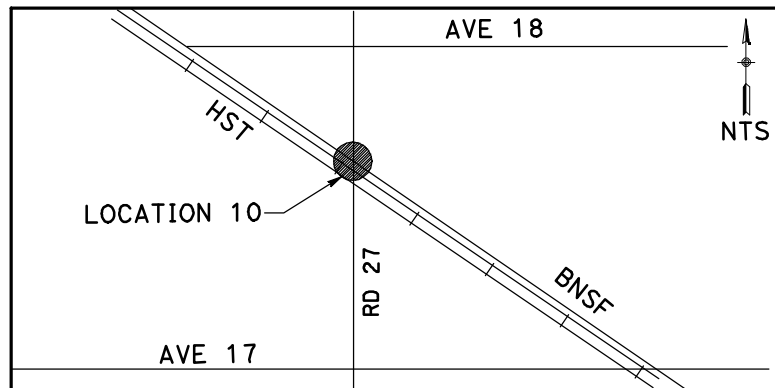
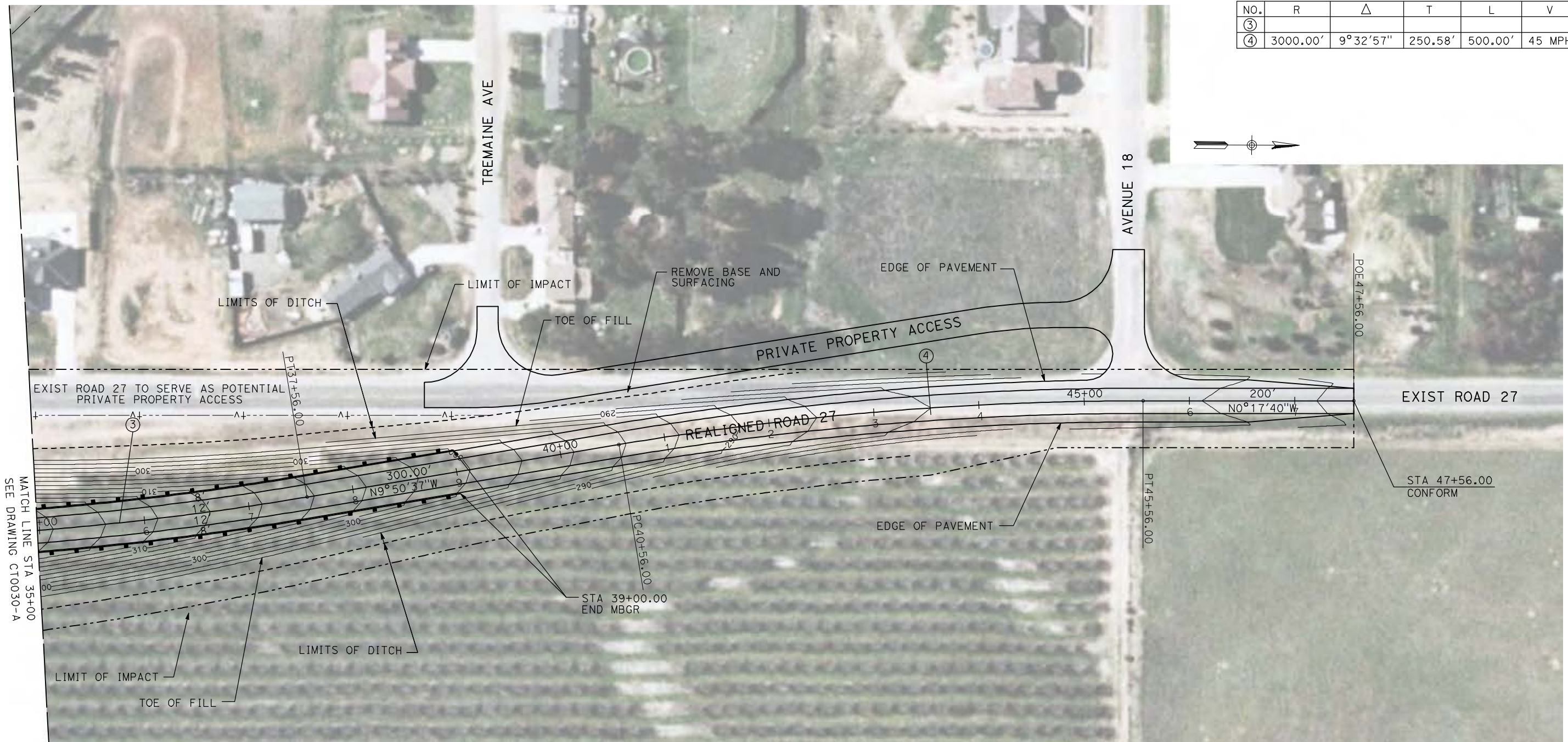
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 27  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0030-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

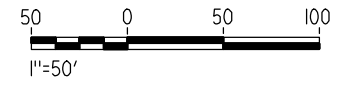


6/28/2011 4:29:37 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0031-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
③					
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



NOTE:  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1029-A THROUGH CT1031-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



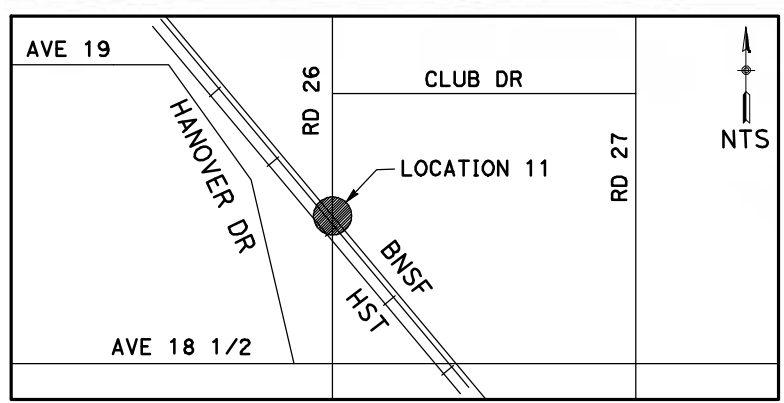
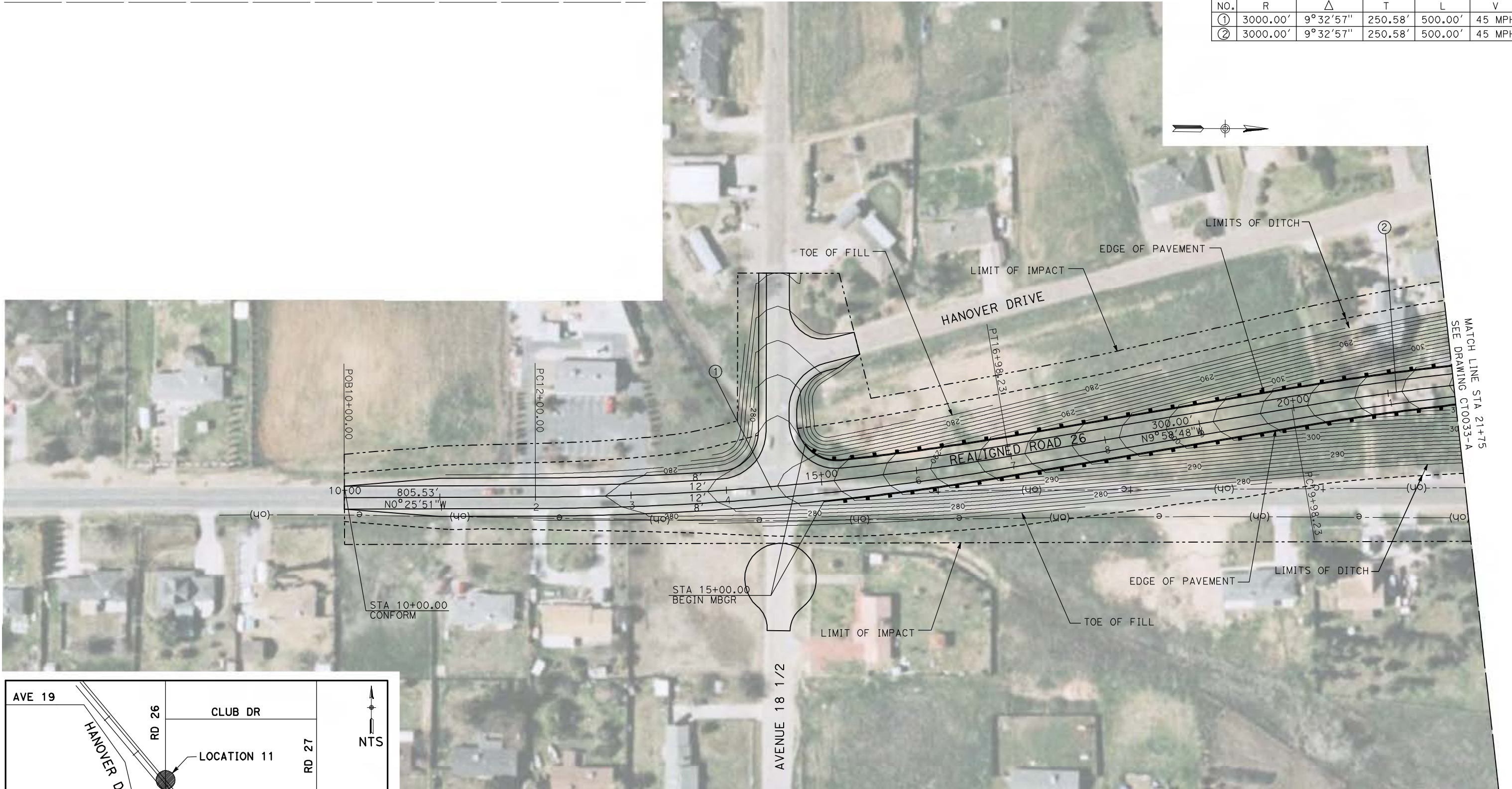
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 27  
 LAYOUT  
 SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0031-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

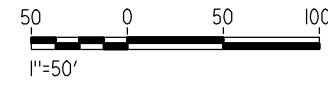


6/28/2011 4:29:44 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0032-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1032-A THROUGH CT1034-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



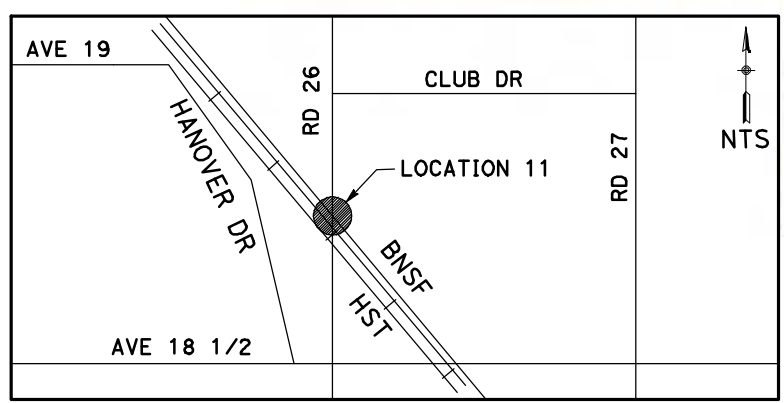
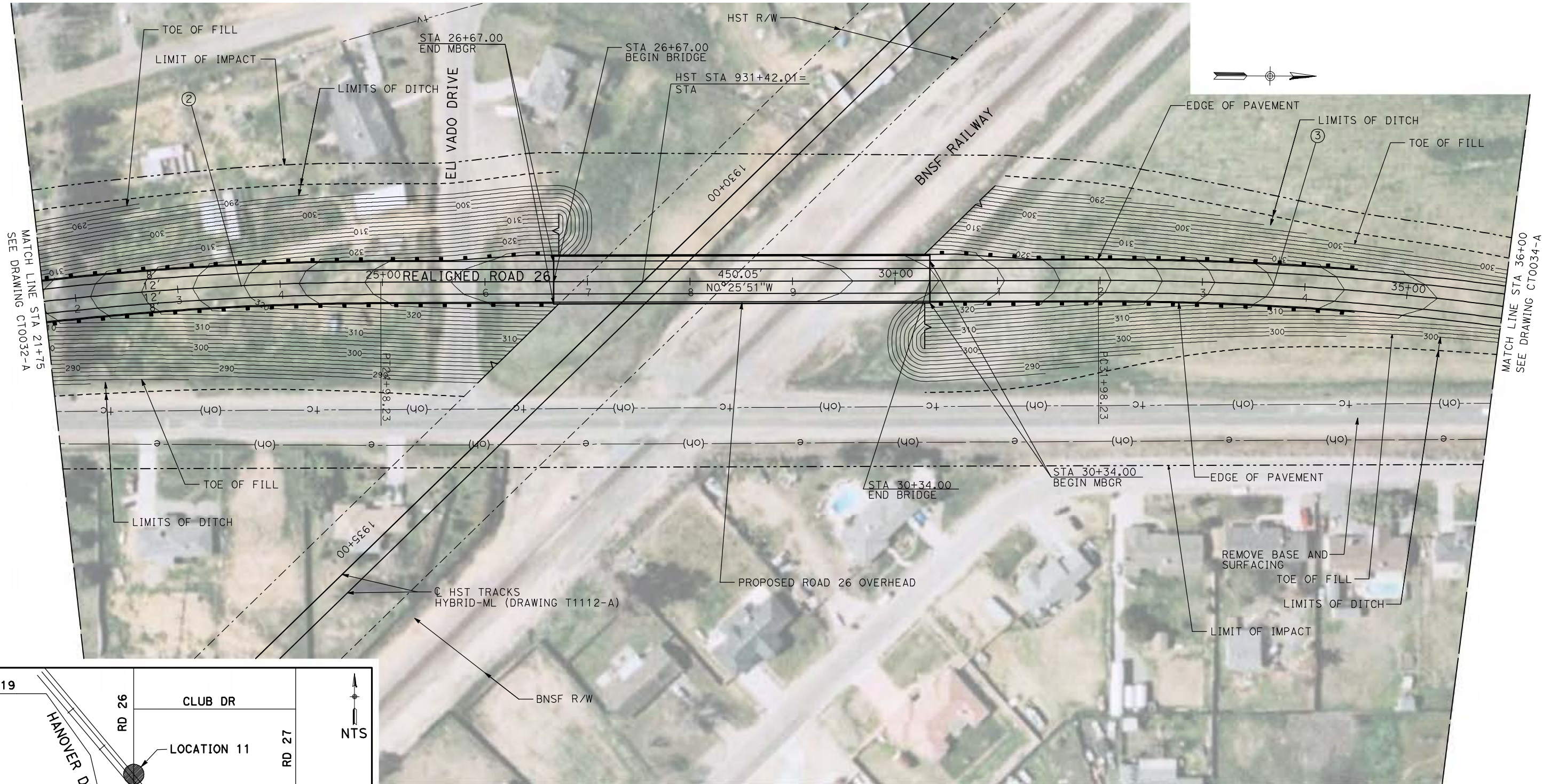
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 26  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0032-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

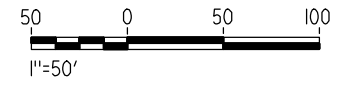


6/28/2011 4:29:52 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0033-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1032-A THROUGH CT1034-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



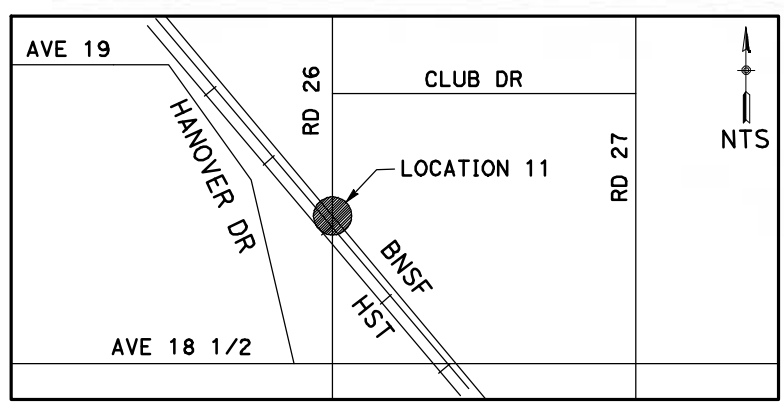
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 26  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0033-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

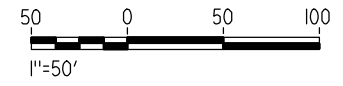


7/6/2011 10:12:09 AM I:\CHSR\60022962\Task-02\_Merced-Fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\WF-CT-0034-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
③					
④	3000.00'	10°02'22"	263.51'	525.66'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1032-A THROUGH CT1034-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

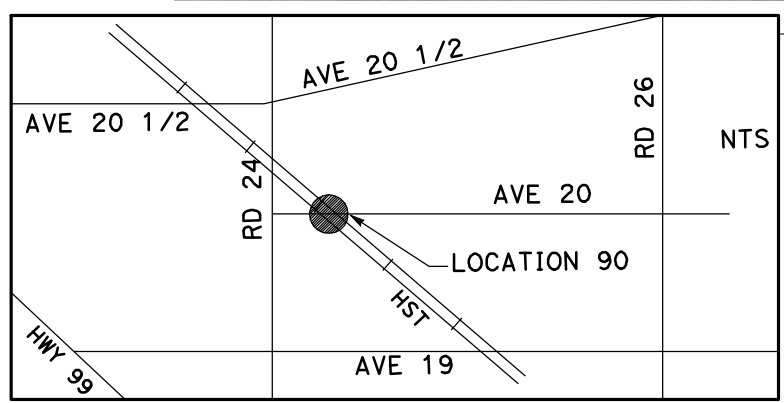
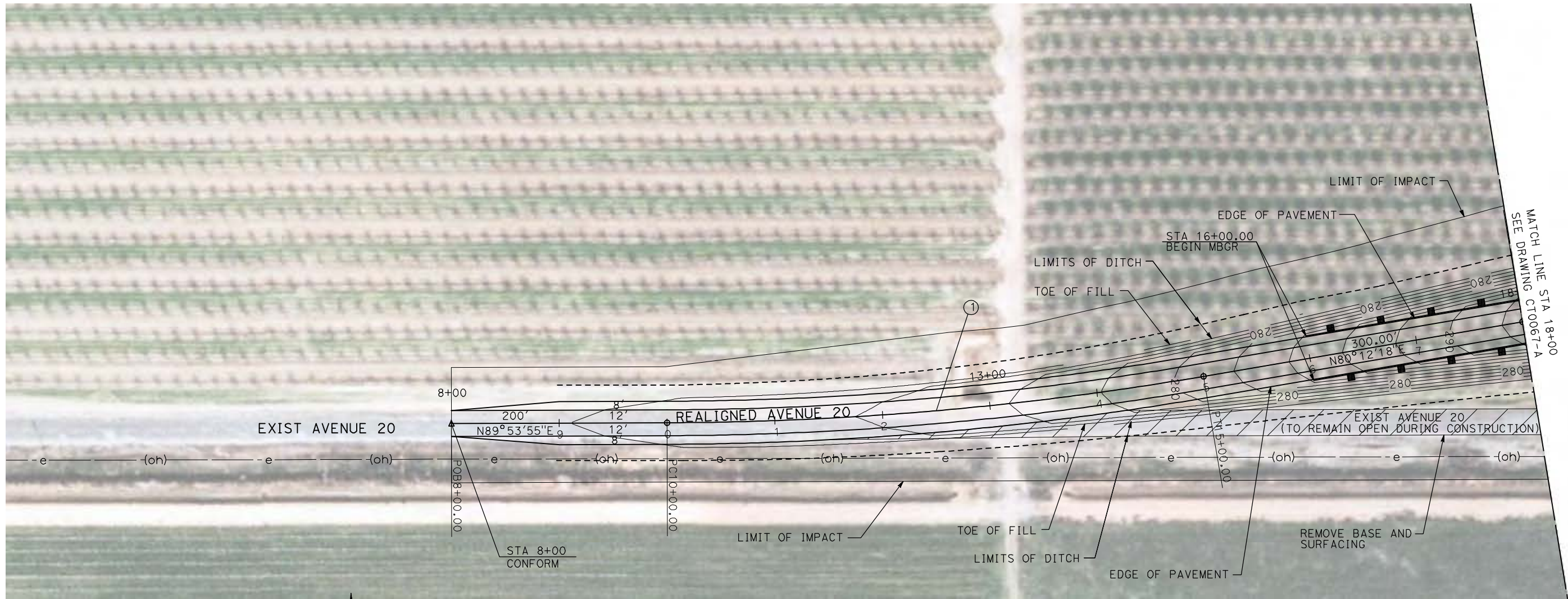
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 26  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0034-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

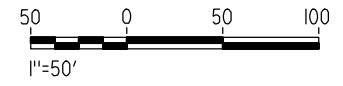


6/28/2011 4:30:06 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0066-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1063-A THROUGH CT1065-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



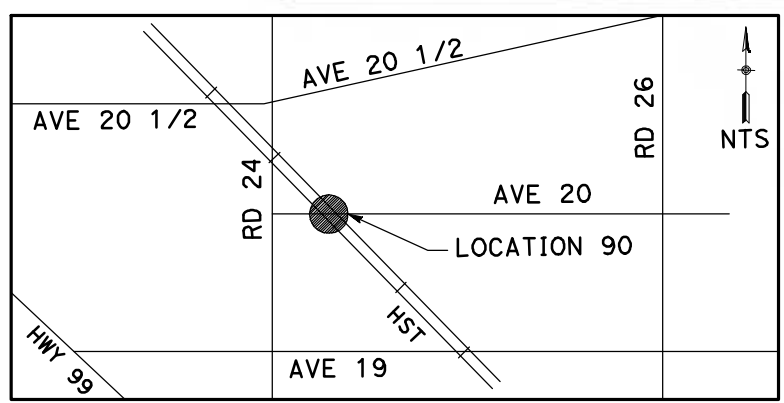
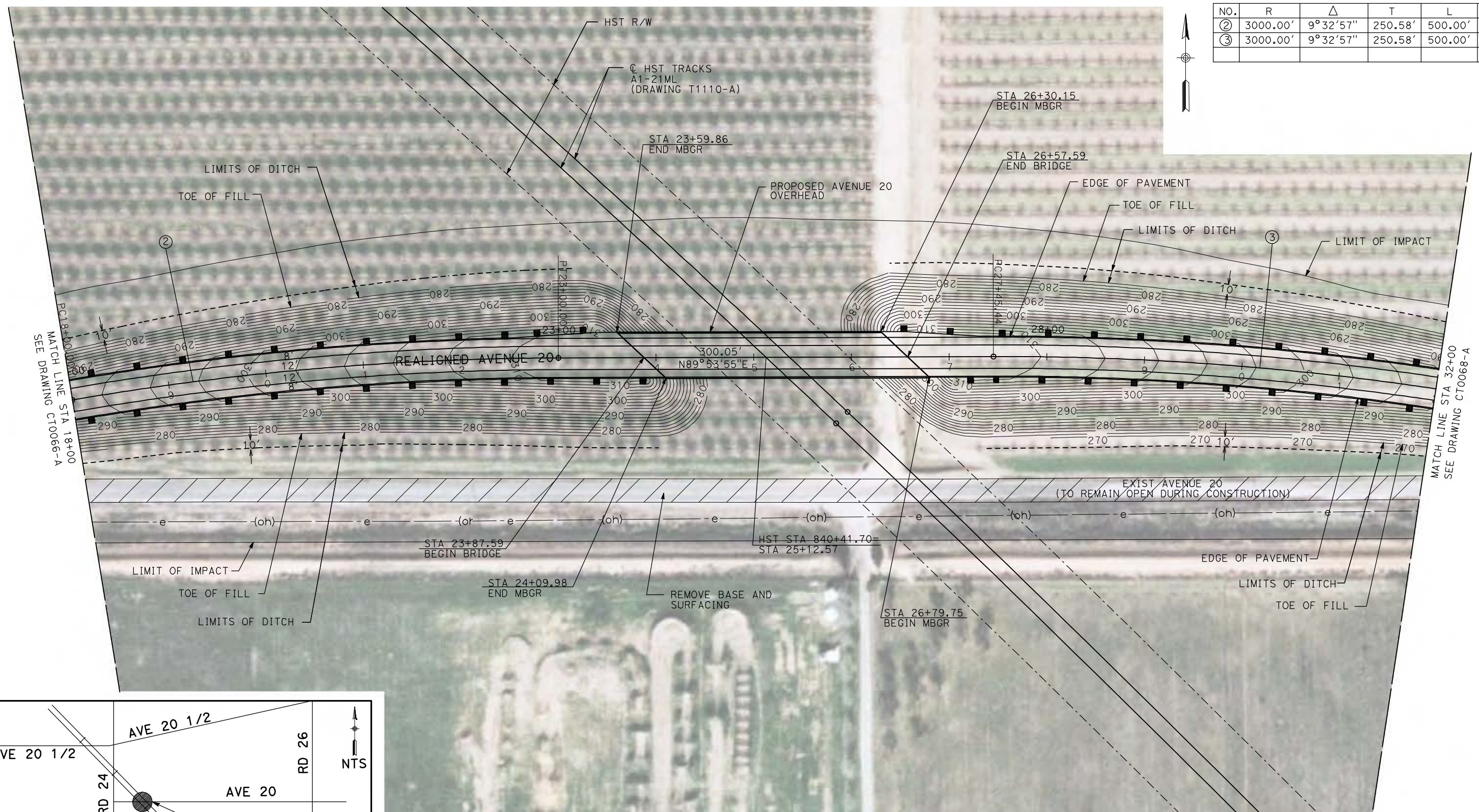
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 20  
 LAYOUT  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT0066-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

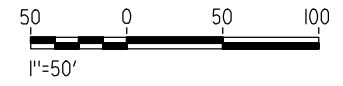


6/28/2011 4:30:13 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21\hybrid grade separation\layout\MF-CT-0067-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1063-A THROUGH CT1065-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



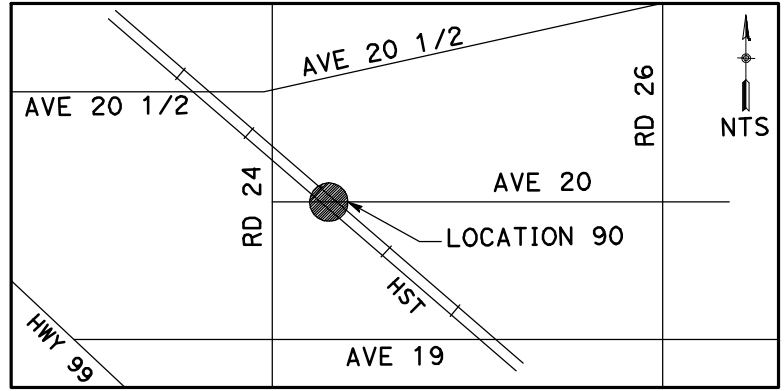
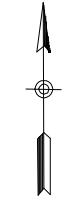
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0067-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

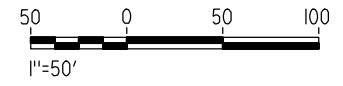


6/28/2011 4:30:21 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0068-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1063-A THROUGH CT1065-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

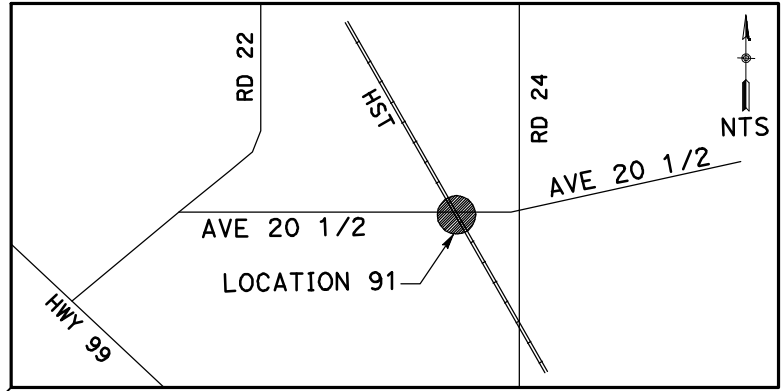
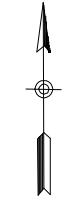
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT0068-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

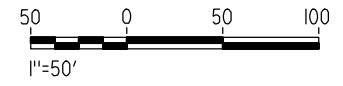


6/28/2011 4:30:27 PM I:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0069-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
①	3000.00'	22°49'04"	605.39'	1194.73'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1066-A THROUGH CT1068-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

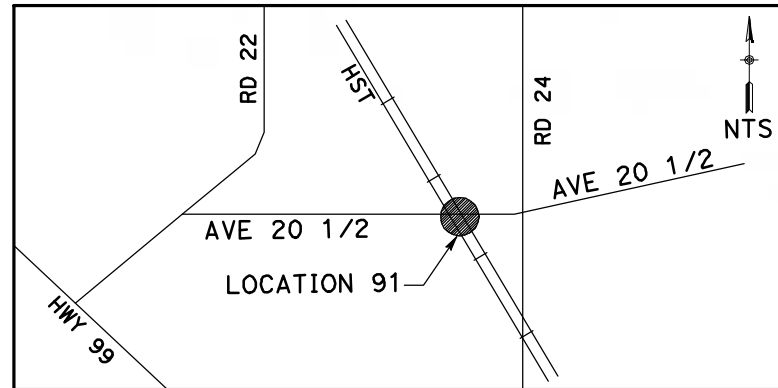
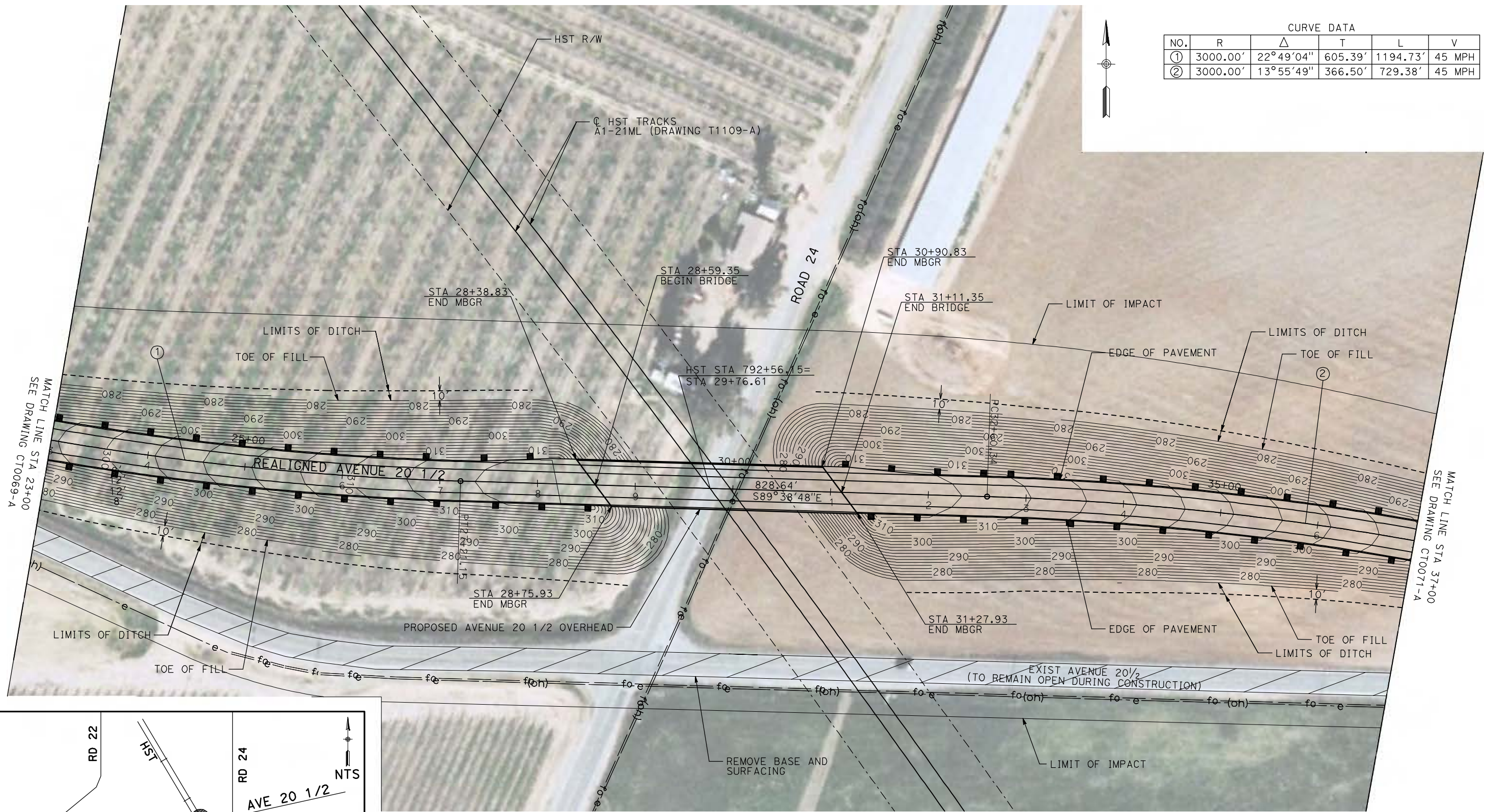
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20 1/2  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0069-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

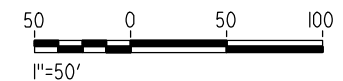


6/28/2011 4:30:34 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0070-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	22°49'04"	605.39'	1194.73'	45 MPH
②	3000.00'	13°55'49"	366.50'	729.38'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1066-A THROUGH CT1068-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. GIBSON**  
DRAWN BY  
**H. PHAN**  
CHECKED BY  
**J. ZANDIAN**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



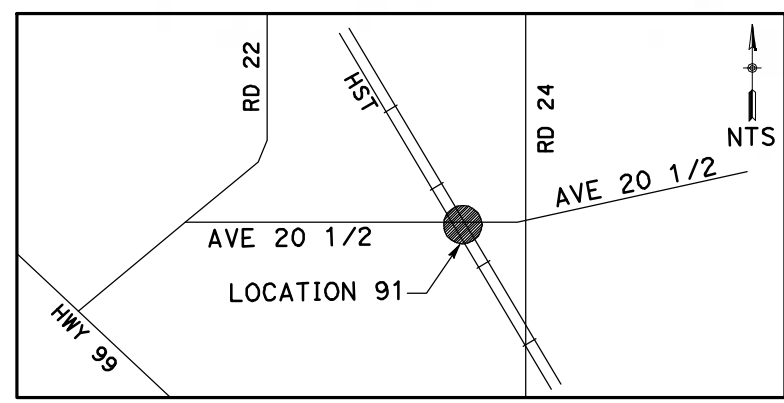
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20 1/2  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT0070-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



7/6/2011 10:32:46 AM I:\CHSR\60022962\Task-02\_Merced-Fresno\cadd\Civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\MF-CT-0071-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
②	3000.00'	13°55'49"	366.50'	729.38'	45 MPH
③	3000.00'	14°07'05"	371.49'	739.21'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1066-A THROUGH CT1068-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



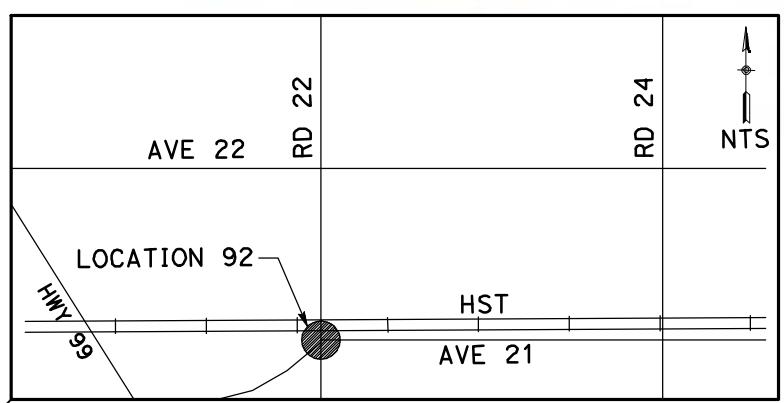
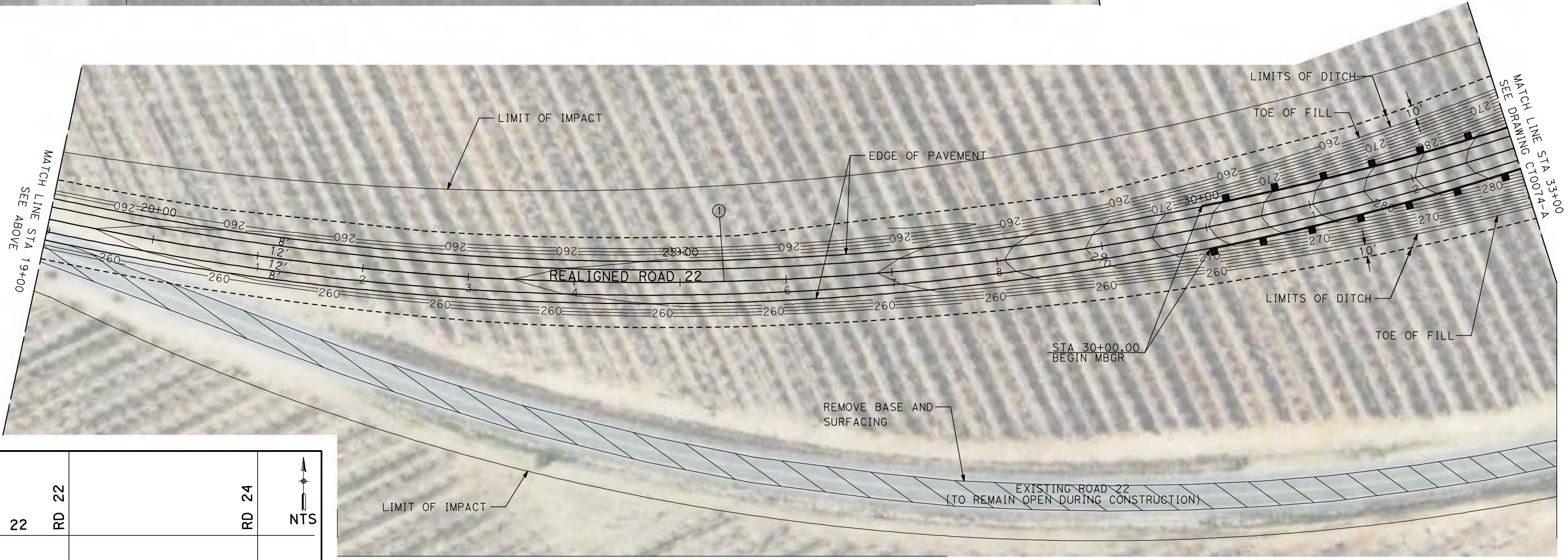
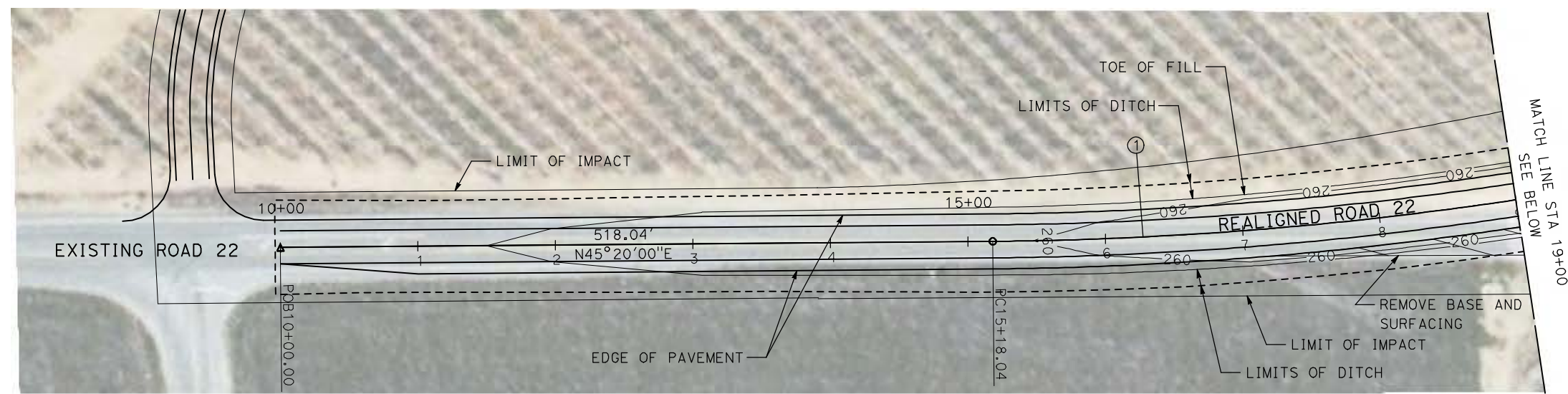
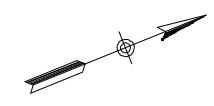
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 20 1/2  
 LAYOUT  
 SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT0071-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

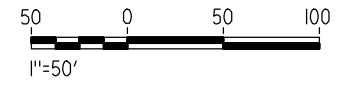


6/28/2011 4:30:50 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0073-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	2700.00'	45°56'08"	1144.29'	2164.67'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1069-A THROUGH CT1071-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



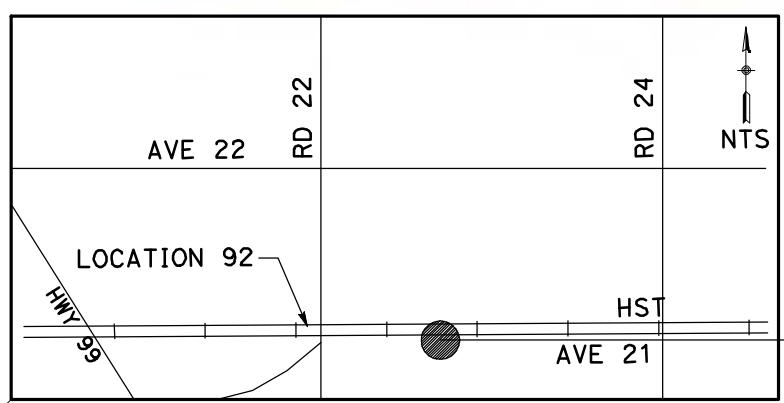
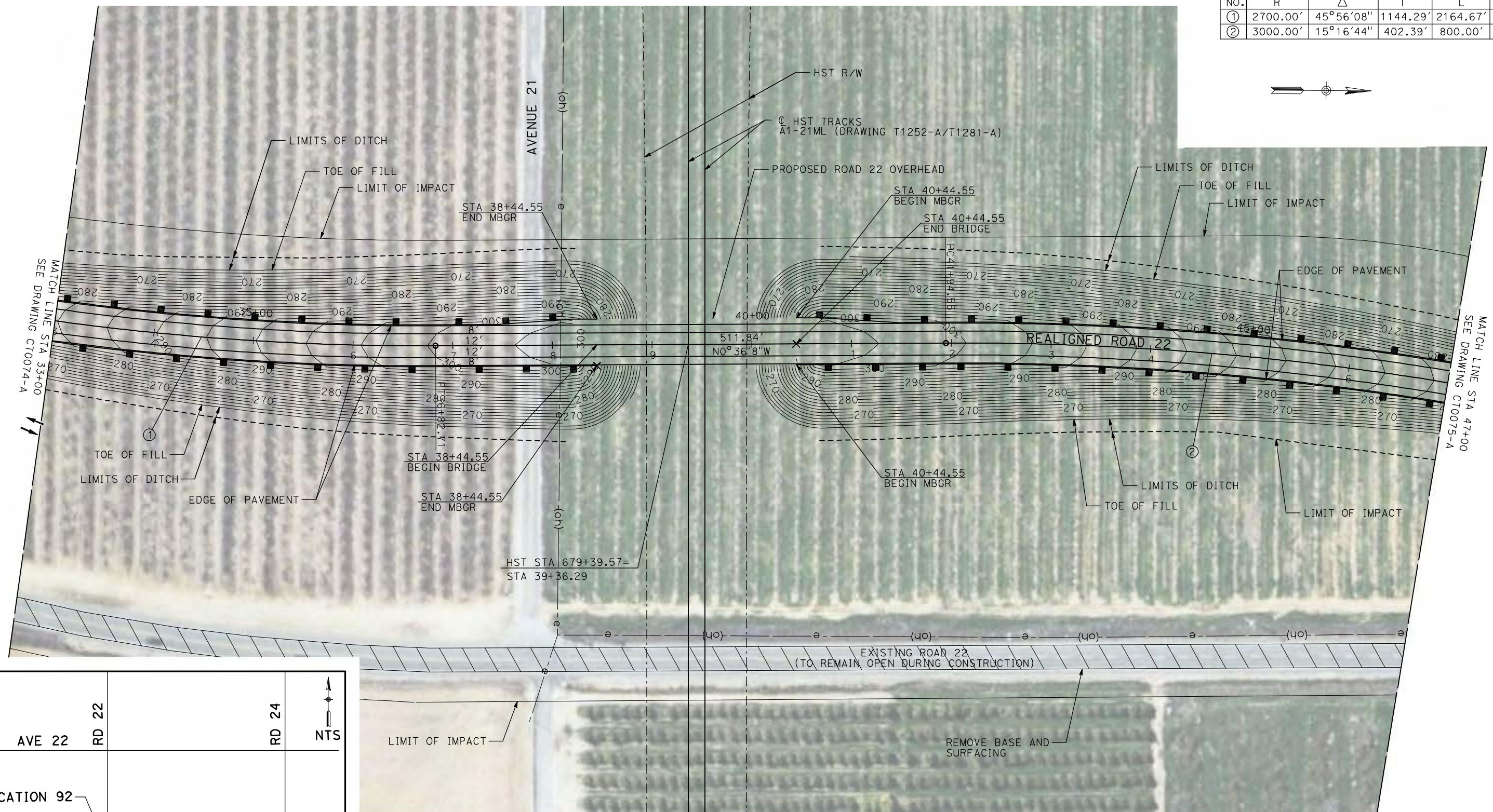
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
UNDERPASS - ROAD 22  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0073-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

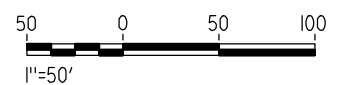


6/28/2011 4:30:57 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0074-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	V	
①	2700.00'	45°56'08"	1144.29'	2164.67'	45 MPH
②	3000.00'	15°16'44"	402.39'	800.00'	45 MPH



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1069-A THROUGH CT1071-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



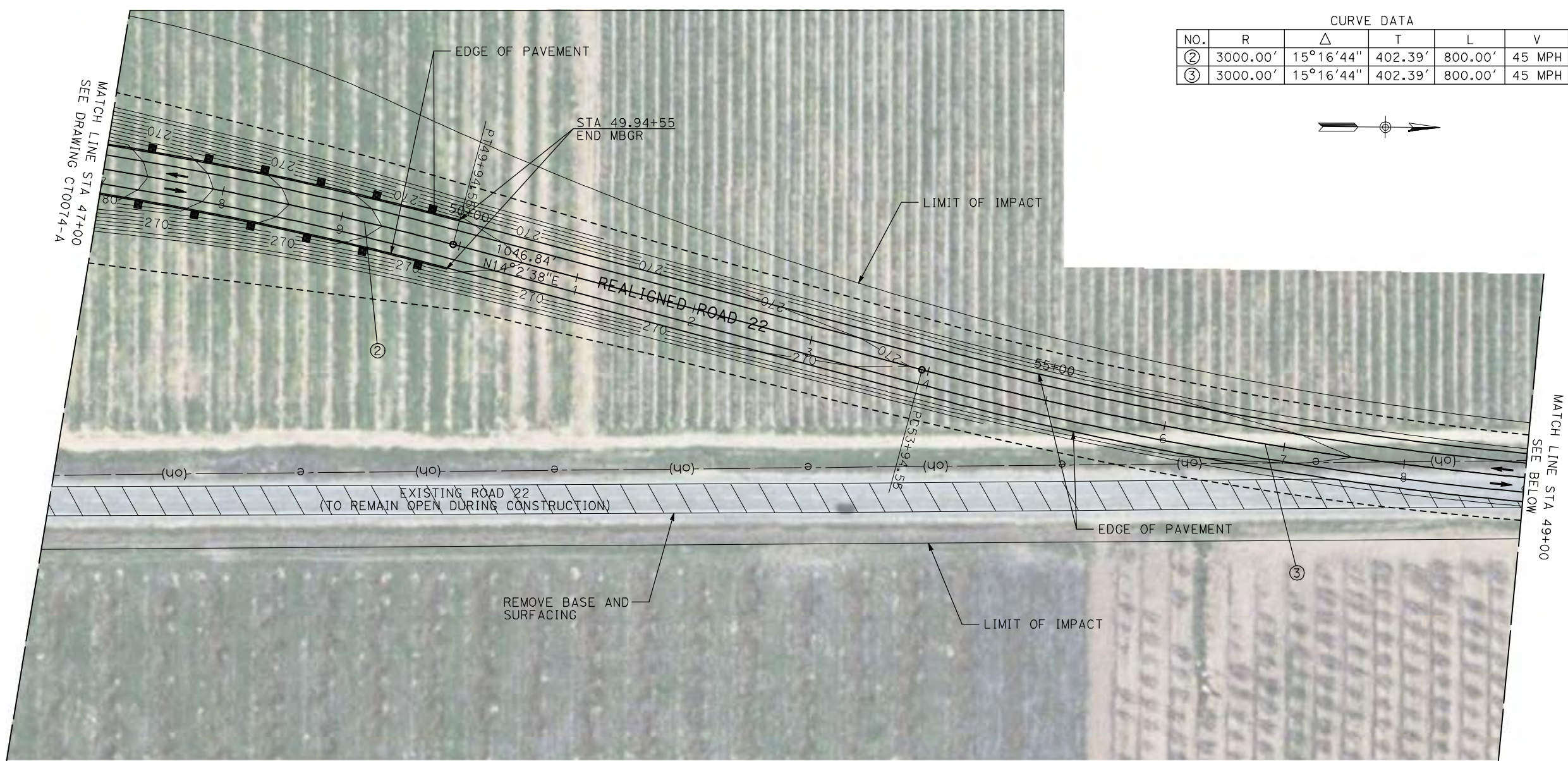
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
UNDERPASS - ROAD 22  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT0074-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

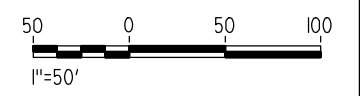
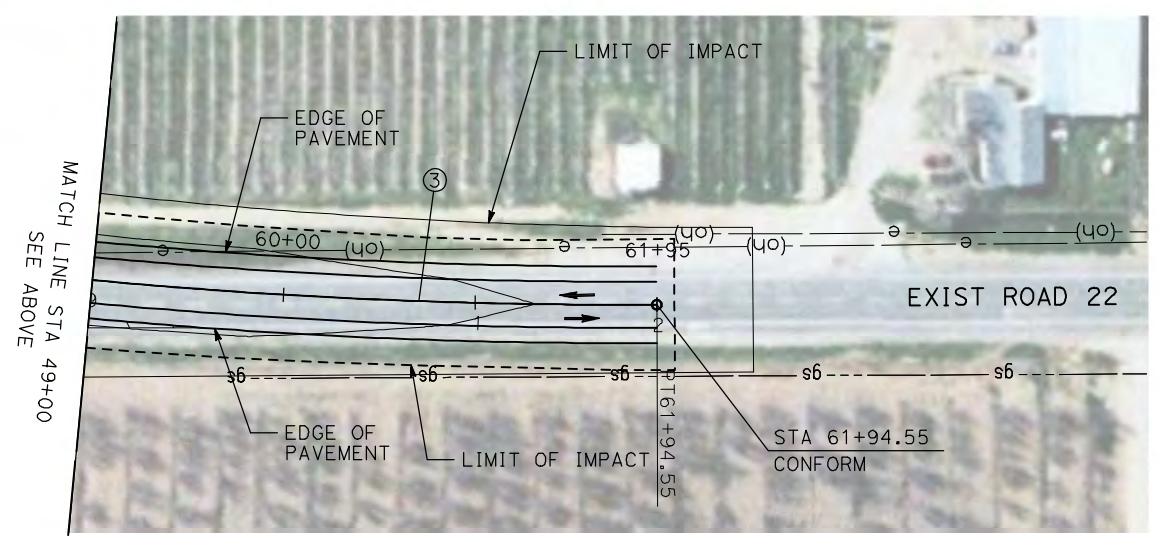
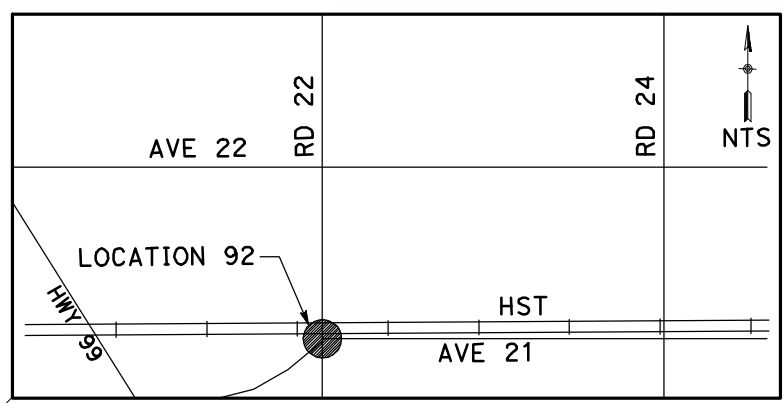


6/28/2011 4:31:05 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\volume 1 - ave21hybrid grade separation\layout\MF-CT-0075-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
②	3000.00'	15°16'44"	402.39'	800.00'	45 MPH
③	3000.00'	15°16'44"	402.39'	800.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1069-A THROUGH CT1071-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

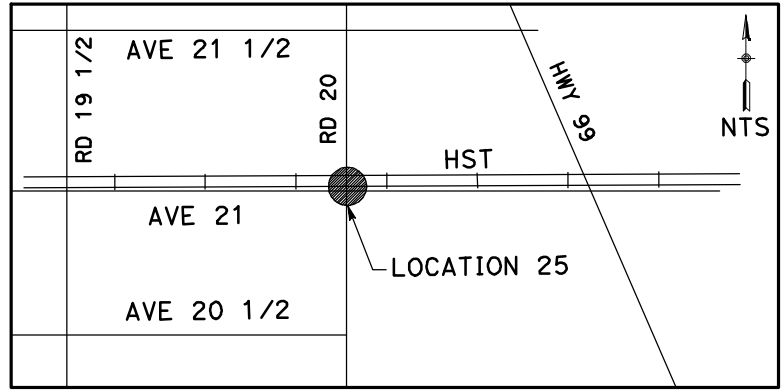
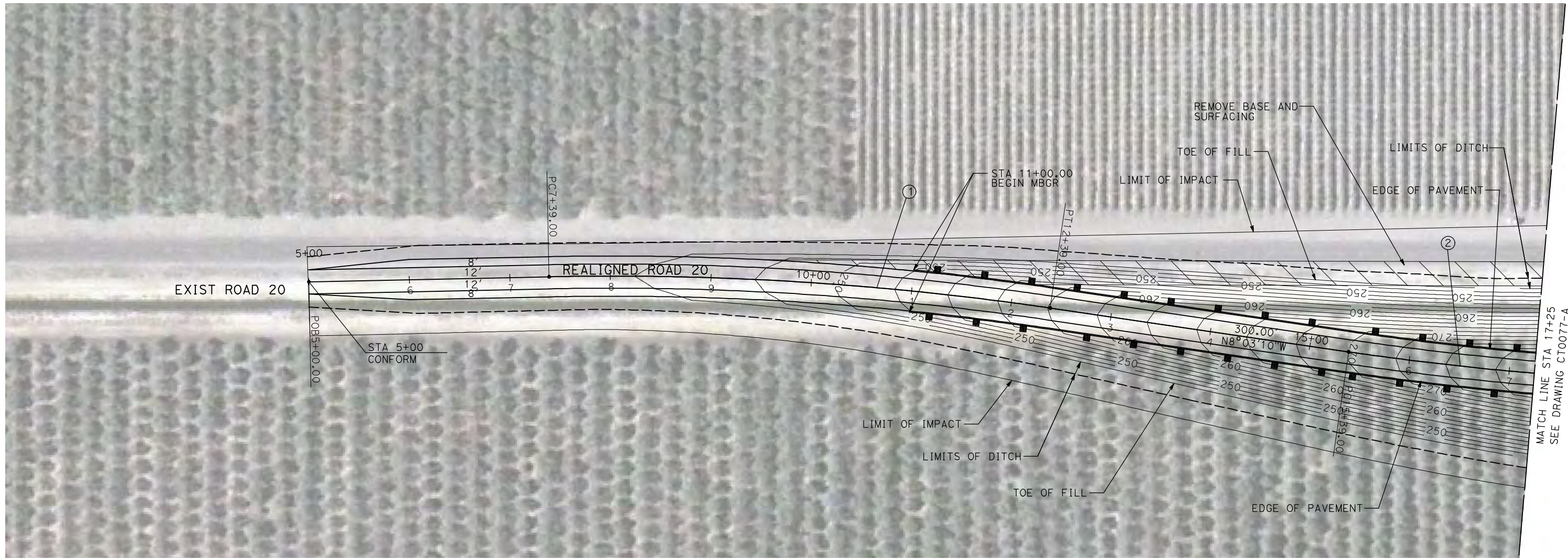
BNSF MAIN LINE - (AVE 21 HYBRID)  
UNDERPASS - ROAD 22  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT0075-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

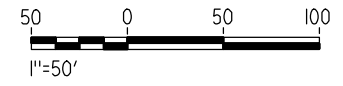


6/28/2011 4:31:12 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0076-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1072-A THROUGH CT1074-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



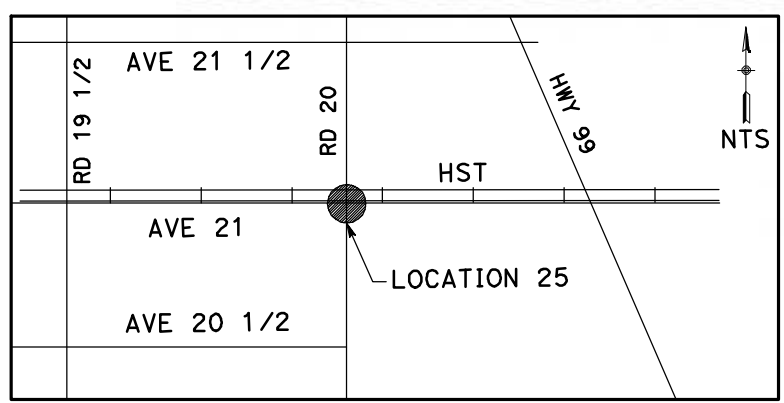
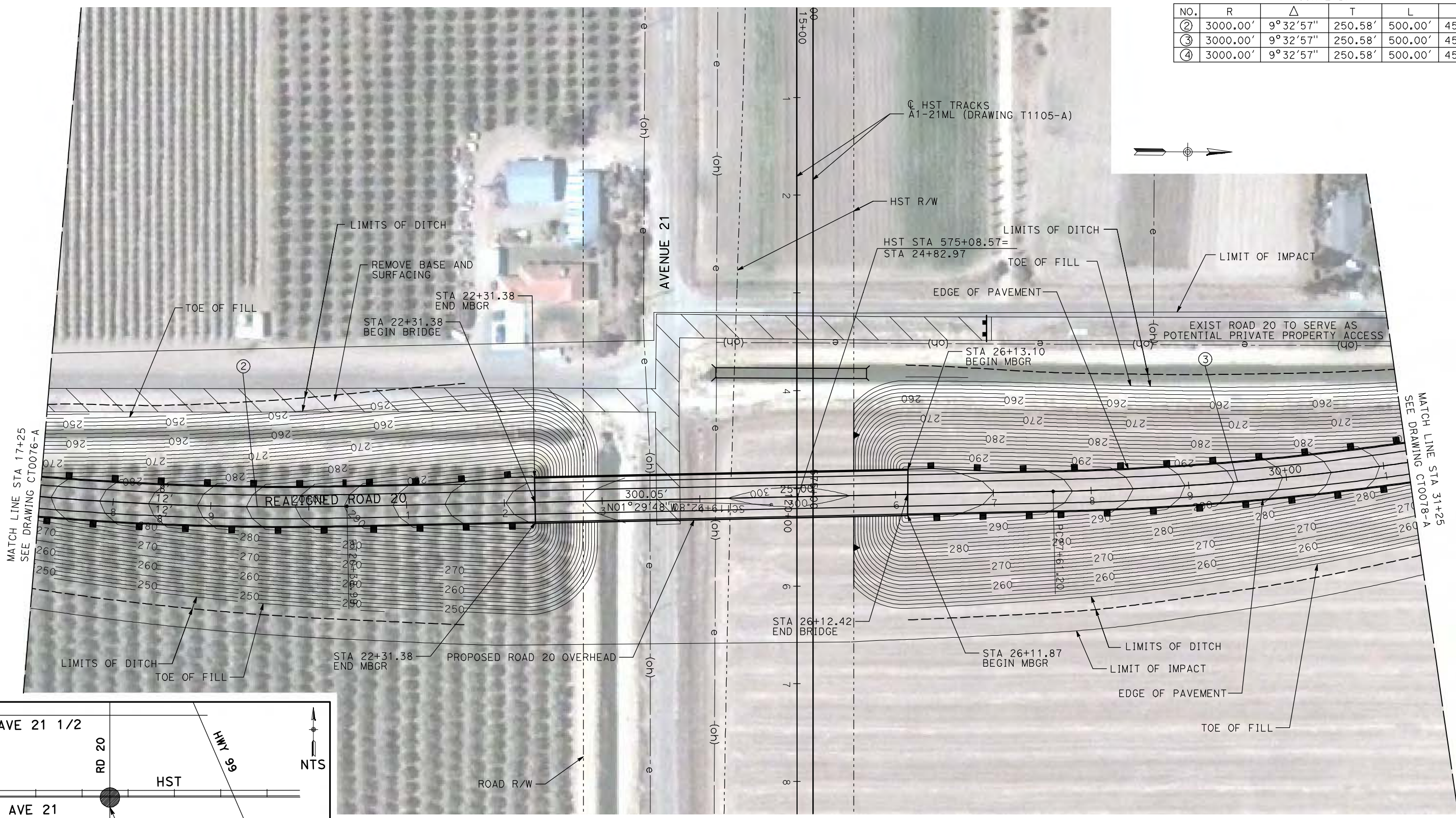
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 20  
 LAYOUT  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT0076-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

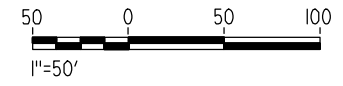


6/28/2011 4:31:19 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0077-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1072-A THROUGH CT1074-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



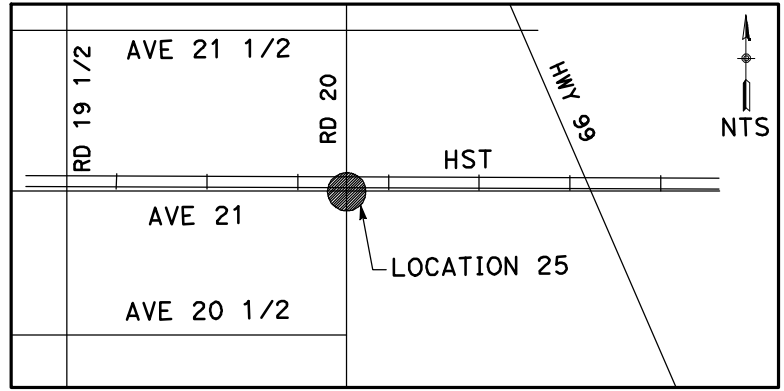
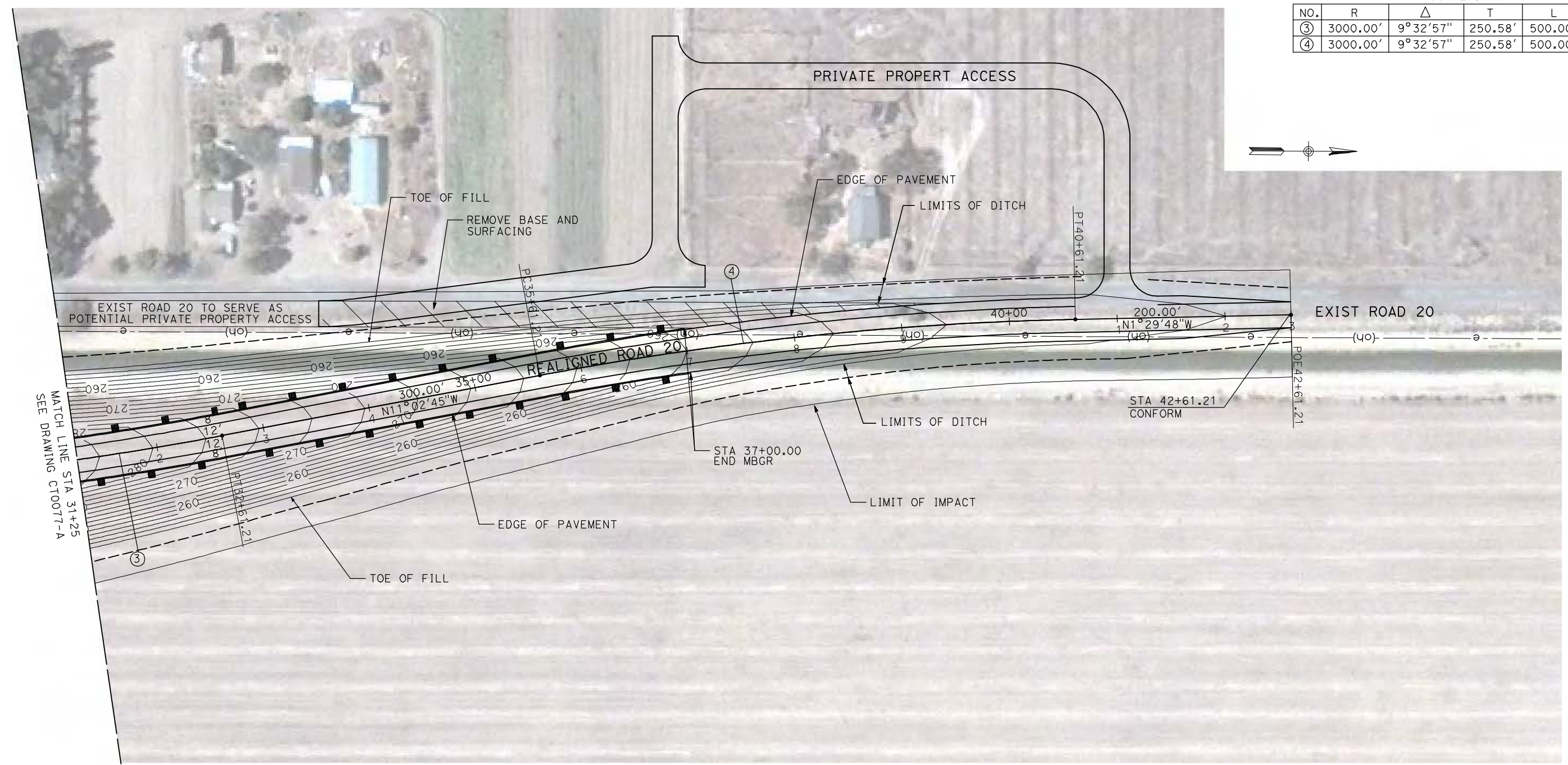
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 20  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0077-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

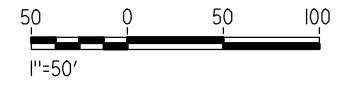


6/28/2011 4:31:28 PM i:\cnsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0078-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1072-A THROUGH CT1074-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

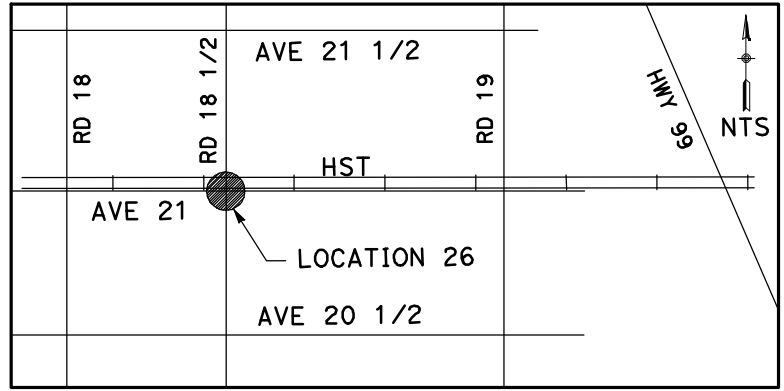
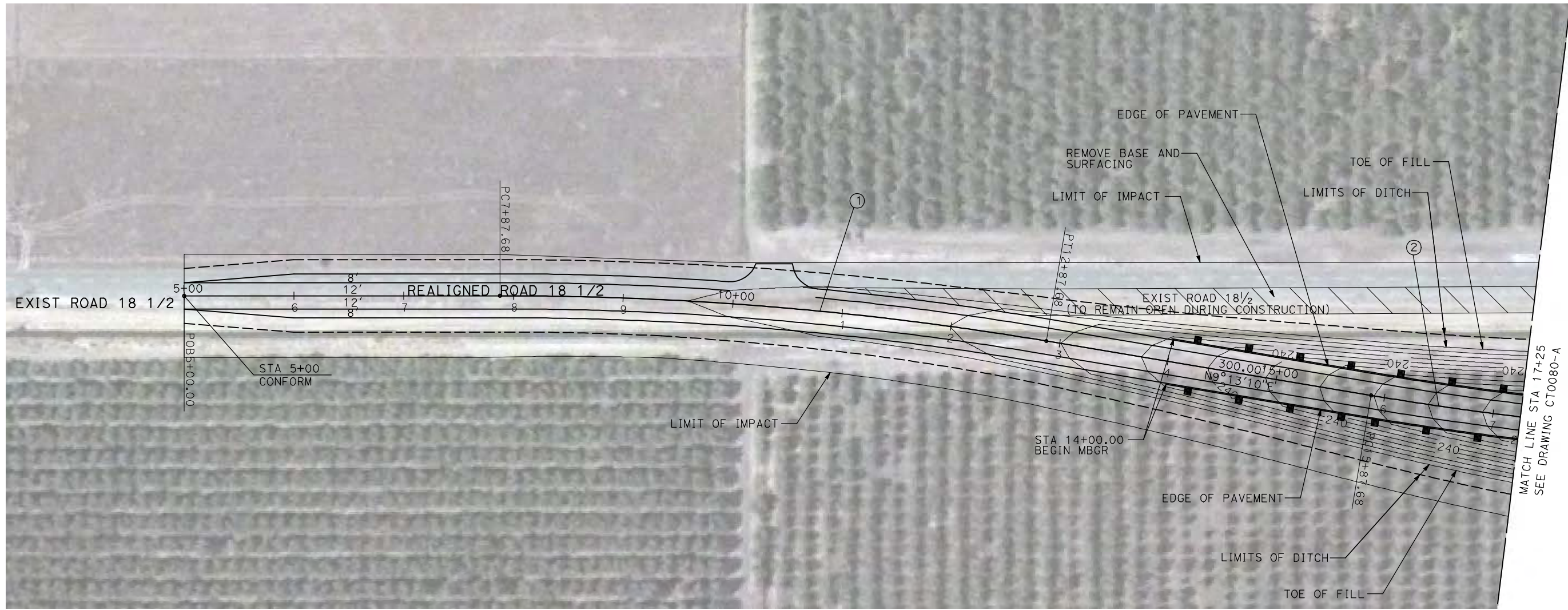
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 20  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT0078-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

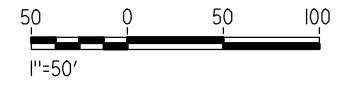


6/28/2011 4:31:34 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0079-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1075-A THROUGH CT1077-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

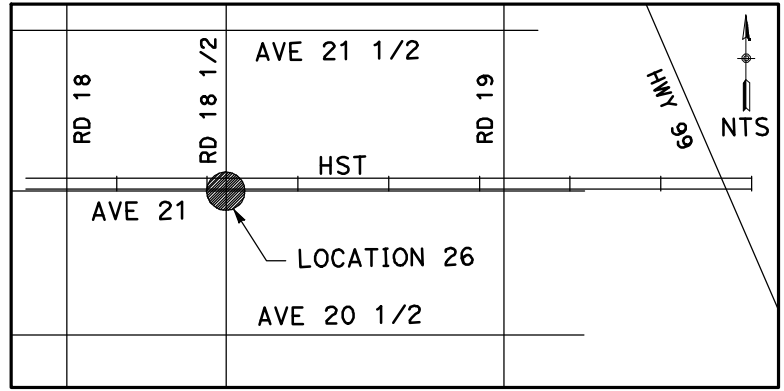
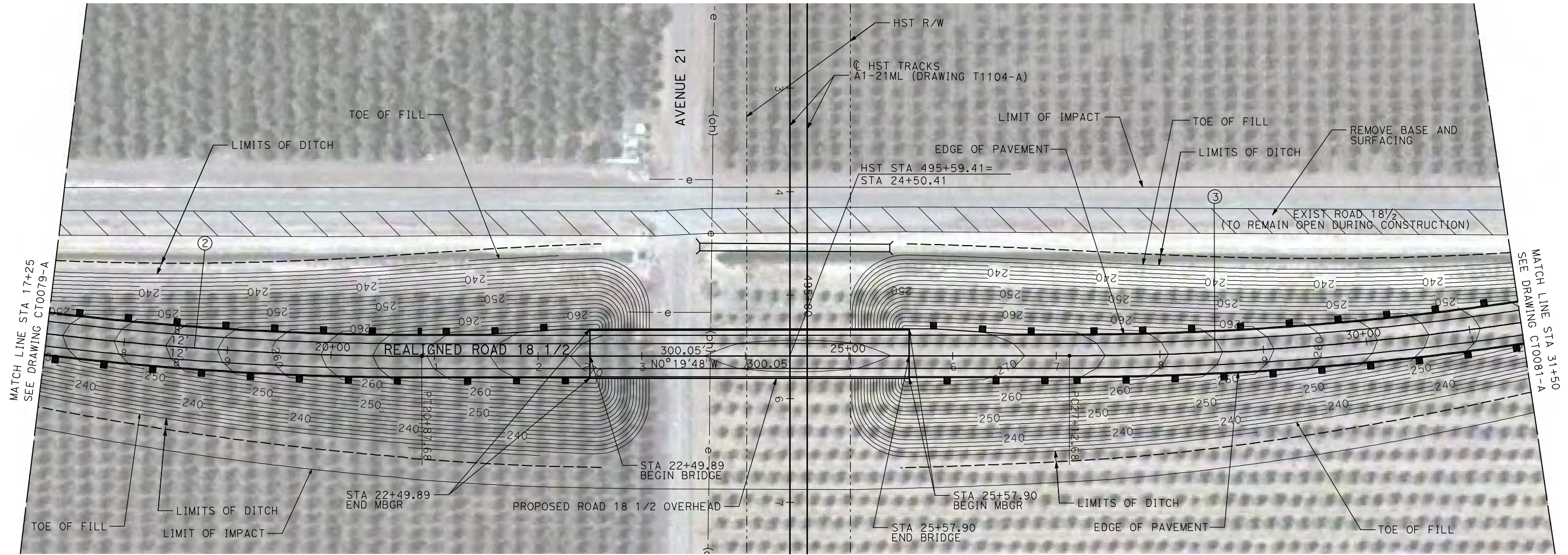
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 18 1/2  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0079-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

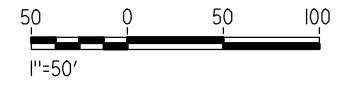


6/28/2011 4:31:40 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0080-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
②	3000.00'	9°32'57"	250.58'	500.00'	45 MPH
③	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1075-A THROUGH CT1077-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

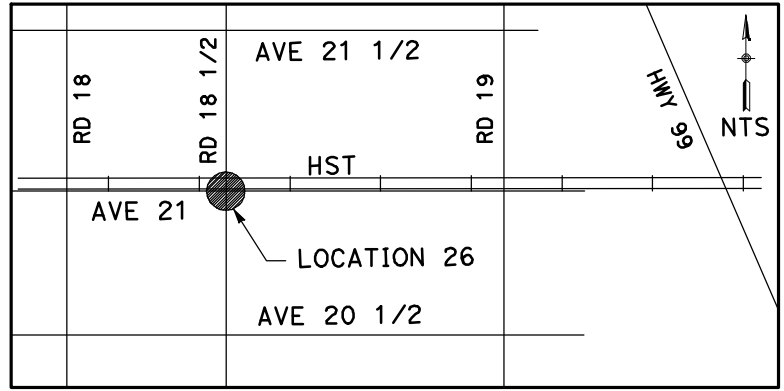
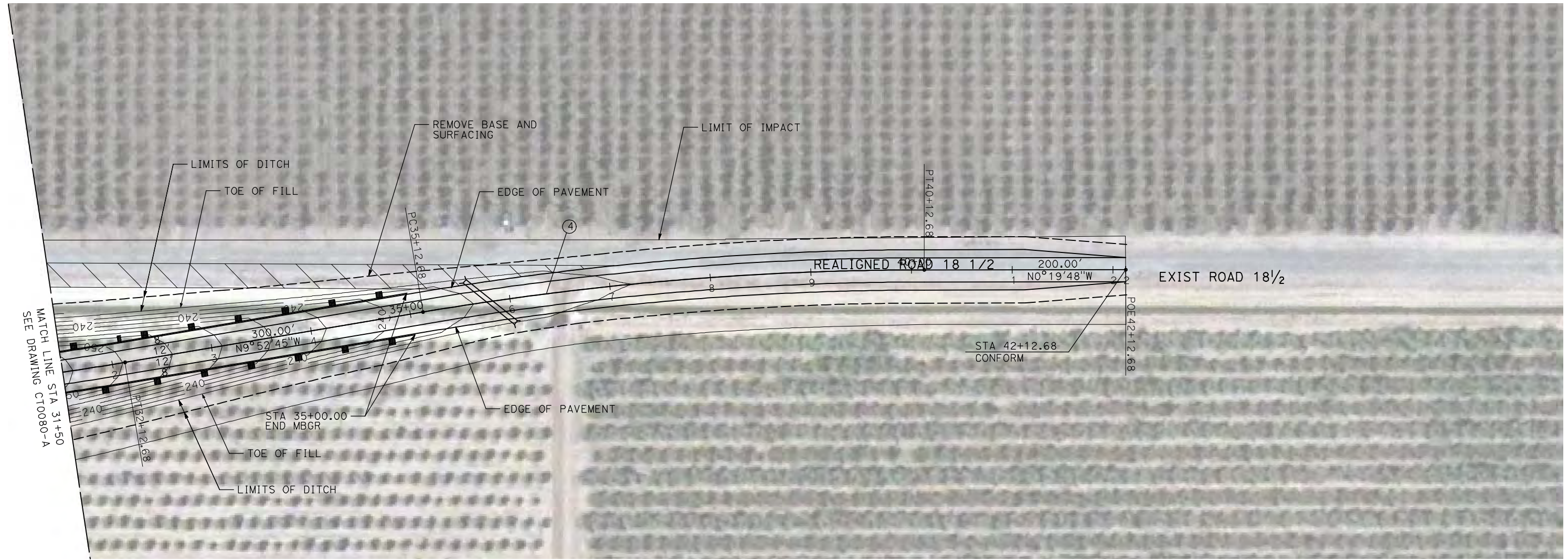
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 18 1/2  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT0080-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

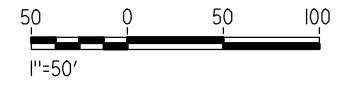


6/28/2011 4:31:49 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0081-A.dgn

CURVE DATA					
NO.	R	Δ	T	L	V
④	3000.00'	9°32'57"	250.58'	500.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1075-A THROUGH CT1077-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



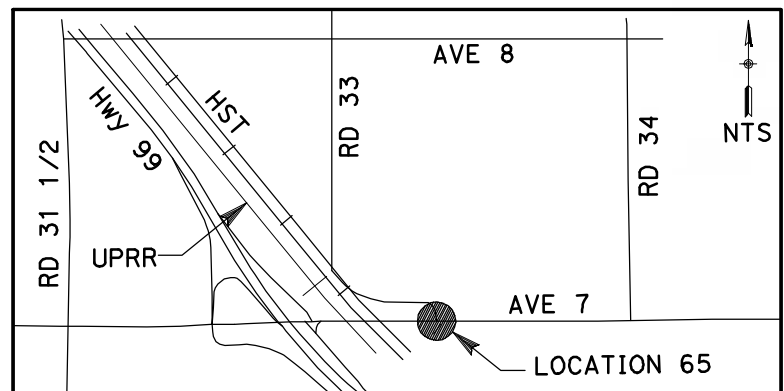
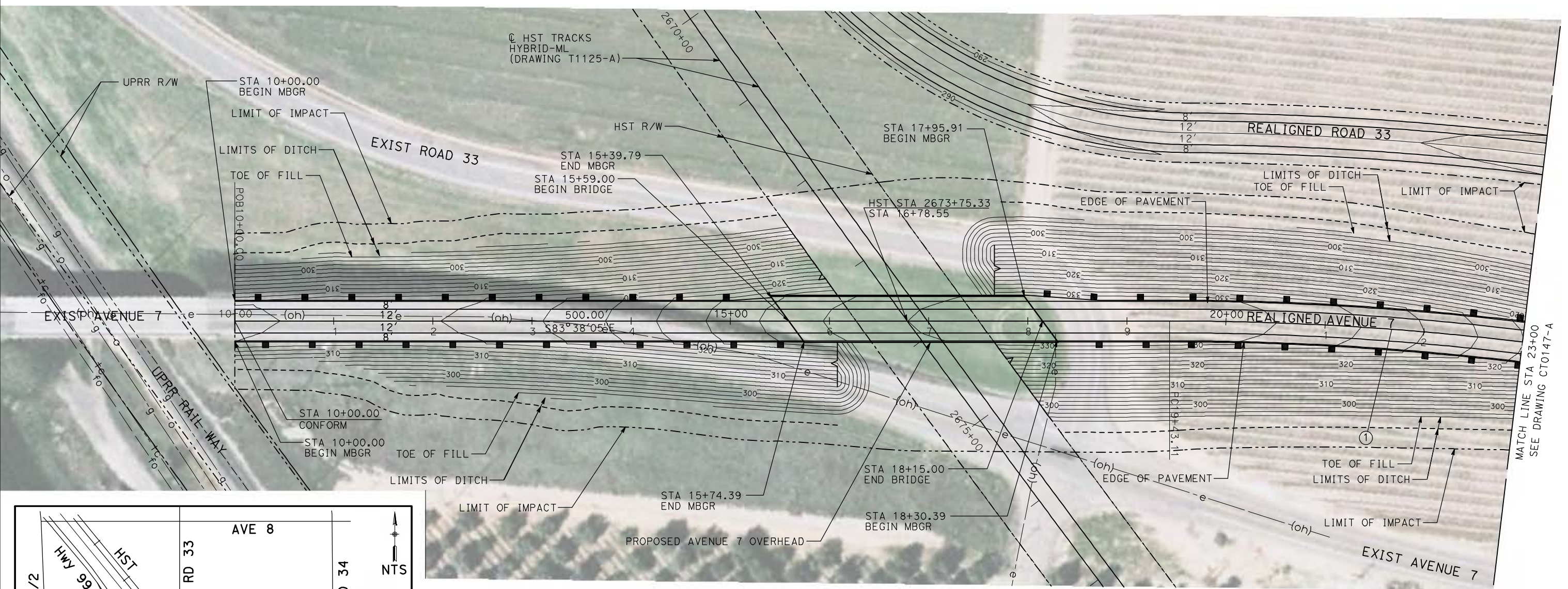
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 18 1/2  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0081-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

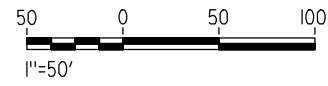


6/28/2011 4:31:56 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid Grade Separation\Layout\Common with Ave 21\MF-CT-0146-A.dgn

CURVE DATA				
NO.	R	Δ	T	V
①	5000.00'	6°52'32"	300.36'	600.00'
				45 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1146-A THROUGH CT1148-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



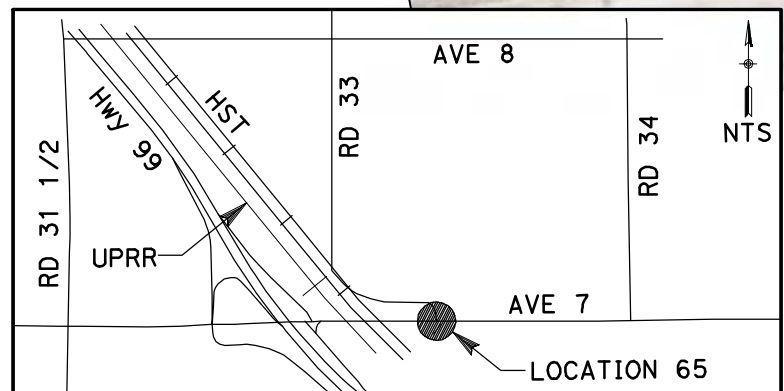
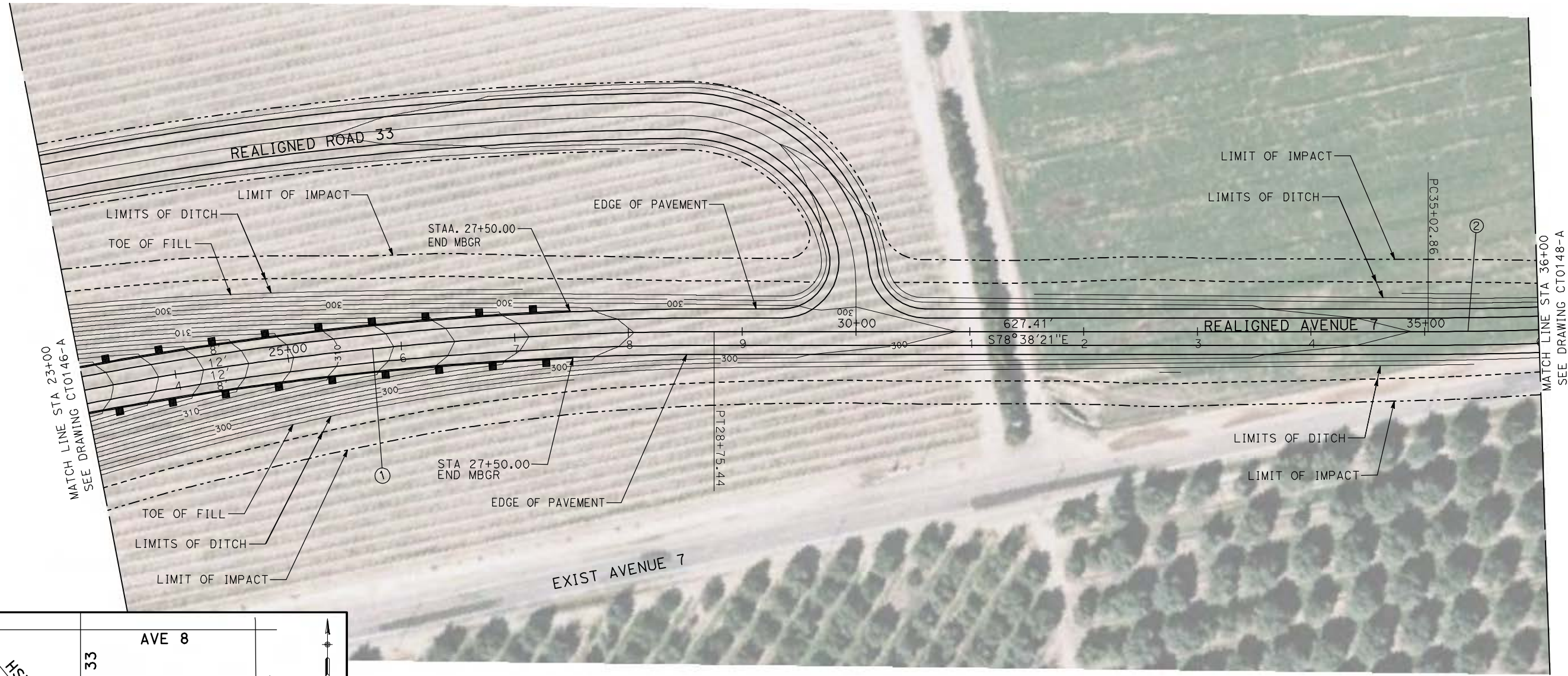
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 7  
 LAYOUT  
 SHEET 1 OF 3

CONTRACT NO.  
HST06-007  
 DRAWING NO.  
CT0146-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###



6/28/2011 4:32:05 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\MF-CT-0147-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	5000.00'	6°52'32"	300.36'	600.00'	45 MPH
②	3000.00'	12°10'29"	319.93'	637.46'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1146-A THROUGH CT1148-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 7  
LAYOUT  
SHEET 2 OF 3

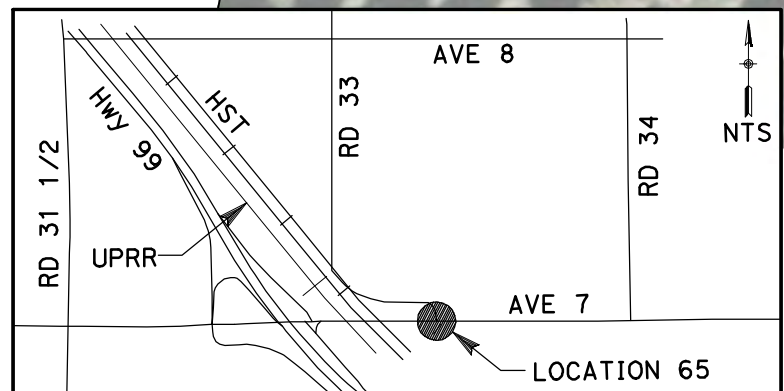
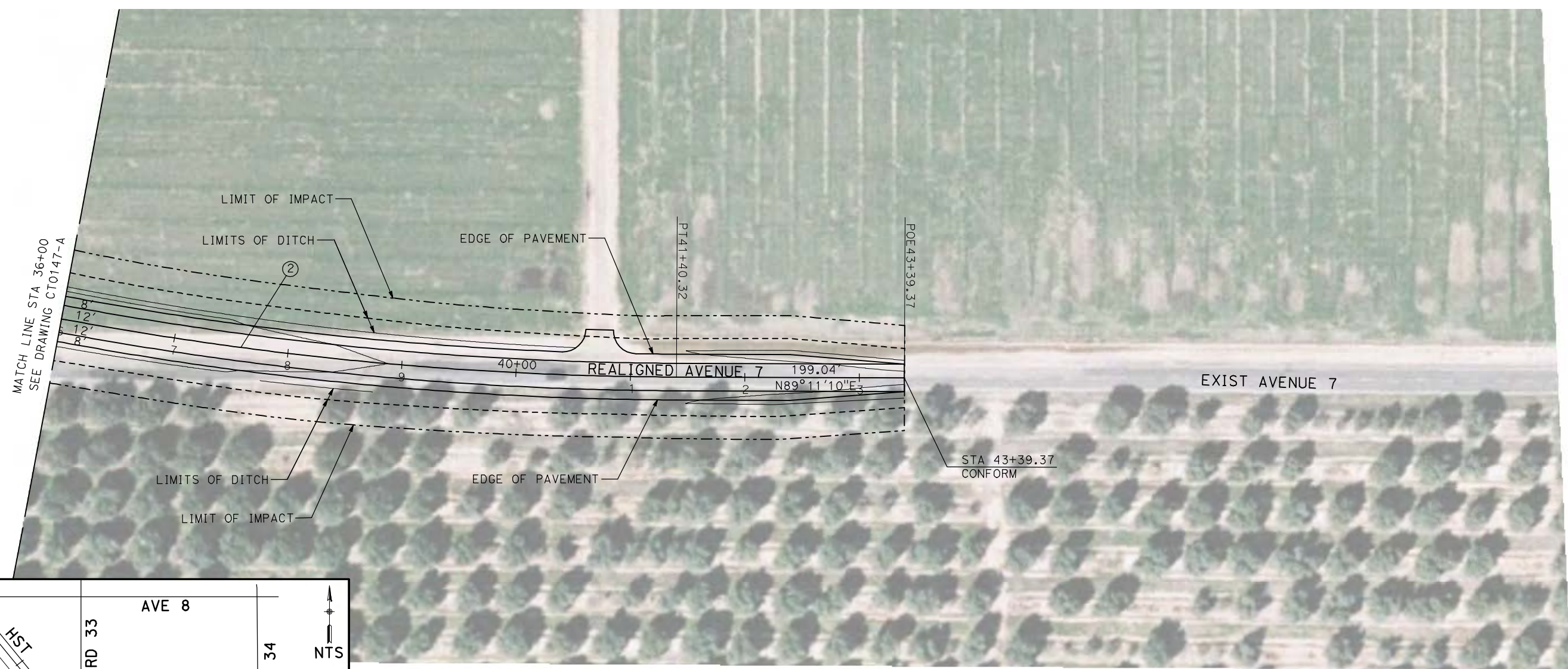
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0147-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



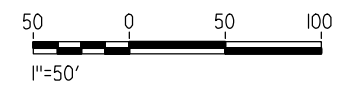
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CURVE DATA					
NO.	R	Δ	T	L	V
②	5000.00'	6°52'32"	300.36'	600.00'	45 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT1146-A THROUGH CT1148-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

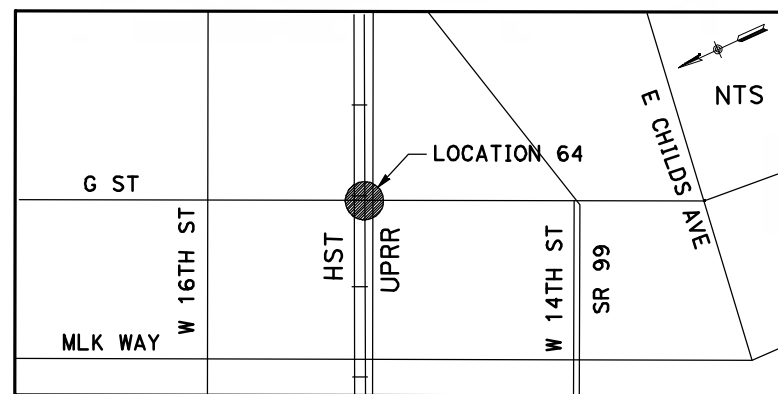
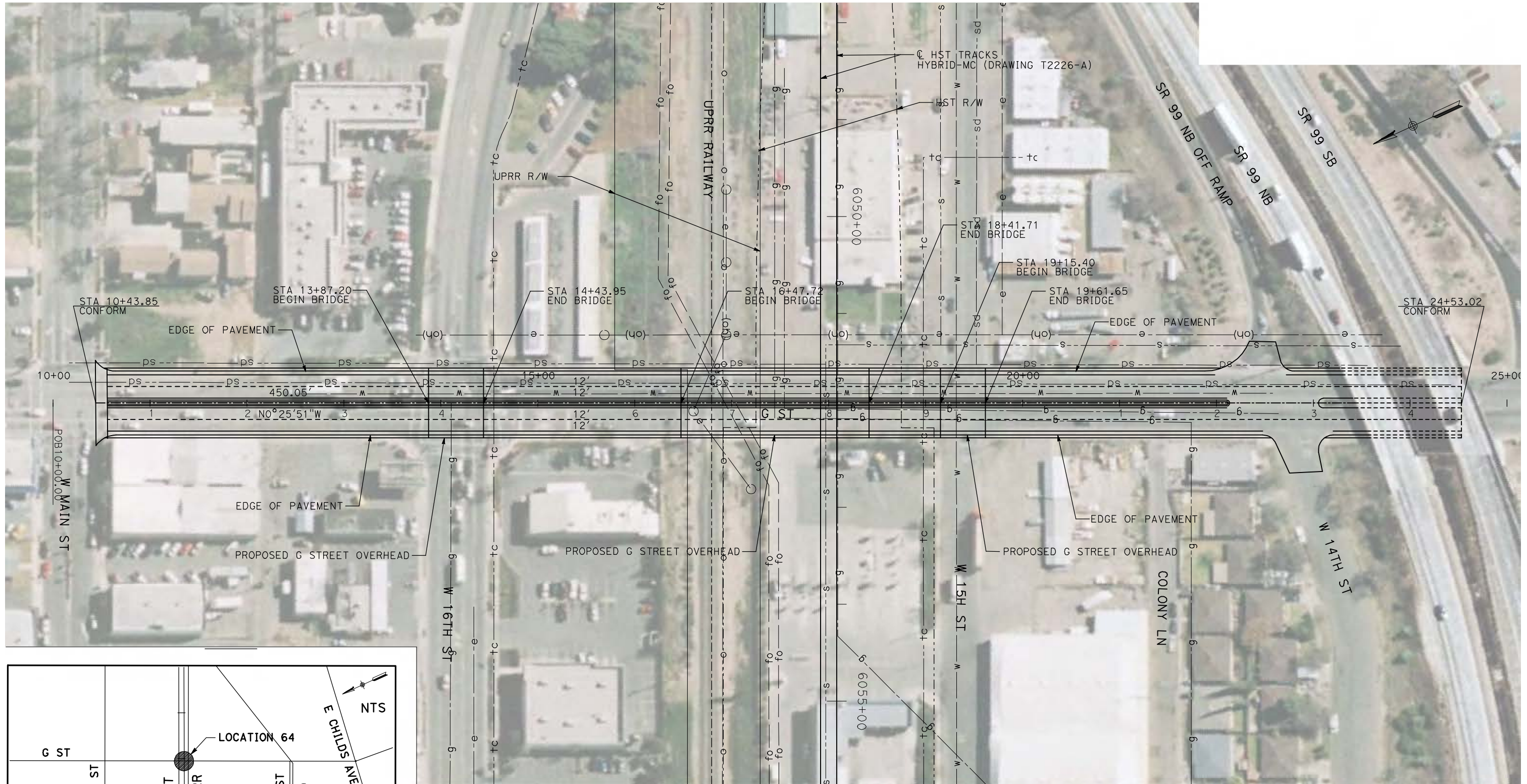


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 7  
LAYOUT  
SHEET 3 OF 3

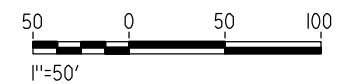
CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0148-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



6/28/2011 4:32:20 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 1 - Ave21Hybrid\Grade Separation\Layout\Common with Ave 21\WF-CT-0149-A.dgn



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWING CT1149-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



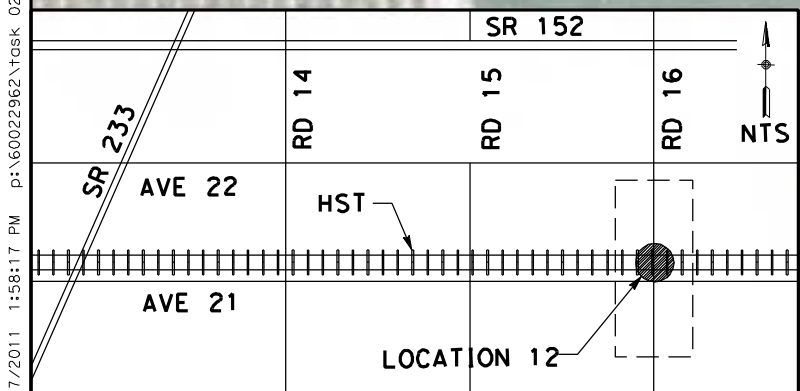
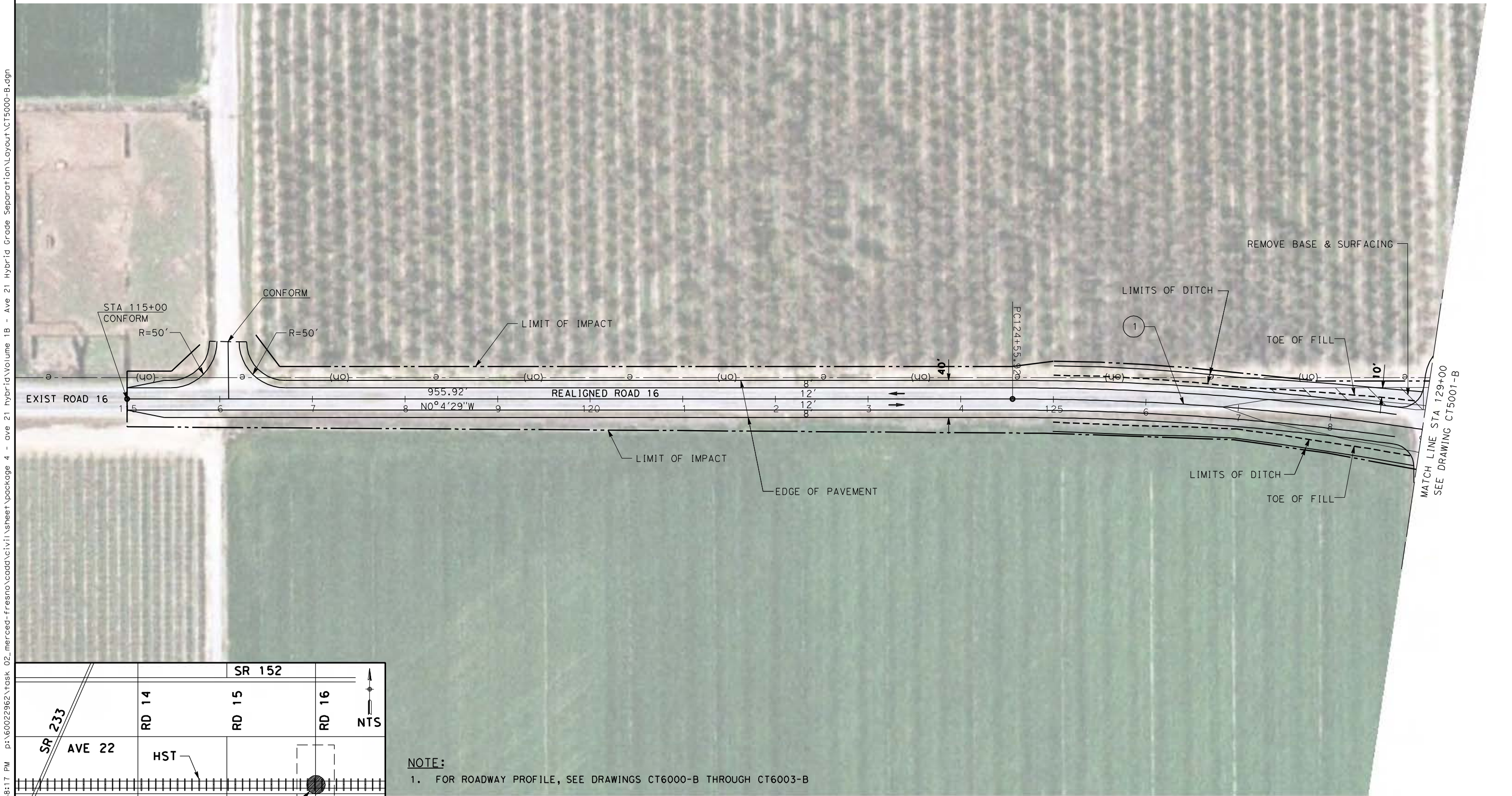
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MERCED CONNECTOR - (AVE 21 HYBRID)  
GRADE SEPARATION - G STREET  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CT0149-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



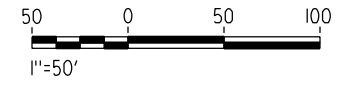
p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5000-B.dgn

oyeled



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6000-B THROUGH CT6003-B

CURVE DATA					
No.	R	$\Delta$	T	L	V
(1)	3000.00	10° 4' 29"	264.44	527.51	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

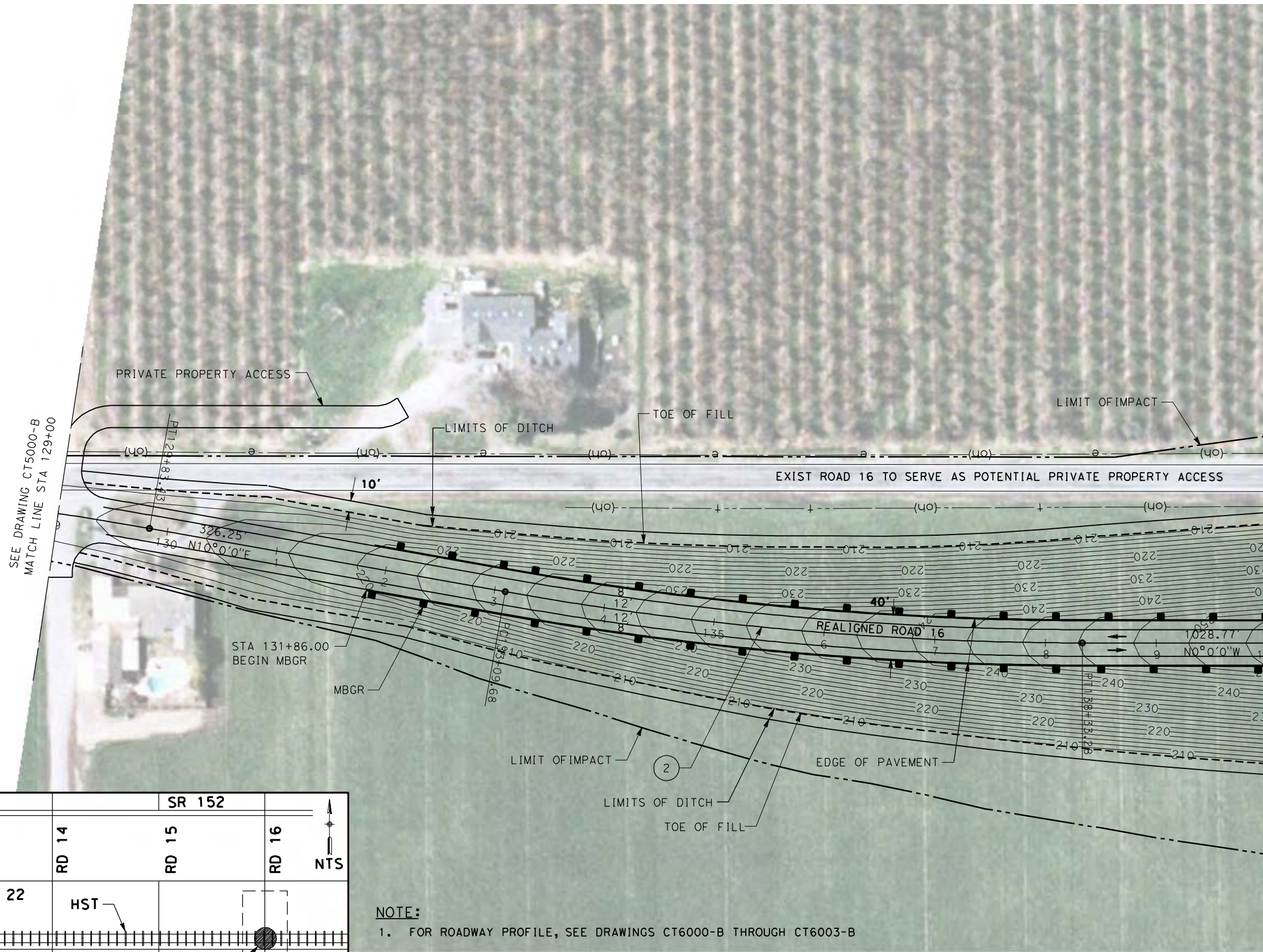


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALT 1  
LAYOUT  
SHEET 1 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5000-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###





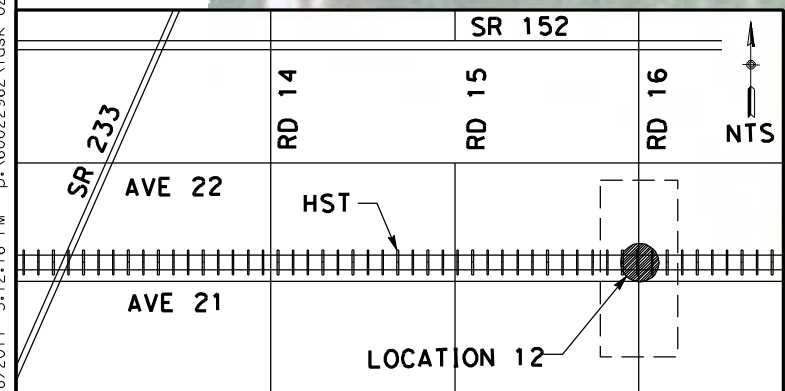
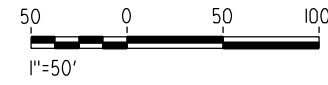
SEE DRAWING CT5000-B  
MATCH LINE STA 129+00

MATCH LINE STA 140+00  
SEE DRAWING CT5002-B

**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6000-B THROUGH CT6003-B

**CURVE DATA**

No.	R	$\Delta$	T	L	V
(2)	3000.00	10° 0' 00"	262.47	523.60	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



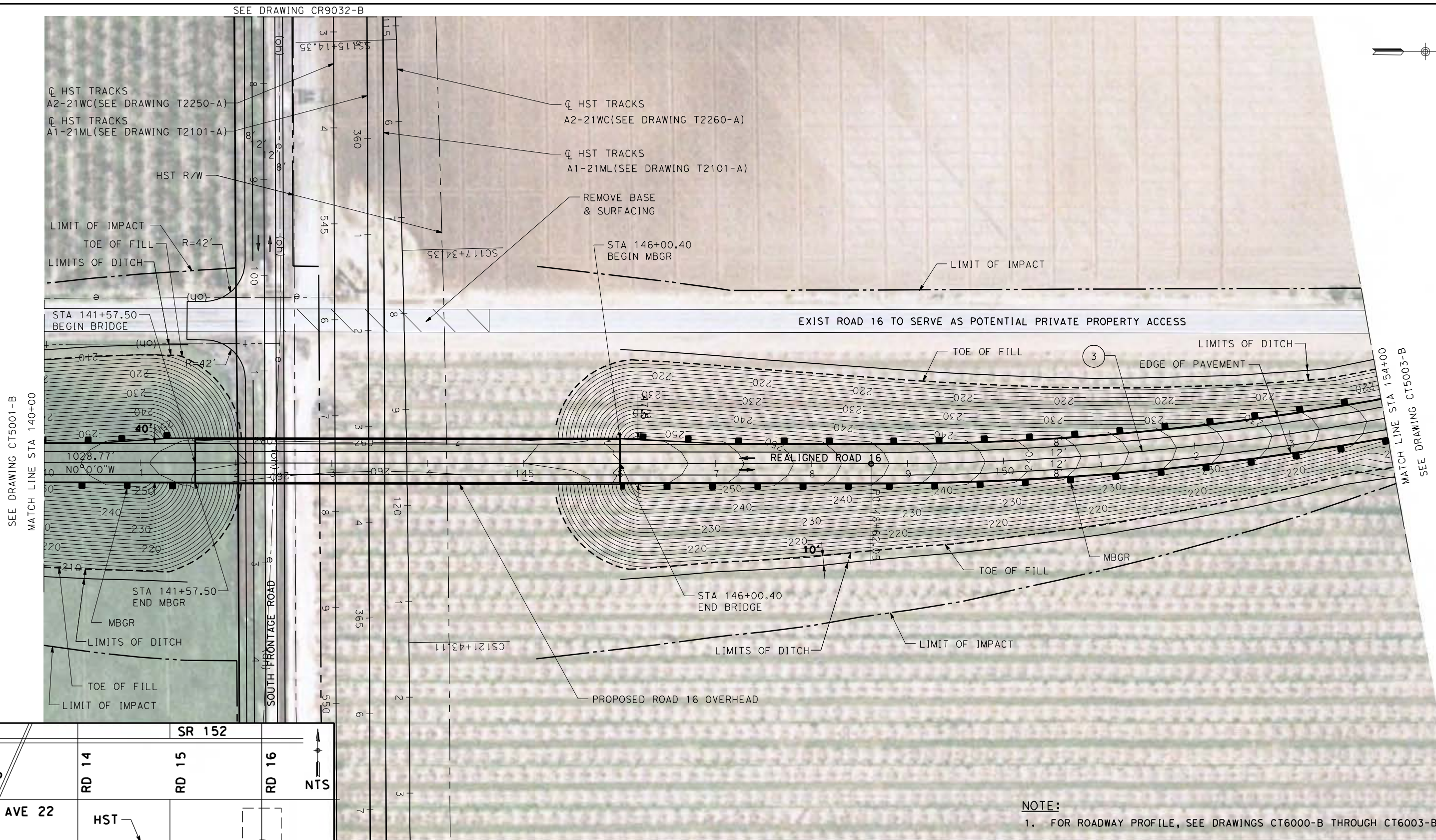
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALT 1  
LAYOUT  
SHEET 2 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5001-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

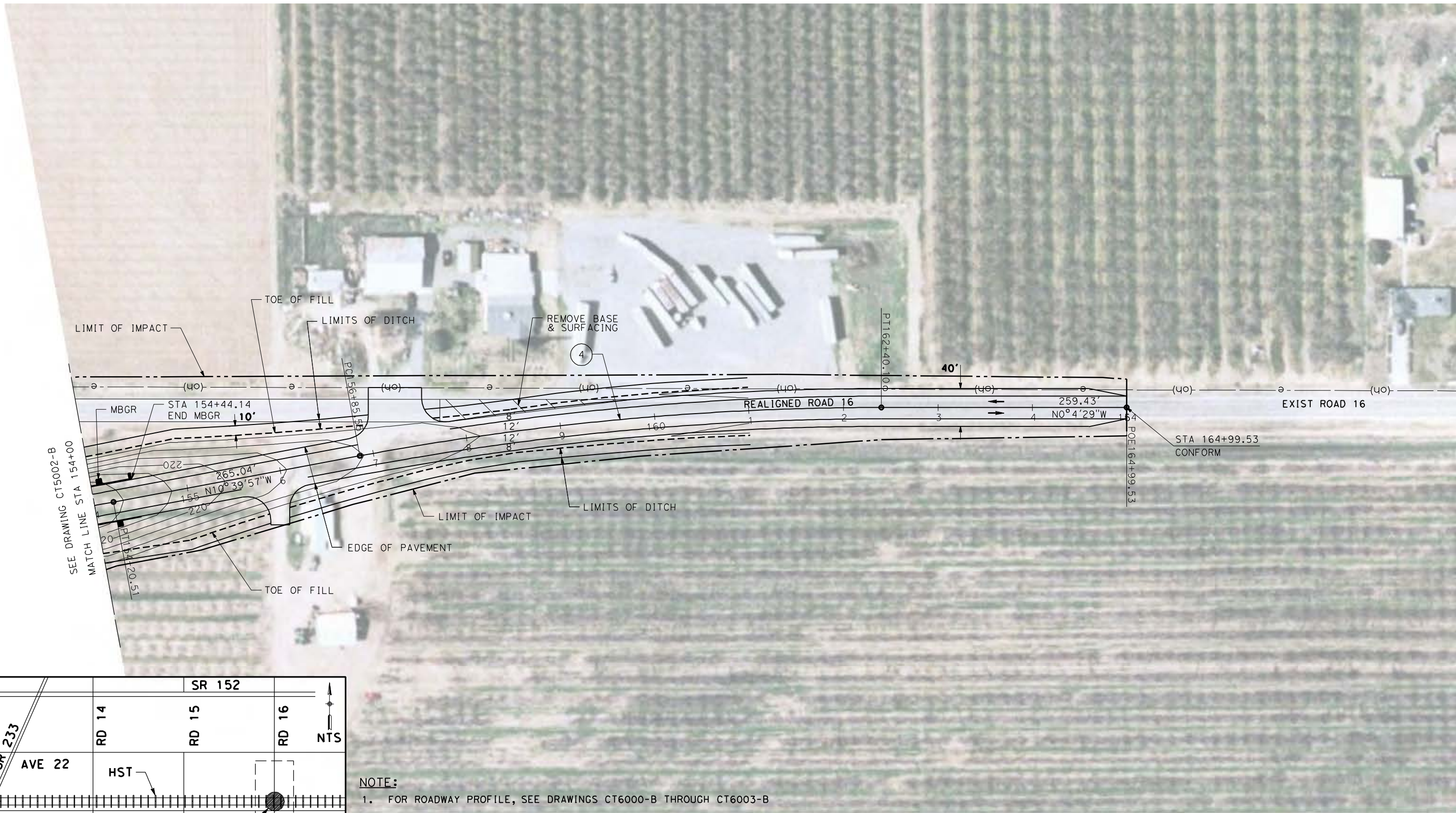
6/28/2011 5:12:16 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5001-B.dgn



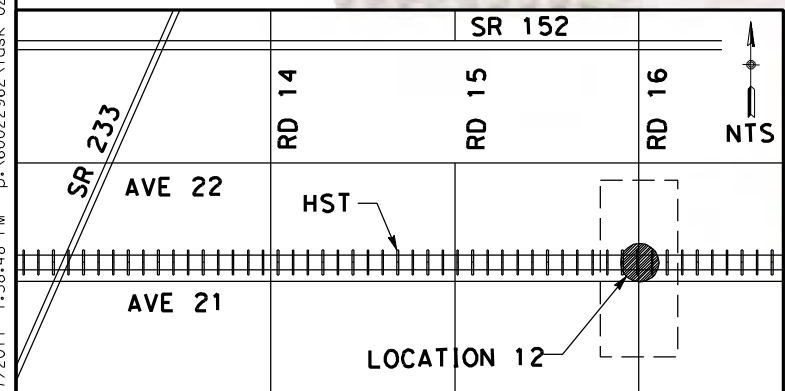
6/27/2011 1:58:38 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5002-B.dgn





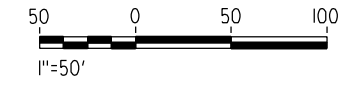


6/27/2011 1:58:48 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5003-B.dgn



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6000-B THROUGH CT6003-B

CURVE DATA					
No.	R	$\Delta$	T	L	V
(4)	3000.00	10° 35' 28"	278.07	554.55	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALT 1  
LAYOUT  
SHEET 4 OF 4

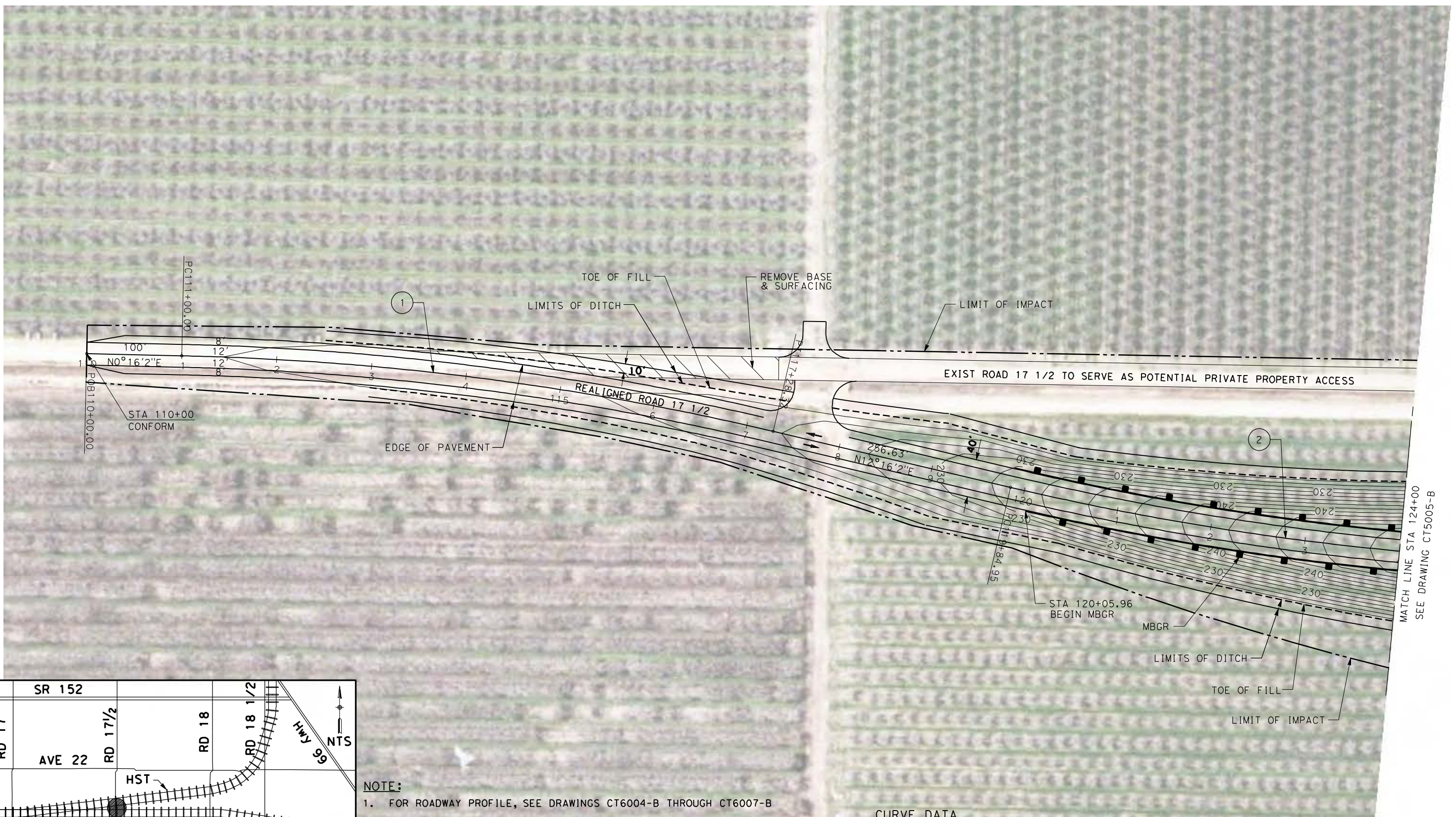
CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT5003-B

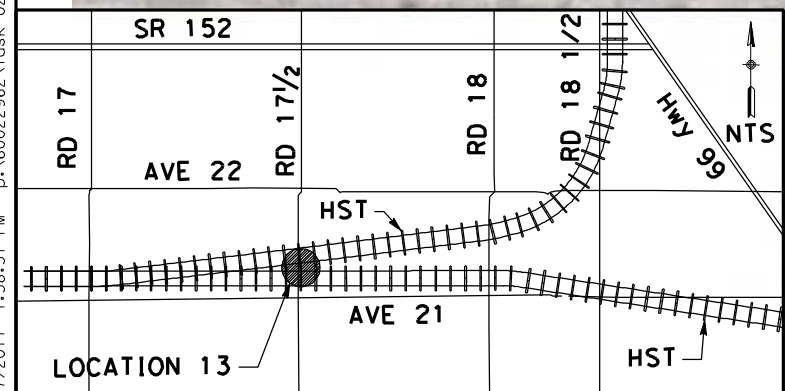
SCALE  
AS SHOWN

SHEET NO.  
### OF ###





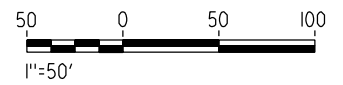
6/27/2011 1:58:57 PM p:\60022962\task\_02\_merced-fresno\cadd\civil\sheet\_package\_4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5004-B.dgn



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6004-B THROUGH CT6007-B

CURVE DATA

No.	R	Δ	T	L	V
①	3000.00	12° 00' 00"	315.31	628.32	45 MPH
②	3000.00	13° 16' 23"	349.05	694.97	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 17 1/2  
LAYOUT  
SHEET 1 OF 4

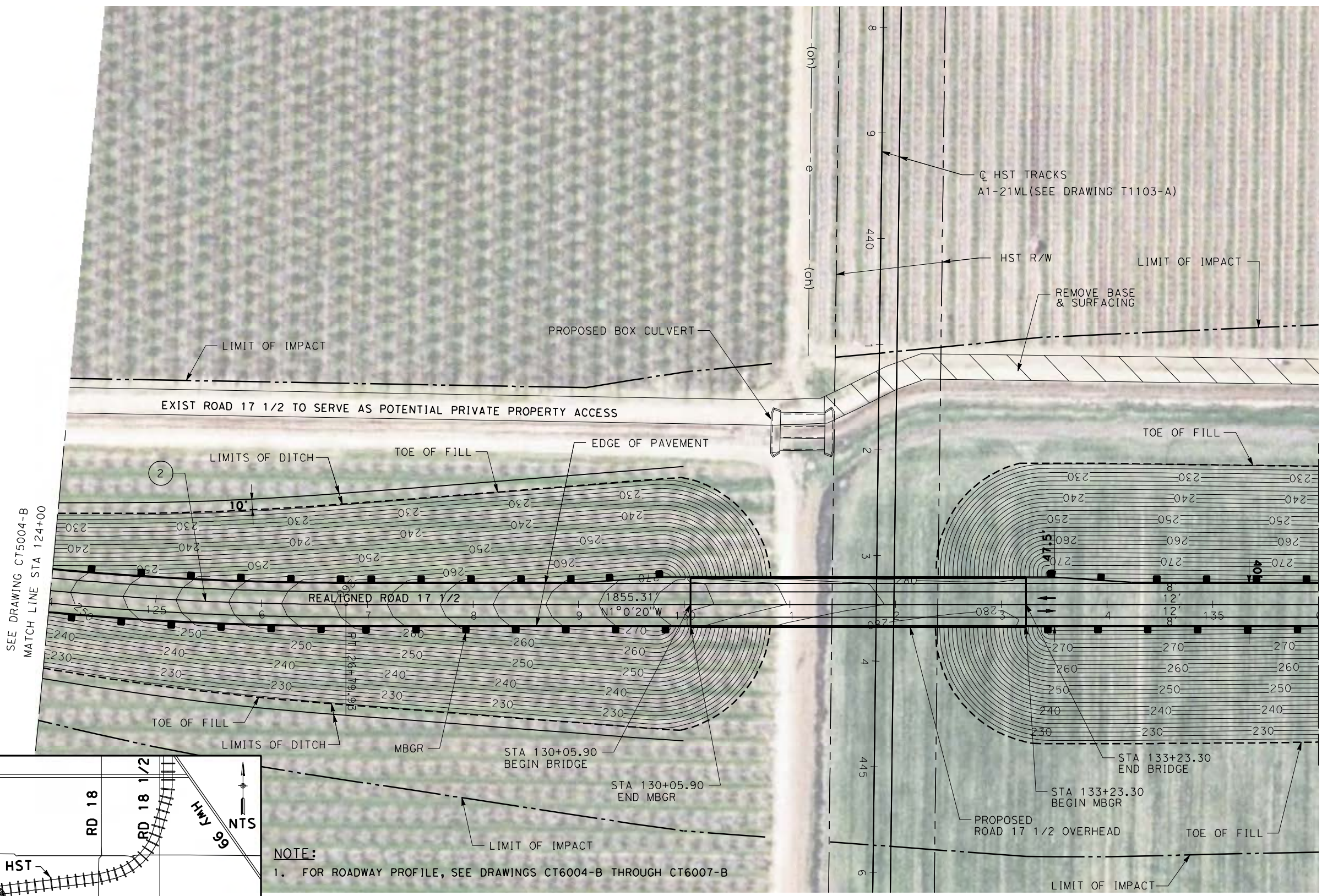
CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT5004-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

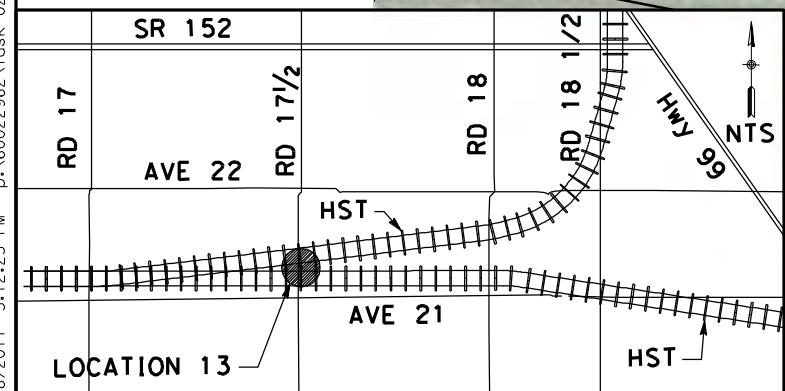




SEE DRAWING CT5004-B  
MATCH LINE STA 124+00

MATCH LINE STA 136+00  
SEE DRAWING CT5006-B

**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6004-B THROUGH CT6007-B



CURVE DATA					
No.	R	$\Delta$	T	L	V
(2)	3000.00	$13^{\circ}16'23''$	349.05	694.97	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



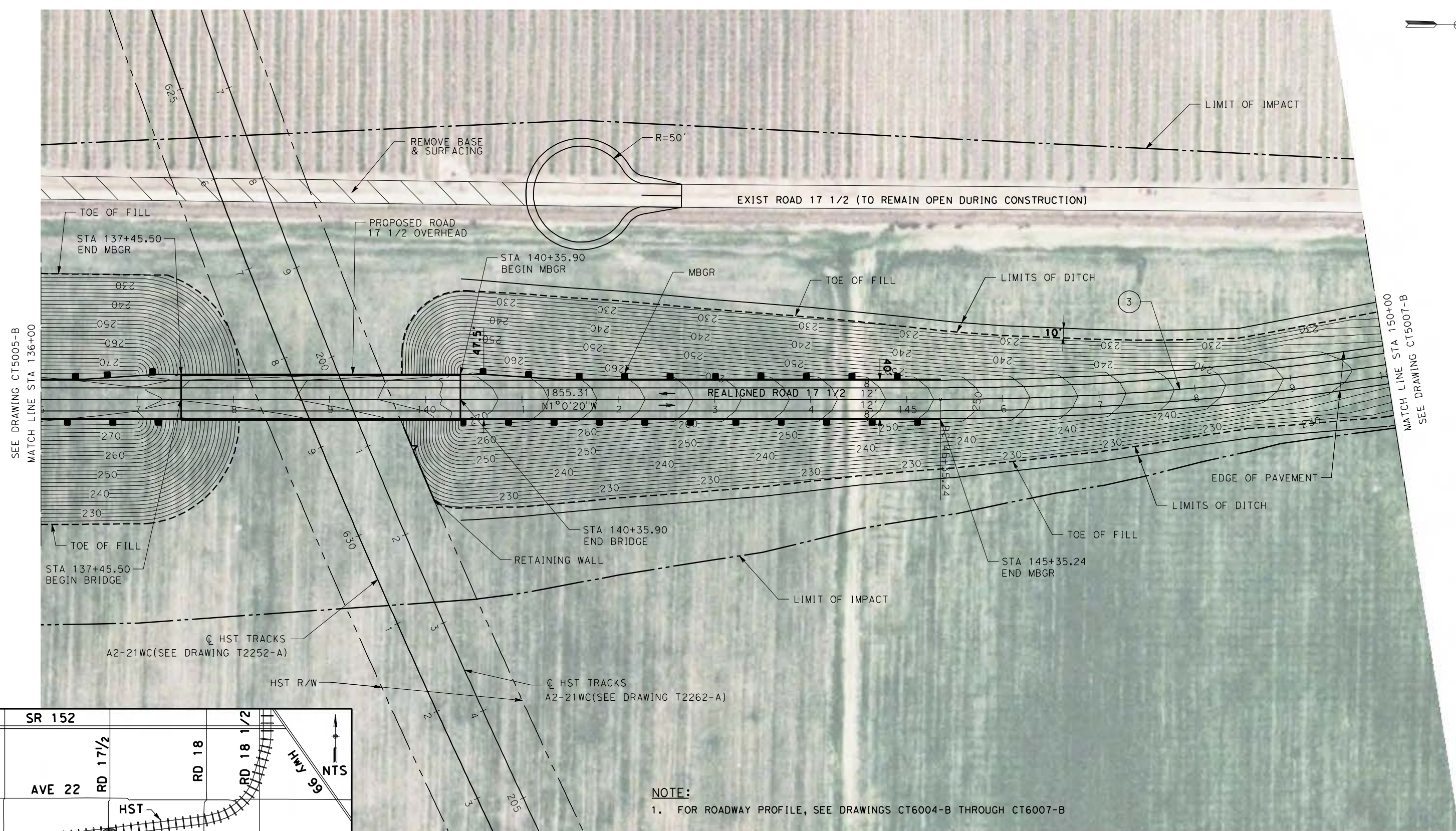
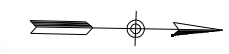
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 17 1/2  
 LAYOUT  
 SHEET 2 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT5005-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

6/28/2011 5:12:25 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5005-B.dgn



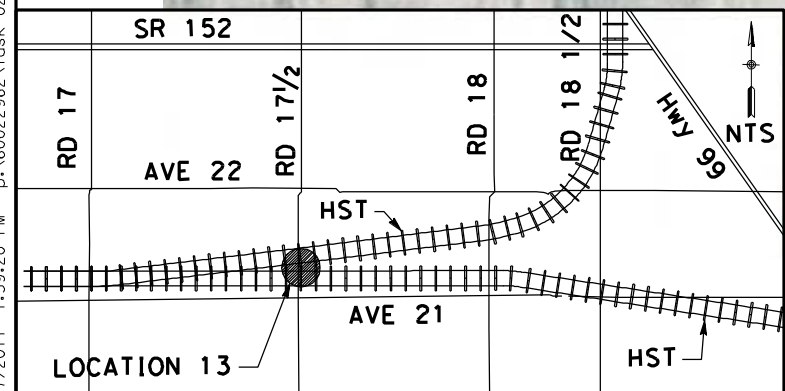
6/27/2011 1:59:20 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5006-B.dgn



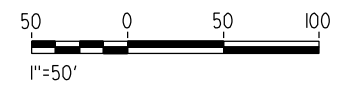
SEE DRAWING CT5005-B  
MATCH LINE STA 136+00

MATCH LINE STA 150+00  
SEE DRAWING CT5007-B

**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6004-B THROUGH CT6007-B



CURVE DATA					
No.	R	$\Delta$	T	L	V
(3)	3000.00	09° 59' 40"	262.32	523.30	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



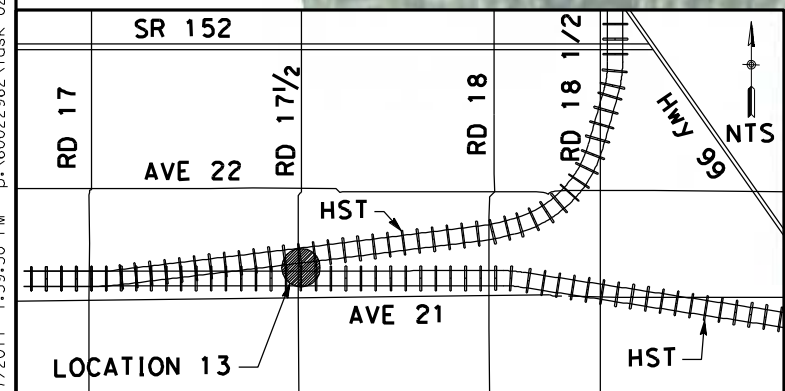
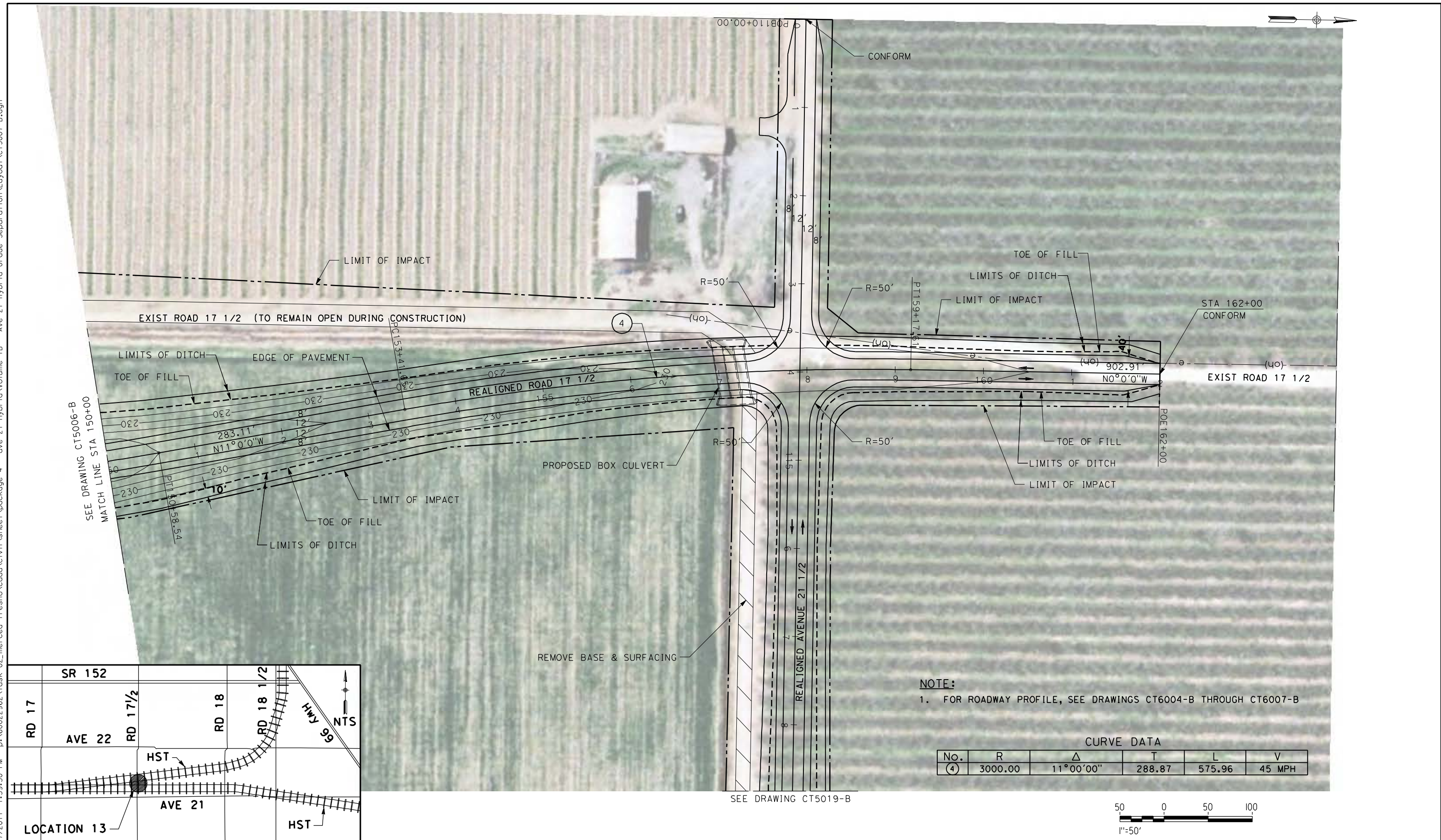
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 17 1/2  
LAYOUT  
SHEET 3 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5006-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

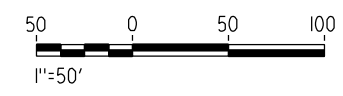


6/27/2011 1:59:30 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5007-B.dgn



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6004-B THROUGH CT6007-B

CURVE DATA					
No.	R	Δ	T	L	V
(4)	3000.00	11°00'00"	288.87	575.96	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



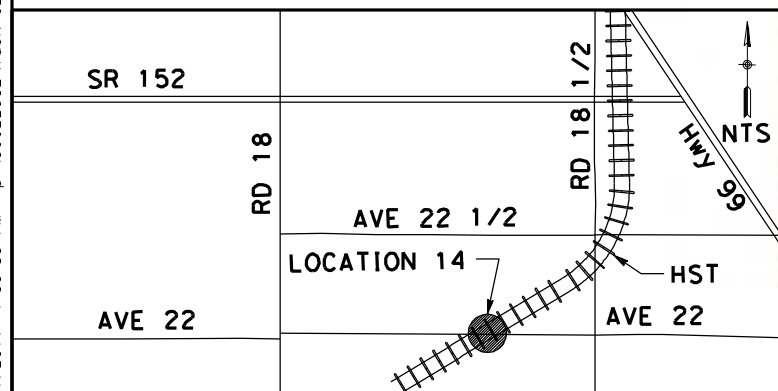
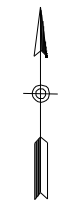
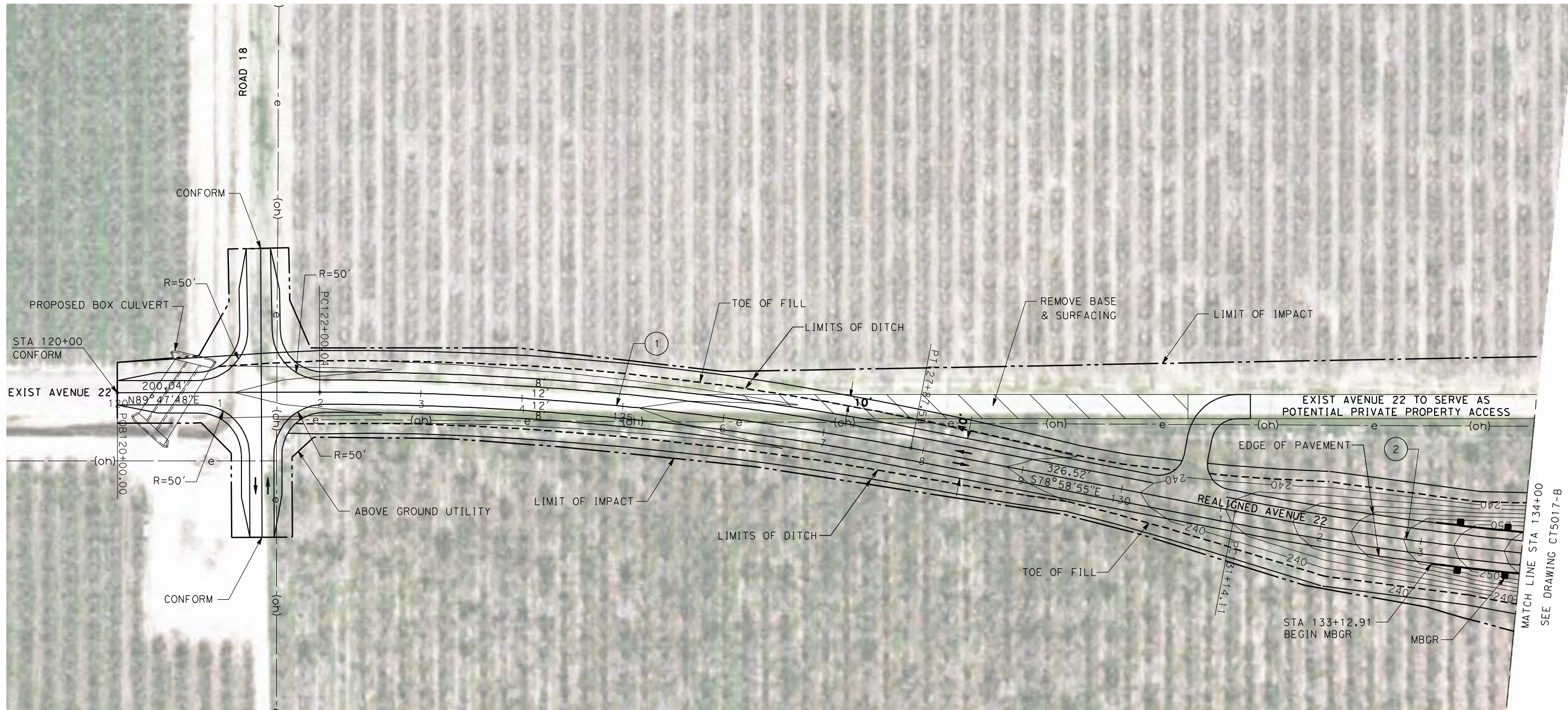
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 17 1/2  
LAYOUT  
SHEET 4 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5007-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



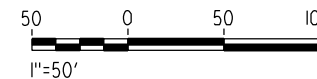
6/27/2011 1:59:39 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5016-B.dgn



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6016-B THROUGH CT6018-B

**CURVE DATA**

No.	R	$\Delta$	T	L	V
①	3000.00	11°13'17"	294.72	587.55	45 MPH
②	3000.00	11°01'05"	289.34	576.90	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET  
 15% DESIGN  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**



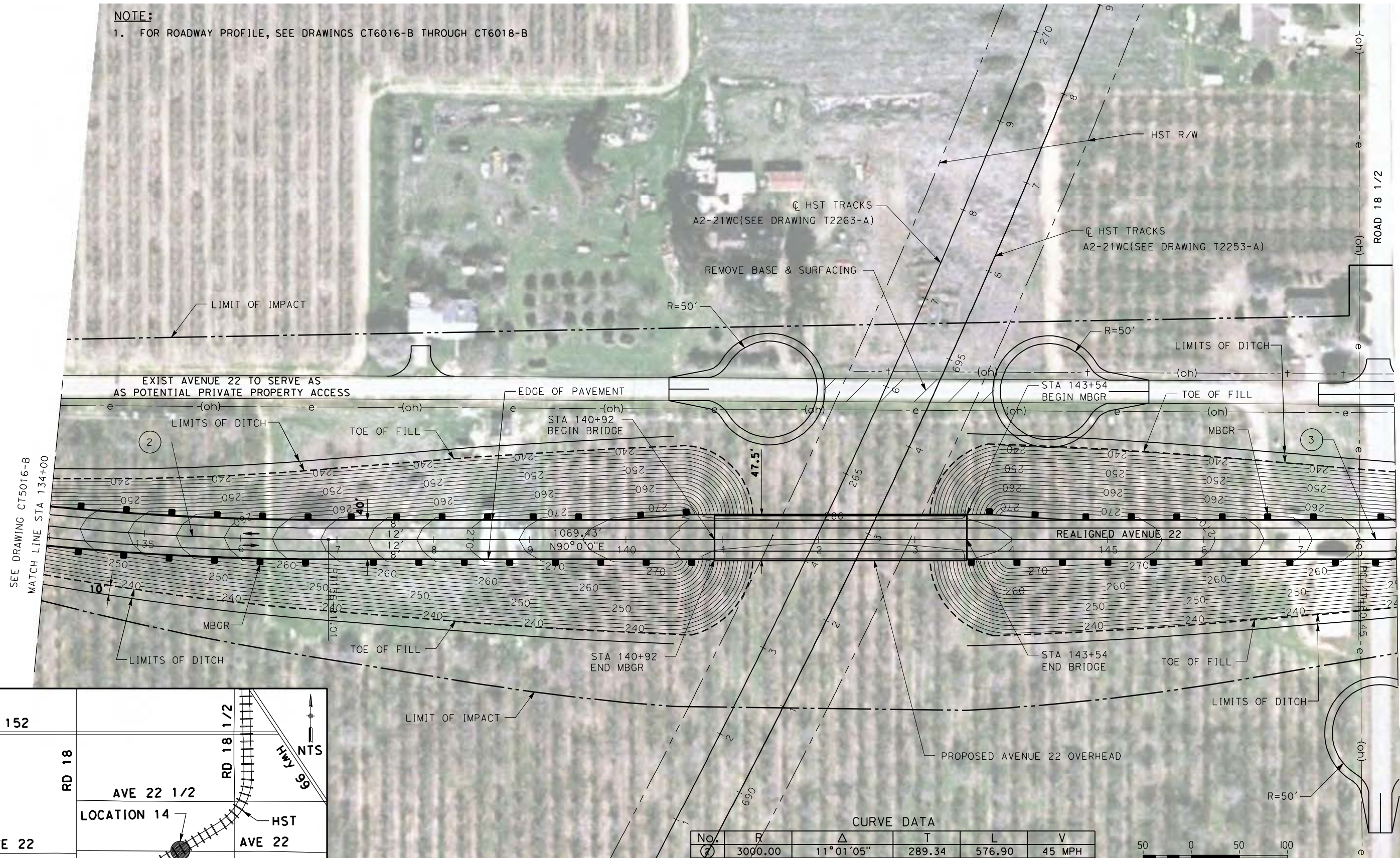
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**  
 UPRR/SR99 WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 22  
 LAYOUT  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT5016-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



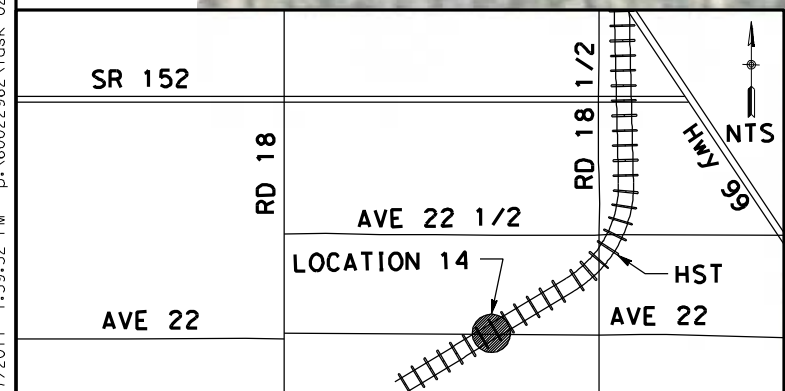
**NOTE:**

1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6016-B THROUGH CT6018-B



SEE DRAWING CT5016-B  
MATCH LINE STA 134+00

MATCH LINE STA 148+00  
SEE DRAWING CT5018-B



CURVE DATA					
No.	R	Δ	T	L	V
2	3000.00	11° 01' 05"	289.34	576.90	45 MPH
3	3000.00	10° 11' 18"	267.44	533.46	45 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 22  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5017-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

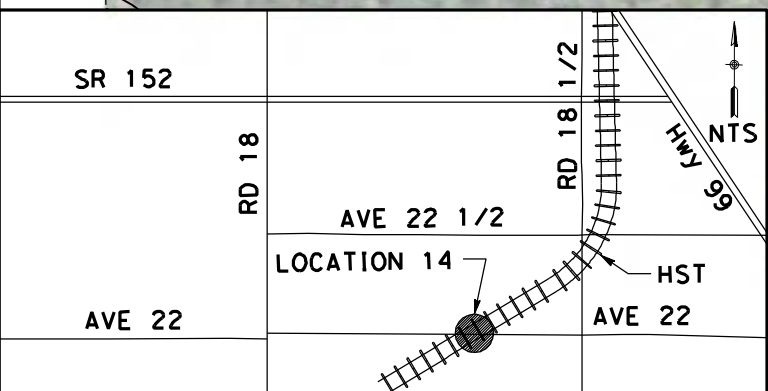
6/27/2011 1:59:52 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5017-B.dgn



6/27/2011 2:00:01 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5018-B.dgn



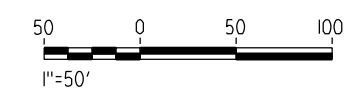
SEE DRAWING CT5017-B  
MATCH LINE STA 148+00



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6016-B THROUGH CT6018-B

**CURVE DATA**

No.	R	$\Delta$	T	L	V
③	3000.00	10° 11' 18"	267.44	533.46	45 MPH
④	3000.00	10° 11' 18"	267.44	533.46	45 MPH

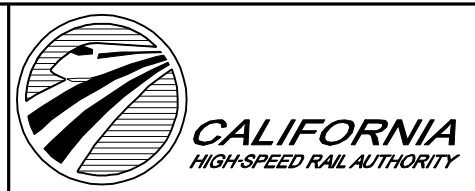


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 22  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007

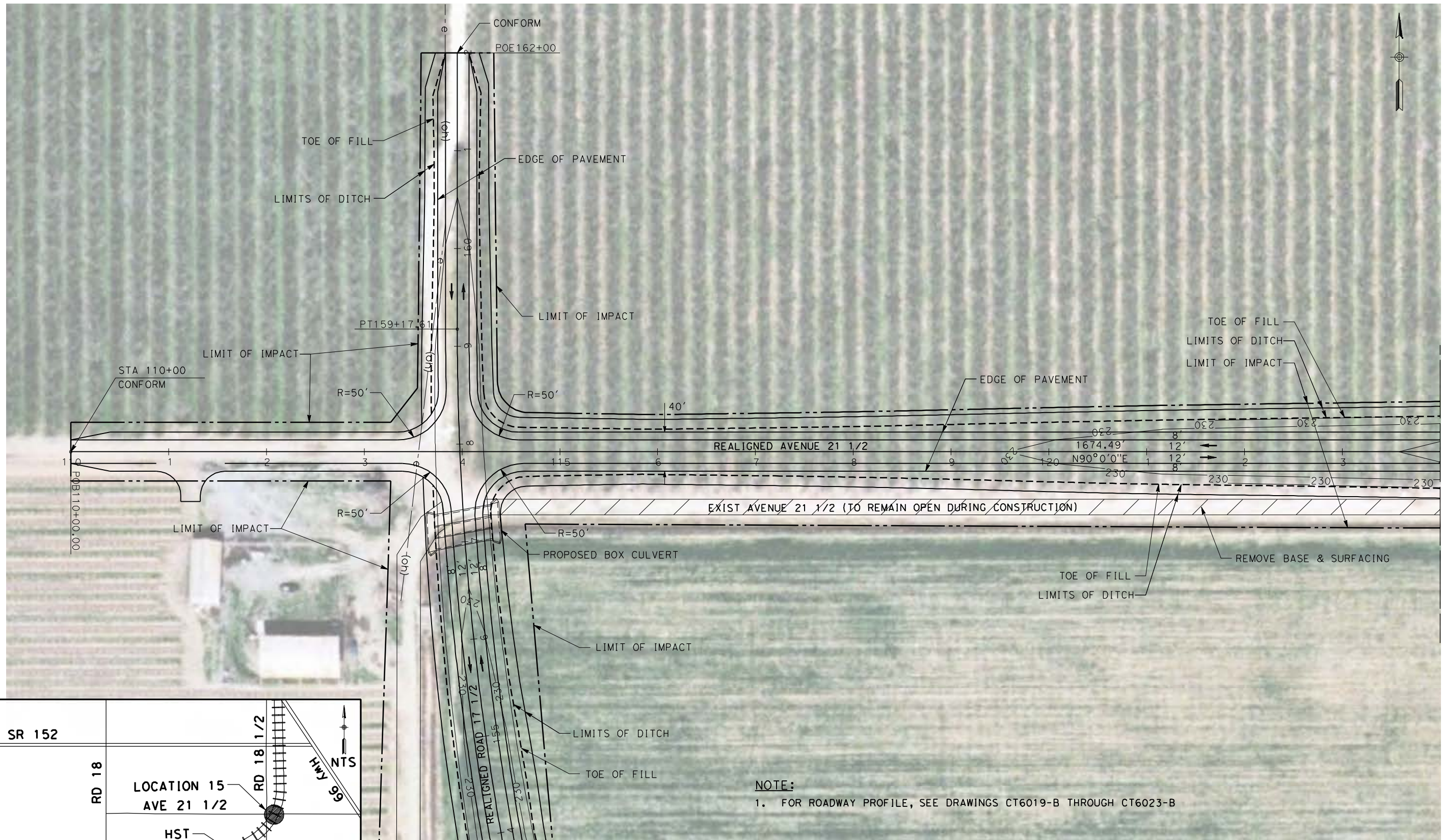
DRAWING NO.  
CT5018-B

SCALE  
AS SHOWN

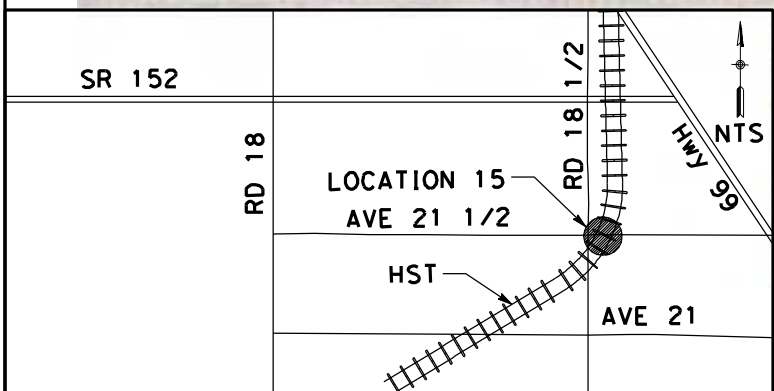
SHEET NO.  
### OF ###



6/27/2011 2:00:10 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5019-B.dgn



SEE DRAWING CT5020-B  
MATCH LINE STA 124+00



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

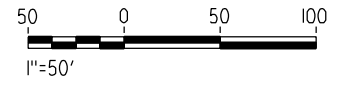
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

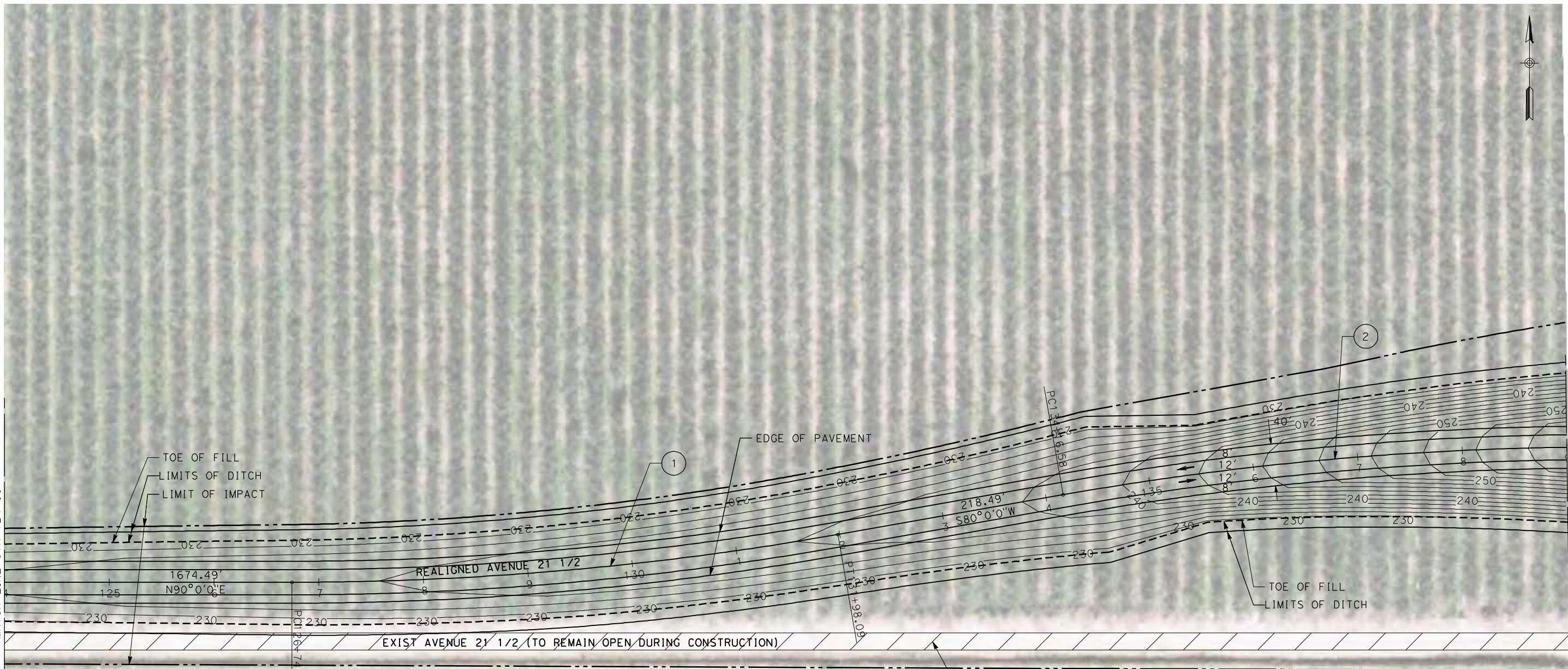
UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 21 1/2  
LAYOUT  
SHEET 1 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5019-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###





6/27/2011 2:00:19 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5020-B.dgn



SEE DRAWING CT5019-B  
MATCH LINE STA 124+00

SEE DRAWING CT5021-B  
MATCH LINE STA 139+00

1674.49'  
N90°0'0"E

REALIGNED AVENUE 21 1/2

EXIST AVENUE 21 1/2 (TO REMAIN OPEN DURING CONSTRUCTION)

EDGE OF PAVEMENT

TOE OF FILL  
LIMITS OF DITCH  
LIMIT OF IMPACT

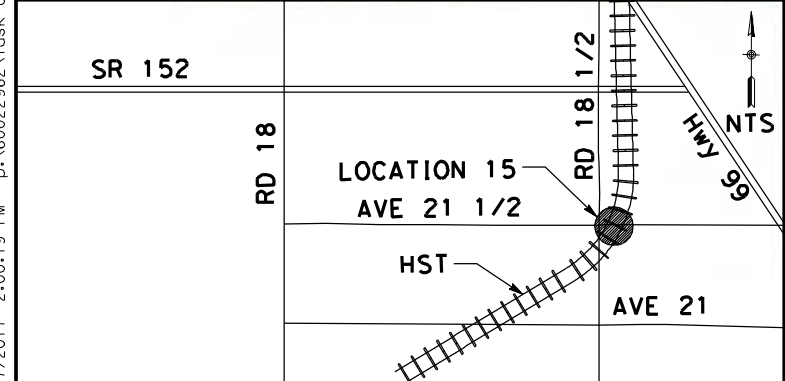
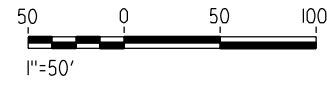
TOE OF FILL  
LIMITS OF DITCH

REMOVE BASE & SURFACING

CURVE DATA

No.	R	Δ	T	L	V
(1)	3000.00	80°0'0"	262.47	523.60	45 MPH
(2)	3000.00	80°0'0"	262.47	523.60	45 MPH

NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6019-B THROUGH CT6023-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 21 1/2  
LAYOUT  
SHEET 2 OF 4

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT5020-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

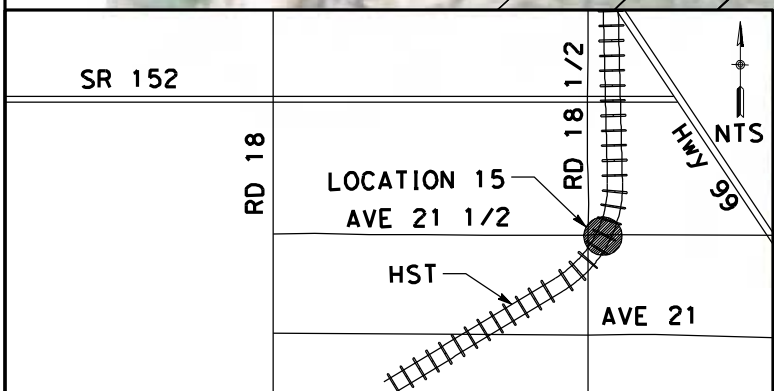


6/27/2011 2:00:32 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5021-B.dgn



SEE DRAWING CT5020-B  
MATCH LINE STA 139+00

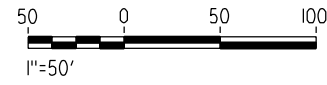
SEE DRAWING CT5022-B  
MATCH LINE STA 154+00



**CURVE DATA**

No.	R	Δ	T	L	V
(3)	3000.00	78°51'18"	292.70	583.54	45 MPH

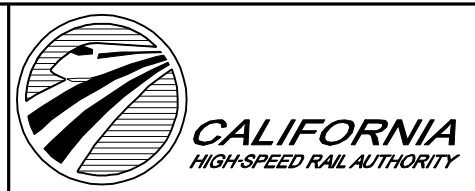
**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6019-B THROUGH CT6023-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
15% DESIGN  
SUBMITTAL  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 21 1/2  
LAYOUT  
SHEET 3 OF 4

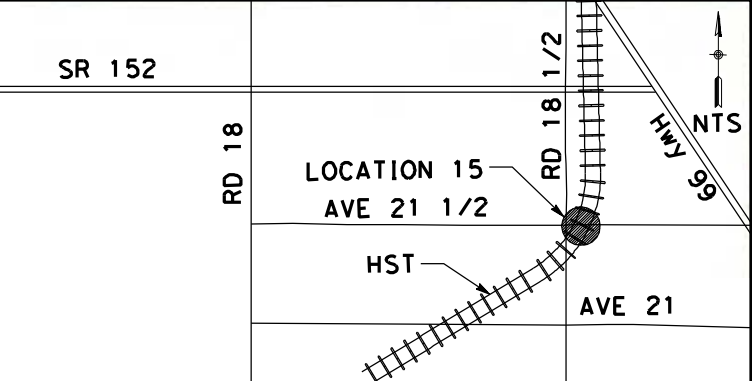
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5021-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 2:00:45 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5022-B.dgn



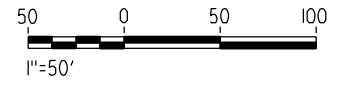
SEE DRAWING CT5021-B  
MATCH LINE STA 154+00



CURVE DATA

No.	R	$\Delta$	T	L	V
(3)	3000.00	78°51'18"	292.70	583.54	45 MPH
(4)	3000.00	79°0'0"	288.87	575.96	45 MPH

**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6019-B THROUGH CT6023-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



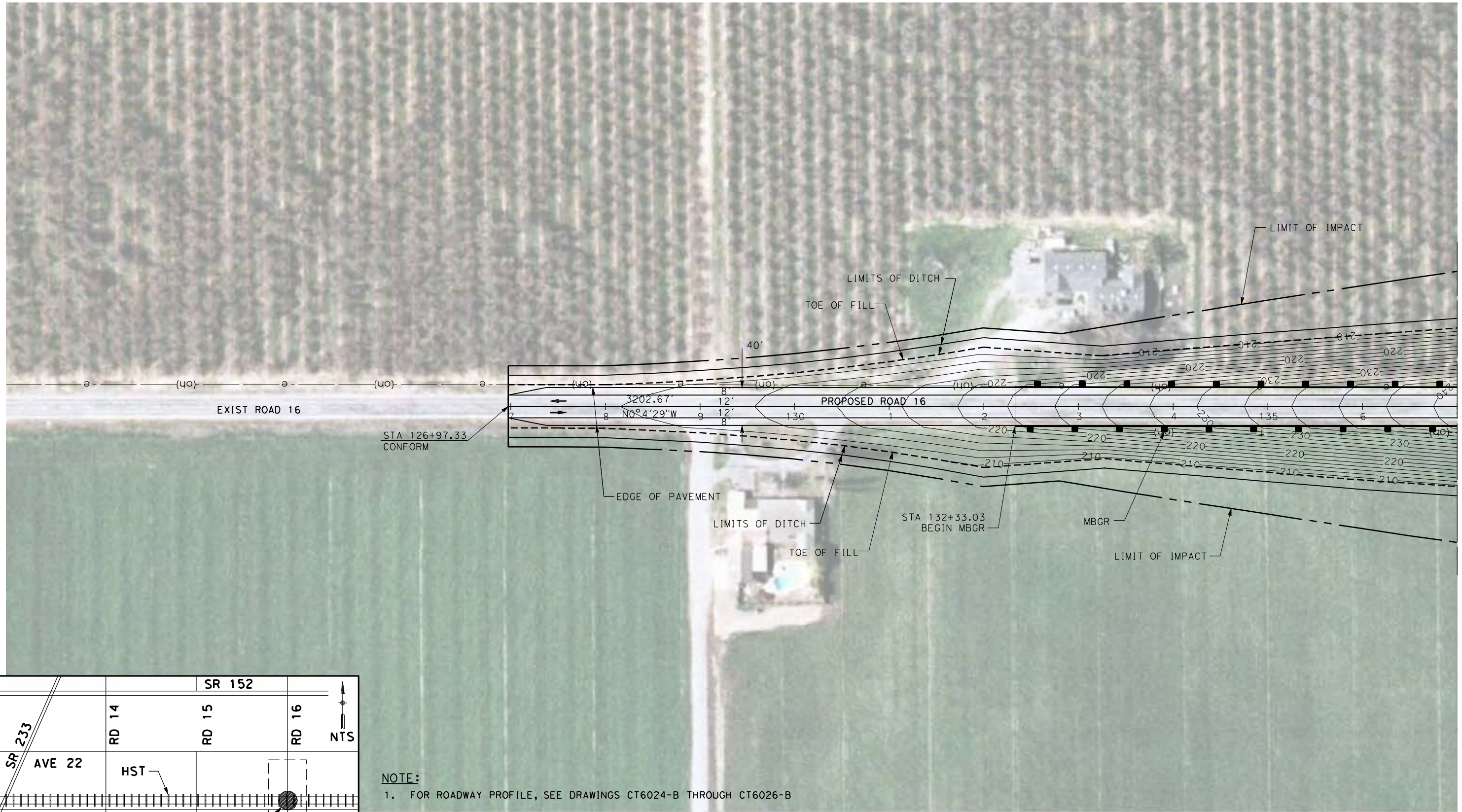
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 21 1/2  
LAYOUT  
SHEET 4 OF 4

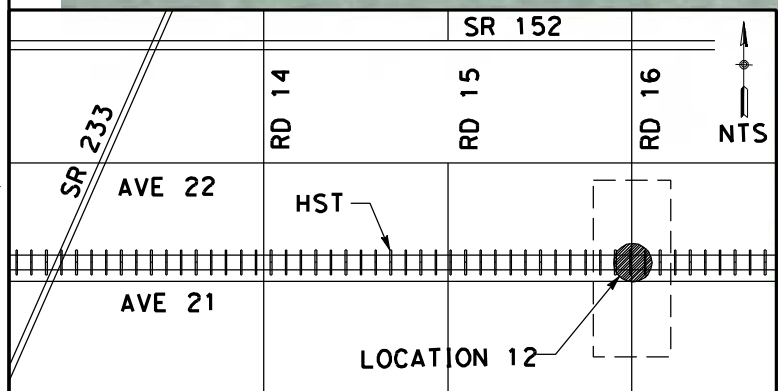
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5022-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 2:00:54 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5023-B.dgn



MATCH LINE STA 137+00  
SEE DRAWING CT5024-B



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6024-B THROUGH CT6026-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
C. DELOS REYES  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT5023-B

SCALE  
AS SHOWN

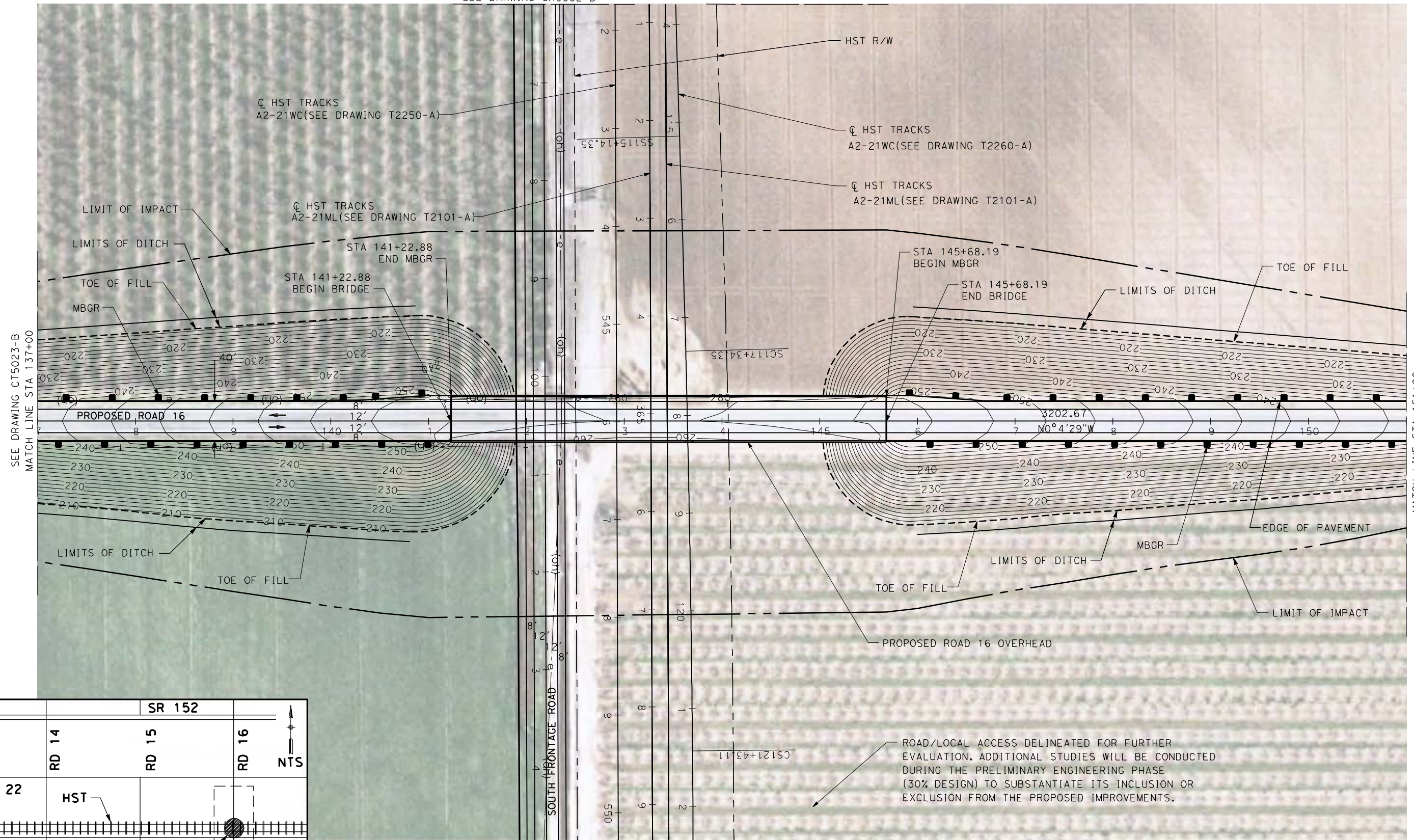
SHEET NO.  
### OF ###



6/28/2011 5:12:48 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5024-B.dgn



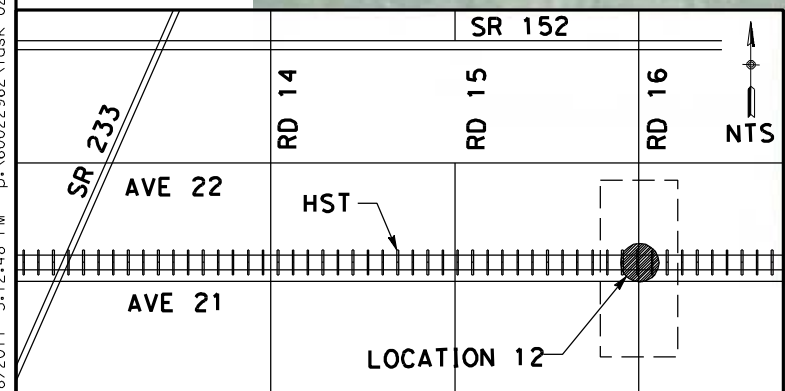
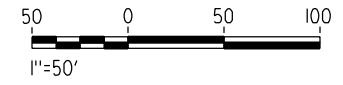
SEE DRAWING CR9032-B



SEE DRAWING CT5023-B  
MATCH LINE STA 137+00

MATCH LINE STA 151+00  
SEE DRAWING CT5025-B

**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6024-B THROUGH CT6026-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
C. DELOS REYES  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

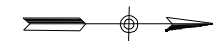
**RECORD SET**  
15% DESIGN  
SUBMITTAL  
  
**NOT FOR  
CONSTRUCTION**



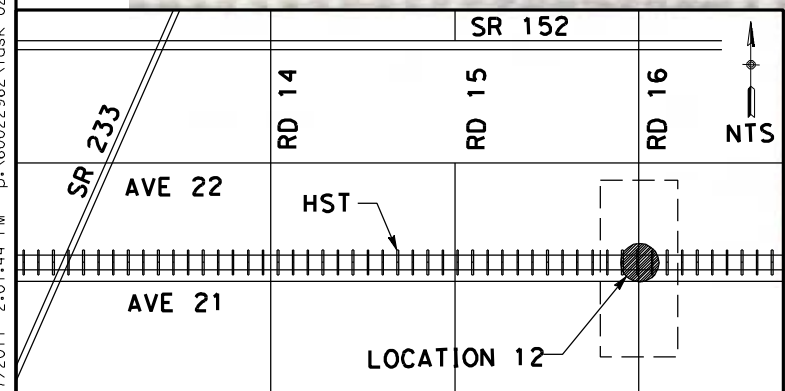
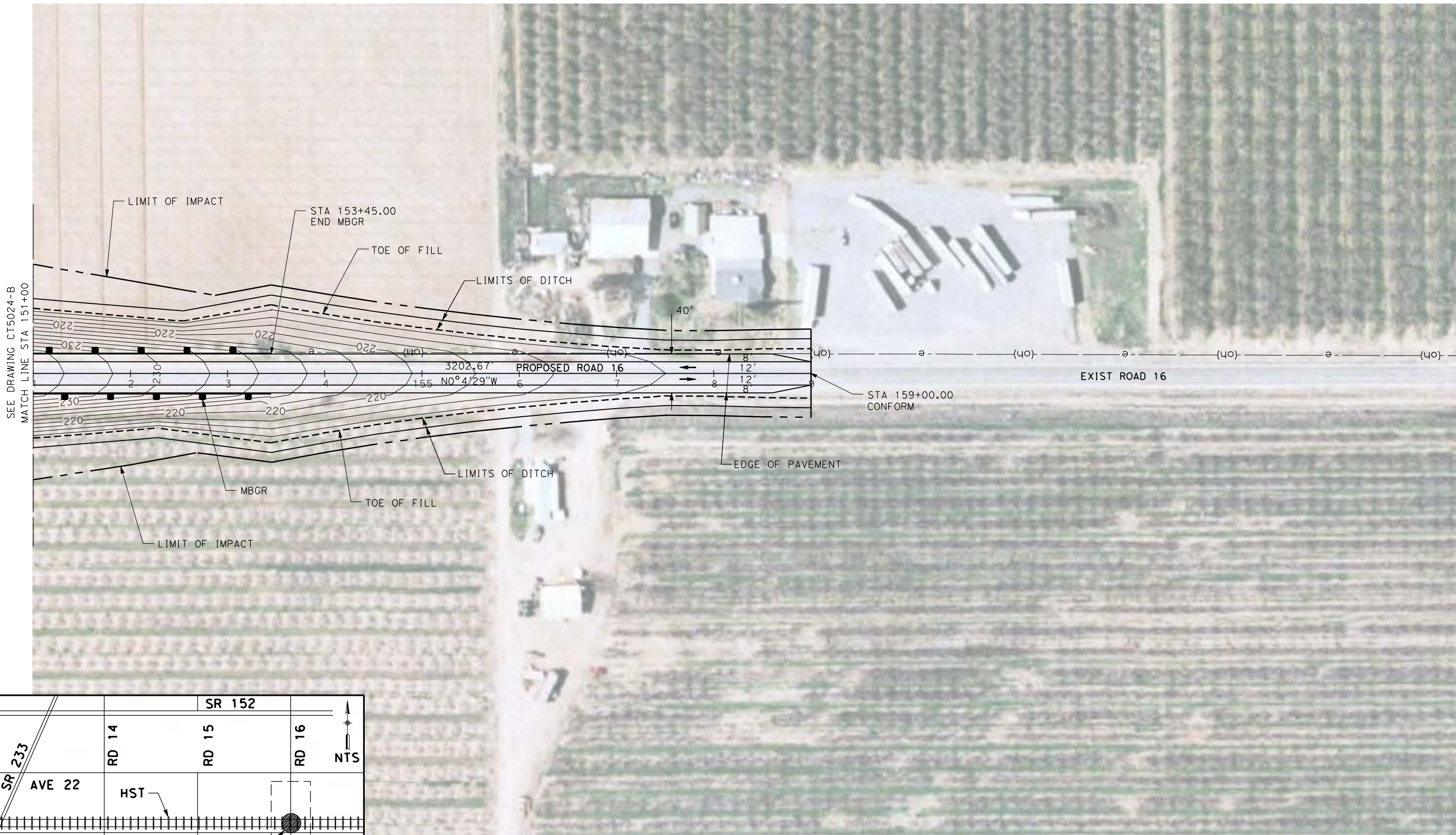
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
LAYOUT  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5024-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###





6/27/2011 2:01:44 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Layout\CT5025-B.dgn



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT6024-B THROUGH CT6026-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
C. DELOS REYES  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007

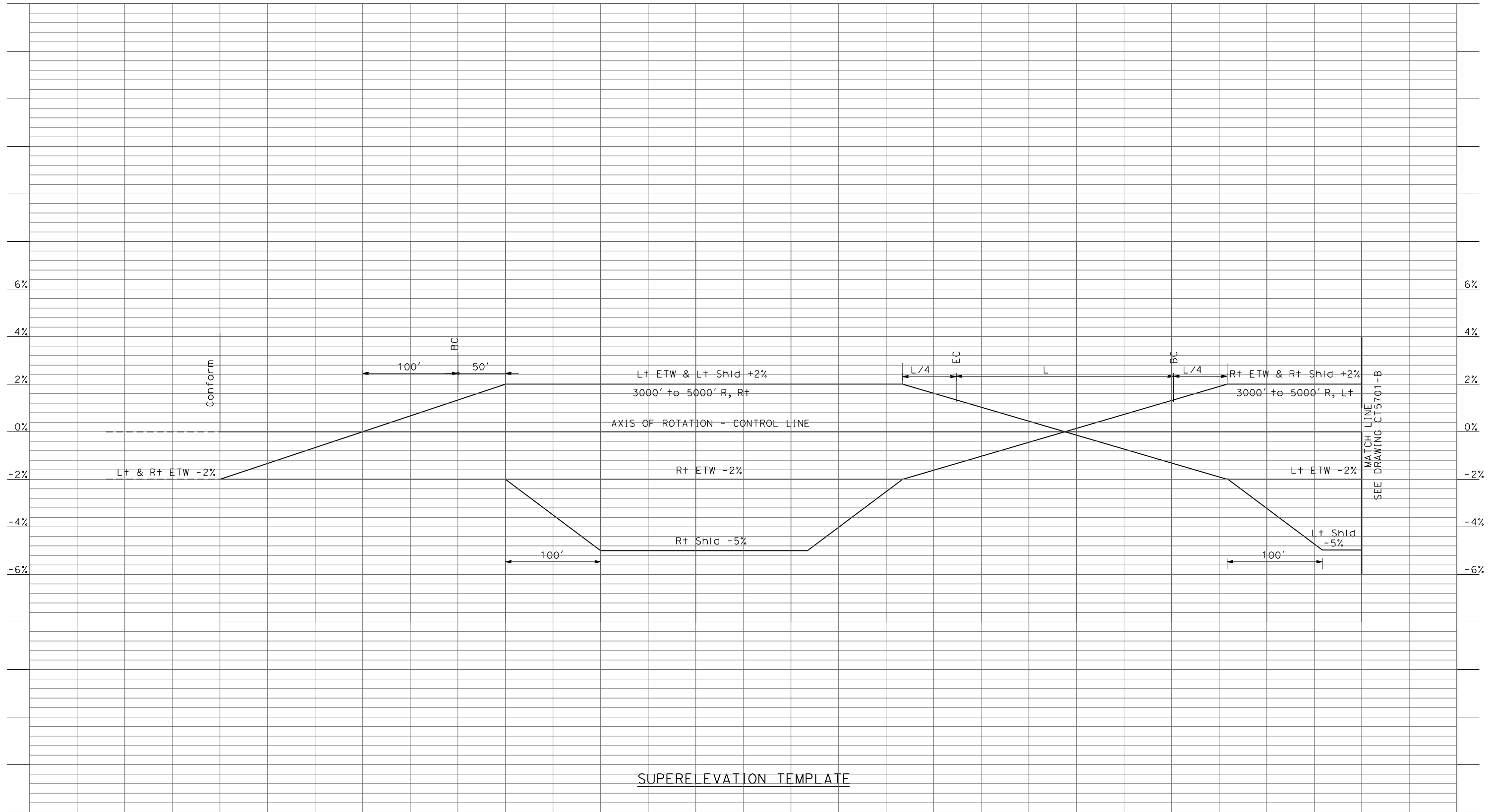
DRAWING NO.  
CT5025-B

SCALE  
AS SHOWN

SHEET NO.  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

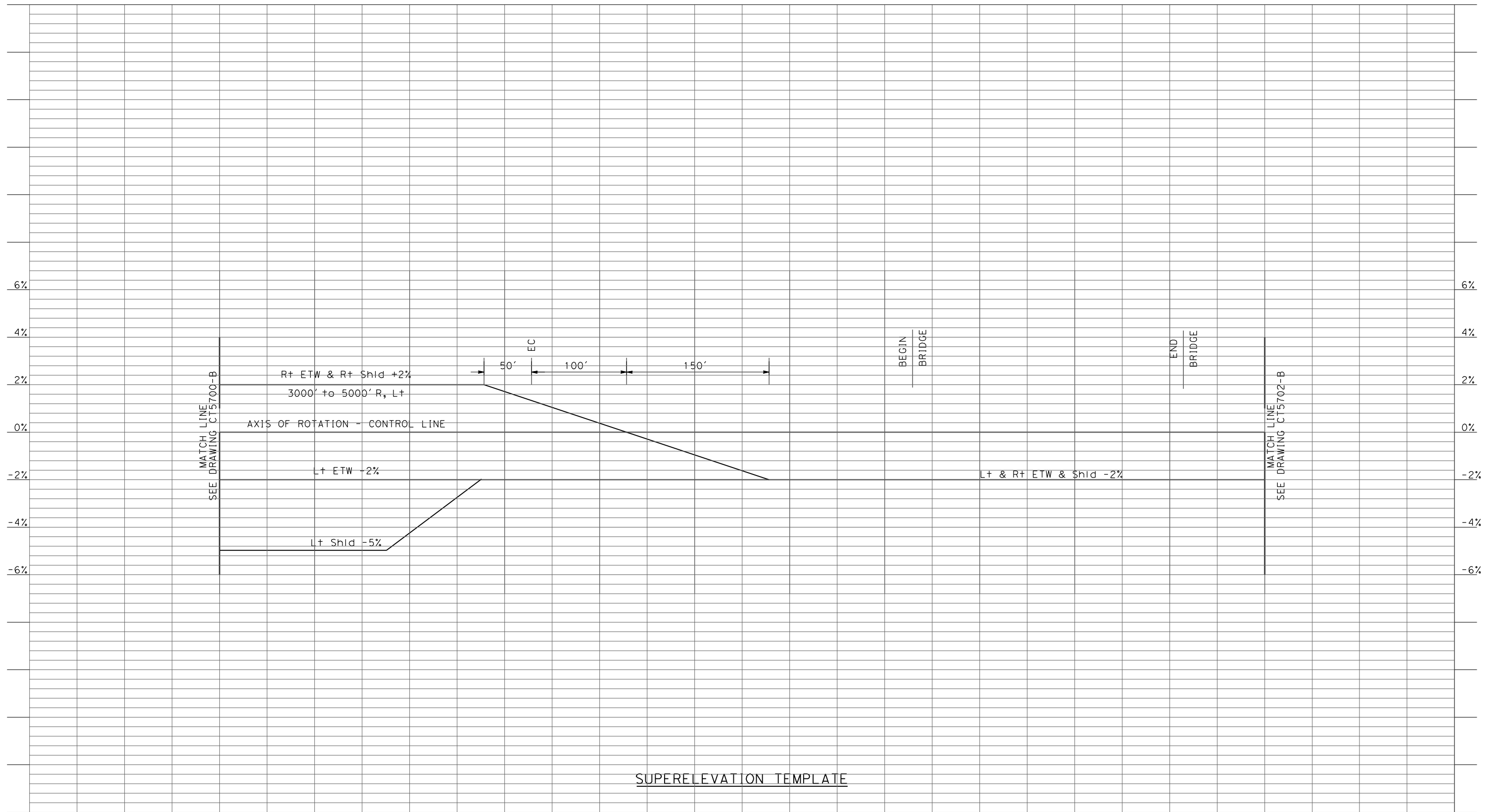


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
UPRR/SR99 - (AVE 21 HYBRID)  
GRADE SEPARATION  
SUPERELEVATION TEMPLATE  
SHEET 1 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5700-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 2:01:55 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT5701-B.dgn



SUPERELEVATION TEMPLATE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

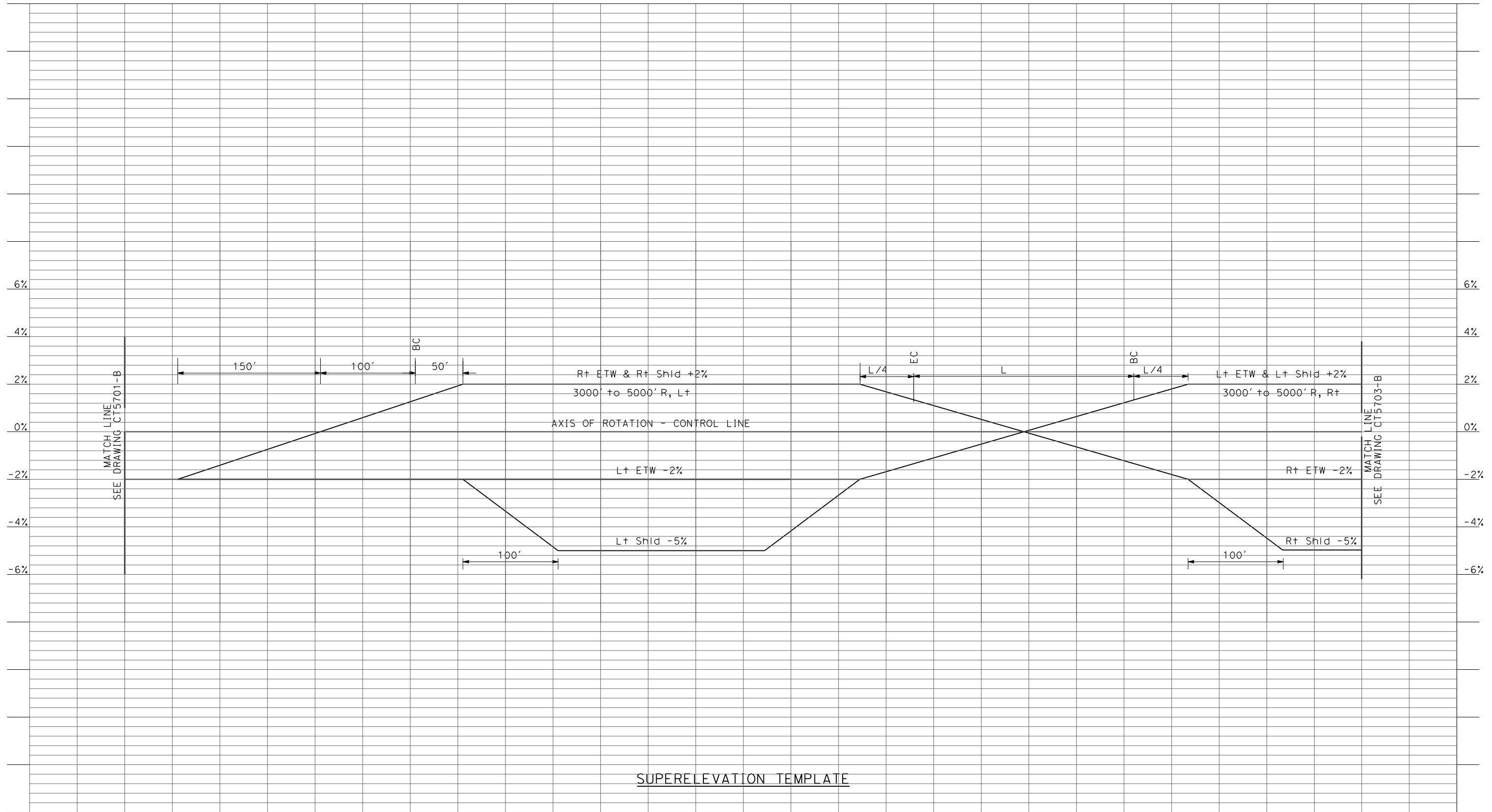


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
UPRR/SR99 - (AVE 21 HYBRID)  
GRADE SEPARATION  
SUPERELEVATION TEMPLATE  
SHEET 2 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5701-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 2:01:59 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT5702-B.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

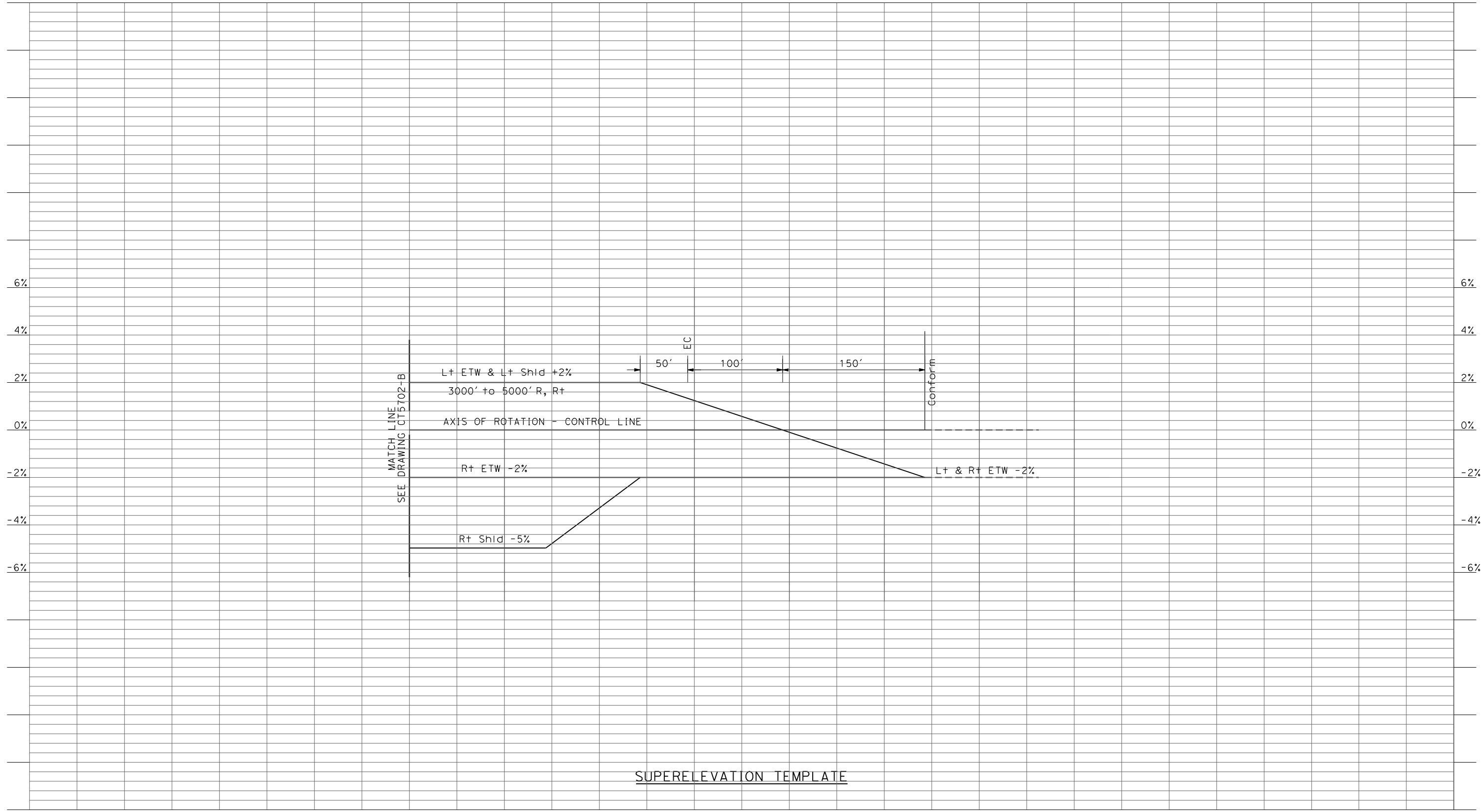


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
UPRR/SR99 - (AVE 21 HYBRID)  
GRADE SEPARATION  
SUPERELEVATION TEMPLATE  
SHEET 3 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT5702-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 2:02:03 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT5703-B.dgn  
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SUPERELEVATION TEMPLATE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

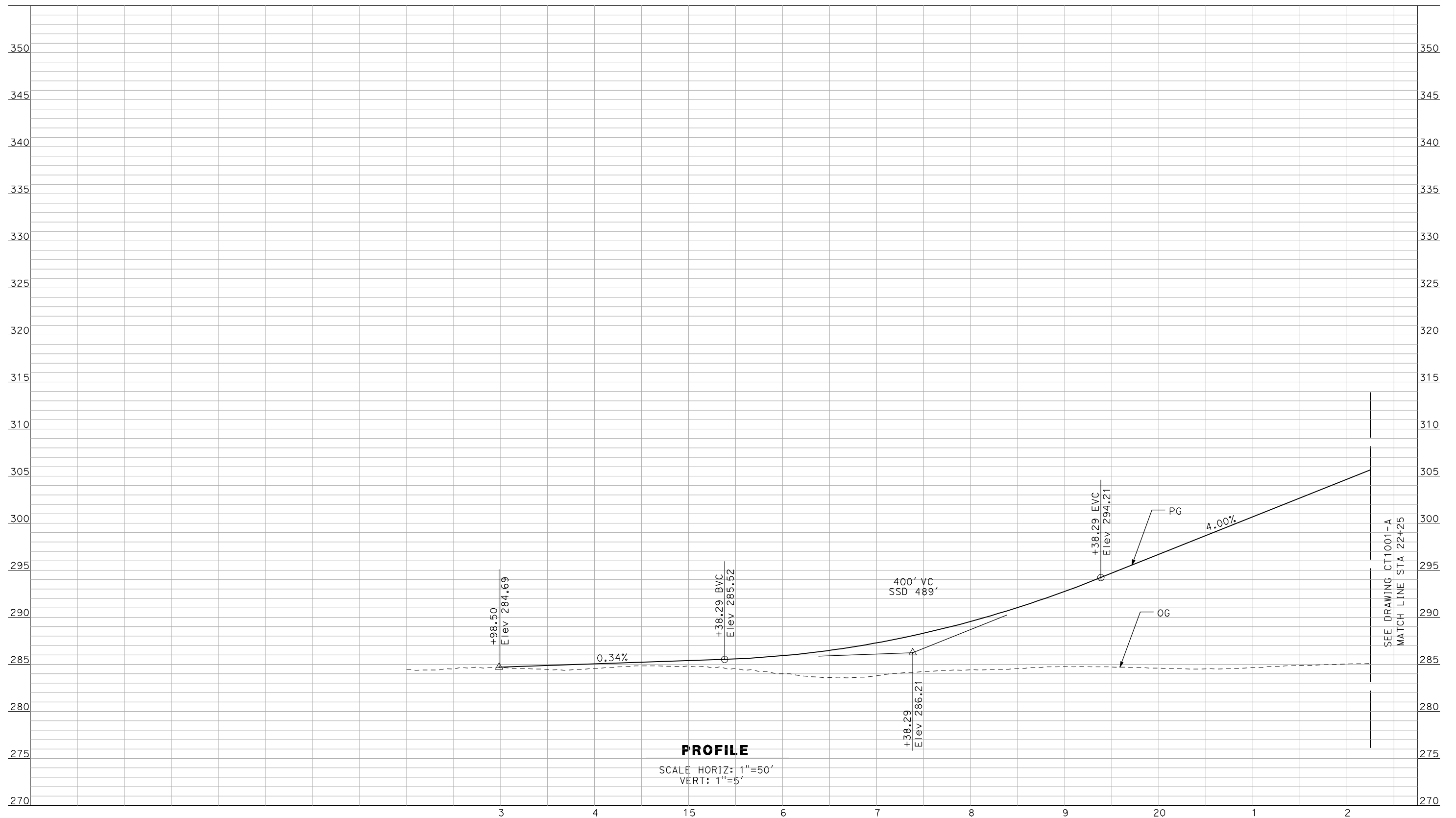


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 - (AVE 21 HYBRID)  
 GRADE SEPARATION  
 SUPERELEVATION TEMPLATE  
 SHEET 4 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT5703-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/28/2011 4:32:25 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1000-A.dgn



SEE DRAWING CT1001-A  
 MATCH LINE STA 22+25

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

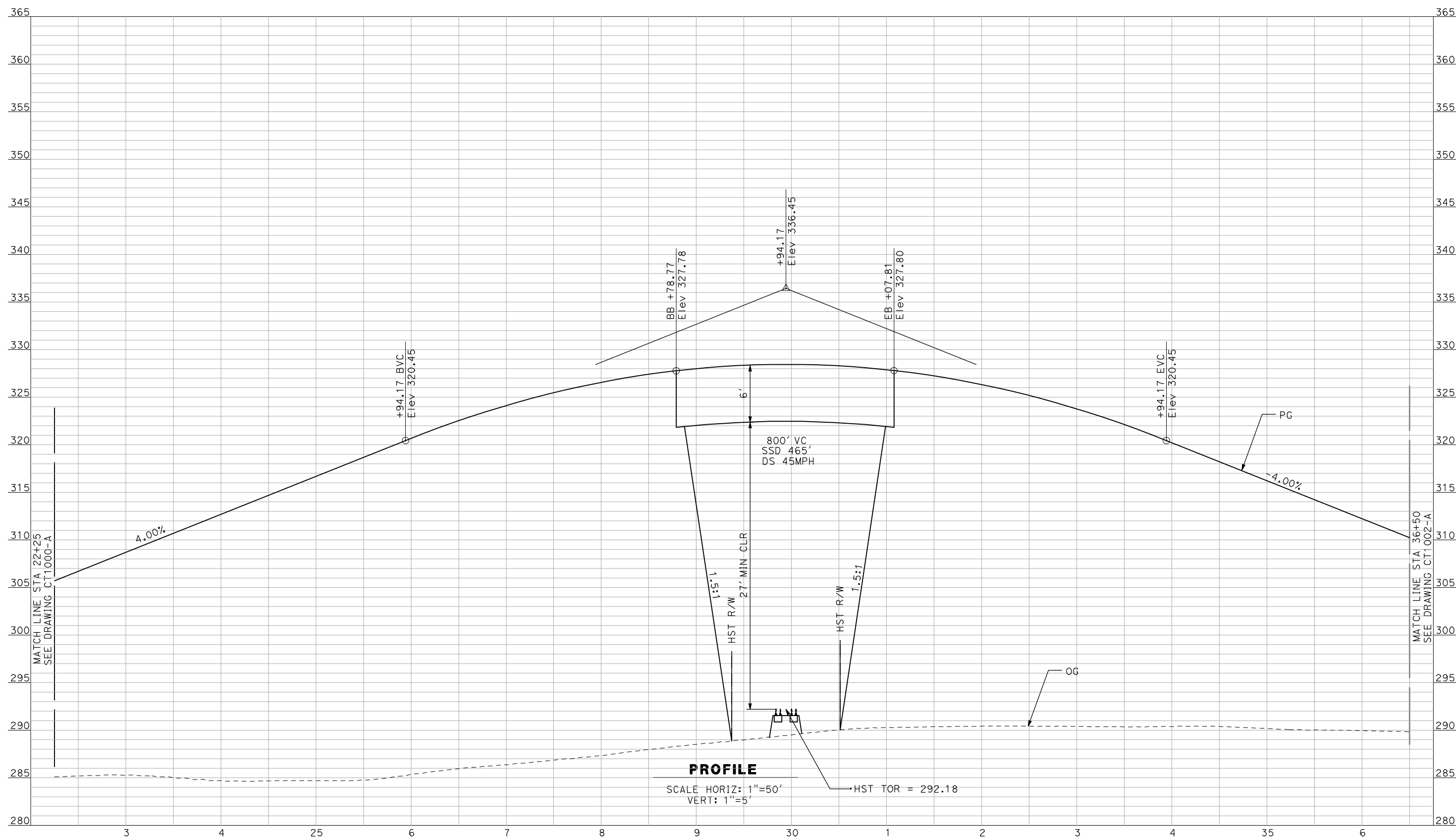


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 9  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1000-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

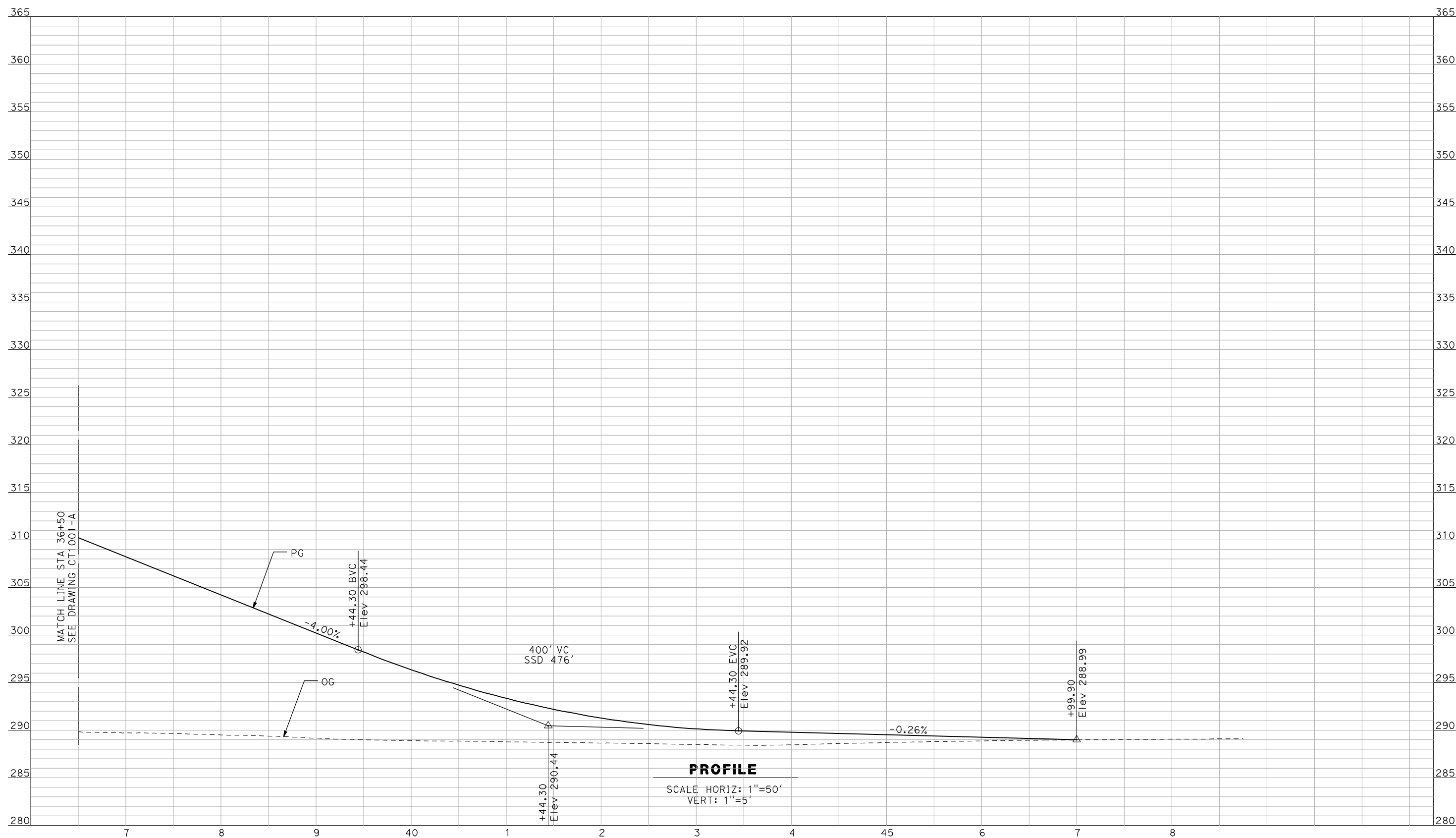


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 9  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1001-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

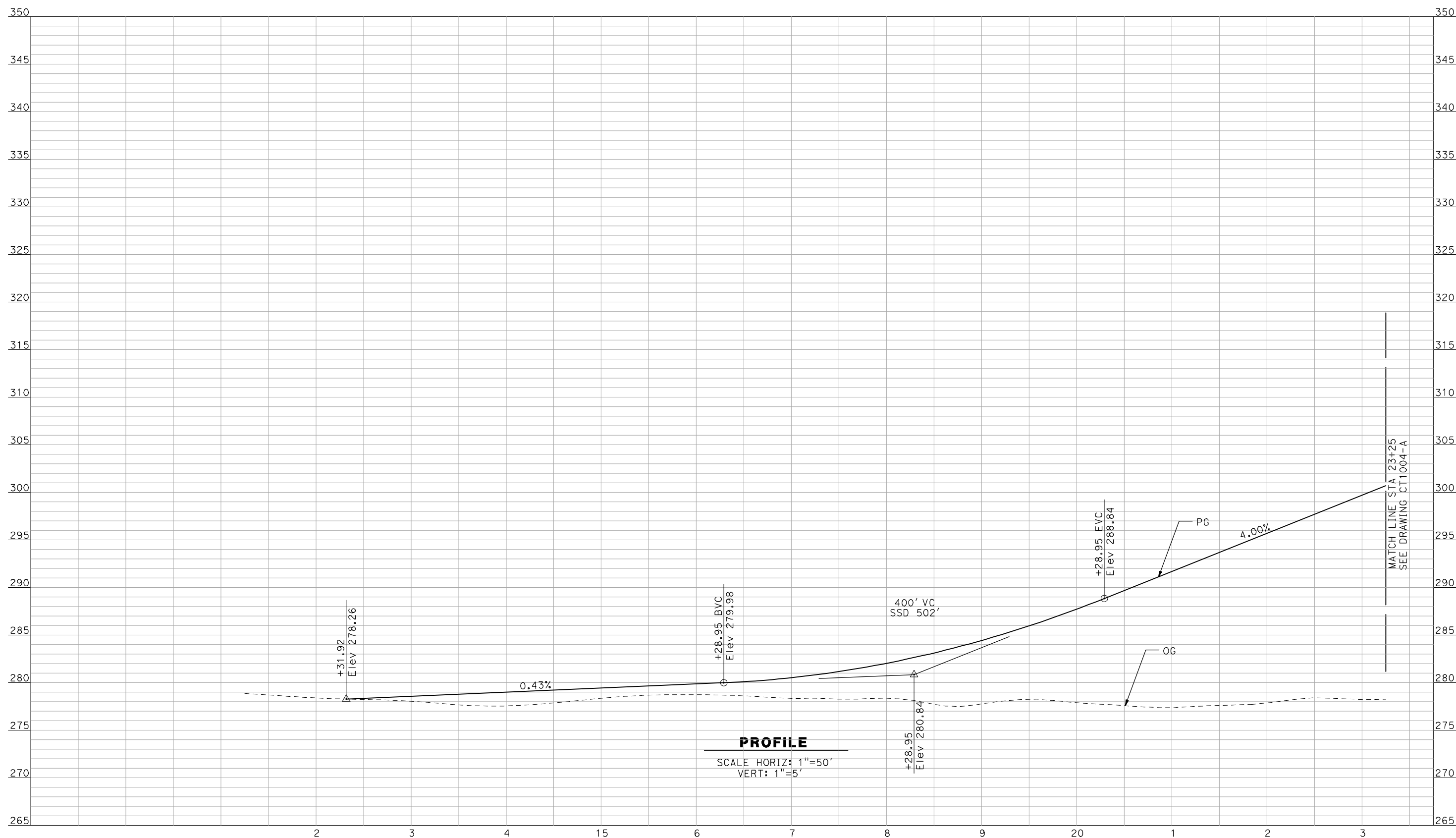


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 9  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1002-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:32:36 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1003-A.dgn



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

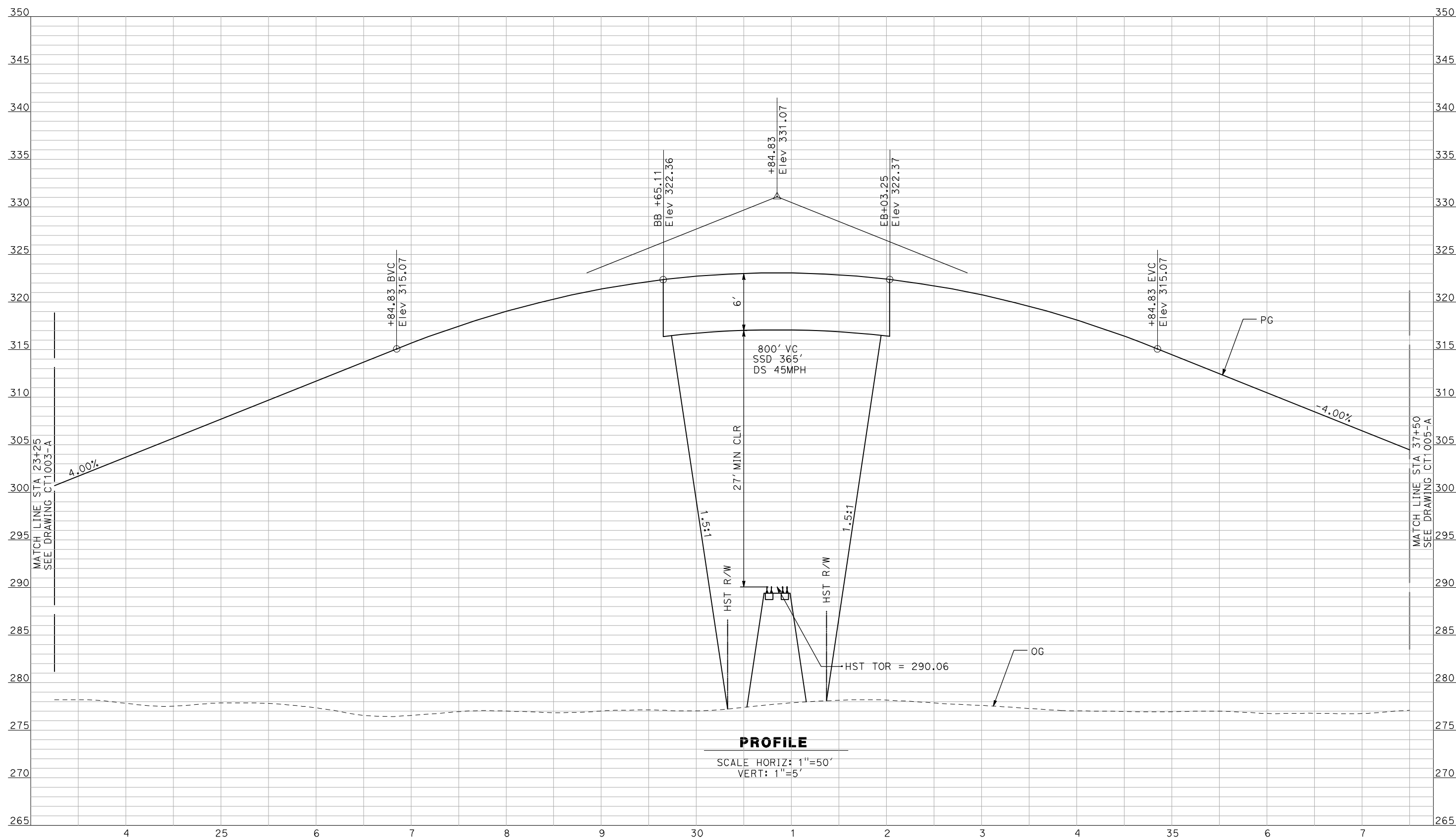


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 10  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1003-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/28/2011 4:32:40 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1004-A.dgn



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FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
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**NOT FOR**  
**CONSTRUCTION**

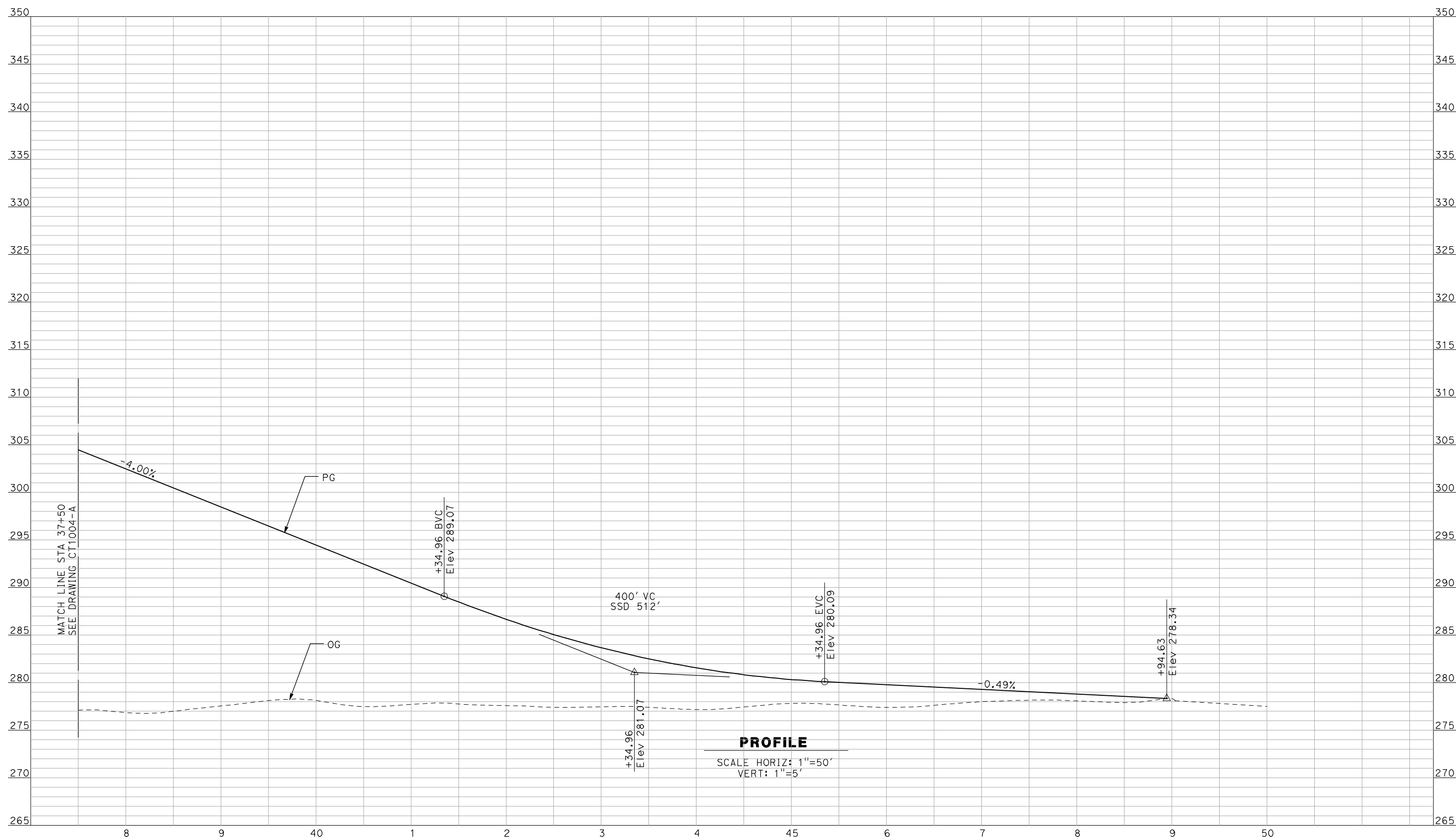


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 10  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1004-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/28/2011 4:32:44 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1005-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

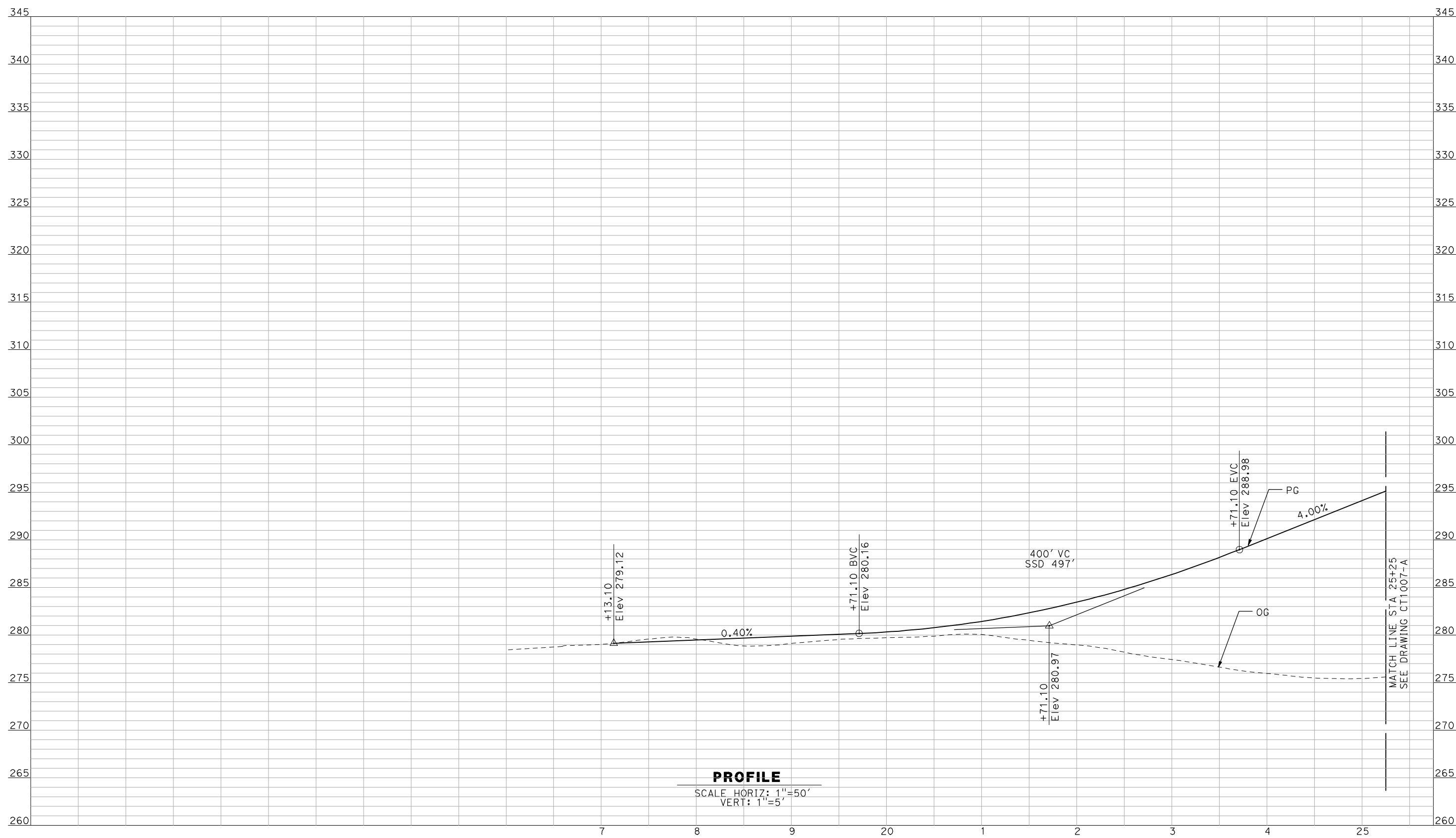


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 10  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1005-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:32:47 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1006-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

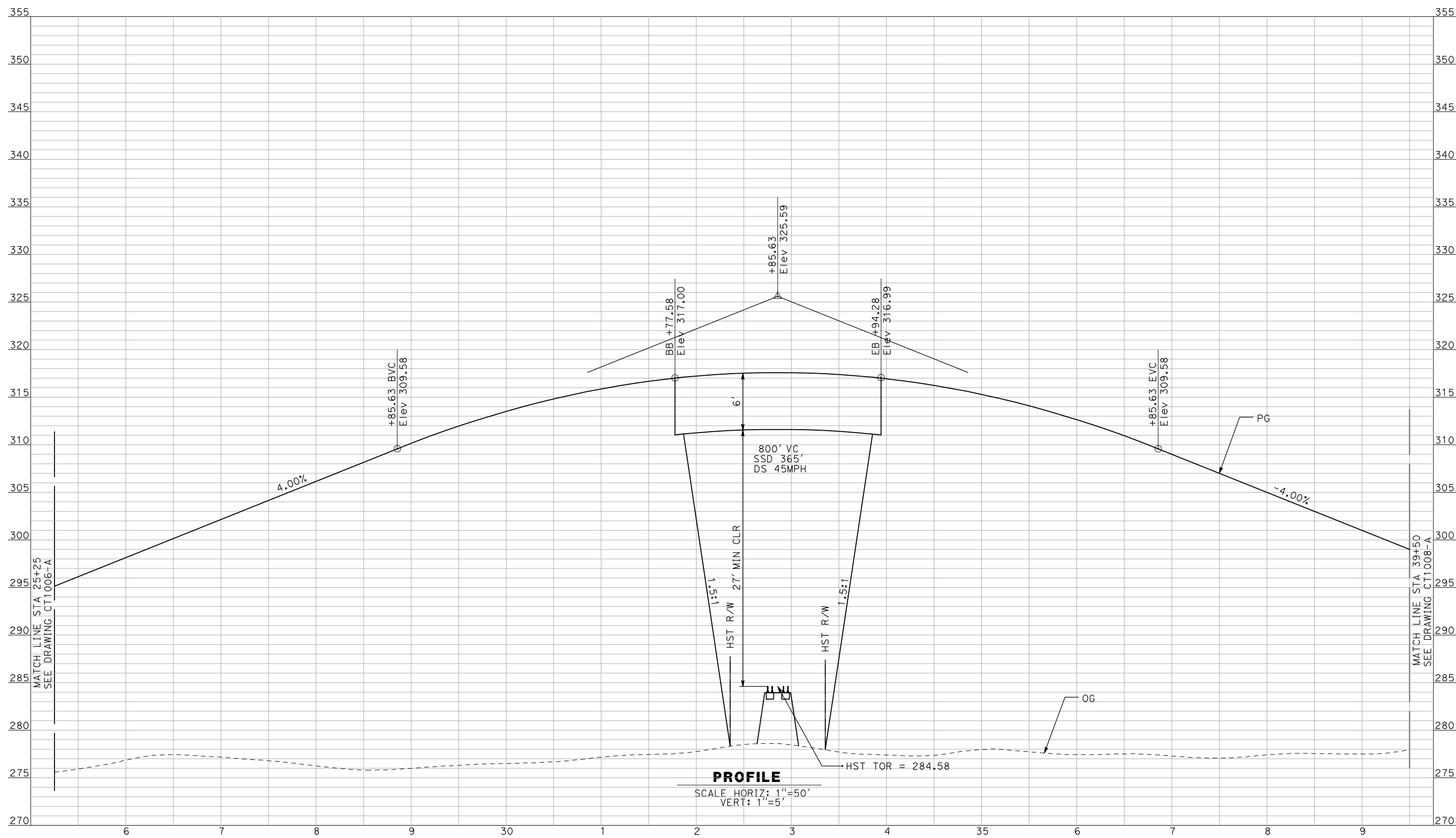


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 11  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1006-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:32:51 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1007-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
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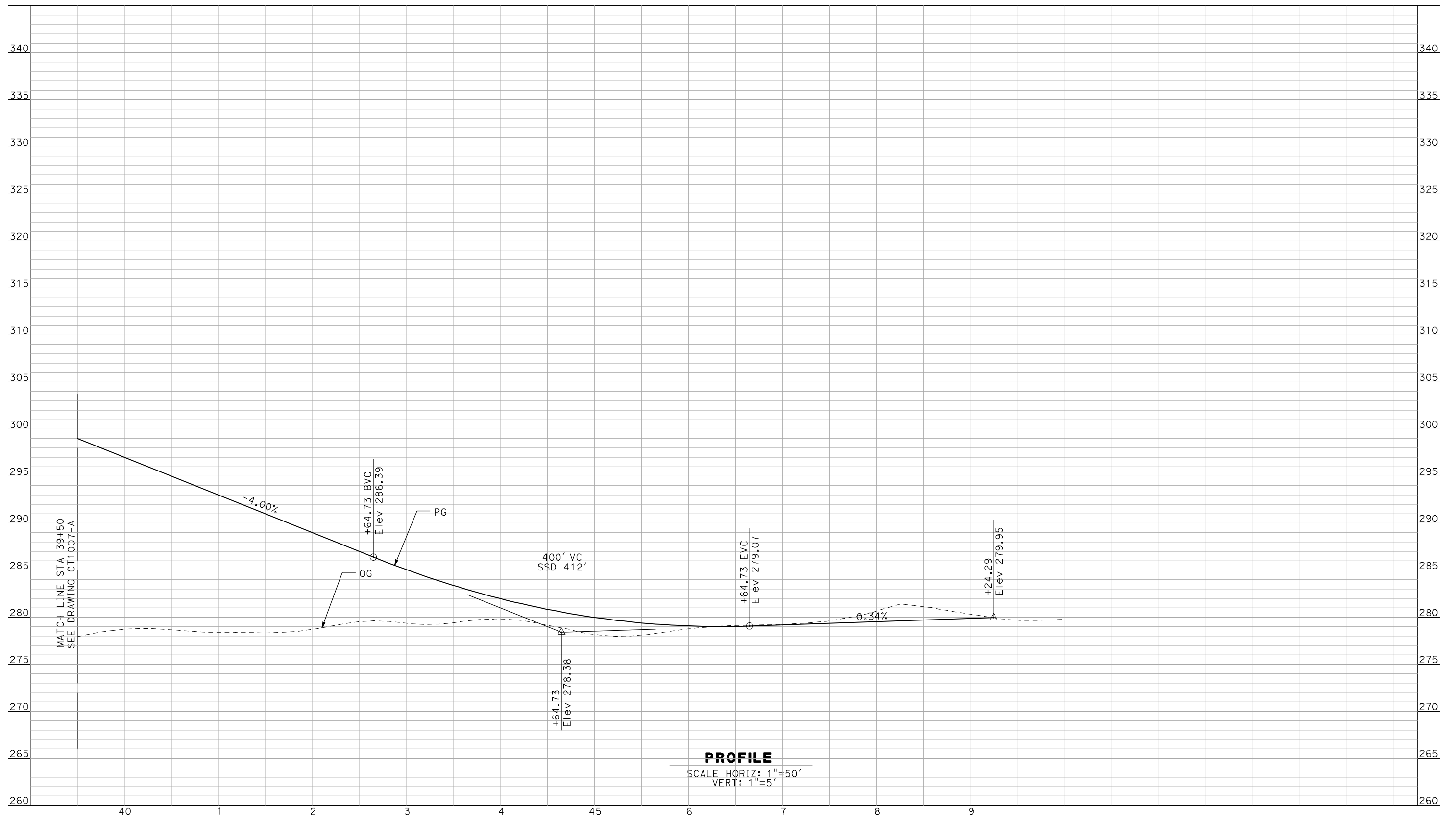


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 11  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1007-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:32:54 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1008-A.dgn



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
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**NOT FOR**  
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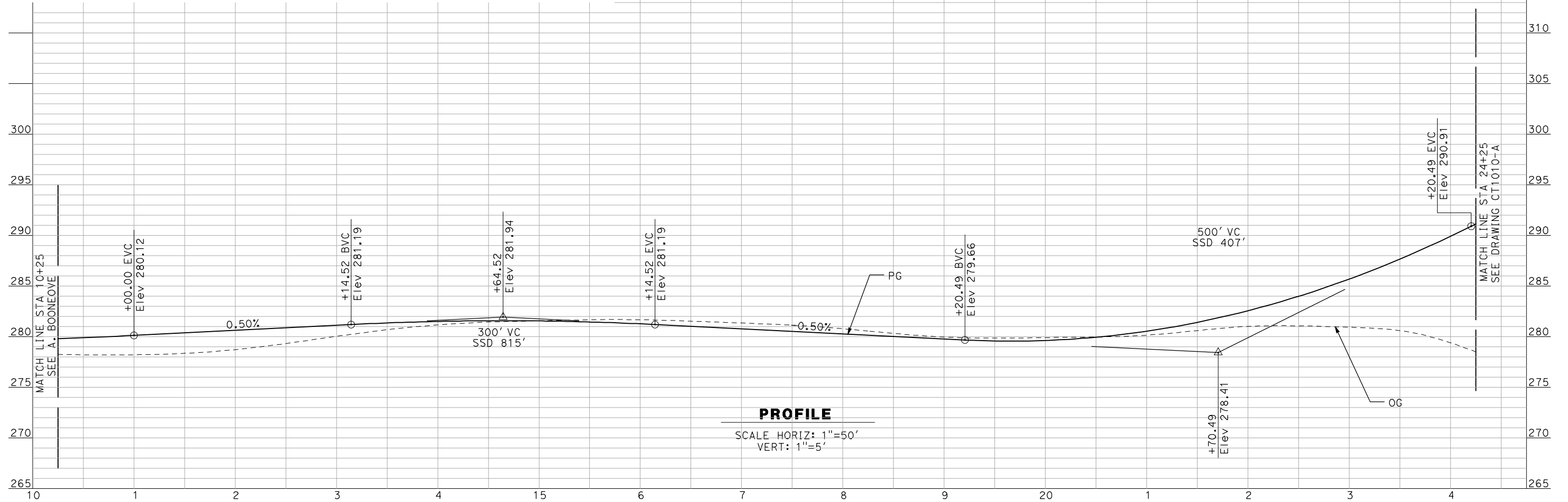
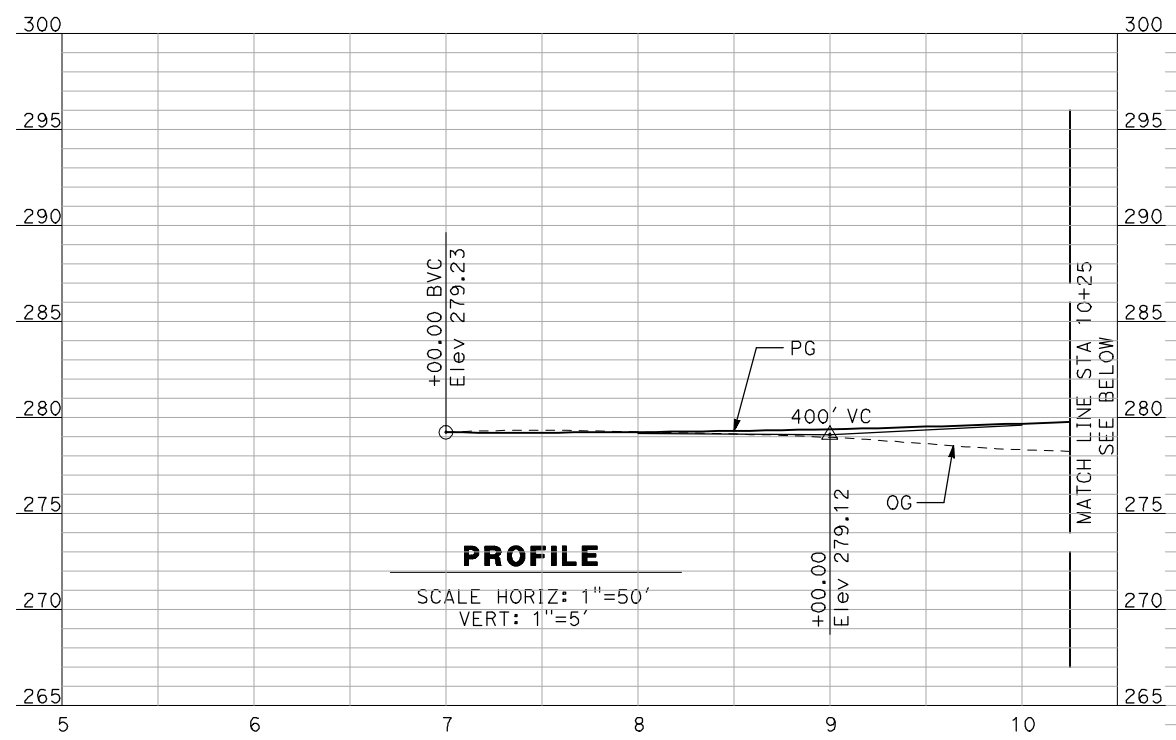


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 11  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1008-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/28/2011 4:32:58 PM I:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1009-A.dgn



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

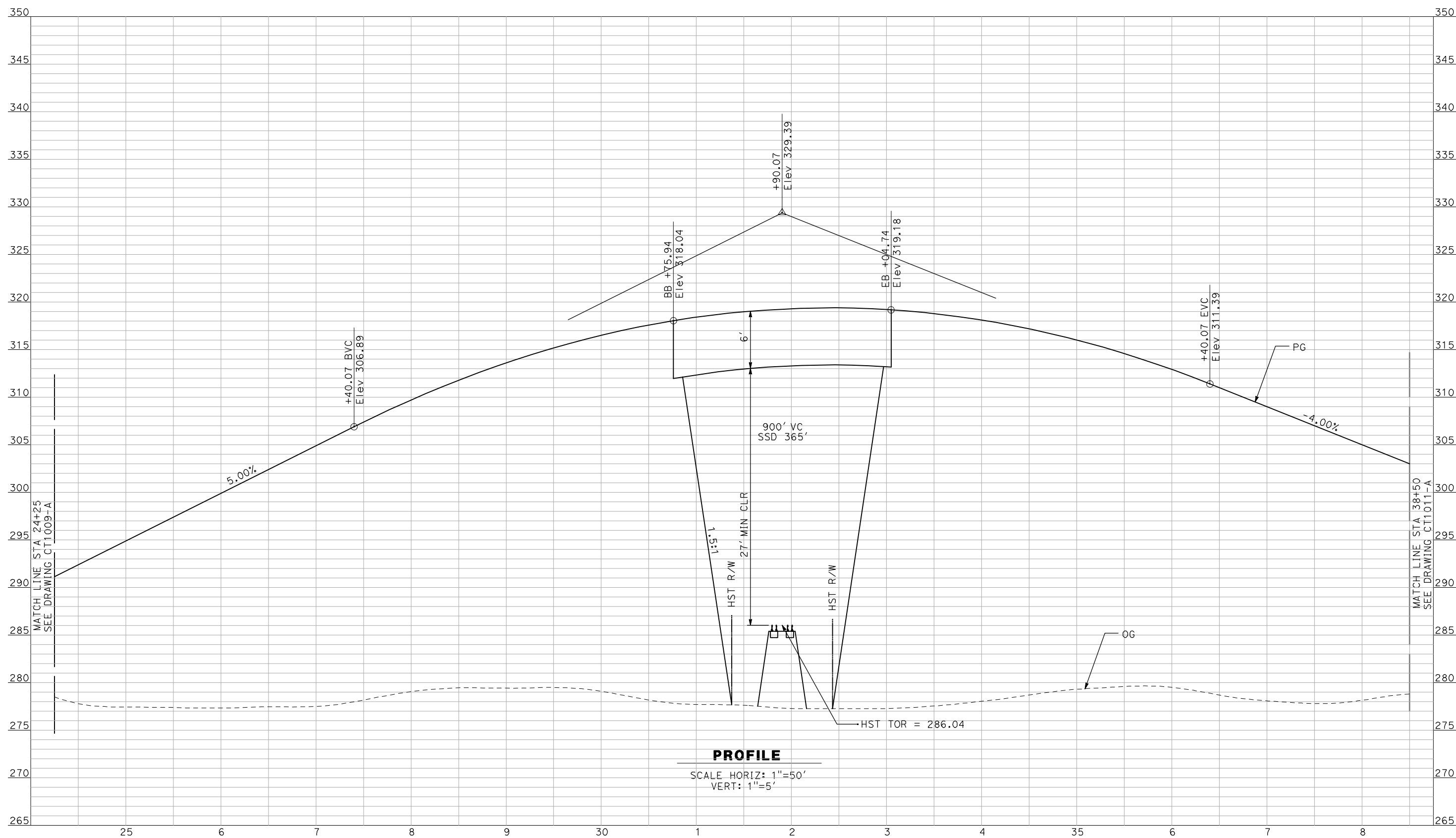


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 12  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1009-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:33:02 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1010-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

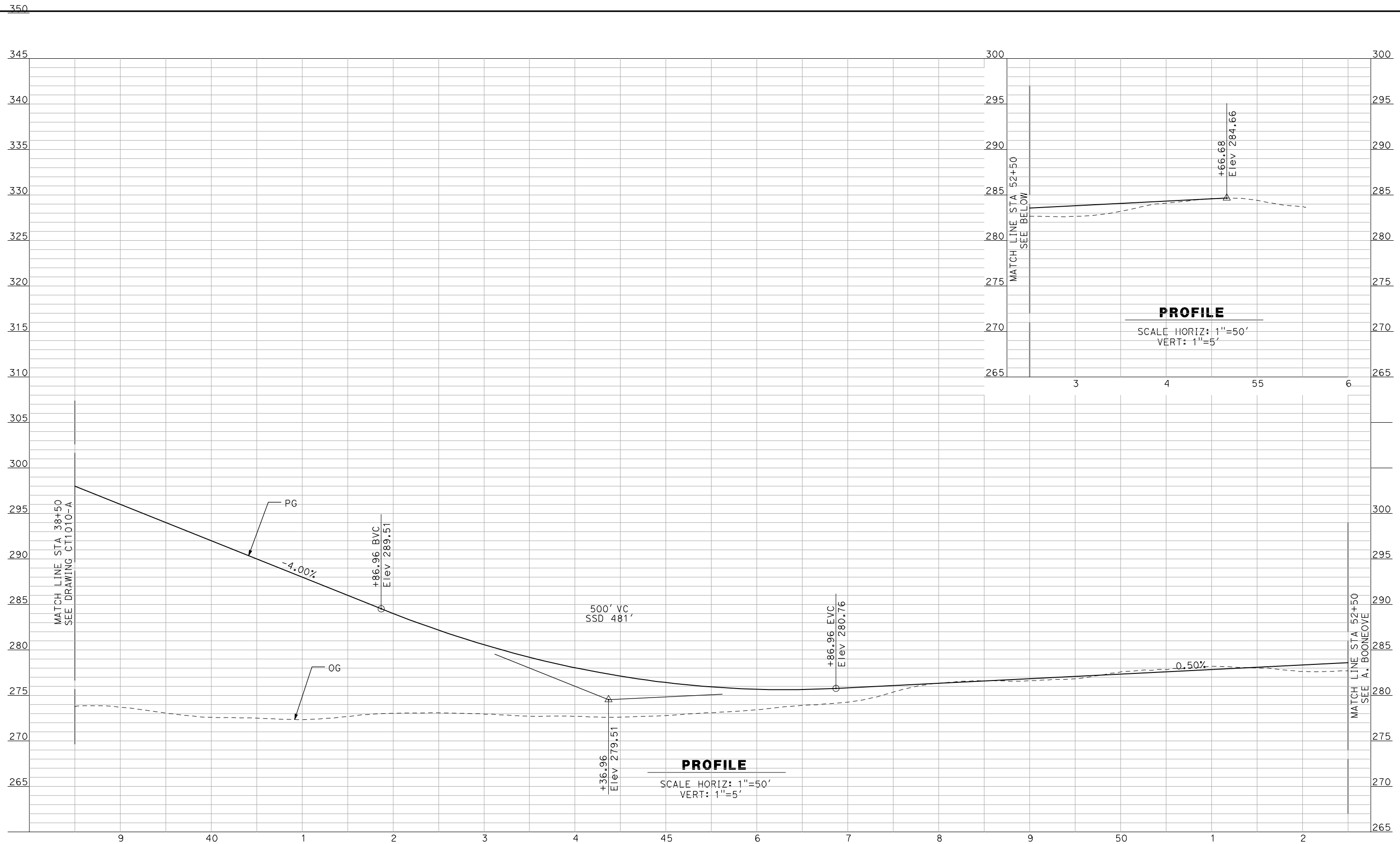


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 12  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1010-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/28/2011 4:33:06 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1011-A.dgn



**PROFILE**  
SCALE HORIZ: 1"=50'  
VERT: 1"=5'

**PROFILE**  
SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

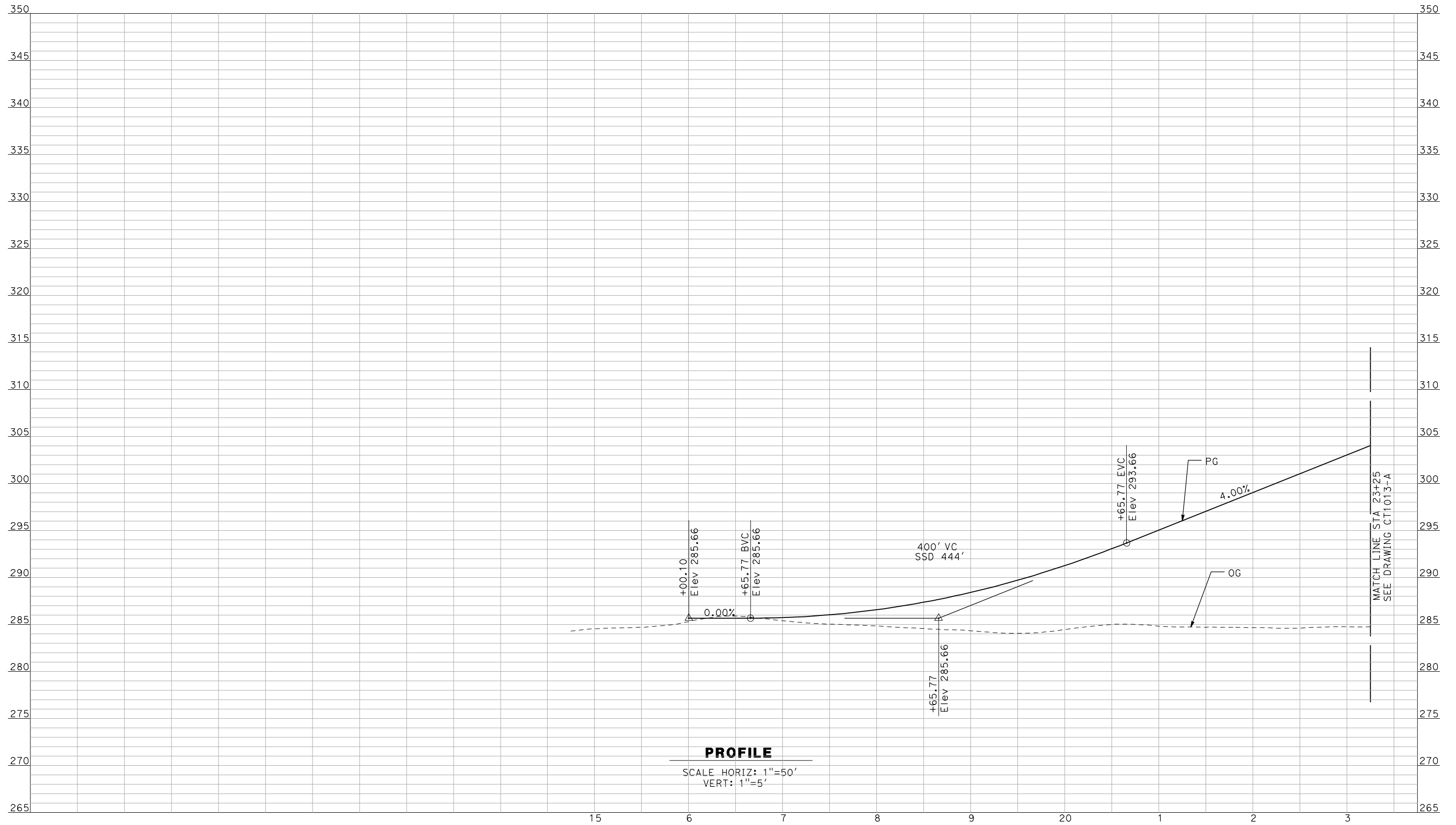


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 12  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1011-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:33:09 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1012-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



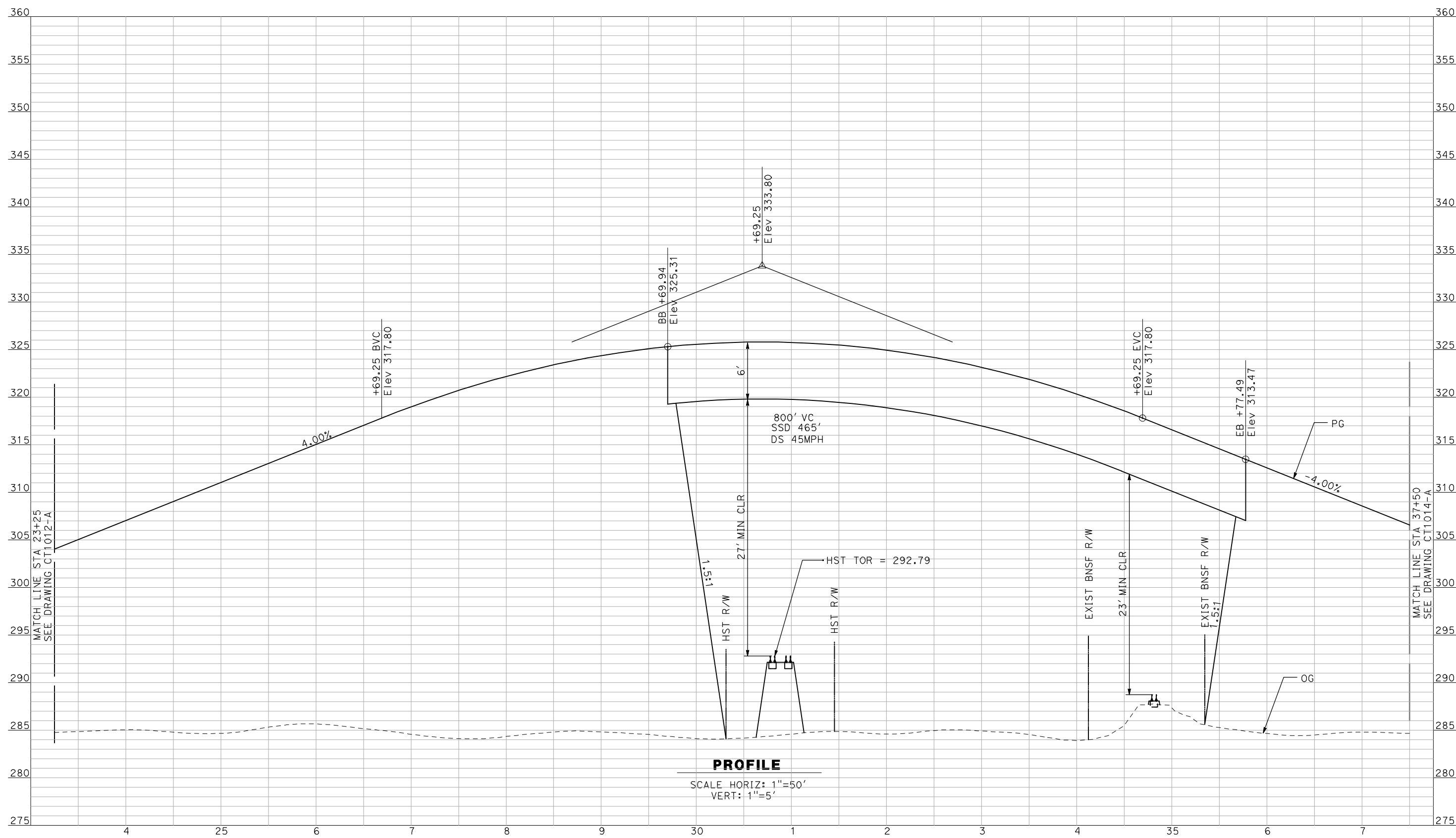
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 13  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1012-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:33:13 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1013-A.dgn



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

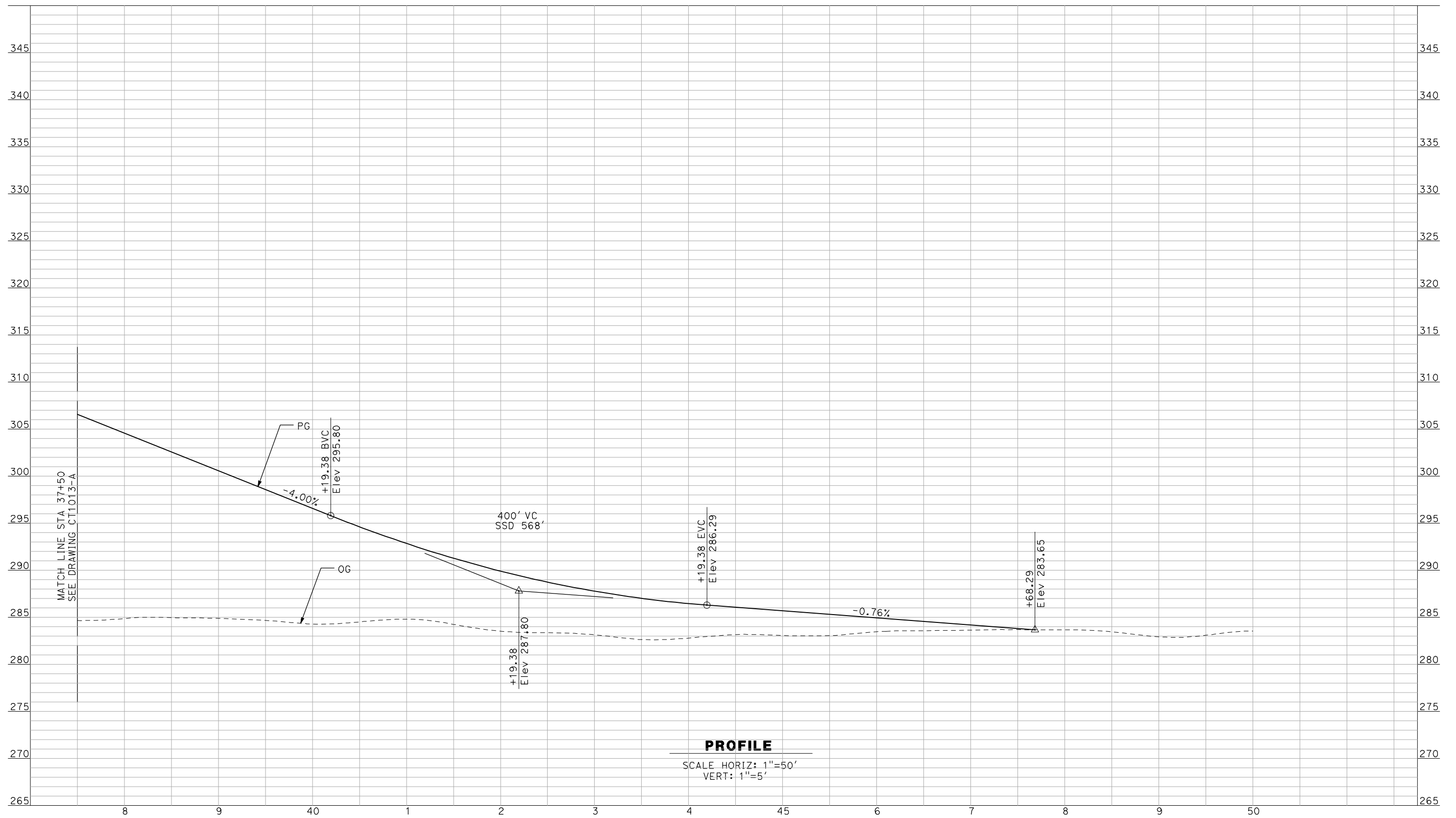


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 13  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1013-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:33:17 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1014-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

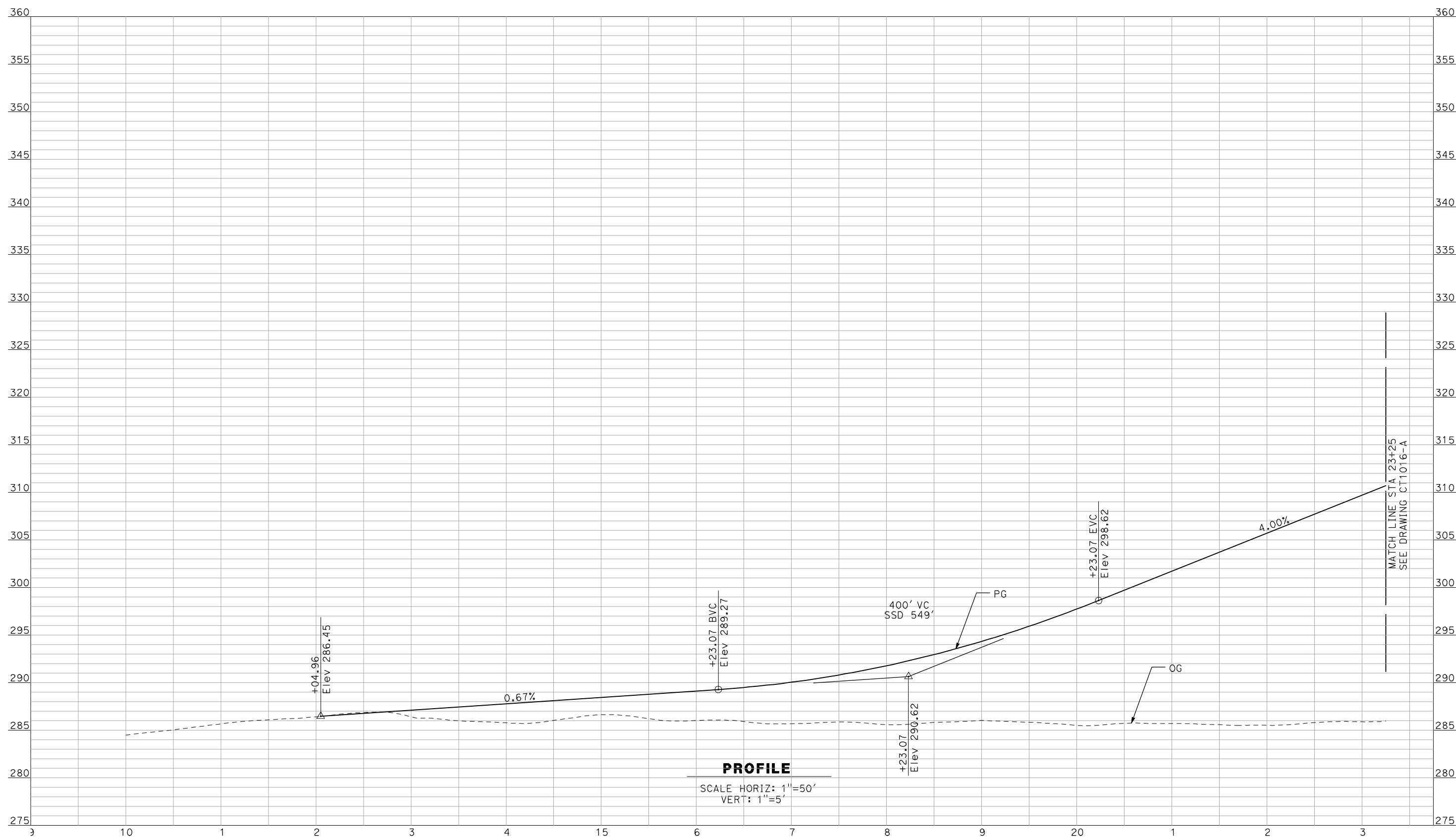


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 13  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1014-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

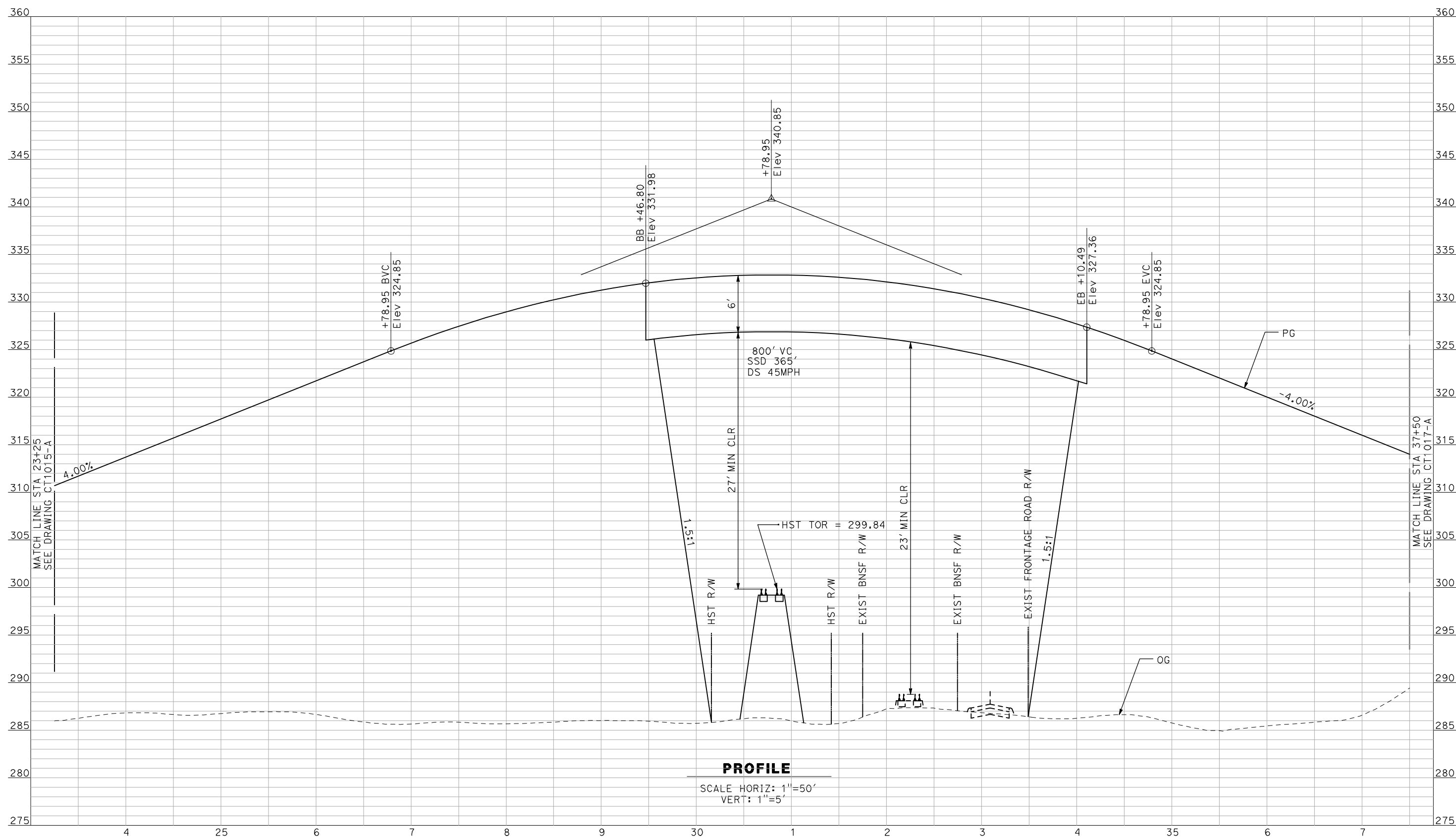


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1015-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

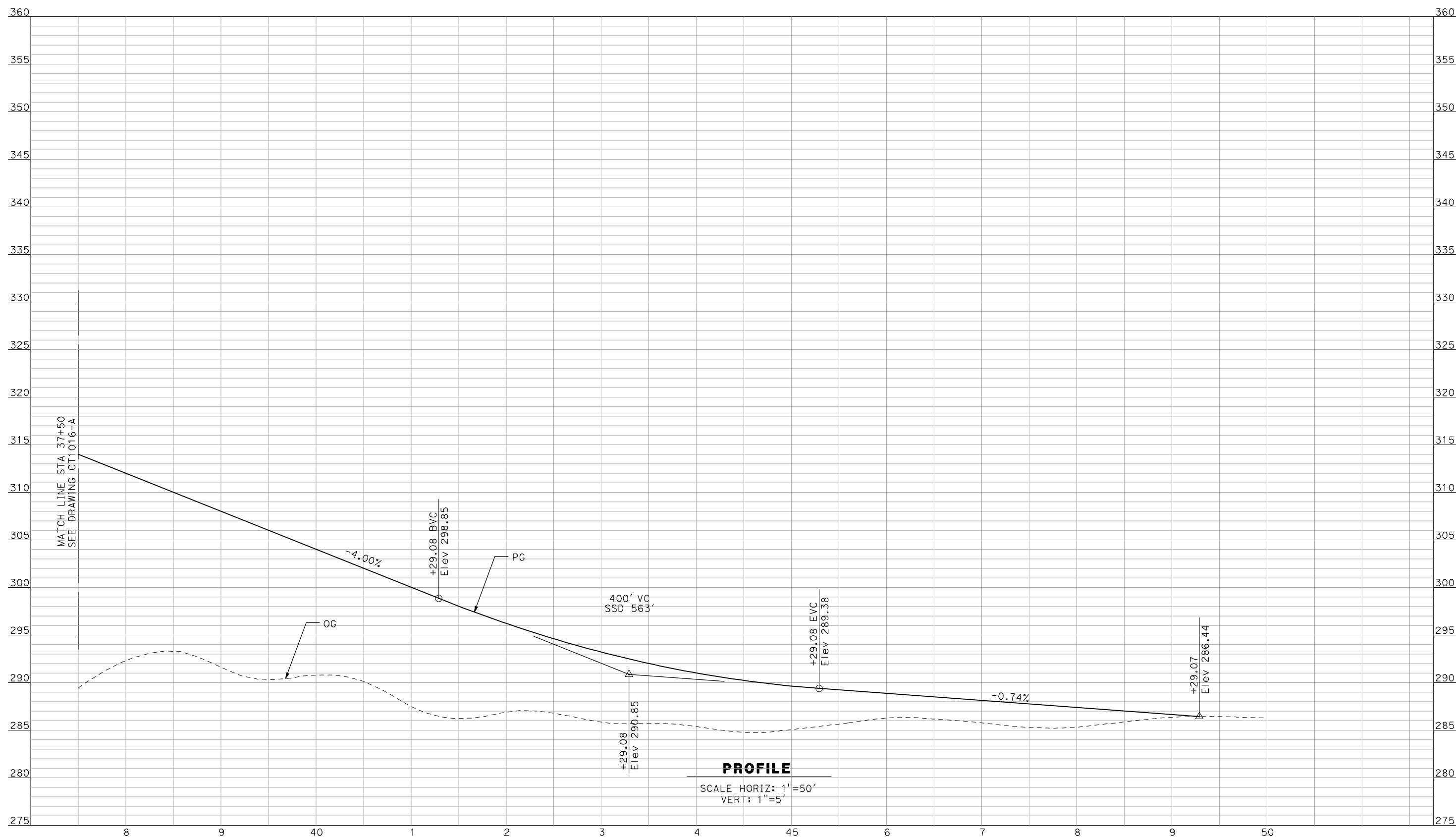


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1016-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:33:28 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1017-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

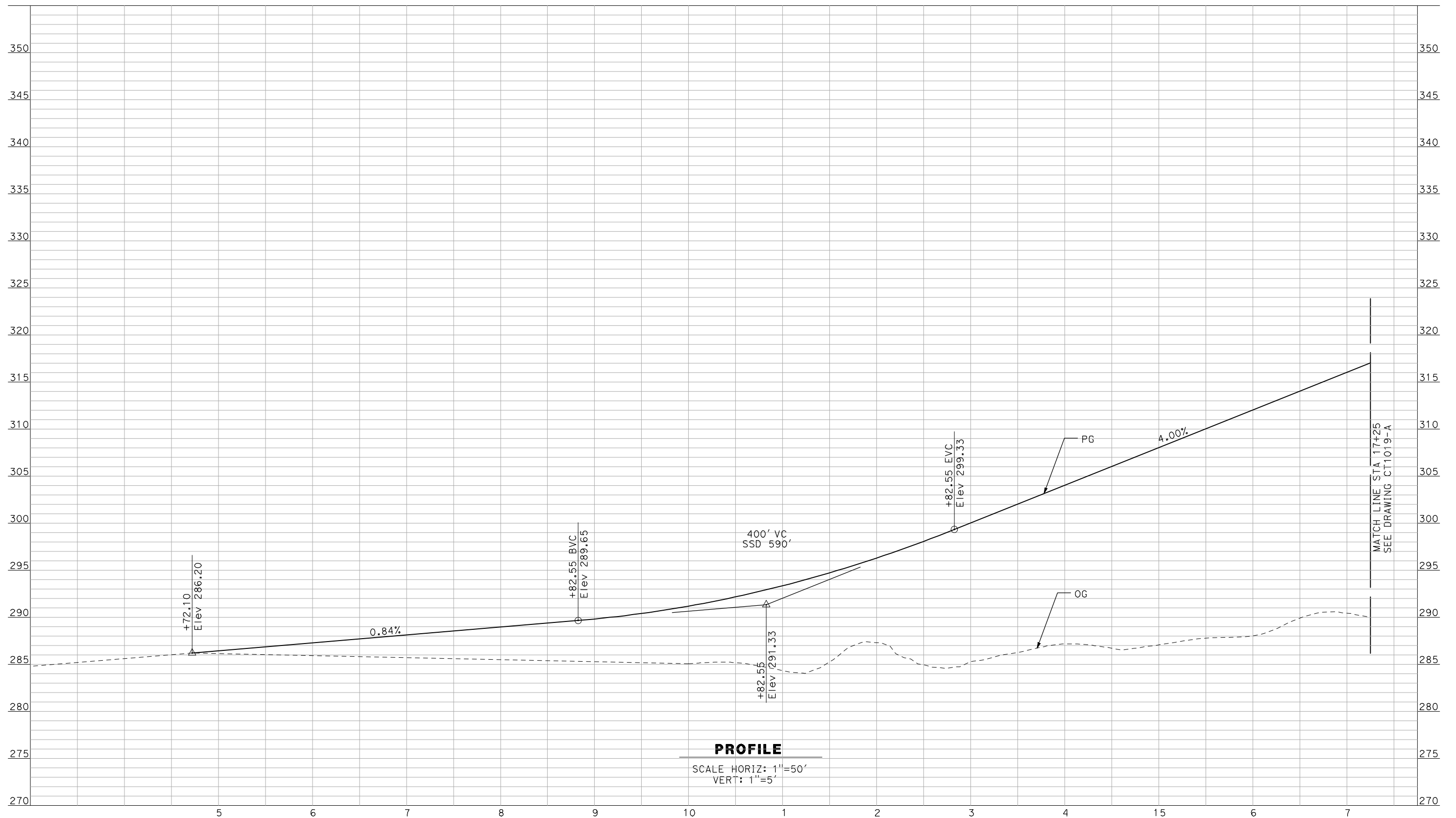


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1017-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:33:32 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1018-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

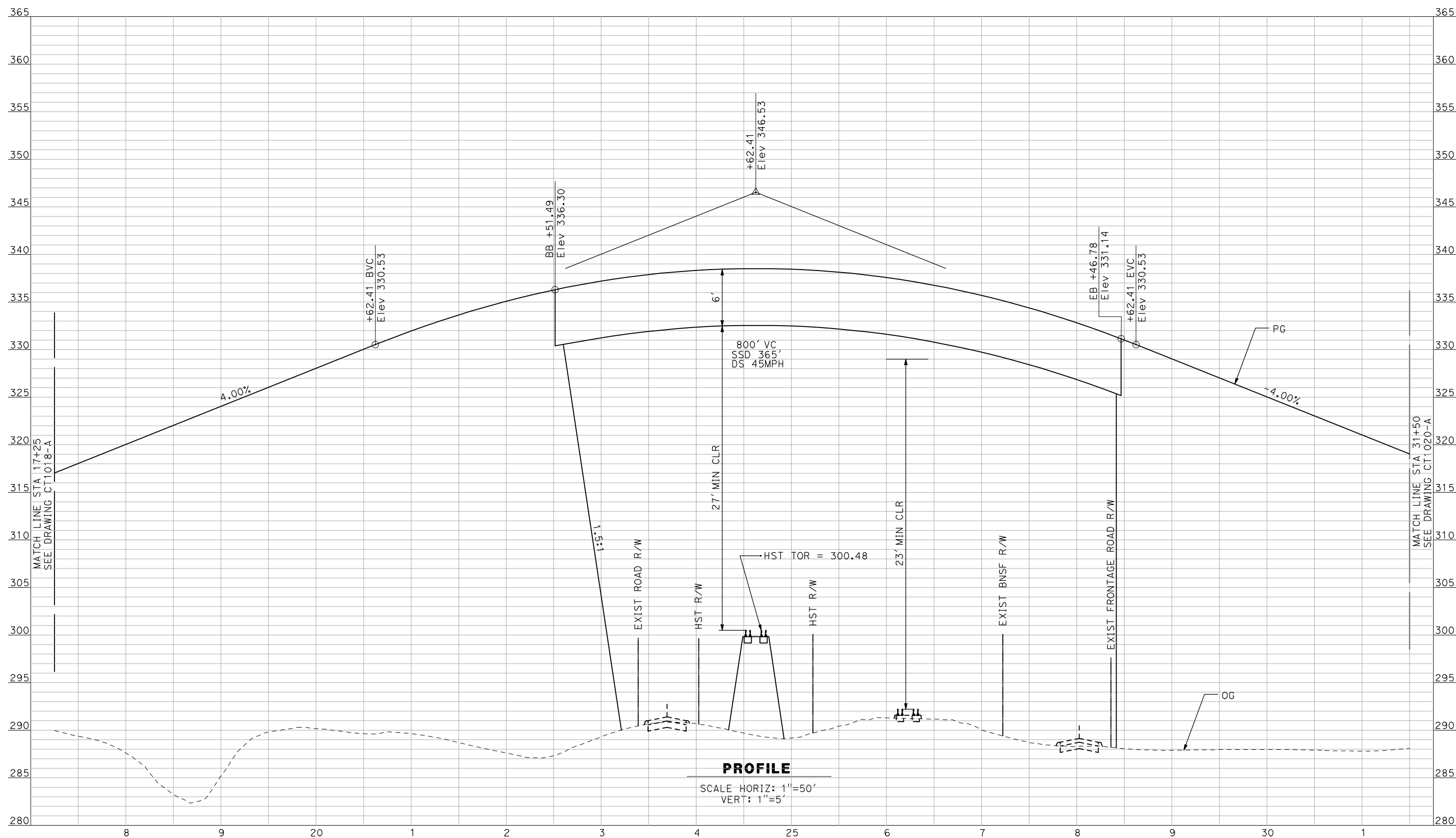


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15 1/2  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1018-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:33:35 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1019-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

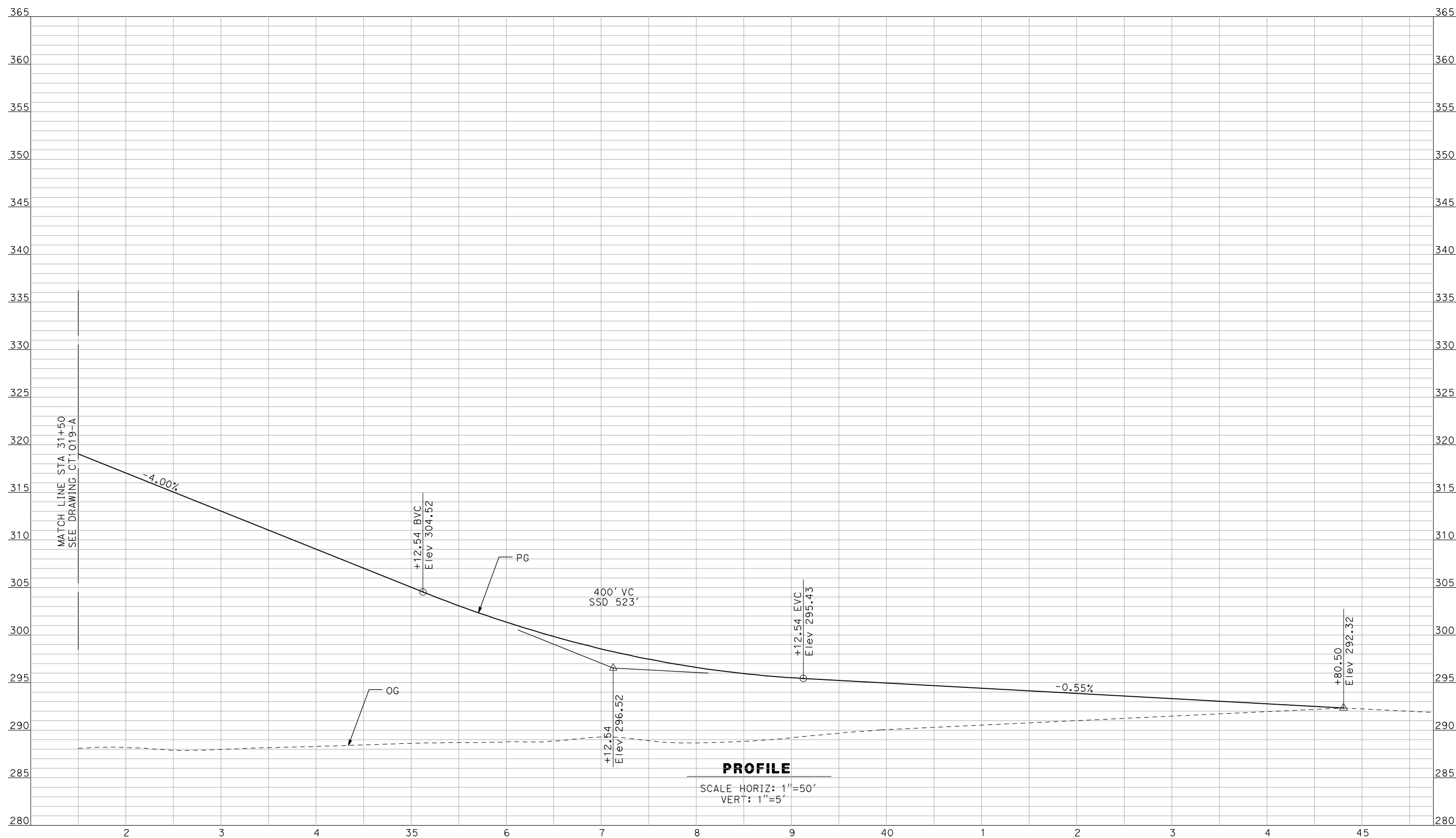


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15 1/2  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1019-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:33:39 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1020-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
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**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

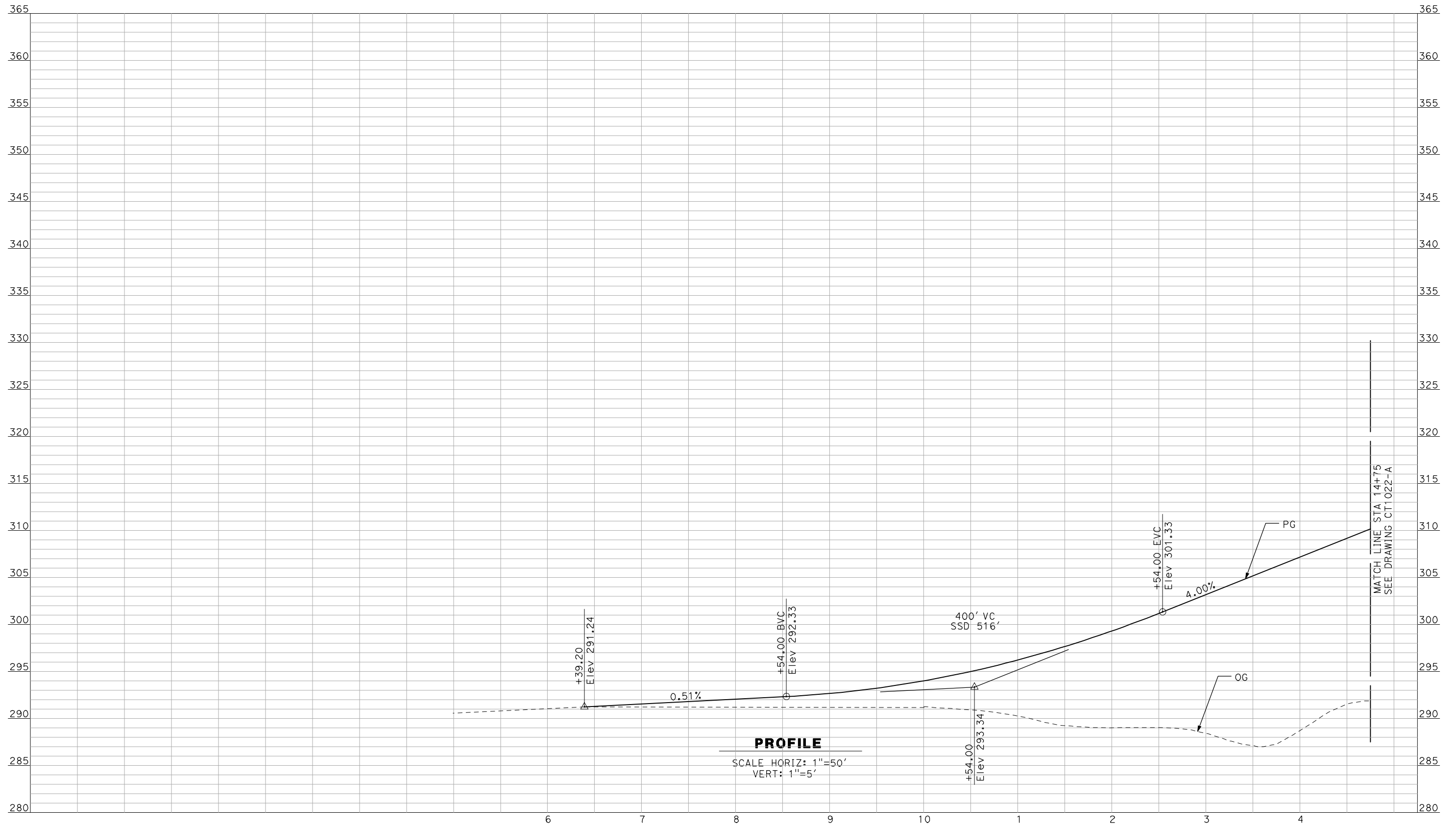


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 15 1/2  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1020-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:33:42 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1021-A.dgn



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FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
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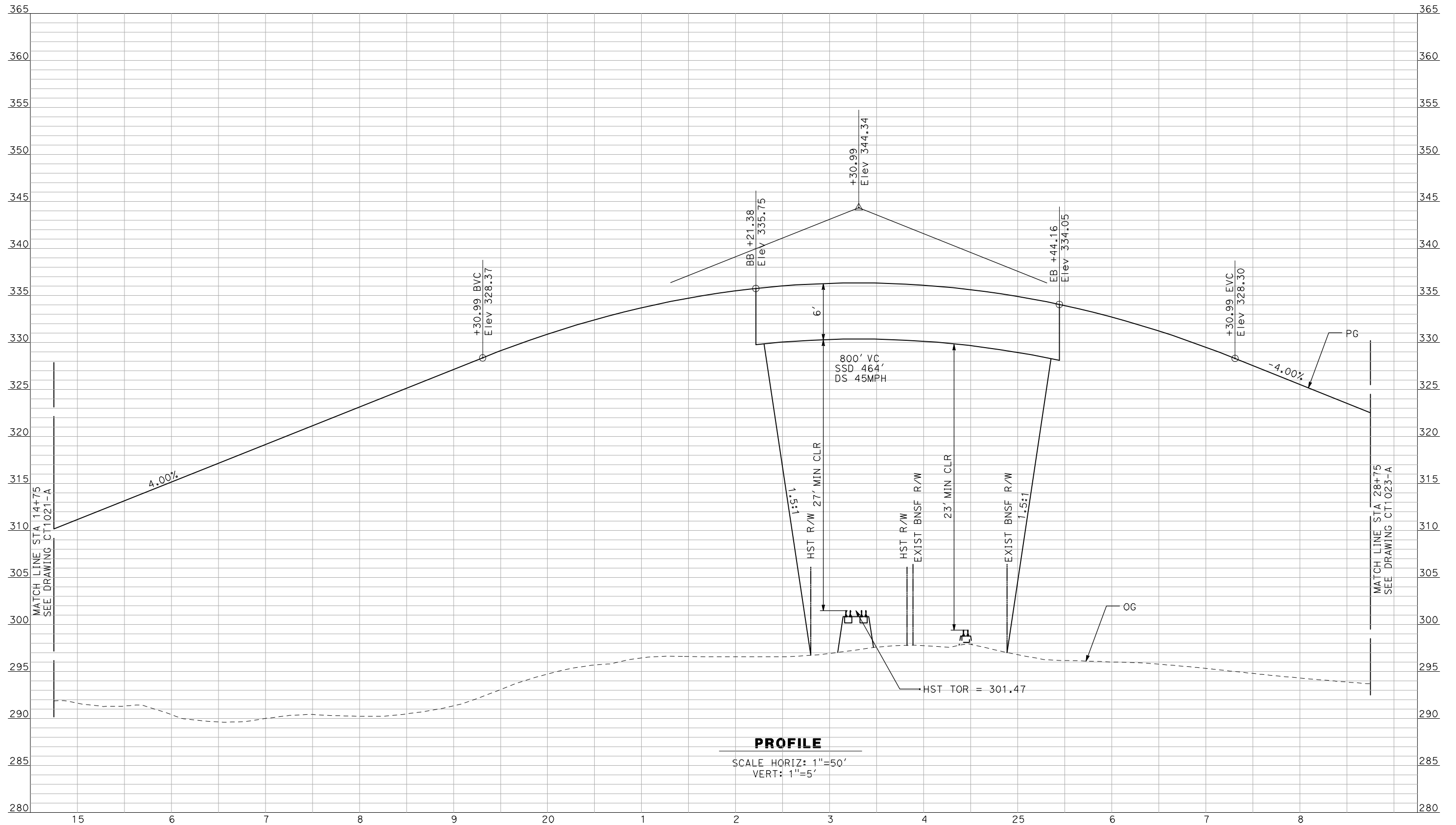


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - RAYMOND RD  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1021-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



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**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



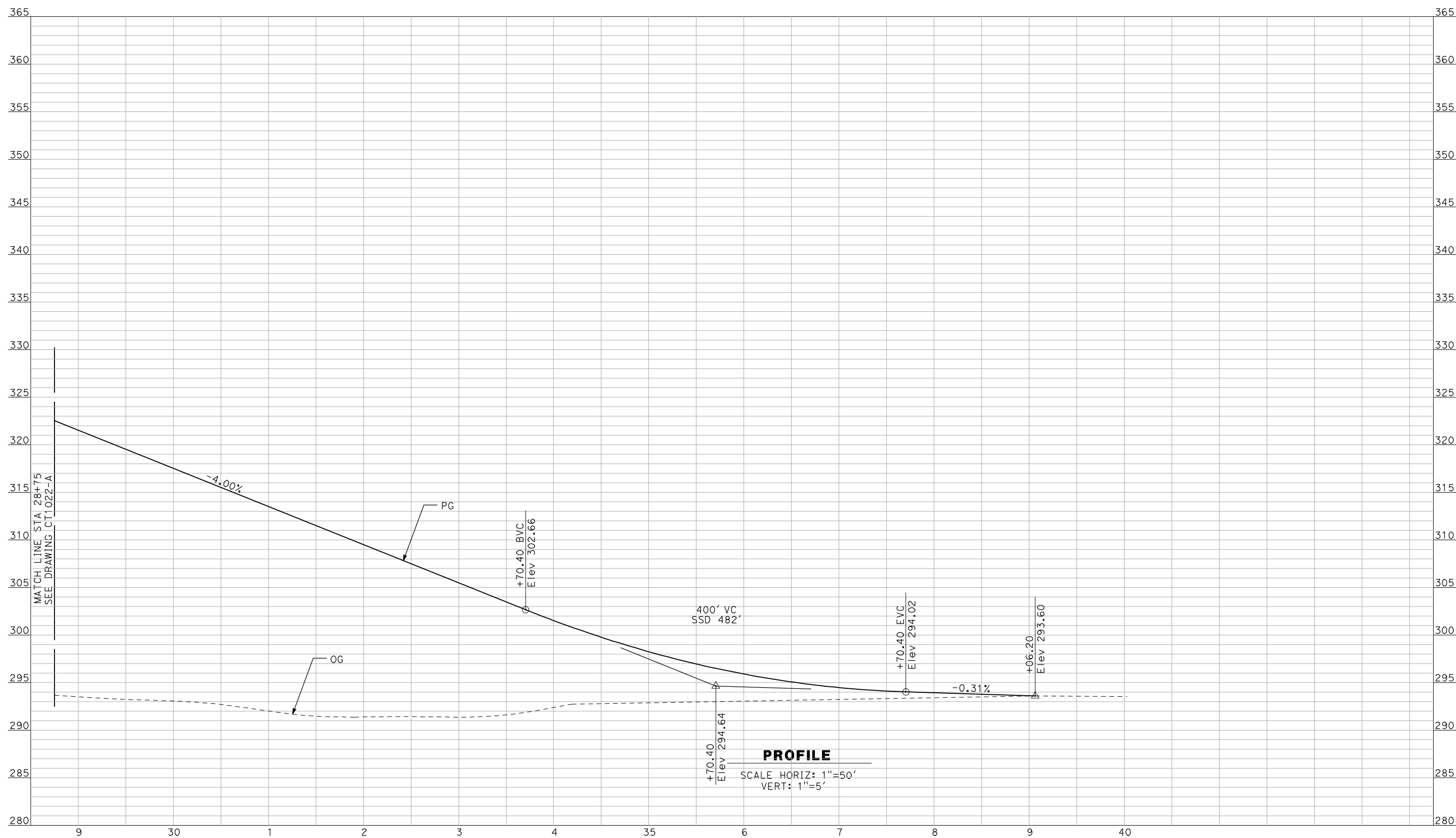
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - RAYMOND RD  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1022-A  
SCALE  
AS SHOWN  
SHEET NO.  
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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
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**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

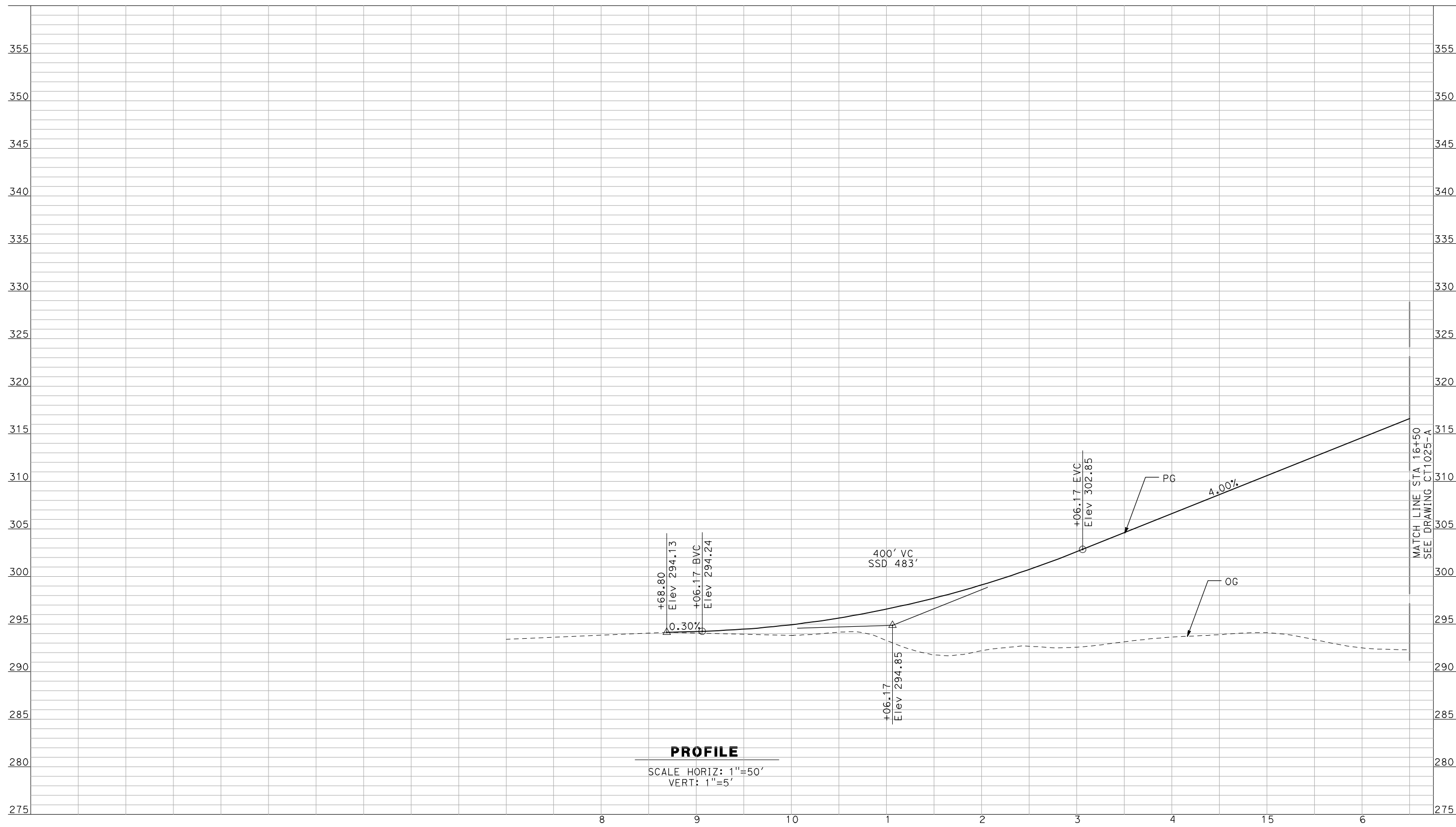


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - RAYMOND RD  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1023-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:33:53 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1024-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 17  
PROFILE  
SHEET 1 OF 3

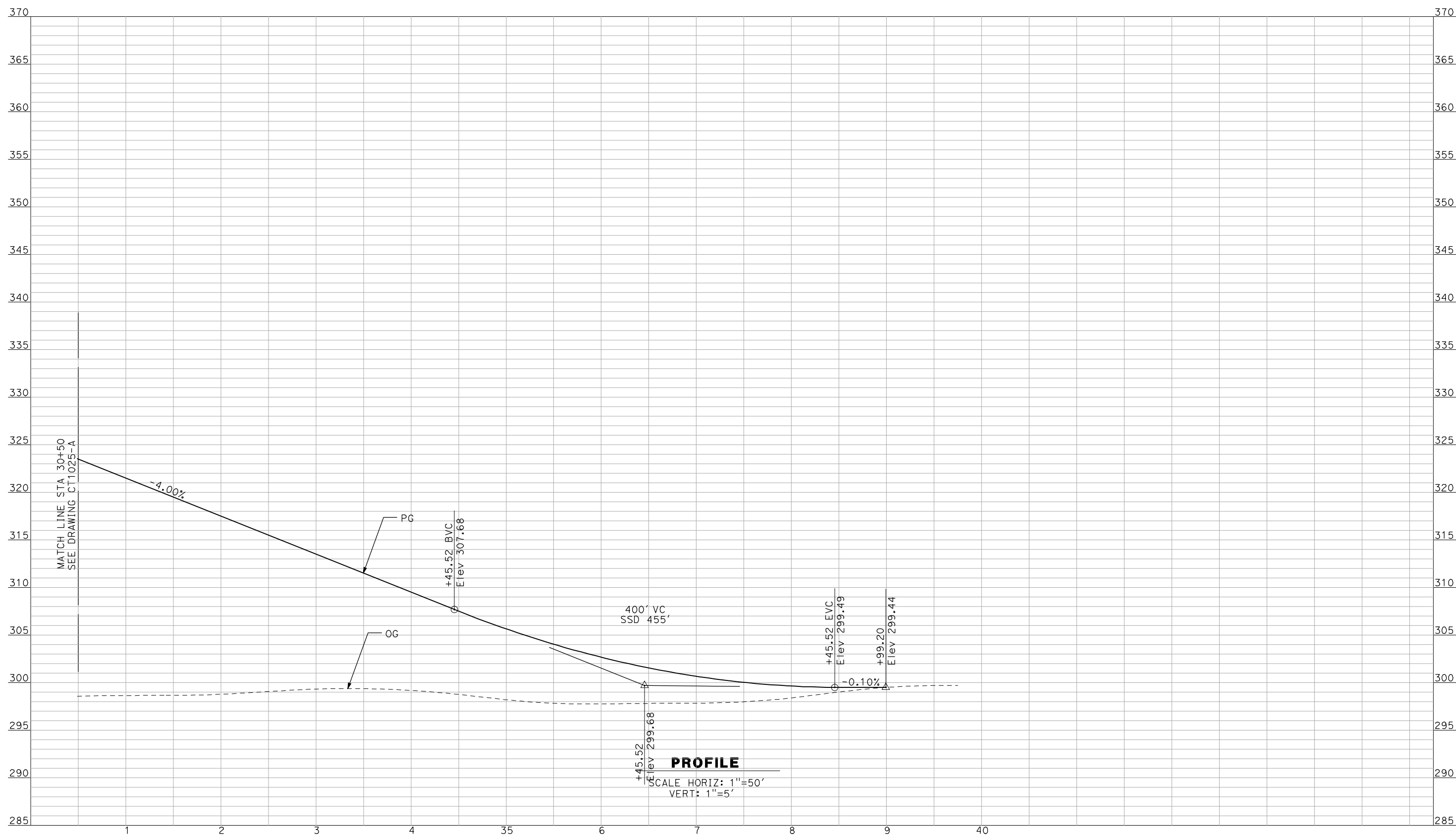
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DRAWING NO.  
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SCALE  
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SHEET NO.  
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 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 J. ZANDIAN  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

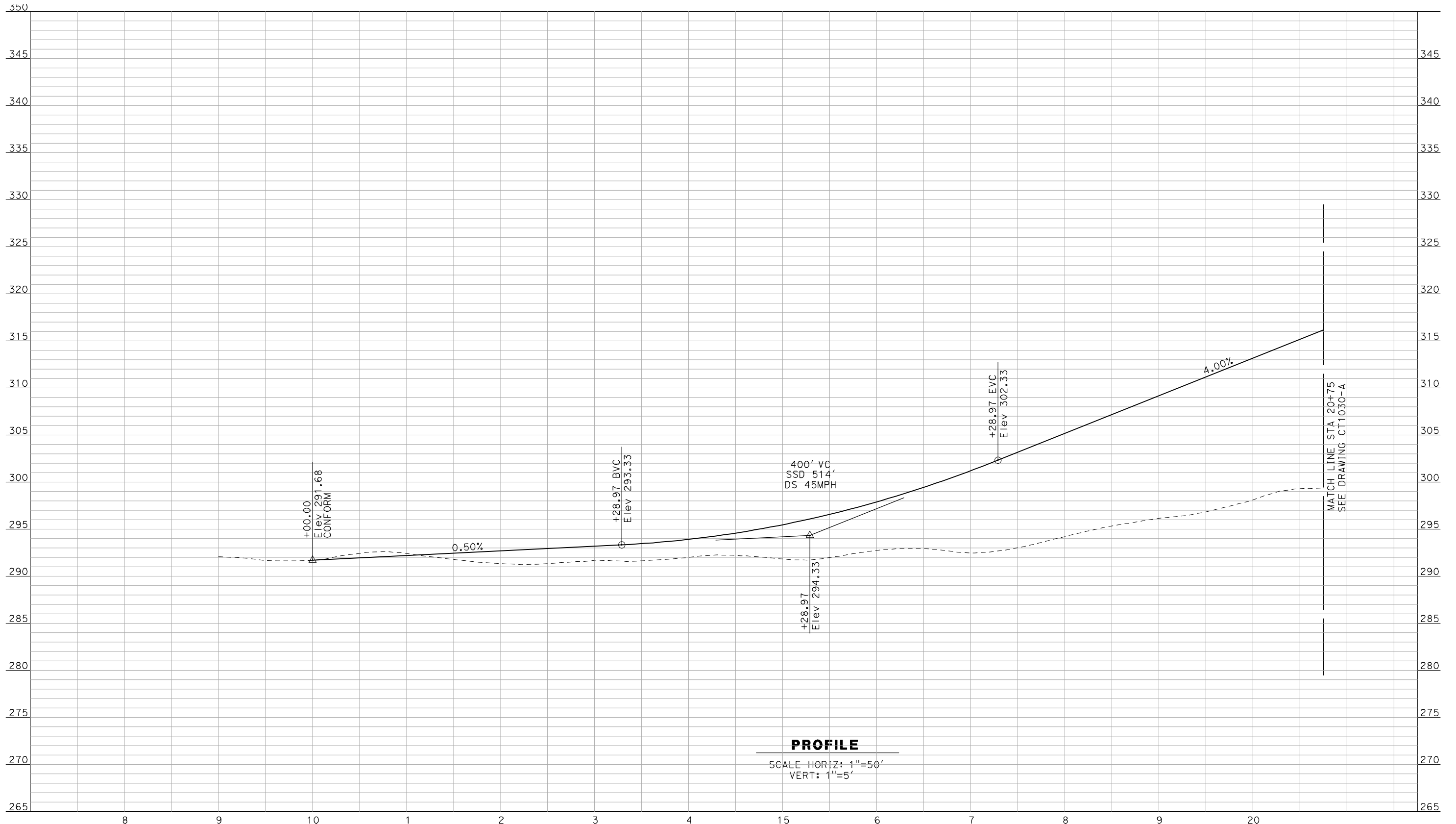


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 17  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1026-T  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
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**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

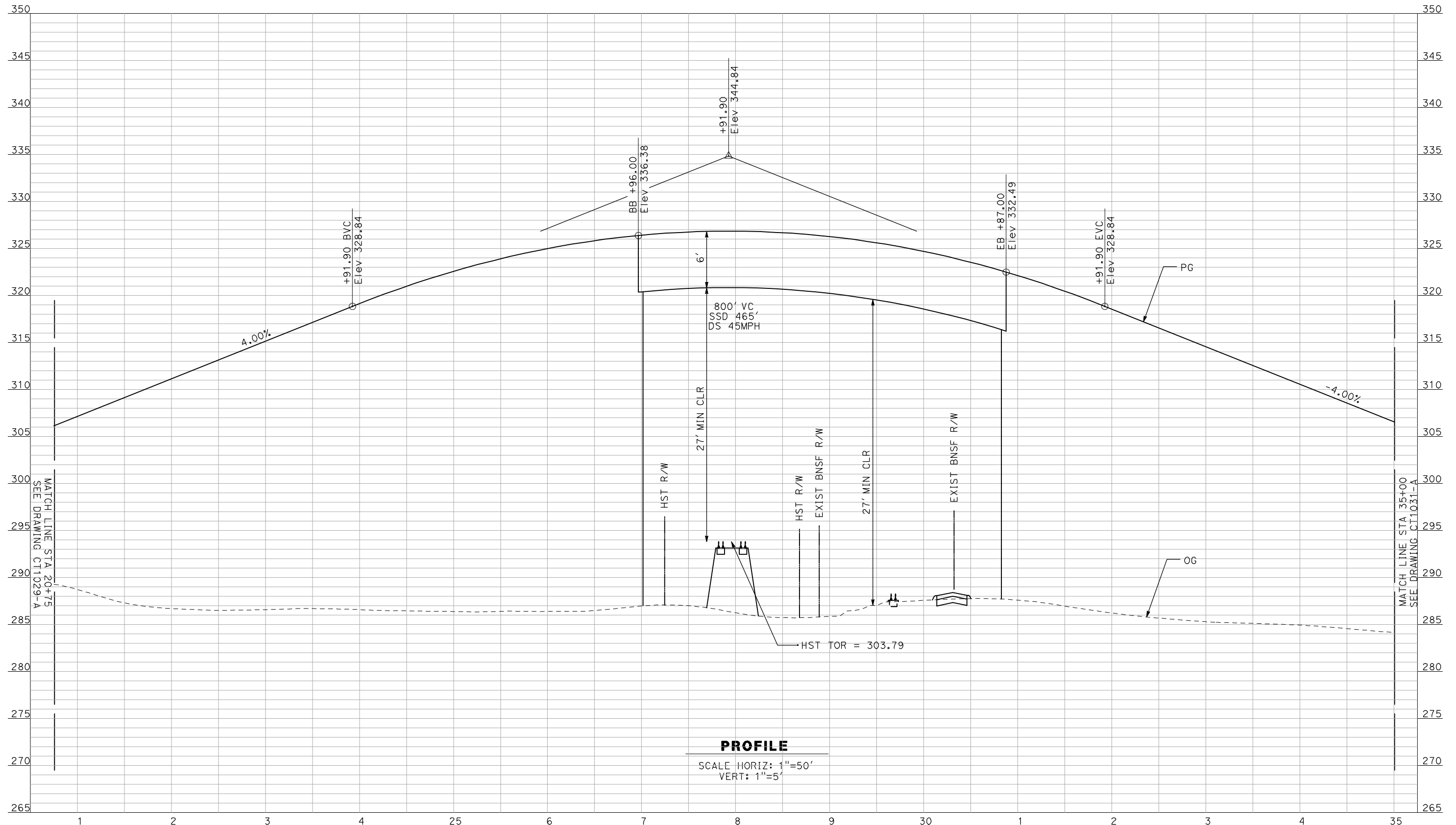


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAINLINE - HYBRID  
 GRADE SEPARATION - ROAD 27  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1029-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 OF ###



6/28/2011 4:34:09 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1030-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
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**SUBMITTAL**  
  
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**CONSTRUCTION**

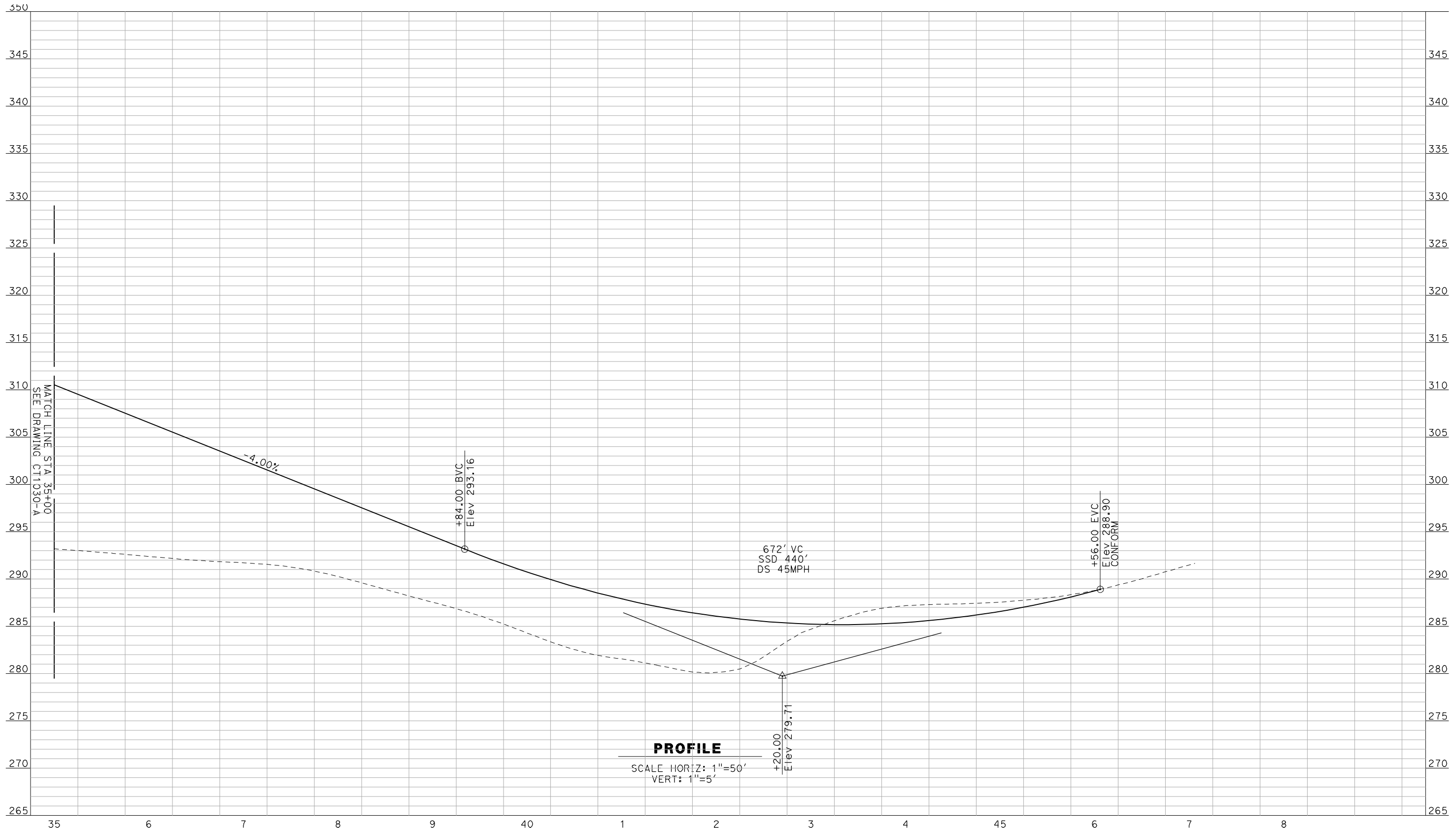


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAINLINE - HYBRID  
 GRADE SEPARATION - ROAD 27  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1030-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###



6/28/2011 4:34:13 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1031-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
A. SILVER  
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06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

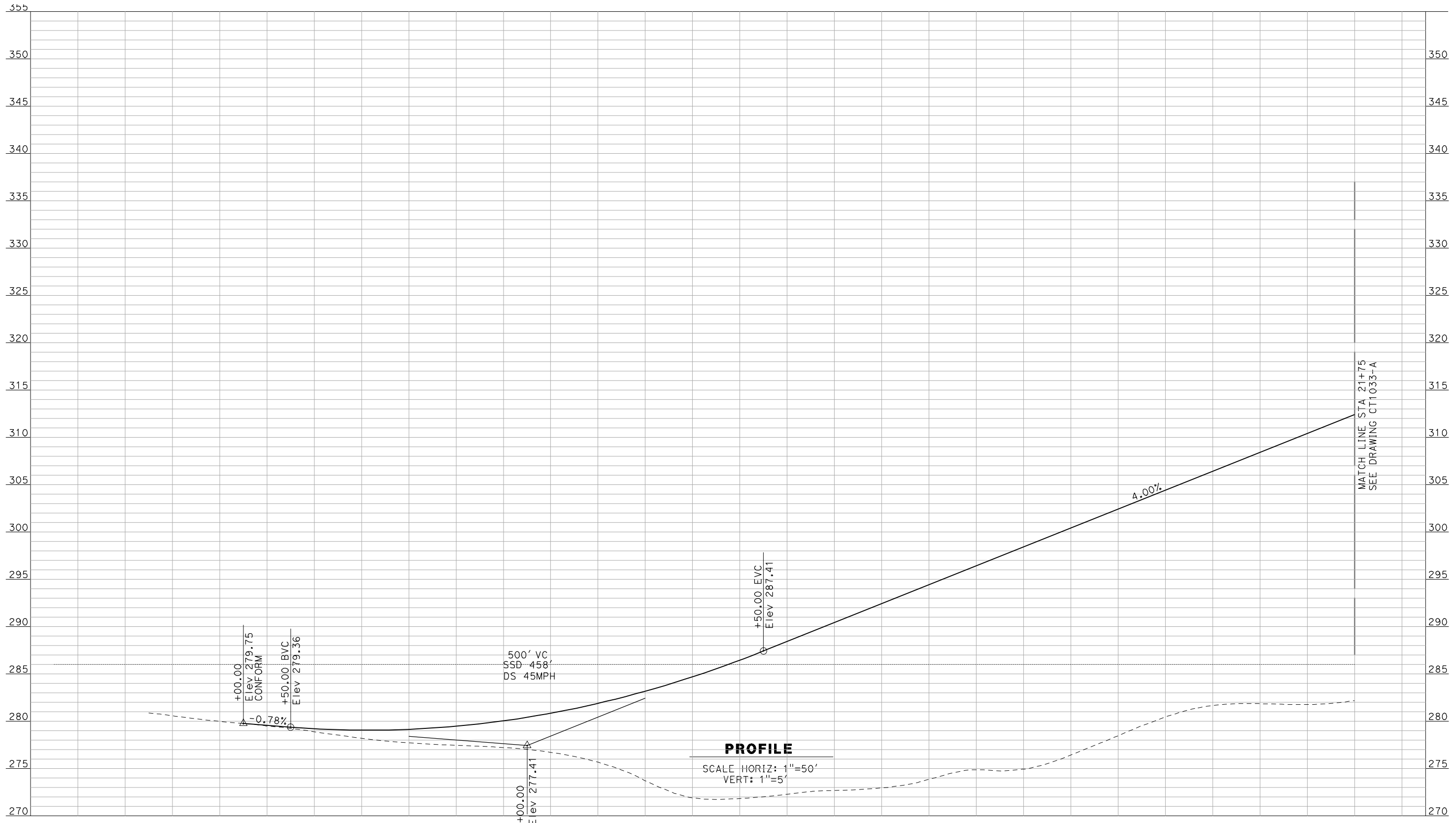


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAINLINE - HYBRID  
 GRADE SEPARATION - ROAD 27  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1031-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###



6/28/2011 4:34:16 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1032-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

MATCH LINE STA 21+75  
SEE DRAWING CT1033-A

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

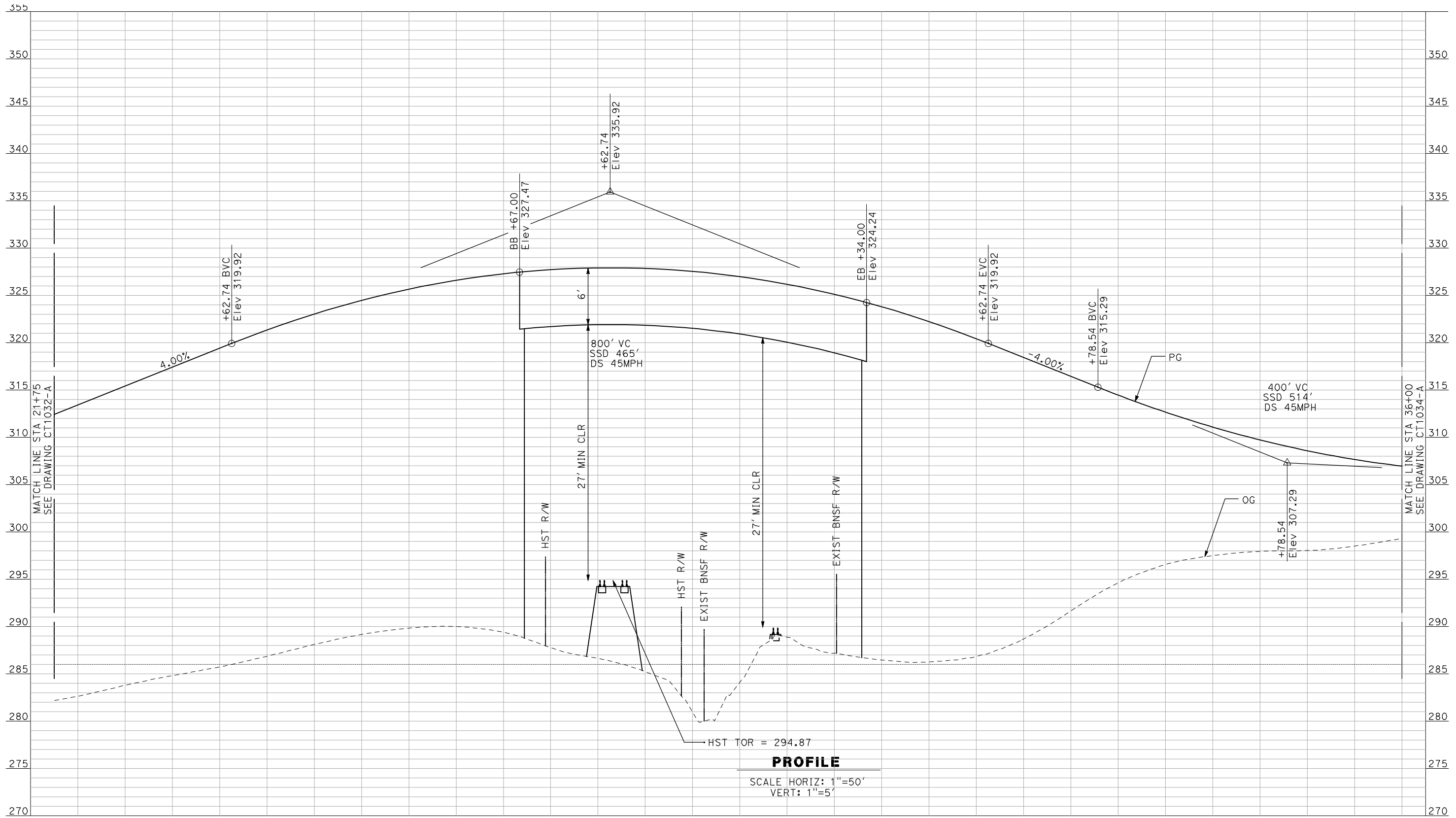


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 26  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1032-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###



6/28/2011 4:34:20 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1033-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 26  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1033-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 OF ###



6/28/2011 4:34:24 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1034-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 F. DEMARCO  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



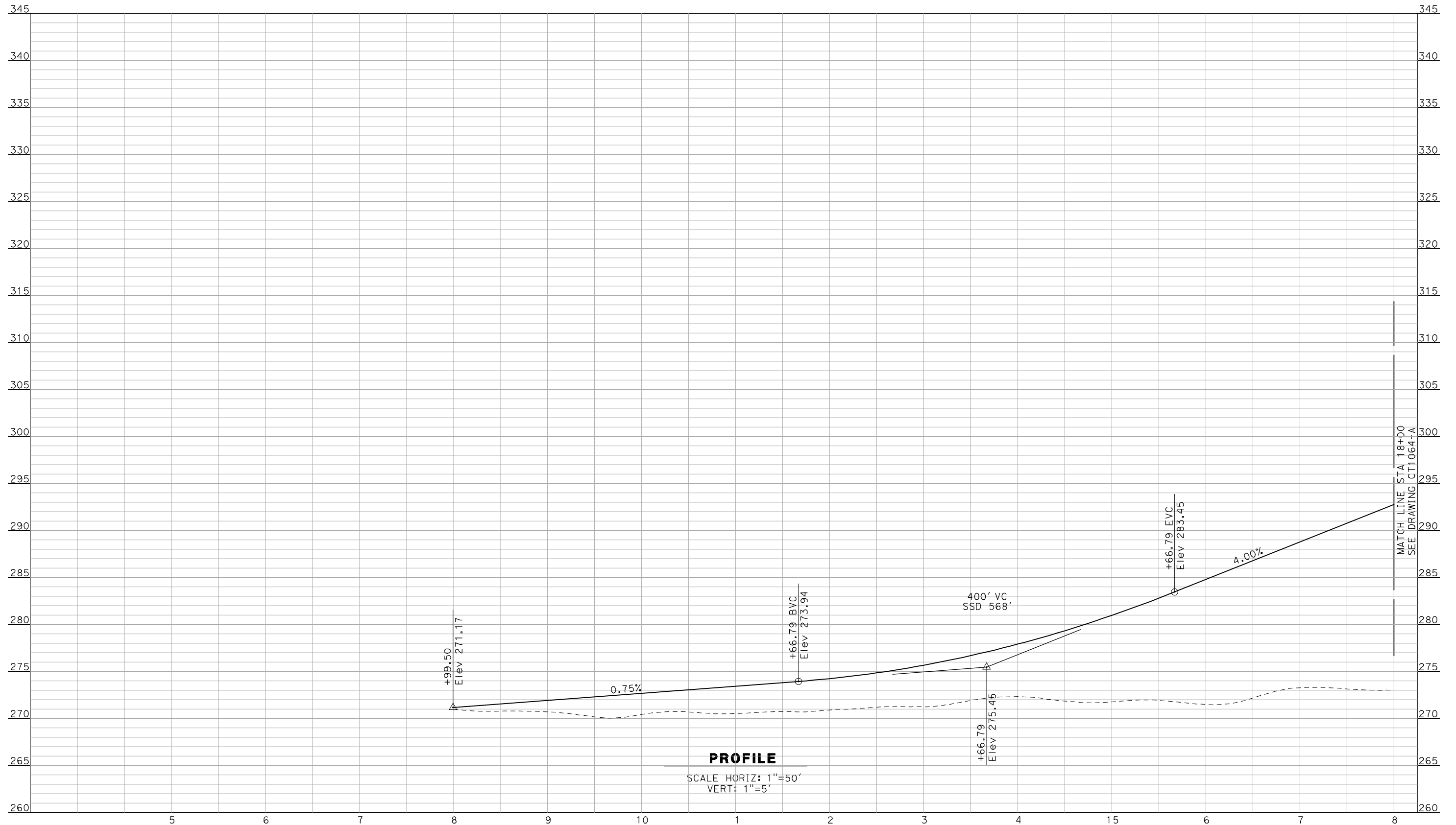
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAINLINE - HYBRID  
 GRADE SEPARATION - ROAD 26  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT1034-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 OF ###



7/11/2011 4:42:43 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1063-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

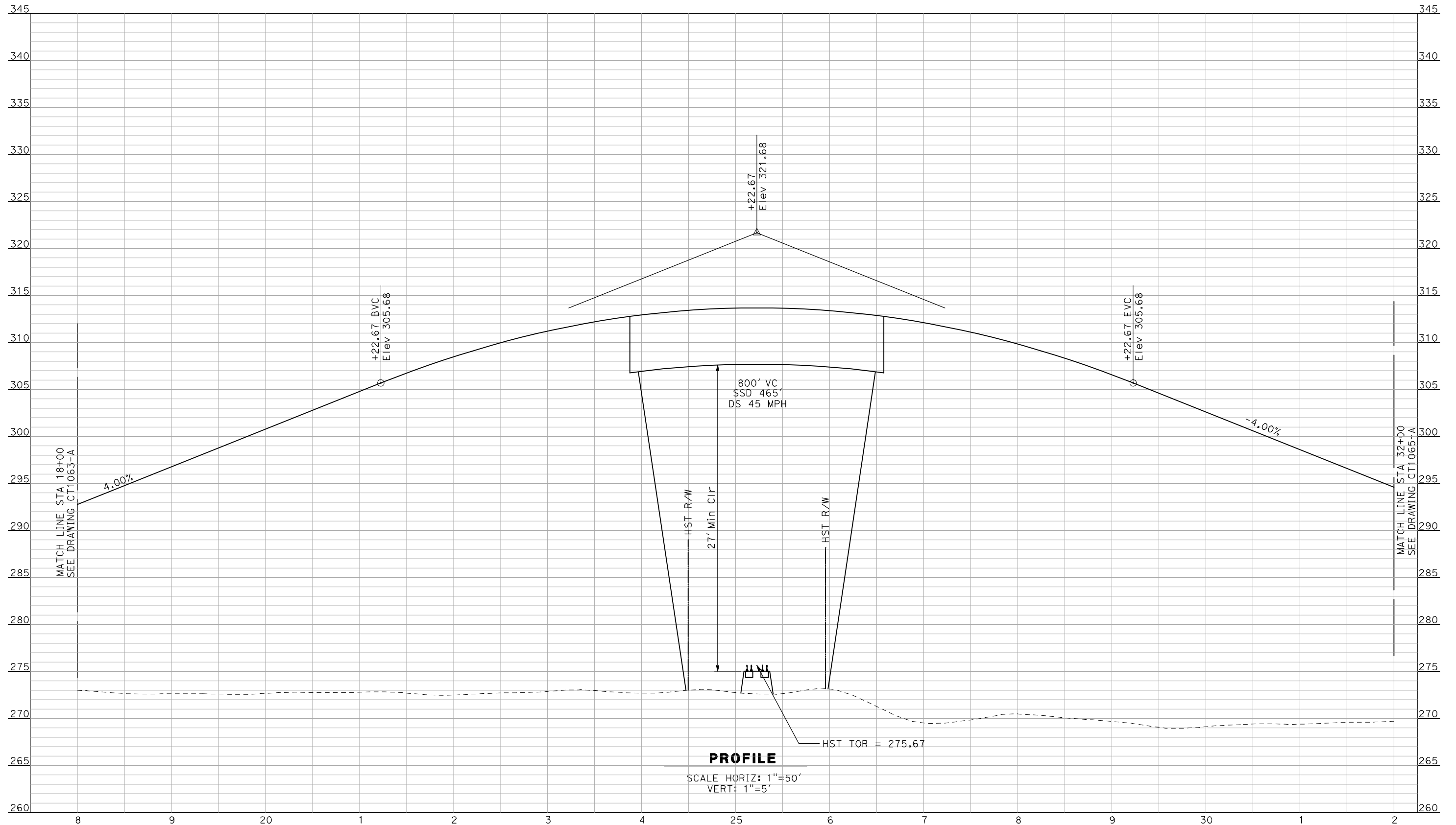
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1063-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

7/11/2011 4:42:46 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1064-A.dgn



NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

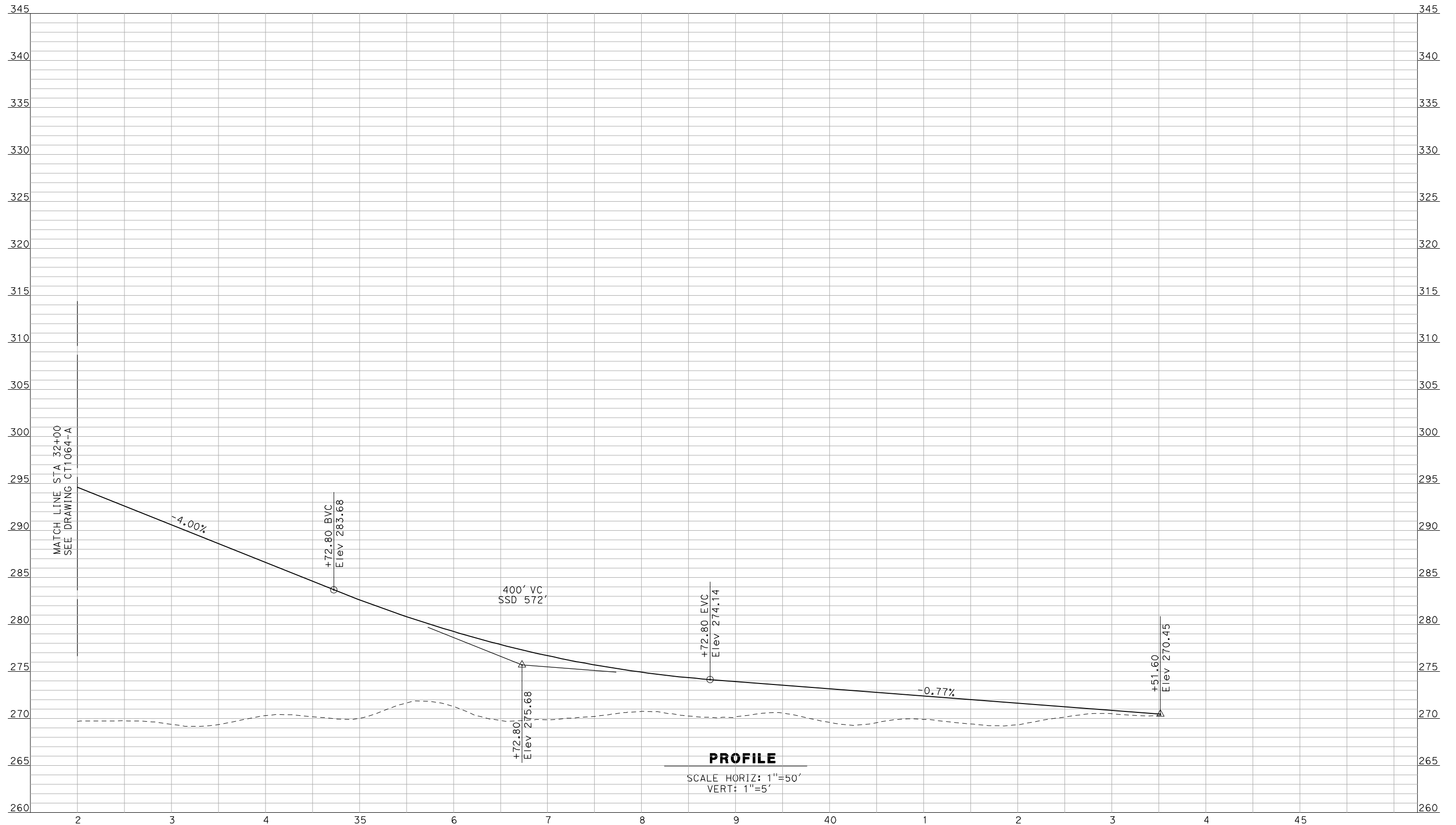


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 20  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1064-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



7/11/2011 4:42:50 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1065-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

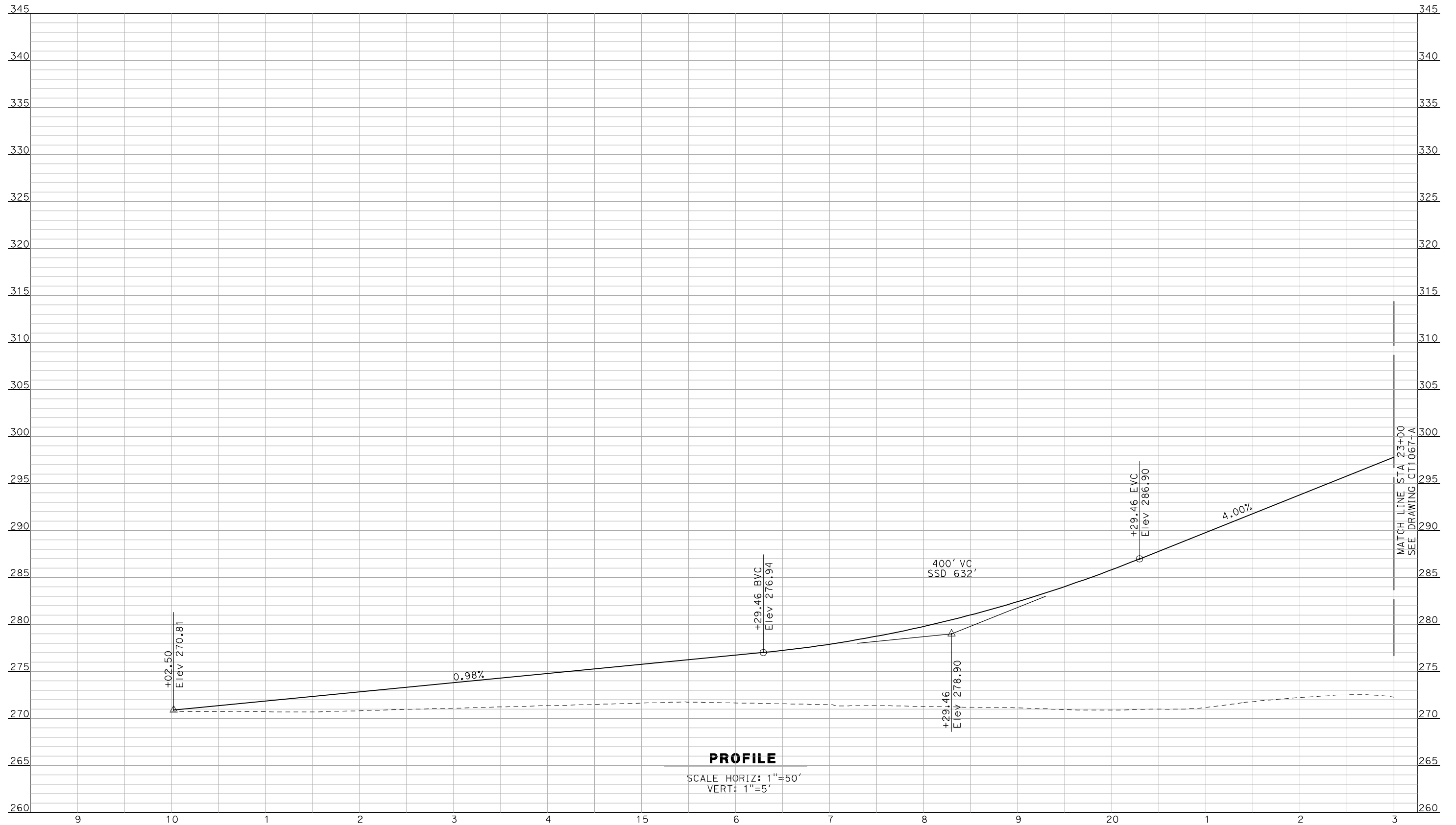
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1065-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

7/11/2011 4:42:53 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1066-A.DGN



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

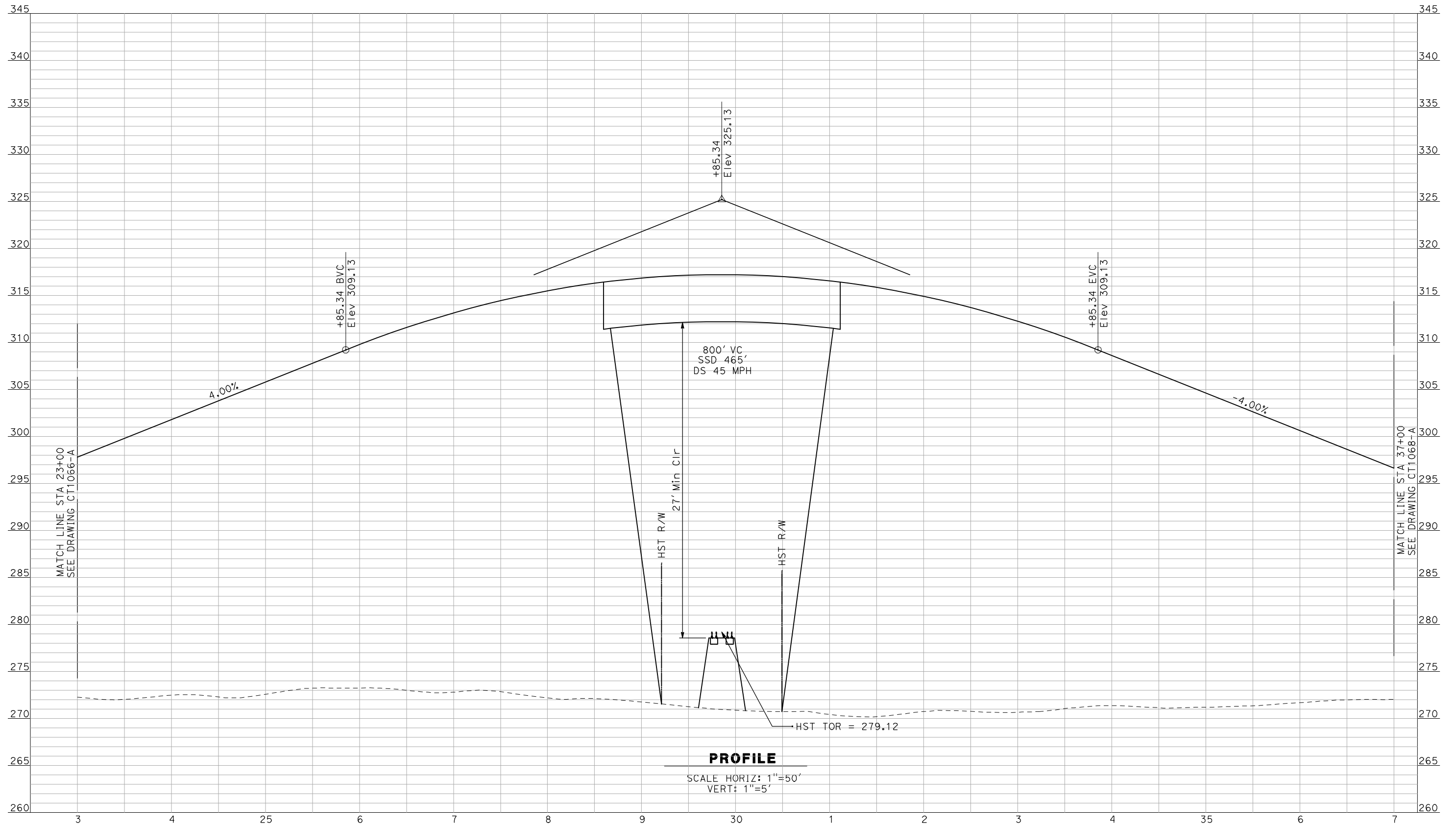


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20 1/2  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1066-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



7/11/2011 4:42:57 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1067-A.DGN



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

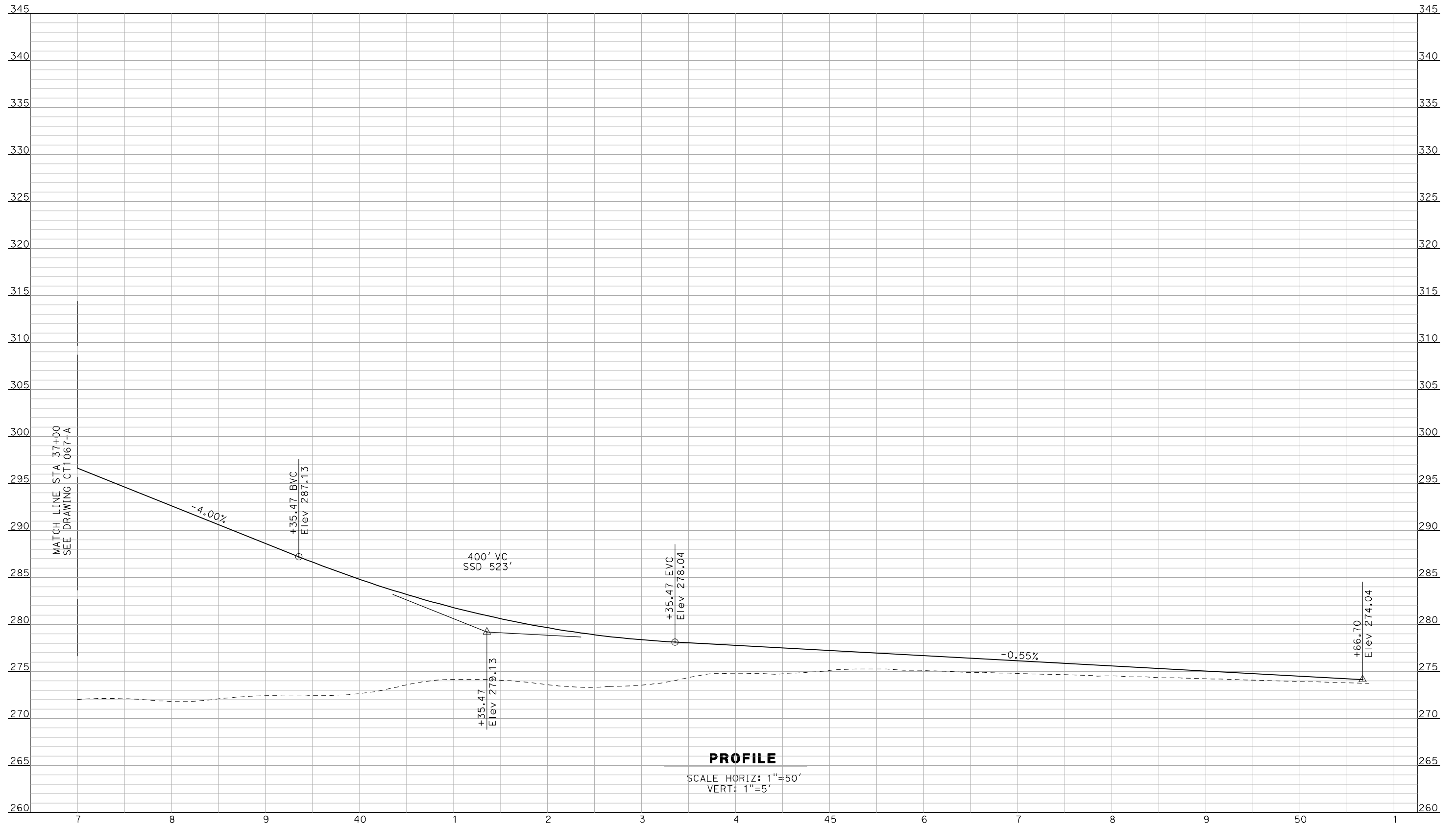
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20 1/2  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1067-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

7/11/2011 4:43:00 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1068-A.DGN



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

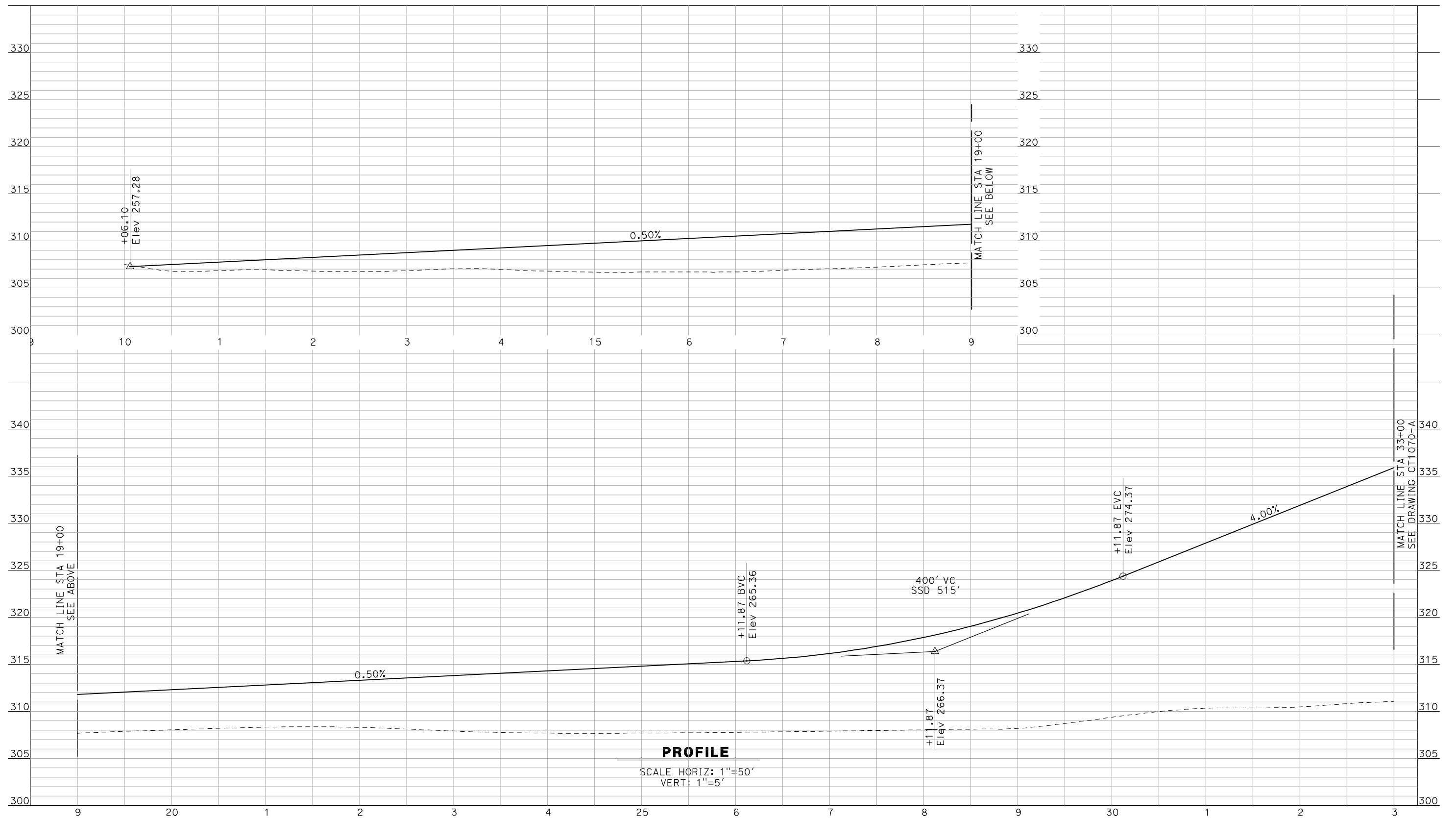


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 20 1/2  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1068-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



7/11/2011 4:43:03 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1069-A.DGN



NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

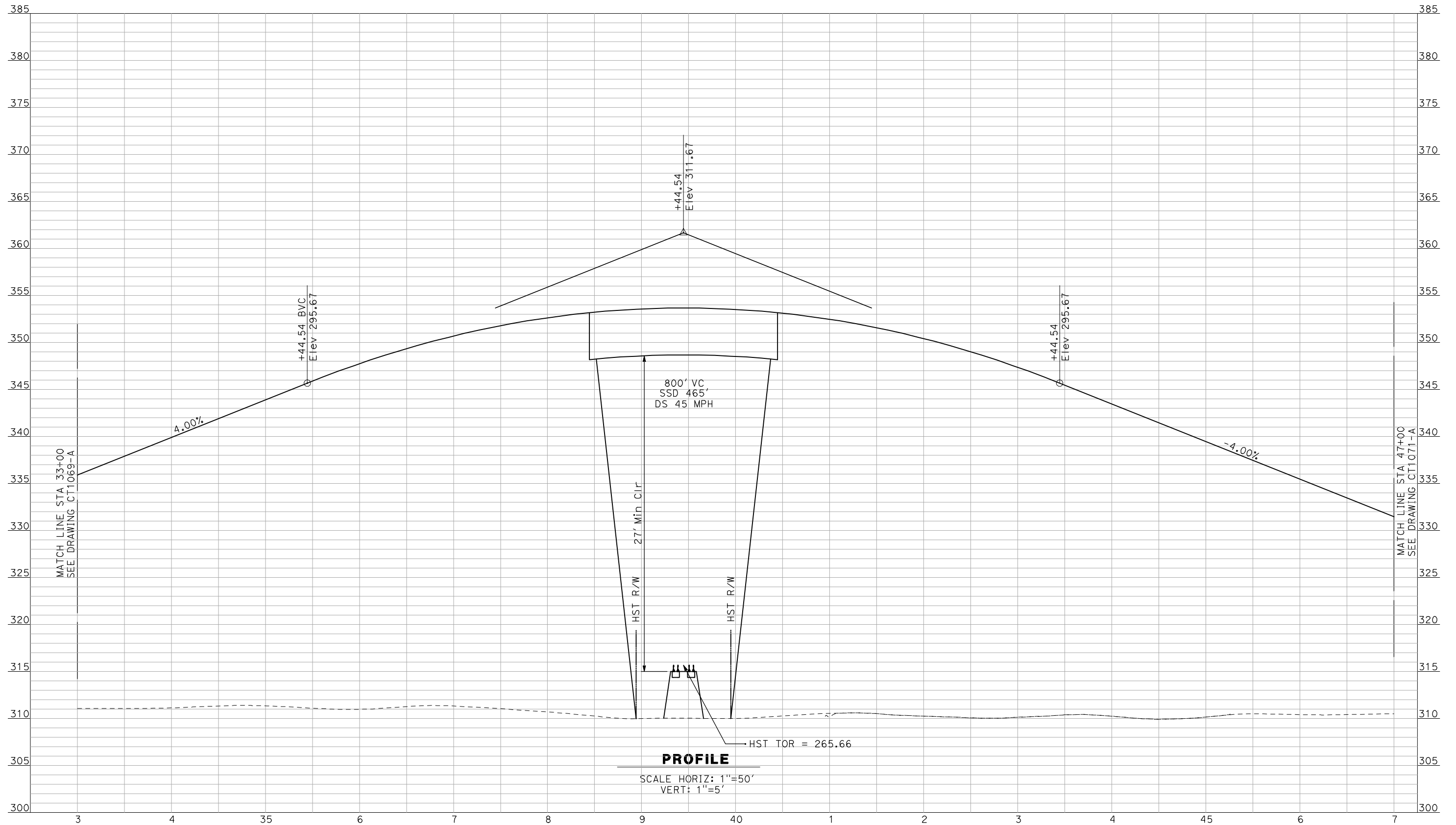
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 22  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1069-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

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**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

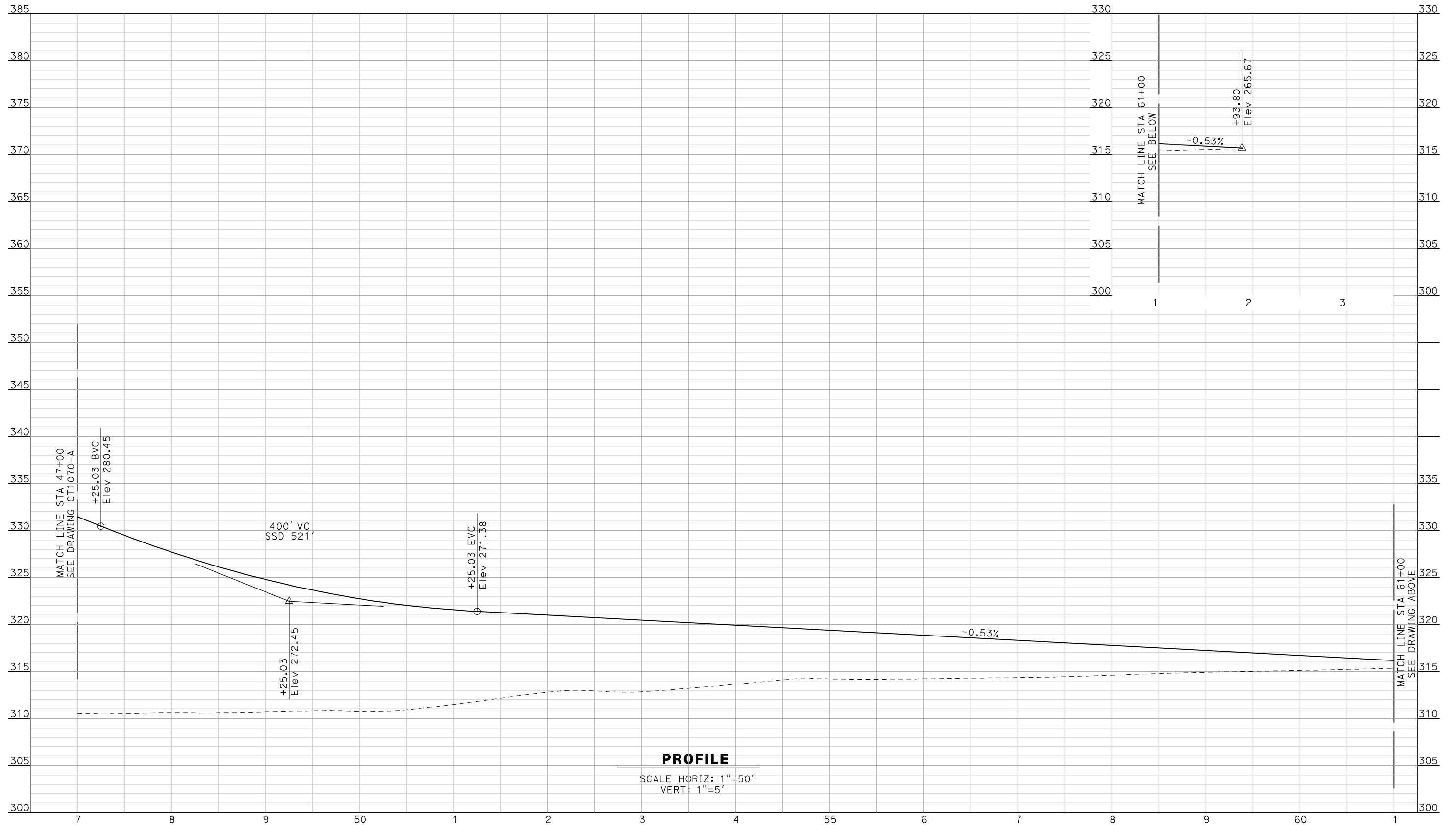


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 22  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1070-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



7/11/2011 4:43:10 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile.WF-CT-1071-A.DGN



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
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**SUBMITTAL**

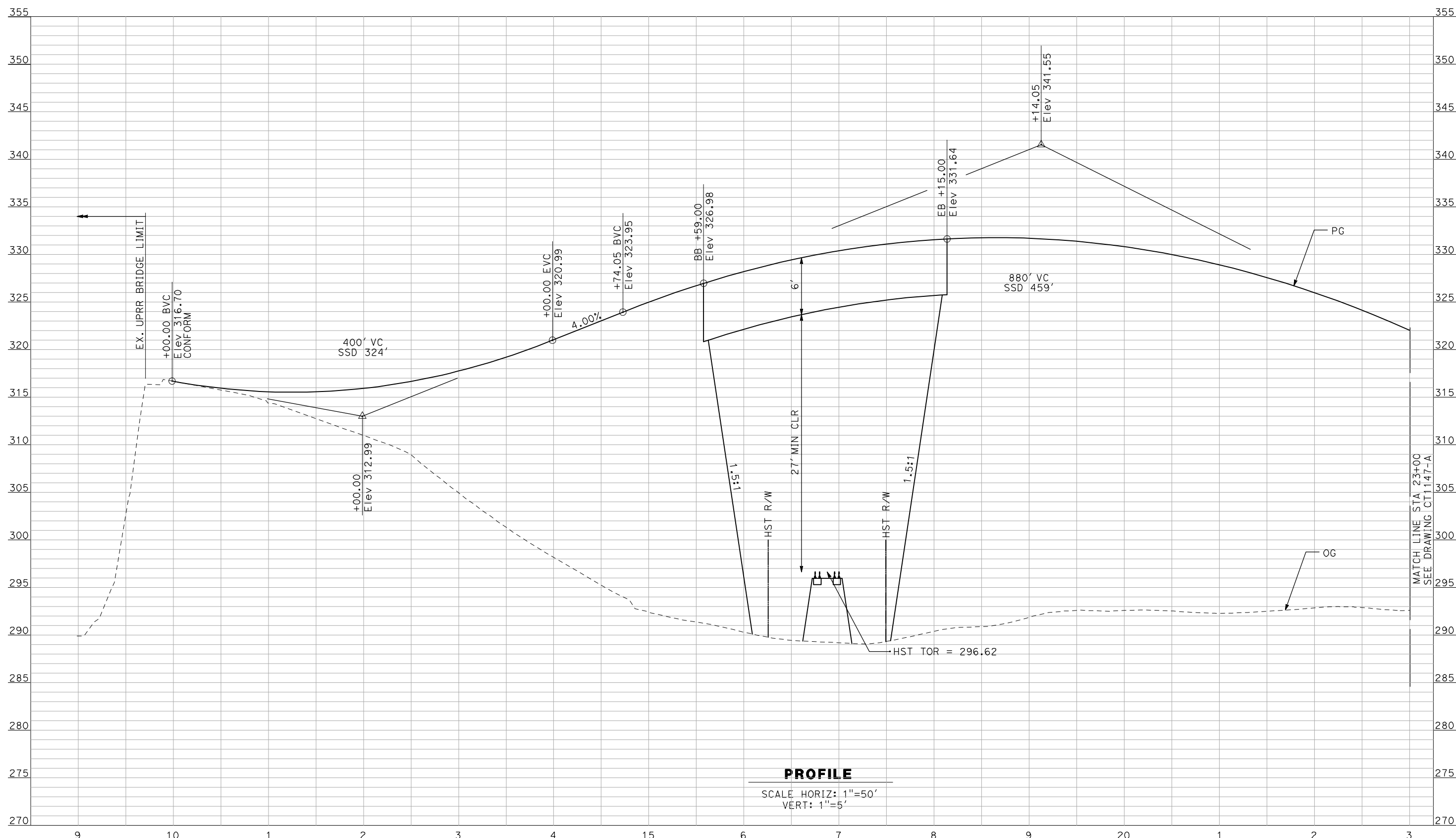
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 22  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1071-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

6/28/2011 4:34:28 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1146-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



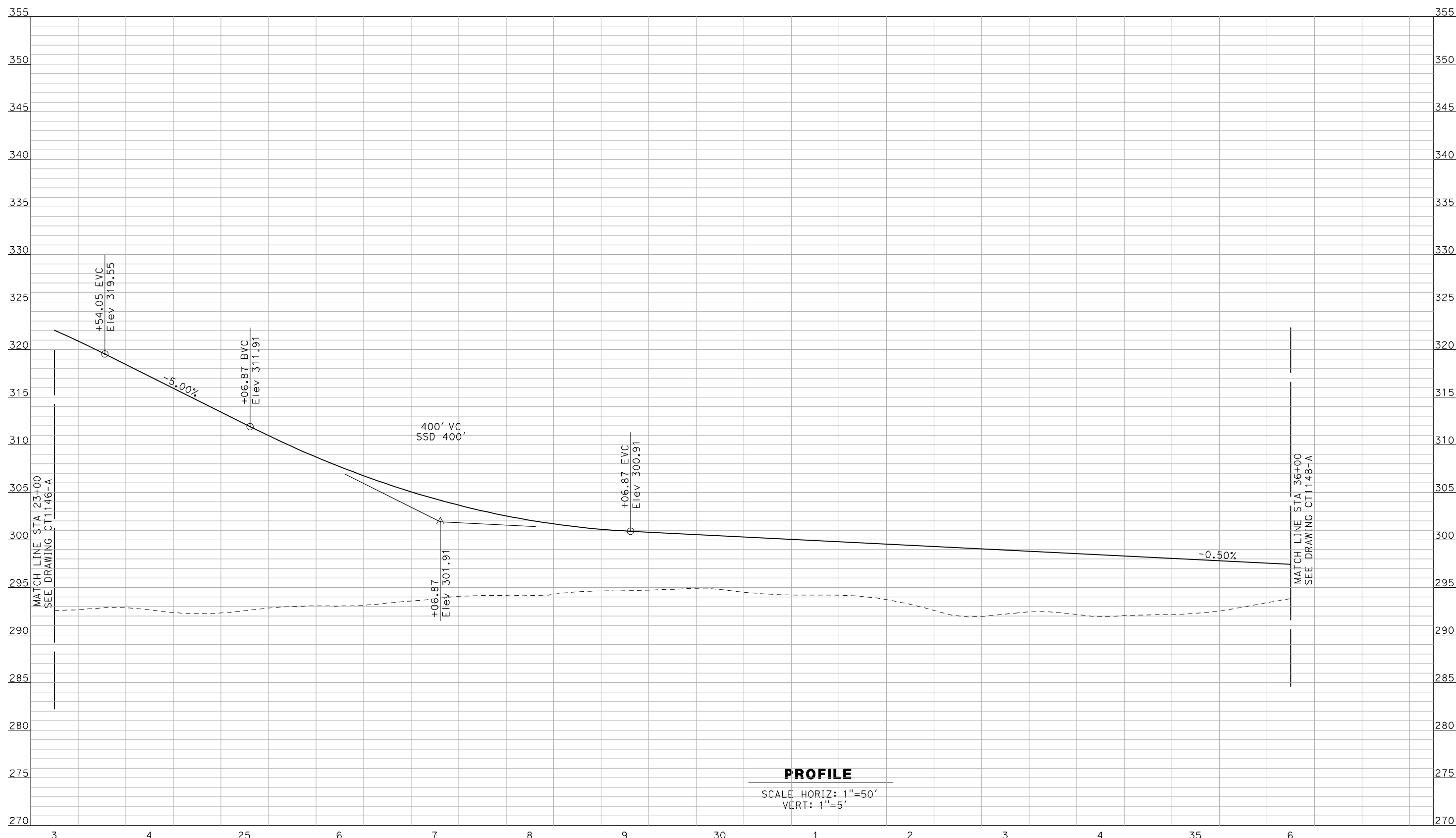
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 7  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1146-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



6/28/2011 4:34:31 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1147-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

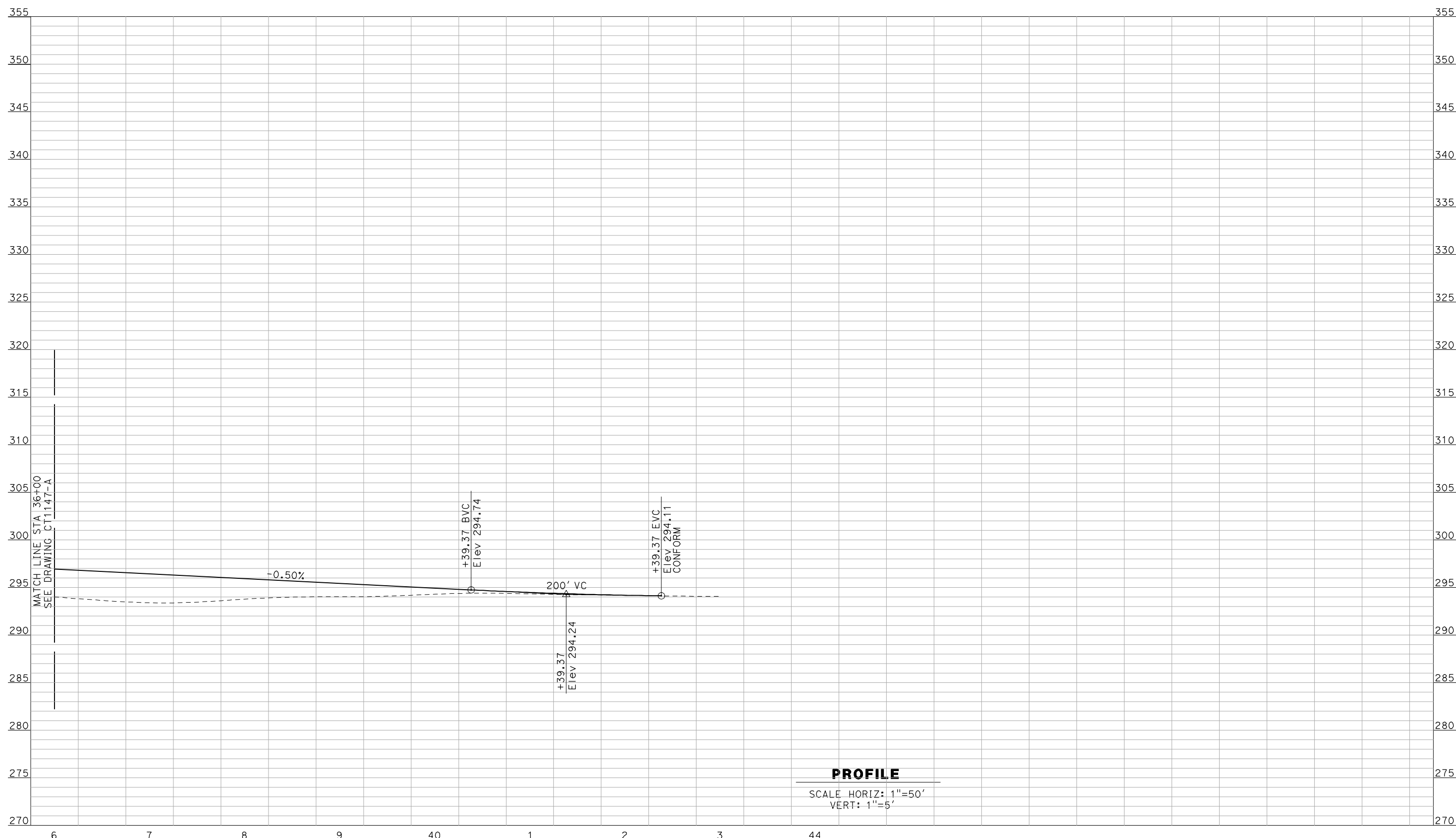


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 7  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1147-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###

6/28/2011 4:34:35 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1148-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



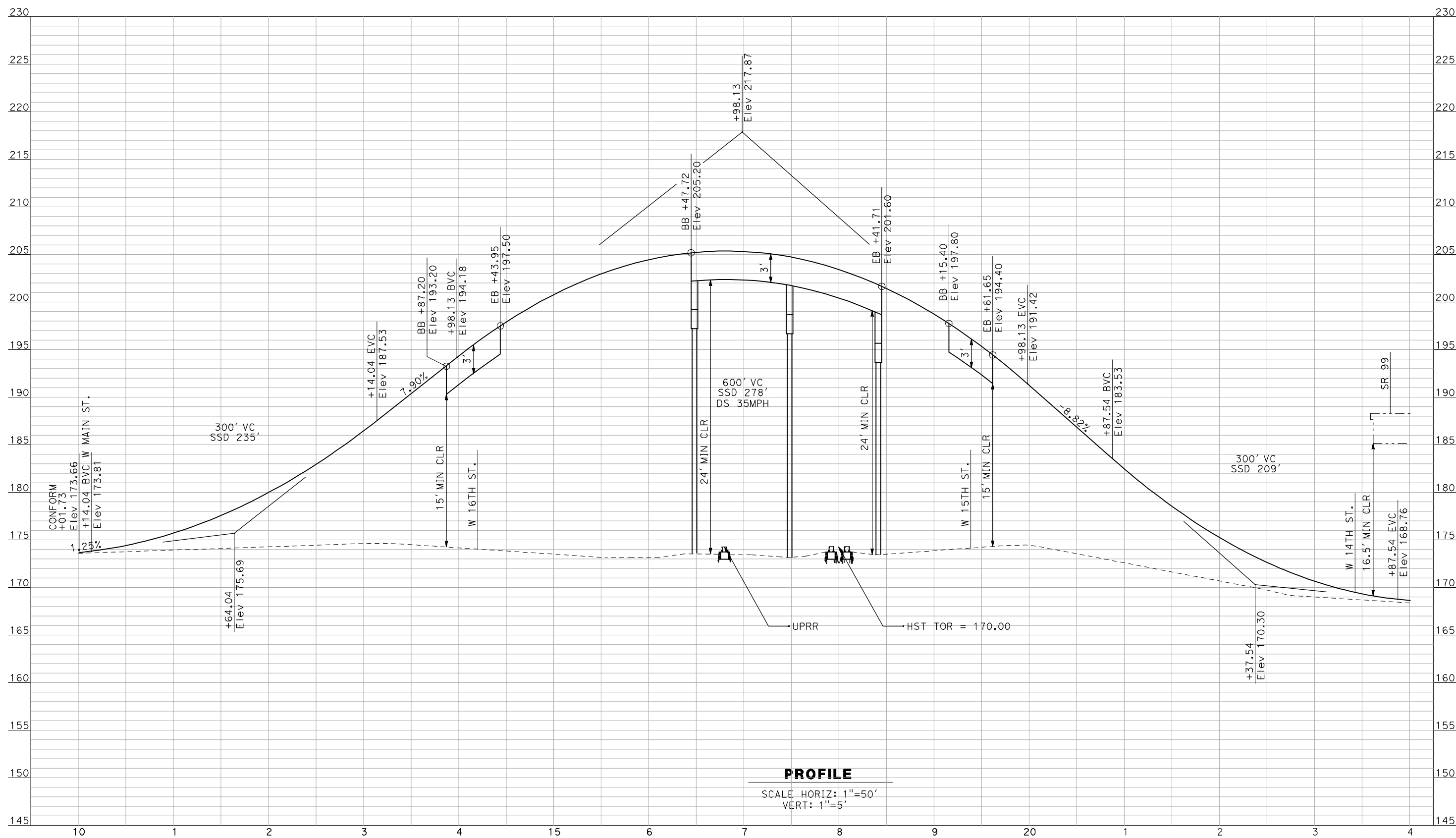
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 7  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT1148-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



6/28/2011 4:34:38 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\volume 1 - ave21hybrid grade separation\profile\common with ave 21\MF-CT-1149-A.dgn



NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

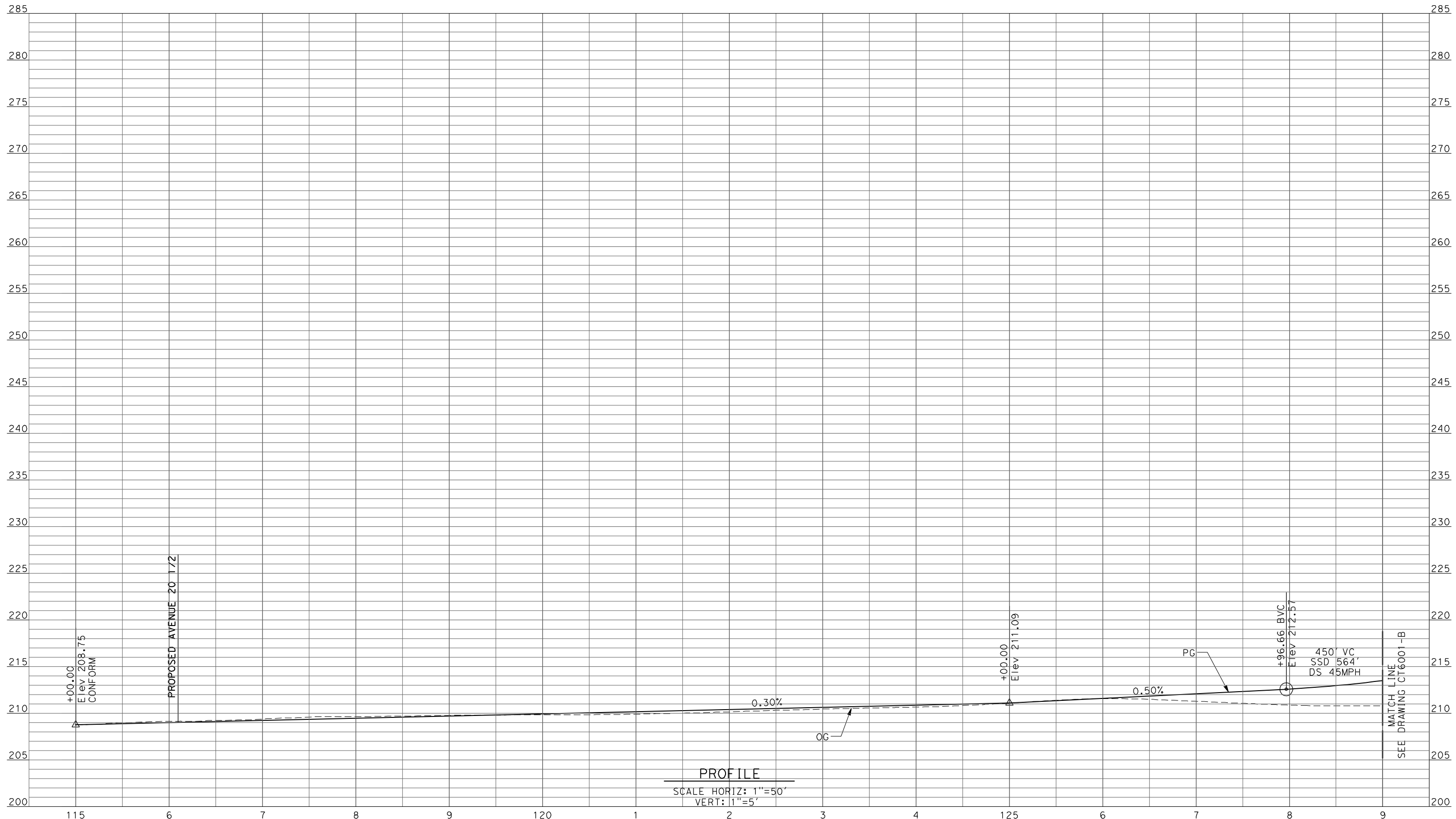
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MERCED CONNECTION - (AVE 21 HYBRID)  
 GRADE SEPARATION - G Street  
 PROFILE  
 SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT1149-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###

6/27/2011 2:02:07 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6000-B.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



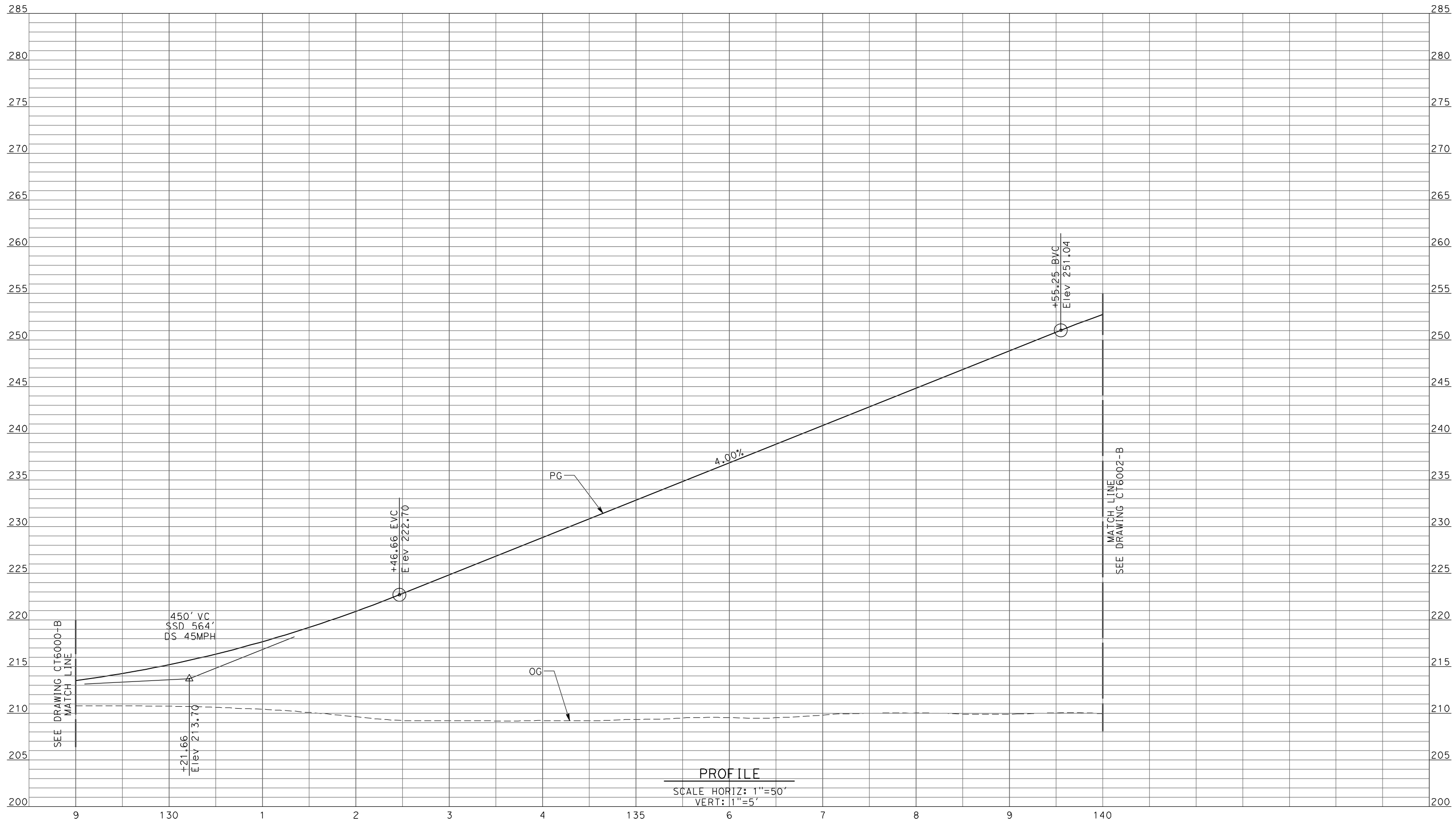
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALT 1  
 PROFILE  
 SHEET 1 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6000-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/27/2011 2:02:11 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6001-B.dgn



PROFILE  
SCALE HORIZ: 1"=50'  
VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

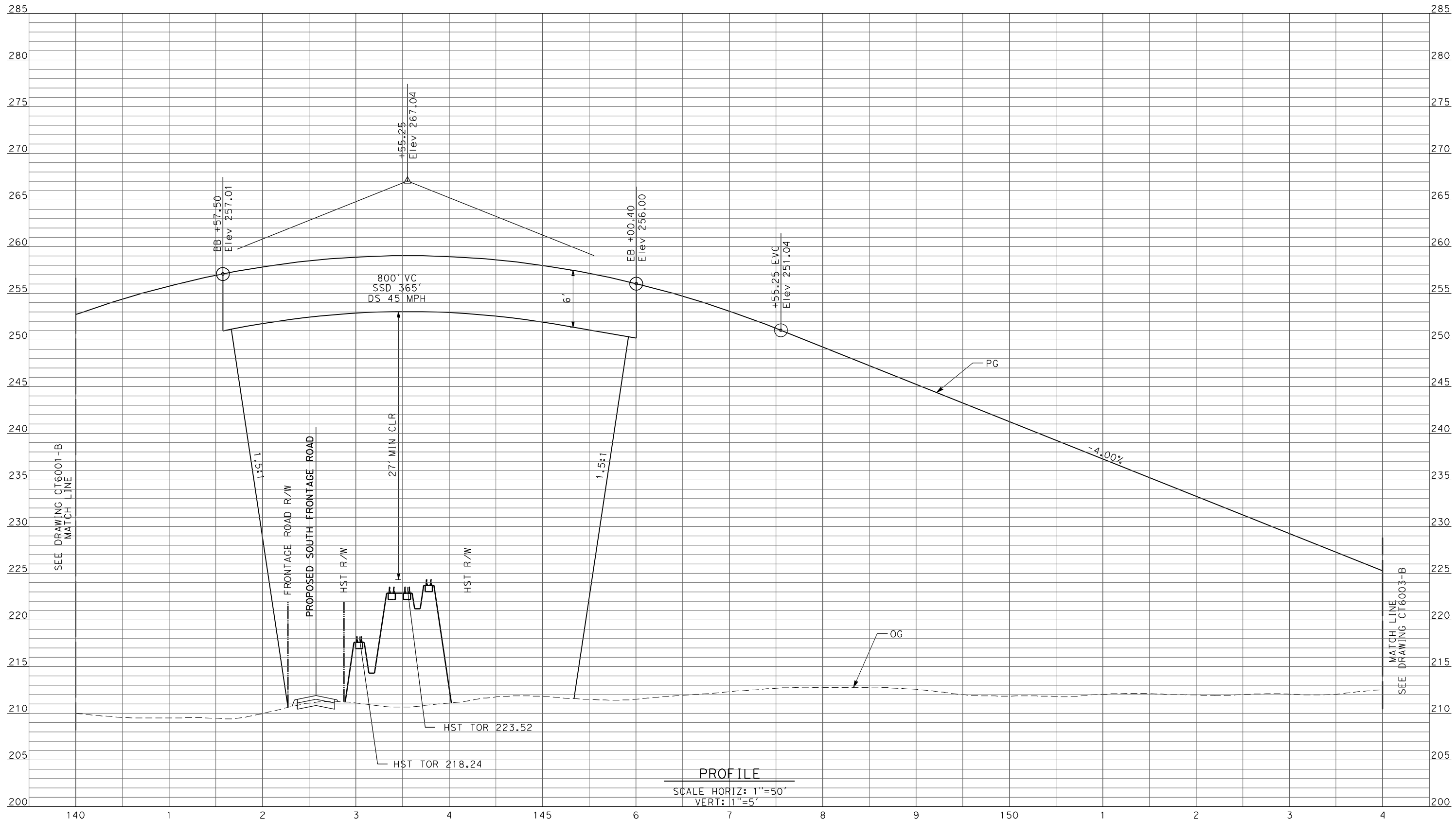


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 16 ALT 1  
PROFILE  
SHEET 2 OF 4

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT6001-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6002-B.dgn



PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



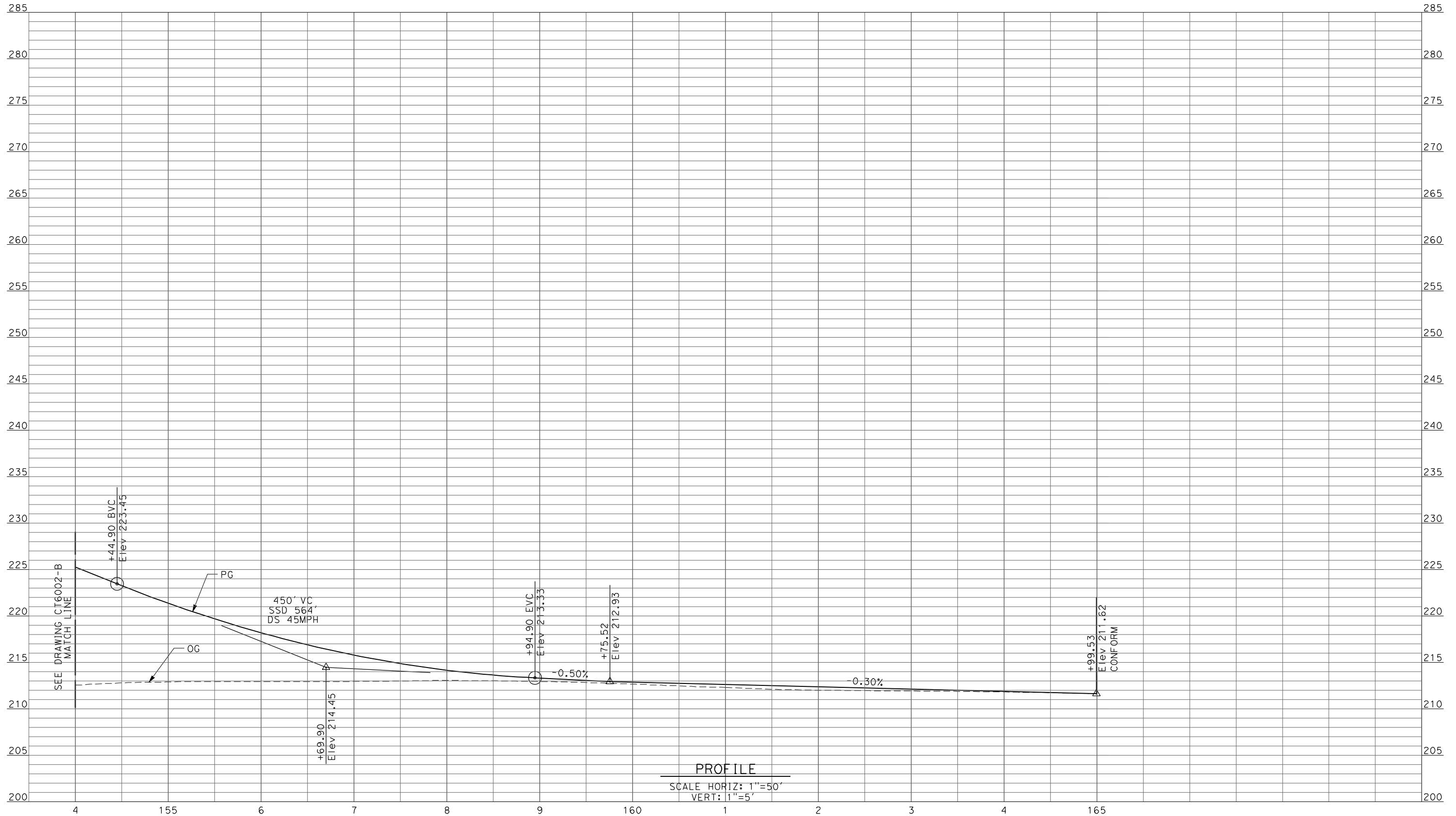
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALT 1  
 PROFILE  
 SHEET 3 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6002-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



6/27/2011 2:02:19 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6003-B.dgn



PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
 Technical Services, Inc.  
 2020 L Street, Suite 300  
 Sacramento, CA 95811

**CH2MHILL**

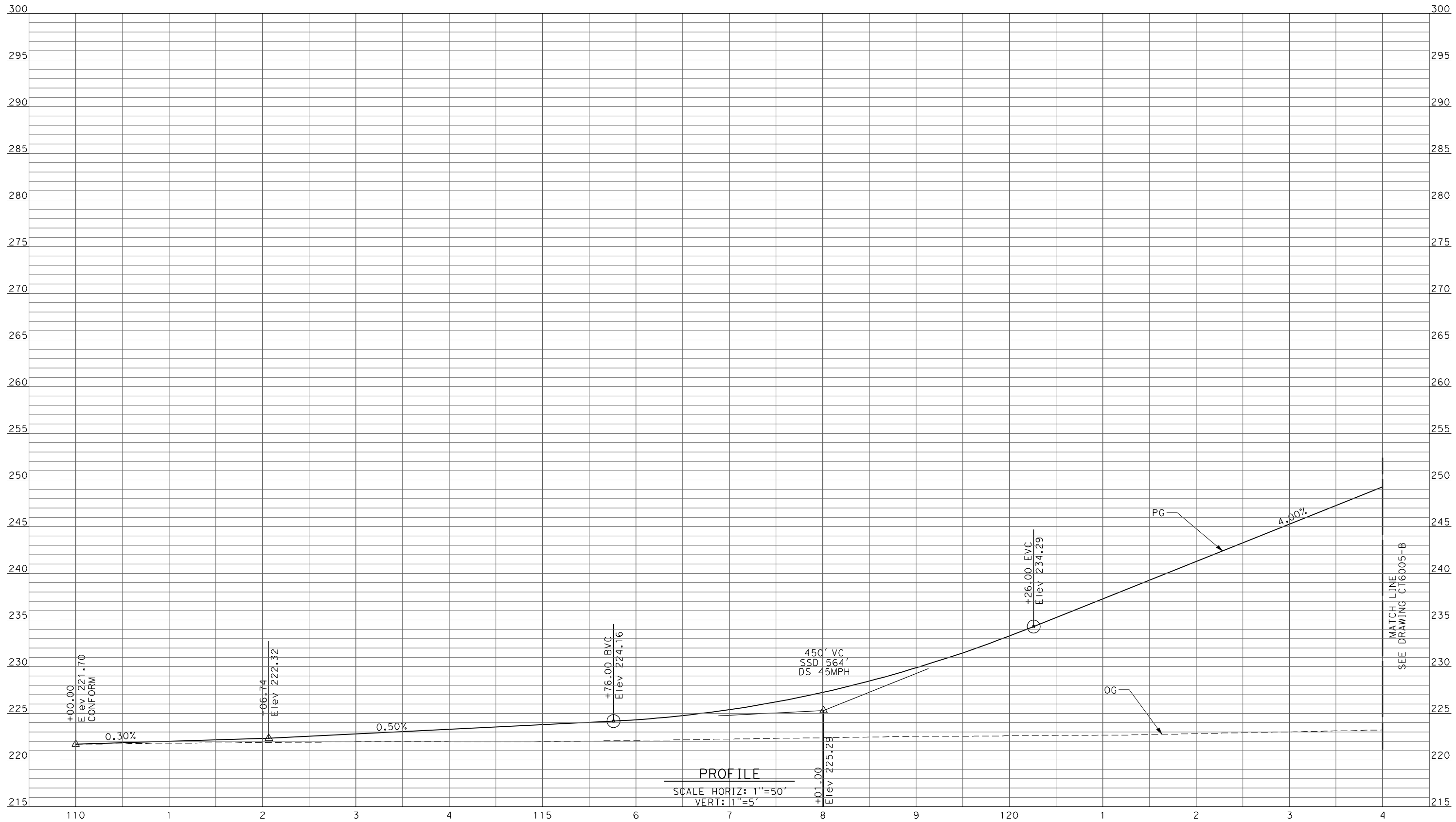


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALT 1  
 PROFILE  
 SHEET 4 OF 4

CONTRACT NO.	HSR06-007
DRAWING NO.	CT6003-B
SCALE	AS SHOWN
SHEET NO.	### OF ###

6/27/2011 2:02:23 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6004-B.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - ROAD 17 1/2

PROFILE  
SHEET 1 OF 4

CONTRACT NO.  
HSR06-007

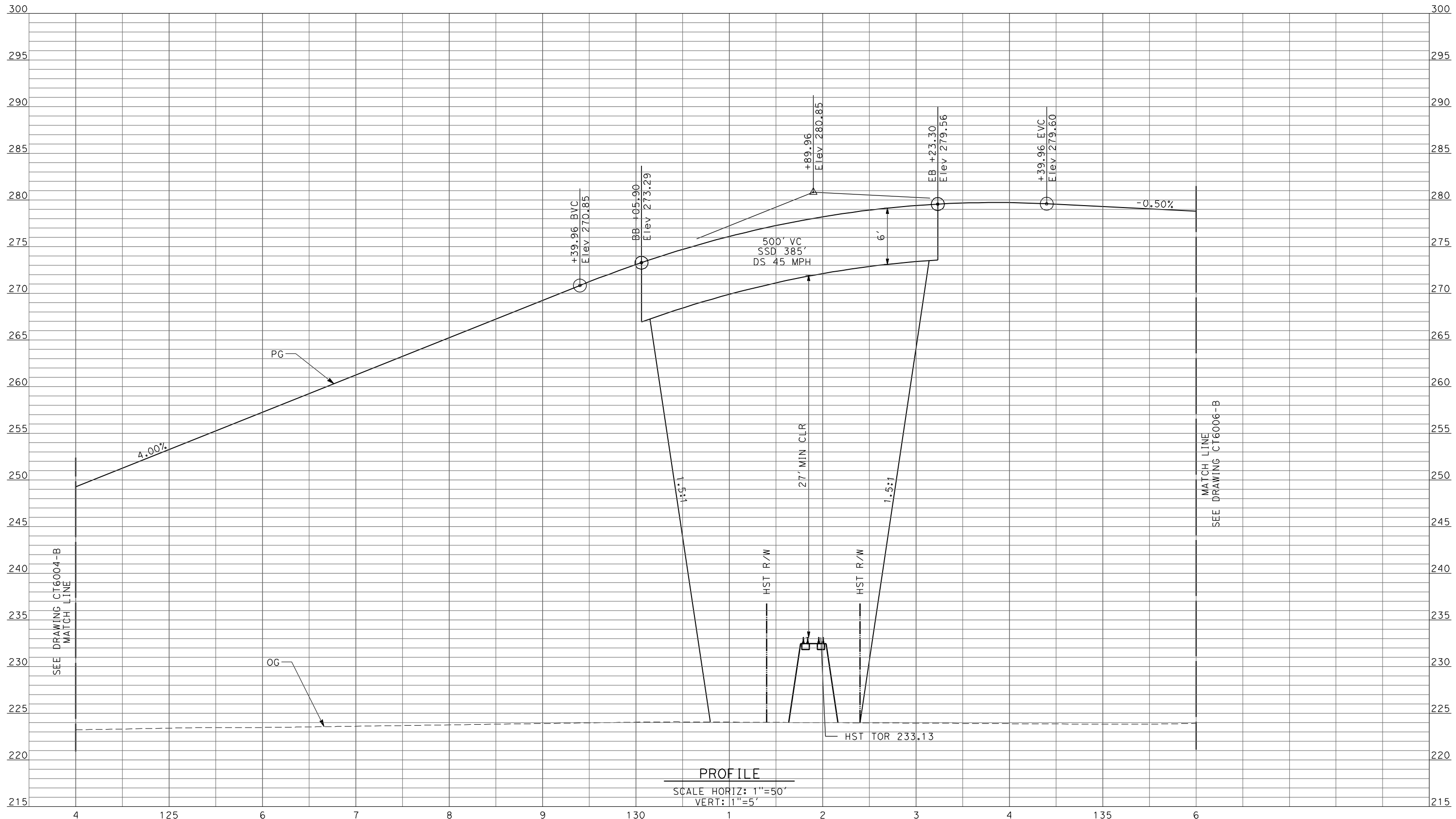
DRAWING NO.  
CT6004-B

SCALE  
AS SHOWN

SHEET NO.  
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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

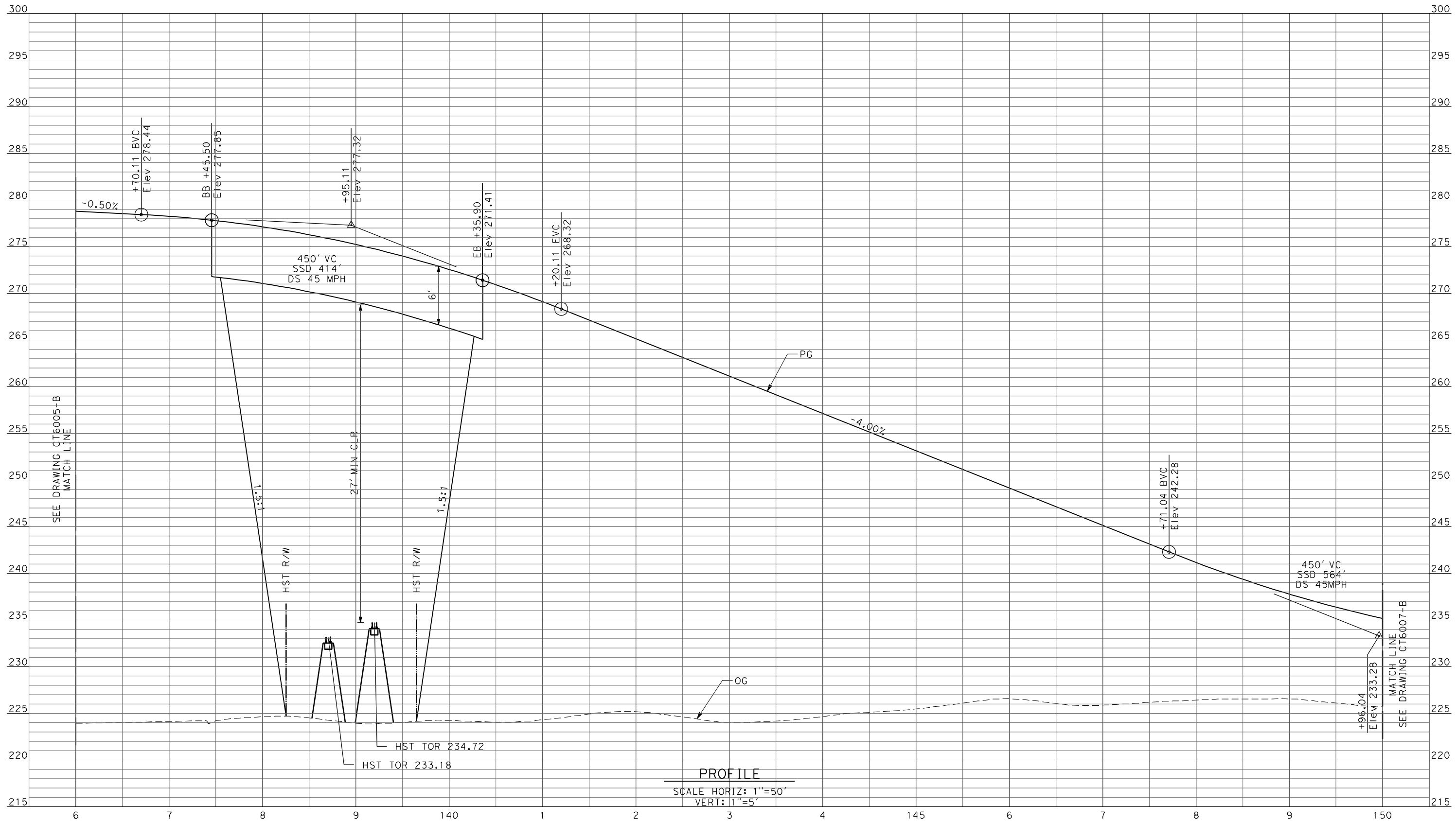


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 17 1/2  
 PROFILE  
 SHEET 2 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6005-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



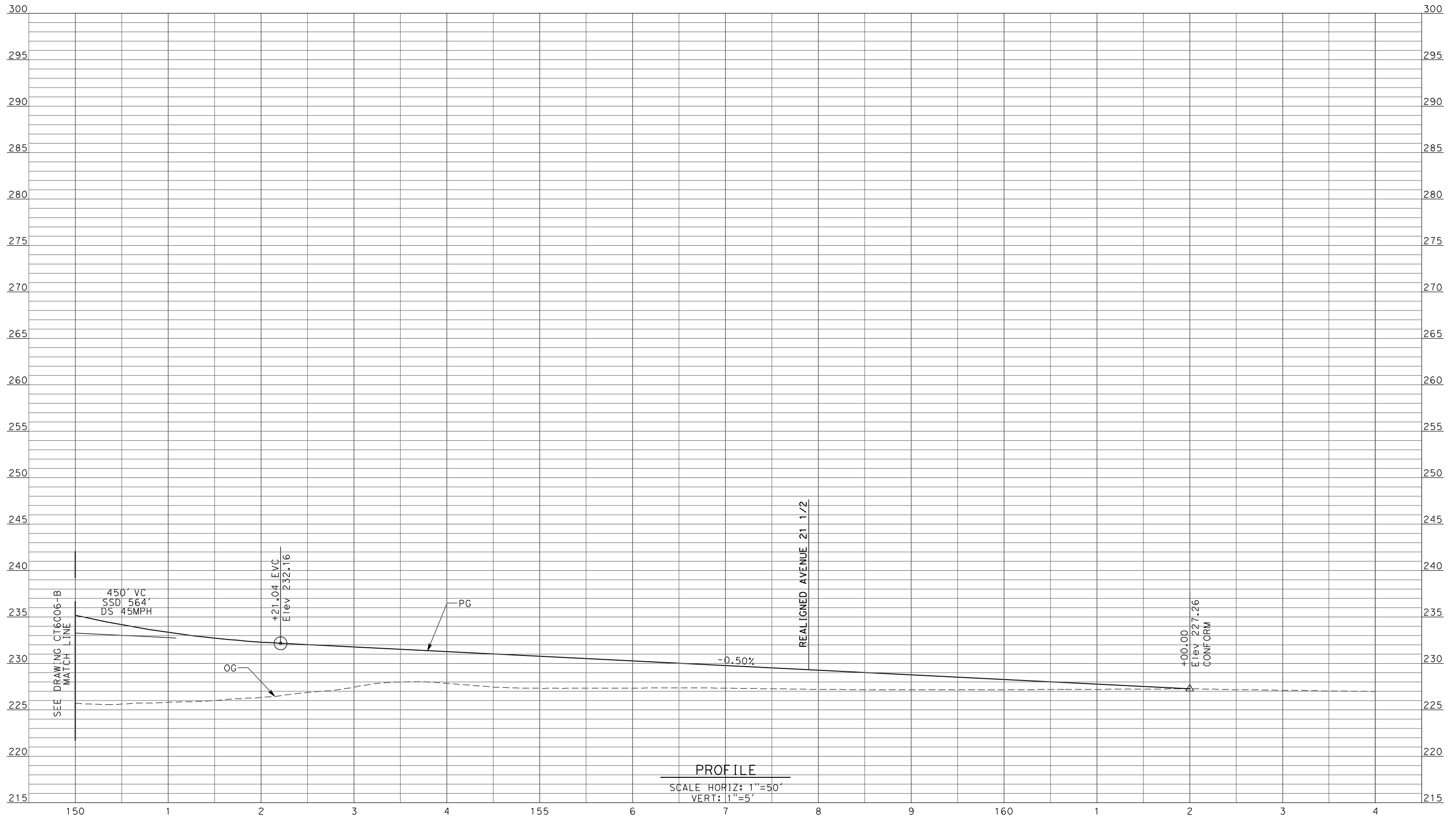
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 17 1/2  
 PROFILE  
 SHEET 3 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6006-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET  
 15% DESIGN  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**

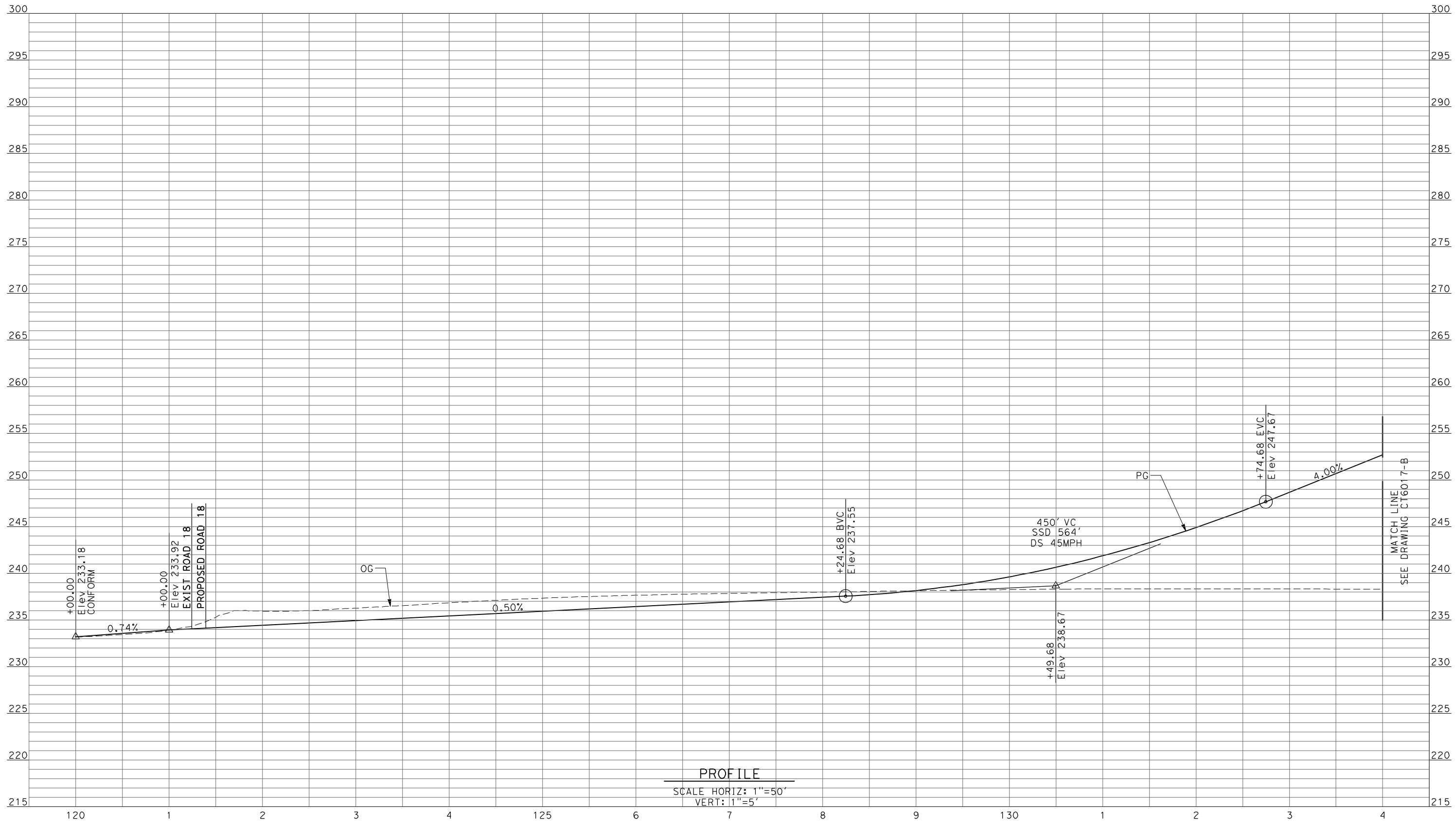


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 17 1/2  
 PROFILE  
 SHEET 4 OF 4

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6007-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

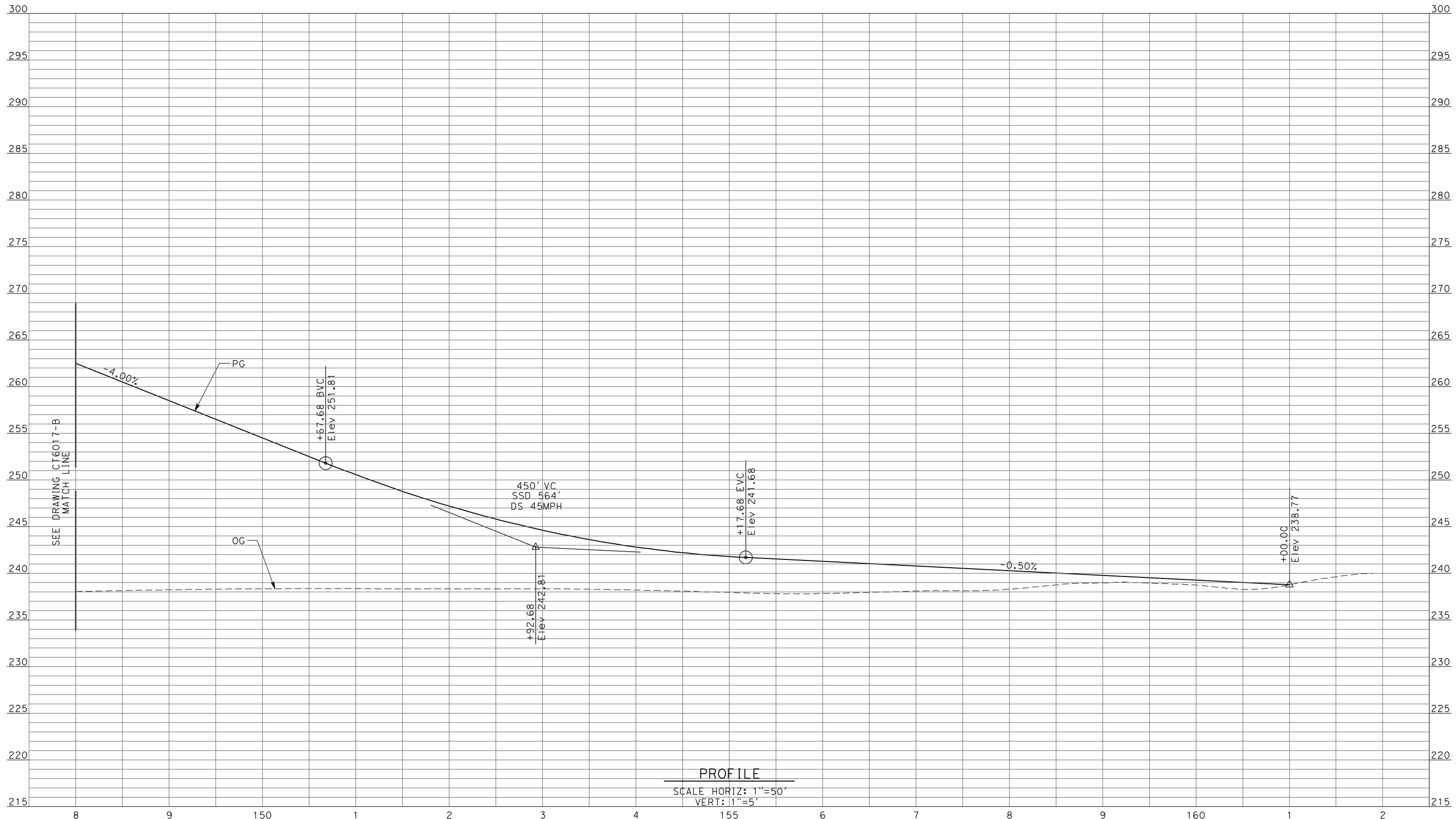
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 GRADE SEPARATION - AVENUE 22  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6016-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###





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PROFILE  
SCALE HORIZ: 1"=50'  
VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



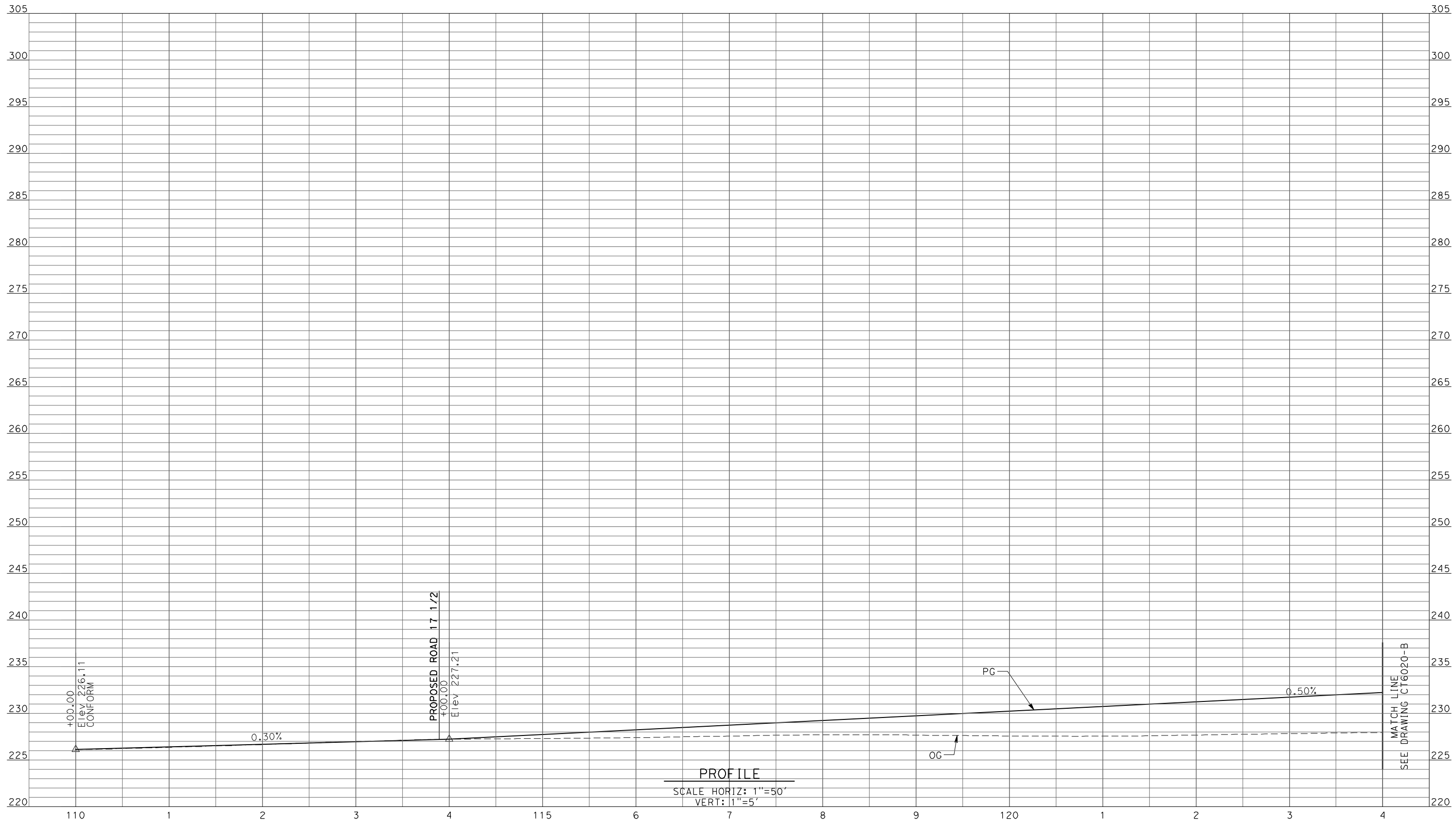
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 22  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT6018-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 2:02:55 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6019-B.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

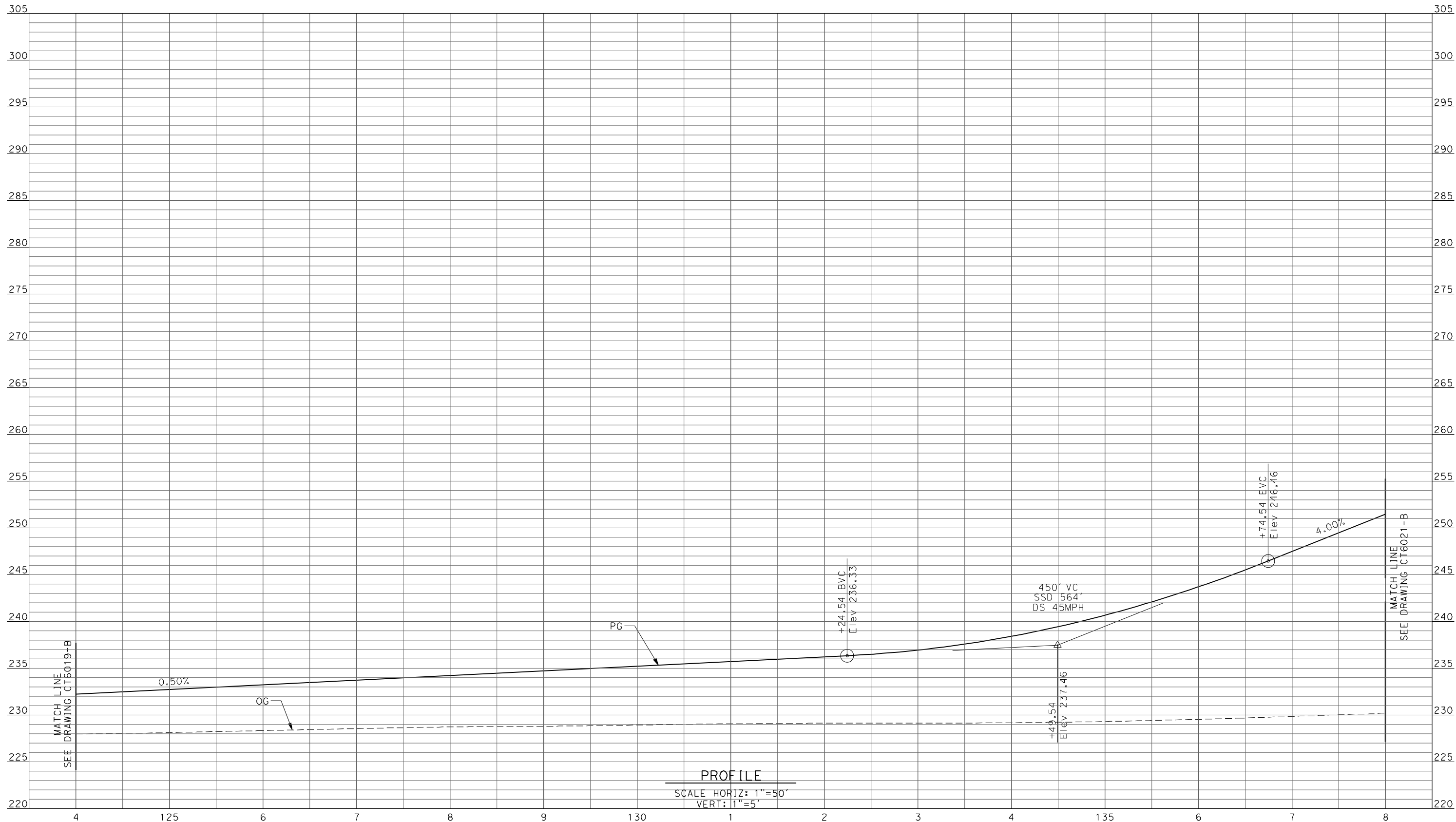


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 21 1/2  
 PROFILE  
 SHEET 1 OF 5

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6019-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6020-B.dgn



oyeiled

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



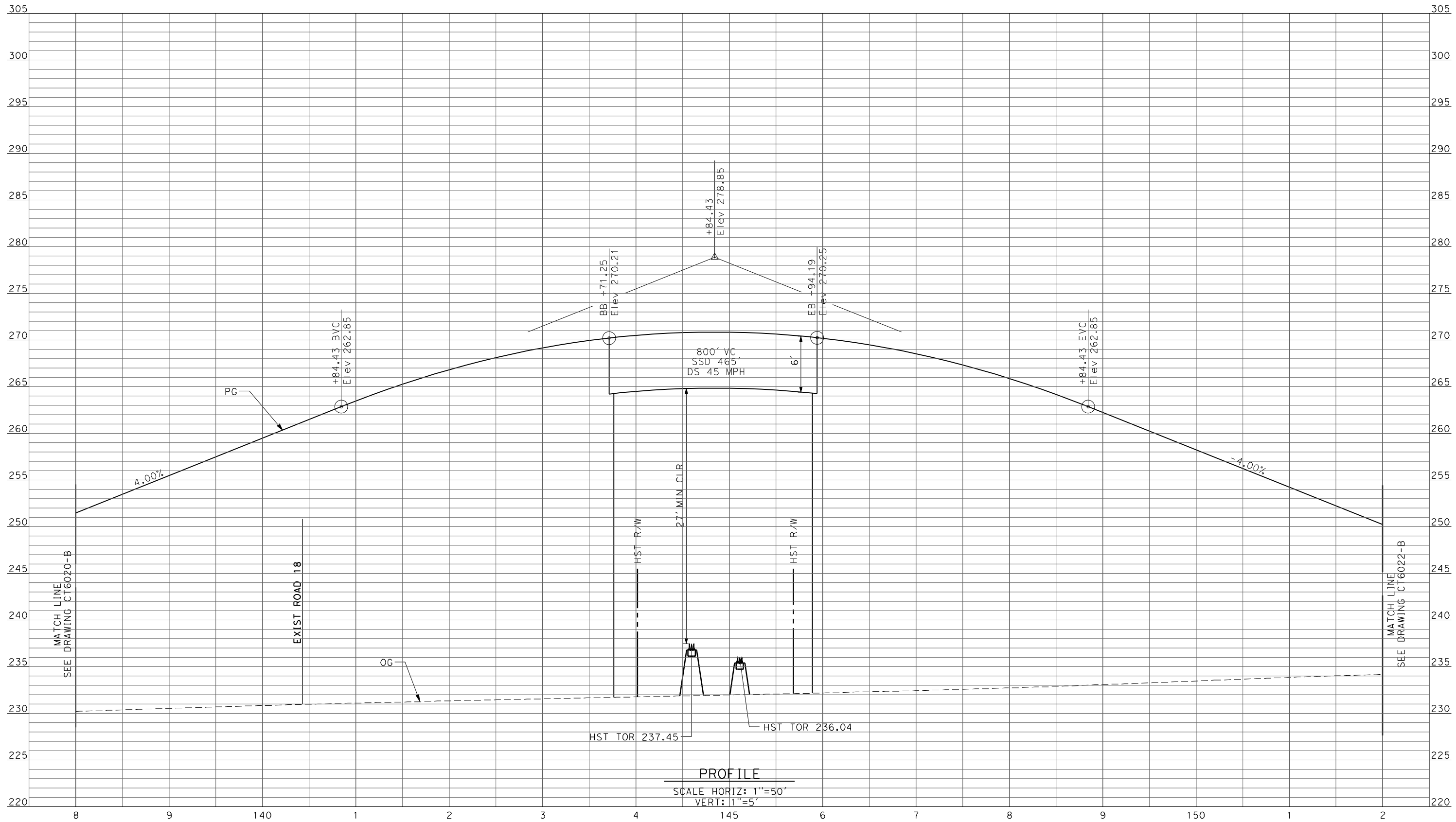
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 21 1/2  
 PROFILE  
 SHEET 2 OF 5

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6020-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET  
 15% DESIGN  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**

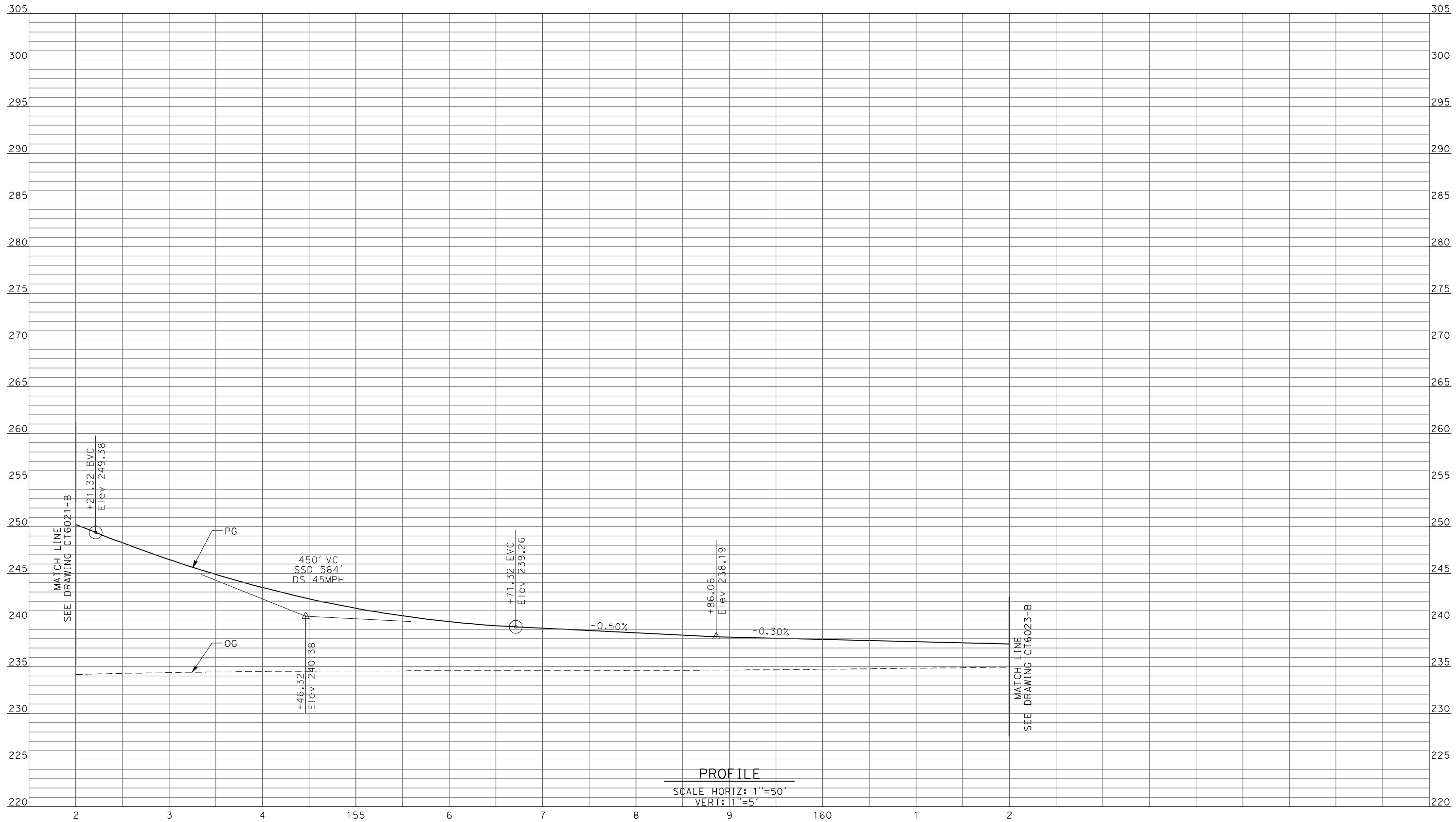


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 21 1/2  
 PROFILE  
 SHEET 3 OF 5

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6021-B  
 SCALE  
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 SHEET NO.  
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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



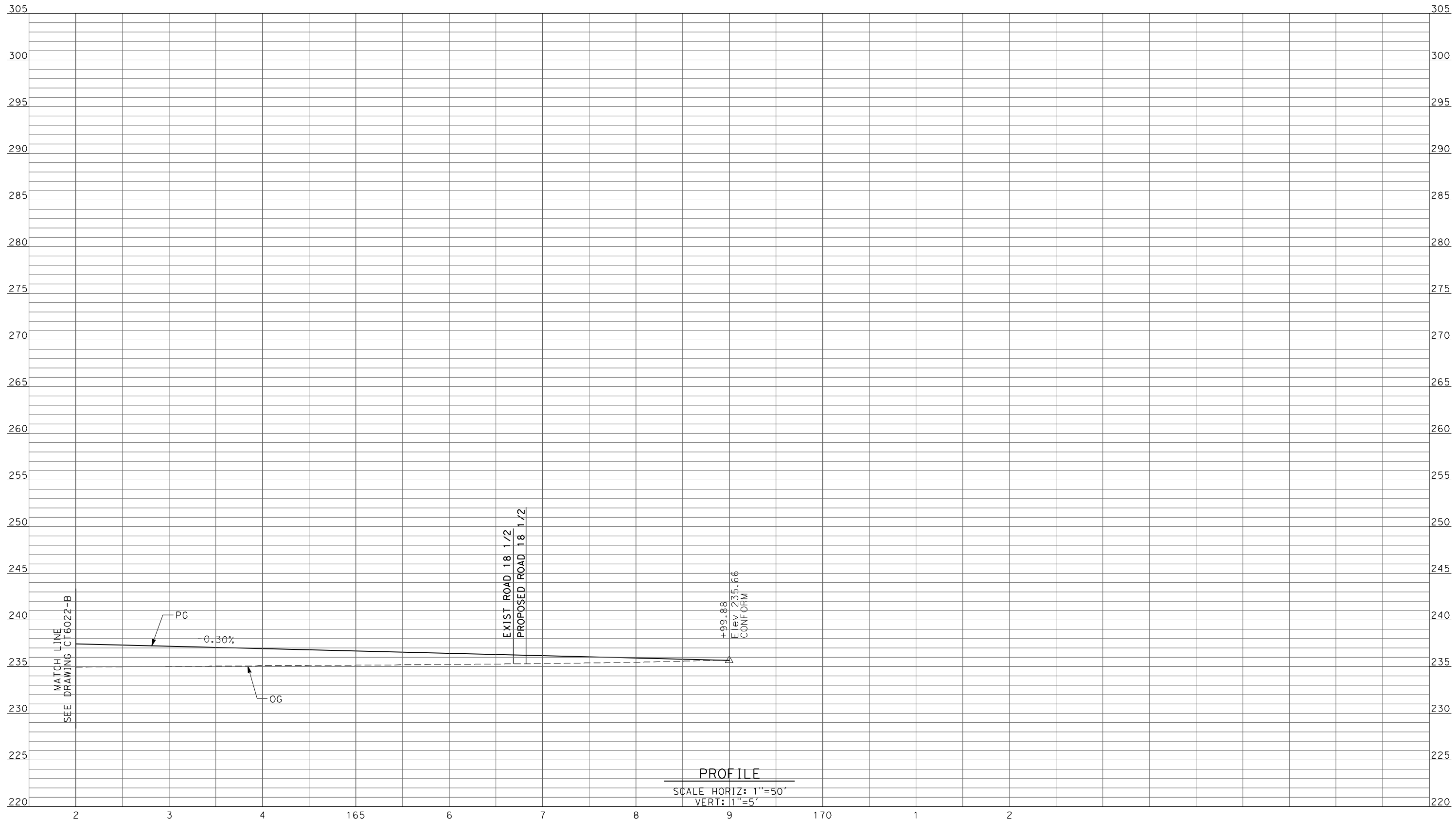
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 21 1/2  
 PROFILE  
 SHEET 4 OF 5

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6022-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



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PROFILE  
SCALE HORIZ: 1"=50'  
VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

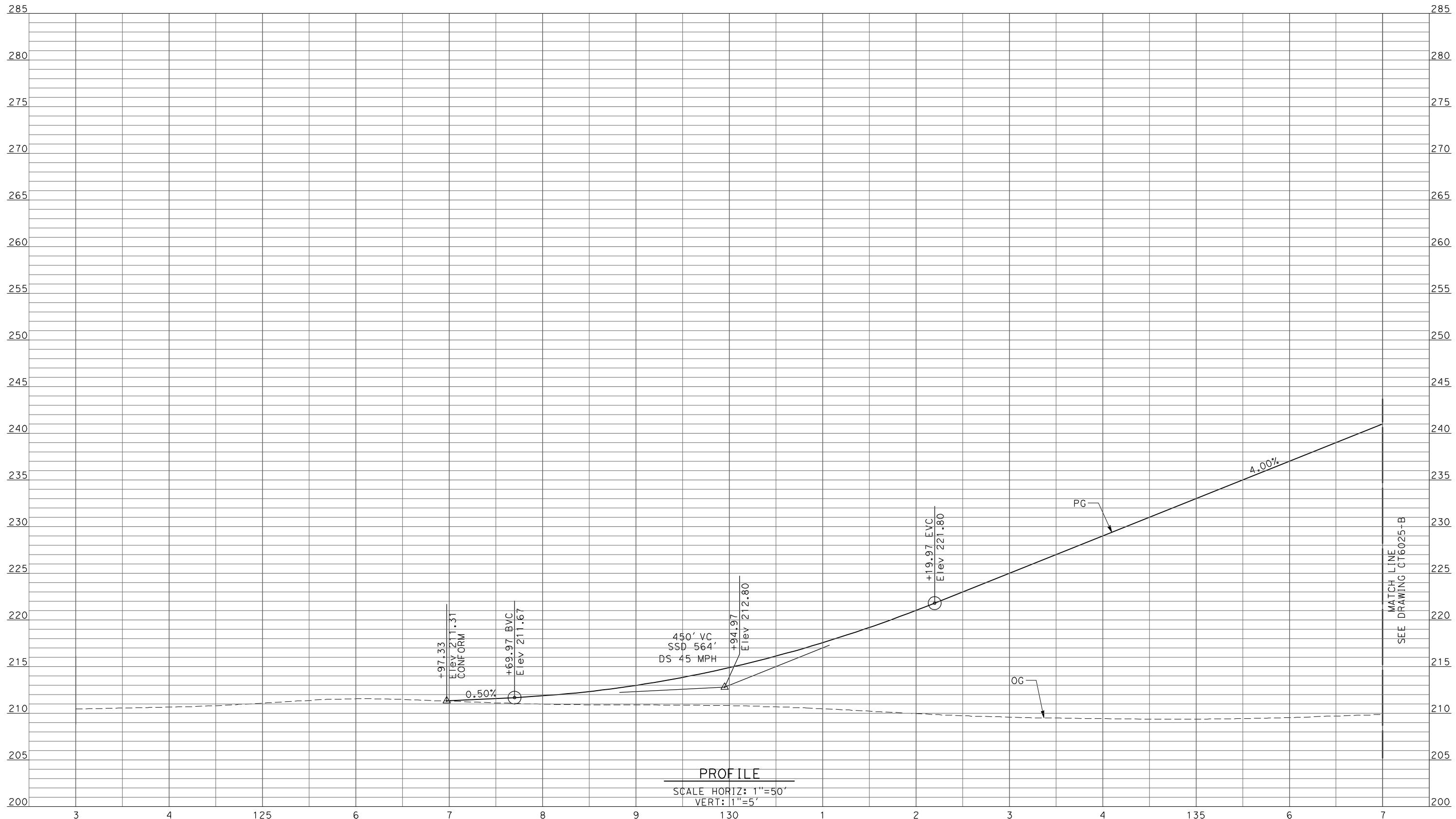


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 WYE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 21 1/2  
PROFILE  
SHEET 5 OF 5

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT6023-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

6/27/2011 2:03:17 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 1B - Ave 21 Hybrid Grade Separation\Profile\CT6024-B.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
C. DELOS REYES  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



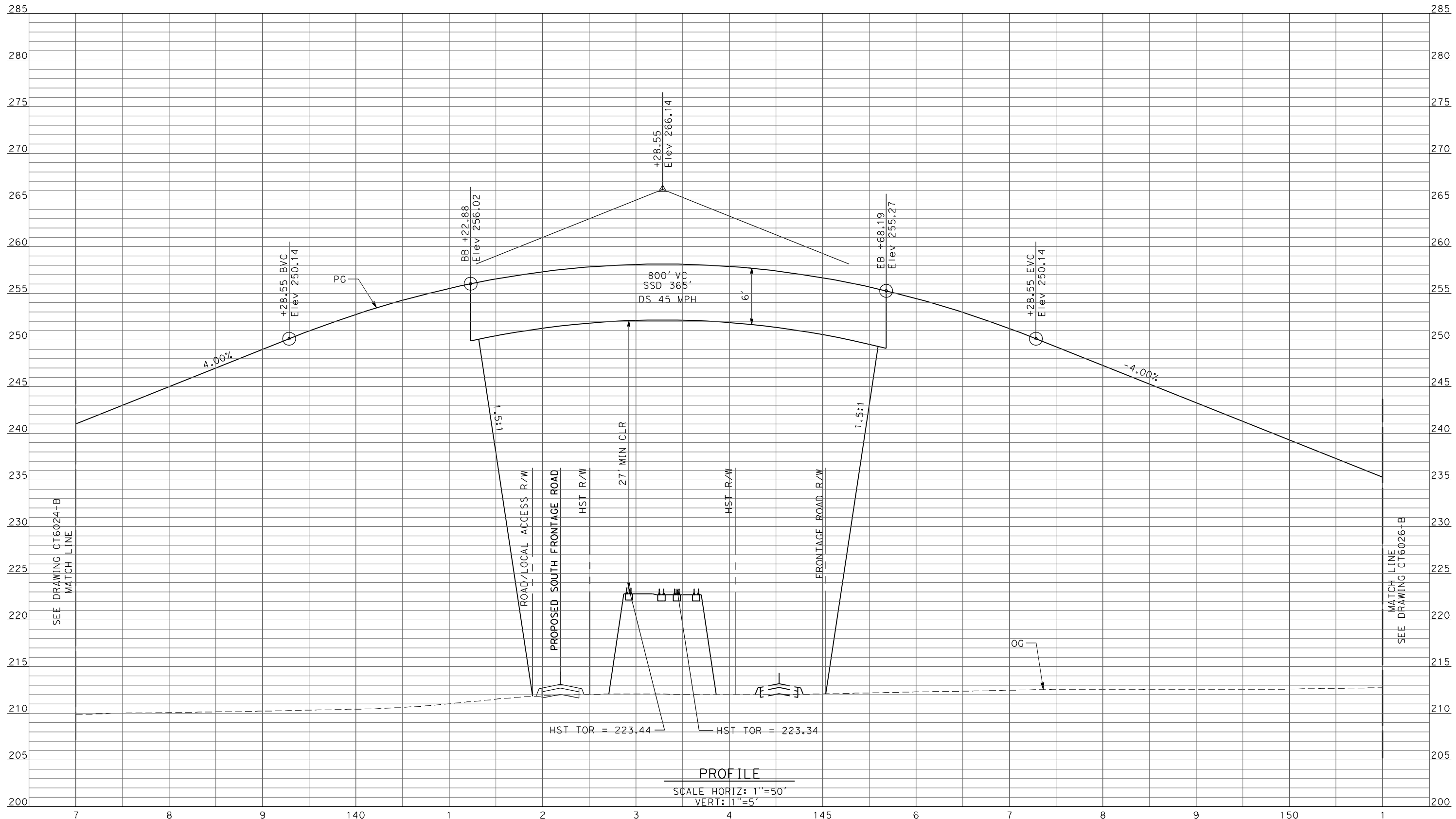
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
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 SCALE  
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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
C. DELOS REYES  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

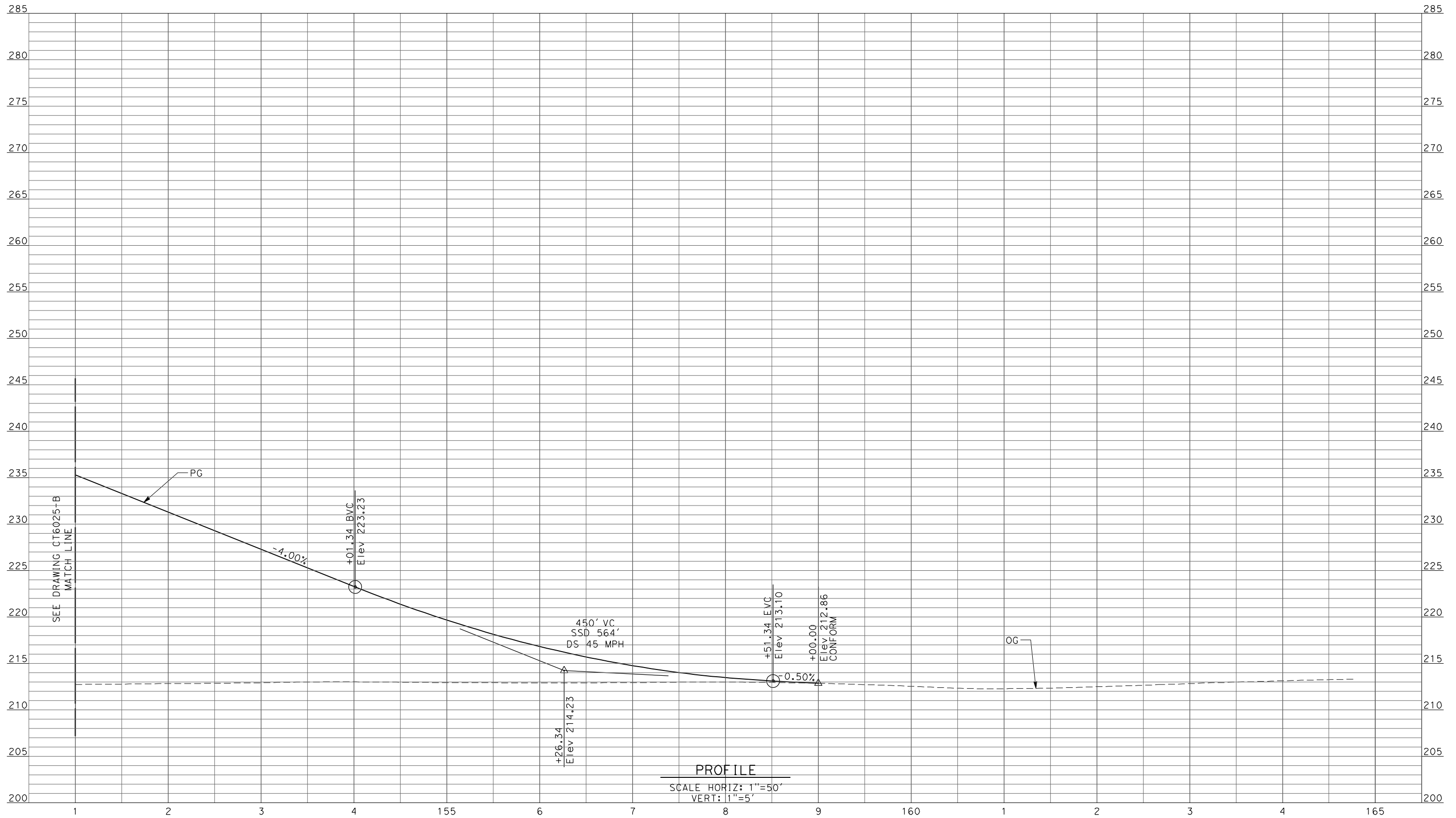


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
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PROFILE  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
C. DELOS REYES  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET  
 15% DESIGN  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**



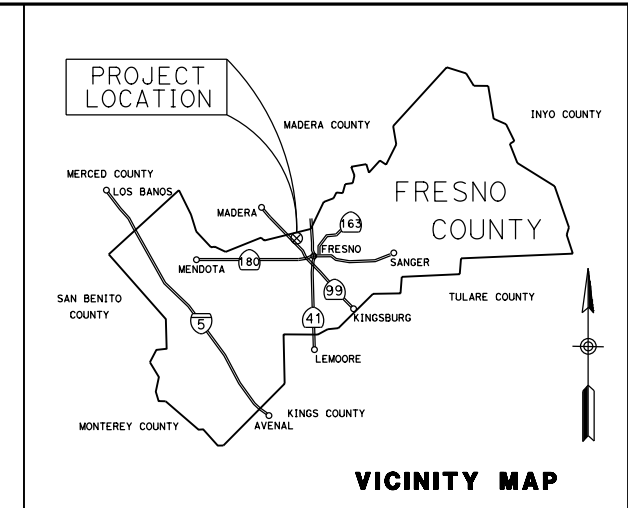
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 GRADE SEPARATION - ROAD 16 ALONG EXIST ALT 2  
 PROFILE  
 SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
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AS SHOWN  
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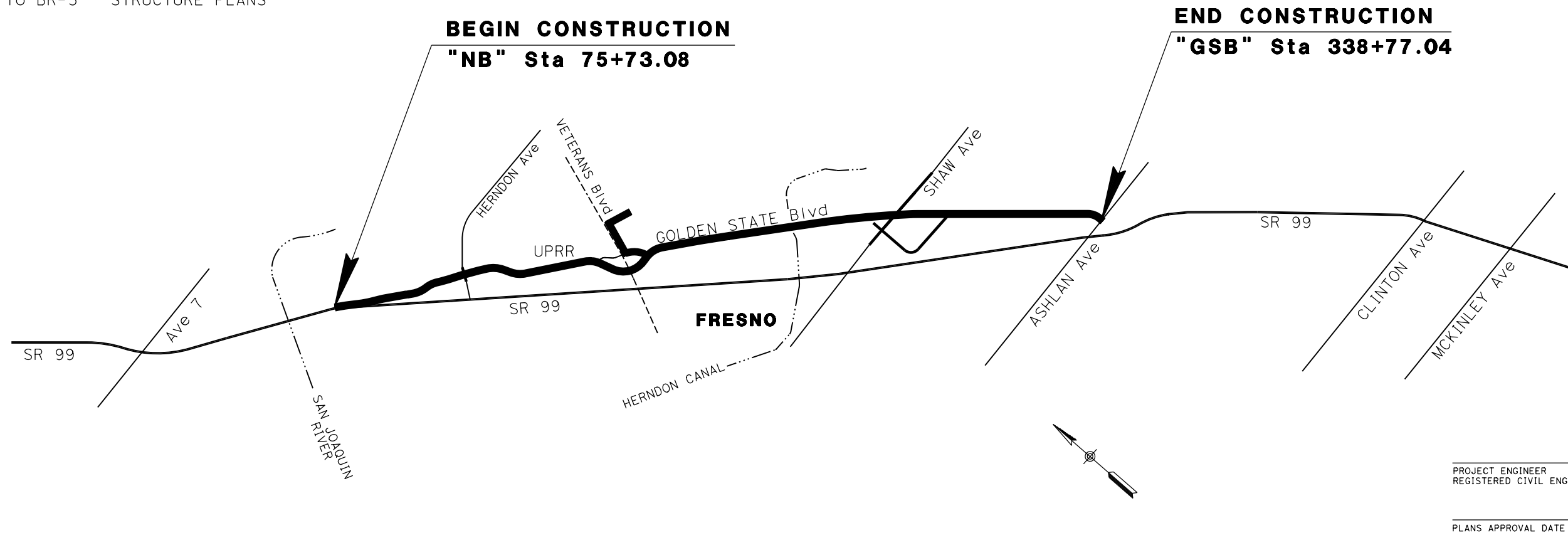


**CALIFORNIA HIGH SPEED RAIL AUTHORITY**  
**CITY OF FRESNO**  
**DEPARTMENT OF PUBLIC WORKS**  
**CONSTRUCTION PLANS FOR**  
**GOLDEN STATE BOULEVARD**



INDEX OF PLANS

T-1	TITLE SHEET
X-1 TO X-18	TYPICAL CROSS SECTIONS
K-1	KEYMAP
L-1 TO L-17	LAYOUT AND PROFILE
SE-1 TO SE-2	SUPERELEVATION
BR-1 to BR-5	STRUCTURE PLANS



PROJECT ENGINEER  
REGISTERED CIVIL ENGINEER

DATE

PLANS APPROVAL DATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

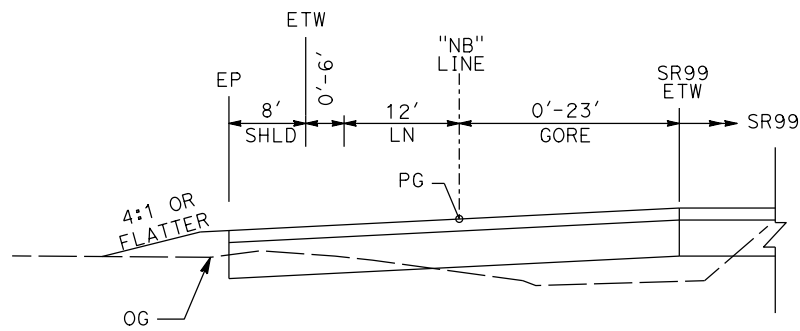
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**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

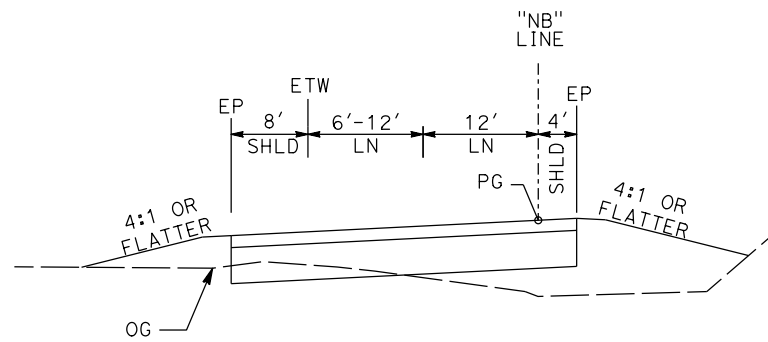


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TITLE**

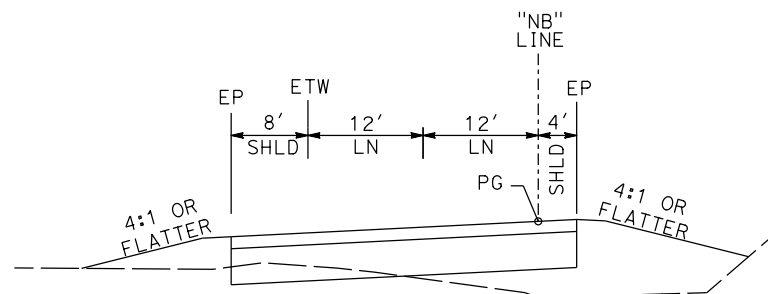
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DRAWING NO.  
**T-1**  
SCALE  
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SHEET NO.



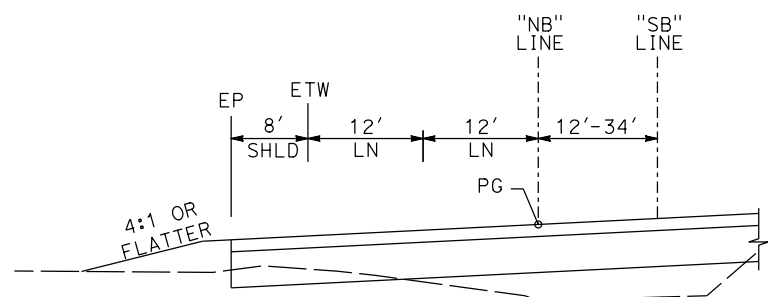
**"NB" 75+73 TO "NB" 82+17**



**"NB" 82+17 TO "NB" 84+72**

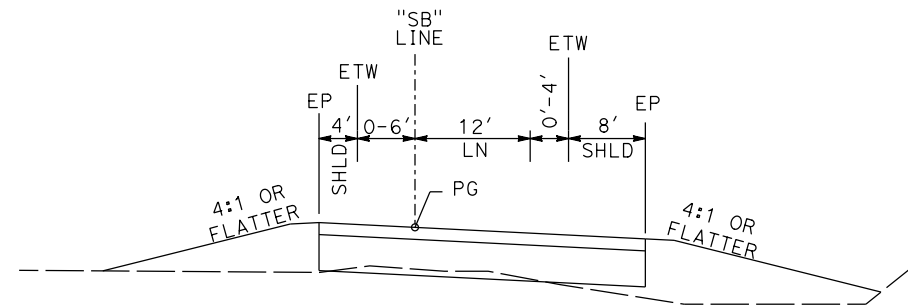


**"NB" 84+72 TO "NB" 97+56**

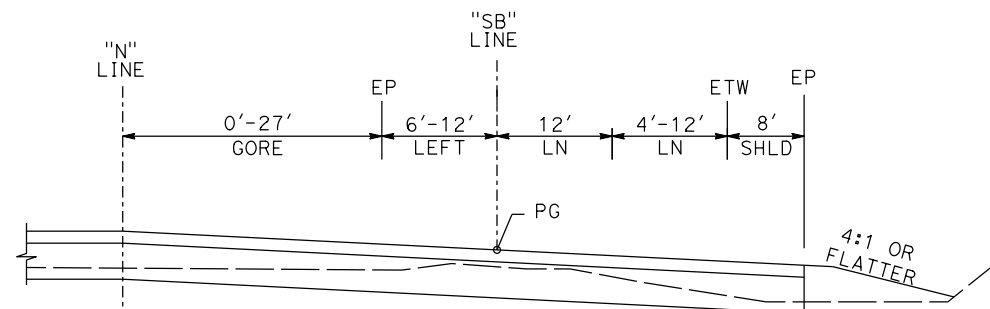


**"NB" 97+56 TO "NB" 100+00**

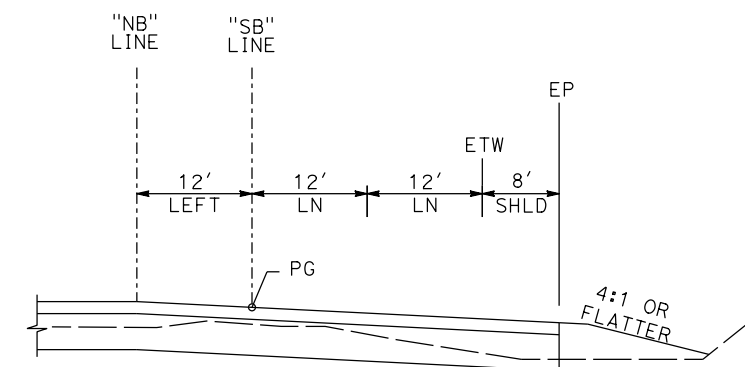
**NORTHBOUND ONRAMP**



**"SB" 95+47 TO "SB" 97+61**



**"SB" 97+61 TO "SB" 99+51**



**"SB" 99+51 TO "SB" 100+00**

**SOUTHBOUND OFFRAMP**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

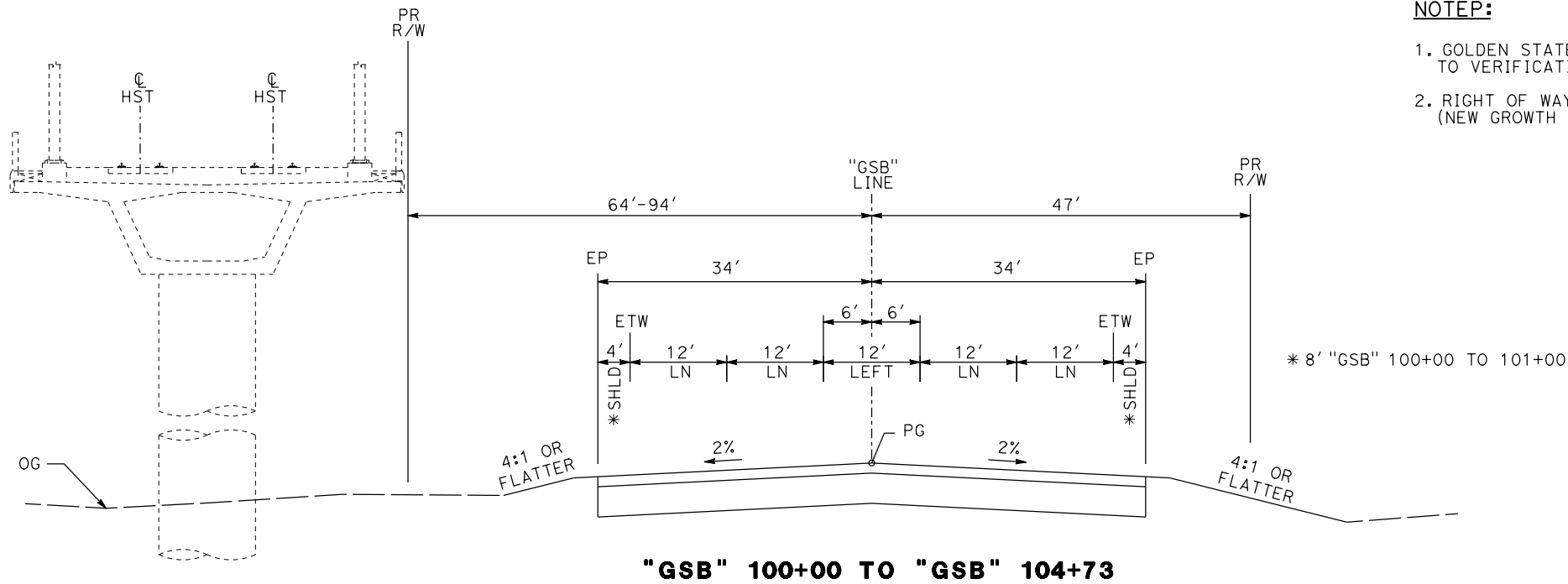
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-1**  
SCALE  
SHEET NO.

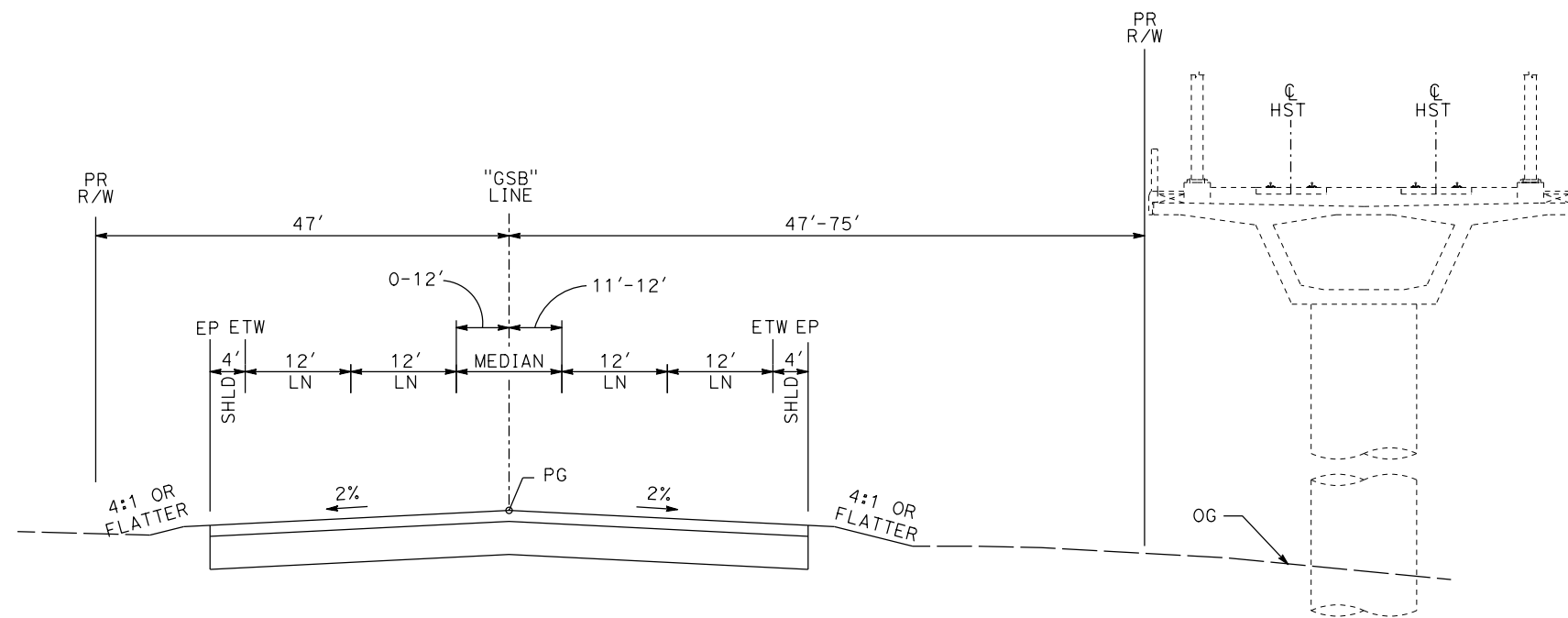




"GSB" 100+00 TO "GSB" 104+73

**NOTE:**

1. GOLDEN STATE BLVD ULTIMATE STREET WIDTH/CLASSIFICATION SUBJECT TO VERIFICATION.
2. RIGHT OF WAY WIDTH BASED ON CITY OF FRESNO UNDIVIDED COLLECTORS (NEW GROWTH AREA) TYPICAL STREET CROSS-SECTION.



"GSB" 104+73 TO "GSB" 110+65

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

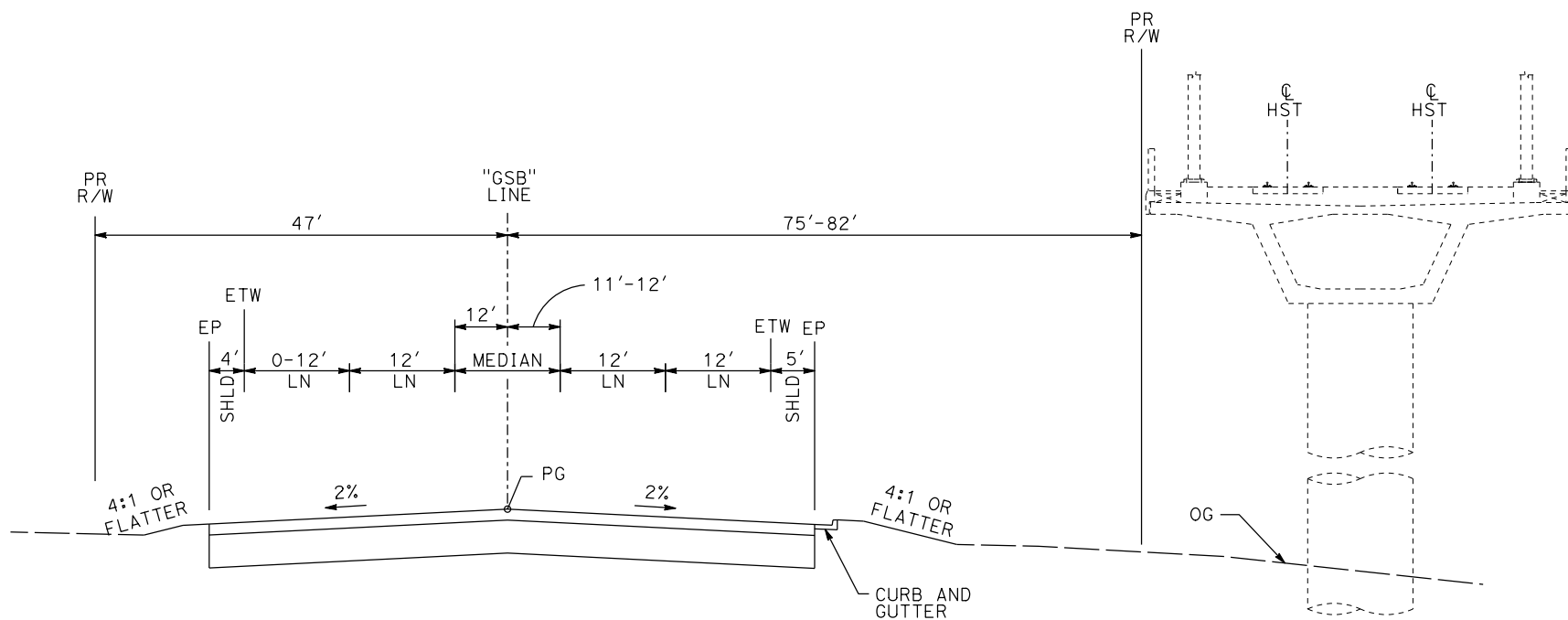
DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

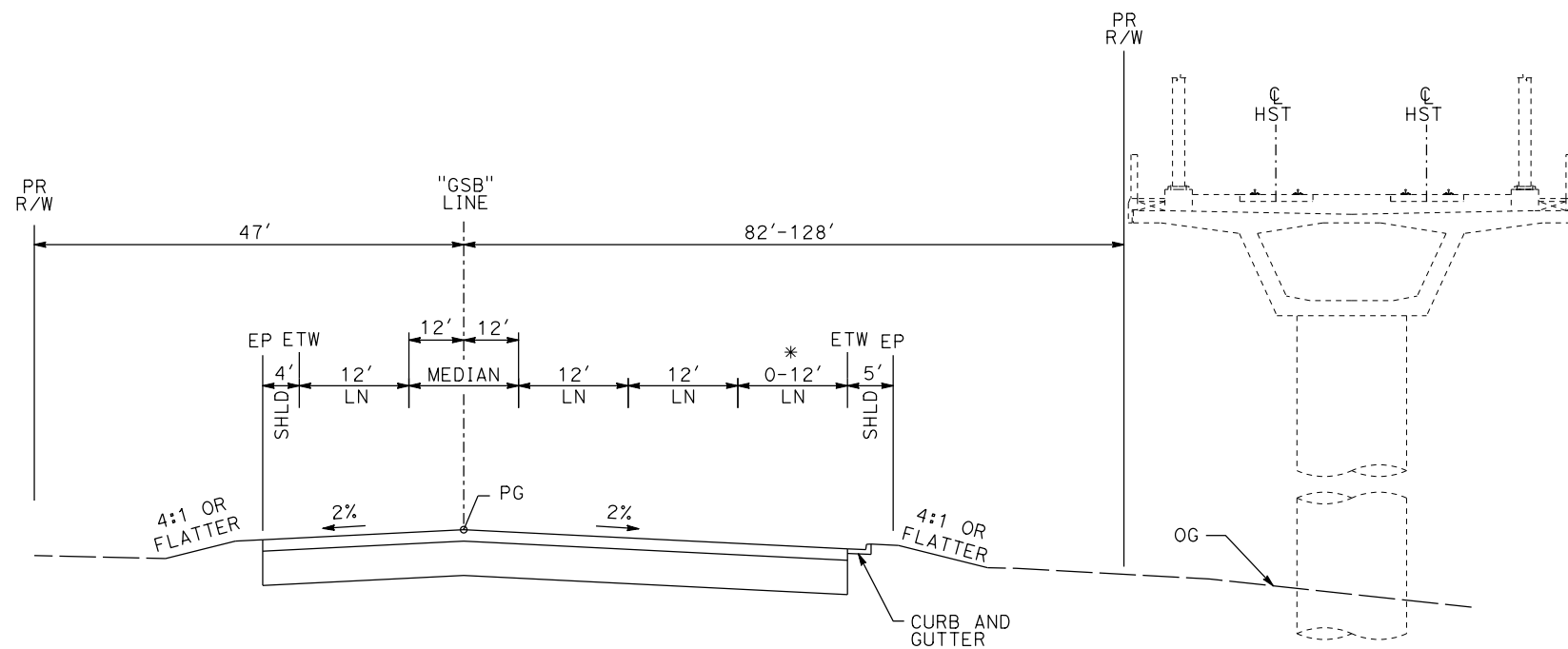


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>X-2</b>
SCALE	
SHEET NO.	



"GSB" 110+65 TO "GSB" 111+96



"GSB" 111+96 TO "GSB" 116+57

\* 114+59 TO 116+57

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

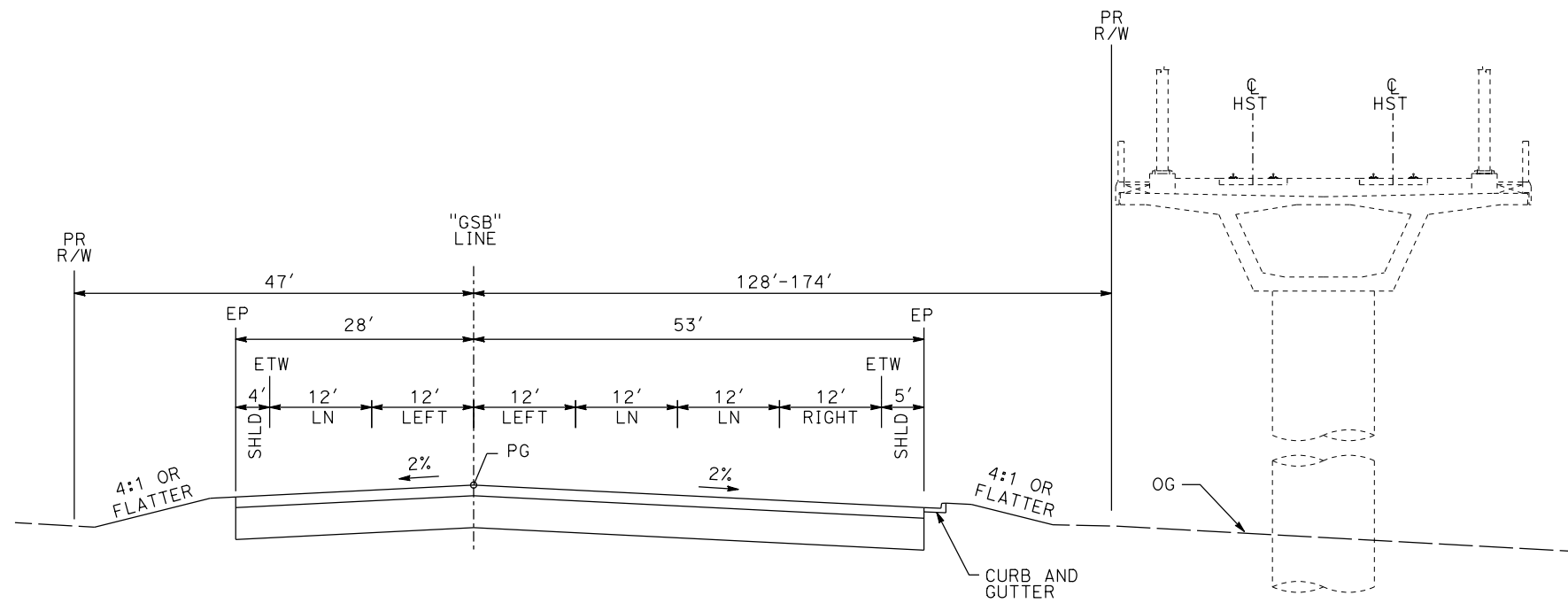
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



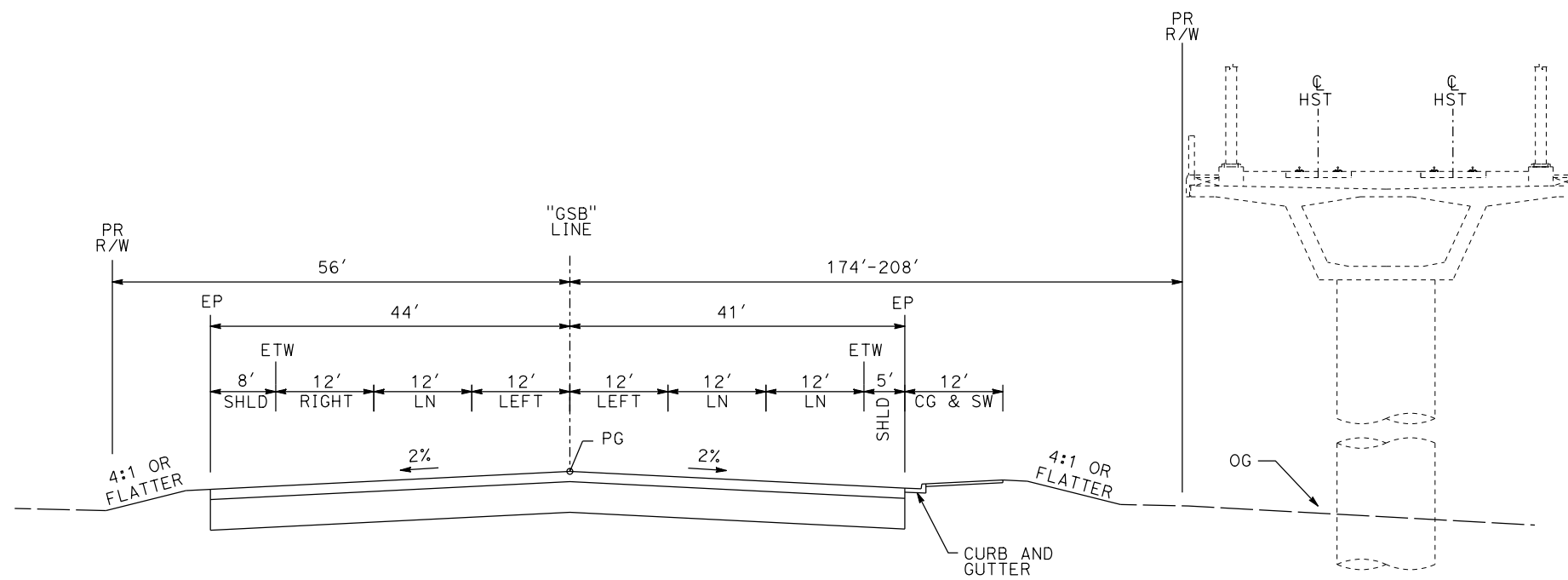
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-3**  
SCALE  
SHEET NO.





**"GSB" 116+57 TO "GSB" 120+50**



**"GSB" 120+50 TO "GSB" 124+47**

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

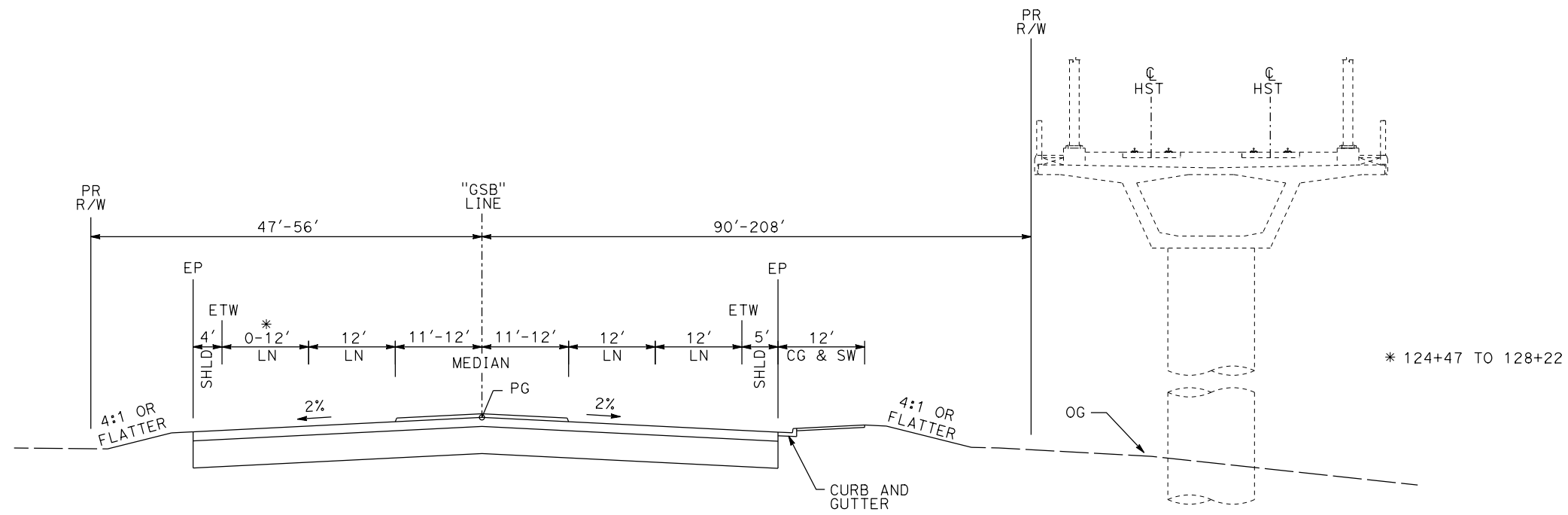
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

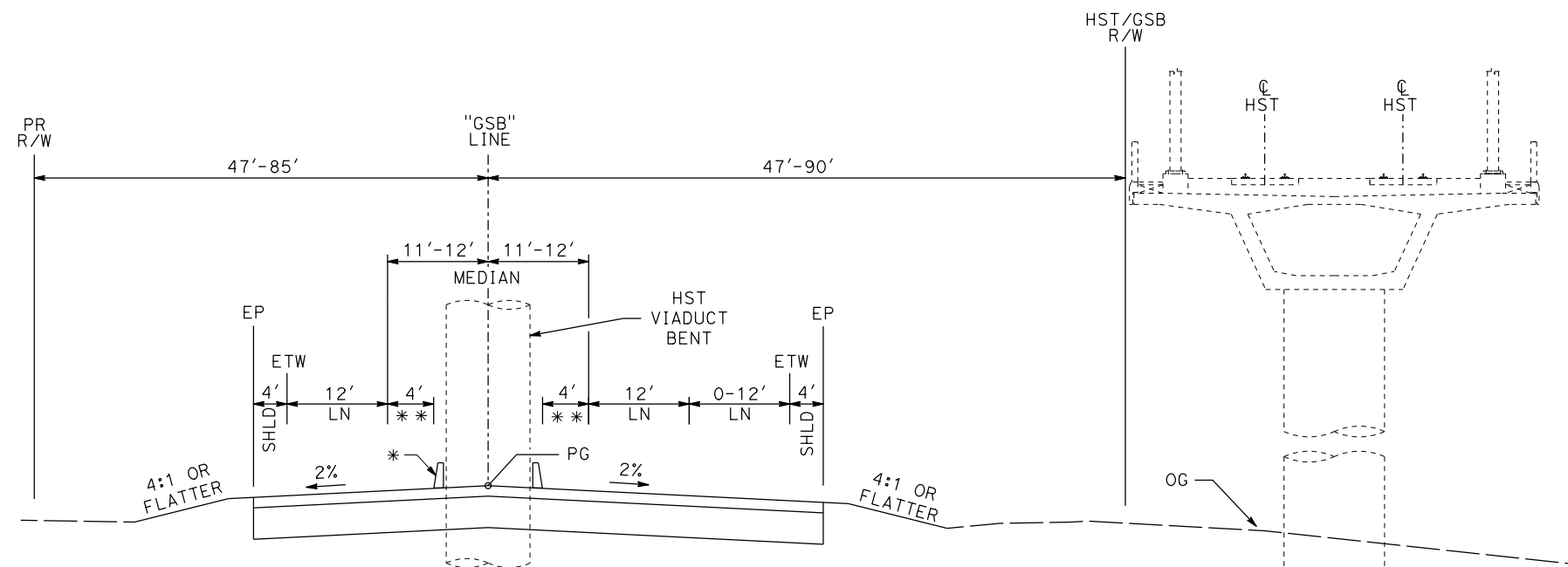


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-4**  
SCALE  
SHEET NO.



**"GSB" 124+47 TO "GSB" 134+16**



**"GSB" 134+16 TO "GSB" 141+36**

\* CONCRETE BARRIER TYPE 60D  
135+05 TO 137+37  
\*\* 4' MIN ~ 135+05 TO 137+37

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

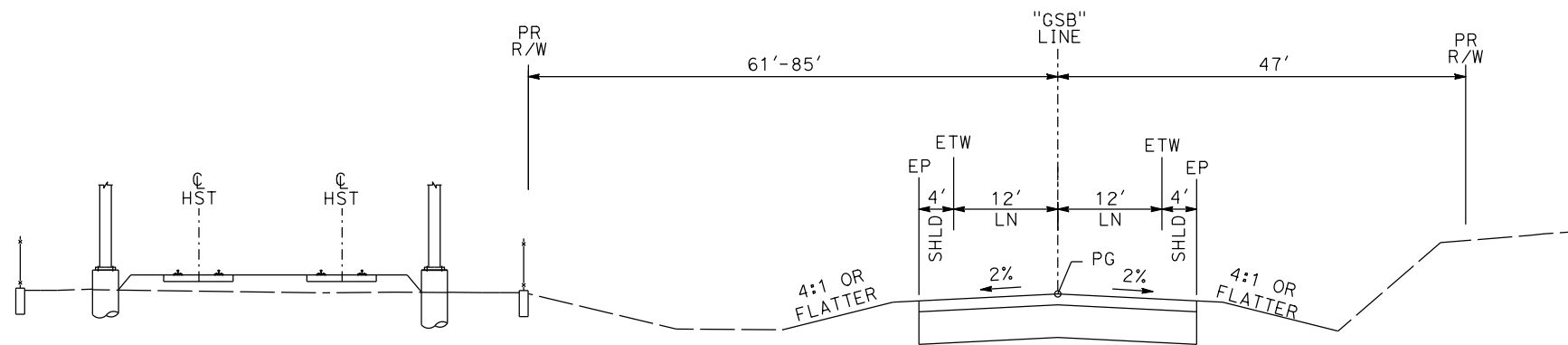
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



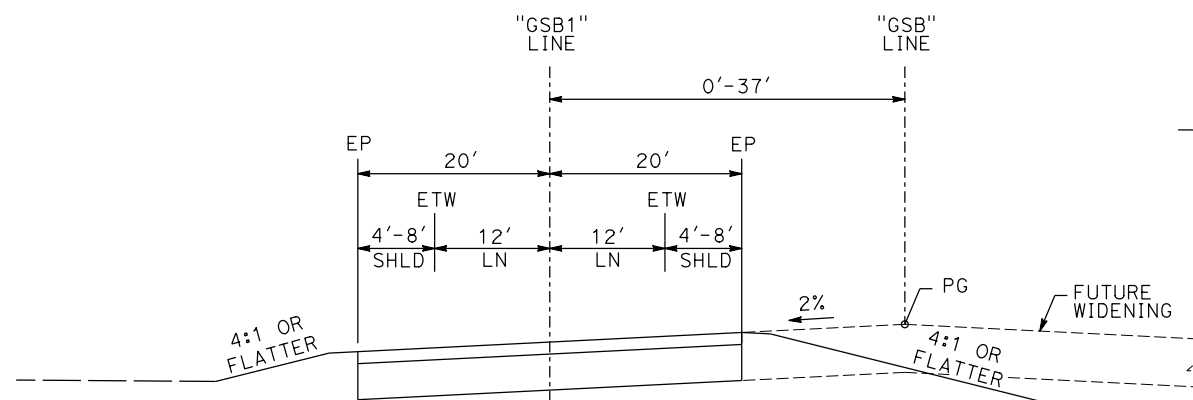
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>X-5</b>
SCALE	
SHEET NO.	

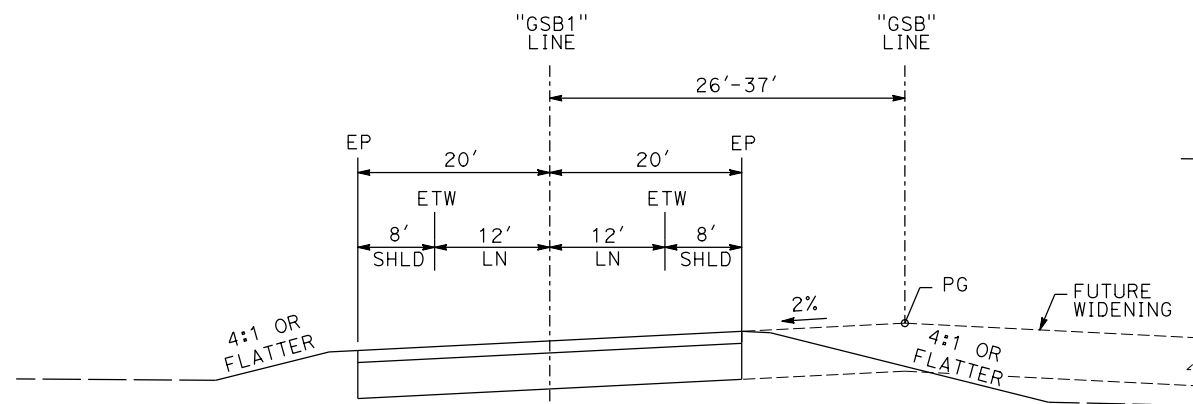




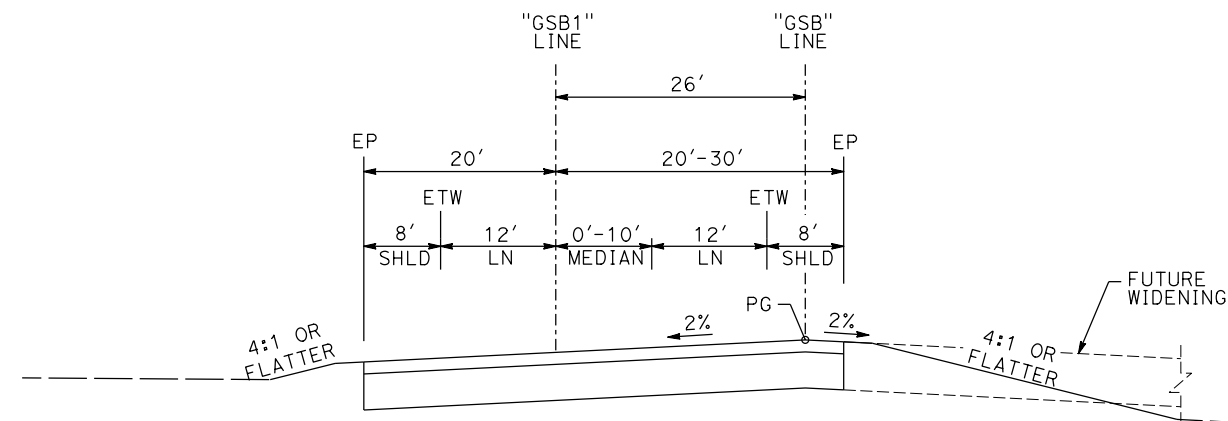
**"GSB" 141+36 TO "GSB" 161+45**



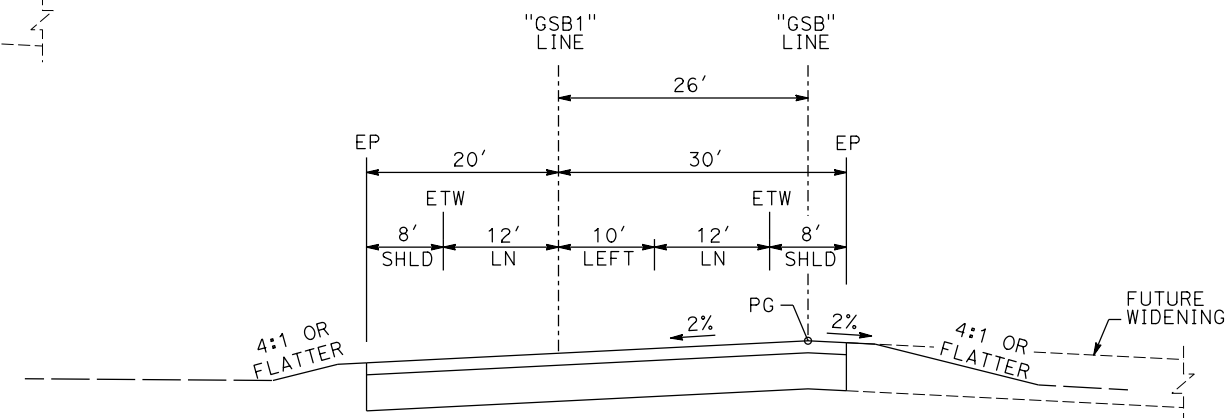
**"GSB" 161+45 TO "GSB" 167+38**



**"GSB" 167+38 TO "GSB" 176+62**



**"GSB" 176+62 TO "GSB" 182+26**



**"GSB" 182+26 TO "GSB" 184+25**

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

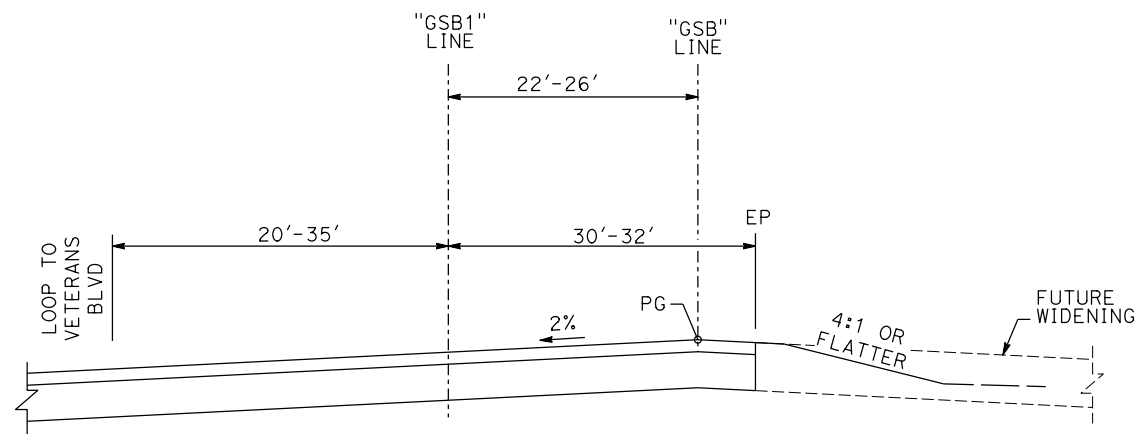
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

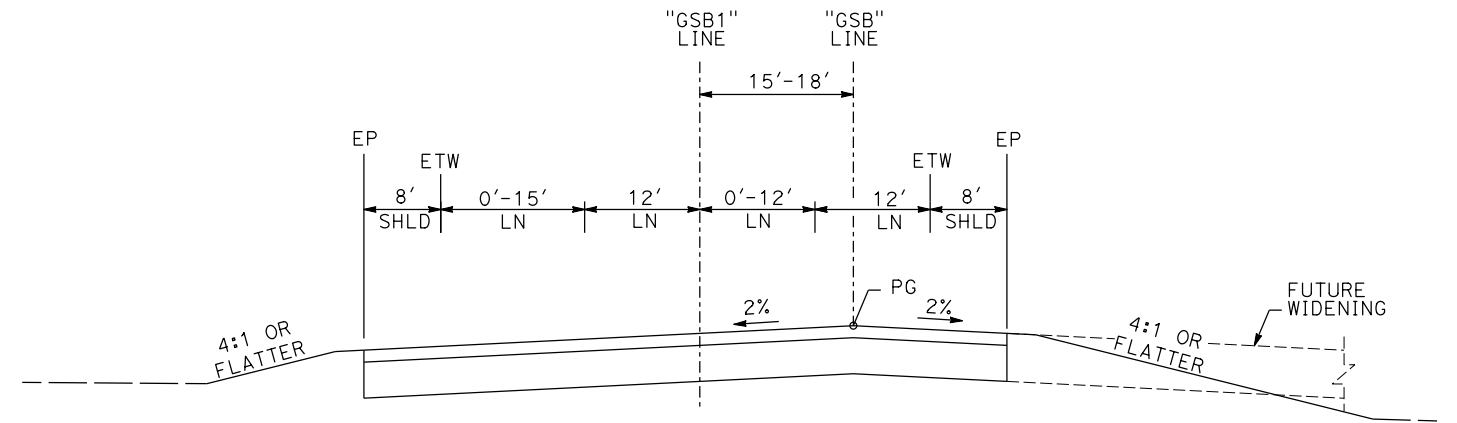


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

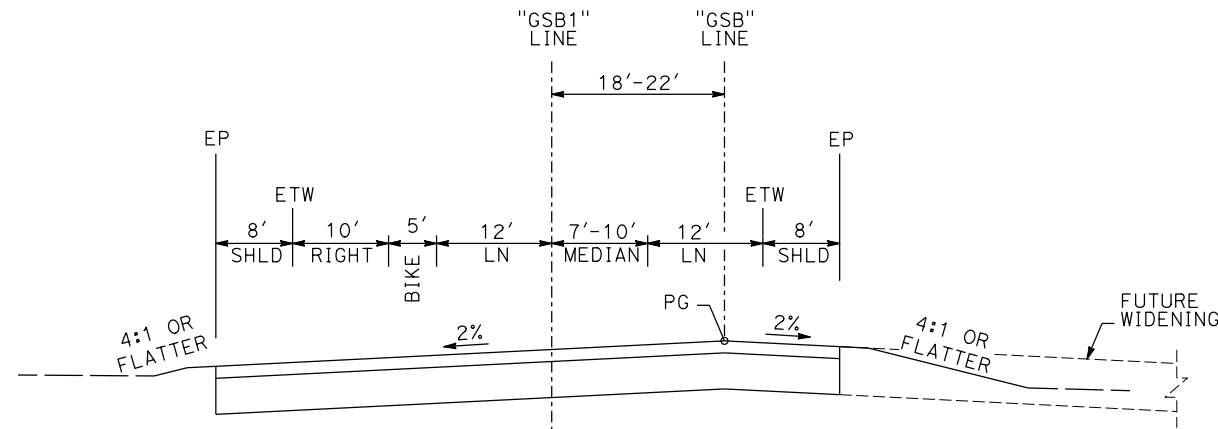
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-6**  
SCALE  
SHEET NO.



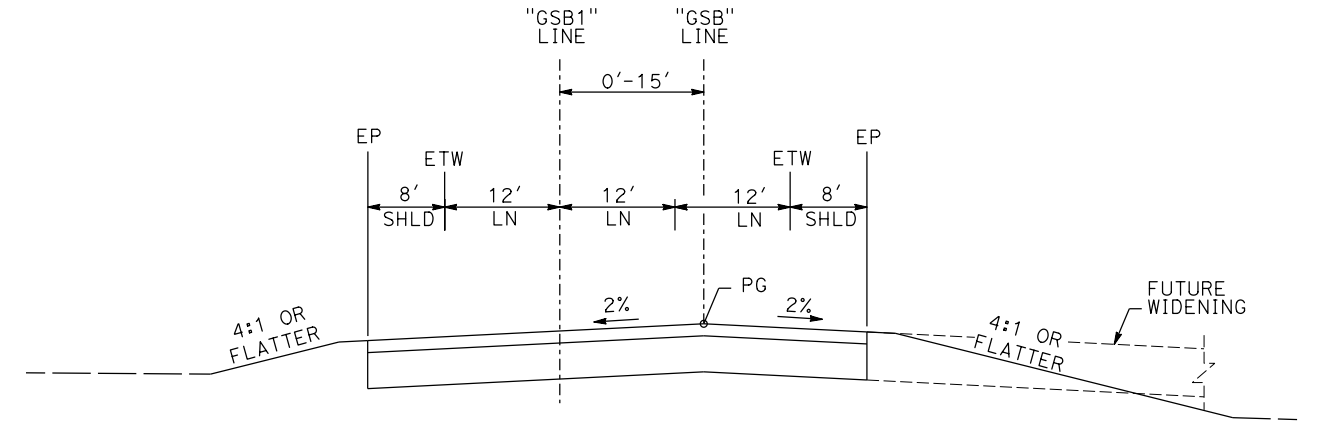
"GSB" 184+25 TO "GSB" 185+41



"GSB" 186+42 TO "GSB" 187+23



"GSB" 185+41 TO "GSB" 186+42



"GSB" 187+23 TO "GSB" 190+86

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

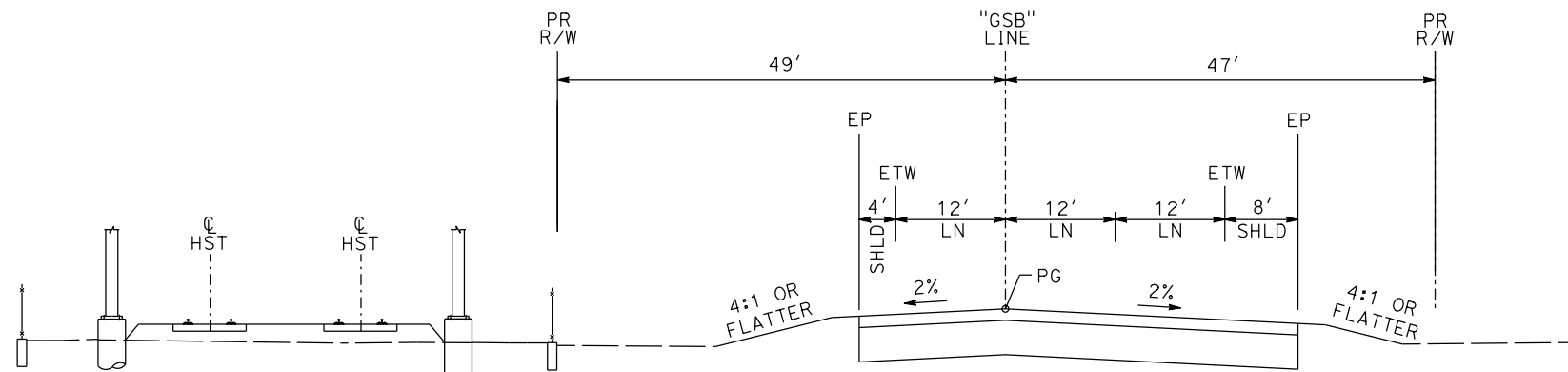
**NOT FOR**  
**CONSTRUCTION**



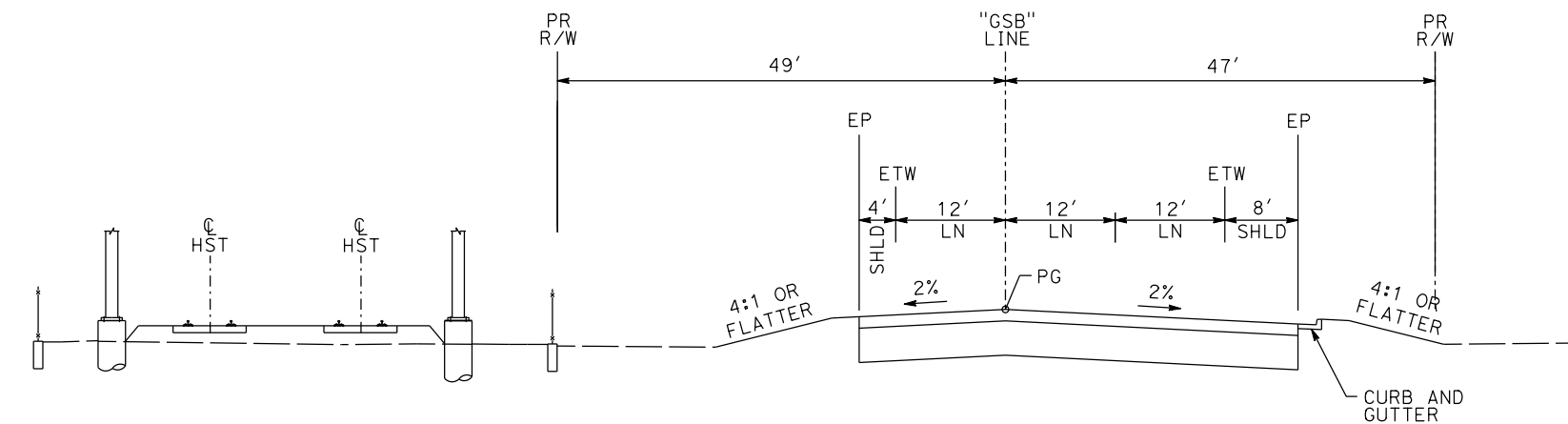
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-7**  
SCALE  
SHEET NO.

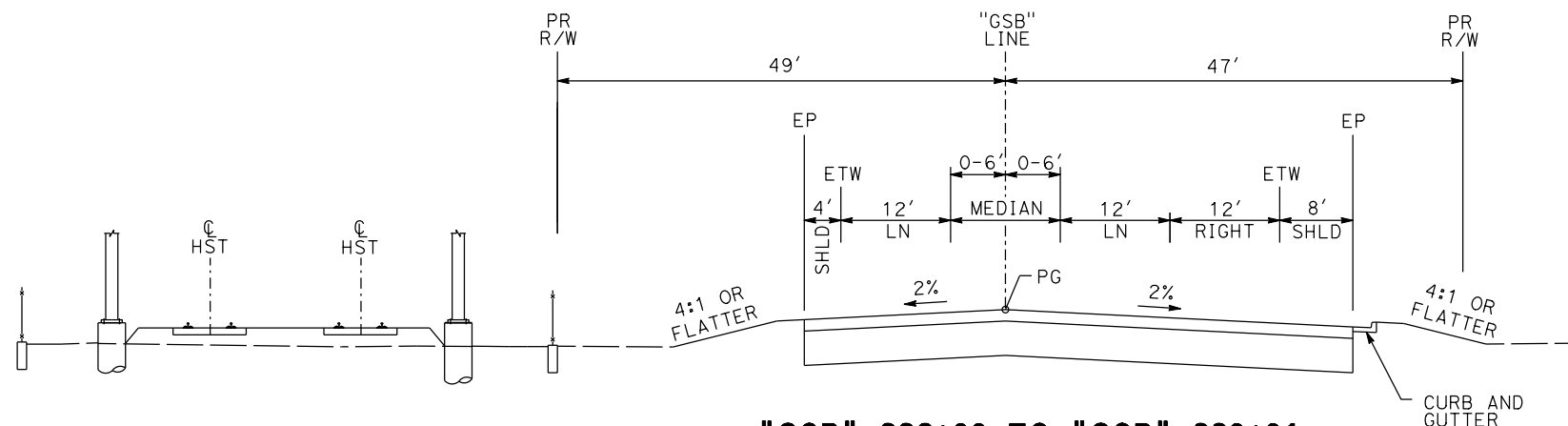




"GSB" 190+86 TO "GSB" 197+48



"GSB" 197+48 TO "GSB" 223+68



"GSB" 223+68 TO "GSB" 228+91

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

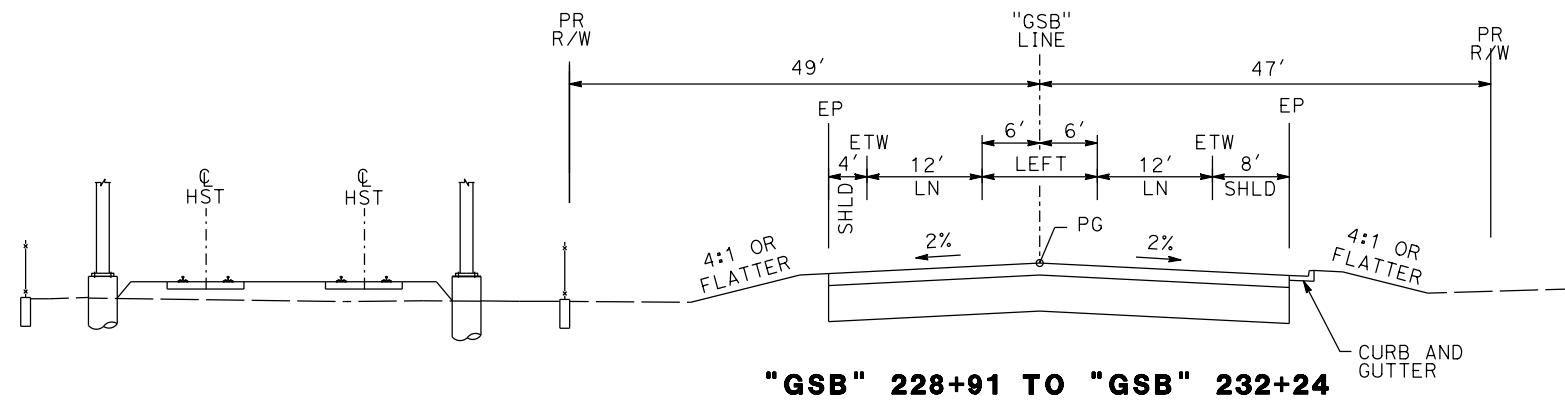
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

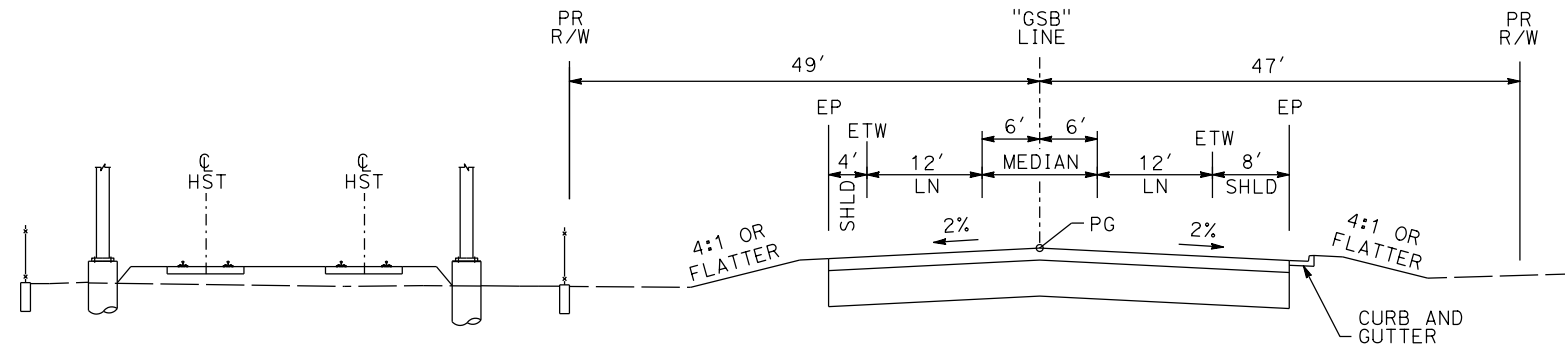


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

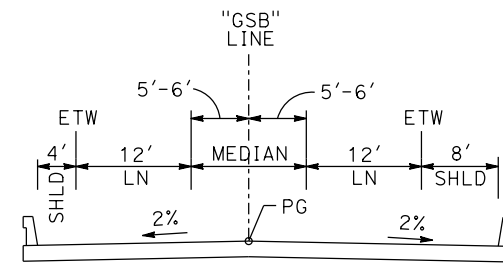
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HSR06-007  
DRAWING NO.  
**X-8**  
SCALE  
SHEET NO.



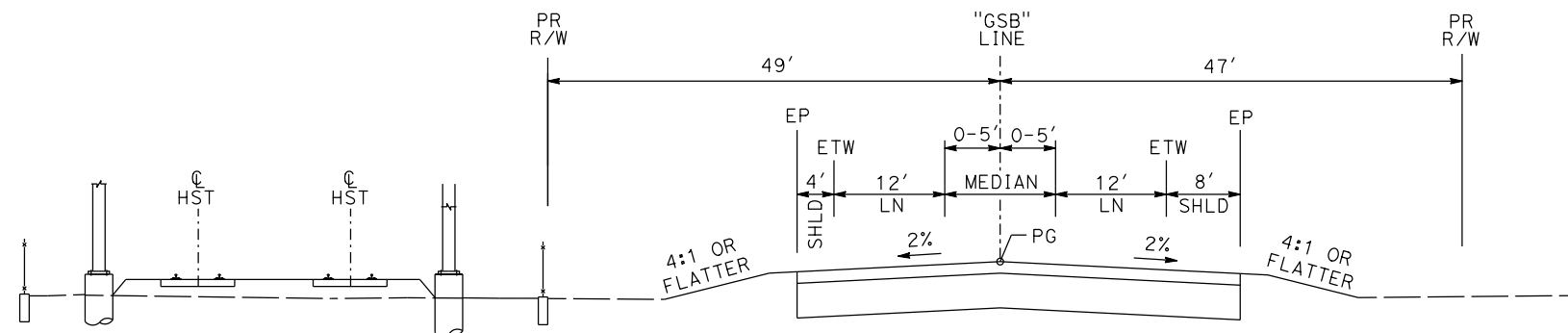
"GSB" 228+91 TO "GSB" 232+24



"GSB" 232+24 TO "GSB" 233+47



"GSB" 233+47 TO "GSB" 234+09



"GSB" 234+09 TO "GSB" 236+37

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

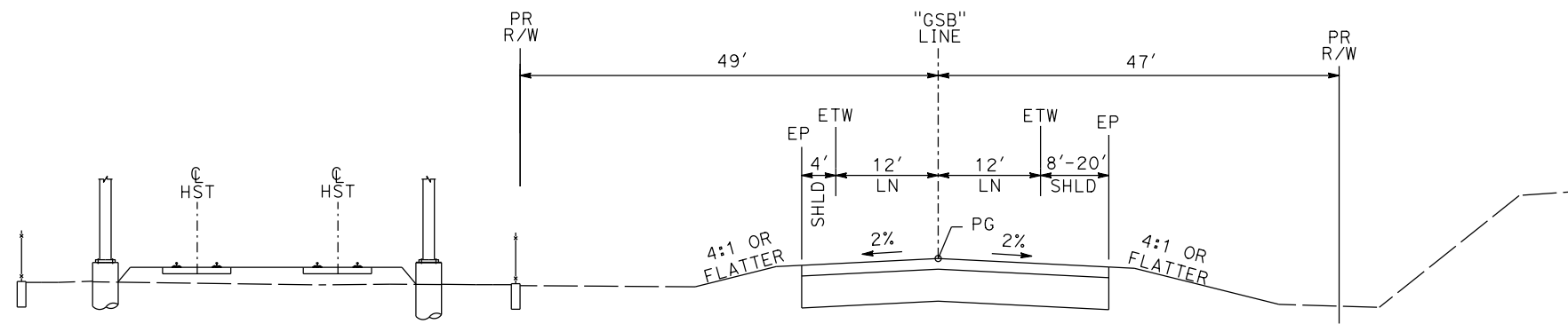
**NOT FOR  
CONSTRUCTION**



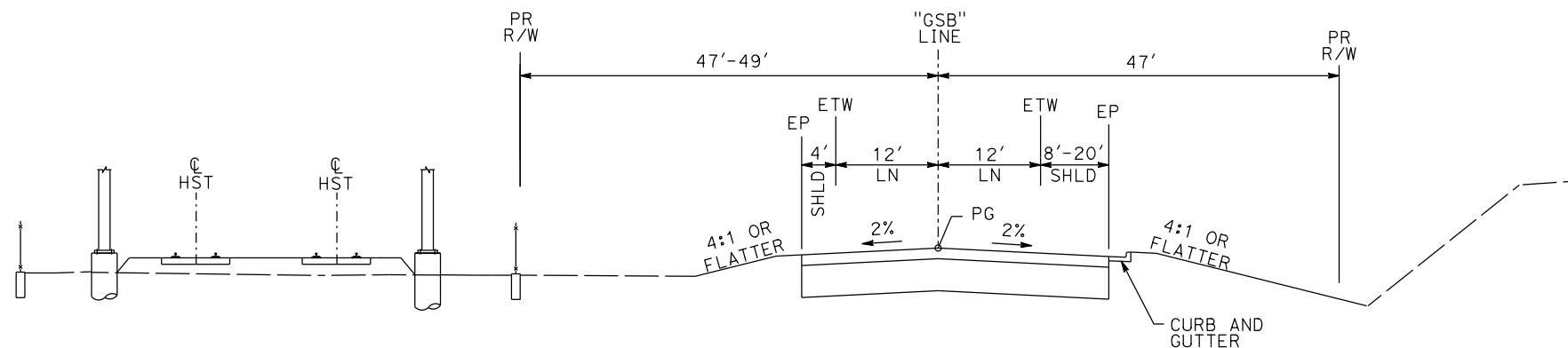
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

CONTRACT NO. HSR06-007
DRAWING NO. <b>X-9</b>
SCALE
SHEET NO.

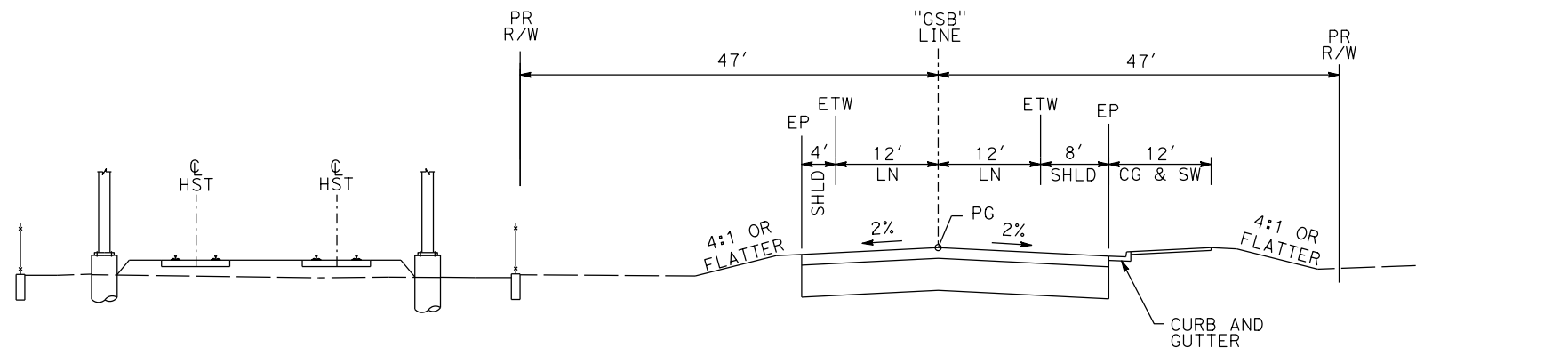




**"GSB" 236+37 TO "GSB" 239+13**



**"GSB" 239+13 TO "GSB" 249+22**



**"GSB" 249+22 TO "GSB" 254+26**

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

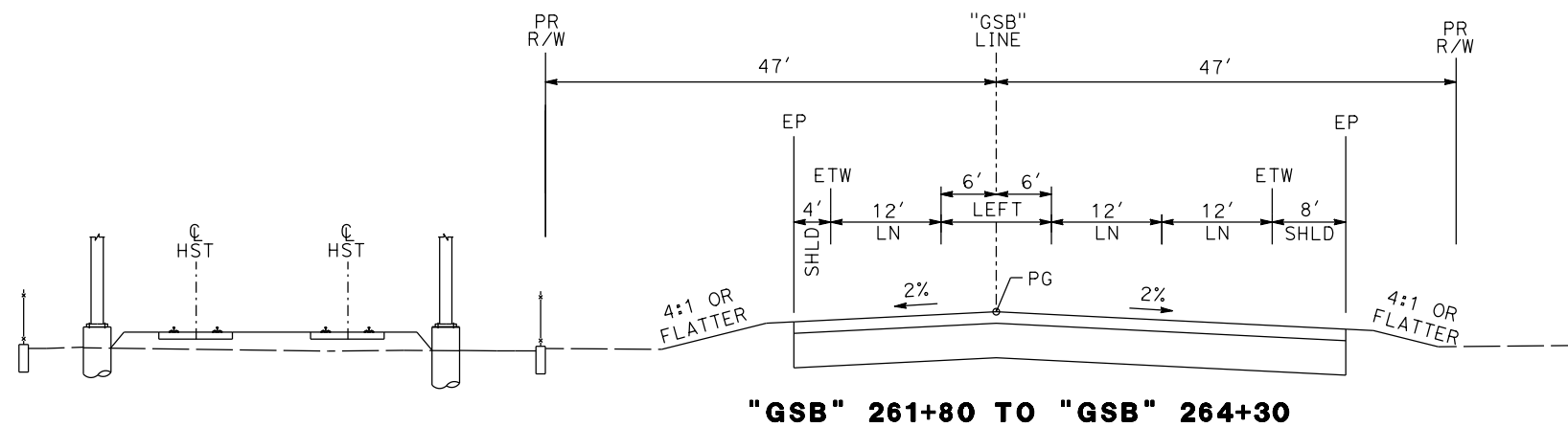
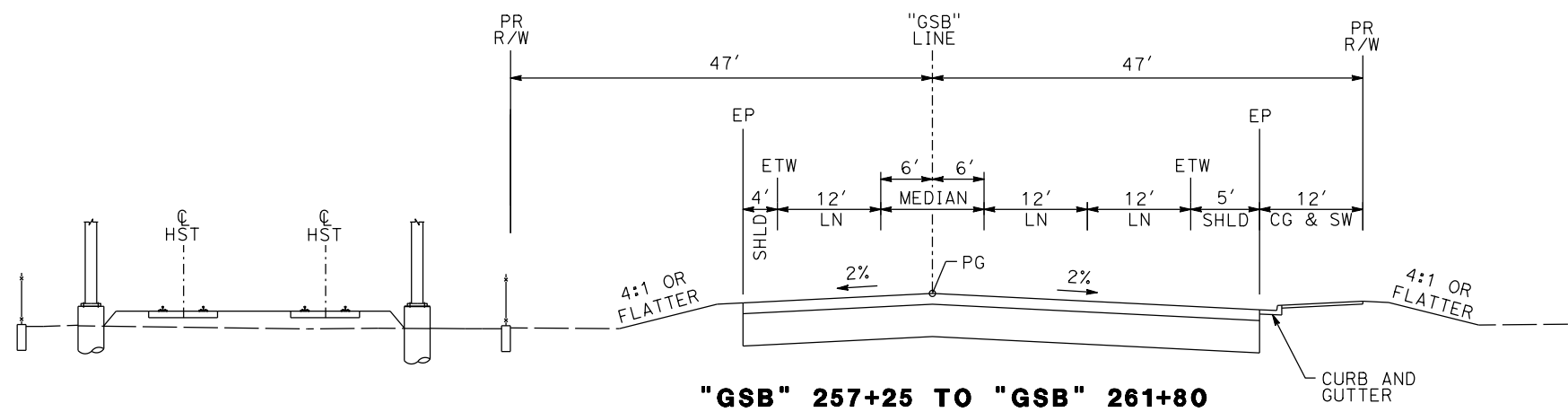
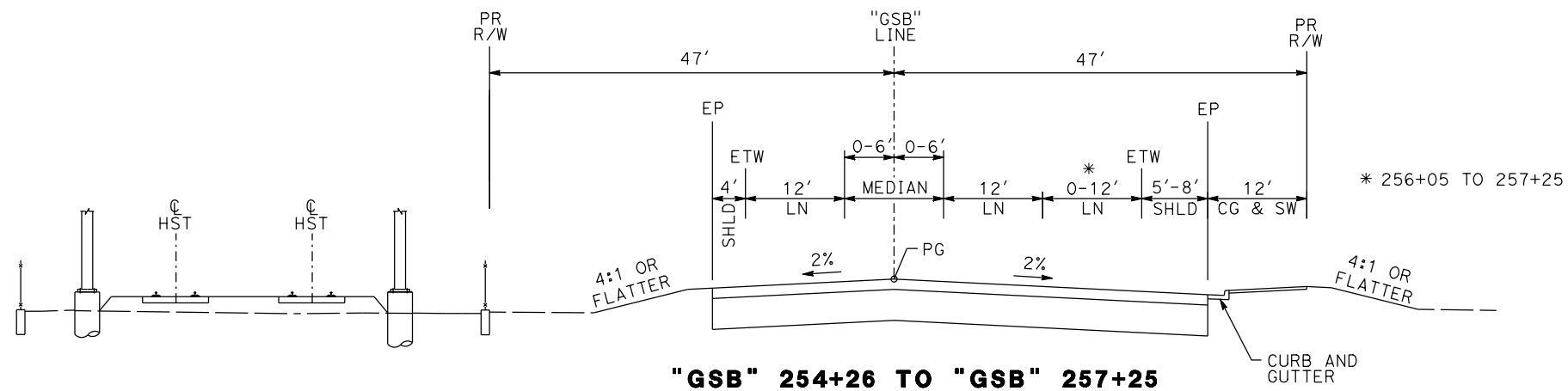
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-10**  
SCALE  
SHEET NO.



**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

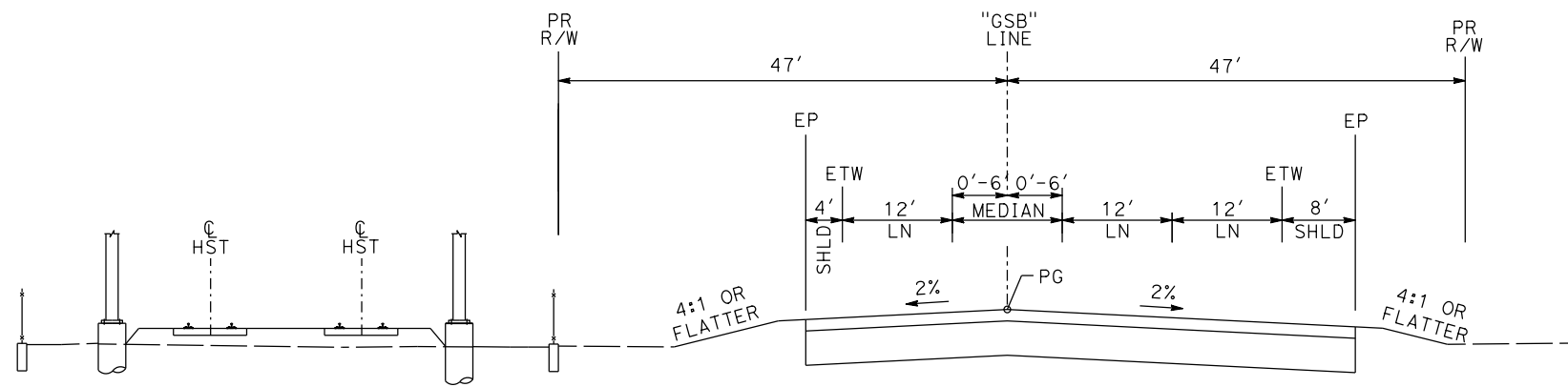
**NOT FOR**  
**CONSTRUCTION**



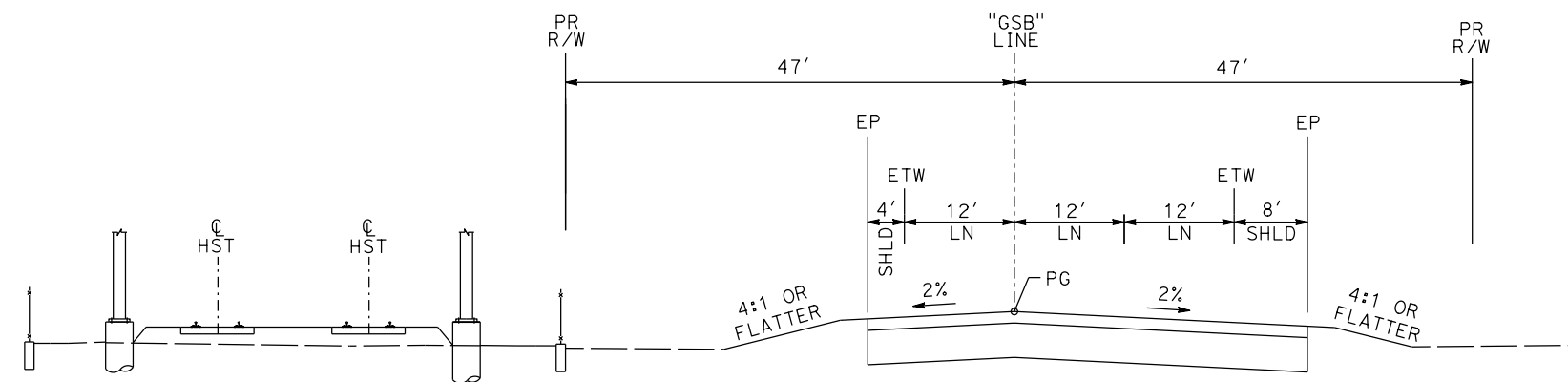
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-11**  
SCALE  
SHEET NO.

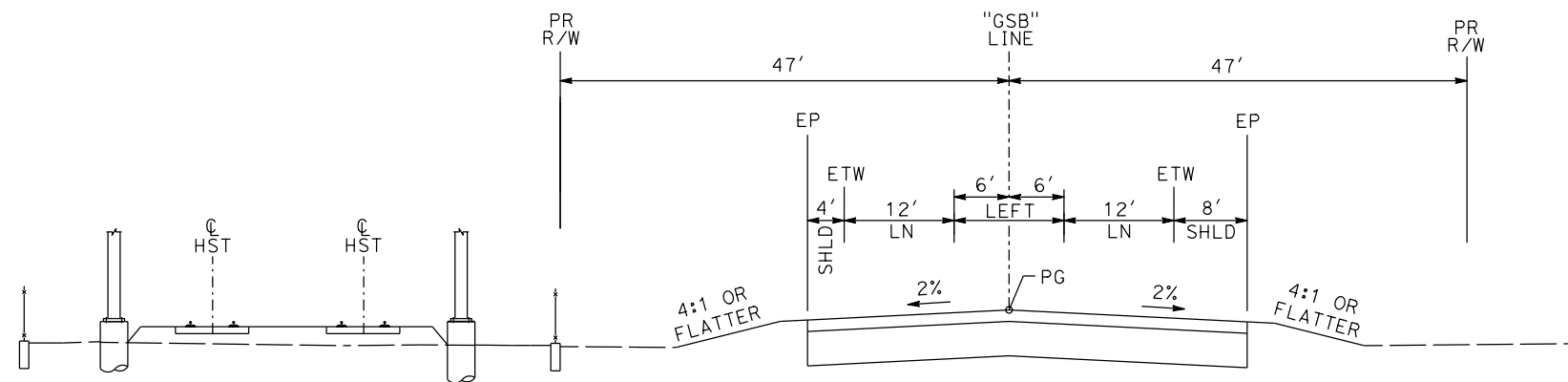




"GSB" 264+30 TO "GSB" 268+49  
 "GSB" 280+18 TO "GSB" 286+76



"GSB" 268+49 TO "GSB" 280+18



"GSB" 286+76 TO "GSB" 289+26

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

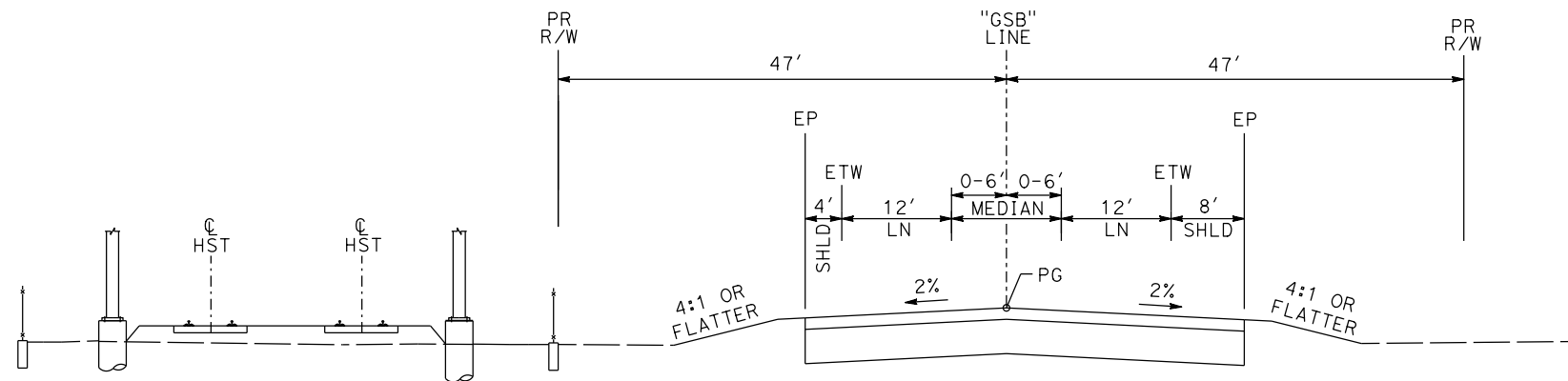
DESIGNED BY  
G. MANOREK  
 DRAWN BY  
B. CHAN  
 CHECKED BY  
L. HEUSTON  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

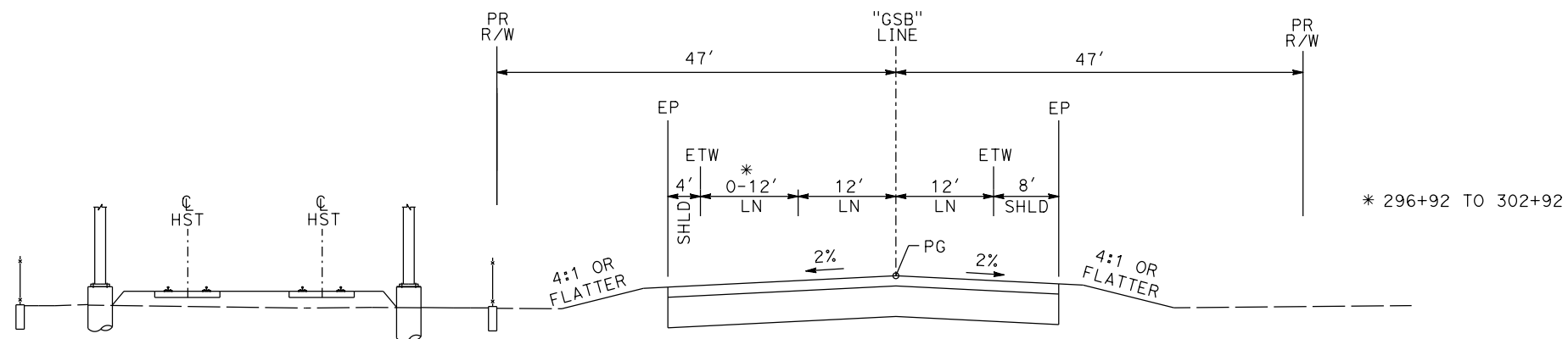


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

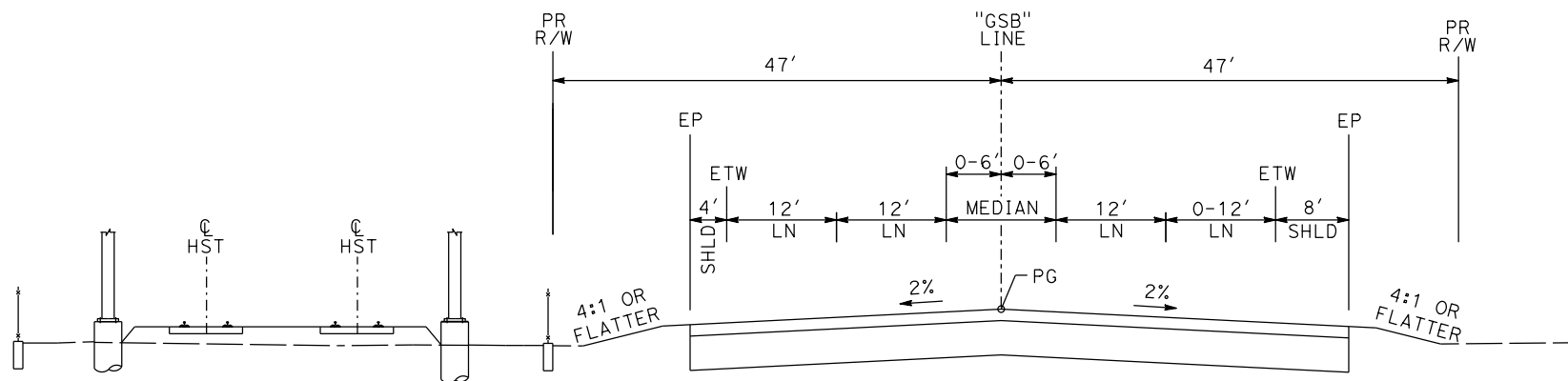
CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
**X-12**  
 SCALE  
 SHEET NO.



"GSB" 289+26 TO "GSB" 293+46



"GSB" 293+46 TO "GSB" 302+92



"GSB" 302+92 TO "GSB" 305+92

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

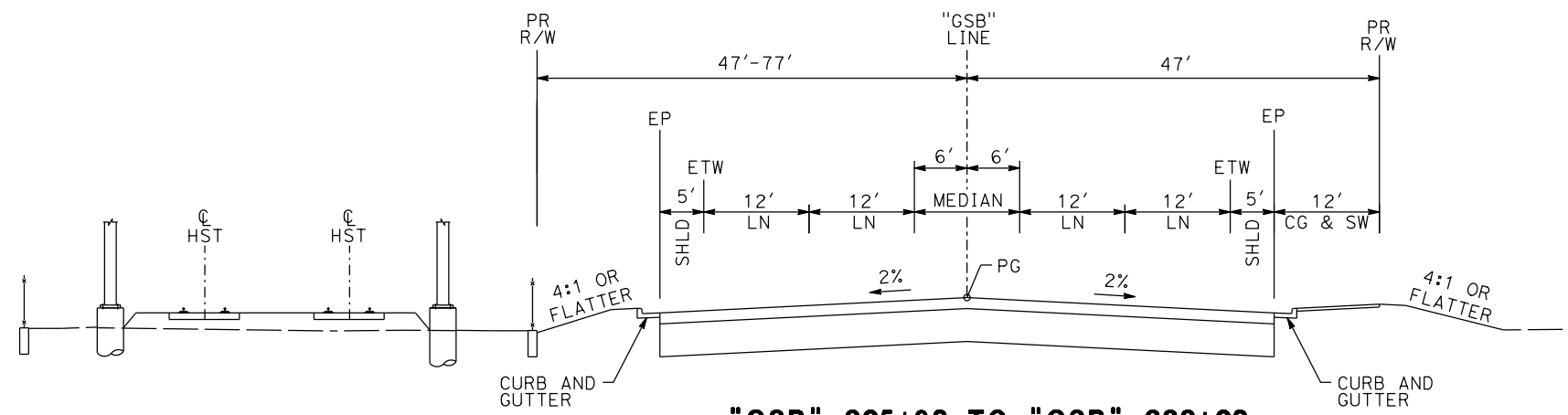
**NOT FOR**  
**CONSTRUCTION**



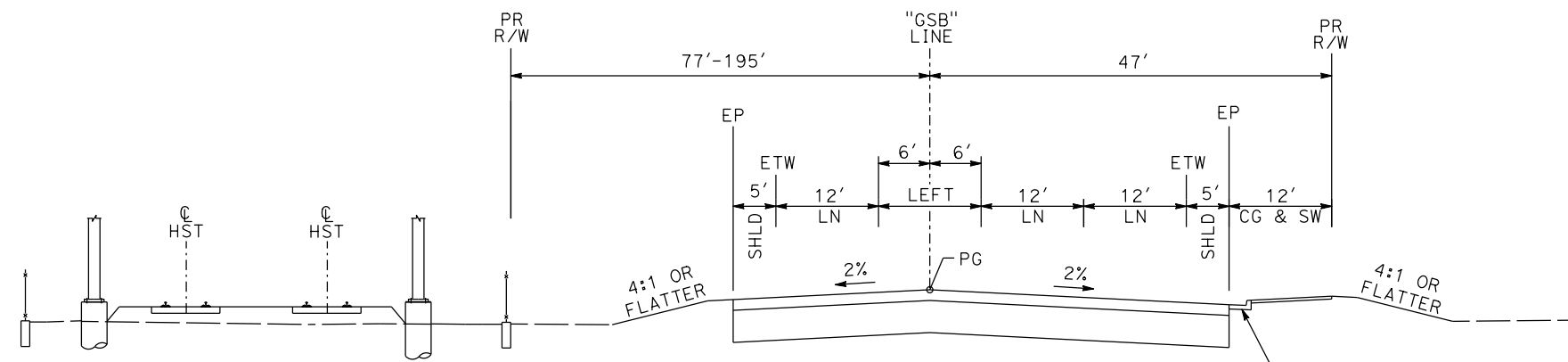
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-13**  
SCALE  
SHEET NO.

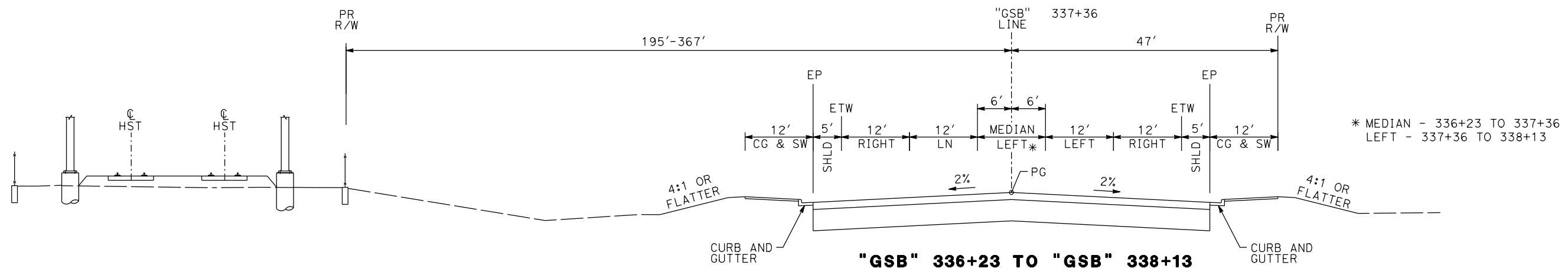




**"GSB" 305+92 TO "GSB" 333+02**



**"GSB" 333+02 TO "GSB" 336+23**



**"GSB" 336+23 TO "GSB" 338+13**

**GOLDEN STATE BOULEVARD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

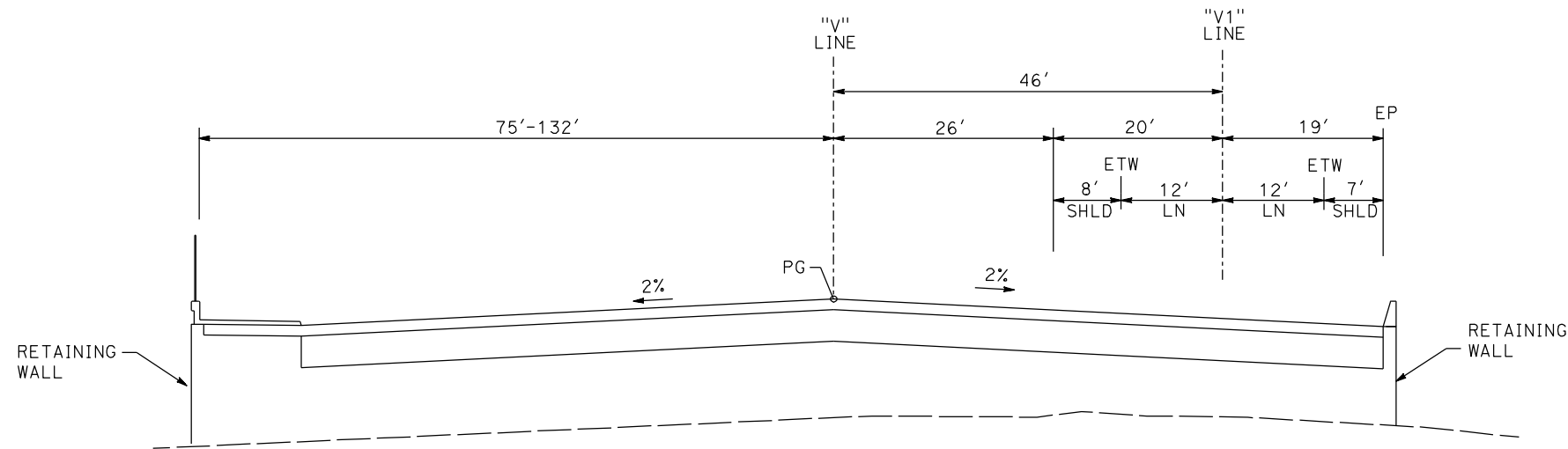
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

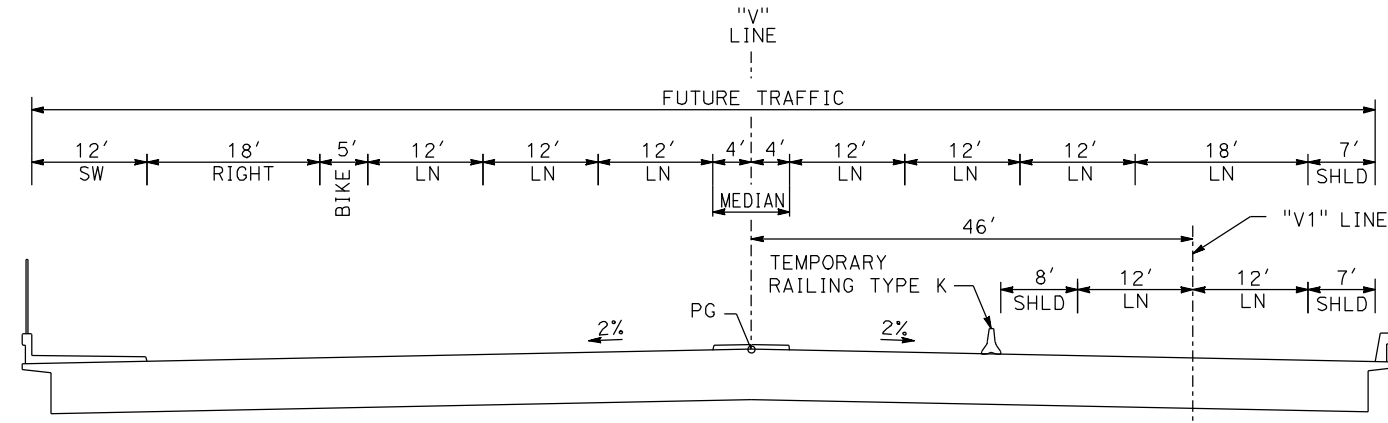


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

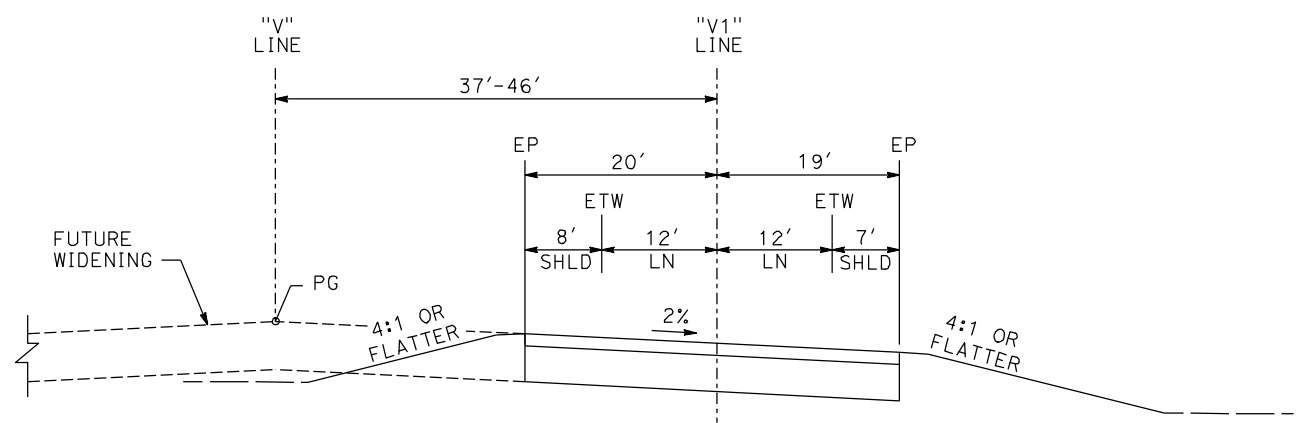
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-14**  
SCALE  
SHEET NO.



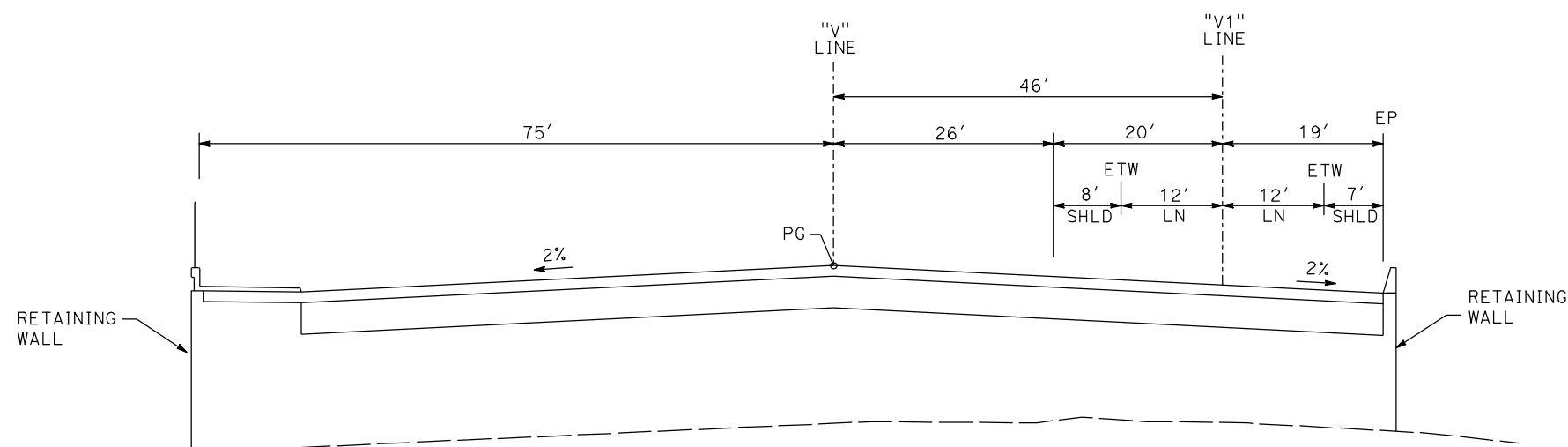
"V" 105+00 TO "V" 105+63



"V" 105+63 TO "V" 109+79



"V" 110+32 TO "V" 122+35



"V" 109+79 TO "V" 110+32

**VETERANS BLVD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

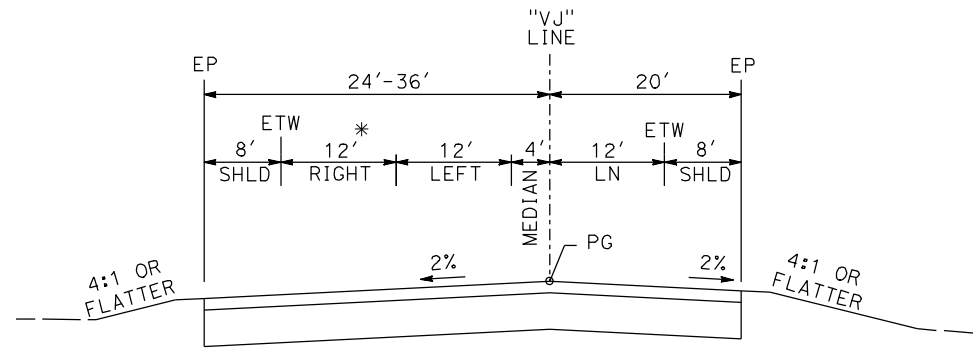


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

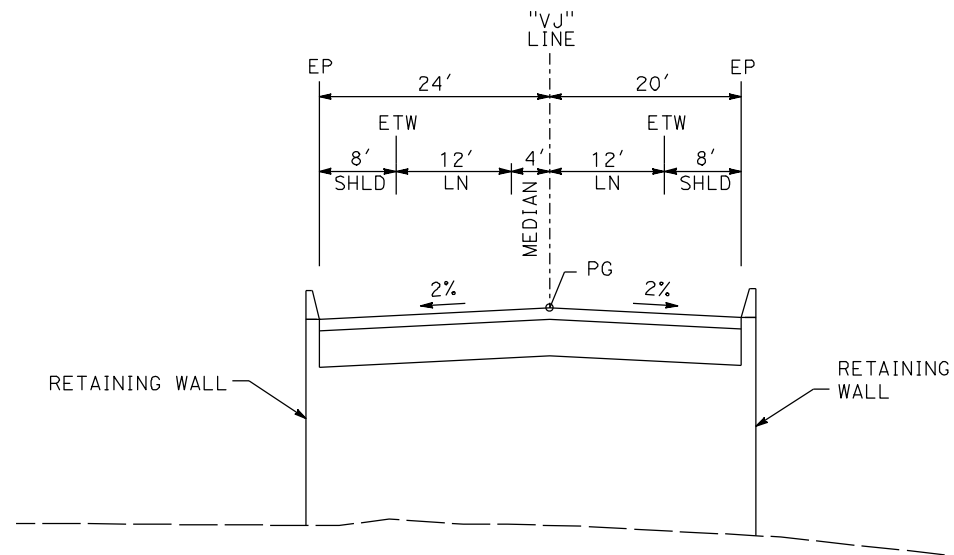
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-15**  
SCALE  
SHEET NO.



\* 0'-12' - FROM 12+61 TO 13+21

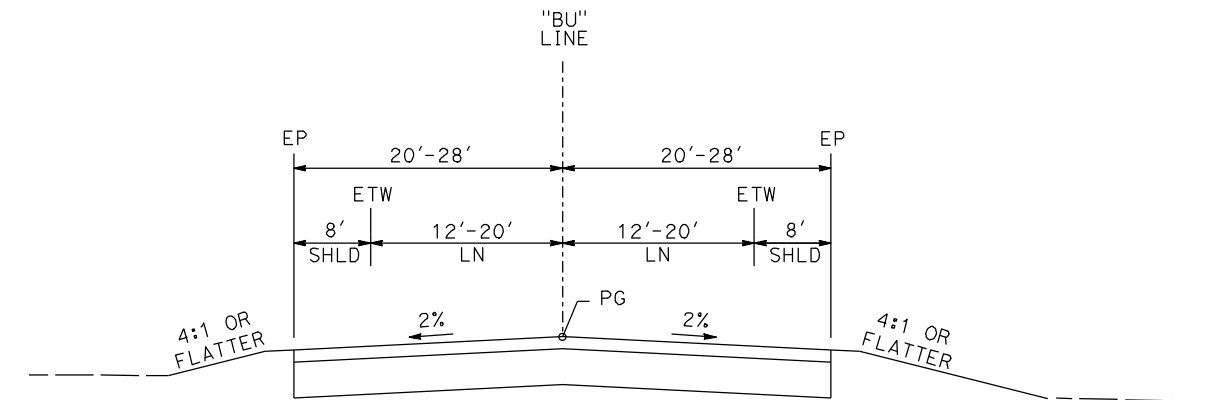


**"VJ" 10+44 TO "VJ" 13+21**

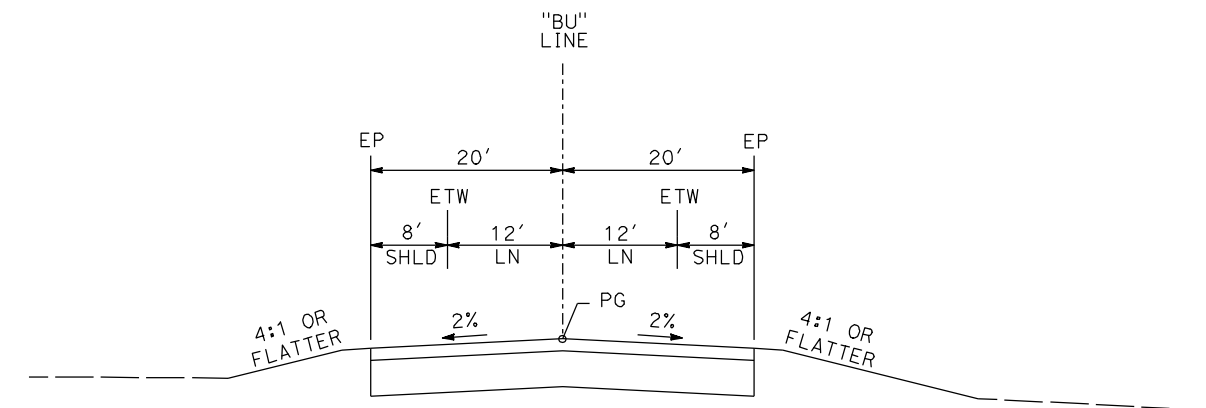


**"VJ" 13+21 TO "VJ" 18+37**

**LOOP - VETERANS BLVD**



**"BU" 110+00 TO "BU" 113+67**



**"BU" 113+67 TO "BU" 132+26**

**BULLARD AVE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

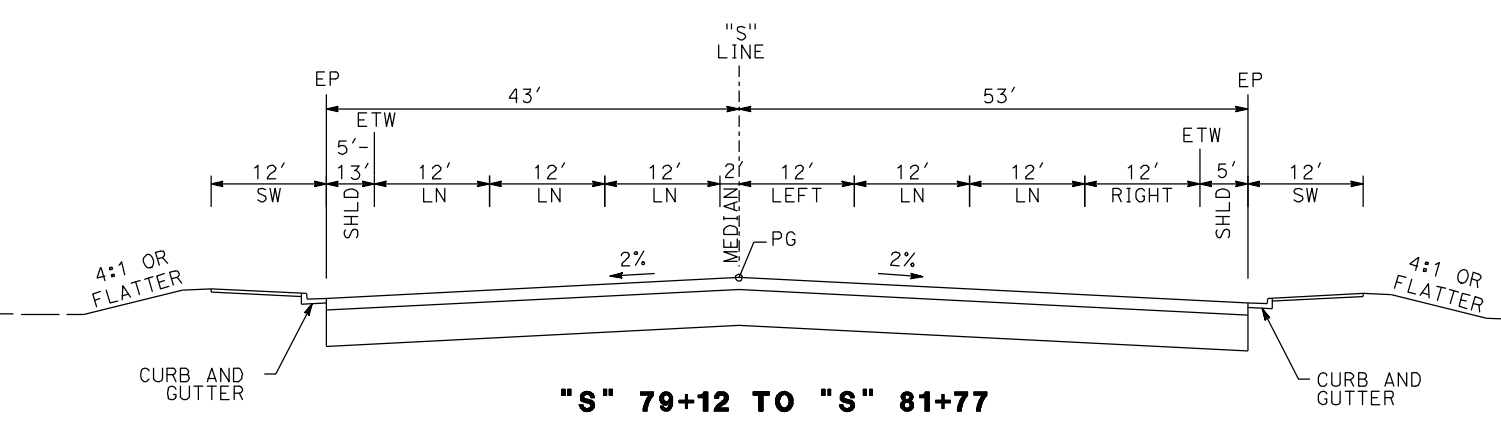
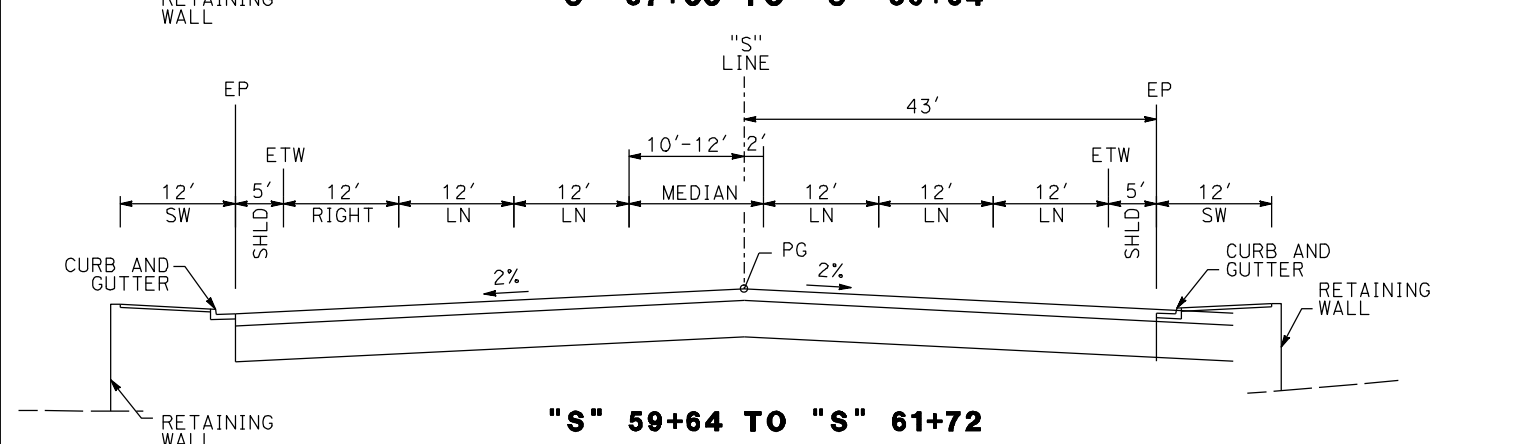
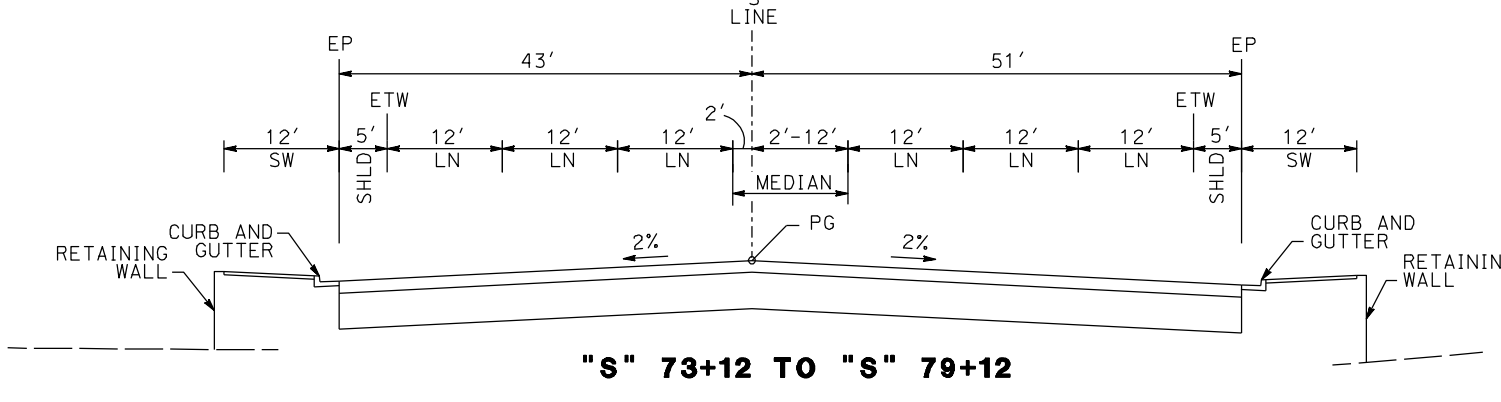
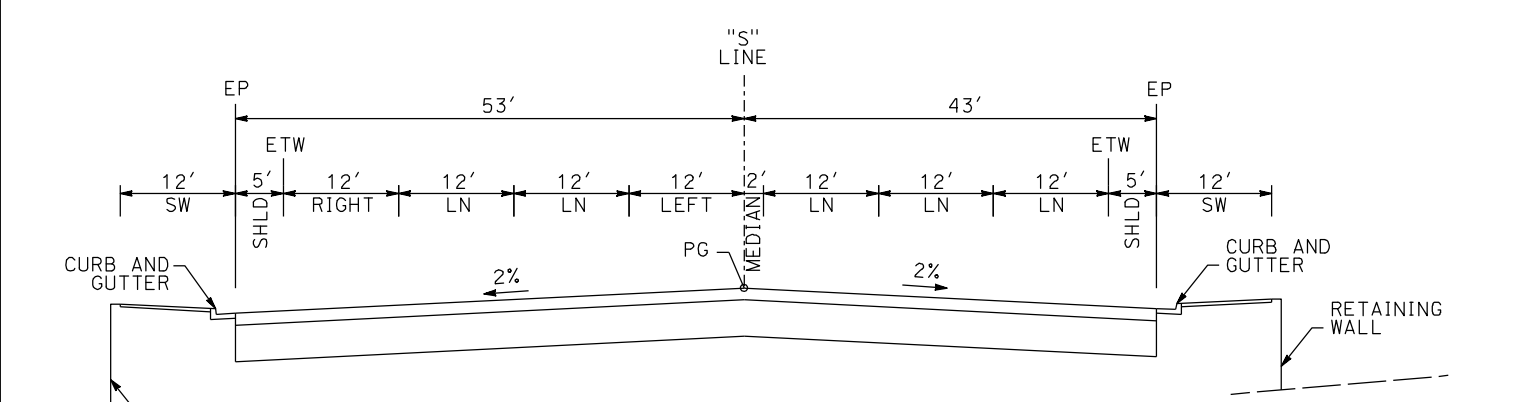
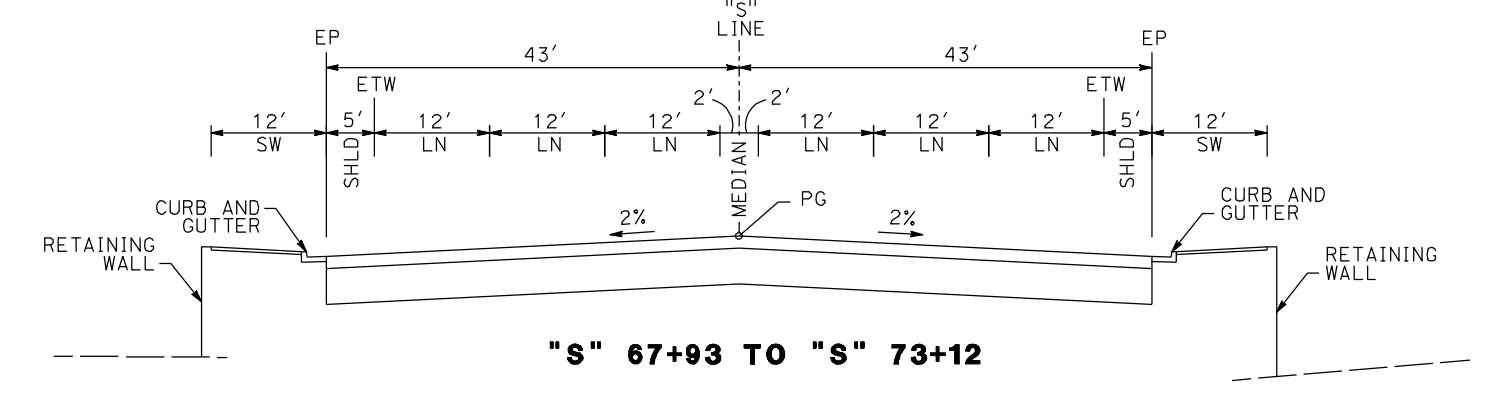
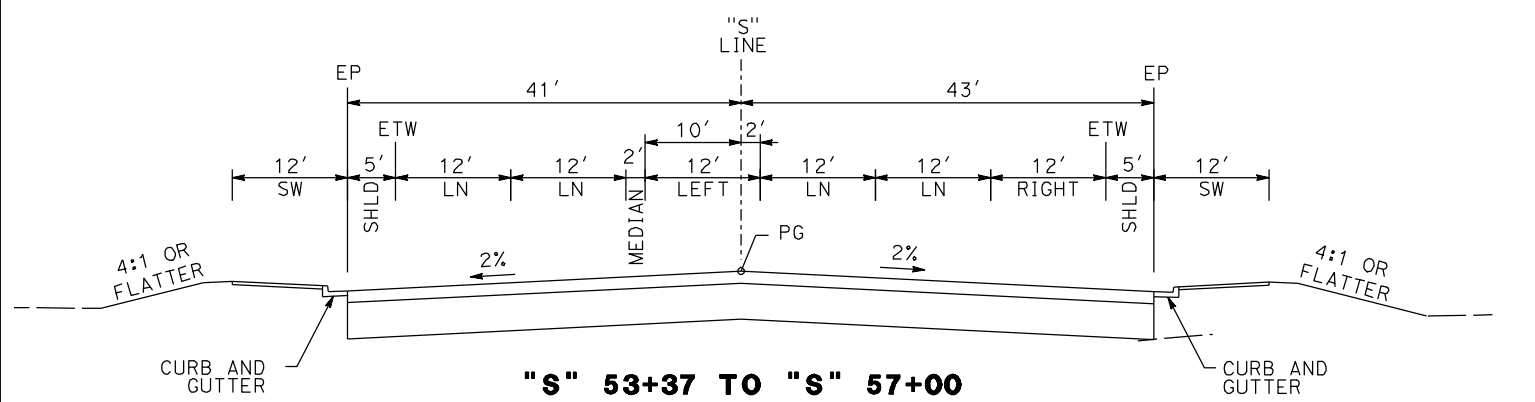
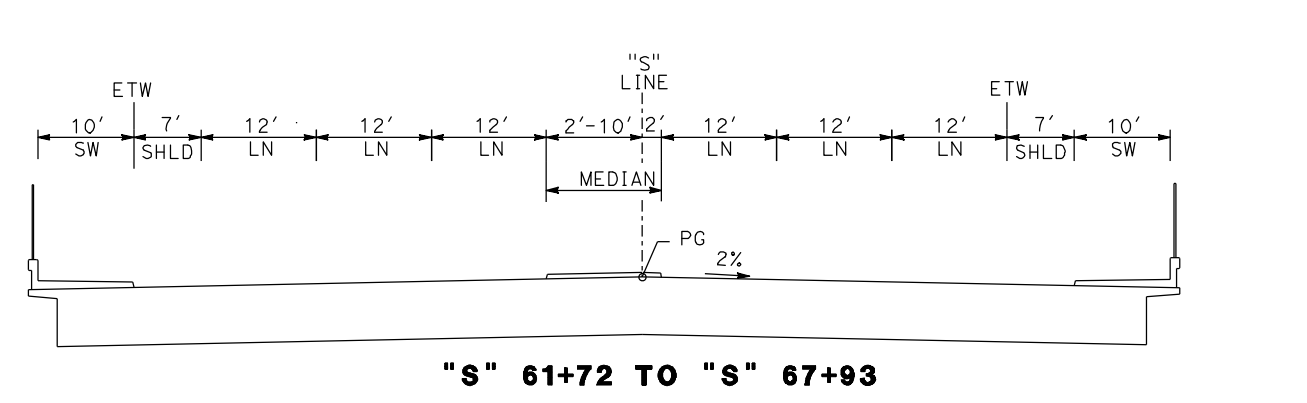
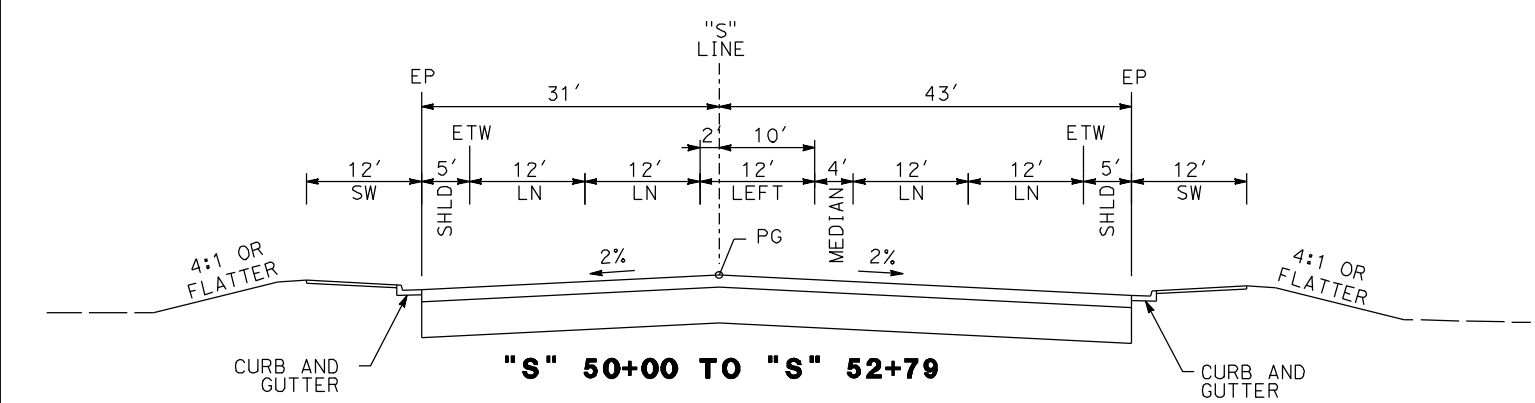
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-16**  
SCALE  
SHEET NO.



**SHAW AVE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

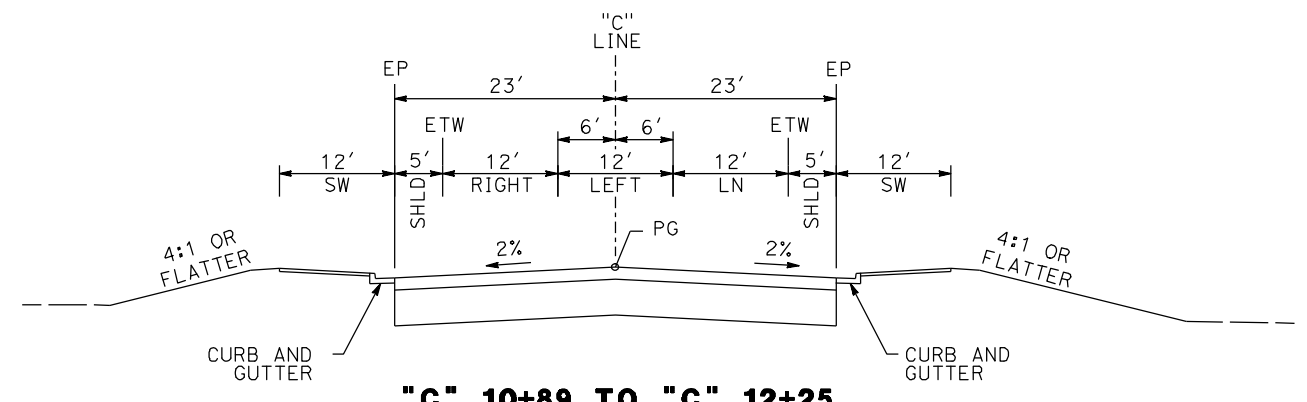


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**TYPICAL SECTION**

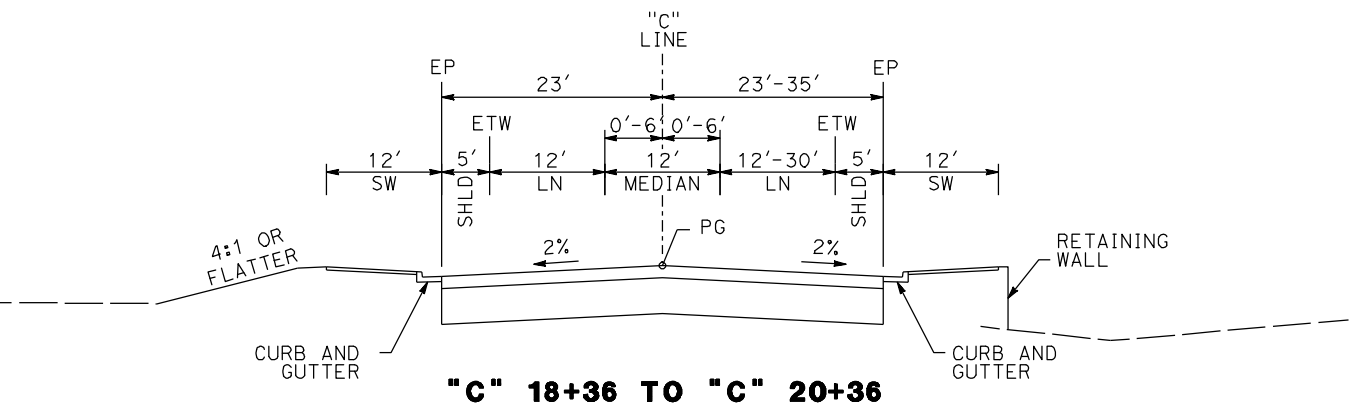
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-17**  
SCALE  
SHEET NO.

DATE PLOTTED => 27-APR-2011

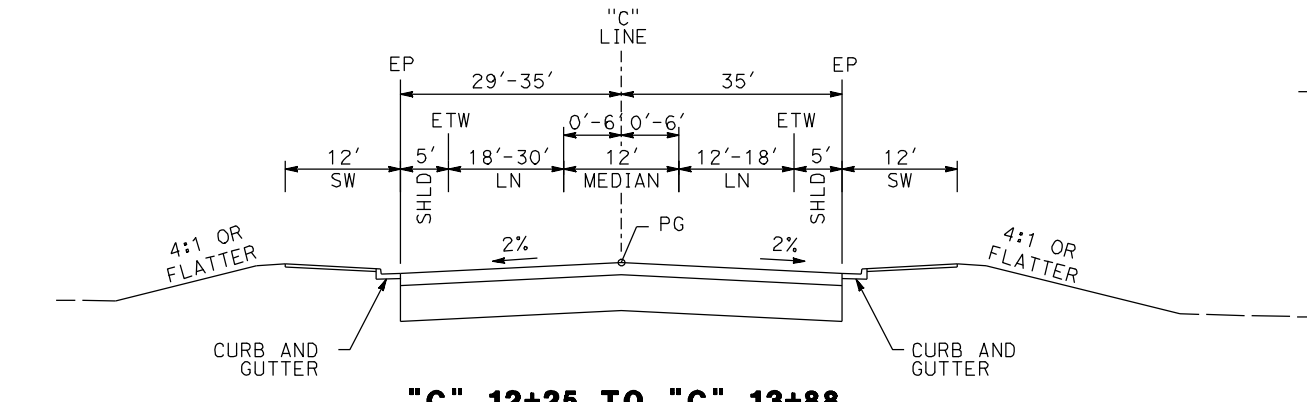




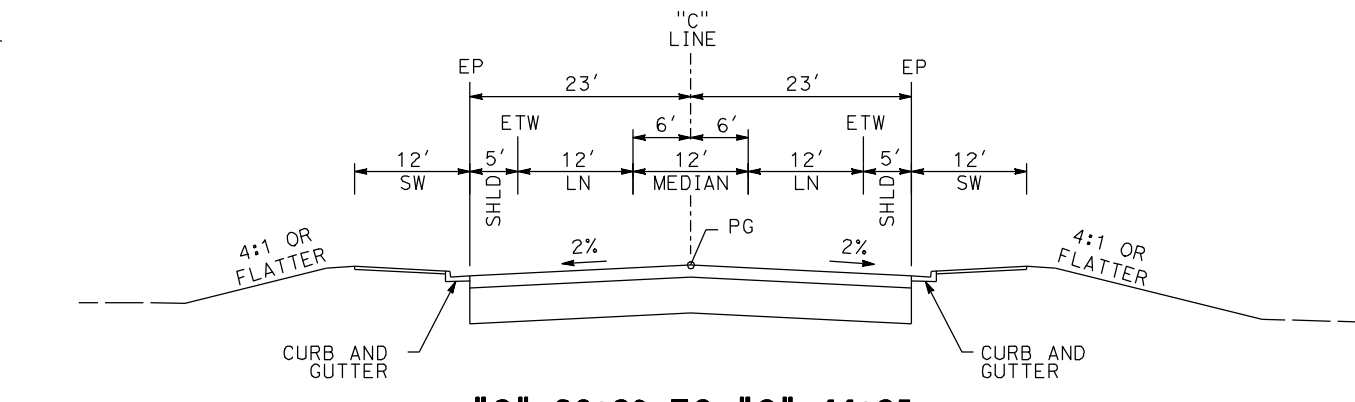
**"C" 10+89 TO "C" 12+25**



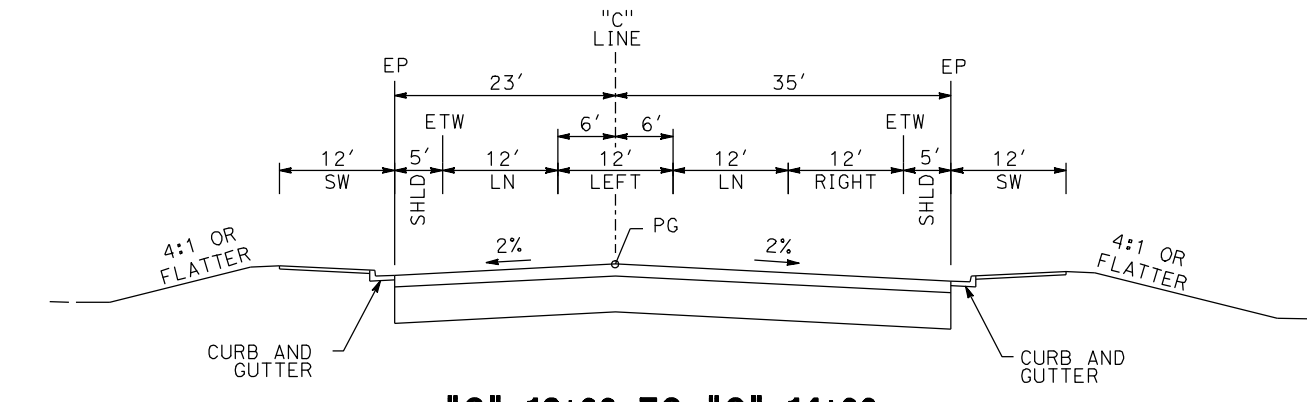
**"C" 18+36 TO "C" 20+36**



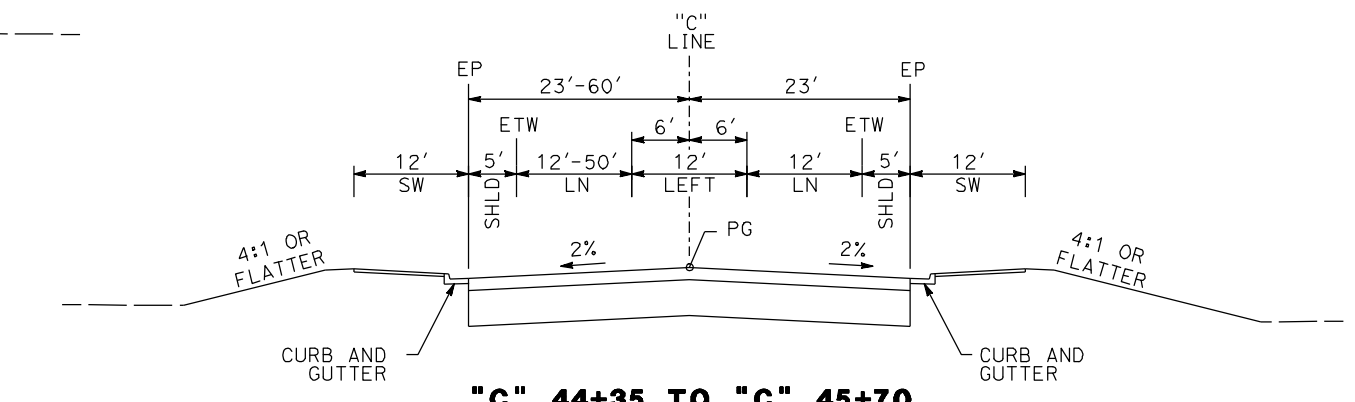
**"C" 12+25 TO "C" 13+88**



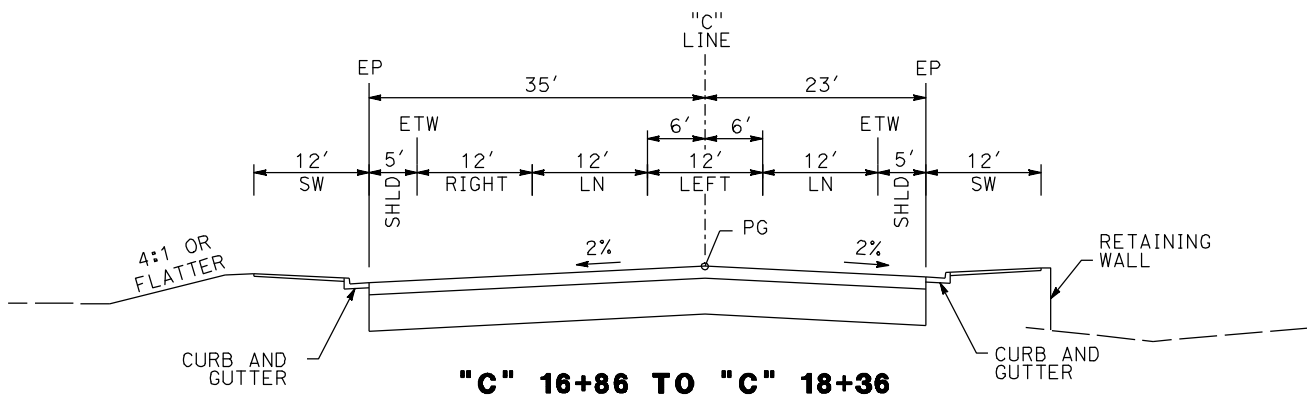
**"C" 20+36 TO "C" 44+35**



**"C" 13+88 TO "C" 14+99**



**"C" 44+35 TO "C" 45+70**



**"C" 16+86 TO "C" 18+36**

**CORNELIA AVE & SANTA ANA AVE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

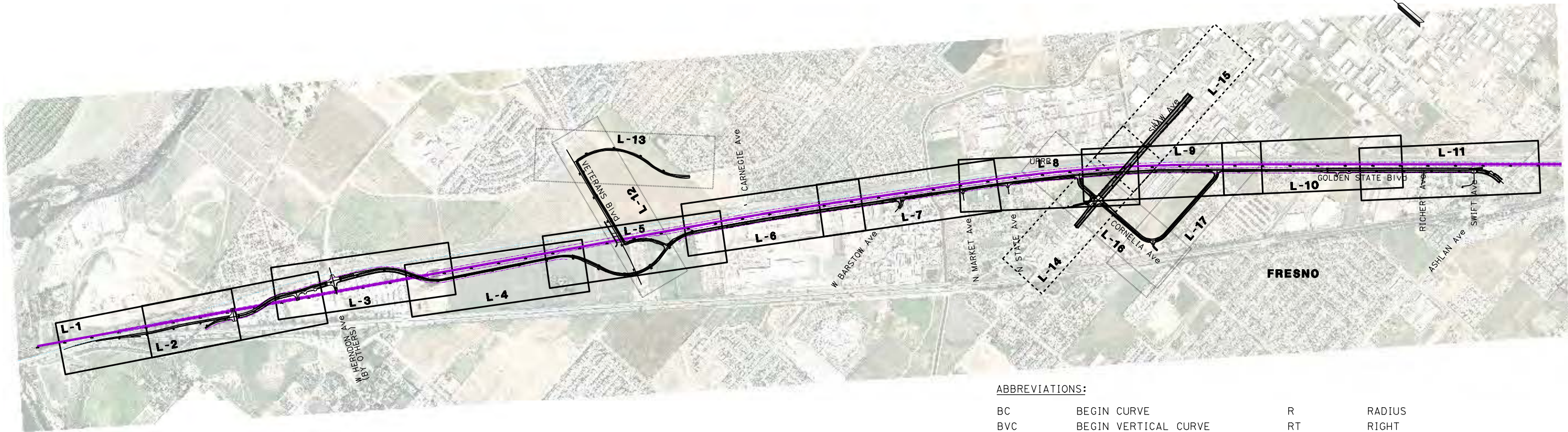
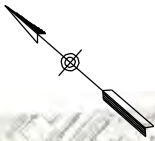
**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
TYPICAL SECTION**

CONTRACT NO. HSR06-007
DRAWING NO. <b>X-18</b>
SCALE
SHEET NO.



**ABBREVIATIONS:**

BC	BEGIN CURVE	R	RADIUS
BVC	BEGIN VERTICAL CURVE	RT	RIGHT
CG	CURB AND GUTTER	R/W	RIGHT OF WAY
CL	CENTERLINE	SB	SOUTHBOUND
EC	END CURVE	SHLD	SHOULDER
ELEV	ELEVATION	SW	SIDEWALK
EP	EDGE OF PAVEMENT	T	TANGENT
ES	EDGE OF SHOULDER	UPRR	UNION PACIFIC RAILROAD
ETW	EDGE OF TRAVELLED WAY	VAR	VARIES
EVC	END VERTICAL CURVE		
GSB	GOLDEN STATE BLVD		
HST	HIGH SPEED TRAIN		
L	LENGTH		
LN	LANE		
LT	LEFT		
NB	NORTHBOUND		
OG	ORIGINAL GROUND		
PCC	POINT OF COMPOUND CURVE		
PI	POINT OF INTERSECTION		
POB	POINT OF BEGINNING		
POC	POINT ON CURVE		
POE	POINT OF END		
POT	POINT ON TANGENT		
PG	PROFILE GRADE		
PR	PROPOSED		
PRC	POINT OF REVERSE CURVE		
PVI	POINT OF VERTICAL INTERSECTION		
PRVC	POINT OF REVERSE VERTICAL CURVE		

**LEGEND:**

- EXIST / PROPOSED RIGHT OF WAY
- HIGH SPEED TRAIN TRACK CENTERLINES
- P12 PETROLEUM GAS LINE
- RETAINING WALL

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

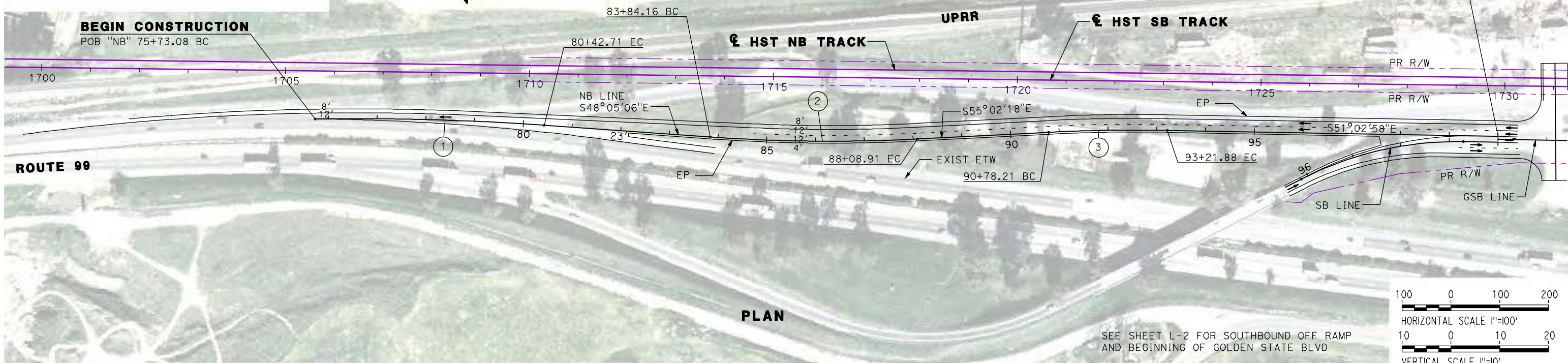


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
KEYMAP**

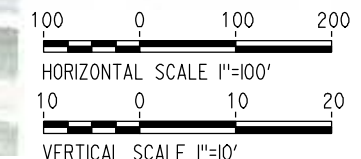
CONTRACT NO.	HSR06-007
DRAWING NO.	<b>K-1</b>
SCALE	NTS
SHEET NO.	



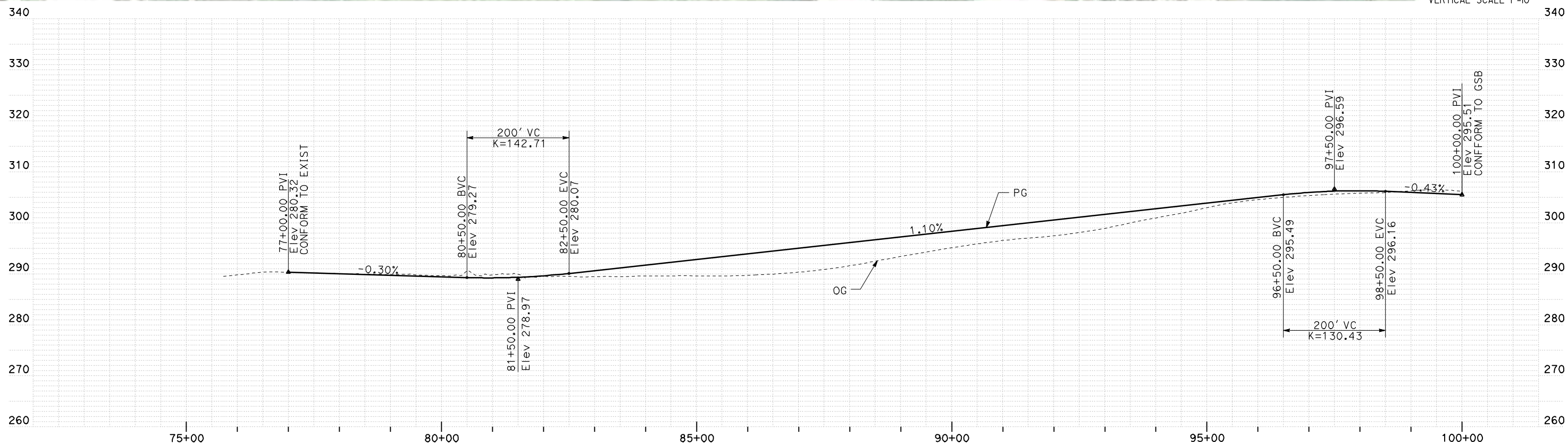
CURVE DATA					
No.	LINE	R	$\Delta$	L	T
①	NB	5500.00'	04°53'32"	469.63'	234.69'
②	NB	3500.00'	06°57'12"	424.76'	212.64'
③	NB	3500.00'	03°59'20"	243.67'	121.88'



PLAN



SEE SHEET L-2 FOR SOUTHBOUND OFF RAMP AND BEGINNING OF GOLDEN STATE BLVD



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

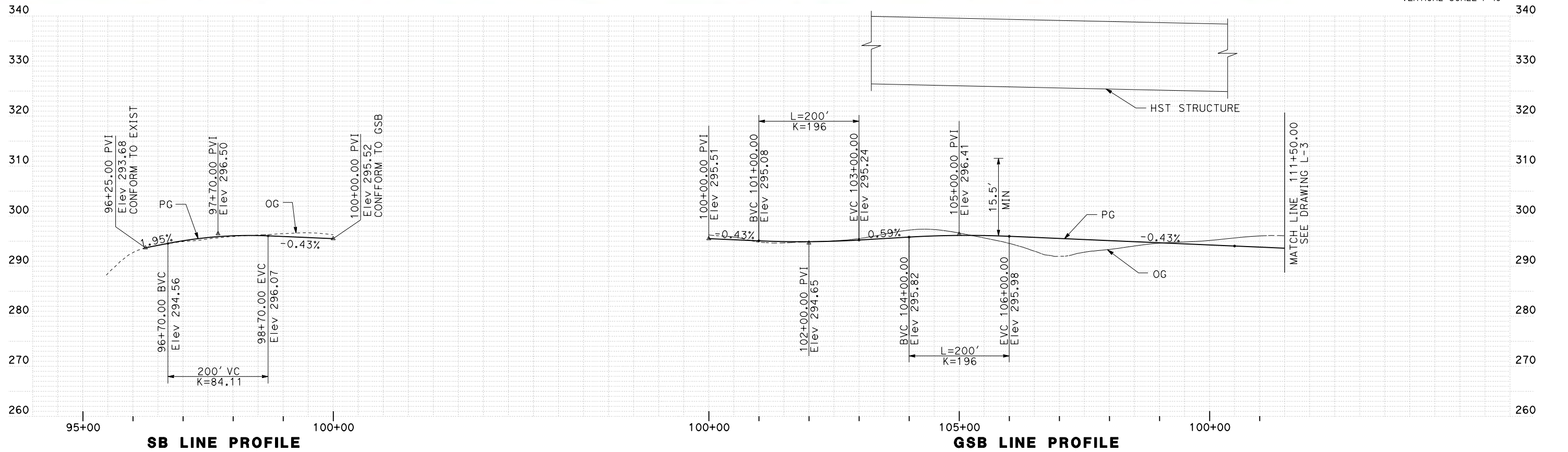
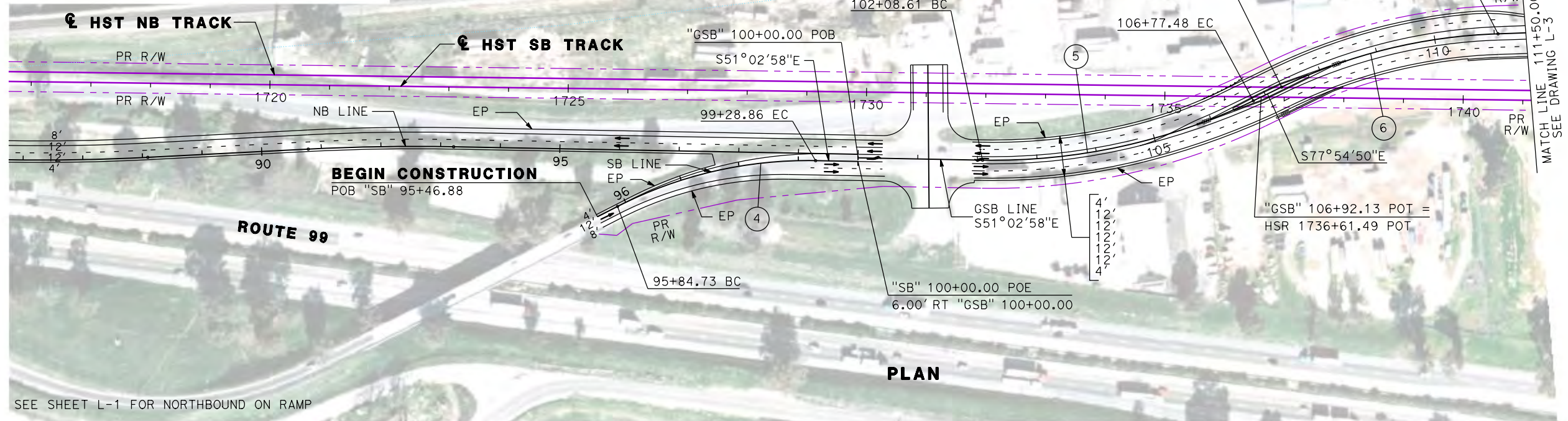


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"NB" 75+73 TO "NB" 100+00**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-1**  
SCALE  
AS SHOWN  
SHEET NO.



CURVE DATA					
No.	LINE	R	Δ	L	T
④	SB	700.00'	28°10'05"	344.14'	175.62'
⑤	GSB	1000.00'	26°51'52"	468.87'	238.83'
⑥	GSB	900.00'	23°57'18"	376.29'	190.93'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

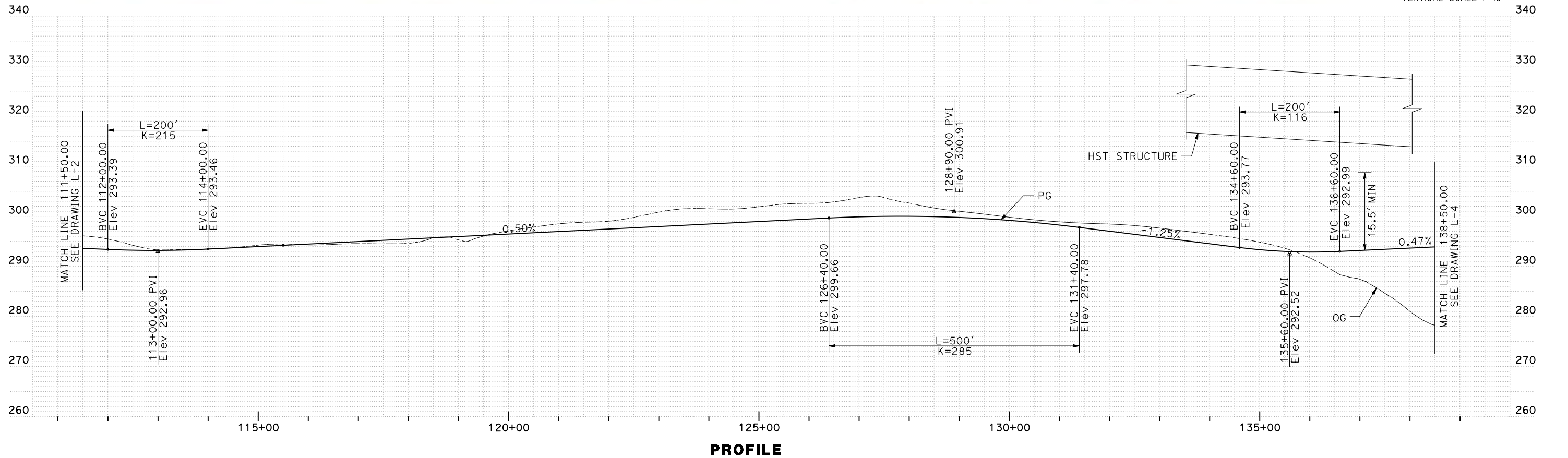
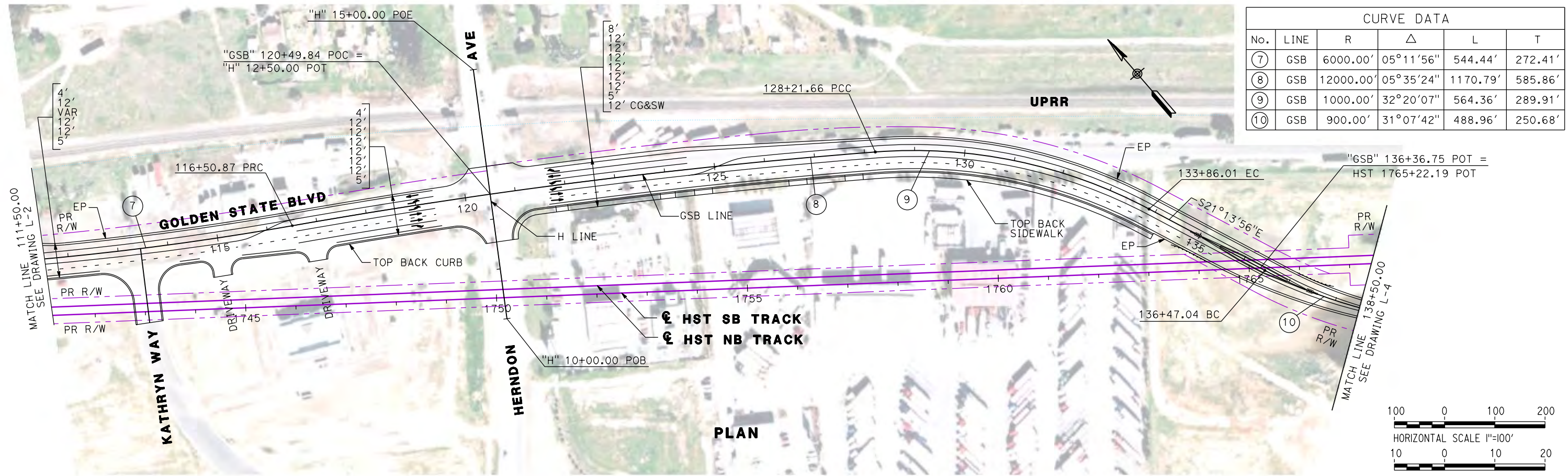
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 100+00 TO "GSB" 111+50**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-2**  
SCALE  
AS SHOWN  
SHEET NO.





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
 DRAWN BY  
B. CHAN  
 CHECKED BY  
L. HEUSTON  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

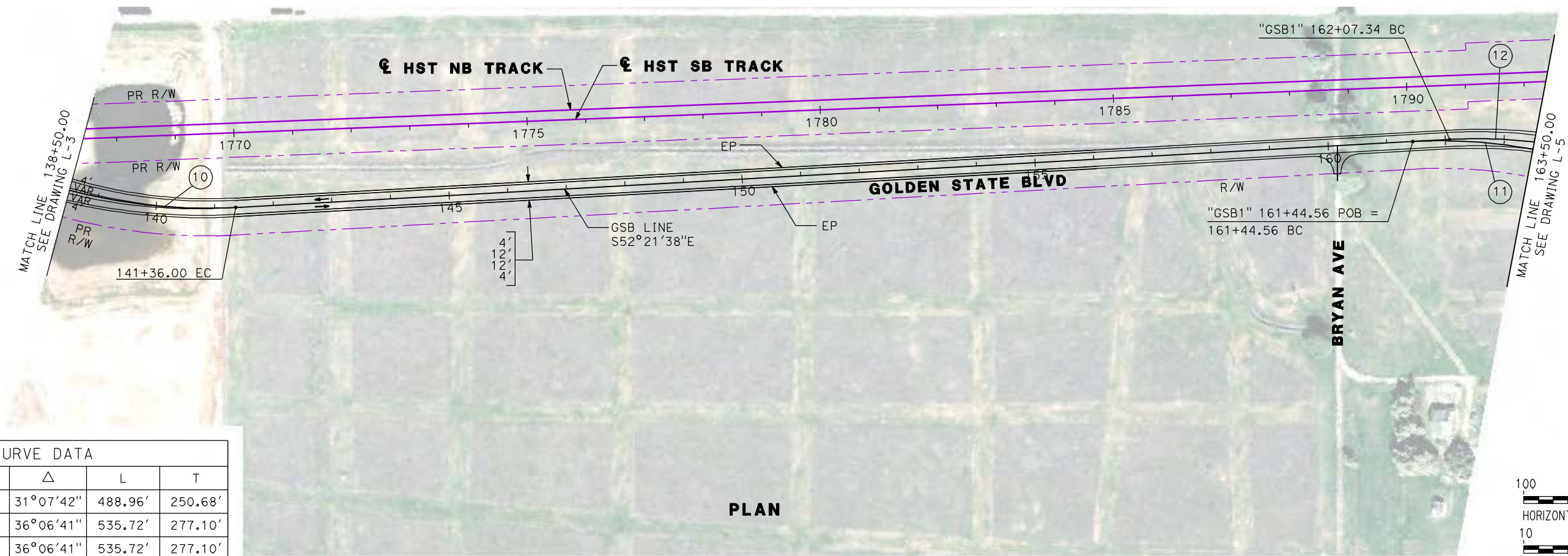
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 111+50 TO "GSB" 138+50**

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
**L-3**  
 SCALE  
AS SHOWN  
 SHEET NO.

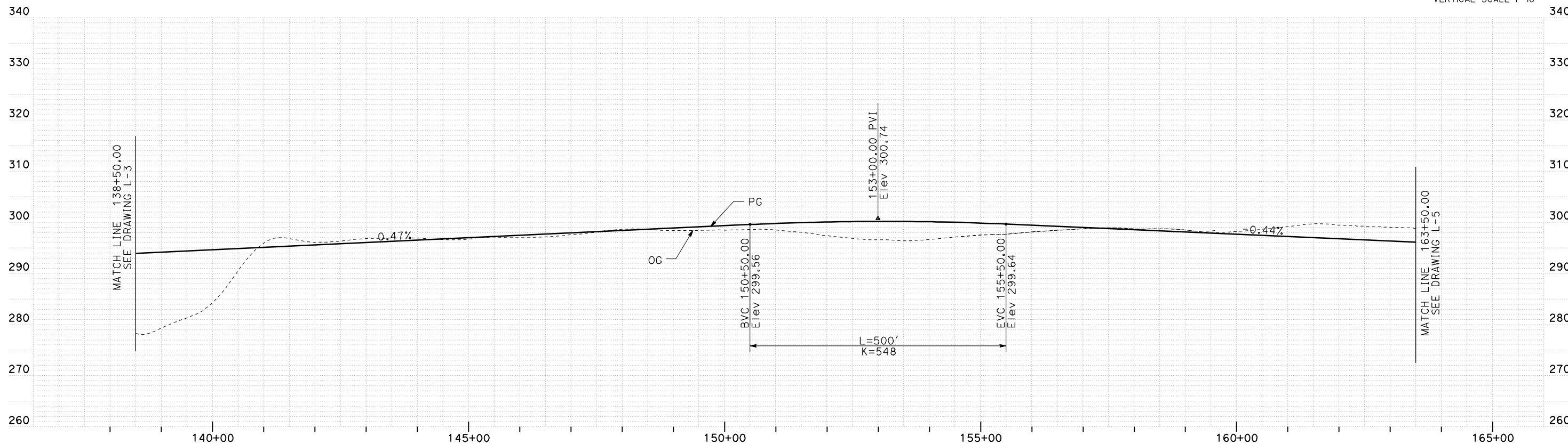
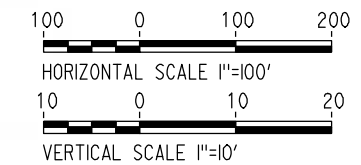




PLAN

CURVE DATA

No.	LINE	R	Δ	L	T
10	GSB	900.00'	31°07'42"	488.96'	250.68'
11	GSB	850.00'	36°06'41"	535.72'	277.10'
12	GSB1	850.00'	36°06'41"	535.72'	277.10'



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



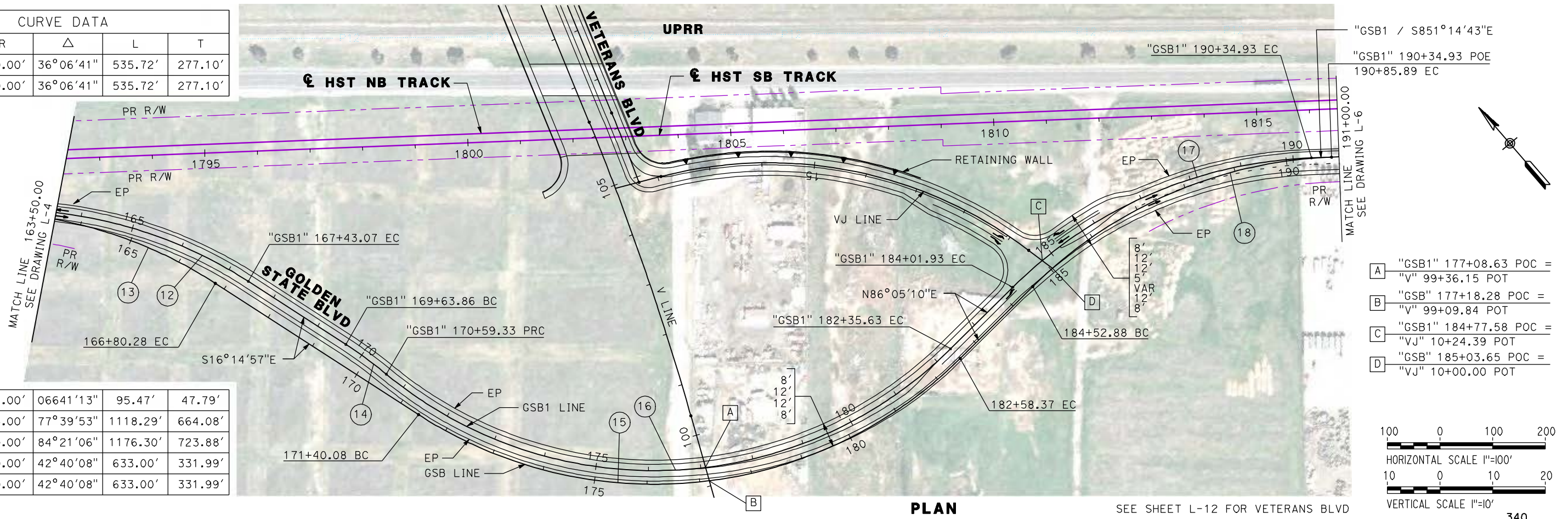
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO  
GOLDEN STATE BOULEVARD RE-ALIGNMENT  
LAYOUT  
"GSB" 138+50 TO "GSB" 163+50**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-4**  
SCALE  
AS SHOWN  
SHEET NO.

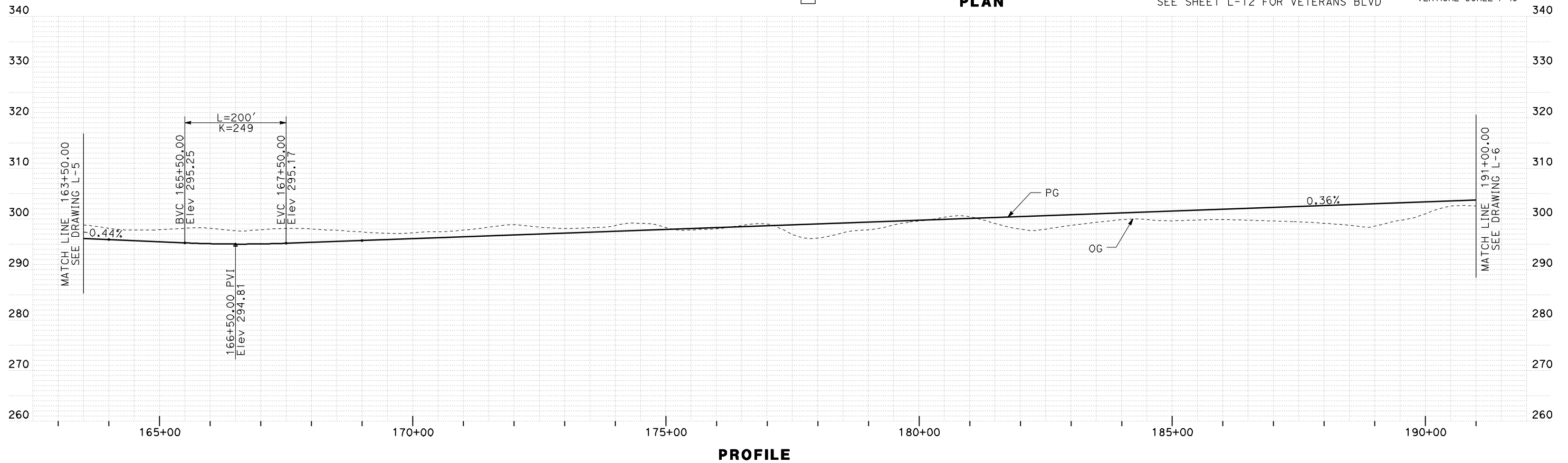
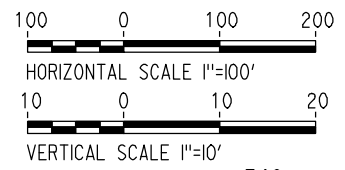


CURVE DATA					
No.	LINE	R	$\Delta$	L	T
12	GSB1	850.00'	36°06'41"	535.72'	277.10'
13	GSB	850.00'	36°06'41"	535.72'	277.10'

14	GSB1	818.00'	06641'13"	95.47'	47.79'
15	GSB	825.00'	77°39'53"	1118.29'	664.08'
16	GSB1	799.00'	84°21'06"	1176.30'	723.88'
17	GSB1	850.00'	42°40'08"	633.00'	331.99'
18	GSB	850.00'	42°40'08"	633.00'	331.99'



- A "GSB1" 177+08.63 POC = "V" 99+36.15 POT
- B "GSB" 177+18.28 POC = "V" 99+09.84 POT
- C "GSB1" 184+77.58 POC = "VJ" 10+24.39 POT
- D "GSB" 185+03.65 POC = "VJ" 10+00.00 POT



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

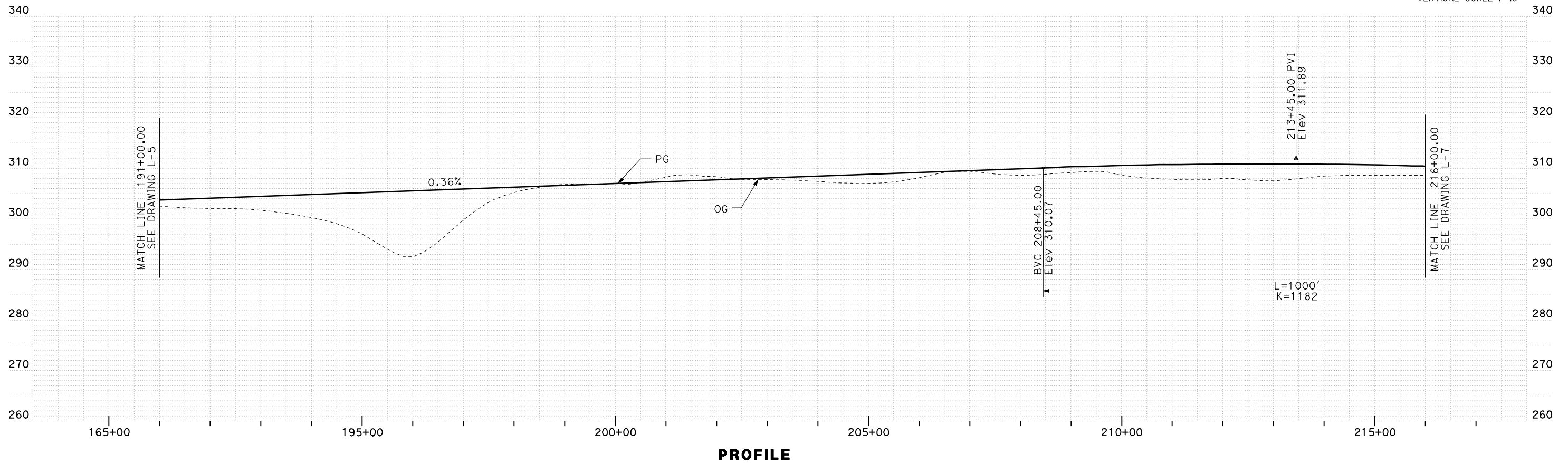
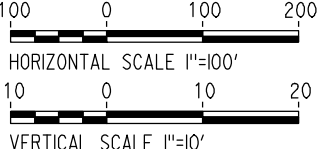
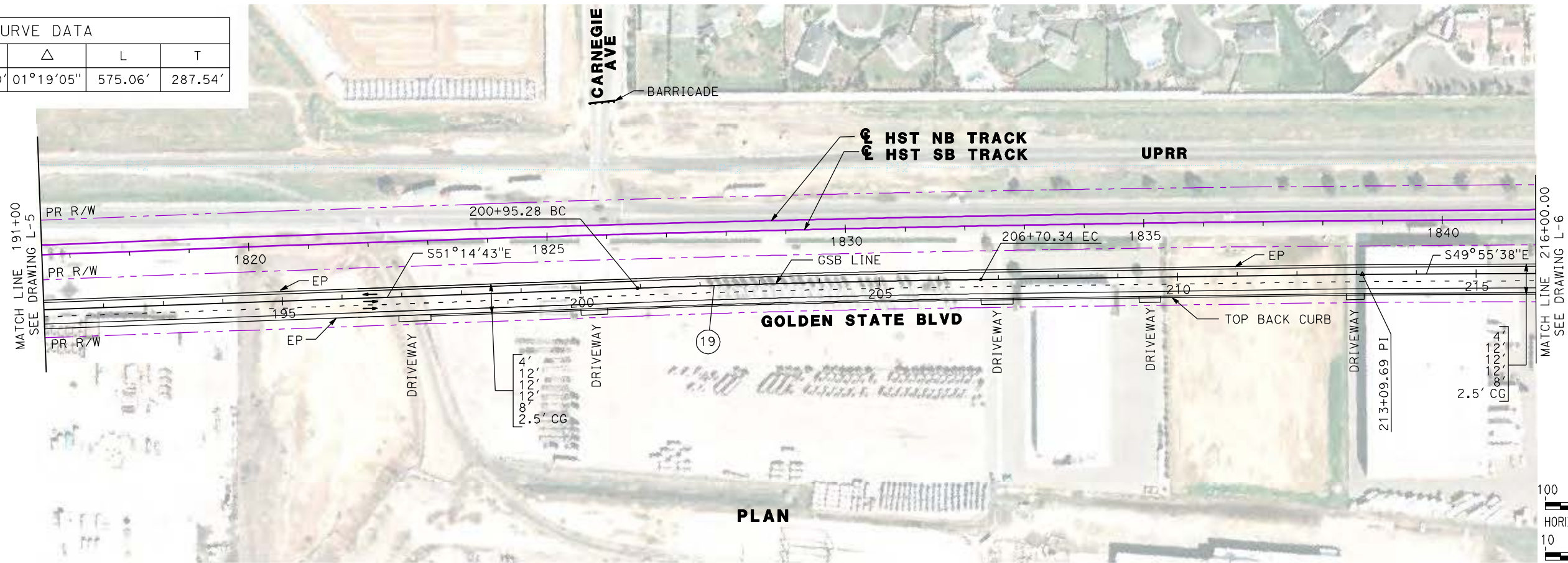


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 163+50 TO "GSB" 191+00**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-5**  
SCALE  
AS SHOWN  
SHEET NO.



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
19	GSB	25000.00'	01°19'05"	575.06'	287.54'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 191+00 TO "GSB" 216+00**

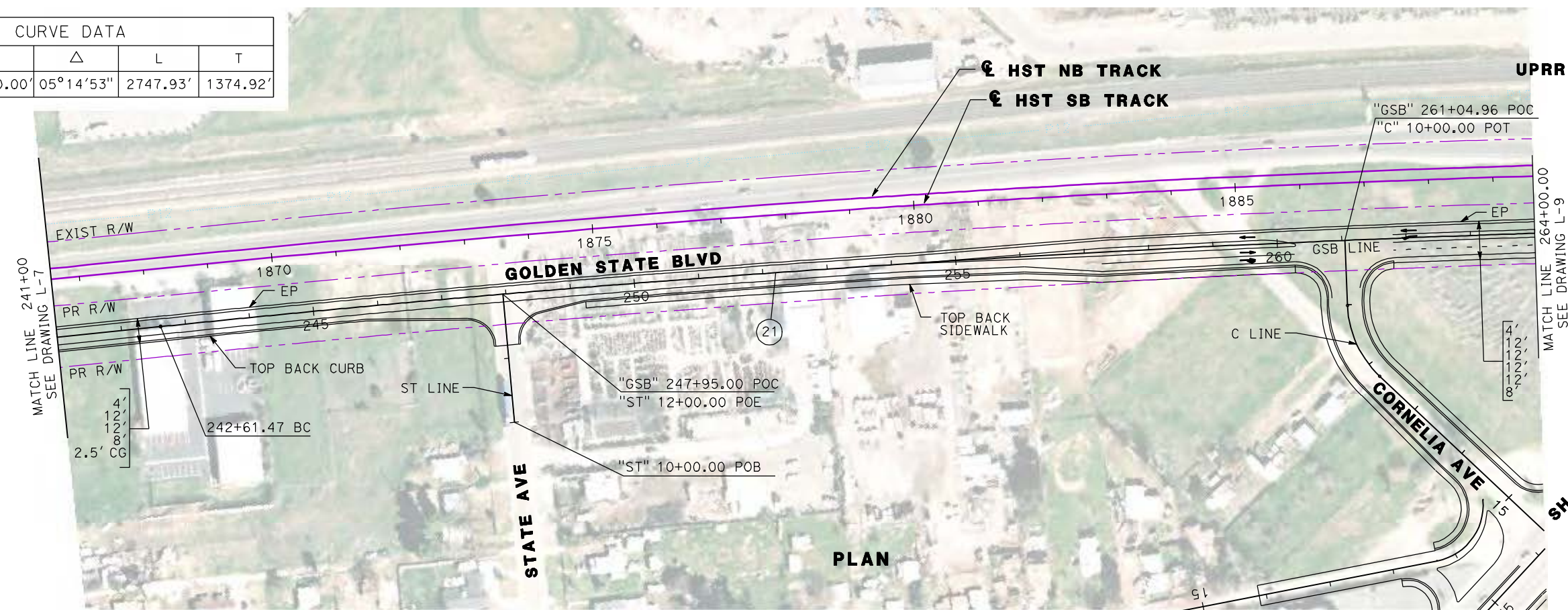
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-6**  
SCALE  
AS SHOWN  
SHEET NO.



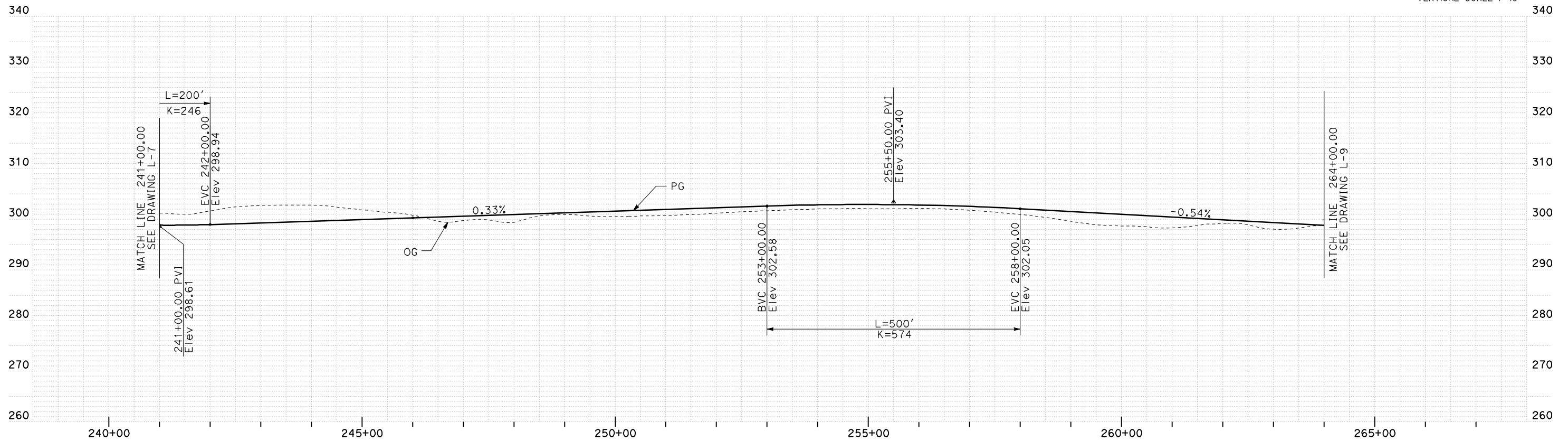
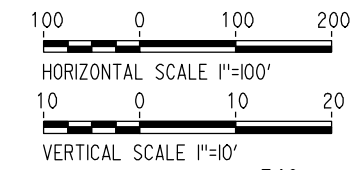




CURVE DATA					
No.	LINE	R	$\Delta$	L	T
(21)	GSB	30000.00'	05°14'53"	2747.93'	1374.92'



SEE SHEETS L-14 AND L-15 FOR SHAW AVE  
SEE SHEETS L-16 AND L-17 FOR CORNELIA AND SANTA ANA AVE



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

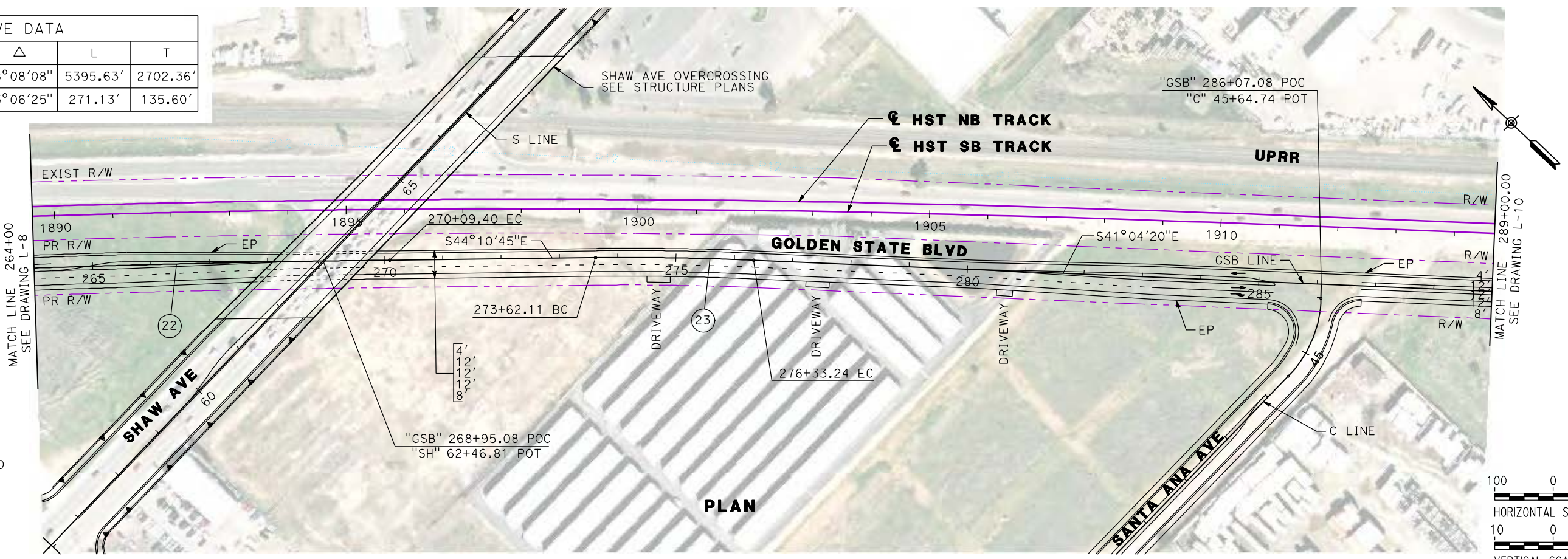


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 241+00 TO "GSB" 264+00**

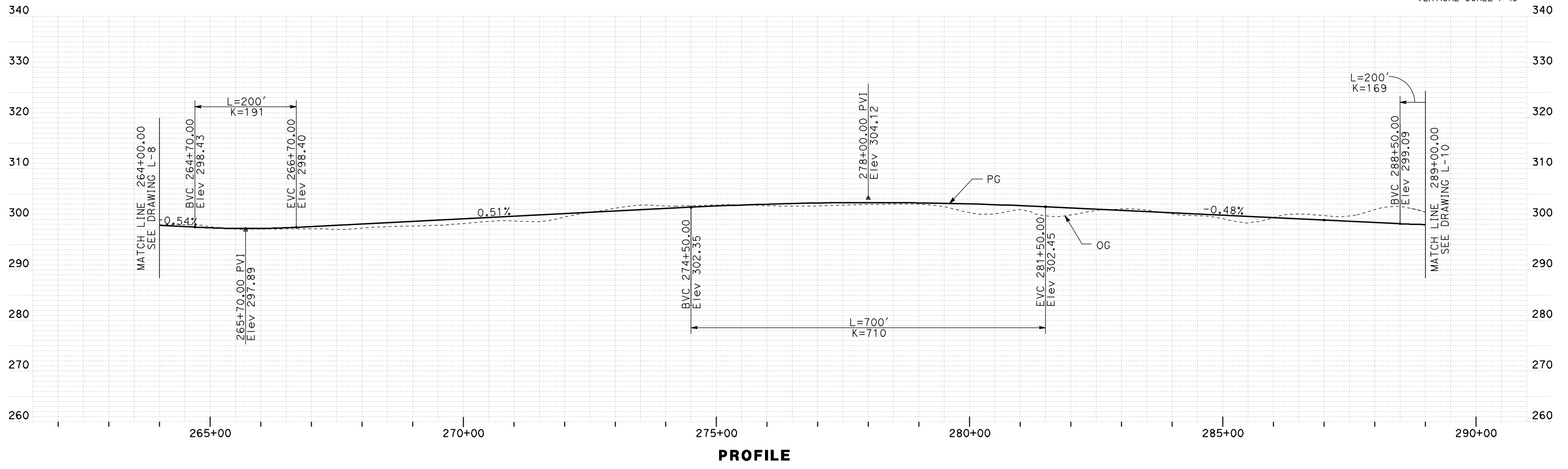
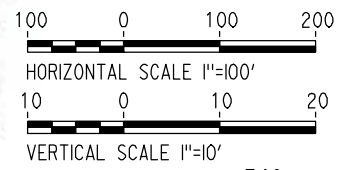
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-8**  
SCALE  
AS SHOWN  
SHEET NO.



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
22	GSB	38000.00'	08°08'08"	5395.63'	2702.36'
23	GSB	5000.00'	03°06'25"	271.13'	135.60'



SEE SHEETS L-14 AND L-15 FOR SHAW AVE  
SEE SHEETS L-16 AND L-17 FOR CORNELIA AND SANTA ANA AVE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

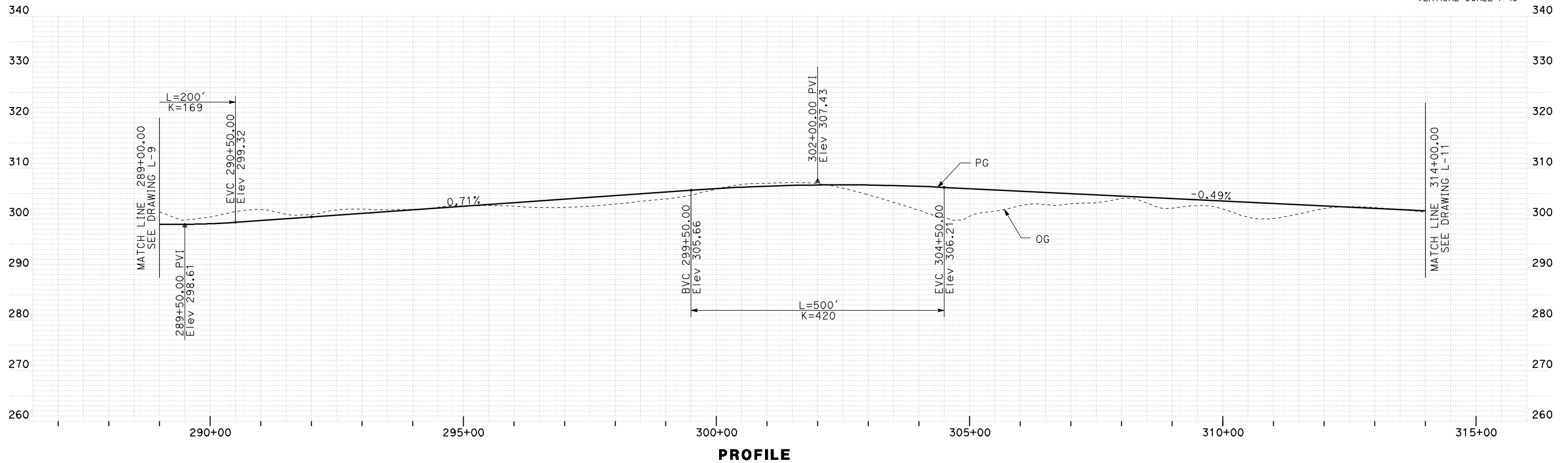
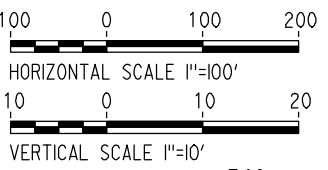
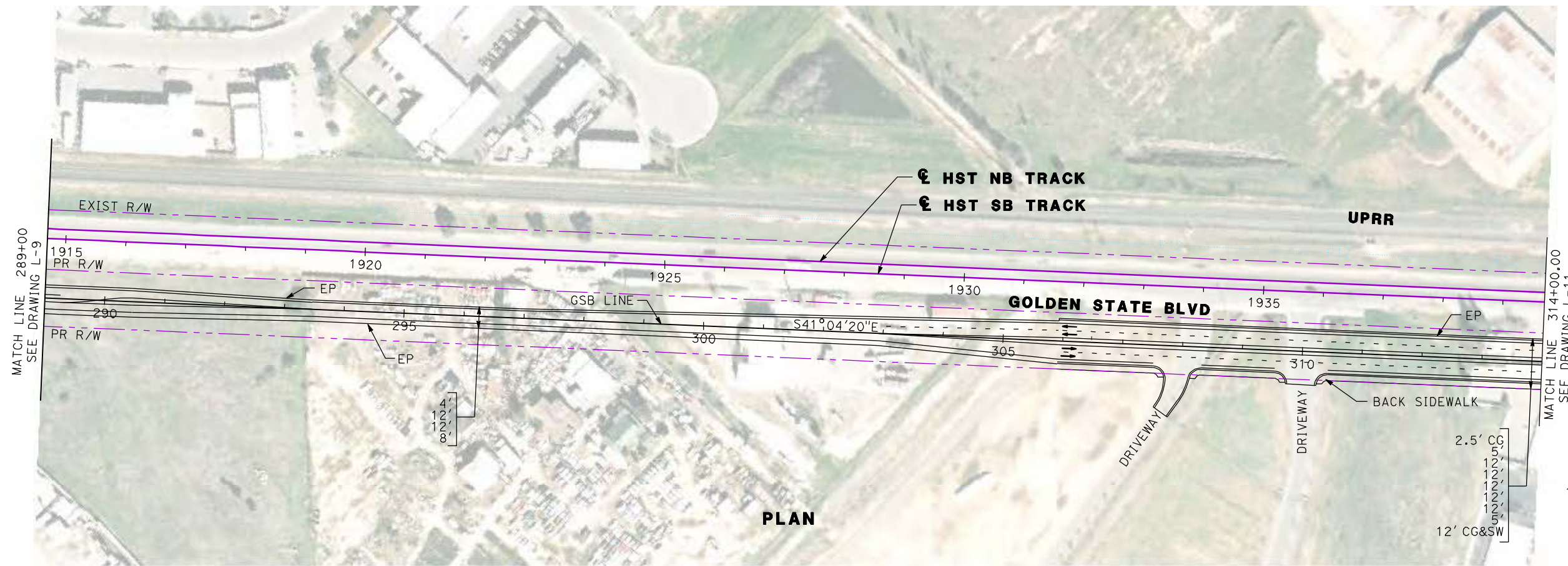
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 264+00 TO "GSB" 289+00**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-9**  
SCALE  
AS SHOWN  
SHEET NO.





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

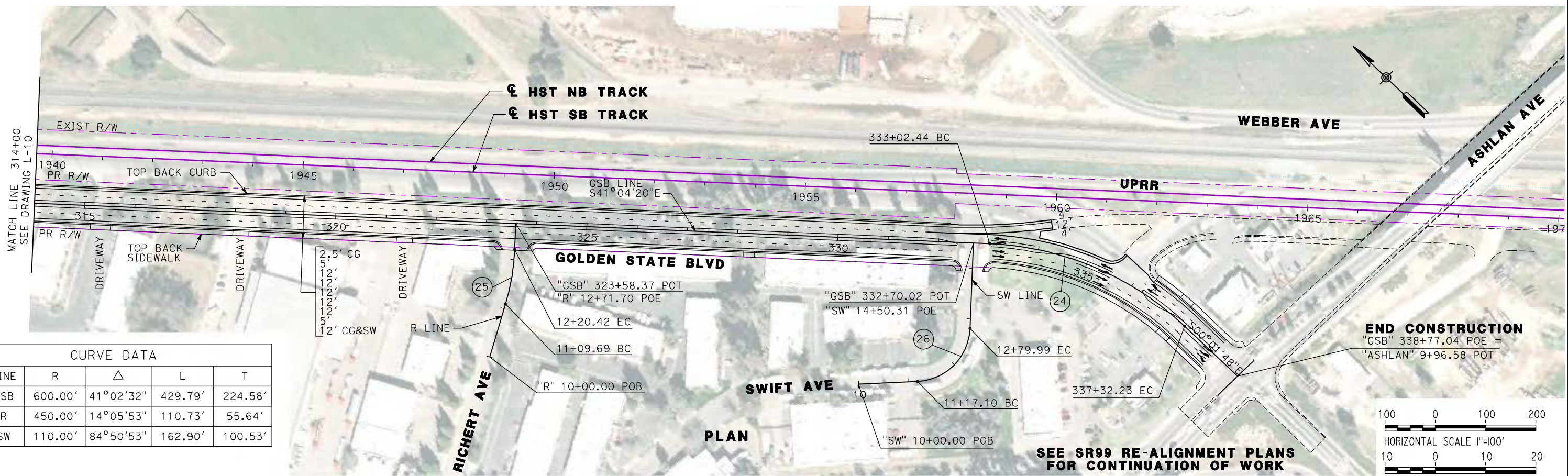
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 289+00 TO "GSB" 314+00**

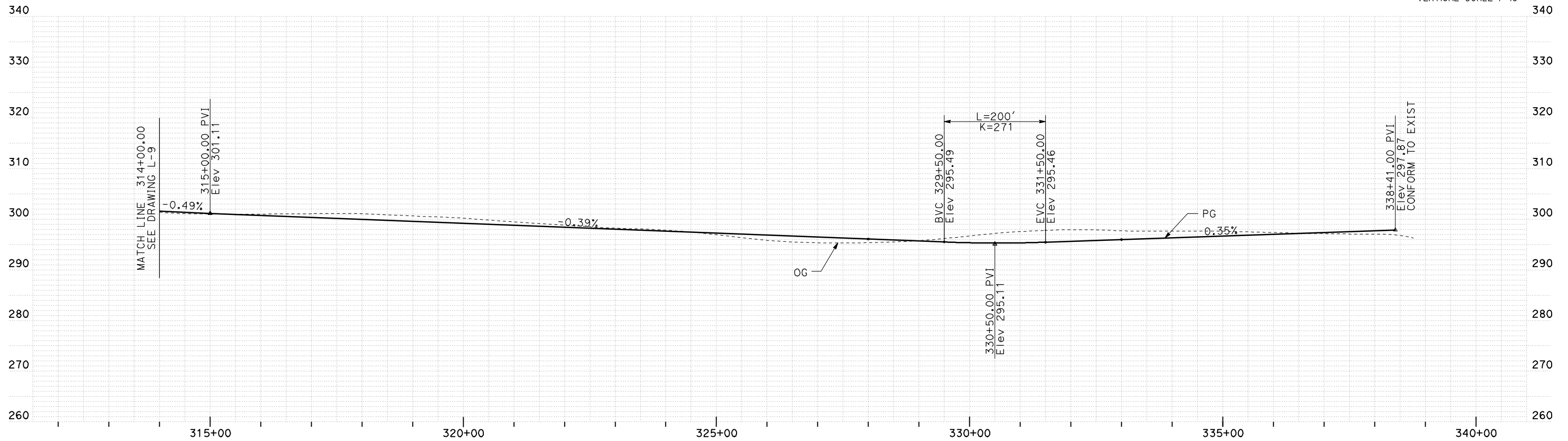
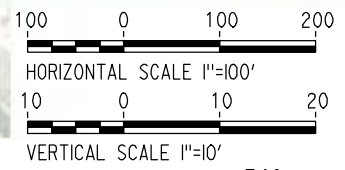
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-10**  
SCALE  
AS SHOWN  
SHEET NO.





**CURVE DATA**

No.	LINE	R	$\Delta$	L	T
24	GSB	600.00'	41°02'32"	429.79'	224.58'
25	R	450.00'	14°05'53"	110.73'	55.64'
26	SW	110.00'	84°50'53"	162.90'	100.53'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK

DRAWN BY  
B. CHAN

CHECKED BY  
L. HEUSTON

IN CHARGE  
J. MATSUI-DRURY

DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**LAYOUT**  
**"GSB" 314+00 TO "GSB" 338+77**

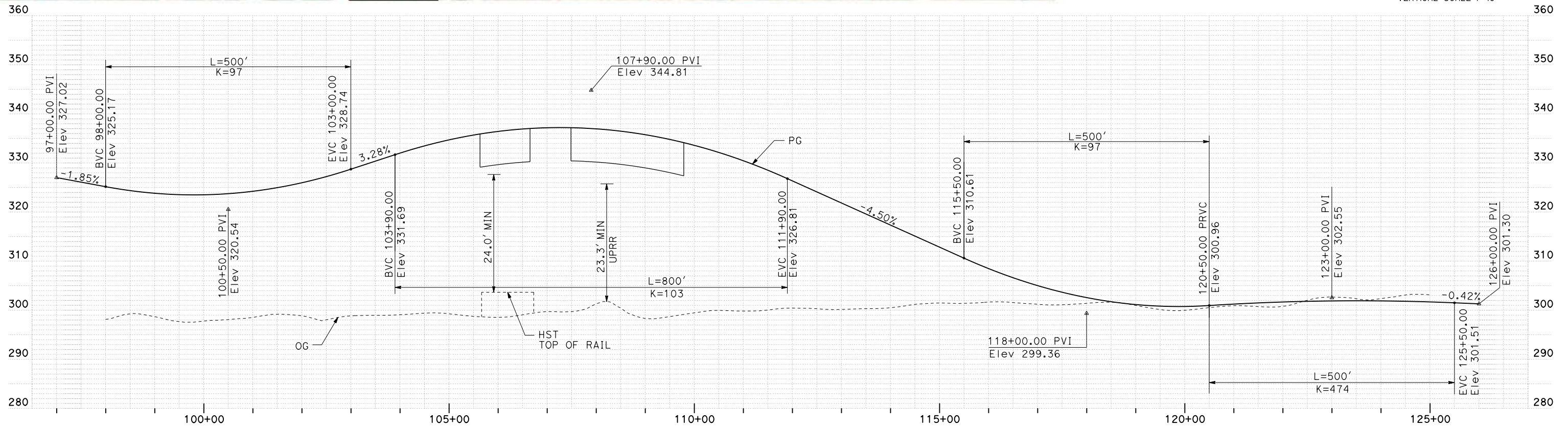
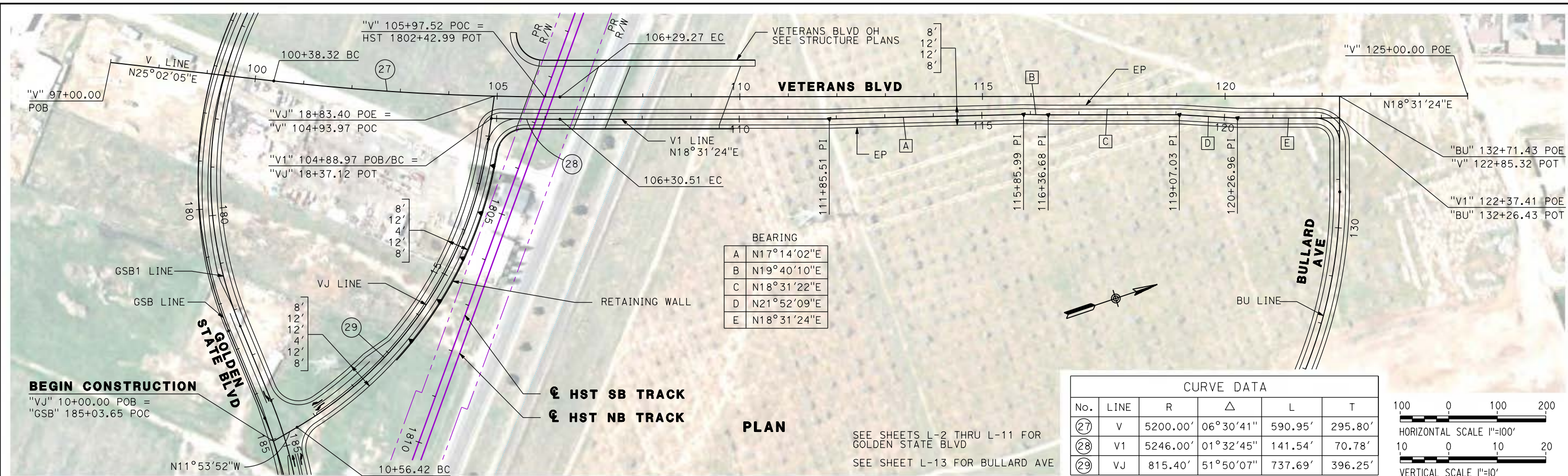
CONTRACT NO.  
HSR06-007

DRAWING NO.  
**L-11**

SCALE  
AS SHOWN

SHEET NO.





SEE SHEET L-13 FOR VJ PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
 DRAWN BY  
B. CHAN  
 CHECKED BY  
L. HEUSTON  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

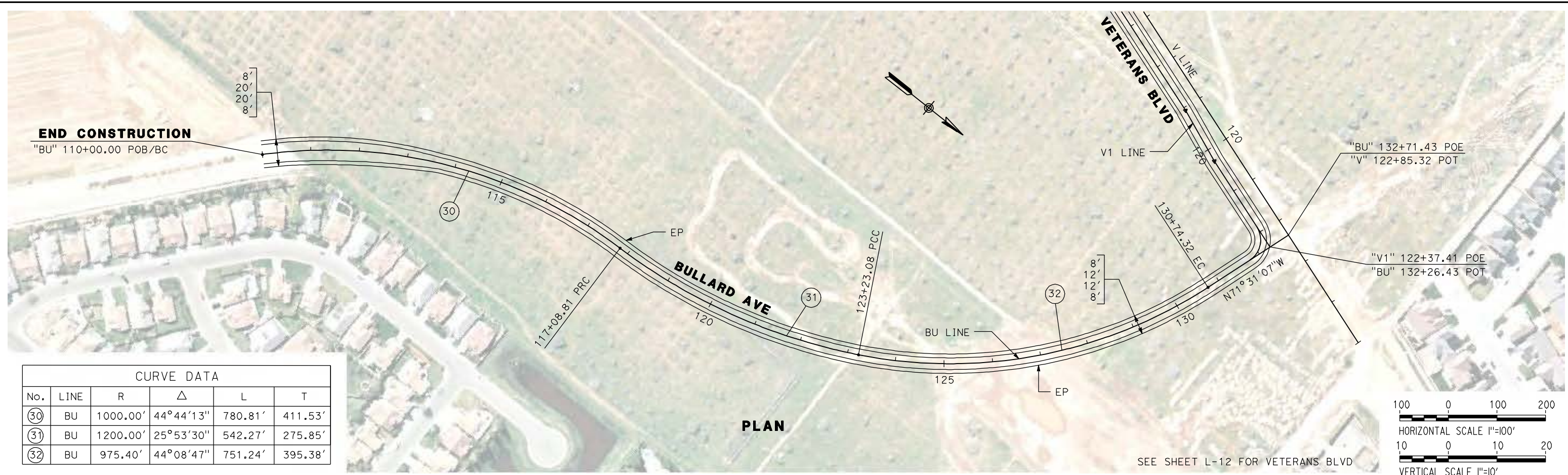
**NOT FOR**  
**CONSTRUCTION**



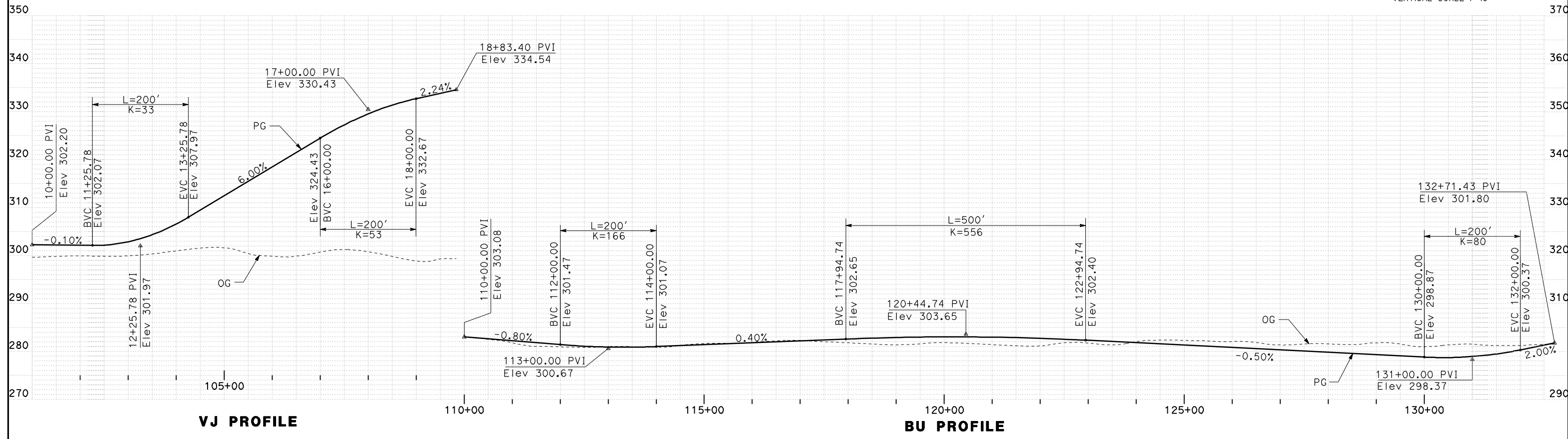
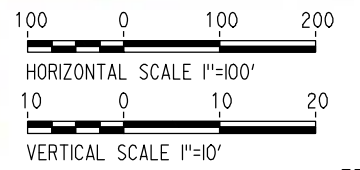
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**VETERANS BOULEVARD**  
**LAYOUT**  
**"V" 105+00 TO "V" 122+35**

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
**L-12**  
 SCALE  
AS SHOWN  
 SHEET NO.





CURVE DATA					
No.	LINE	R	Δ	L	T
30	BU	1000.00'	44°44'13"	780.81'	411.53'
31	BU	1200.00'	25°53'30"	542.27'	275.85'
32	BU	975.40'	44°08'47"	751.24'	395.38'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

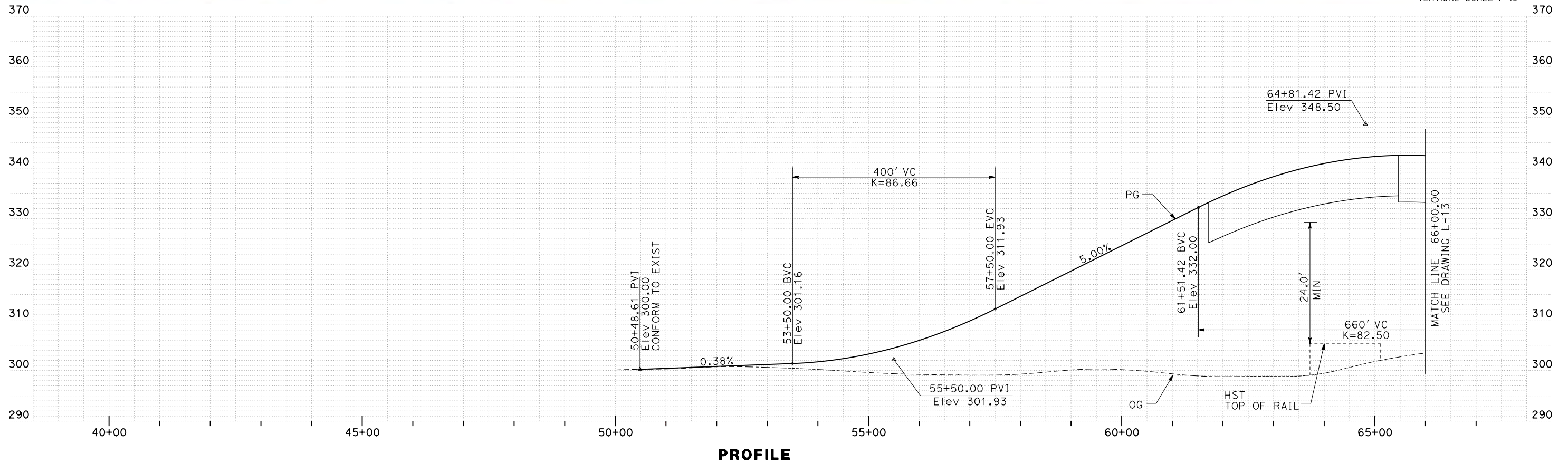
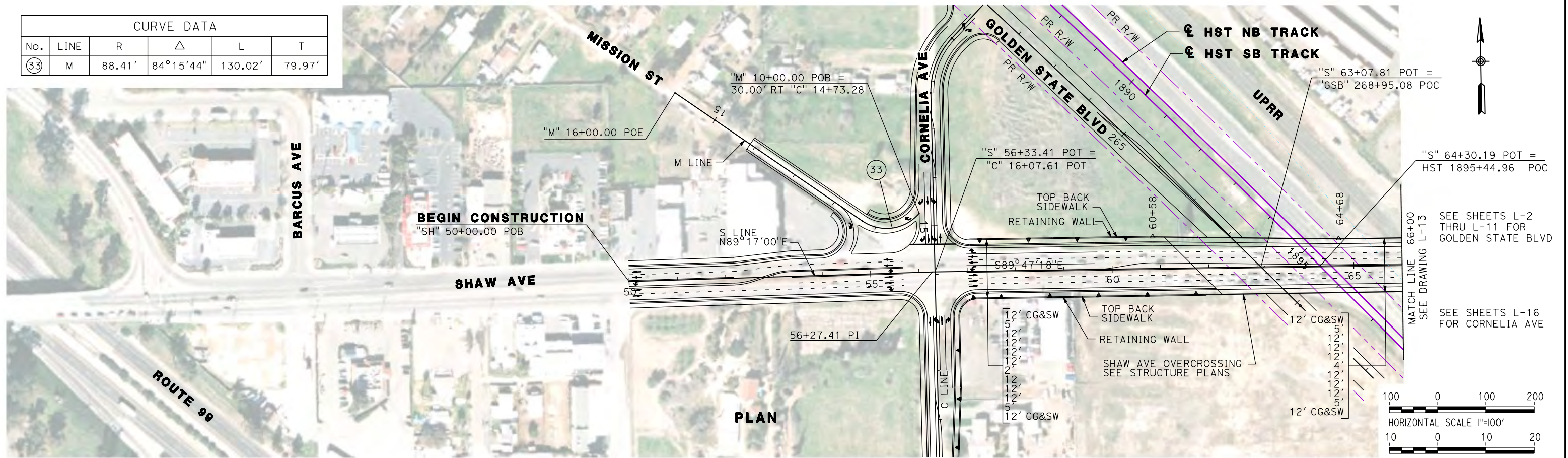


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**BULLARD AVENUE**  
**LAYOUT**  
**"BU" 100+00 TO "BU" 132+72**

CONTRACT NO. HSR06-007
DRAWING NO. <b>L-13</b>
SCALE AS SHOWN
SHEET NO.



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
33	M	88.41'	84°15'44"	130.02'	79.97'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

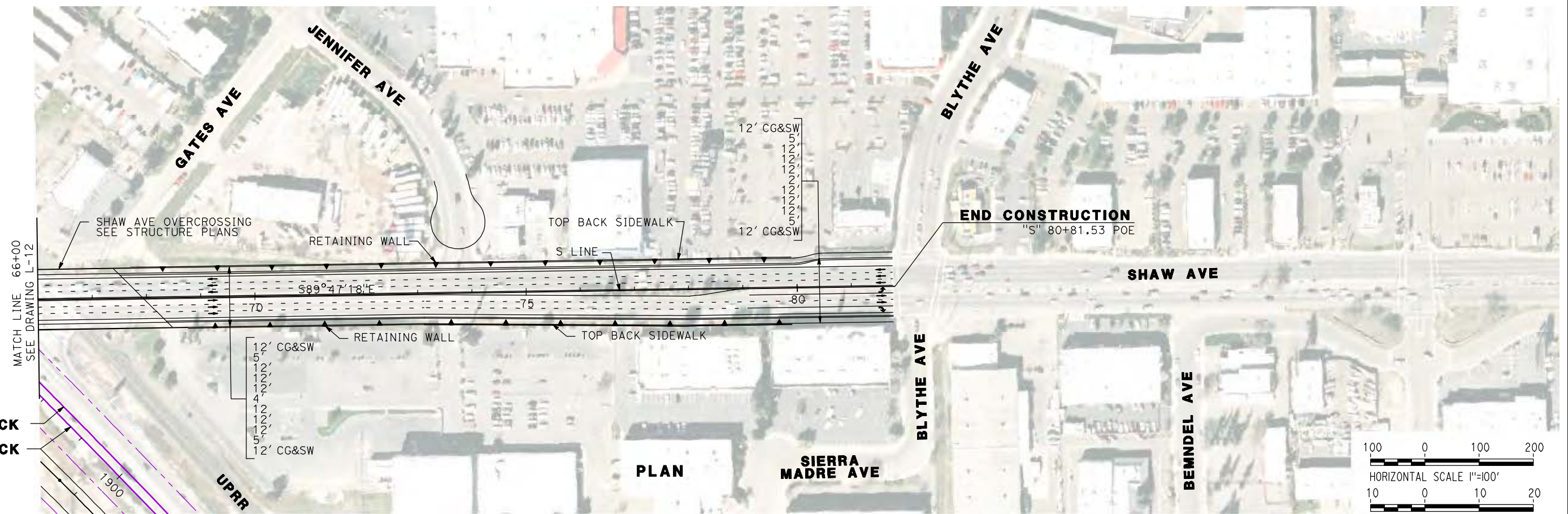


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**SHAW AVENUE RE-ALIGNMENT**  
**LAYOUT**  
**"S" 50+00 TO "S" 66+00**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>L-14</b>
SCALE	AS SHOWN
SHEET NO.	

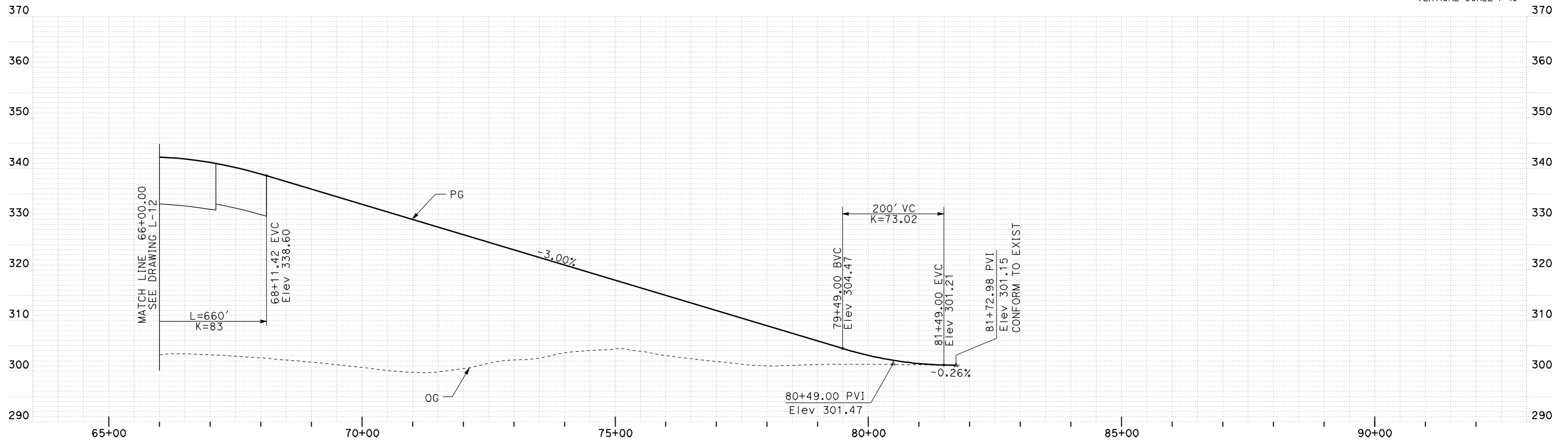


SEE SHEETS L-2 THRU  
L-11 FOR GOLDEN  
STATE BLVD



☉ HST NB TRACK  
☉ HST SB TRACK

PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**SHAW AVENUE RE-ALIGNMENT**  
**LAYOUT**  
**"S" 66+00 TO "S" 80+81**

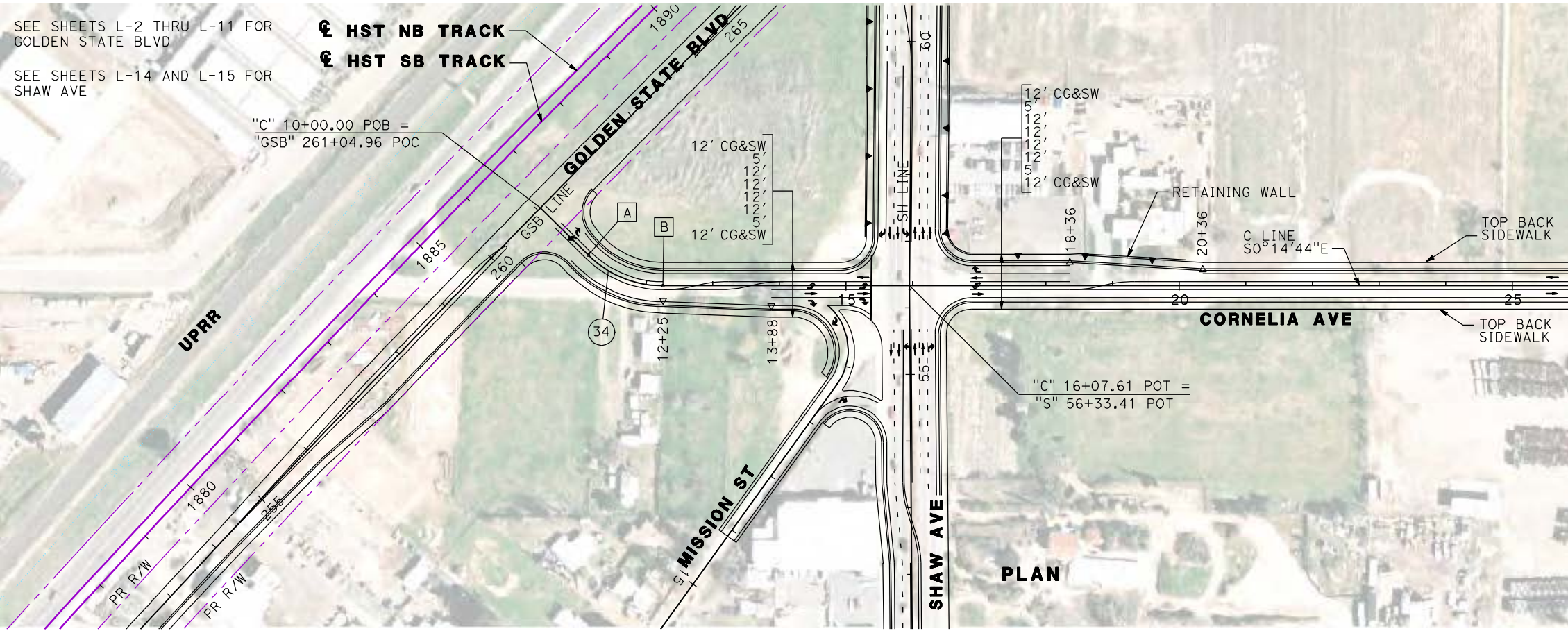
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-15**  
SCALE  
AS SHOWN  
SHEET NO.



SEE SHEETS L-2 THRU L-11 FOR GOLDEN STATE BLVD

SEE SHEETS L-14 AND L-15 FOR SHAW AVE

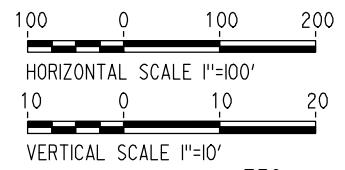
☑ HST NB TRACK  
☑ HST SB TRACK



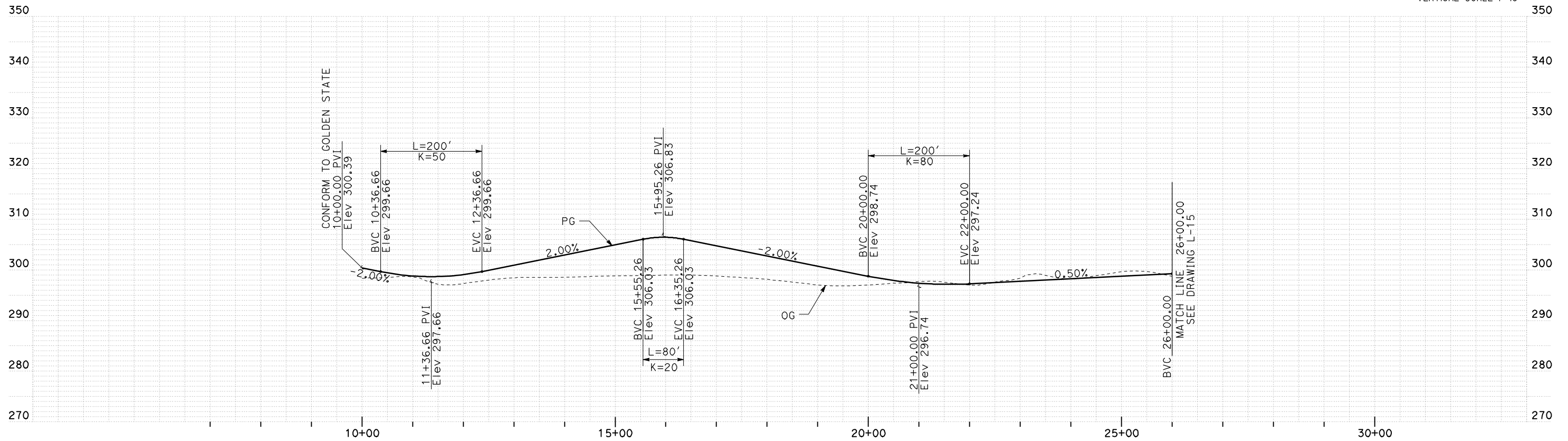
CURVE DATA					
No.	LINE	R	Δ	L	T
34	C	160.00'	44°29'15"	124.23'	65.44'



- A 11+00.95 BC
- B 12+25.19 EC



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
B. CHAN  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

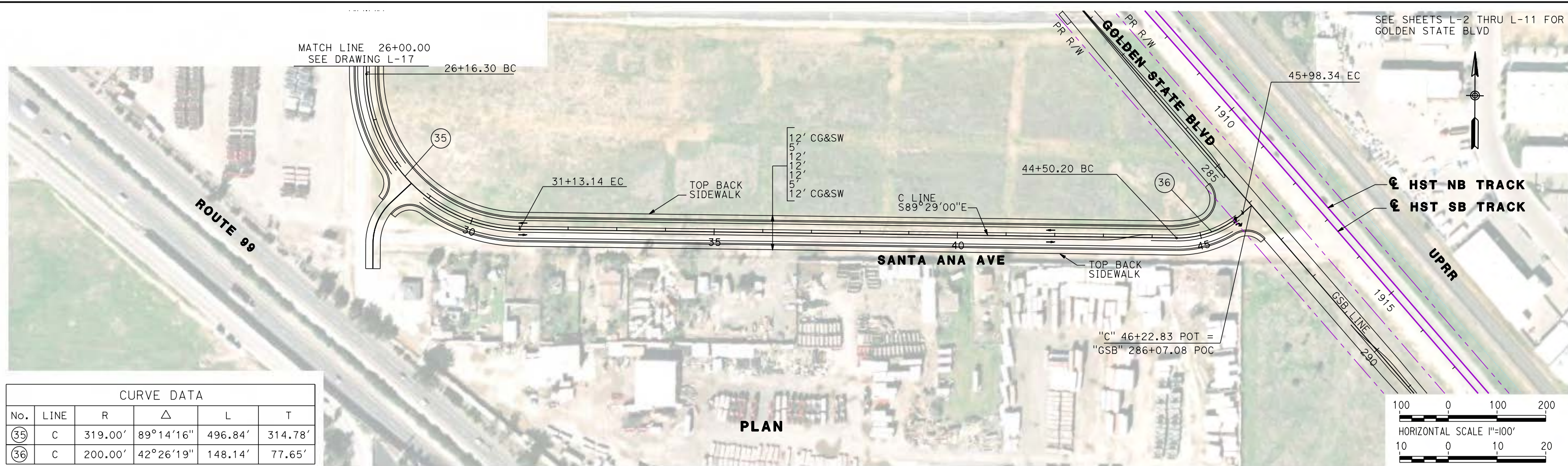
**NOT FOR**  
**CONSTRUCTION**



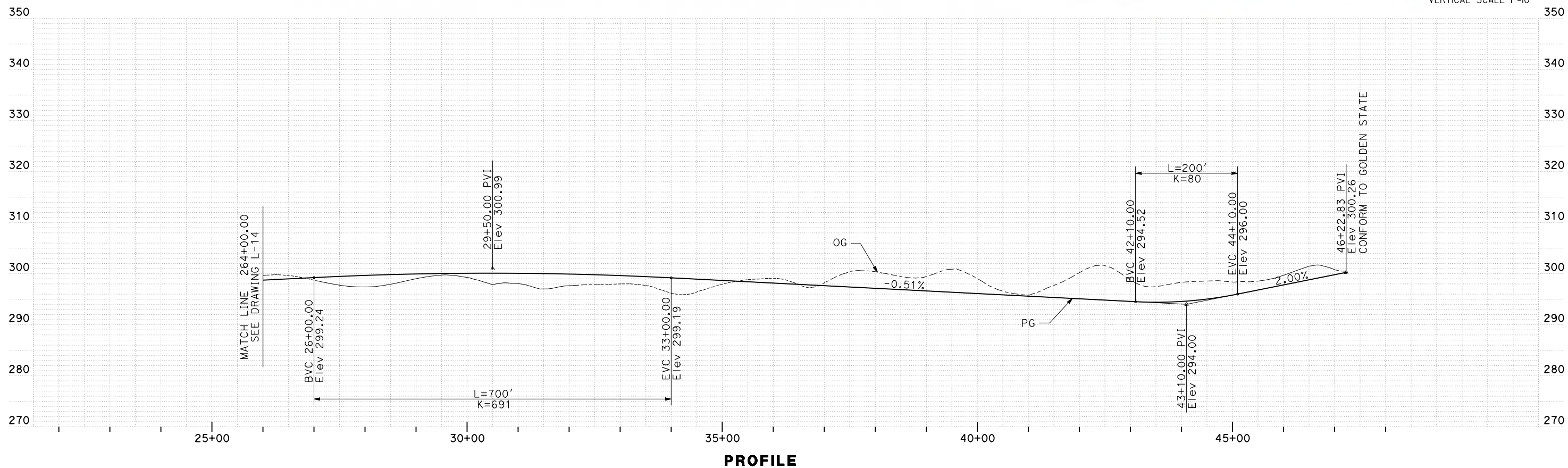
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**CORNELIA AVENUE RE-ALIGNMENT**  
**LAYOUT**  
**"C" 10+00 TO "C" 26+00**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-16**  
SCALE  
AS SHOWN  
SHEET NO.





CURVE DATA					
No.	LINE	R	Δ	L	T
35	C	319.00'	89°14'16"	496.84'	314.78'
36	C	200.00'	42°26'19"	148.14'	77.65'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK

DRAWN BY  
B. CHAN

CHECKED BY  
L. HEUSTON

IN CHARGE  
J. MATSUI-DRURY

DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



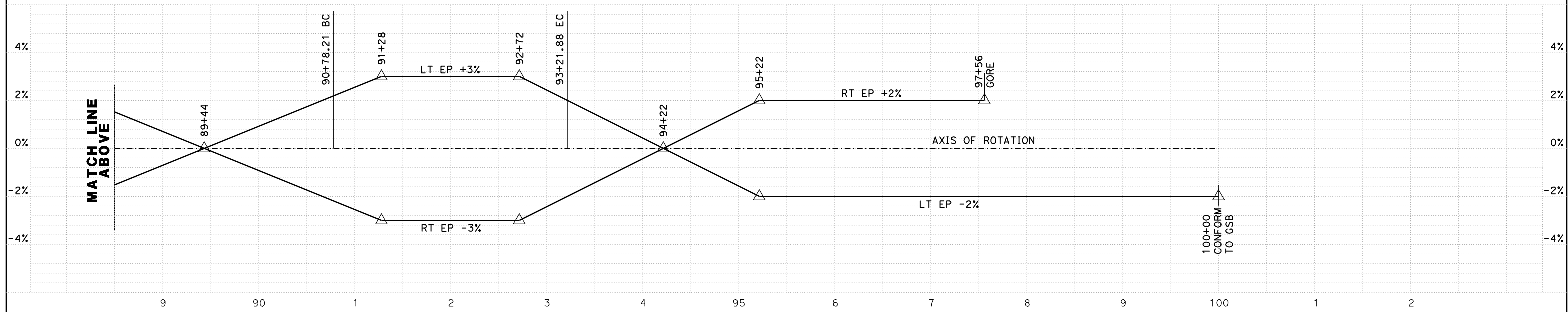
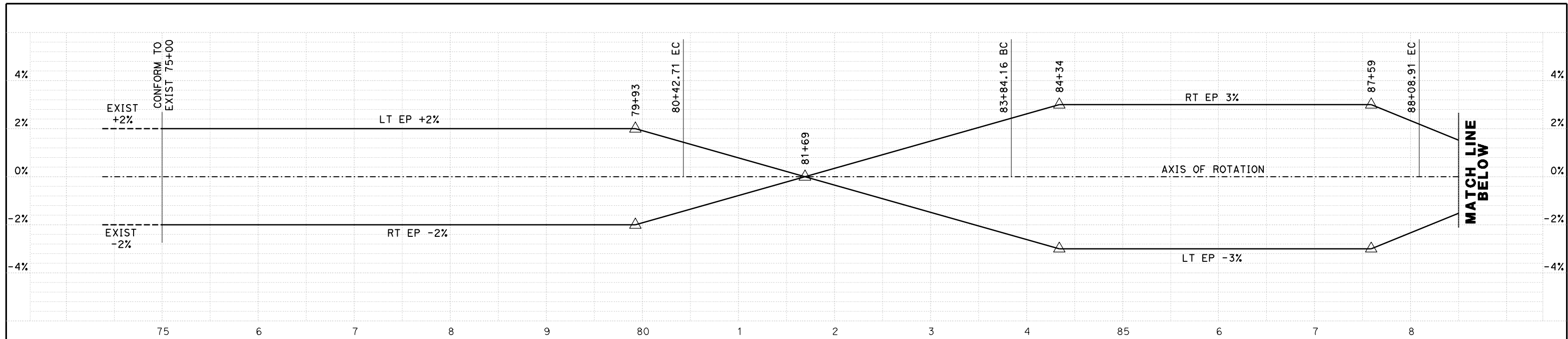
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**SANTA ANA AVENUE RE-ALIGNMENT**  
**LAYOUT**  
**"C" 26+00 TO "C" 46+23**

CONTRACT NO.  
HSR06-007

DRAWING NO.  
**L-17**

SCALE  
AS SHOWN

SHEET NO.



**NB LINE**  
**SUPERELEVATION DIAGRAM**  
 NO SCALE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
 DRAWN BY  
B. CHAN  
 CHECKED BY  
L. HEUSTON  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

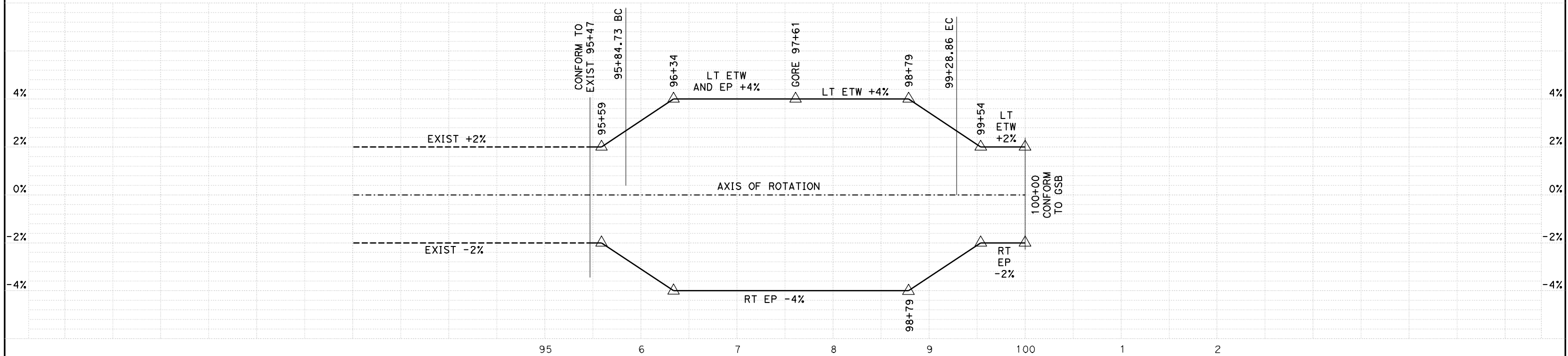
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**SUPERELEVATION DIAGRAM**

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
**SE-1**  
 SCALE  
 SHEET NO.





**SB LINE**  
**SUPERELEVATION DIAGRAM**  
 NO SCALE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
 DRAWN BY  
B. CHAN  
 CHECKED BY  
L. HEUSTON  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

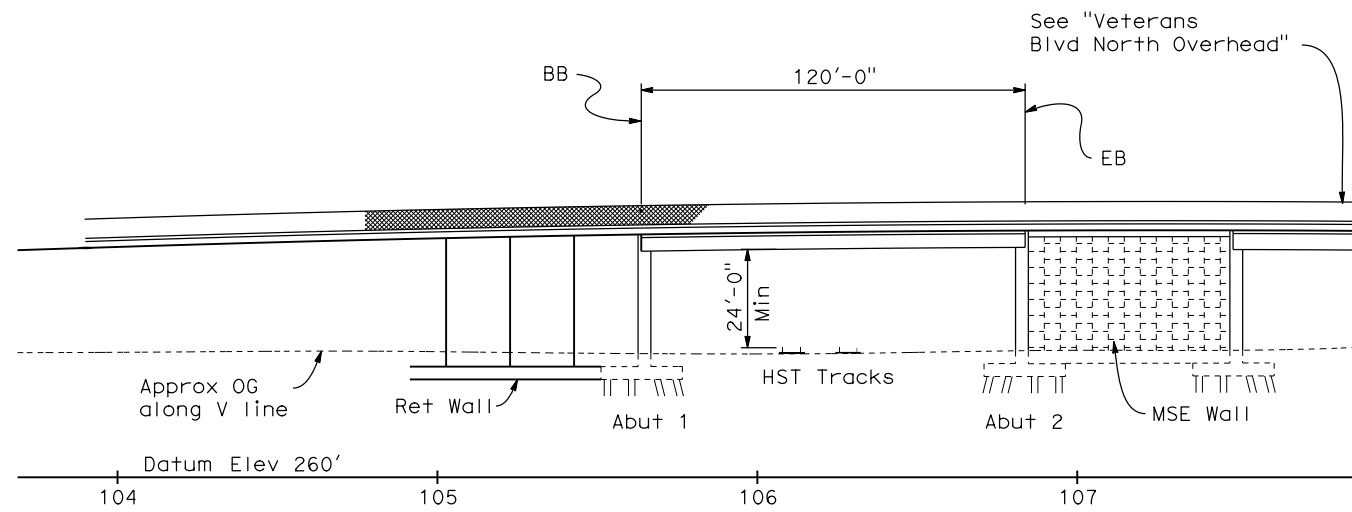
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

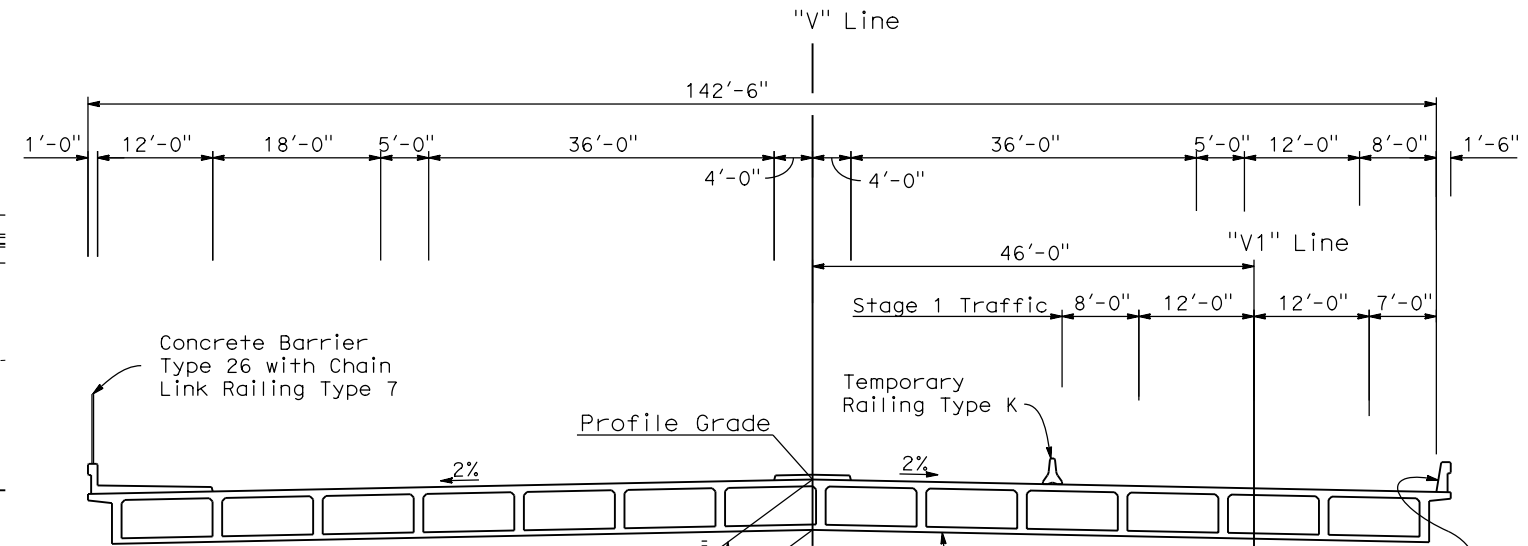


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**SUPERELEVATION DIAGRAM**

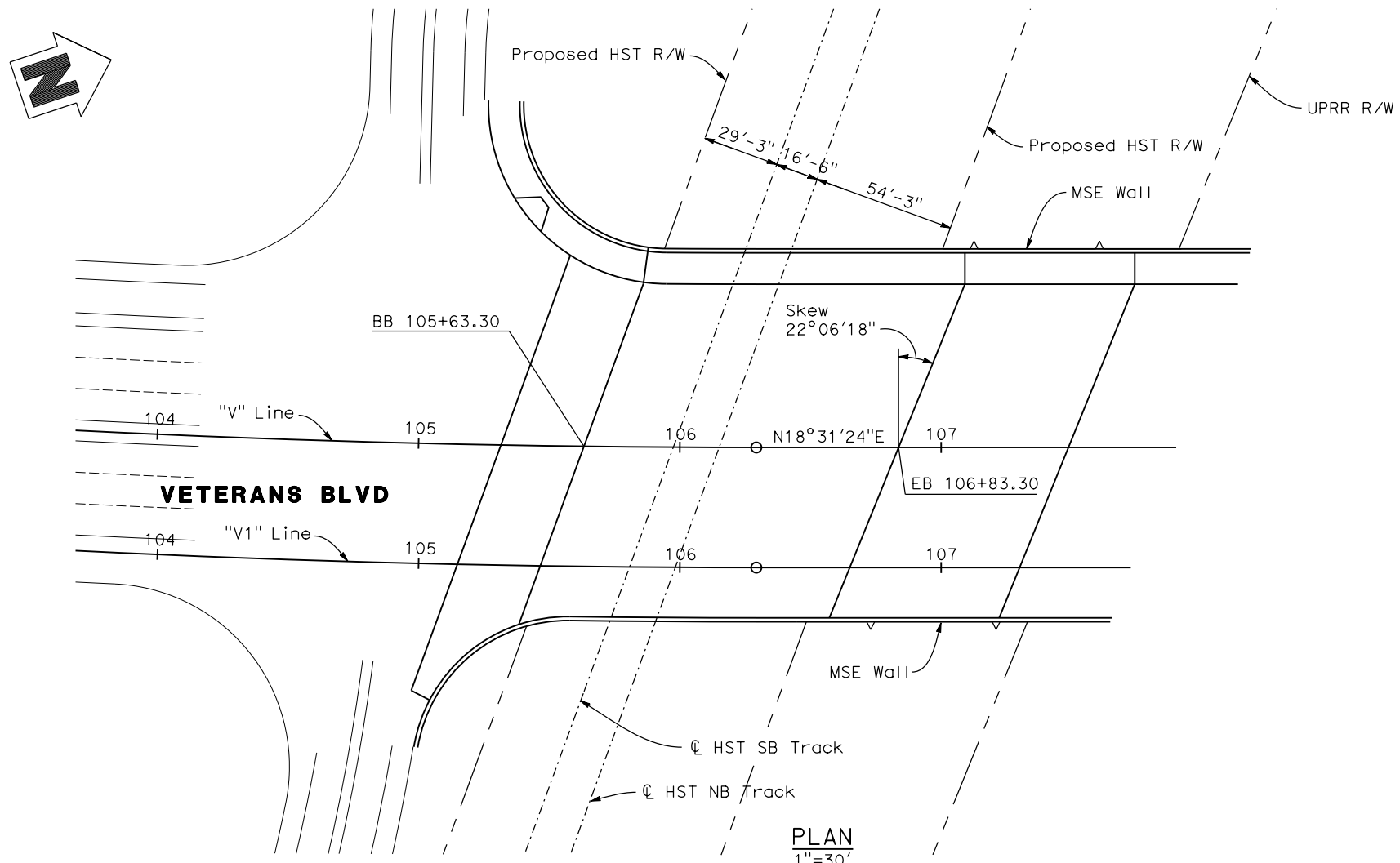
CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
**SE-2**  
 SCALE  
 SHEET NO.



**ELEVATION**  
1"=30'



**TYPICAL SECTION**  
1"=10'



**PLAN**  
1"=30'

DATE OF ESTIMATE	=	04-13-2011
BRIDGE REMOVAL	=	-
STRUCTURE DEPTH	=	5'-3"
LENGTH	=	120'-0"
WIDTH	=	142'-6"
AREA	=	17,100 ft <sup>2</sup>
COST/ft <sup>2</sup> INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	=	\$ 175/ft <sup>2</sup>
TOTAL COST	=	\$ 2,993,000

**VETERANS BLVD. SOUTH OVERHEAD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



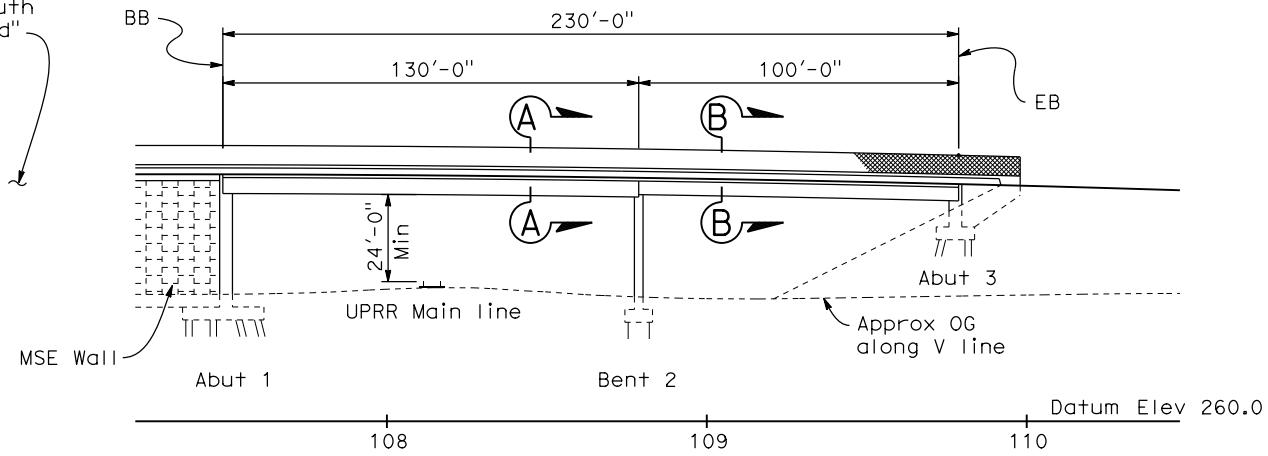
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.  
**HSR006-007**  
DRAWING NO.  
**BR-1**  
SCALE  
**AS SHOWN**  
SHEET NO.

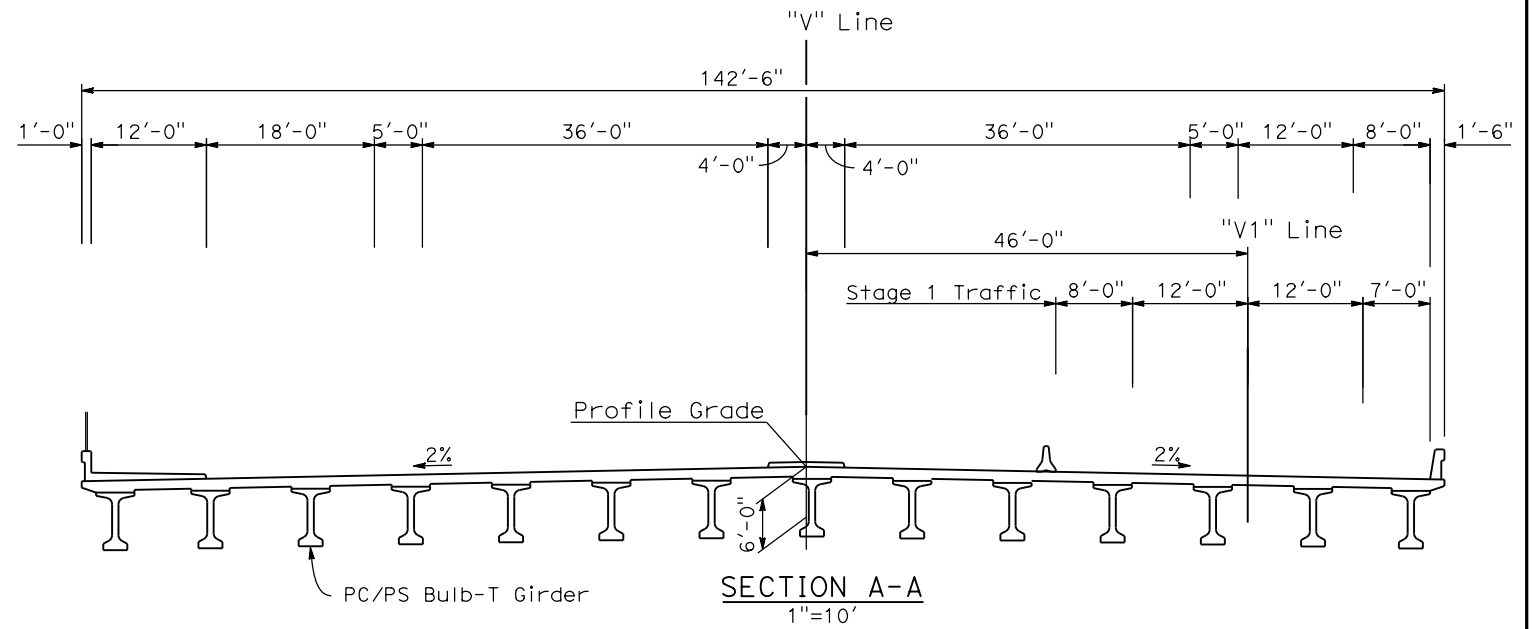
DATE PLOTTED: 03-28-APR-2011



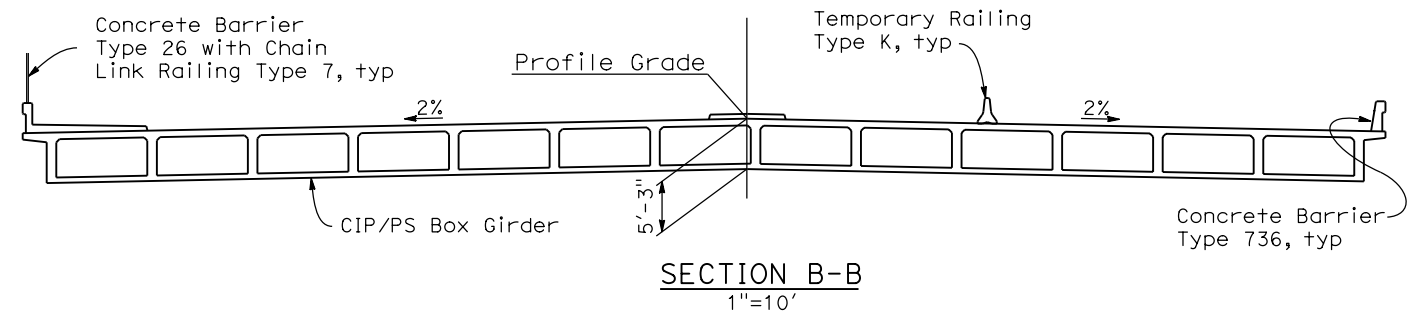
See "Veterans Blvd South Overhead"



**ELEVATION**  
1"=30'

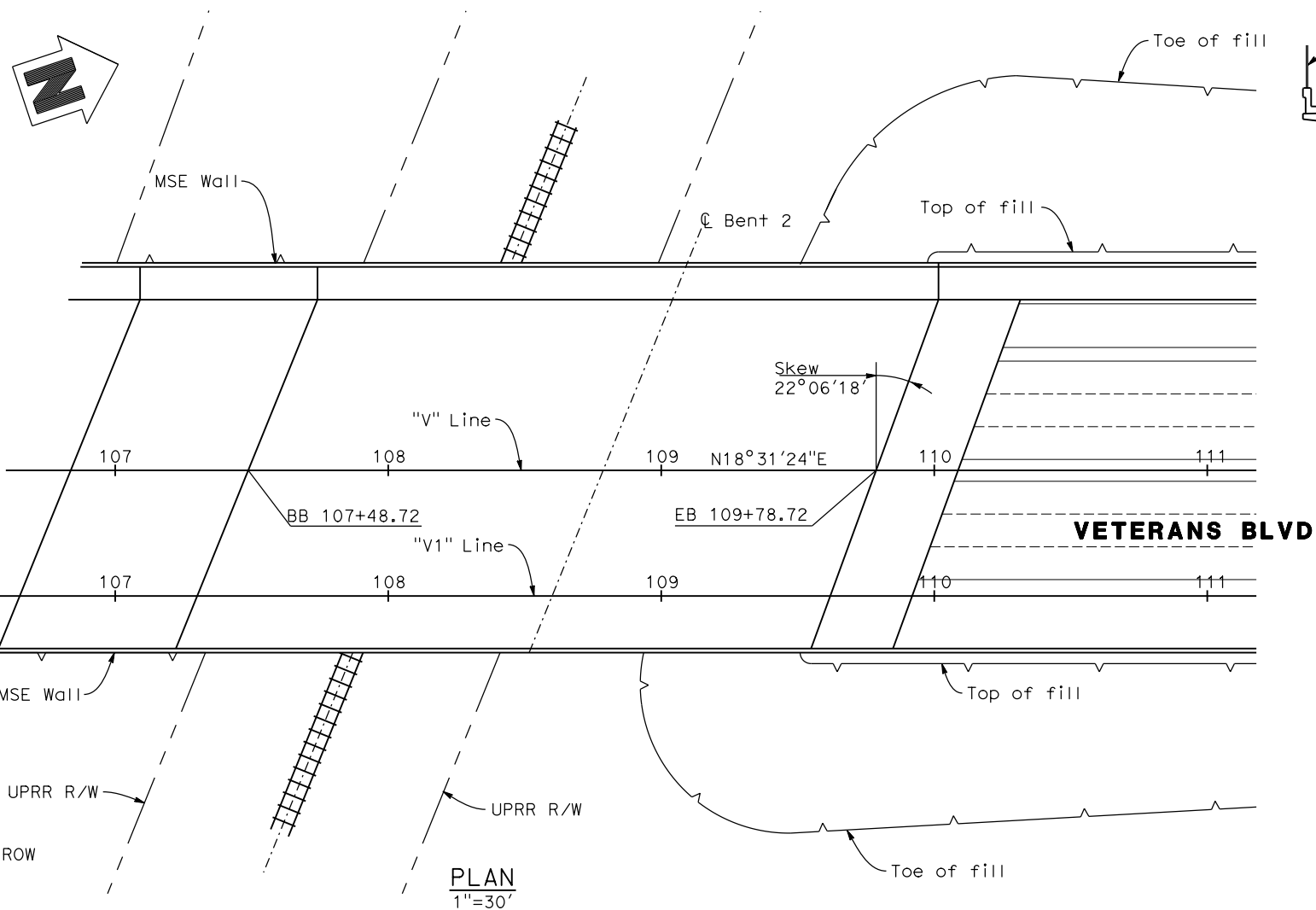


**SECTION A-A**  
1"=10'



**SECTION B-B**  
1"=10'

DATE OF ESTIMATE	=	04-13-2011
BRIDGE REMOVAL	=	-
STRUCTURE DEPTH	=	5'-3" TO 6'-0"
LENGTH	=	230'-0"
WIDTH	=	142'-6"
AREA	=	32,775 ft <sup>2</sup>
COST/ft <sup>2</sup> INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	=	\$ 175/ft <sup>2</sup>
TOTAL COST	=	\$ 5,736,000



**PLAN**  
1"=30'

**VETERANS BLVD. NORTH OVERHEAD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

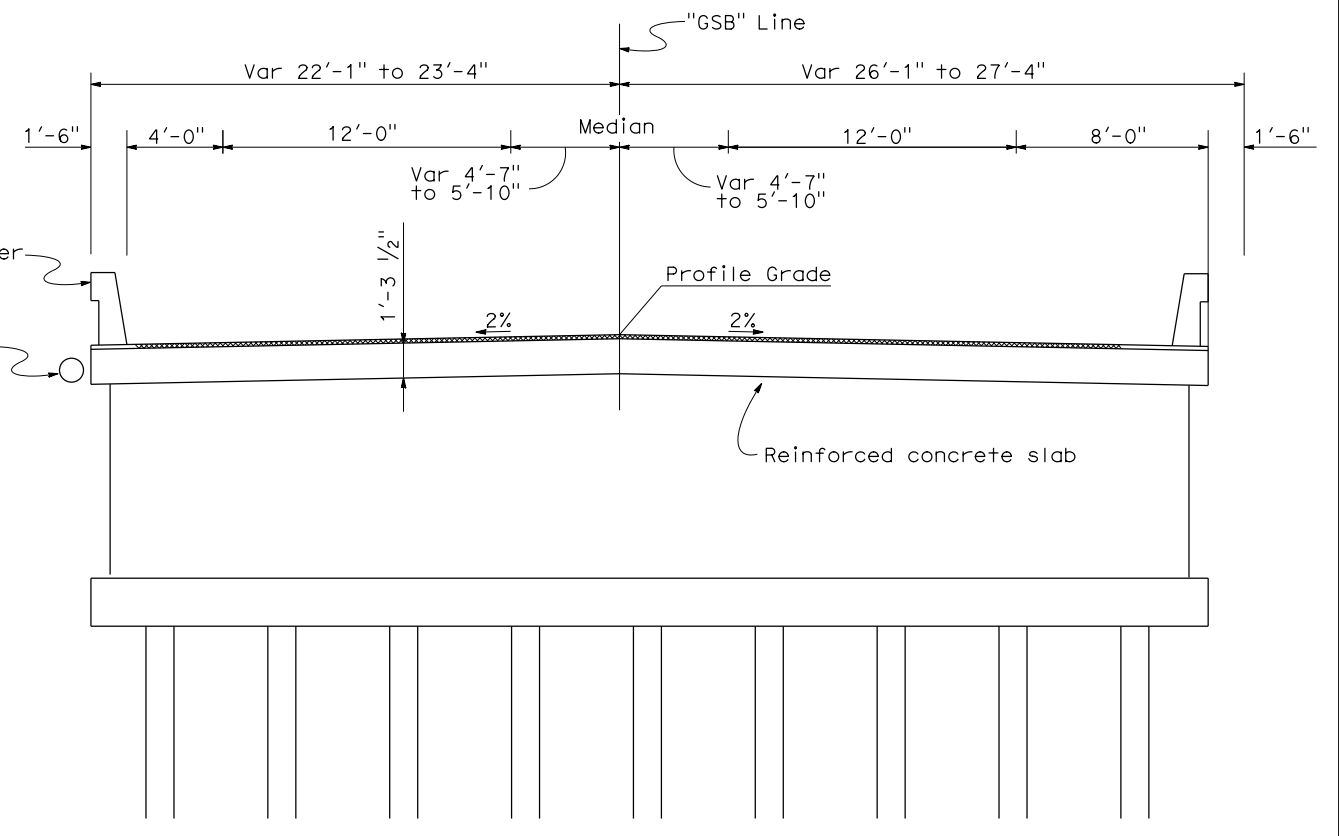
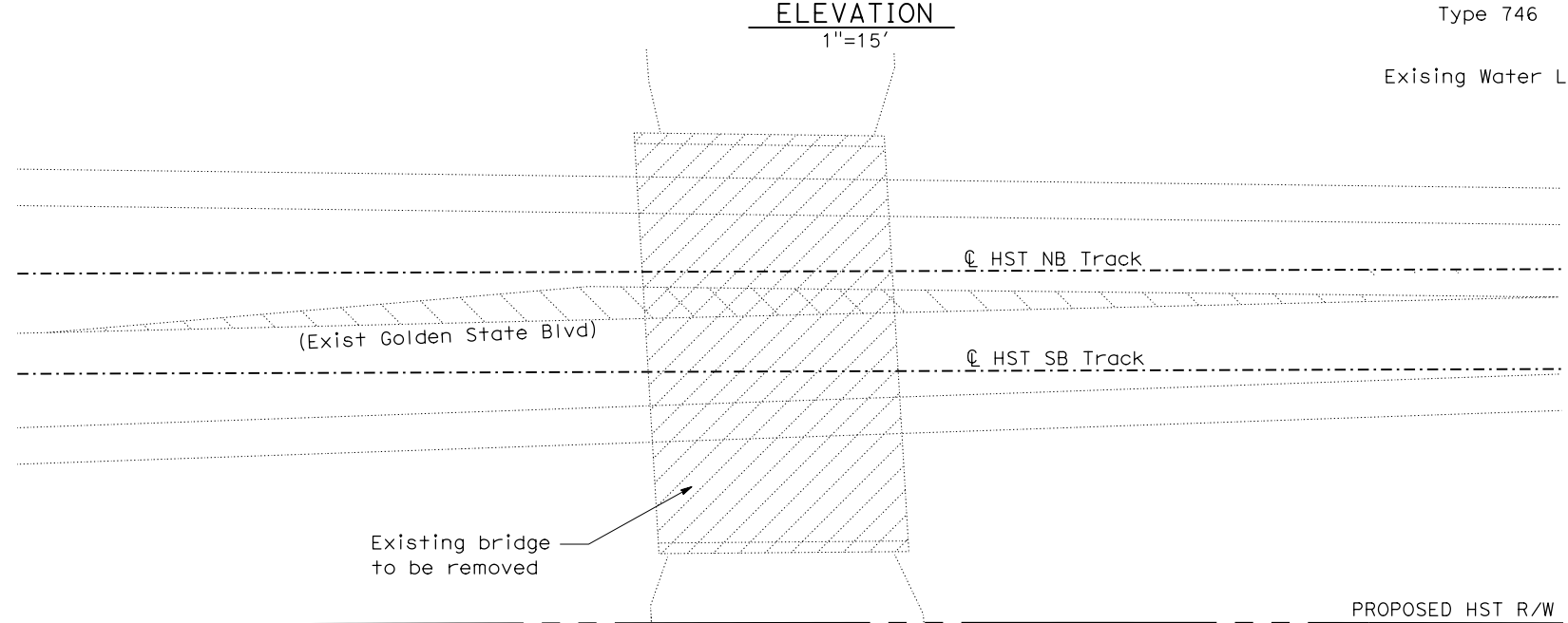
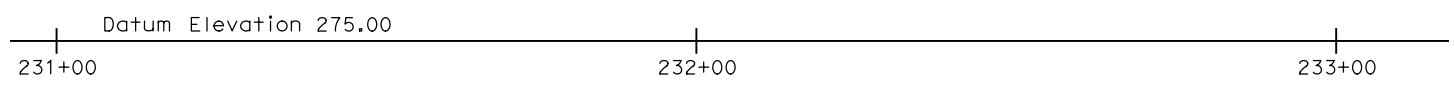
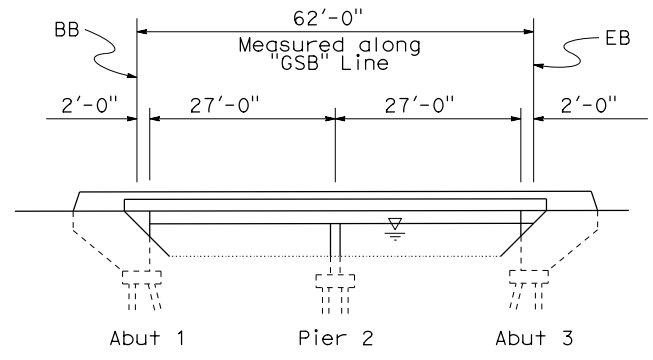
**NOT FOR**  
**CONSTRUCTION**



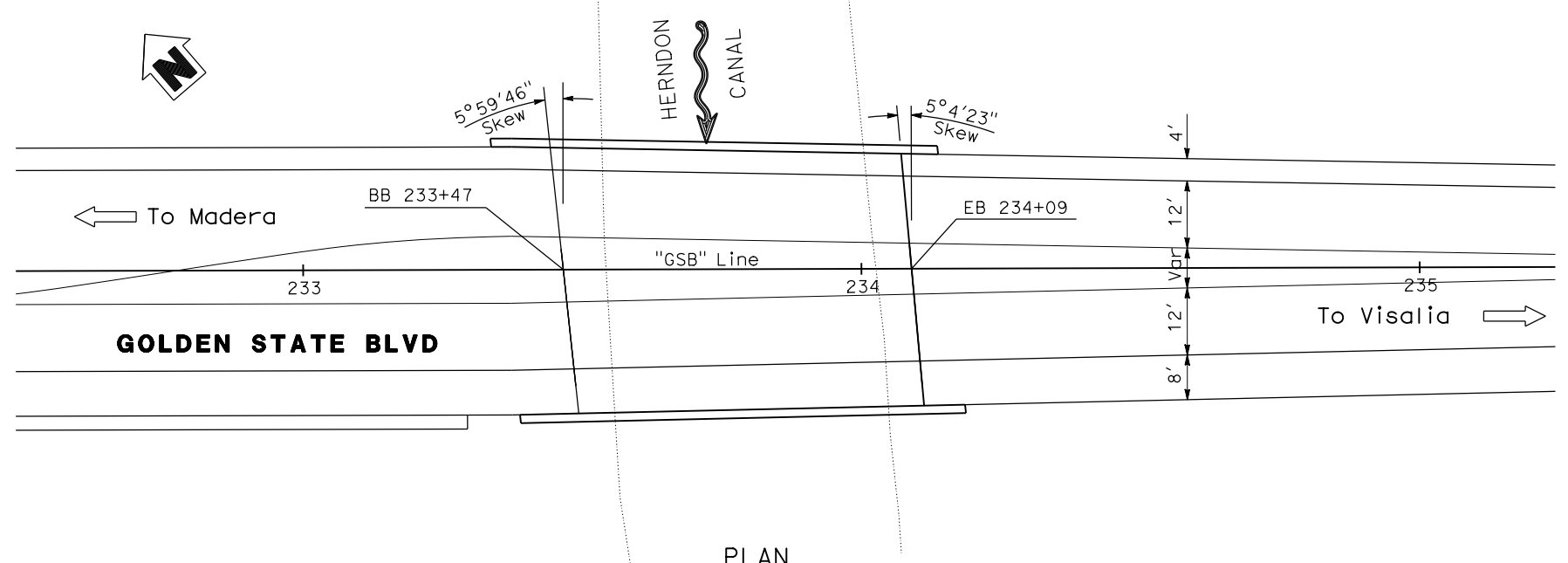
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.  
HSR006-007  
DRAWING NO.  
**BR-2**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23-APR-2011



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



PLAN  
1"=15'

DATE OF ESTIMATE	03-09-2011
BRIDGE REMOVAL	= \$ 50,000
STRUCTURE DEPTH	= 1'-3 1/2"
LENGTH	= 62'-0"
WIDTH	= 49'-5"
AREA	= 3064 Sq. Ft.
COST/□ INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= \$ 150
TOTAL COST	= \$ 510,000

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

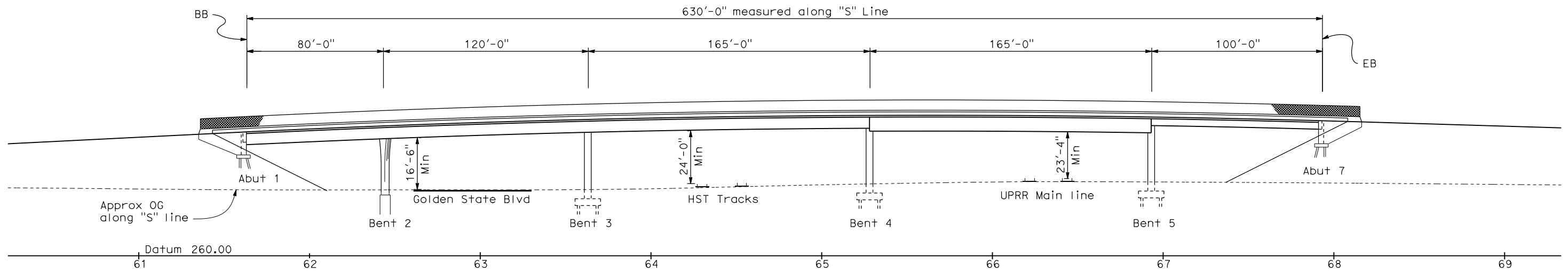


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.	HSR006-007
DRAWING NO.	<b>BR-3</b>
SCALE	AS SHOWN
SHEET NO.	

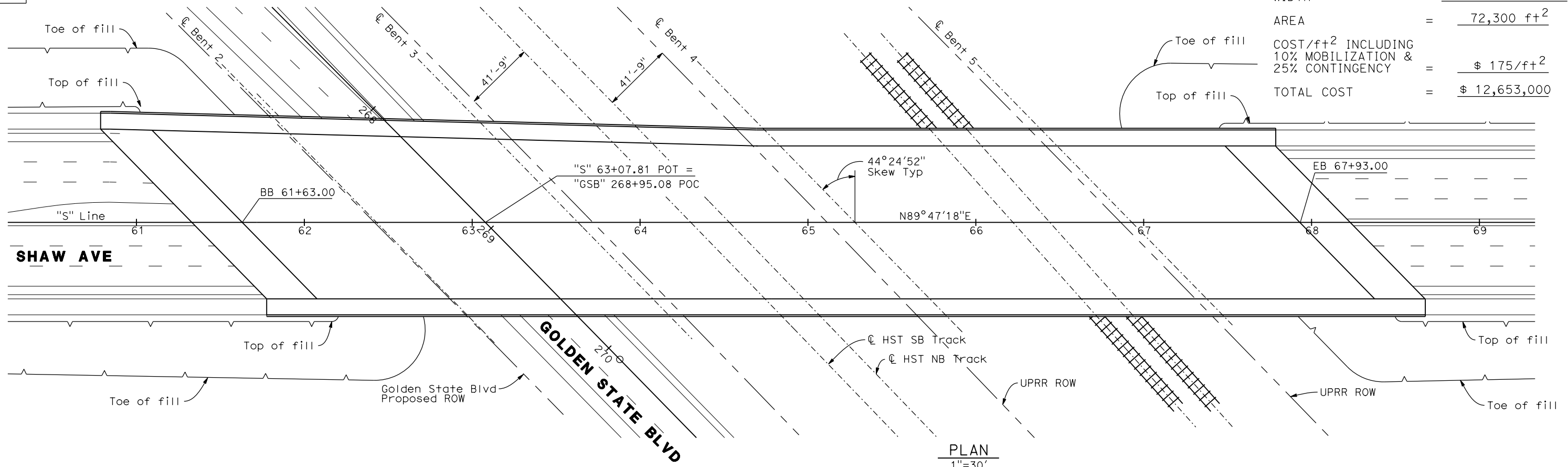
DATE PLOTTED: 03-28-2011 10:58:00 AM





ELEVATION  
1"=30'

DATE OF ESTIMATE	=	04-13-2011
BRIDGE REMOVAL	=	-
STRUCTURE DEPTH	=	6'-0" TO 7'-3"
LENGTH	=	630'-0"
WIDTH	=	112'-0" to 120'-0"
AREA	=	72,300 ft <sup>2</sup>
COST/ft <sup>2</sup> INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	=	\$ 175/ft <sup>2</sup>
TOTAL COST	=	\$ 12,653,000



PLAN  
1"=30'

**SHAW AVE OVERCROSSING**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

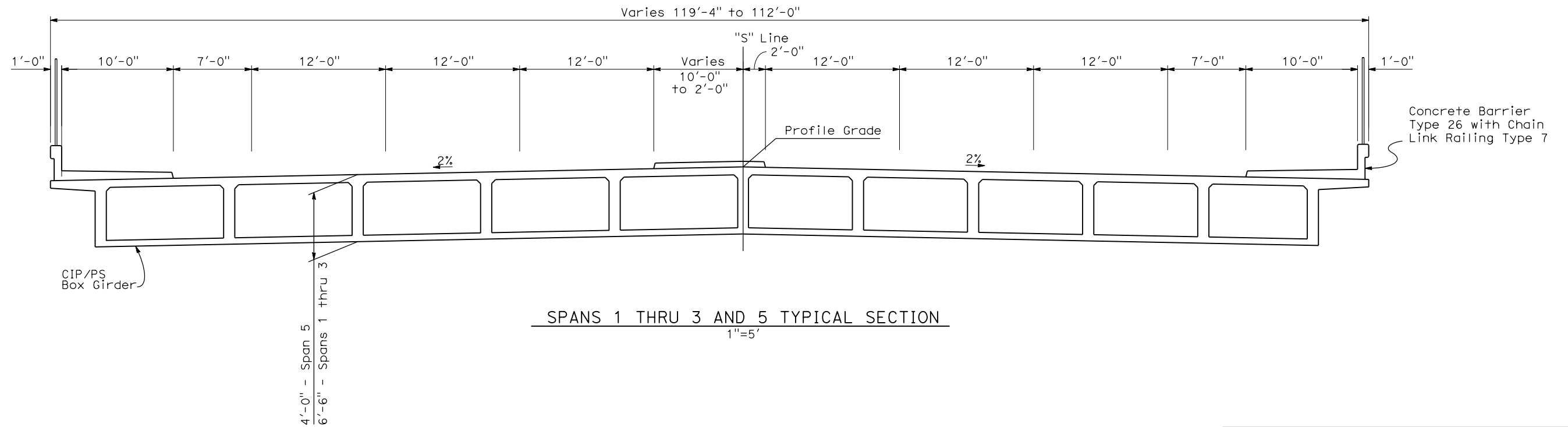
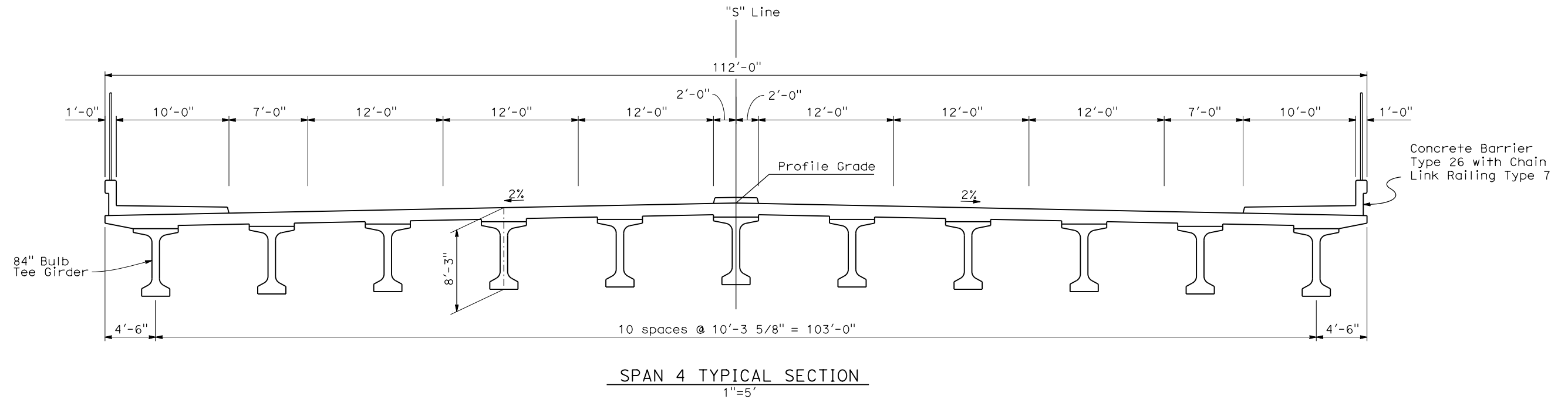
**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811  
**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.	HSR006-007
DRAWING NO.	<b>BR-4</b>
SCALE	AS SHOWN
SHEET NO.	

DATE PLOTTED: 23-APR-2011



**SHAW AVE OVERCROSSING**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



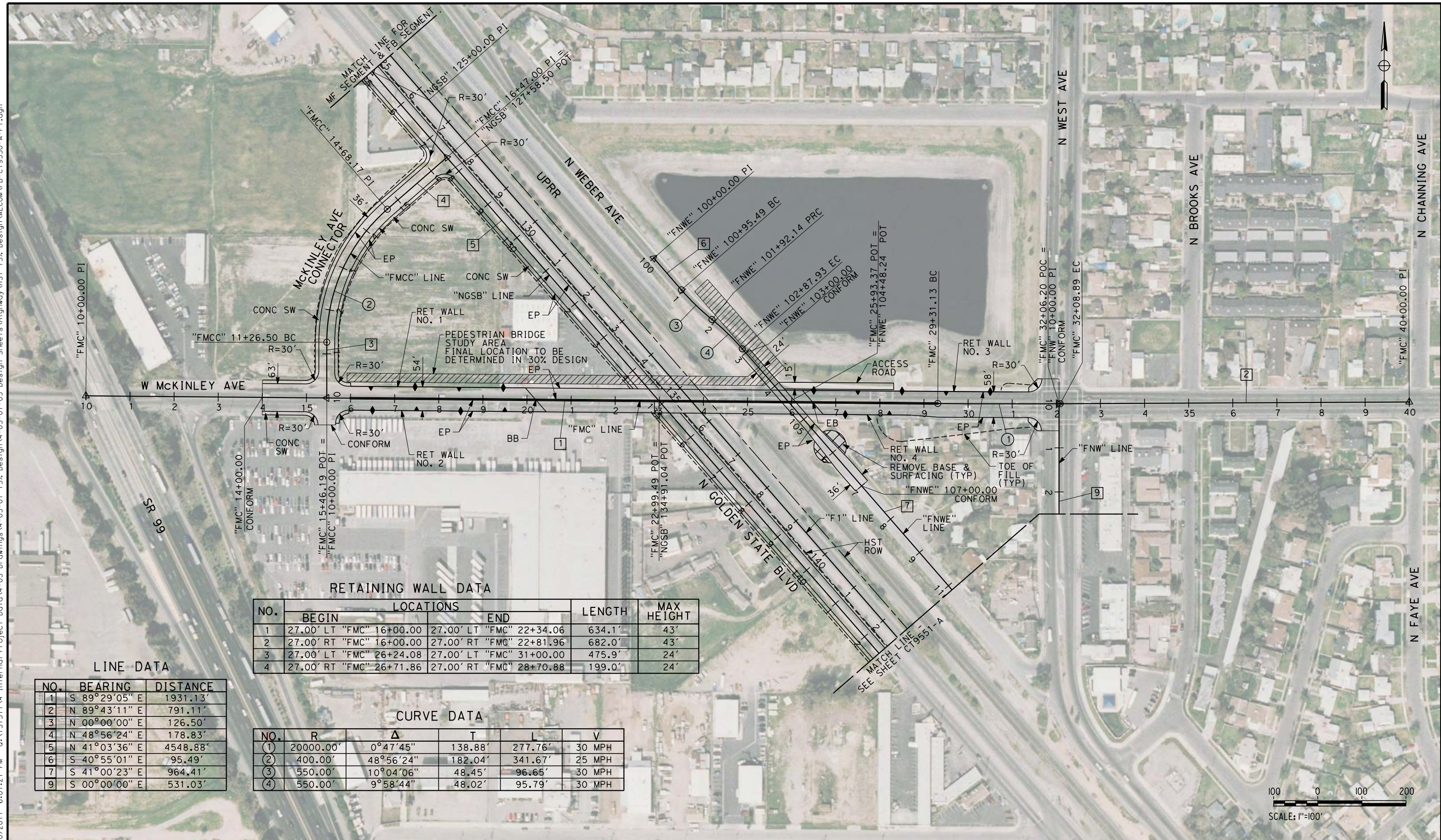
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**GOLDEN STATE BOULEVARD RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.	HSR006-007
DRAWING NO.	<b>BR-5</b>
SCALE	AS SHOWN
SHEET NO.	

DATE PLOTTED: 23 APR 2011 10:55:00 AM



eron\_sudhausen 7/20/2011 6:07:21 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9550-A-F1.dgn



RETAINING WALL DATA

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	27.00' LT "FMC" 16+00.00	27.00' LT "FMC" 22+34.06	634.1'	43'
2	27.00' RT "FMC" 16+00.00	27.00' RT "FMC" 22+81.96	682.0'	43'
3	27.00' LT "FMC" 26+24.08	27.00' LT "FMC" 31+00.00	475.9'	24'
4	27.00' RT "FMC" 26+71.86	27.00' RT "FMC" 28+70.88	199.0'	24'

LINE DATA

NO.	BEARING	DISTANCE
1	S 89°29'05" E	1931.13'
2	N 89°43'11" E	791.11'
3	N 00°00'00" E	126.50'
4	N 48°56'24" E	178.83'
5	N 41°03'36" E	4548.88'
6	S 40°55'01" E	95.49'
7	S 41°00'23" E	964.41'
9	S 00°00'00" E	531.03'

CURVE DATA

NO.	R	Δ	T	L	V
(1)	20000.00'	0°47'45"	138.88'	277.76'	30 MPH
(2)	400.00'	48°56'24"	182.04'	341.67'	25 MPH
(3)	550.00'	10°04'06"	48.45'	96.65'	30 MPH
(4)	550.00'	9°58'44"	48.02'	95.79'	30 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEPARATION LAYOUT  
 W MCKINLEY AVE

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9550-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



eron\_sudhausen 7/20/2011 6:07:26 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9551-A-F1.dgn

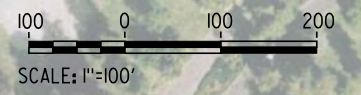


**LINE DATA**

NO.	BEARING	DISTANCE
5	N 41°03'36" E	4548.88'
7	N 41°00'23" E	964.41'
8	N 77°44'10" E	23.31'
9	N 00°00'00" E	529.15'
10	N 41°18'09" E	157.28'

**CURVE DATA**

NO.	R	Δ	T	L	V
5	75.00'	61°15'27"	44.41'	80.19'	15 MPH
6	435.00'	41°18'09"	163.95'	313.58'	30 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**

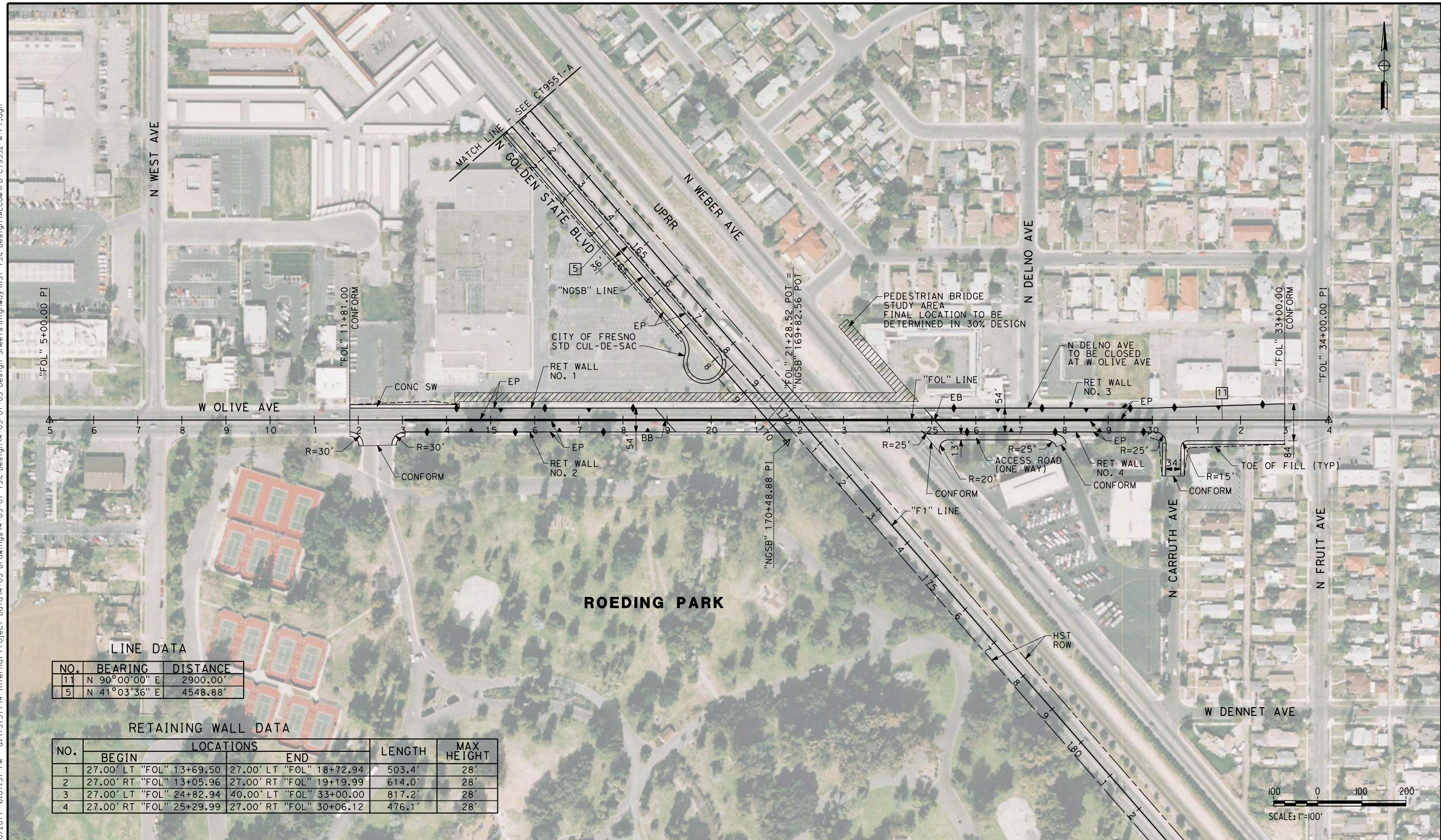


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEPARATION LAYOUT  
 N GOLDEN STATE BLVD

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9551-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



eron\_sudhausen 7/20/2011 6:07:31 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9552-A-F1.dgn



**LINE DATA**

NO.	BEARING	DISTANCE
11	N 90°00'00" E	2900.00'
5	N 41°03'36" E	4548.88'

**RETAINING WALL DATA**

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	27.00' LT "FOL" 13+69.50	27.00' LT "FOL" 18+72.94	503.4'	28'
2	27.00' RT "FOL" 13+05.96	27.00' RT "FOL" 19+19.99	614.0'	28'
3	27.00' LT "FOL" 24+82.94	40.00' LT "FOL" 33+00.00	817.2'	28'
4	27.00' RT "FOL" 25+29.99	27.00' RT "FOL" 30+06.12	476.1'	28'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**

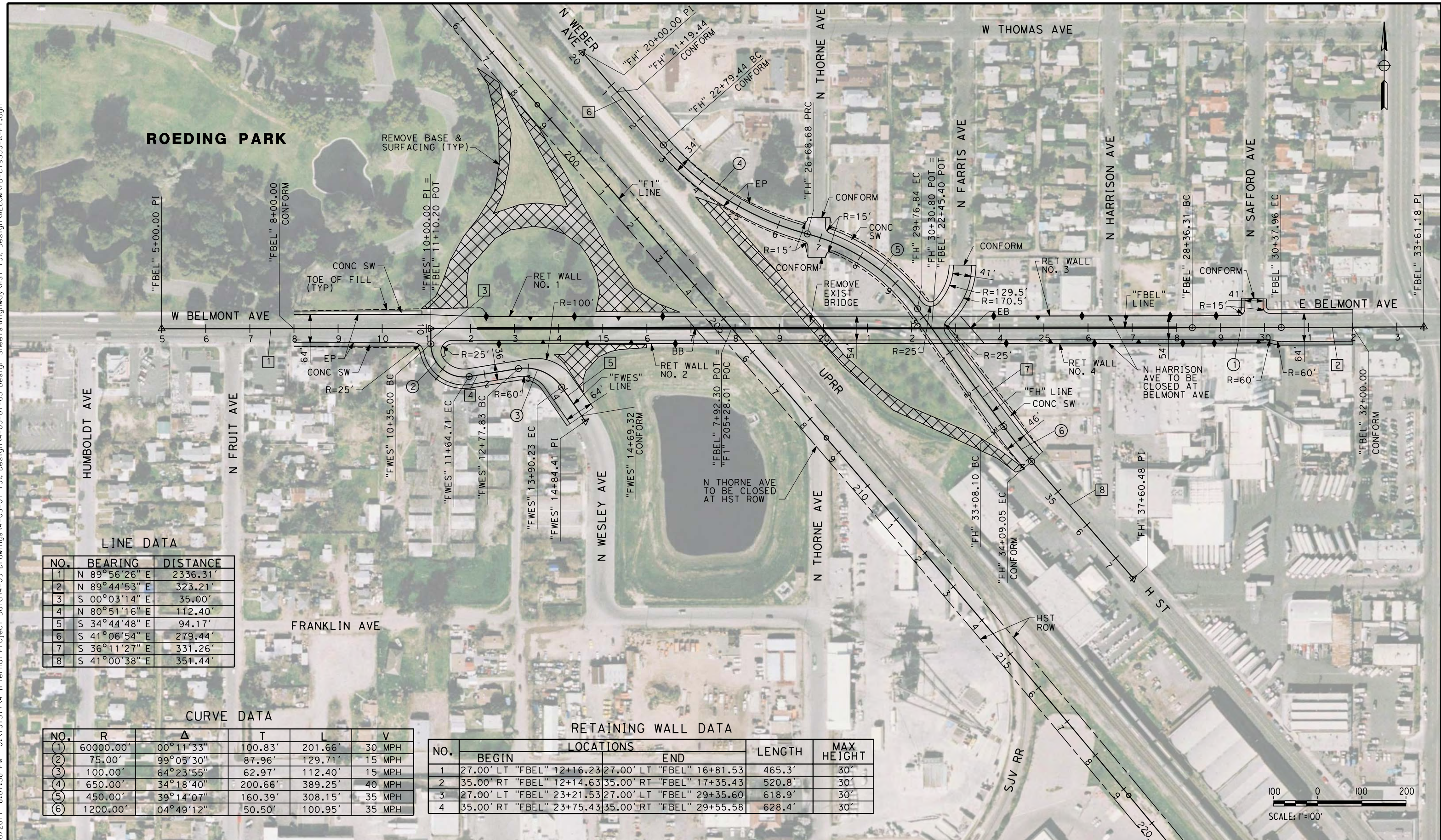


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEPARATION LAYOUT  
 W OLIVE AVE

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9552-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



eron\_sudhausen 7/20/2011 6:07:36 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9553-A-F1.dgn



**LINE DATA**

NO.	BEARING	DISTANCE
1	N 89°56'26" E	2336.31'
2	N 89°44'53" E	323.21'
3	S 00°03'14" E	35.00'
4	N 80°51'16" E	112.40'
5	S 34°44'48" E	94.17'
6	S 41°06'54" E	279.44'
7	S 36°11'27" E	331.26'
8	S 41°00'38" E	351.44'

**CURVE DATA**

NO.	R	Δ	T	L	V
①	60000.00'	00°11'33"	100.83'	201.66'	30 MPH
②	75.00'	99°05'30"	87.96'	129.71'	15 MPH
③	100.00'	64°23'55"	62.97'	112.40'	15 MPH
④	650.00'	34°18'40"	200.66'	389.25'	40 MPH
⑤	450.00'	39°14'07"	160.39'	308.15'	35 MPH
⑥	1200.00'	04°49'12"	50.50'	100.95'	35 MPH

**RETAINING WALL DATA**

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	27.00' LT "FBEL" 12+16.23	27.00' LT "FBEL" 16+81.53	465.3'	30'
2	35.00' RT "FBEL" 12+14.63	35.00' RT "FBEL" 17+35.43	520.8'	30'
3	27.00' LT "FBEL" 23+21.53	27.00' LT "FBEL" 29+35.60	618.9'	30'
4	35.00' RT "FBEL" 23+75.43	35.00' RT "FBEL" 29+55.58	628.4'	30'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEPARATION LAYOUT  
 BELMONT AVE

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9553-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



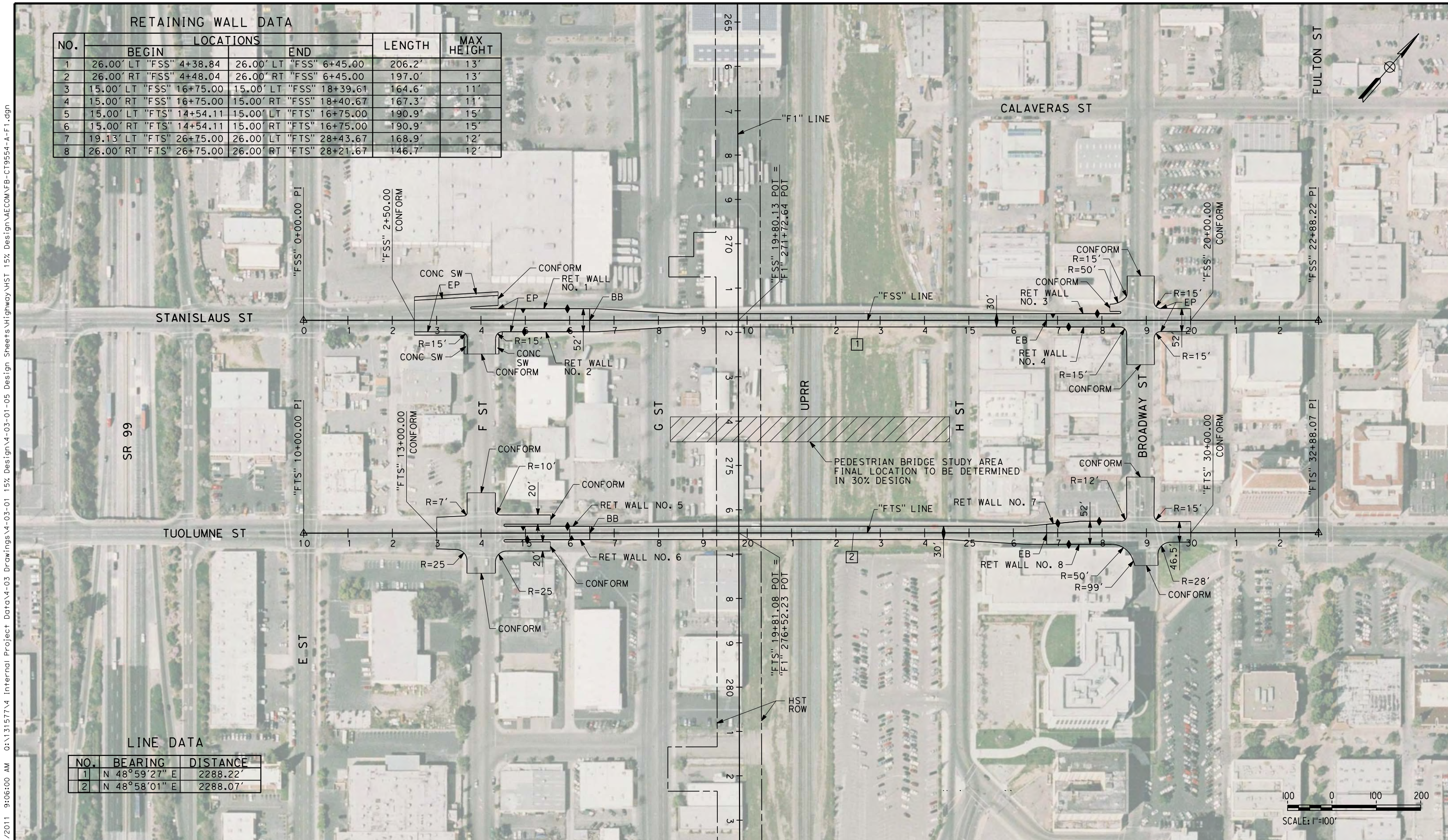
RETAINING WALL DATA

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	26.00' LT "FSS" 4+38.84	26.00' LT "FSS" 6+45.00	206.2'	13'
2	26.00' RT "FSS" 4+48.04	26.00' RT "FSS" 6+45.00	197.0'	13'
3	15.00' LT "FSS" 16+75.00	15.00' LT "FSS" 18+39.61	164.6'	11'
4	15.00' RT "FSS" 16+75.00	15.00' RT "FSS" 18+40.67	167.3'	11'
5	15.00' LT "FTS" 14+54.11	15.00' LT "FTS" 16+75.00	190.9'	15'
6	15.00' RT "FTS" 14+54.11	15.00' RT "FTS" 16+75.00	190.9'	15'
7	19.13' LT "FTS" 26+75.00	26.00' LT "FTS" 28+43.67	168.9'	12'
8	26.00' RT "FTS" 26+75.00	26.00' RT "FTS" 28+21.67	146.7'	12'

LINE DATA

NO.	BEARING	DISTANCE
1	N 48°59'27" E	2288.22'
2	N 48°58'01" E	2288.07'

7/21/2011 9:06:00 AM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9554-A-F1.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
DRAWN BY  
E. SUDHAUSEN  
CHECKED BY  
J. MONG  
IN CHARGE  
A. LUFT  
DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEPARATION LAYOUT  
STANISLAUS ST AND TUOLUMNE ST

CONTRACT NO.  
HSR 06-0003  
DRAWING NO.  
CT9554-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



CURVE DATA

NO.	R	Δ	T	L	V
①	5000.00'	02°34'01"	112.01'	224.01'	30 MPH
②	2000.00'	05°55'10"	103.41'	206.63'	30 MPH
③	3000.00'	03°23'12"	88.69'	177.33'	30 MPH

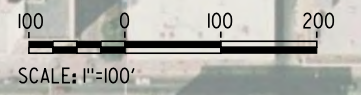
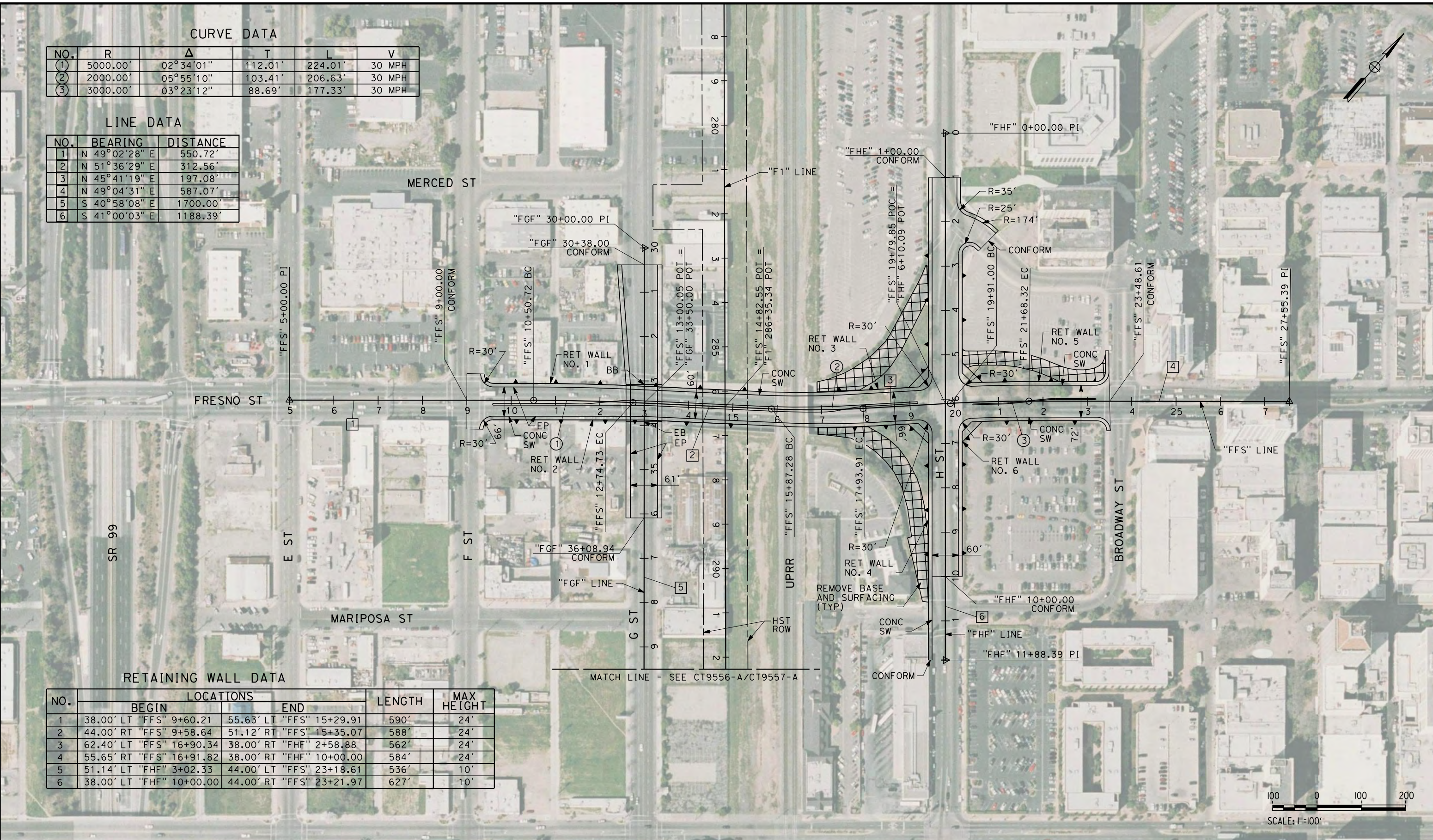
LINE DATA

NO.	BEARING	DISTANCE
1	N 49°02'28" E	550.72'
2	N 51°36'29" E	312.56'
3	N 45°41'19" E	197.08'
4	N 49°04'31" E	587.07'
5	S 40°58'08" E	1700.00'
6	S 41°00'03" E	1188.39'

RETAINING WALL DATA

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	38.00' LT "FFS" 9+60.21	55.63' LT "FFS" 15+29.91	590'	24'
2	44.00' RT "FFS" 9+58.64	51.12' RT "FFS" 15+35.07	588'	24'
3	62.40' LT "FFS" 16+90.34	38.00' RT "FHF" 2+58.88	562'	24'
4	55.65' RT "FFS" 16+91.82	38.00' RT "FHF" 10+00.00	584'	24'
5	51.14' LT "FHF" 3+02.33	44.00' LT "FFS" 23+18.61	536'	10'
6	38.00' LT "FHF" 10+00.00	44.00' RT "FFS" 23+21.97	627'	10'

eron\_sudhausen 7/20/2011 6:07:48 PM 0:\131577\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9555-A-F1.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
06/30/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEPARATION LAYOUT  
 FRESNO ST

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9555-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



LINE DATA

NO.	BEARING	DISTANCE
6	N 48°54'51" E	2564.41'

RETAINING WALL DATA

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	23.00' LT "FTU" 6+00.00	23.00' LT "FTU" 12+55.00	655.0'	27'
2	13.00' RT "FTU" 6+00.00	13.00' RT "FTU" 12+55.00	655.0'	27'
3	23.00' LT "FTU" 20+35.00	31.97' LT "FTU" 26+00.00	565.3'	26'
4	13.00' RT "FTU" 20+35.00	13.00' RT "FTU" 26+00.00	565.0'	26'

7/20/2011 6:07:53 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9556-A-F1.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
DRAWN BY  
E. SUDHAUSEN  
CHECKED BY  
J. MONG  
IN CHARGE  
A. LUFT  
DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEPARATION LAYOUT  
TULARE ST (OVERHEAD)

CONTRACT NO.  
HSR 06-0003  
DRAWING NO.  
CT9556-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



7/20/2011 6:07:57 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\Sheets\Highway\HST 15% Design\AECOM\FB-CT9557-A-F1.dgn



LINE DATA

NO.	BEARING	DISTANCE
5	S 40°58'08" E	1700.00
6	N 48°54'51" E	2564.41'

RETAINING WALL DATA

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	15.00' LT "FTU" 9+41.00	15.00' LT "FTU" 19+25.00	984.0'	30'
2	28.00' RT "FTU" 9+41.00	28.00' RT "FTU" 19+25.00	984.0'	30'
3	15.00' RT "FTU" 9+41.00	15.00' RT "FTU" 19+25.00	984.0'	10'

REV	DATE	BY	CHK	APP	DESCRIPTION

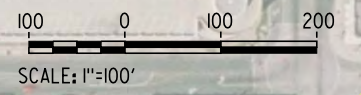
DESIGNED BY  
K. MING  
DRAWN BY  
E. SUDHAUSEN  
CHECKED BY  
J. MONG  
IN CHARGE  
A. LUFT  
DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEPARATION LAYOUT  
TULARE ST (UNDERPASS)

CONTRACT NO.  
HSR 06-0003  
DRAWING NO.  
CT9557-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###





**CURVE DATA**

NO.	R	Δ	T	L	V
①	10000.00'	01°15'13"	109.39'	218.77'	30 MPH
②	10000.00'	01°07'47"	98.59'	197.17'	30 MPH

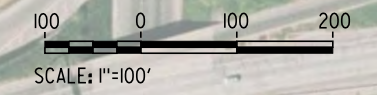
**LINE DATA**

NO.	BEARING	DISTANCE
1	N 49°02'50" E	1368.36'
2	N 50°18'02" E	184.02'
3	N 49°10'15" E	687.13'

**RETAINING WALL DATA**

NO.	LOCATIONS		LENGTH	MAX HEIGHT
	BEGIN	END		
1	26.00' LT "FVE" 9+55.00	26.00' LT "FVE" 12+55.00	300.0'	24'
2	26.00' RT "FVE" 9+55.00	26.00' RT "FVE" 12+55.00	300.0'	24'
3	26.00' LT "FVE" 20+55.00	26.00' LT "FVE" 22+71.15	216.2'	22'
4	26.00' RT "FVE" 20+55.00	38.00' RT "FVE" 22+71.15	216.9'	22'

7/20/2011 6:08:02 PM 0:\131577\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9558-A-F1.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEPARATION LAYOUT  
 VENTURA ST

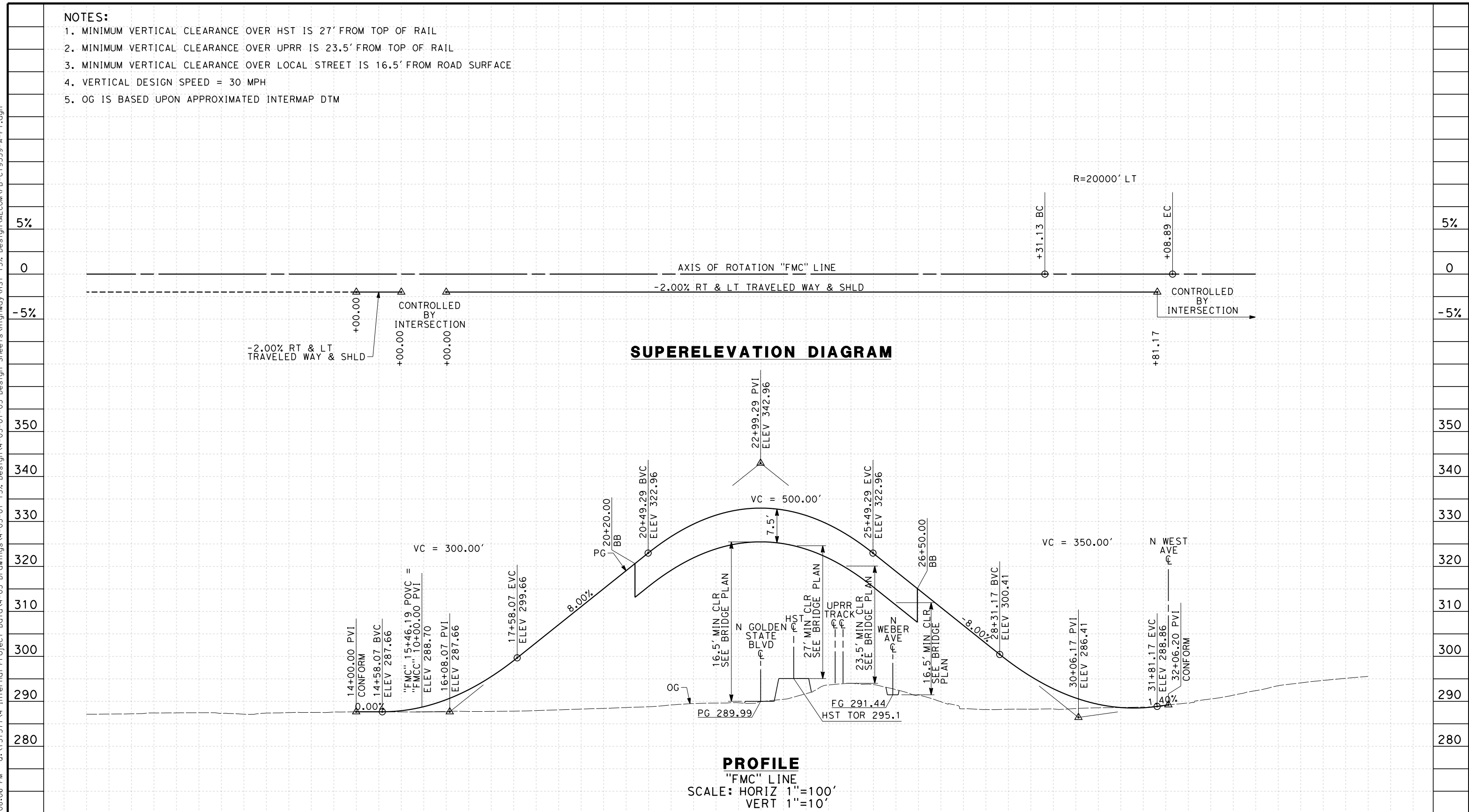
CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9558-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER UPRR IS 23.5' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
4. VERTICAL DESIGN SPEED = 30 MPH
5. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:06 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9559-A-F1.dgn



STATION	8	9	10	1	2	3	4	15	6	7	8	9	20	1	2	3	4	25	6	7	8	9	30	1	2	3	4	35	6	TOTAL
Exc																														
Emb																														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING

DRAWN BY  
E. SUDHAUSEN

CHECKED BY  
J. MONG

IN CHARGE  
A. LUFT

DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
W MCKINLEY AVE

CONTRACT NO.  
HSR 06-0003

DRAWING NO.  
CT9559-A

SCALE  
AS SHOWN

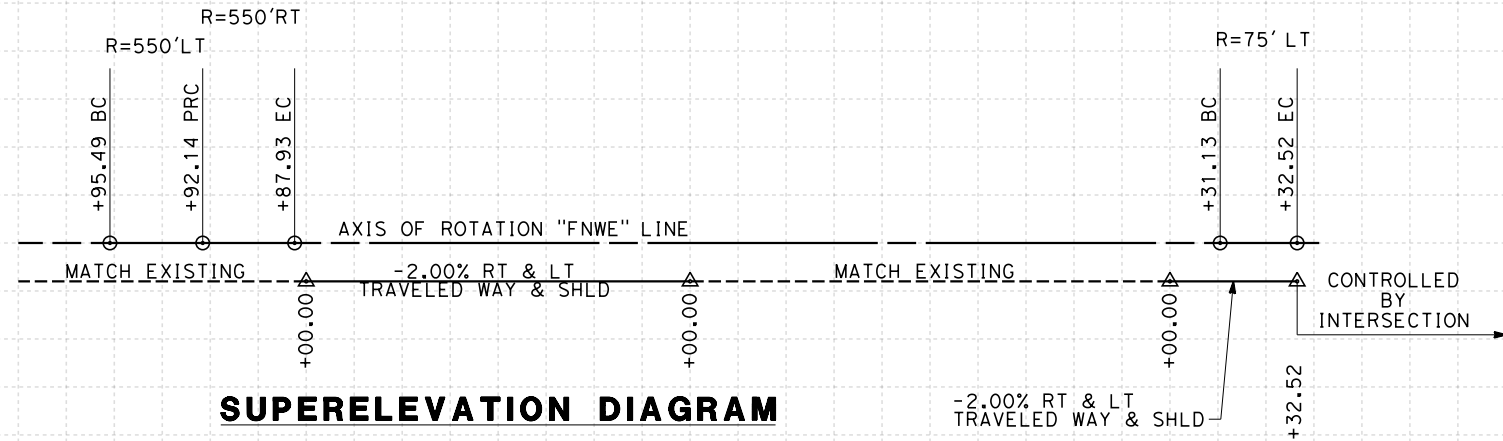
SHEET NO.  
### OF ###



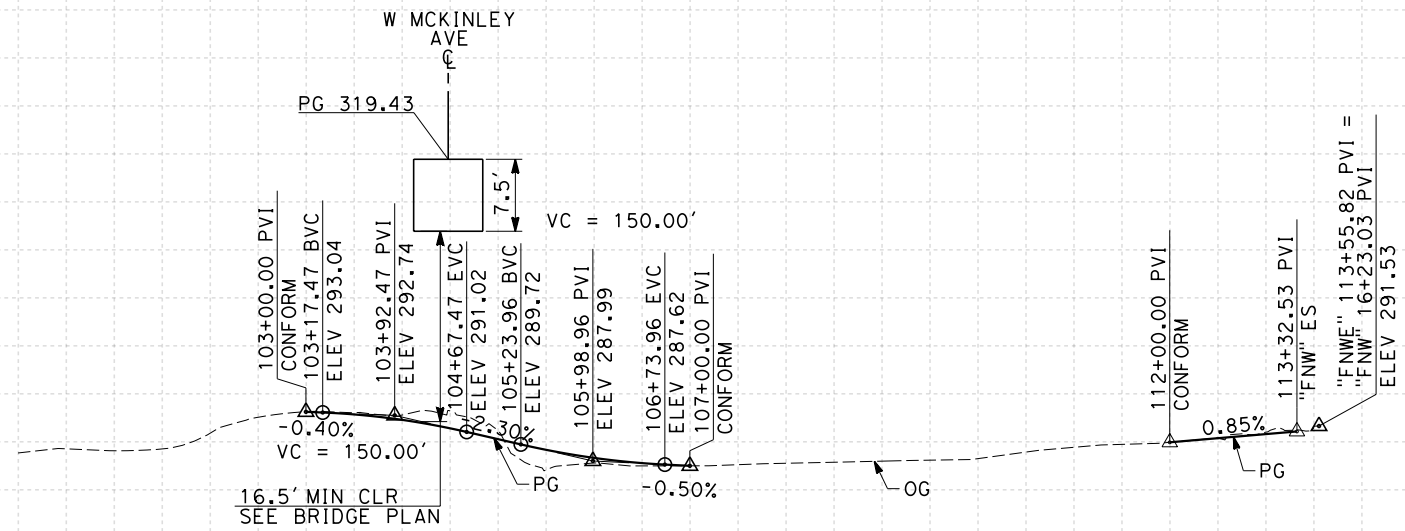


**NOTES:**

1. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE
2. VERTICAL DESIGN SPEED = 25 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM
4. REFER TO SHEET CT1001 FOR LAYOUT



**SUPERELEVATION DIAGRAM**



**PROFILE**

"FNWE" LINE  
SCALE: HORIZ 1"=100'  
VERT 1"=10'

STATION	100	1	2	3	4	105	6	7	8	9	110	1	2	3	4	TOTAL
Exc																
Emb																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
DRAWN BY  
E. SUDHAUSEN  
CHECKED BY  
J. MONG  
IN CHARGE  
A. LUFT  
DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



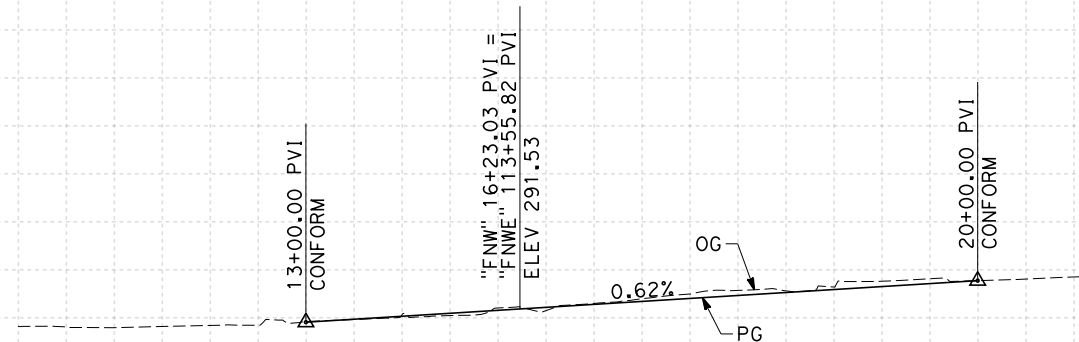
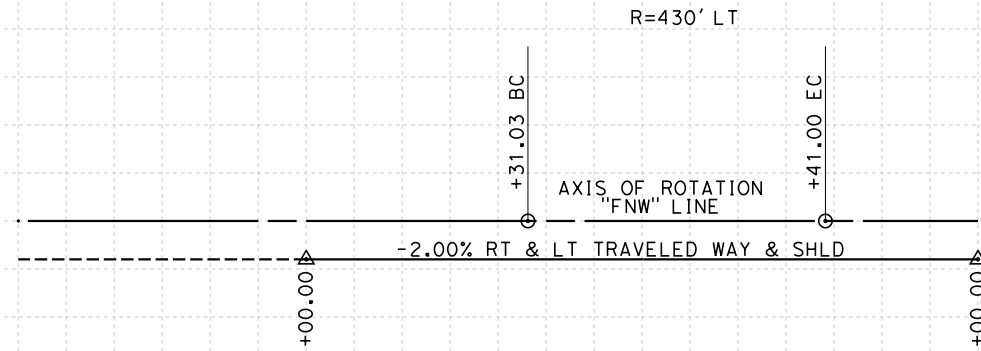
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
N WEBER AVE

CONTRACT NO.  
HSR 06-0003  
DRAWING NO.  
CT9561-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

7/20/2011 6:08:09 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9561-A-F1.dgn



- NOTES:**
1. VERTICAL DESIGN SPEED = 25 MPH AT TRAFFIC CIRCLE
  2. OG IS BASED UPON APPROXIMATED INTERMAP DTM
  3. REFER TO SHEET CT1001 FOR LAYOUT



STATION	10	1	2	3	4	15	6	7	8	9	20	TOTAL
Exc												
Emb												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
DRAWN BY  
E. SUDHAUSEN  
CHECKED BY  
J. MONG  
IN CHARGE  
A. LUFT  
DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
N WEST AVE

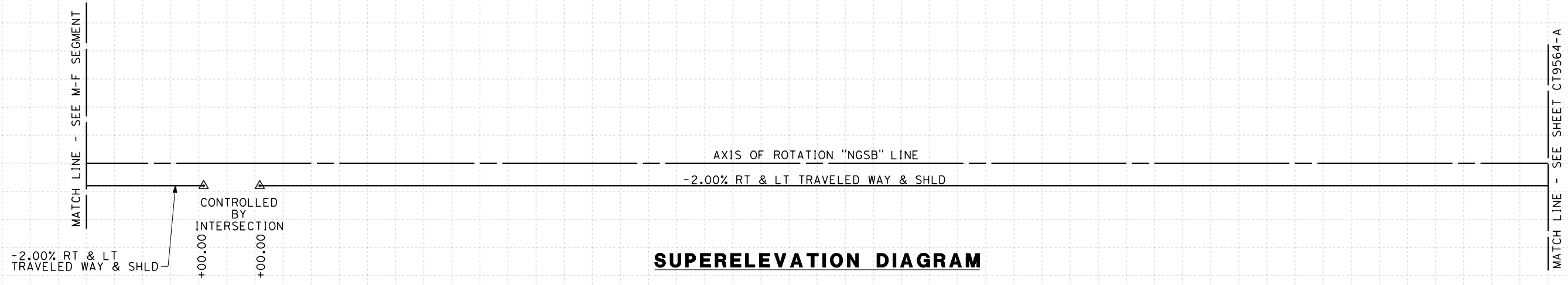
CONTRACT NO.  
HSR 06-0003  
DRAWING NO.  
CT9562-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

7/20/2011 6:08:11 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\Sheets\Highway\HST 15% Design\AECOM\FB-CT9562-A-F1.dgn

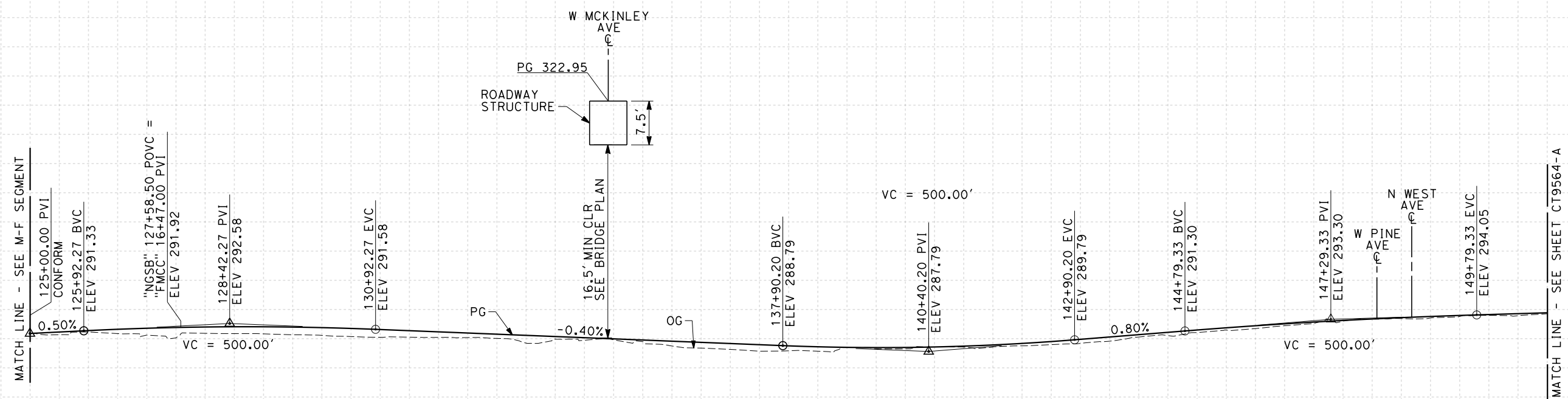
**NOTES:**

1. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE.
2. VERTICAL DESIGN SPEED = 50 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM
4. REFER TO SHEET CT1001, CT1005, AND CT1007 FOR LAYOUT

7/20/2011 6:08:13 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9563-A-F1.dgn



**SUPERELEVATION DIAGRAM**



**PROFILE**  
 "NGSB" LINE  
 SCALE: HORIZ 1"=100'  
 VERT 1"=10'

STATION	125	6	7	8	9	130	1	2	3	4	135	6	7	8	9	140	1	2	3	4	145	6	7	8	9	150	1	TOTAL
Exc																												
Emb																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**

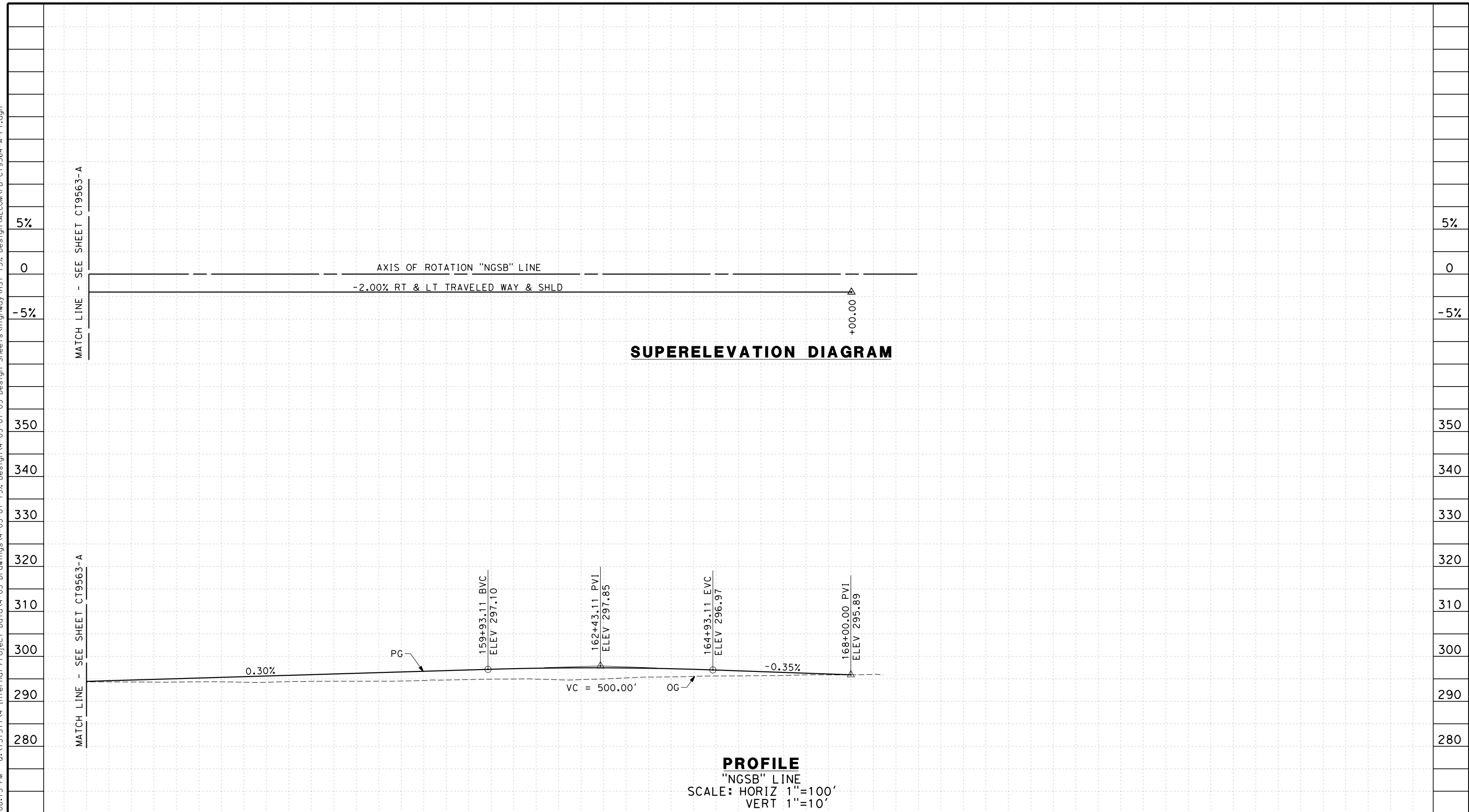


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 N GOLDEN STATE BLVD

CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9563-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



eron\_sudhausen 7/20/2011 6:08:15 PM 0:\131577\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9564-A-F1.dgn



STATION	1	2	3	4	155	6	7	8	9	160	1	2	3	4	165	6	7	8	9	170	1	TOTAL	
CY Exc																							
CY Emb																							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



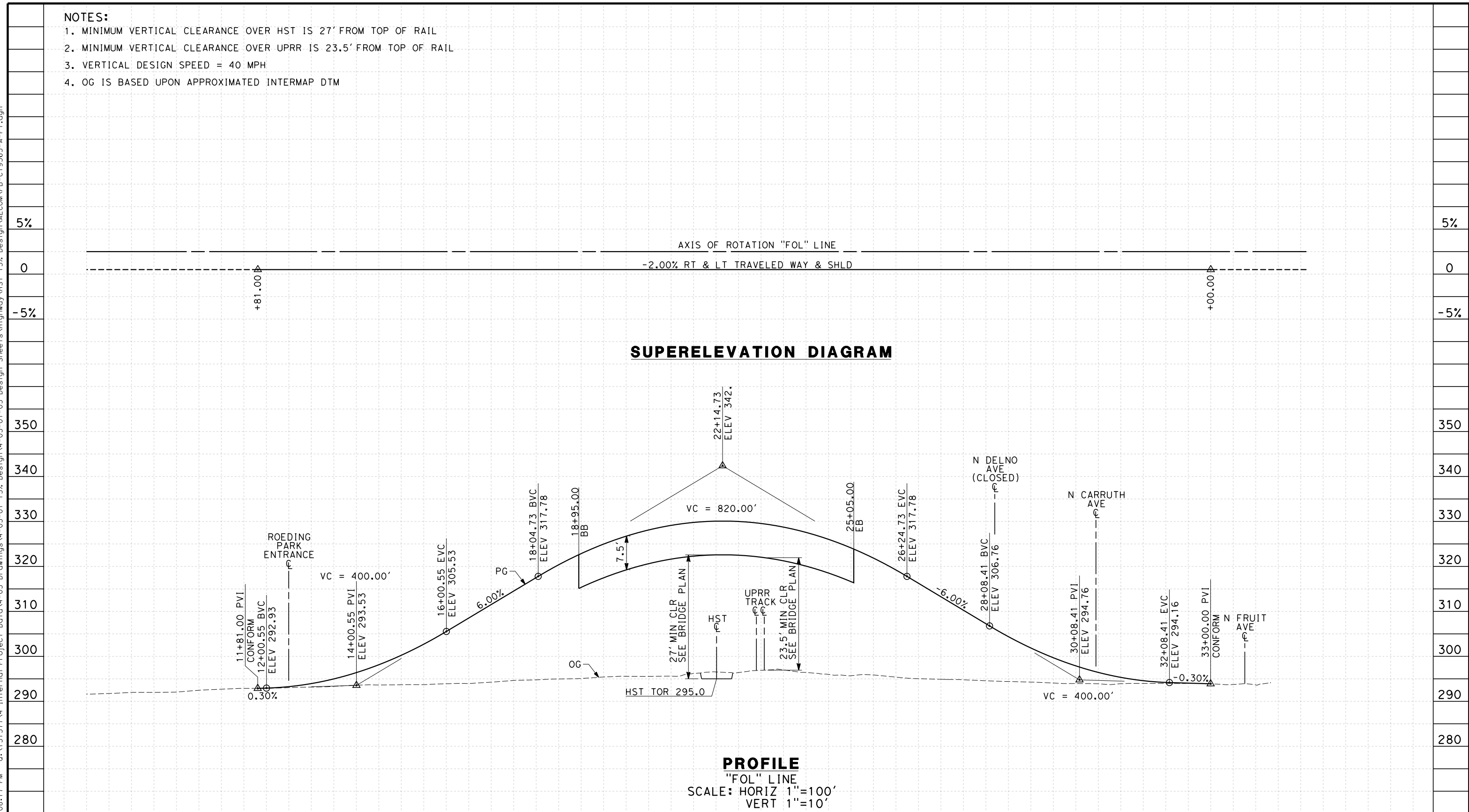
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 N GOLDEN STATE BLVD

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9564-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER UPRR IS 23.5' FROM TOP OF RAIL
3. VERTICAL DESIGN SPEED = 40 MPH
4. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:17 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9565-A-F1.dgn



**SUPERELEVATION DIAGRAM**

**PROFILE**  
 "FOL" LINE  
 SCALE: HORIZ 1"=100'  
 VERT 1"=10'

STATION	8	9	10	1	2	3	4	15	6	7	8	9	20	1	2	3	4	25	6	7	8	9	30	1	2	3	4	35	6	TOTAL
Exc																														
Emb																														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 W OLIVE AVE

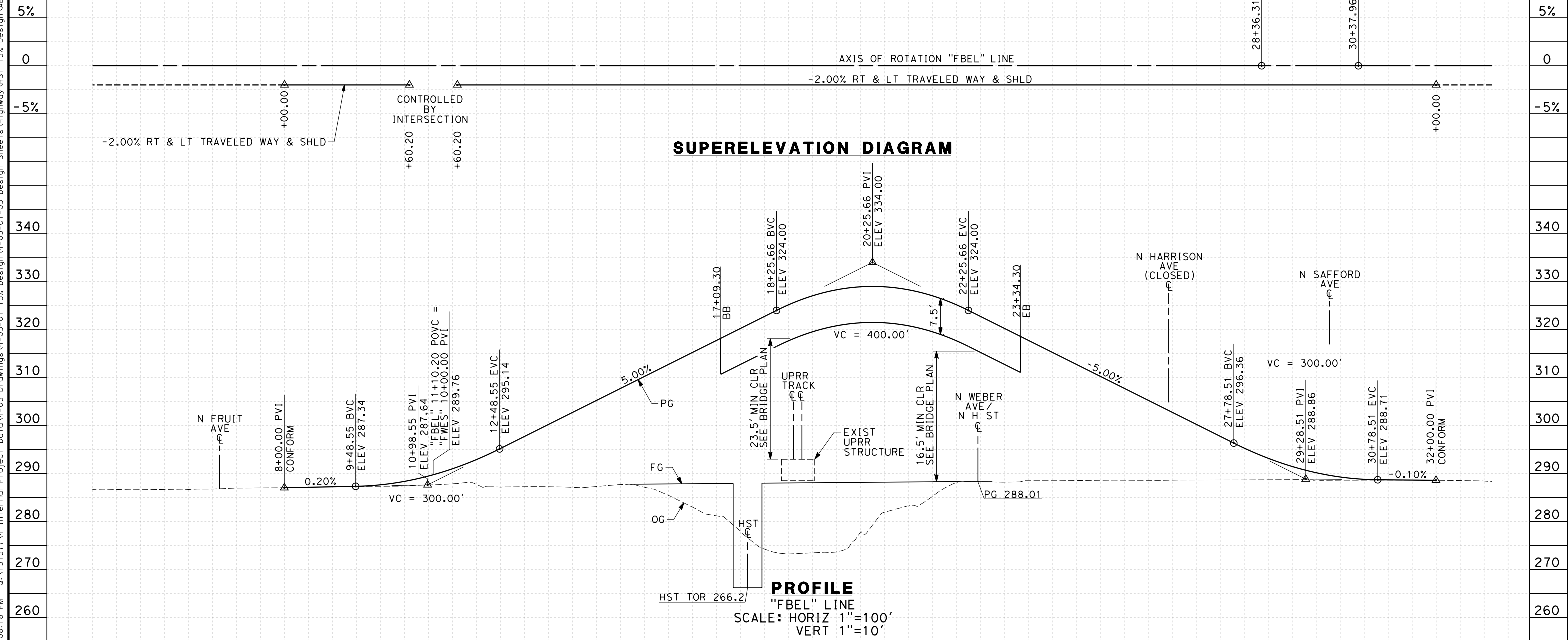
CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9565-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



7/20/2011 6:08:18 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9566-A-F1.dgn

**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER UPRR IS 23.5' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
4. VERTICAL DESIGN SPEED = 30 MPH
5. OG IS BASED UPON APPROXIMATED INTERMAP DTM



STATION	5	6	7	8	9	10	1	2	3	4	15	6	7	8	9	20	1	2	3	4	25	6	7	8	9	30	1	2	TOTAL	
Exc																														
Emb																														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 05/13/11

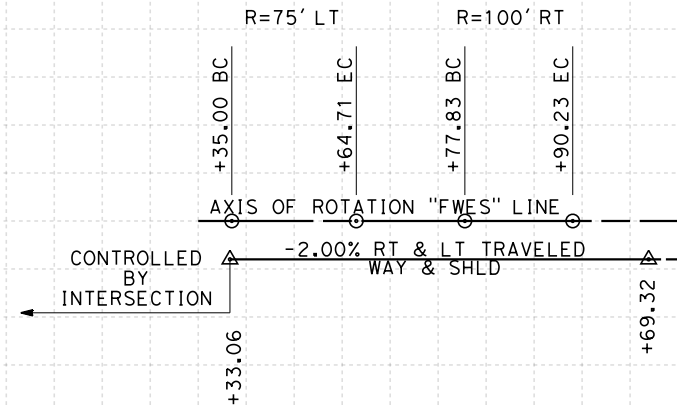
**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



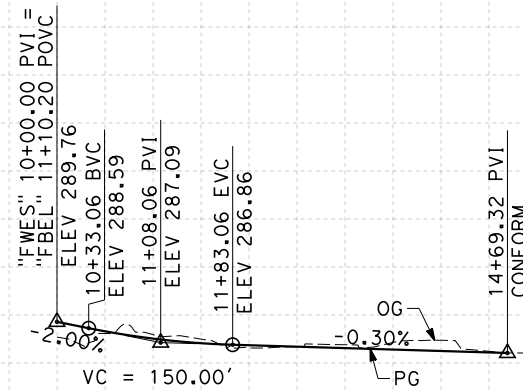
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 BELMONT AVE

CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9566-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###

- NOTES:**
1. VERTICAL DESIGN SPEED = 25 MPH
  2. OG IS BASED UPON APPROXIMATED INTERMAP DTM
  3. REFER TO SHEET CT1008 FOR LAYOUT



**SUPERELEVATION DIAGRAM**



**PROFILE**

"FWES" LINE  
 SCALE: HORIZ 1"=100'  
 VERT 1"=10'

STATION	10	1	2	3	4	15	TOTAL
Exc							
Emb							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 N WESLEY AVE

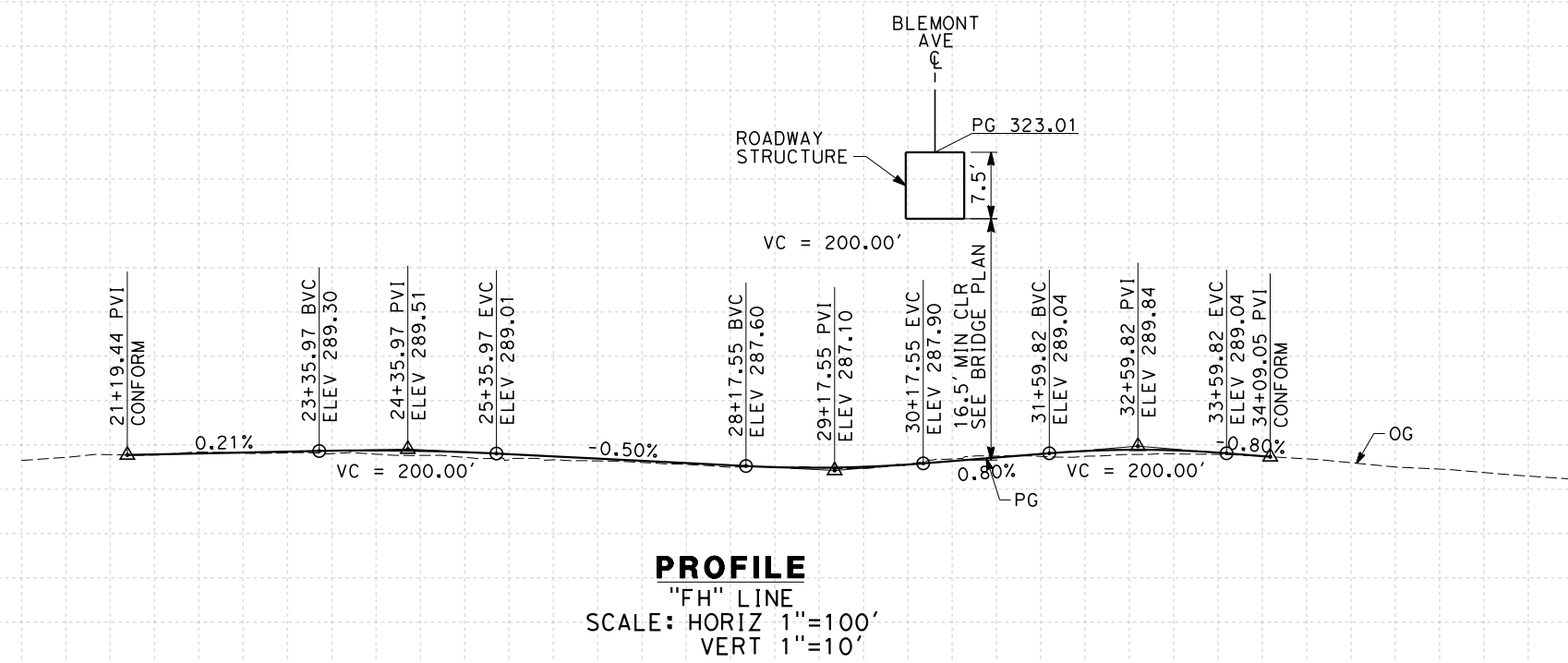
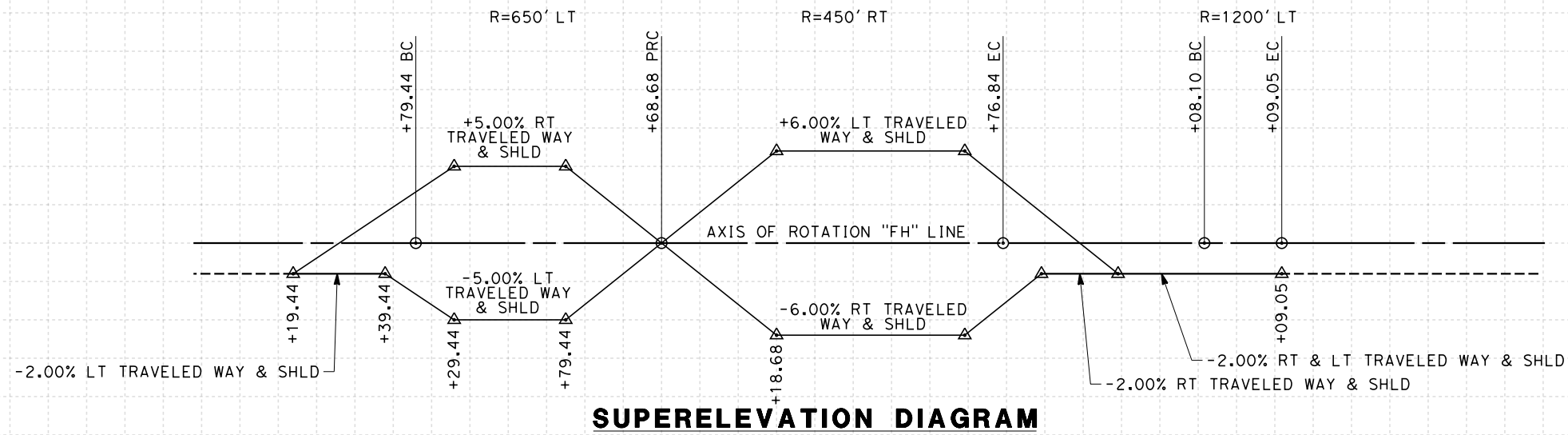
CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9567-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

er-on-sudhausen 7/20/2011 6:08:20 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9567-A-F1.dgn



**NOTES:**

1. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE
2. VERTICAL DESIGN SPEED = 35 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM
4. REFER TO SHEET CT1008 FOR LAYOUT



STATION	20	1	2	3	4	25	6	7	8	9	30	1	2	3	4	35	6	7	8	TOTAL	
Exc																					
Emb																					

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING

DRAWN BY  
E. SUDHAUSEN

CHECKED BY  
J. MONG

IN CHARGE  
A. LUFT

DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
N H ST

CONTRACT NO.  
HSR 06-0003

DRAWING NO.  
CT9568-A

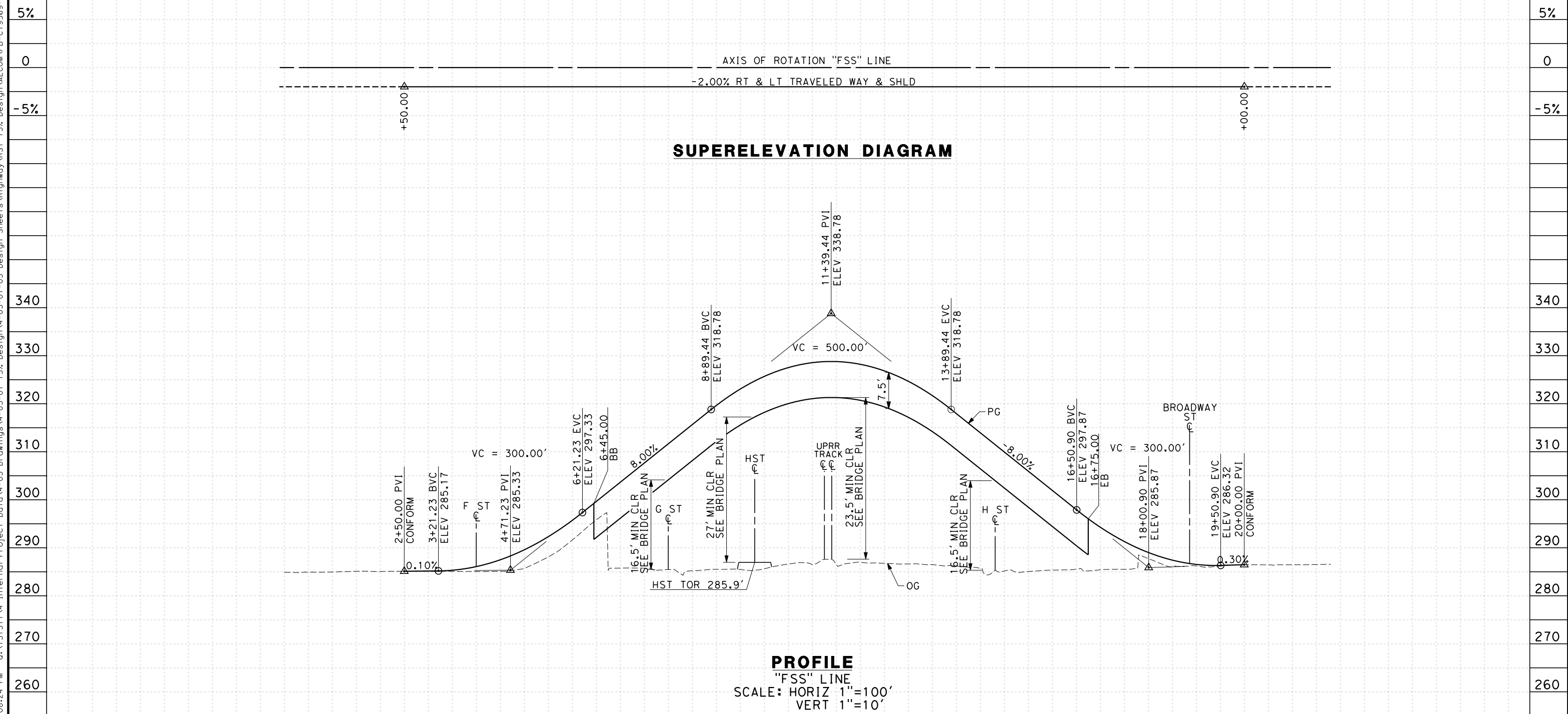
SCALE  
AS SHOWN

SHEET NO.  
### OF ###

**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER UPRR IS 23.5' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
4. VERTICAL DESIGN SPEED = 30 MPH
5. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:24 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9569-A-F1.dgn



STATION	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	TOTAL
Exc																								
Emb																								

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 STANISLAUS ST

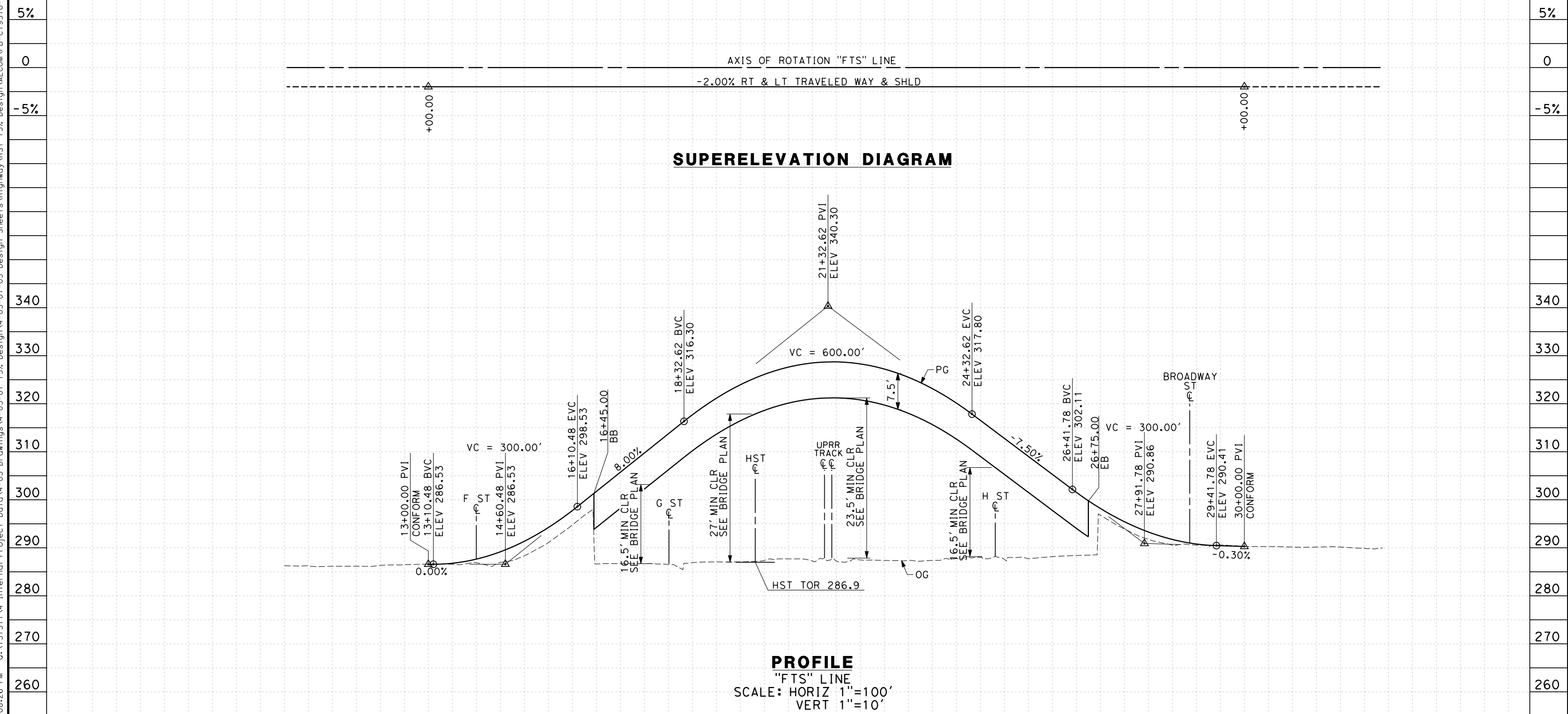
CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9569-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



**NOTES:**

1. MINIMUM VERTICAL CLEARANCE FOR HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE FOR BNSF IS 23.5' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
4. VERTICAL DESIGN SPEED = 30 MPH
5. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:26 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9570-A-F1.dgn



STATION	10	1	2	3	4	15	6	7	8	9	20	1	2	3	4	25	6	7	8	9	30	1	2	3	TOTAL
Exc																									
Emb																									

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



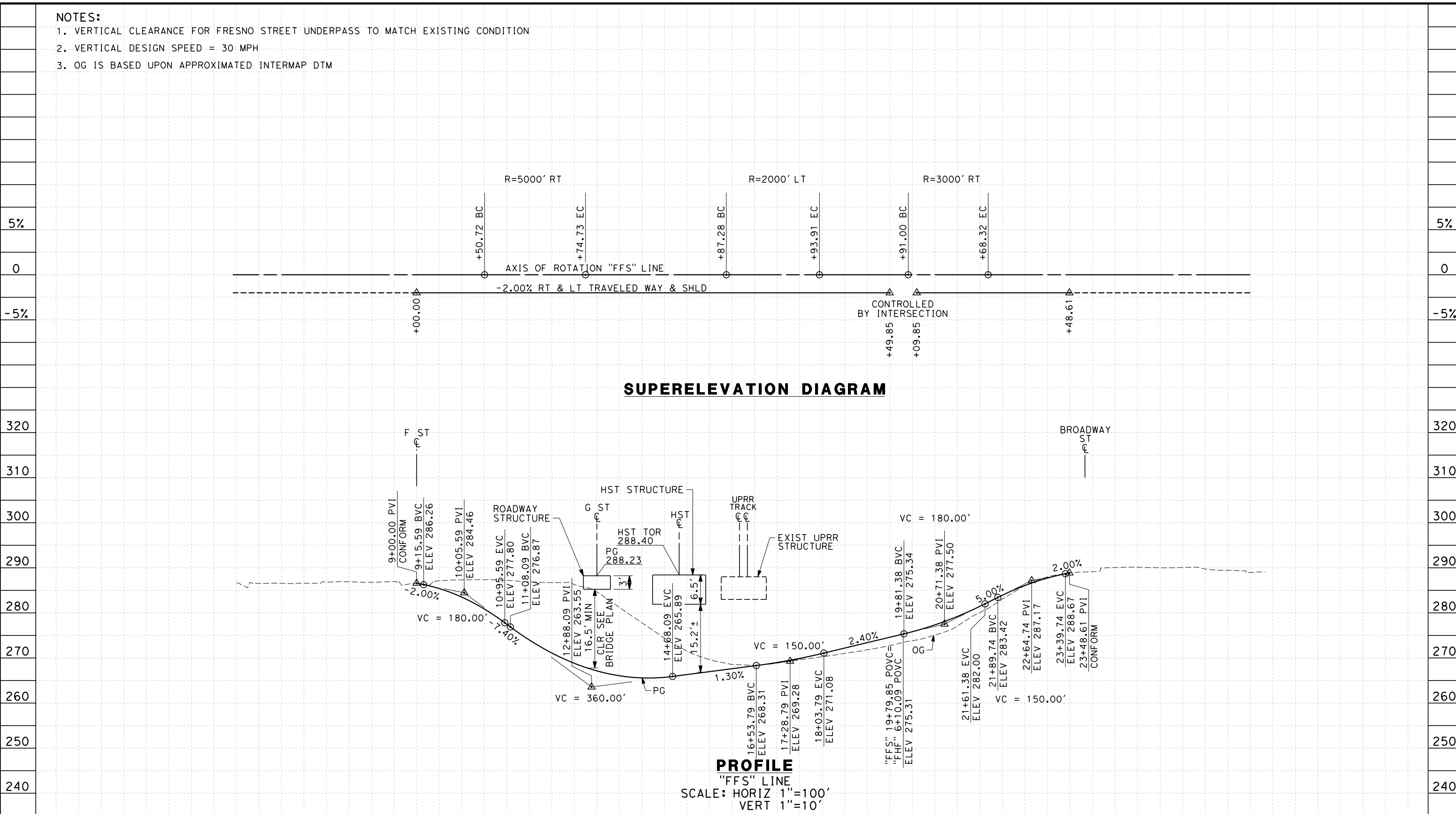
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 TUOLUMNE ST

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9570-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

**NOTES:**

1. VERTICAL CLEARANCE FOR FRESNO STREET UNDERPASS TO MATCH EXISTING CONDITION
2. VERTICAL DESIGN SPEED = 30 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:27 PM 0:\131577\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9571-A-F1.dgn



STATION	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	TOTAL	
Exc																														
Emb																														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
06/30/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 FRESNO ST

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9571-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



- NOTES:**
1. VERTICAL DESIGN SPEED = 40 MPH
  2. OG IS BASED UPON APPROXIMATED INTERMAP DTM
  3. REFER TO SHEET CT1013 FOR LAYOUT

5%

0

-5%

300

290

280

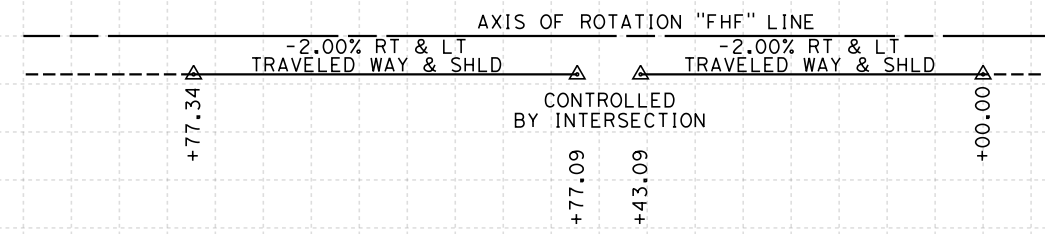
270

260

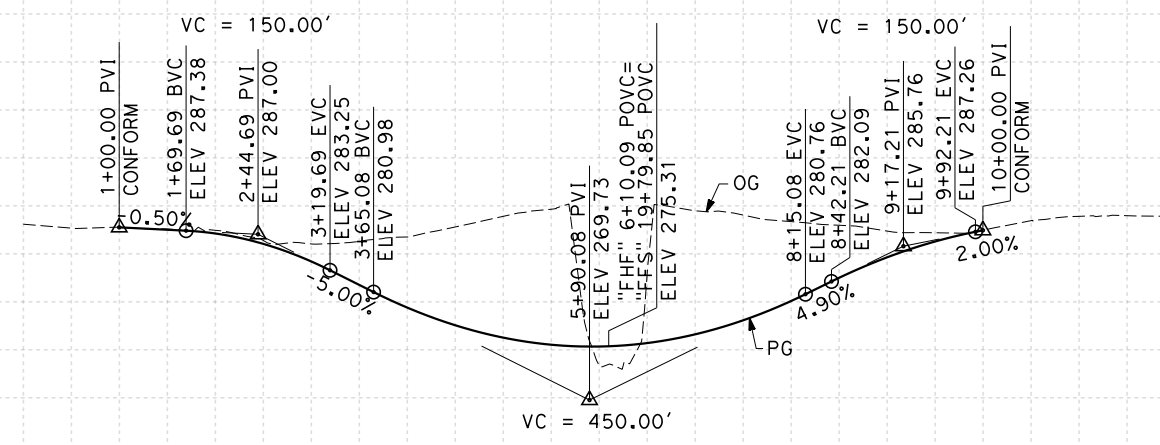
STATION

Exc  
Emb

REV	DATE	BY	CHK	APP	DESCRIPTION



**SUPERELEVATION DIAGRAM**



**PROFILE**

"FHF" LINE  
SCALE: HORIZ 1"=100'  
VERT 1"=10'

DESIGNED BY  
K. MING

DRAWN BY  
E. SUDHAUSEN

CHECKED BY  
J. MONG

IN CHARGE  
A. LUFT

DATE  
06/30/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
H ST (FRESNO ST)

CONTRACT NO.  
HSR 06-0003

DRAWING NO.  
CT9572-A

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

5%

0

-5%

300

290

280

270

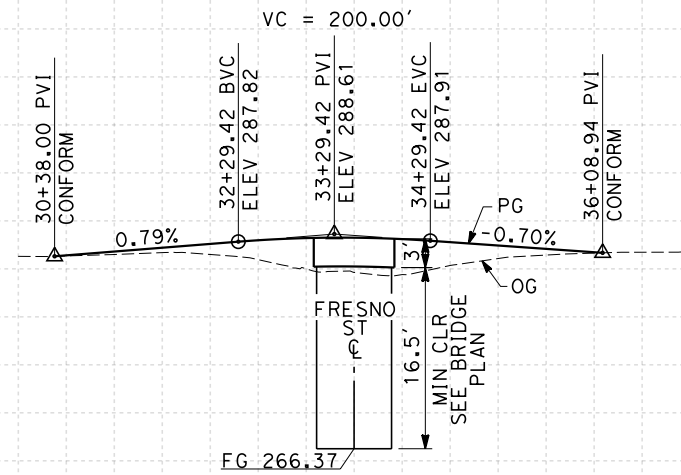
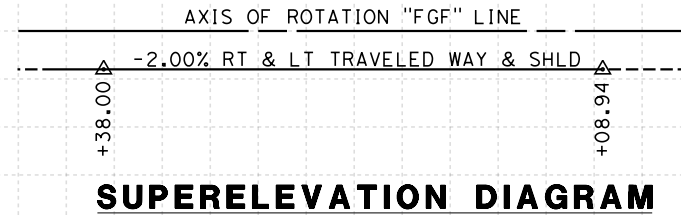
260

TOTAL

7/20/2011 6:08:29 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9572-A-F1.dgn

**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
2. VERTICAL DESIGN SPEED = 40 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM
4. REFER TO SHEET CT1013 FOR LAYOUT



STATION	30	1	2	3	4	35	6	7	8	TOTAL
Exc										
Emb										

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING

DRAWN BY  
E. SUDHAUSEN

CHECKED BY  
J. MONG

IN CHARGE  
A. LUFT

DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

FRESNO SUBSECTION  
ALIGNMENT F1  
GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
G ST (FRESNO ST)

CONTRACT NO.  
HSR 06-0003

DRAWING NO.  
CT9573-A

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

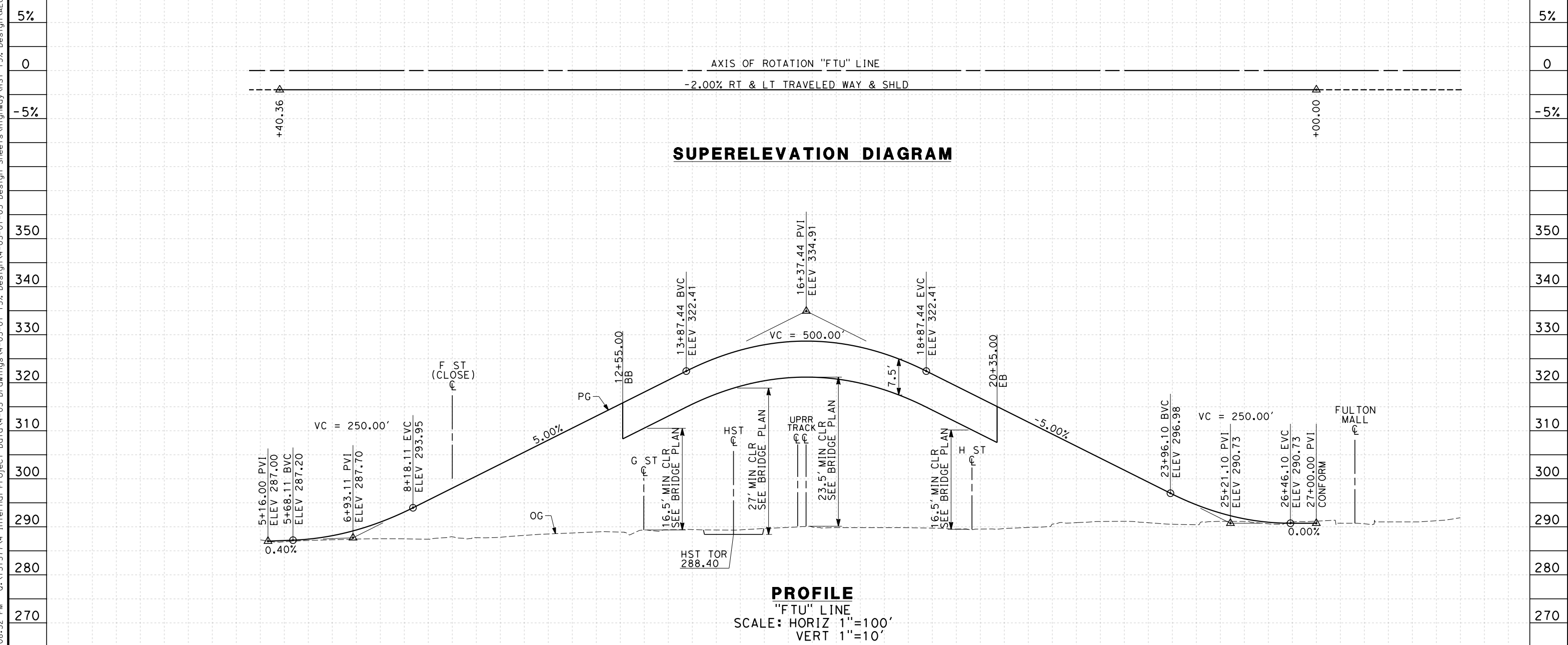
7/20/2011 6:08:31 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9573-A-F1.dgn



**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER UPRR IS 23.5' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
4. VERTICAL DESIGN SPEED = 30 MPH
5. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:32 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\4-03-01-05 Design Sheets\Highway\HST 15% Design\AECOM\FB-CT9574-A-F1.dgn



STATION	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	TOTAL		
Exc																																							
Emb																																							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



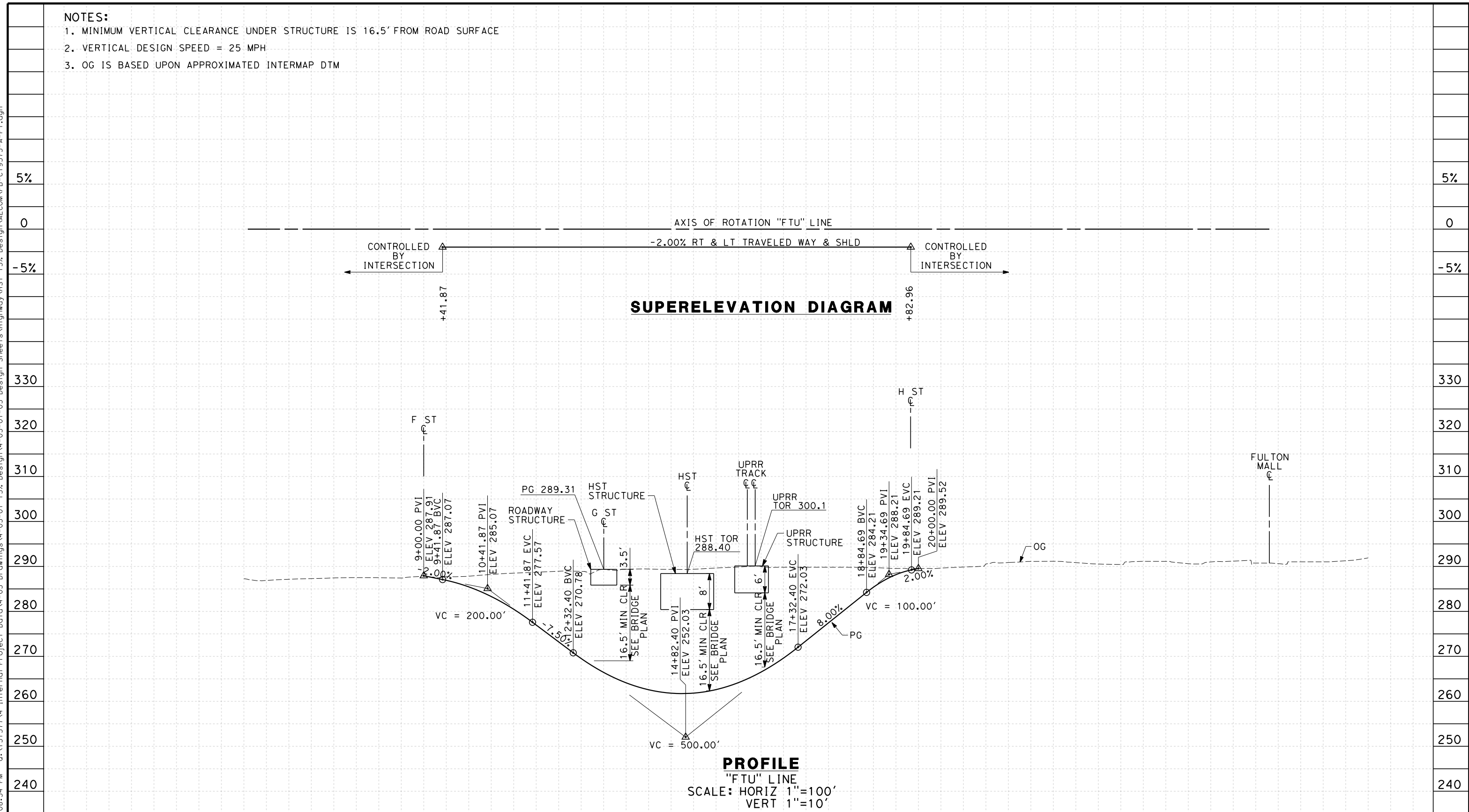
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 TULARE ST (OVERHEAD)

CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9574-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###

**NOTES:**

1. MINIMUM VERTICAL CLEARANCE UNDER STRUCTURE IS 16.5' FROM ROAD SURFACE
2. VERTICAL DESIGN SPEED = 25 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:34 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9575-A-F1.dgn  
 eron\_sudhausen



STATION	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	TOTAL	
Exc																												
Emb																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 TULARE ST (UNDERPASS)

CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9575-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



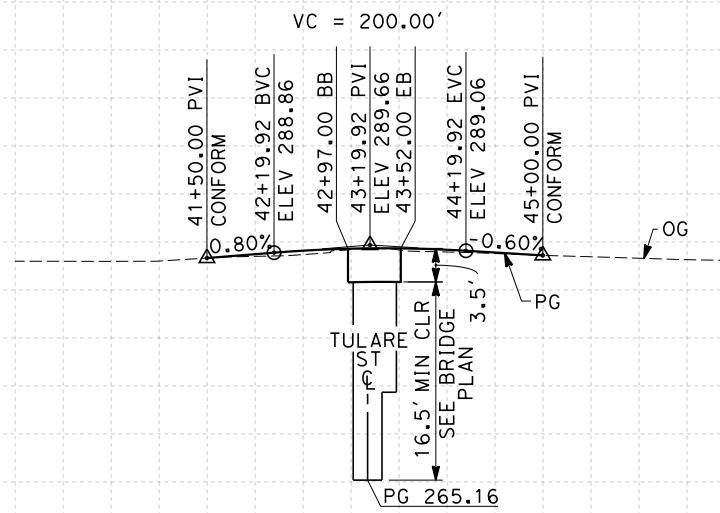
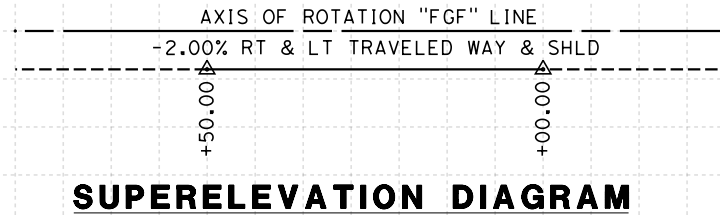
**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
2. VERTICAL DESIGN SPEED = 40 MPH
3. OG IS BASED UPON APPROXIMATED INTERMAP DTM
4. REFER TO SHEET CT1017 FOR LAYOUT

7/20/2011 6:08:35 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\Sheets\Highway\HST 15% Design\AECOM\FB-CT9576-A-F1.dgn

5%  
0  
-5%  
  
320  
310  
300  
290  
280  
270  
260

5%  
0  
-5%  
  
320  
310  
300  
290  
280  
270  
260



**PROFILE**  
 "FGF" LINE  
 SCALE: HORIZ 1"=100'  
 VERT 1"=10'

STATION	40    1    2    3    4    45    6    7			TOTAL
CY	Exc			
	Emb			

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



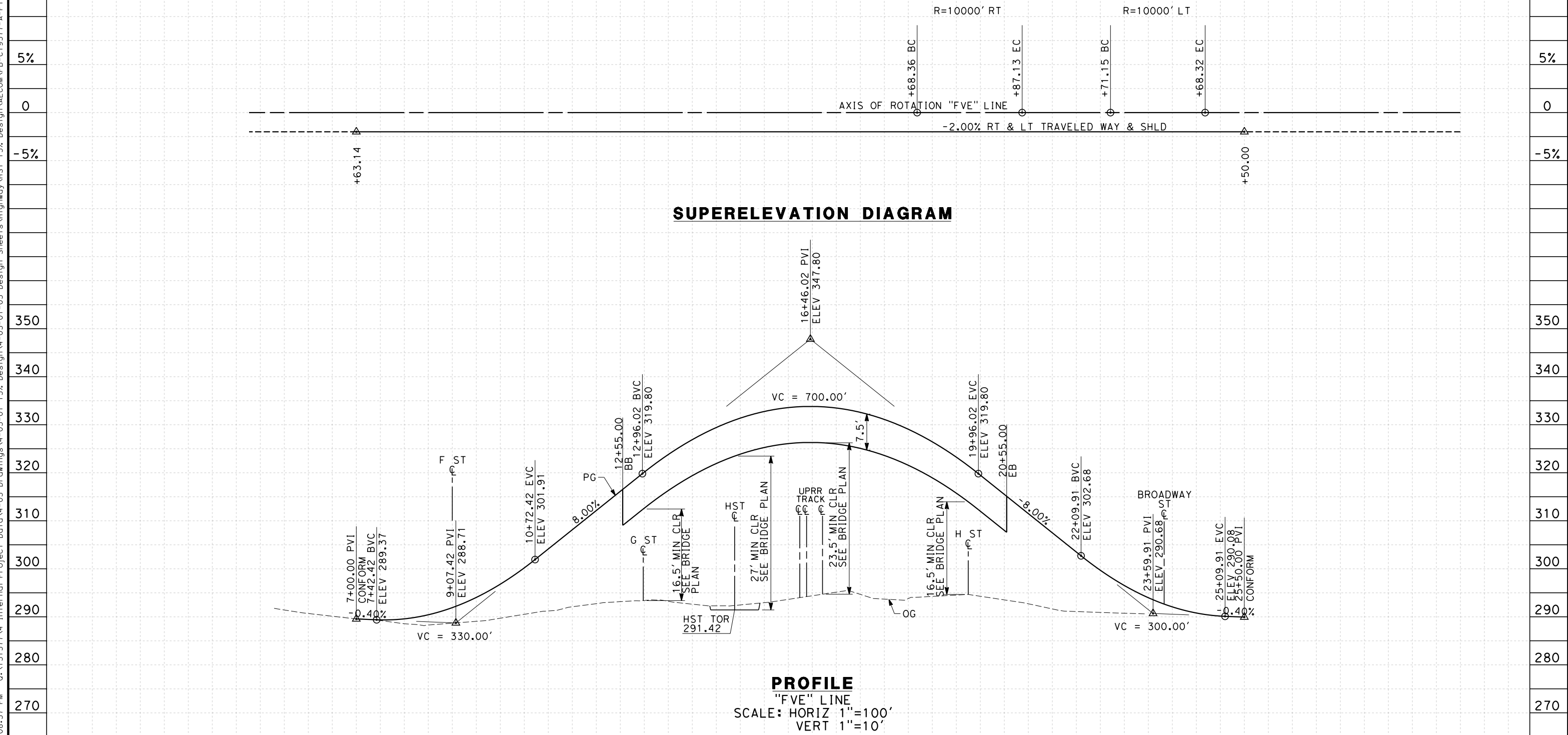
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 G ST (TULARE ST UNDERPASS)

CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9576-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###

**NOTES:**

1. MINIMUM VERTICAL CLEARANCE OVER HST IS 27' FROM TOP OF RAIL
2. MINIMUM VERTICAL CLEARANCE OVER UPRR IS 23.5' FROM TOP OF RAIL
3. MINIMUM VERTICAL CLEARANCE OVER LOCAL STREET IS 16.5' FROM ROAD SURFACE
4. VERTICAL DESIGN SPEED = 30 MPH
5. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:37 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\Sheets\Highway\HST 15% Design\AECOM\FB-CT9577-A-F1.dgn



STATION	5	6	7	8	9	10	1	2	3	4	15	6	7	8	9	20	1	2	3	4	25	6	7	8	TOTAL	
Exc																										
Emb																										

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 05/13/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 GRADE SEP PROFILE & SUPERELEVATION DIAGRAM  
 VENTURA ST

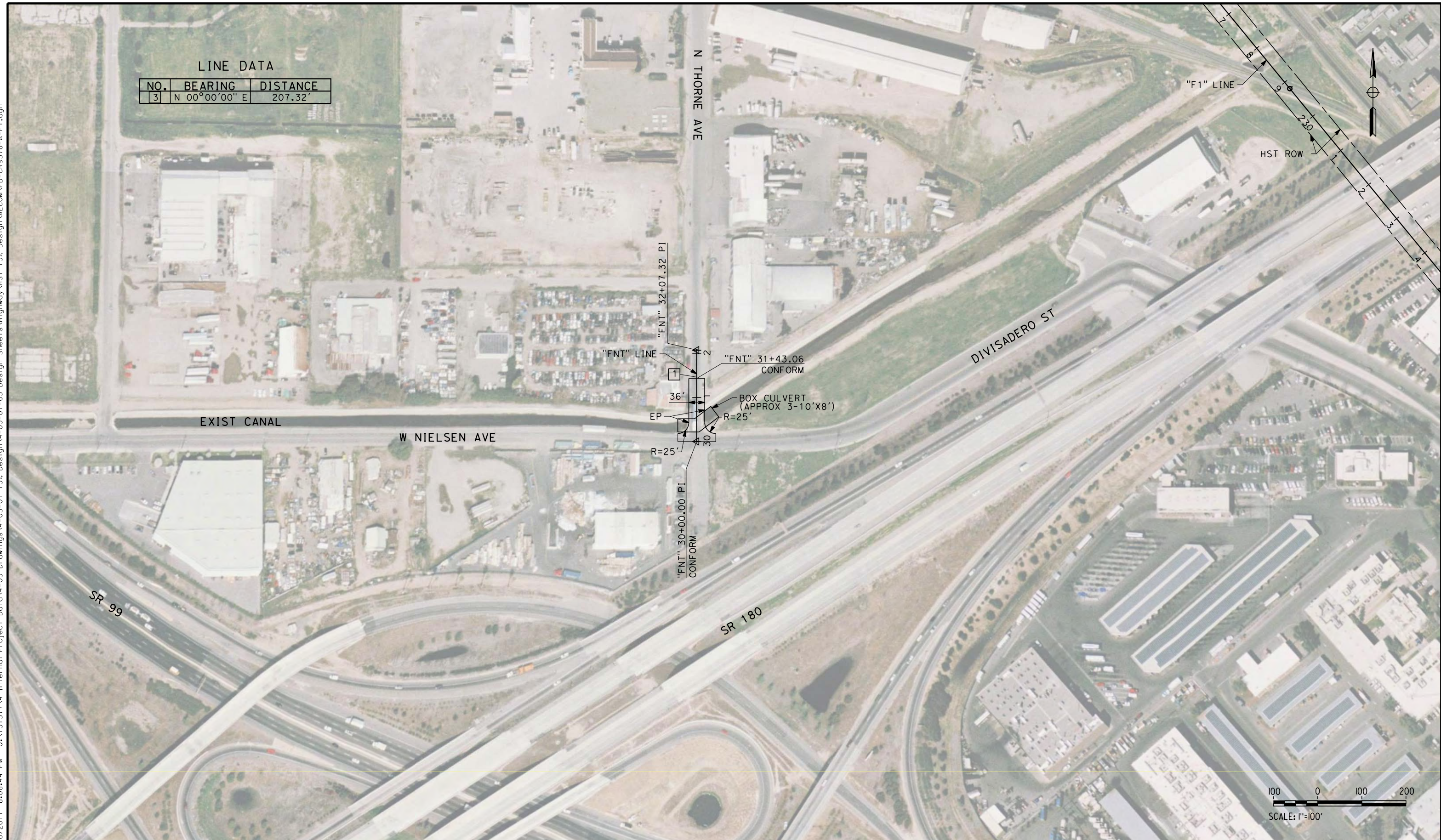
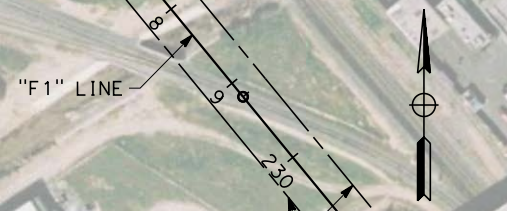
CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9577-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



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LINE DATA

NO.	BEARING	DISTANCE
3	N 00°00'00" E	207.32'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
DRAWN BY  
E. SUDHAUSEN  
CHECKED BY  
J. MONG  
IN CHARGE  
A. LUFT  
DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



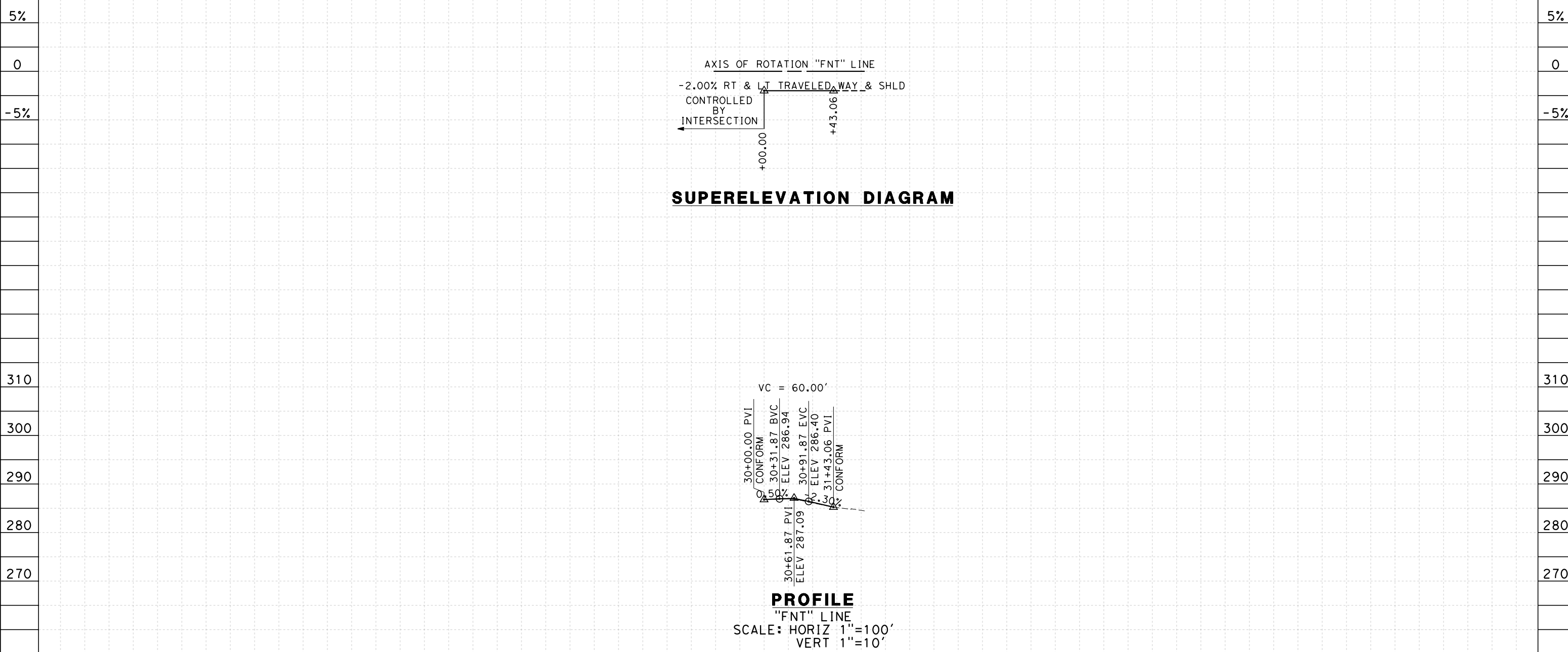
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
FRESNO SUBSECTION  
ALIGNMENT F1  
ROADWAY LAYOUT  
N THORNE AVE

CONTRACT NO.  
HSR 06-0003  
DRAWING NO.  
CR9578-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



NOTES:  
 1. VERTICAL DESIGN SPEED = 15 MPH  
 2. OG IS BASED UPON APPROXIMATED INTERMAP DTM

7/20/2011 6:08:47 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design Sheets\Highway\HST 15% Design\AECOM\FB-CR9579-A-F1.dgn



STATION	30	1	2	3		6	7	8	9	TOTAL
Exc										
Emb										

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING

DRAWN BY  
E. SUDHAUSEN

CHECKED BY  
J. MONG

IN CHARGE  
A. LUFT

DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

FRESNO SUBSECTION  
ALIGNMENT F1  
ROADWAY PROFILE & SUPERELEVATION DIAGRAM  
N THORNE AVE

CONTRACT NO.  
HSR 06-0003

DRAWING NO.  
CR9579-A

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

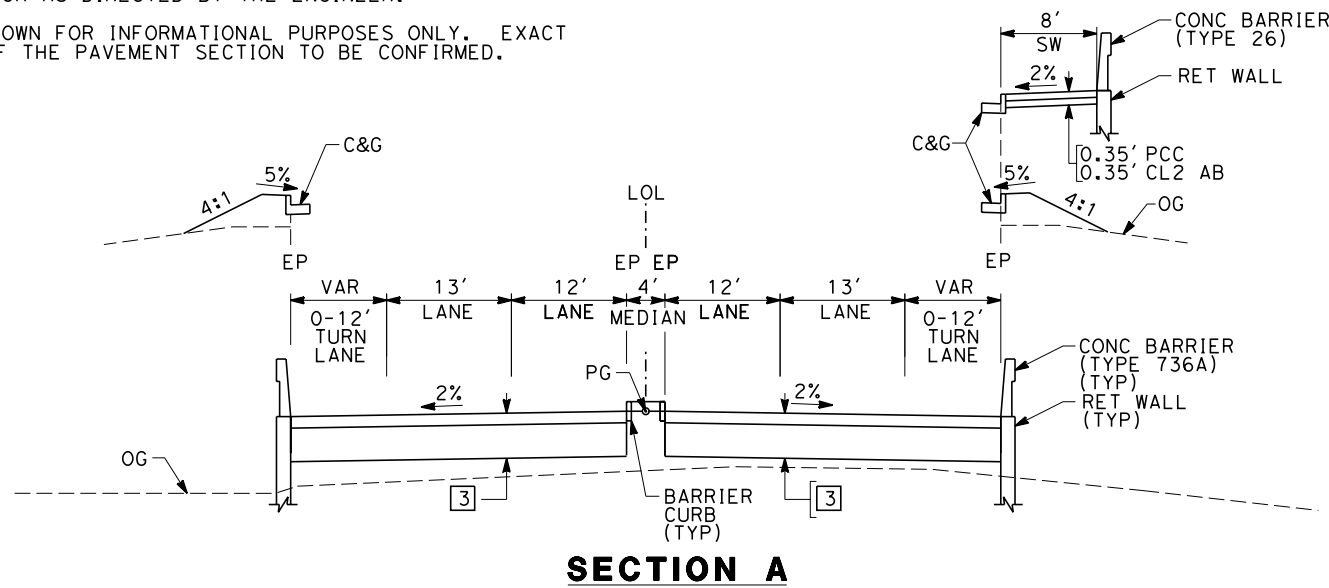


**NOTES:**

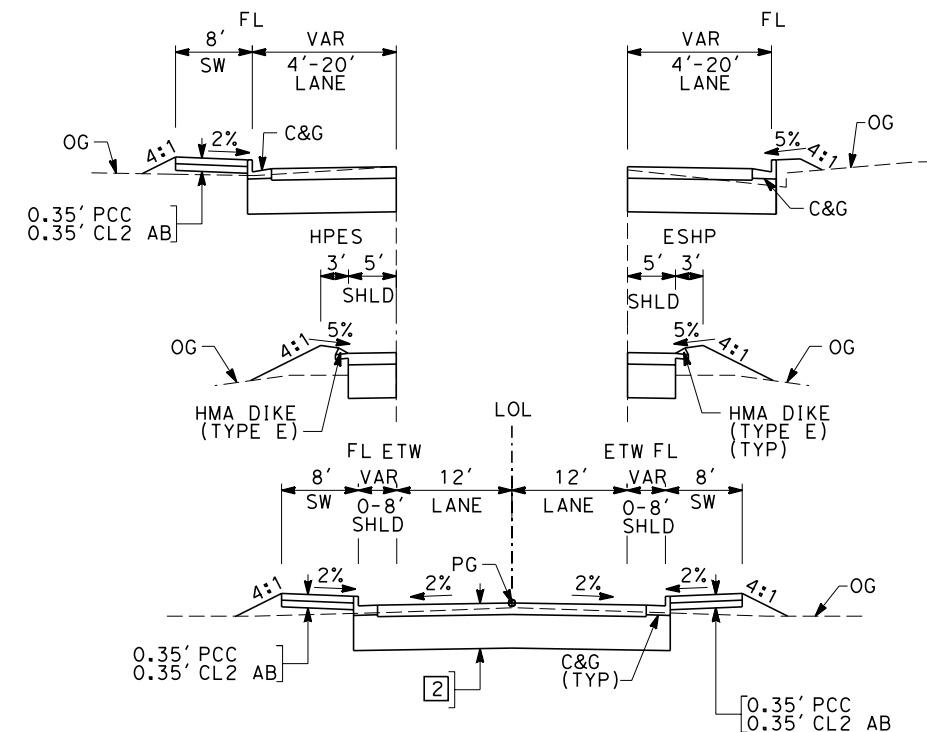
1. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. PAVEMENT SECTIONS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. EXACT DIMENSION AND MATERIAL OF THE PAVEMENT SECTION TO BE CONFIRMED.

**STRUCTURAL SECTIONS  
TYPICAL ROADWAY**

- 1 [0.65' HMA (TYPE A)  
1.75' CL2 AB
- 2 [0.35' HMA (TYPE A)  
1.00' CL2 AB
- 3 [0.40' HMA (TYPE A)  
1.50' CL2 AB
- 4 [0.55' HMA (TYPE A)  
1.50' CL2 AB

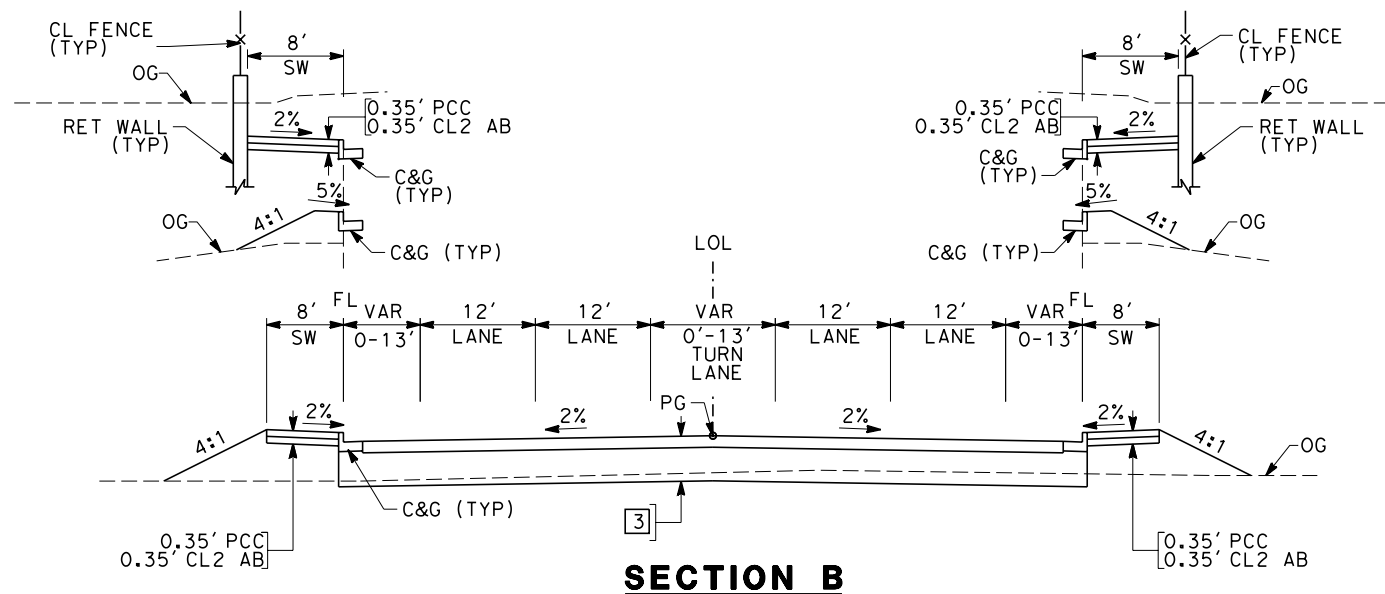


"FMC"	16+00.00 TO 22+60.00	"FBEL"	23+34.30 TO 29+55.58
"FMC"	26+50.00 TO 29+31.13	"FVE"	9+55.00 TO 12+55.00
"FOL"	13+05.96 TO 19+19.99	"FVE"	20+55.00 TO 22+71.15
"FOL"	24+82.94 TO 30+06.12	"FCH"	16+85.51 TO 21+20.00
"FBEL"	12+14.63 TO 17+09.30	"FCH"	29+45.00 TO 35+45.11



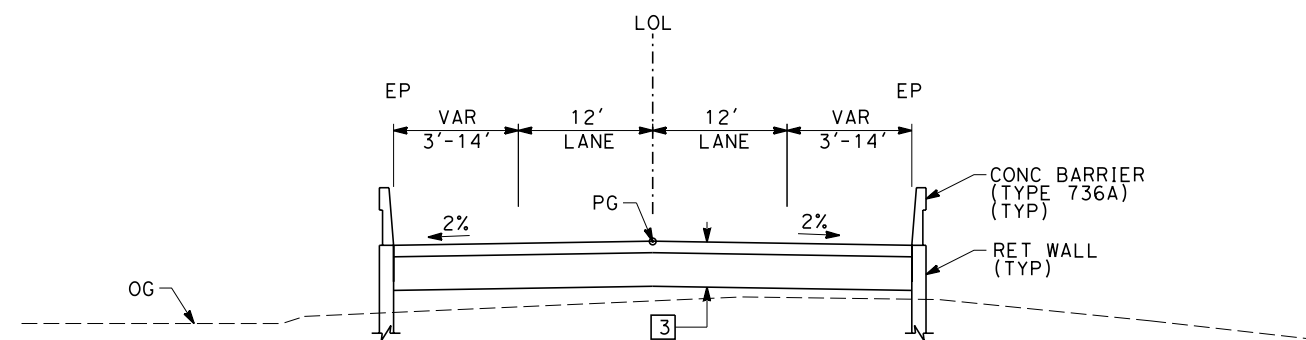
**SECTION C**

"FMCC"	10+00.00 TO 16+47.00	"FSL"	11+36.79 TO 17+27.26
"FNWE"	103+00.00 TO 107+00.00	"FSE"	1+00.00 TO 14+12.10
"FNWE"	112+00.00 TO 113+55.54	"FNT"	30+00.00 TO 31+46.01
"NGSB"	125+00.00 TO 167+12.45	"FGC"	0+50.00 TO 4+49.83
"FWES"	10+00.00 TO 14+69.32		



**SECTION B**

"FMC"	14+00.00 TO 16+00.00	"FTS"	13+00.00 TO 14+54.11
"FMC"	29+31.13 TO 32+08.89	"FTS"	28+43.67 TO 30+00.00
"FOL"	11+81.00 TO 13+05.96	"FVE"	7+00.00 TO 9+55.00
"FOL"	30+06.12 TO 33+00.00	"FVE"	22+71.15 TO 25+50.00
"FBEL"	8+00.00 TO 12+14.63	"FCH"	14+00.00 TO 16+85.51
"FBEL"	29+55.58 TO 32+00.00	"FCH"	35+45.11 TO 37+00.00
"FSS"	2+50.00 TO 4+38.84	"FGF"	30+38.00 TO 33+08.00
"FSS"	18+40.67 TO 20+00.00	"FGF"	33+92.00 TO 36+08.94
"FHF"	1+77.34 TO 10+00.00	"FGF"	41+50.00 TO 45+00.00



**SECTION D**

"FSS"	4+38.84 TO 6+45.00
"FSS"	16+75.00 TO 18+40.67
"FTS"	14+54.11 TO 16+75.00
"FTS"	26+75.00 TO 28+43.67

eron\_sudhausen 7/20/2011 6:08:51 PM 0:\1315177\4 Internal Project Data\4-03 Drawings\4-03-01 15% Design\AECOM\FB-CT9580-A-F1.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUF T  
 DATE  
06/30/11

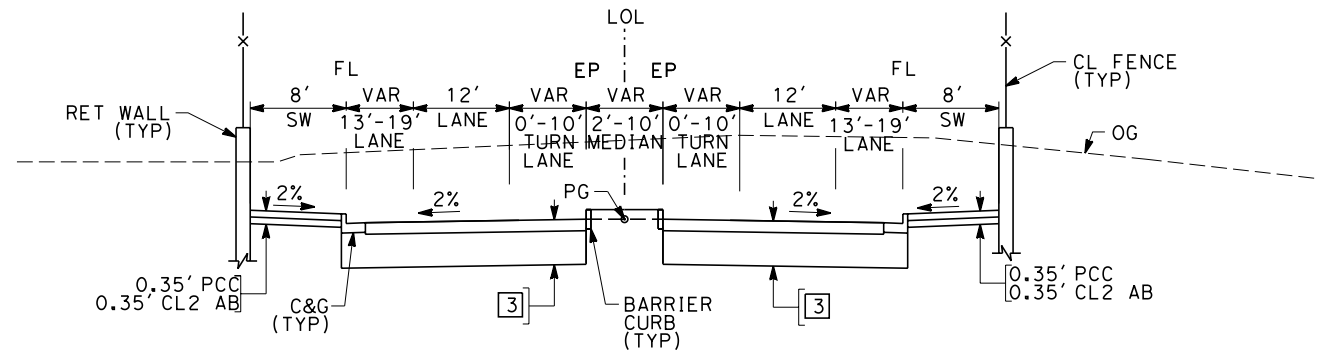
**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 ROADWAY / GRADE SEPARATION  
 TYPICAL CROSS SECTIONS

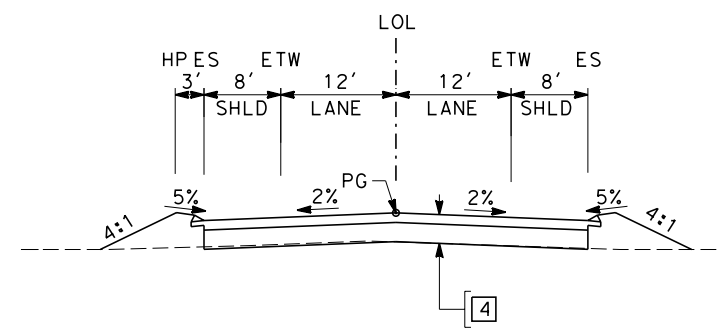
CONTRACT NO.  
HSR 06-0003  
 DRAWING NO.  
CT9580-A  
 SCALE  
NO SCALE  
 SHEET NO.  
### OF ###

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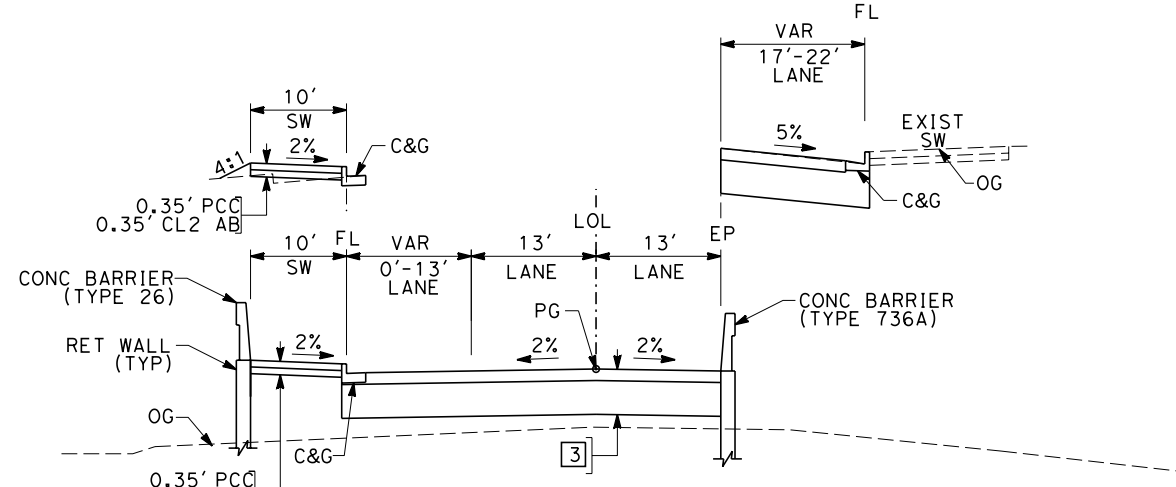
**SECTION E**

"FFS" 9+00.00 TO 23+48.61



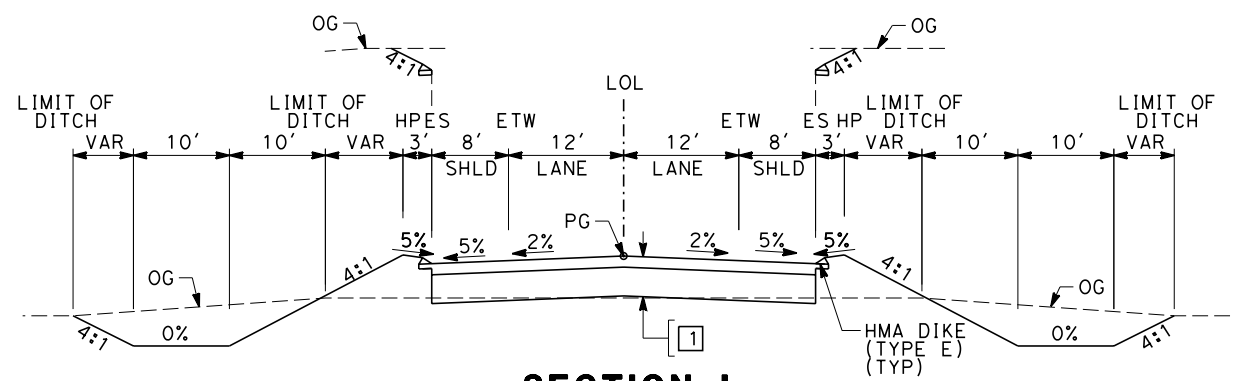
**SECTION H**

"FCE" 21+00.00 TO 24+00.00



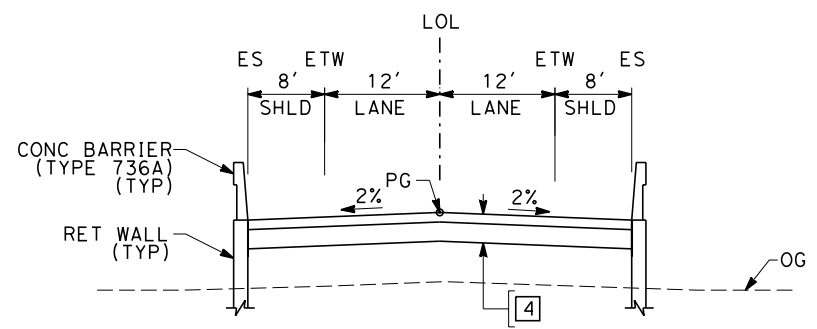
**SECTION F**

"FTU" 5+16.00 TO 12+55.43 (OVERHEAD OPTION)  
 "FTU" 20+34.30 TO 27+00.00 (OVERHEAD OPTION)



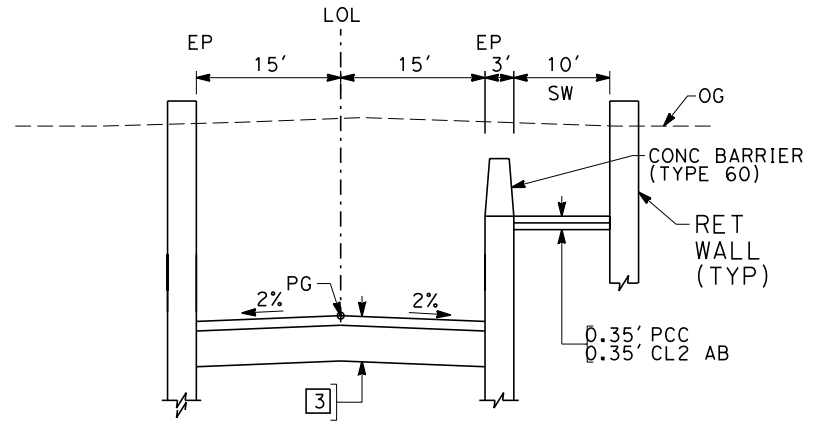
**SECTION I**

"FAM" 12+50.00 TO 24+63.00  
 "FAM" 28+13.00 TO 39+91.28



**SECTION G**

"FCE" 24+00.00 TO 32+60.00  
 "FCE" 37+80.00 TO 46+00.00



**SECTION J**

"FTU" 9+00.00 TO 20+00.00 (UNDERPASS OPTION)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 K. MING  
 DRAWN BY  
 E. SUDHAUSEN  
 CHECKED BY  
 J. MONG  
 IN CHARGE  
 A. LUFT  
 DATE  
 06/30/11

**RECORD SET 15%  
 DESIGN SUBMISSION**  
  
**NOT FOR  
 CONSTRUCTION**

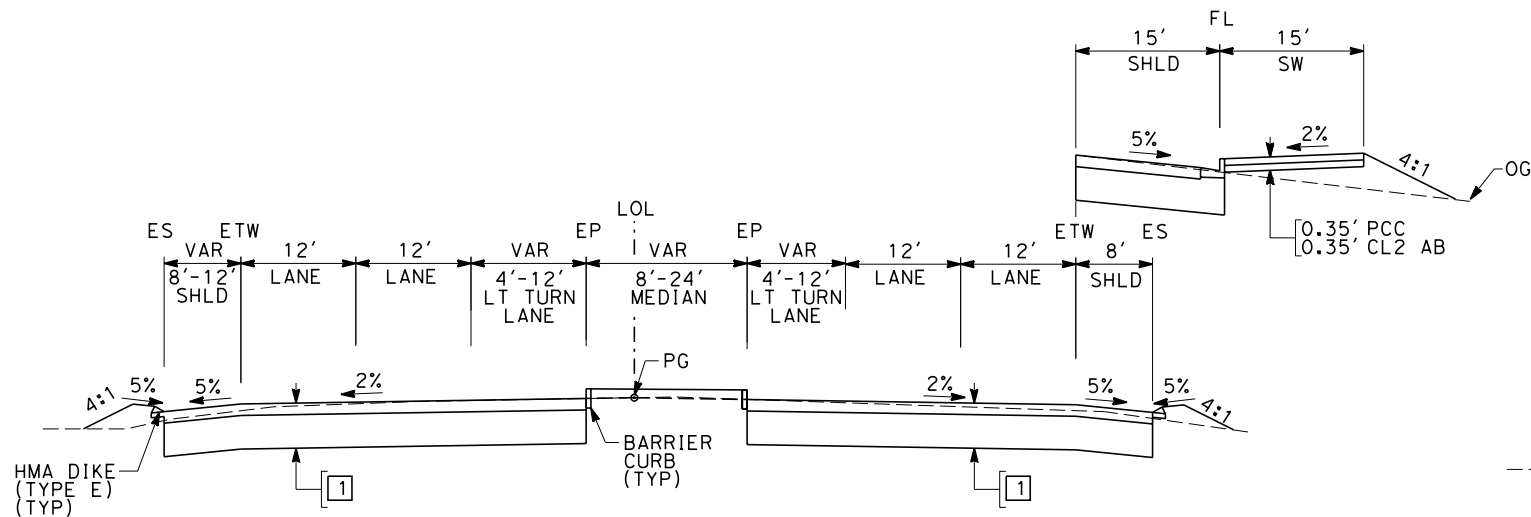


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 ROADWAY / GRADE SEPARATION  
 TYPICAL CROSS SECTIONS

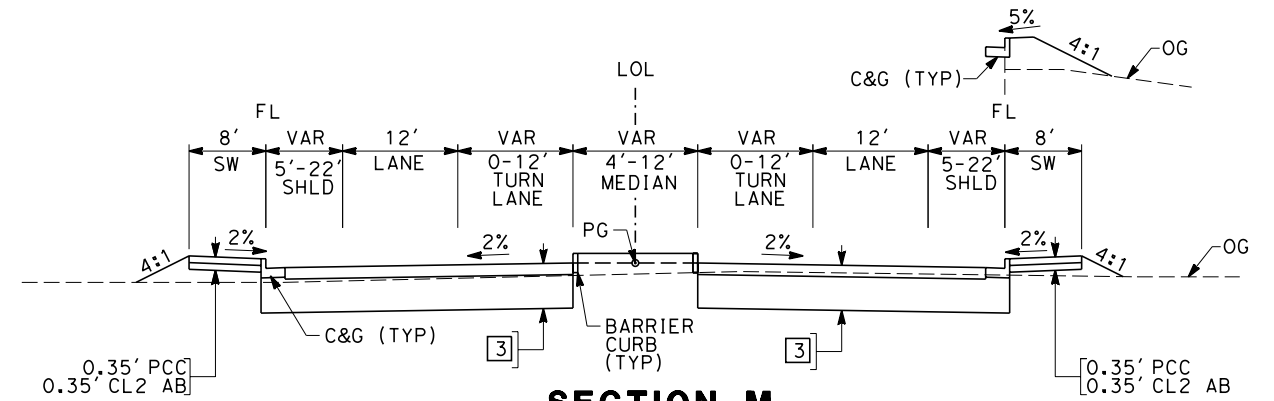
CONTRACT NO.  
 HSR 06-0003  
 DRAWING NO.  
 CT9581-A  
 SCALE  
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 SHEET NO.  
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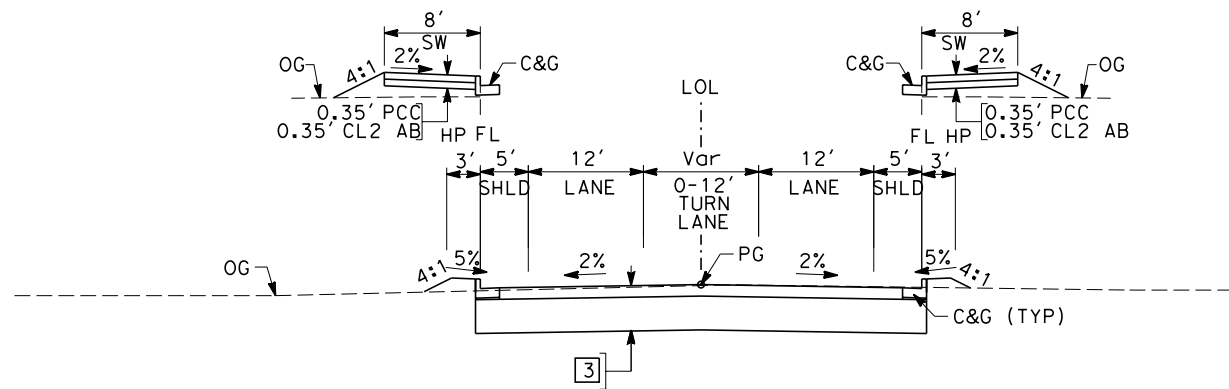
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**SECTION K**  
"SGSB" 2+00.00 TO 6+00.00



**SECTION M**  
"FNW" 13+00.00 TO 18+25.72



**SECTION L**  
"FH" 21+19.44 TO 34+09.05  
"FNW" 18+25.72 TO 20+00.00

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. MING  
 DRAWN BY  
E. SUDHAUSEN  
 CHECKED BY  
J. MONG  
 IN CHARGE  
A. LUFT  
 DATE  
05/13/11

**RECORD SET 15%  
DESIGN SUBMISSION**  
  
**NOT FOR  
CONSTRUCTION**

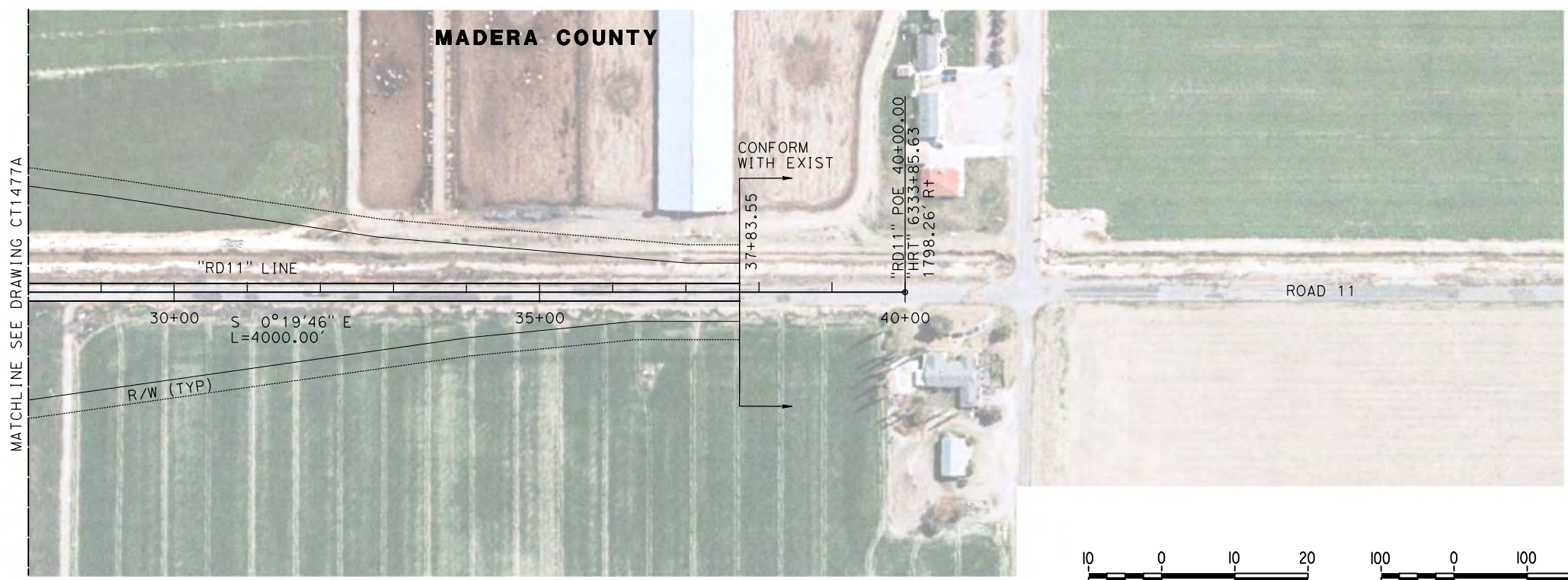
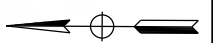


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 FRESNO SUBSECTION  
 ALIGNMENT F1  
 ROADWAY / GRADE SEPARATION  
 TYPICAL CROSS SECTIONS

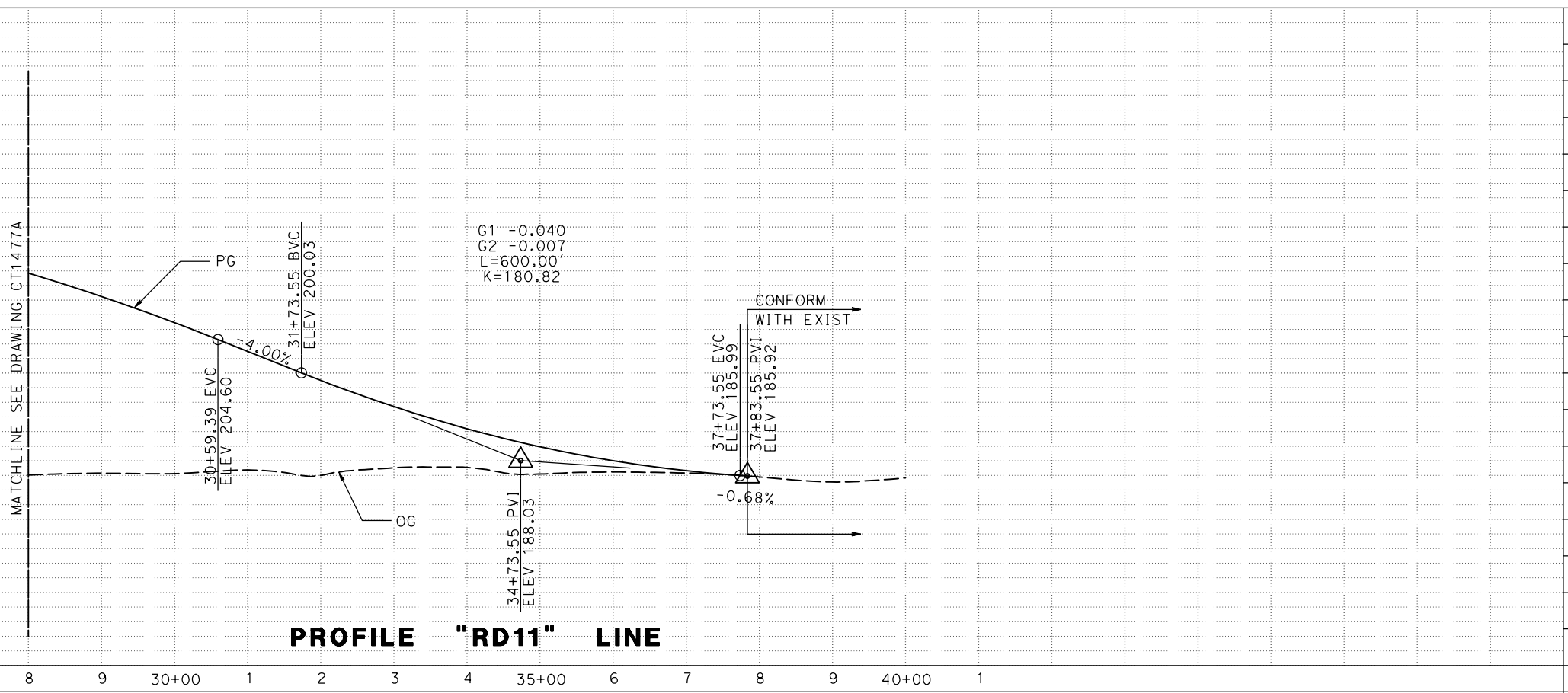
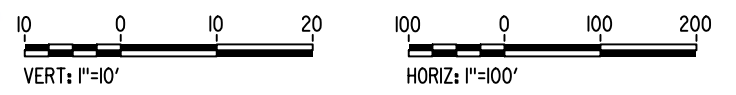
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HSR 06-0003  
 DRAWING NO.  
CT9582-A  
 SCALE  
NO SCALE  
 SHEET NO.  
### OF ###







**PLAN**



**PROFILE "RD11" LINE**

7/20/2011 6:28:35 PM c:\pw\_working\ptgwiseb\p0039764\dms66816\JM-CT-1478A.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**P. JACOBY**  
DRAWN BY  
**ALBERT S.**  
CHECKED BY  
**RESHMA C.**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**

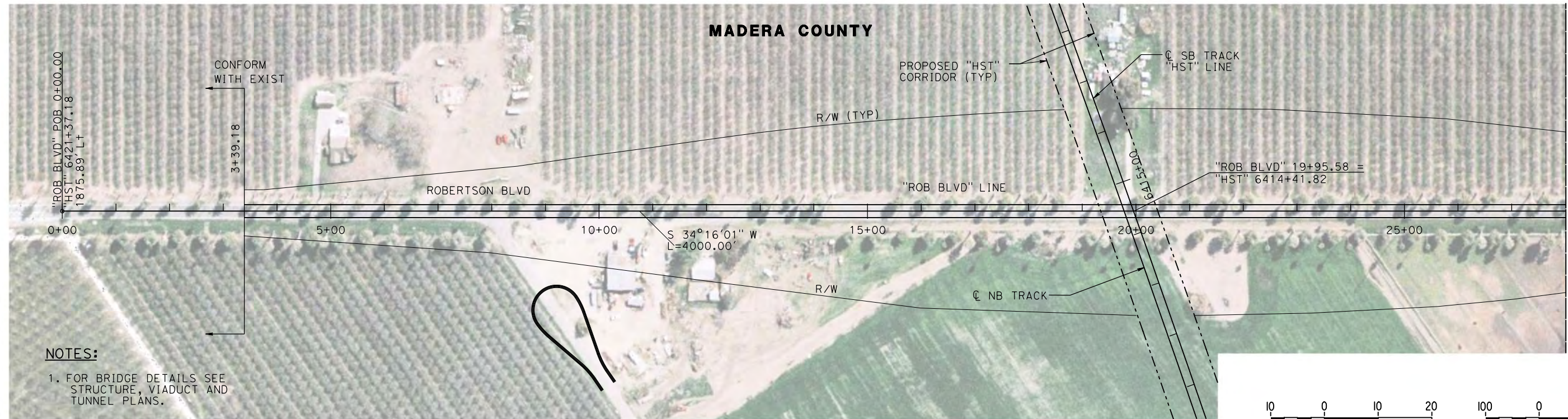


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 24/SR 152/AVENUE 21  
ROAD 11 GRADE SEPARATION  
PLAN AND PROFILE

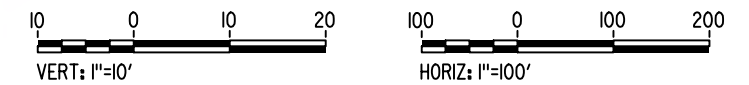
CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1478A  
SCALE  
AS SHOWN  
SHEET NO.  
2 OF 2



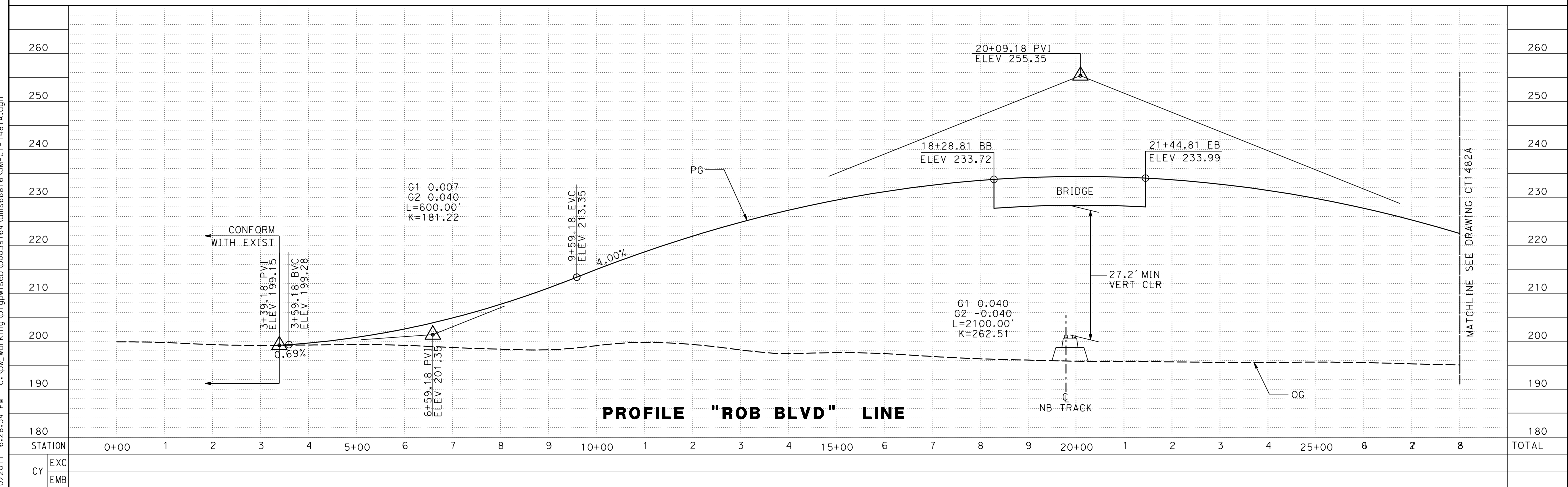


**NOTES:**

1. FOR BRIDGE DETAILS SEE STRUCTURE, VIADUCT AND TUNNEL PLANS.



**PLAN**



**PROFILE "ROB BLVD" LINE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**P. JACOBY**  
DRAWN BY  
**ALBERT S.**  
CHECKED BY  
**RESHMA C.**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 24/SR 152/AVENUE 21  
ROBERTSON BLVD GRADE SEPARATION  
PLAN AND PROFILE

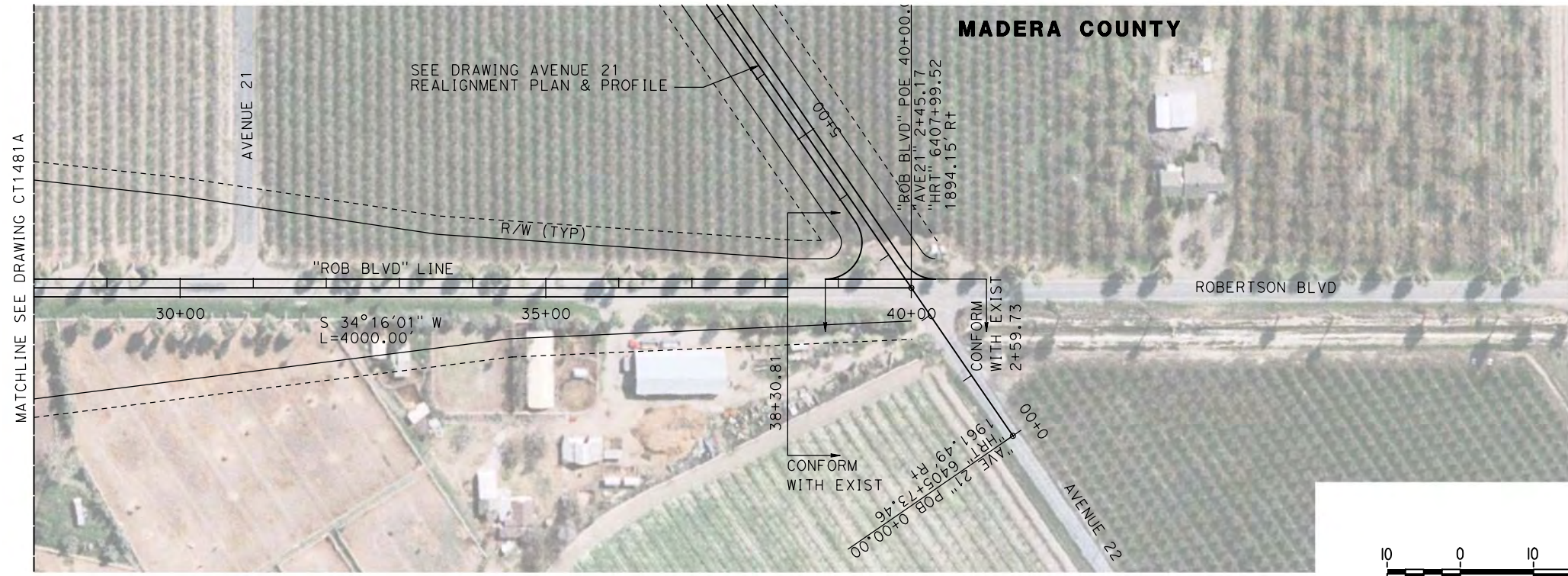
CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1481A  
SCALE  
AS SHOWN  
SHEET NO.  
1 OF 2

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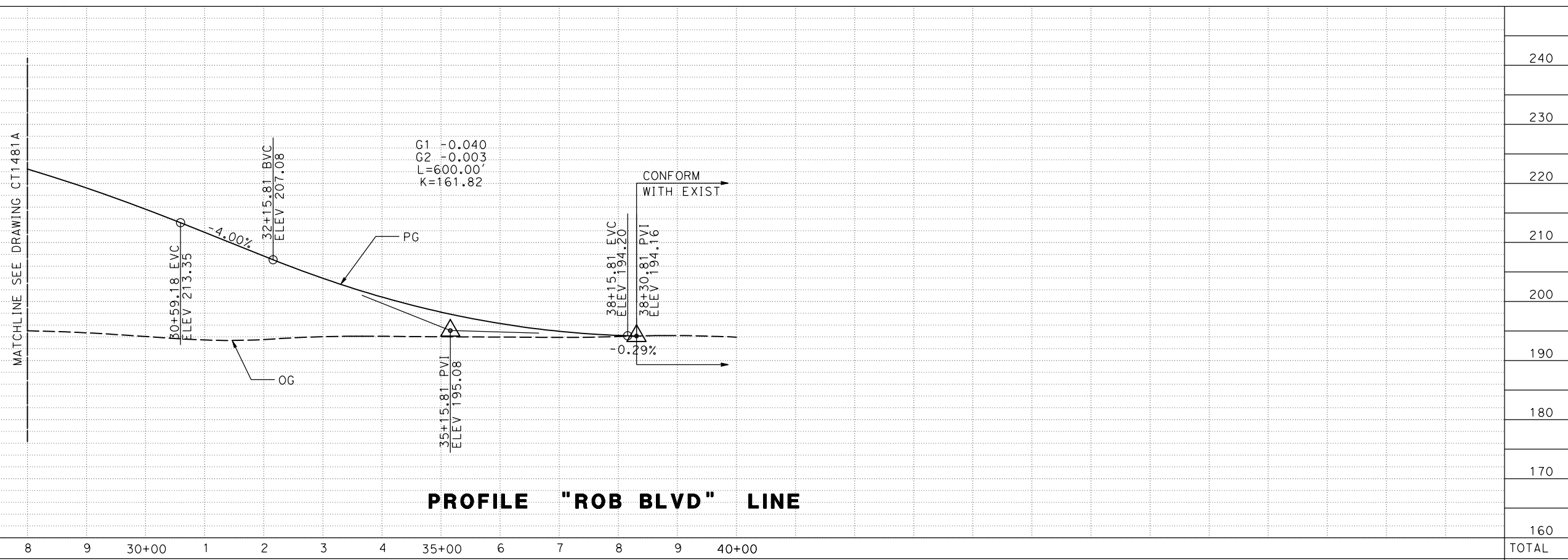
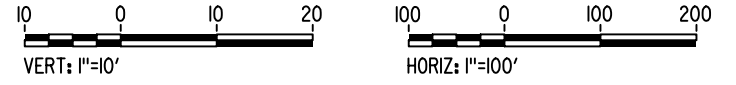


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p0039764



**PLAN**



**PROFILE "ROB BLVD" LINE**

STATION	8	9	30+00	1	2	3	4	35+00	6	7	8	9	40+00	TOTAL
EXC														
EMB														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**P. JACOBY**  
DRAWN BY  
**ALBERT S.**  
CHECKED BY  
**RESHMA C.**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**

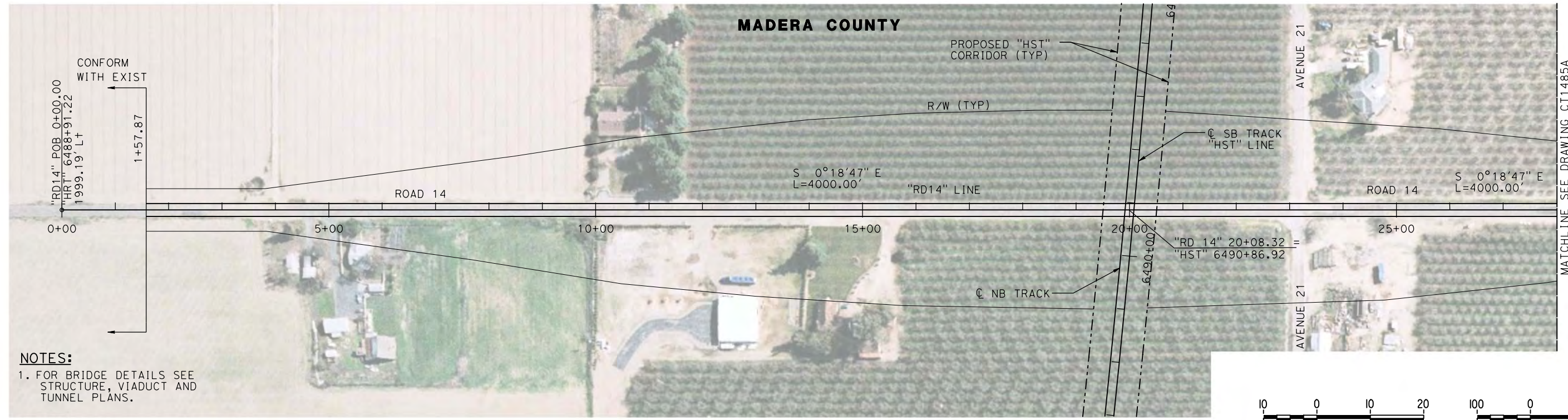


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

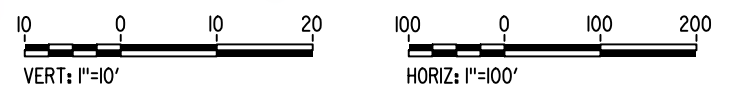
BNSF MAIN LINE  
AVENUE 24/SR 152/AVENUE 21  
ROBERTSON BLVD GRADE SEPARATION  
PLAN AND PROFILE

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1482A  
SCALE  
AS SHOWN  
SHEET NO.  
2 OF 2

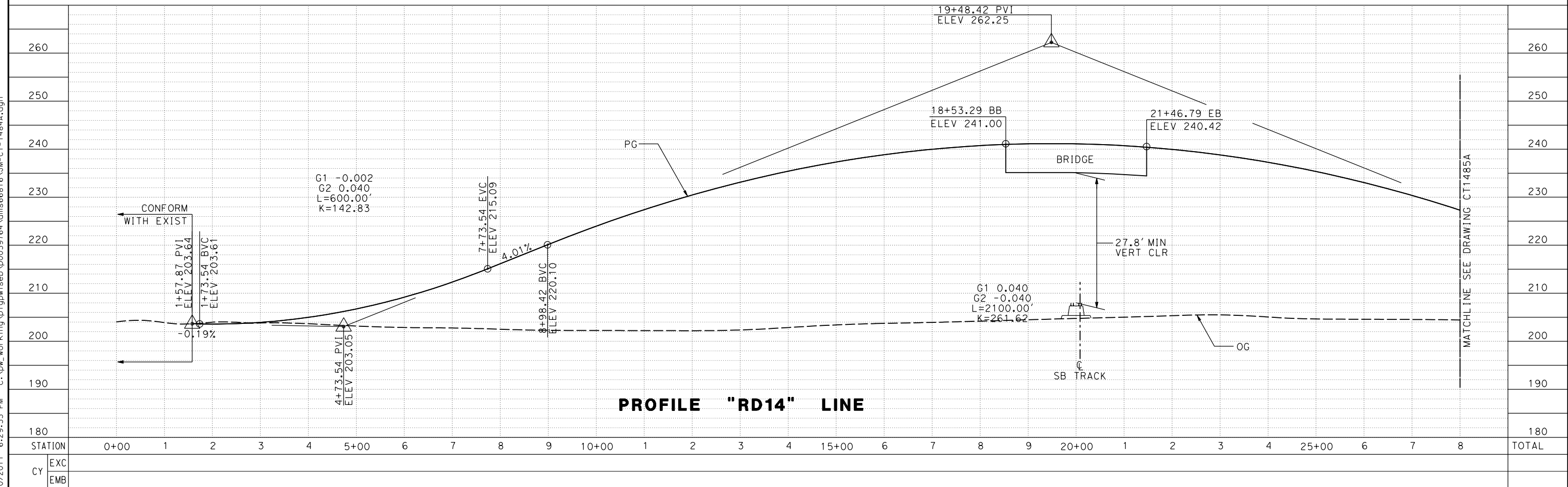




**NOTES:**  
 1. FOR BRIDGE DETAILS SEE STRUCTURE, VIADUCT AND TUNNEL PLANS.



**PLAN**



**PROFILE "RD14" LINE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**P. JACOBY**  
 DRAWN BY  
**ALBERT S.**  
 CHECKED BY  
**RESHMA C.**  
 IN CHARGE  
**D. WEMMER**  
 DATE  
**4/15/2011**

**15% DRAFT  
 SUBMITTAL  
 FOR INTERNAL  
 USE ONLY**

**NOT FOR  
 CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**

BNSF MAIN LINE  
 AVENUE 24/SR 152/AVENUE 21  
 ROAD 14 GRADE SEPARATION  
 PLAN AND PROFILE

CONTRACT NO.  
HSR08-05

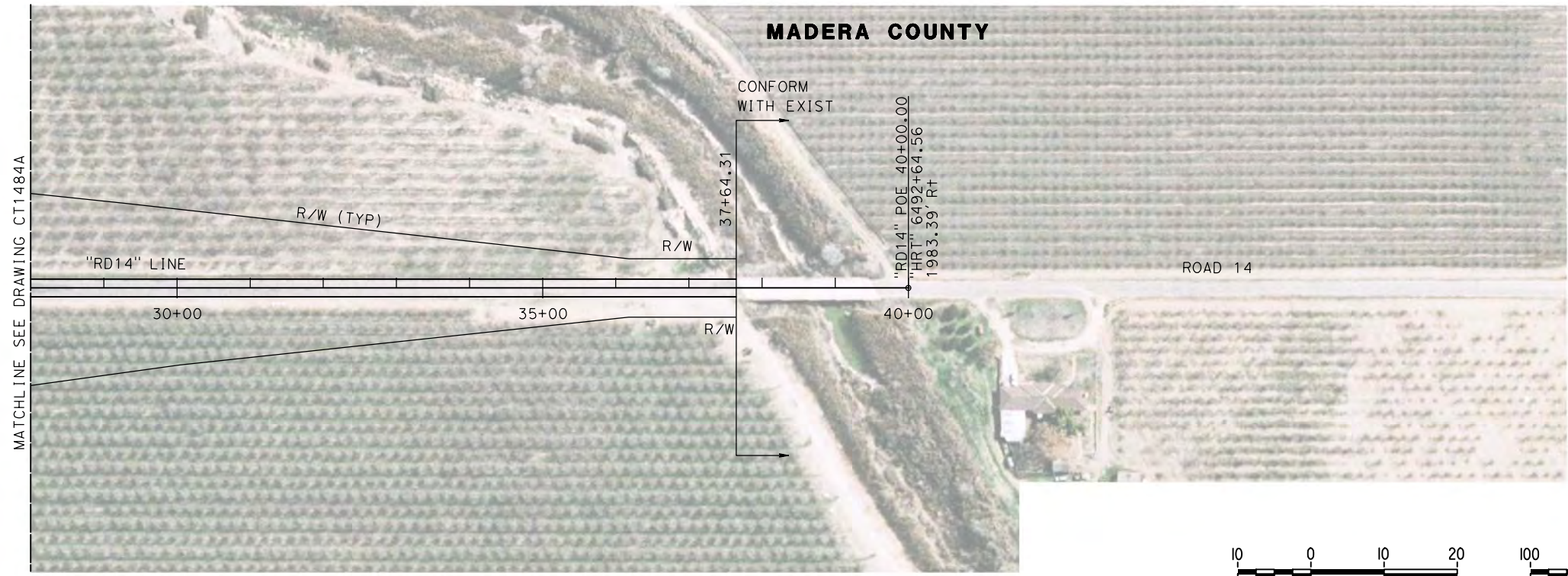
DRAWING NO.  
CT1484A

SCALE  
AS SHOWN

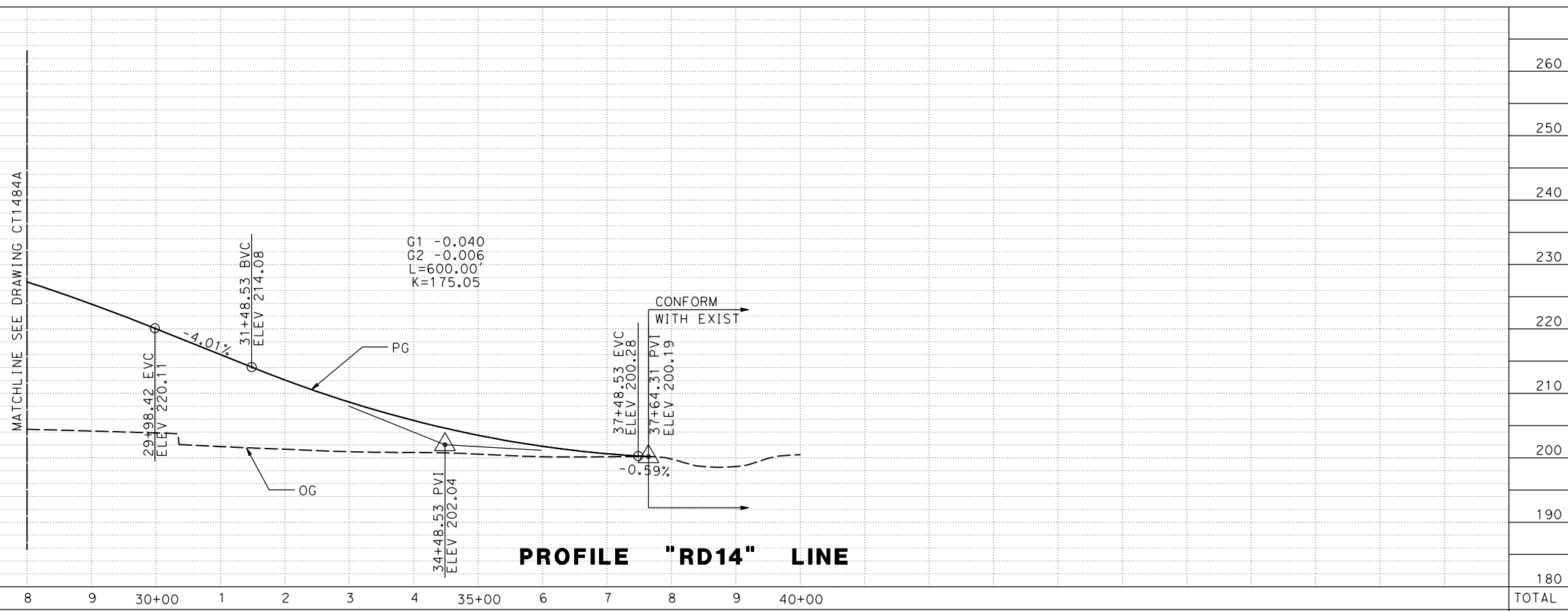
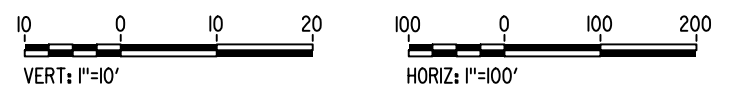
SHEET NO.  
1 OF 2

7/20/2011 6:29:33 PM c:\pwworking\ptgwise\p0039764\dms66816\JM-CT-1484A.dgn





**PLAN**



**PROFILE "RD14" LINE**

7/20/2011 6:29:49 PM c:\pw\_working\ptgwiseb\p0039764\dms66816\JM-CT-1485A.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**P. JACOBY**  
DRAWN BY  
**ALBERT S.**  
CHECKED BY  
**RESHMA C.**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**



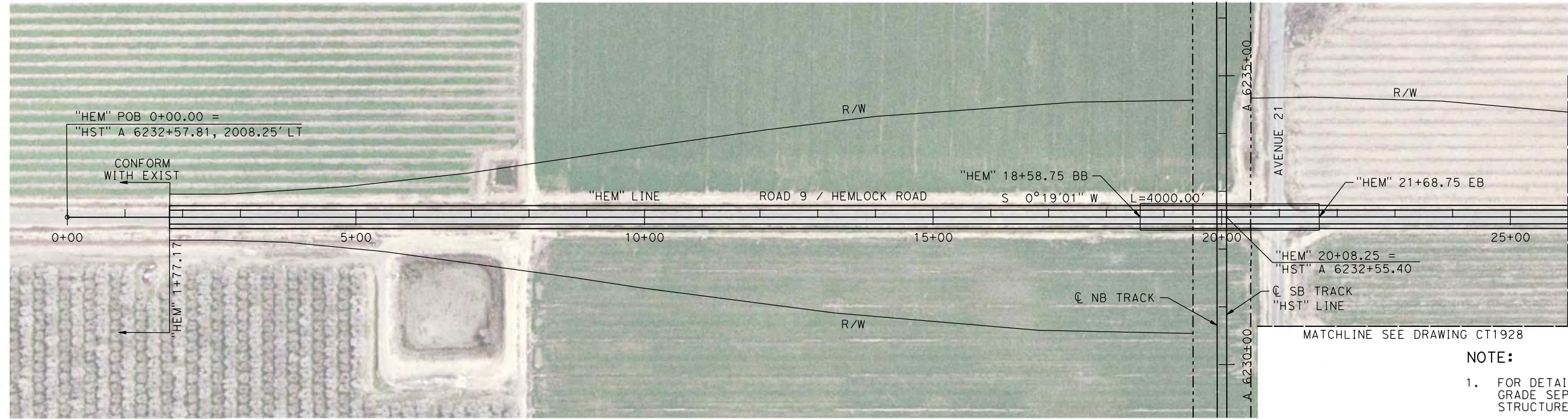
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 24/SR 152/AVENUE 21  
ROAD 14 GRADE SEPARATION  
PLAN AND PROFILE

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1485A  
SCALE  
AS SHOWN  
SHEET NO.  
2 OF 2



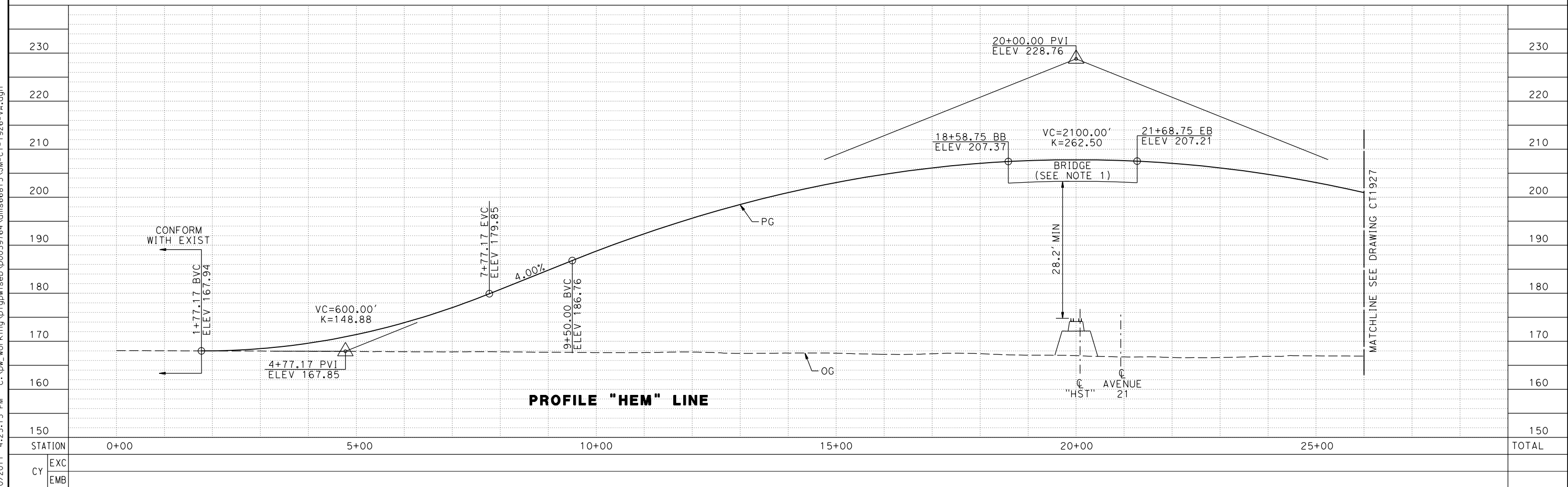
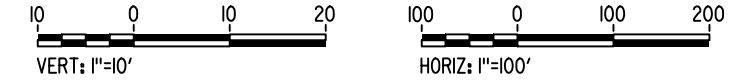
MADERA COUNTY



PLAN

NOTE:

- FOR DETAILS OF ROAD 9 / HEMLOCK ROAD GRADE SEPARATION BRIDGE SEE STRUCTURE, VIADUCT, AND TUNNEL PLANS.



PROFILE "HEM" LINE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

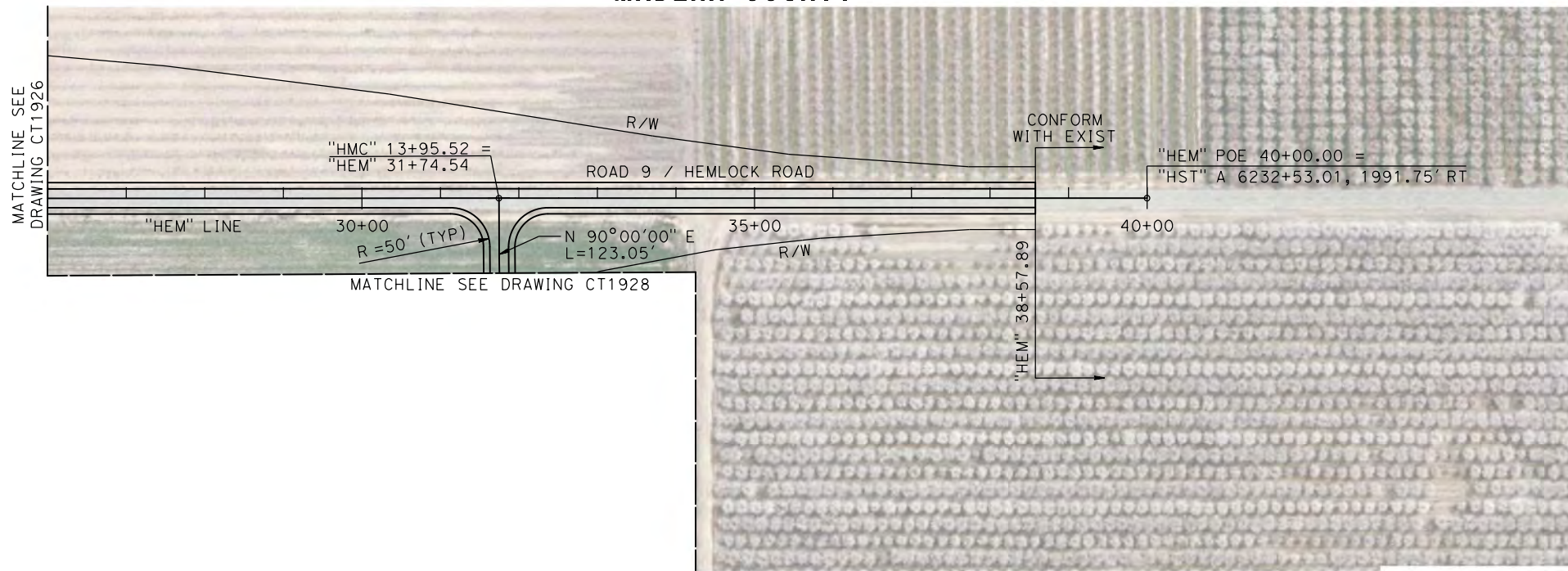
BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 9 / HEMLOCK ROAD GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1926  
SCALE  
AS NOTED  
SHEET NO.

7/20/2011 4:23:15 PM c:\pwworking\ptgipw\seeb\p0039764\dms66815\JM-CT-1926-VA.dgn



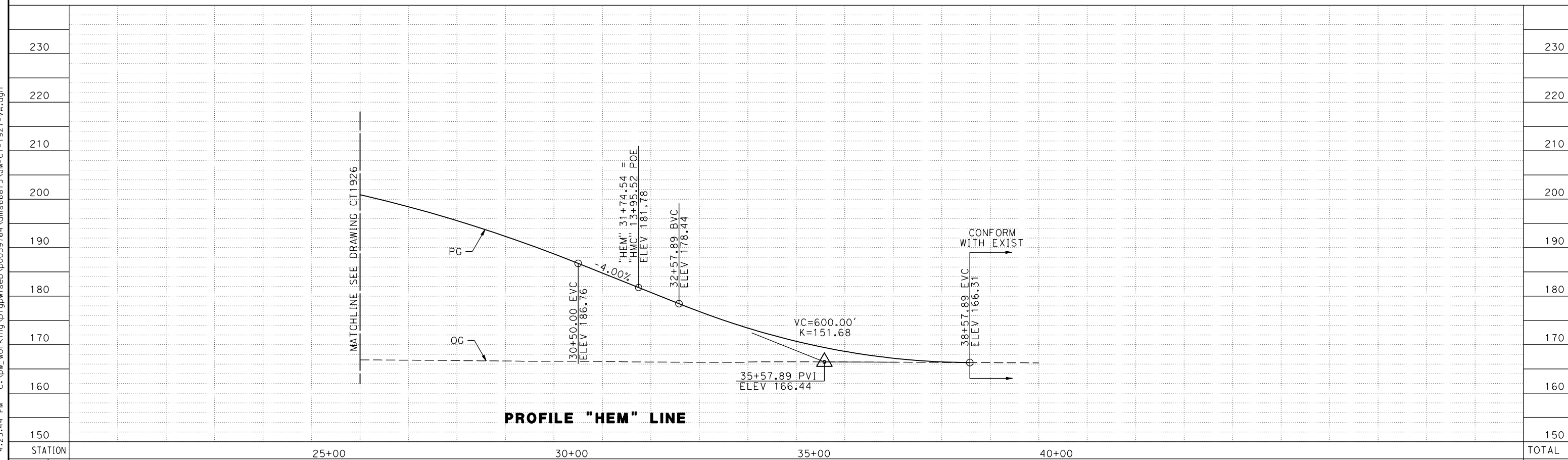
MADERA COUNTY



NOTE:

- SEE DRAWING CT1928 FOR DETAILS OF ROAD 9 / HEMLOCK ROAD TO AVENUE 21 CONNECTOR ROAD "HMC" LINE.

PLAN



PROFILE "HEM" LINE

STATION	25+00	30+00	35+00	40+00	TOTAL
EXC					
EMB					

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**



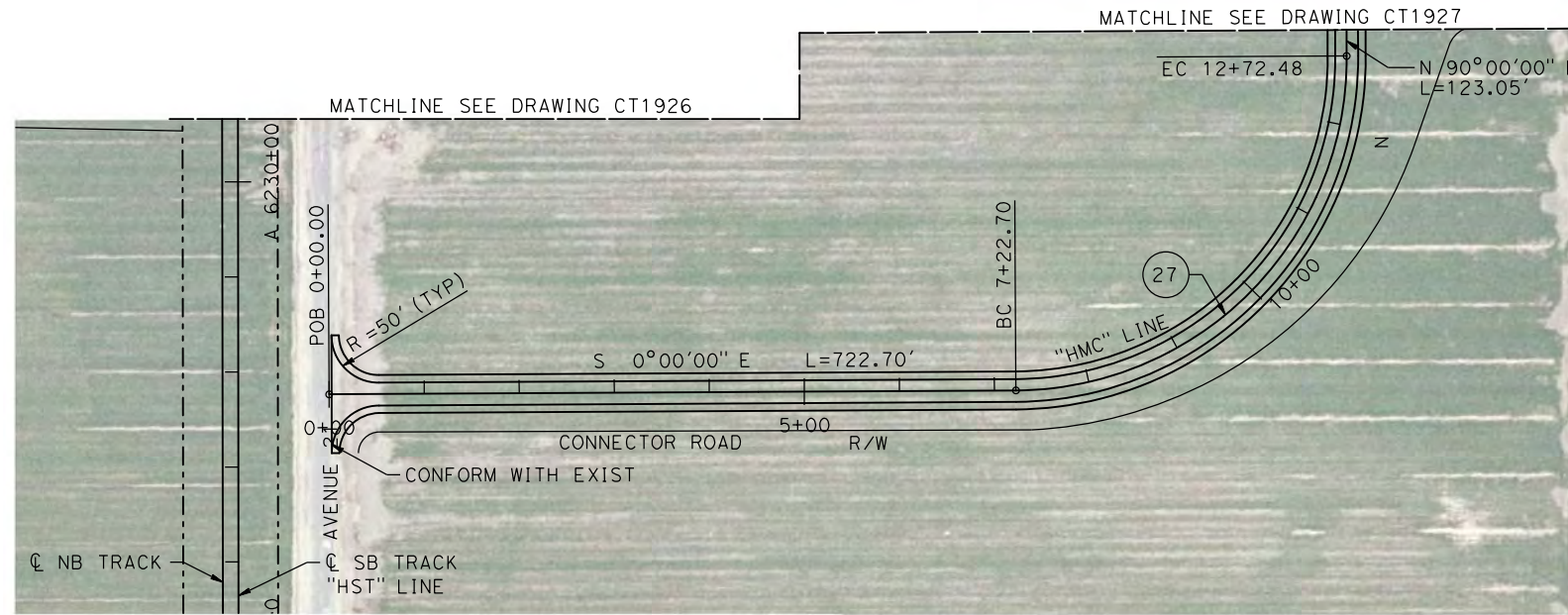
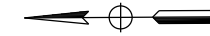
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 9 / HEMLOCK ROAD GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1927  
SCALE  
AS NOTED  
SHEET NO.

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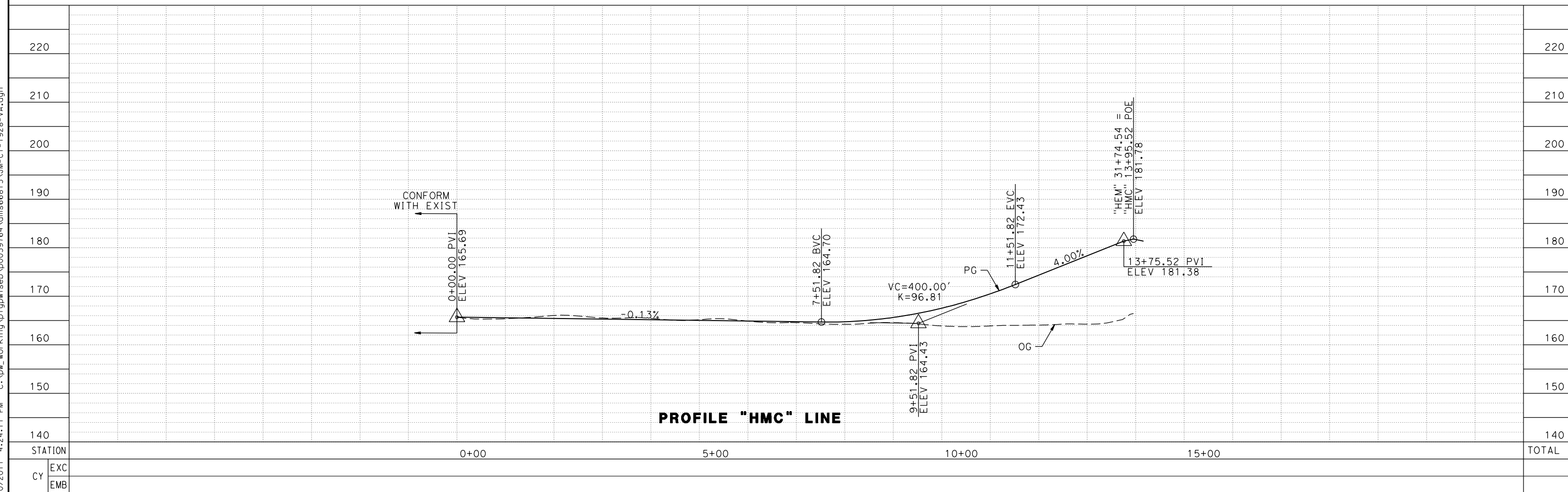
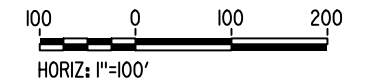
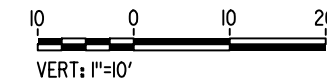
MADERA COUNTY



NOTE:

- SEE DRAWINGS CT1926 AND CT1927 FOR DETAILS OF ROAD 9 / HEMLOCK ROAD "HEM" LINE.

PLAN



PROFILE "HMC" LINE

7/20/2011 4:24:11 PM c:\pw\_working\ptgwiseb\p0039764\dms66815\JM-CT-1928-VA.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**

DRAWN BY  
**R. BROWNE**

CHECKED BY  
**M. SANTOS**

IN CHARGE  
**D. WEMMER**

DATE  
**4/15/2011**

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USE ONLY**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 9 / HEMLOCK ROAD GRADE SEPARATION

CONTRACT NO.  
HSR08-05

DRAWING NO.  
CT1928

SCALE  
AS NOTED

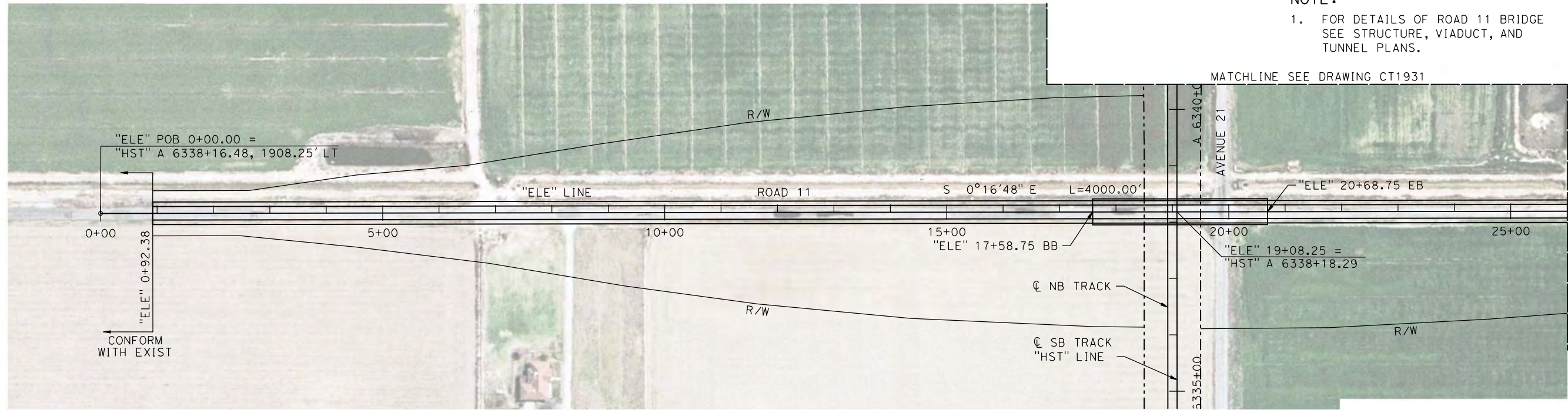
SHEET NO.



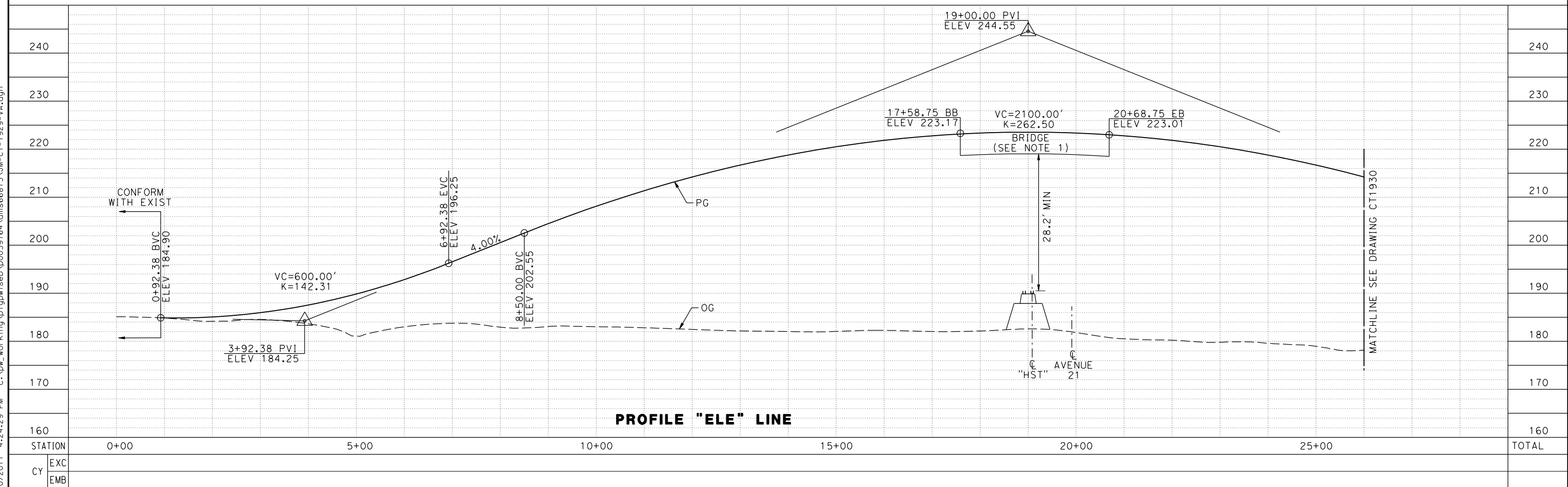
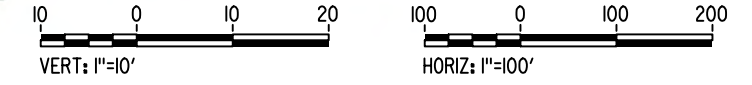
MADERA COUNTY

NOTE:

- FOR DETAILS OF ROAD 11 BRIDGE SEE STRUCTURE, VIADUCT, AND TUNNEL PLANS.



PLAN



PROFILE "ELE" LINE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

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SUBMITTAL  
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USE ONLY**

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CONSTRUCTION**



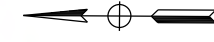
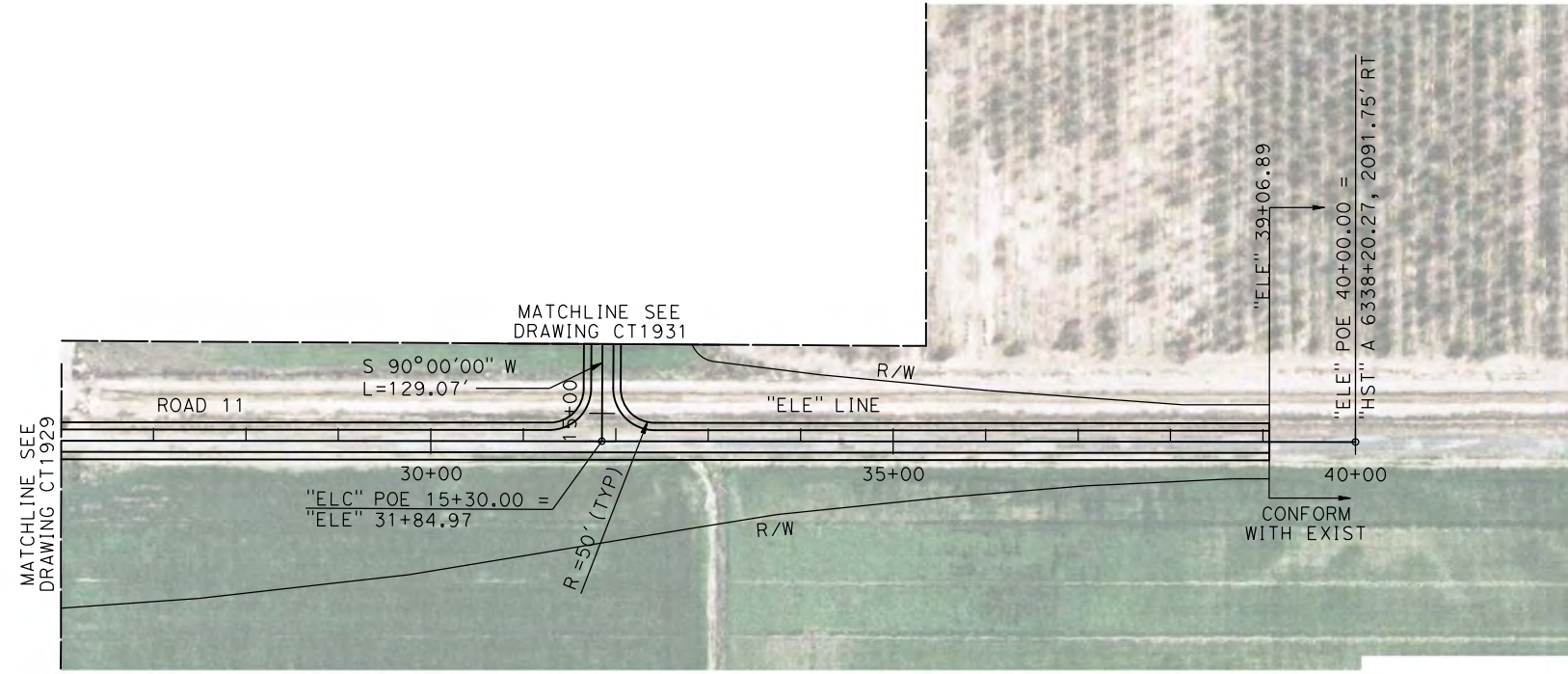
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 11 GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1929  
SCALE  
AS NOTED  
SHEET NO.

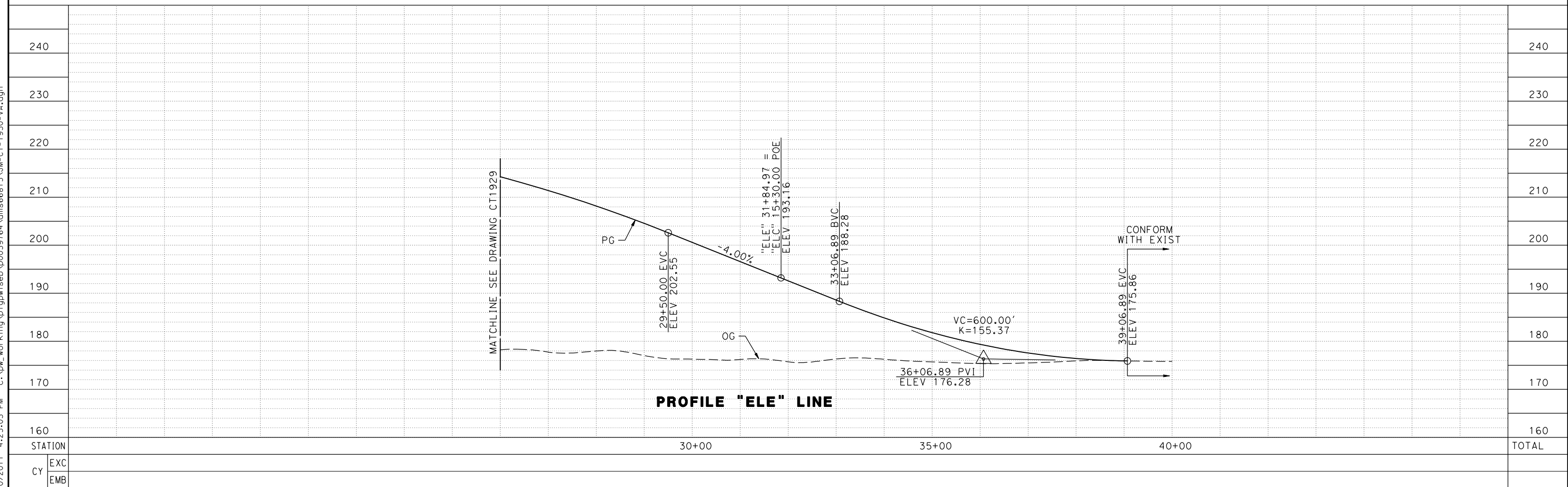
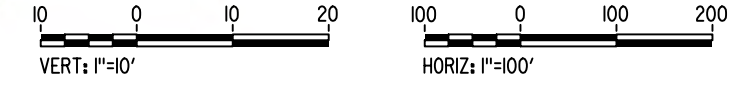
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MADERA COUNTY



**NOTE:**  
1. SEE DRAWING CT1931 FOR DETAILS OF ROAD 11 TO AVENUE 21 CONNECTOR ROAD "ELC" LINE.

PLAN



PROFILE "ELE" LINE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

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CONSTRUCTION**



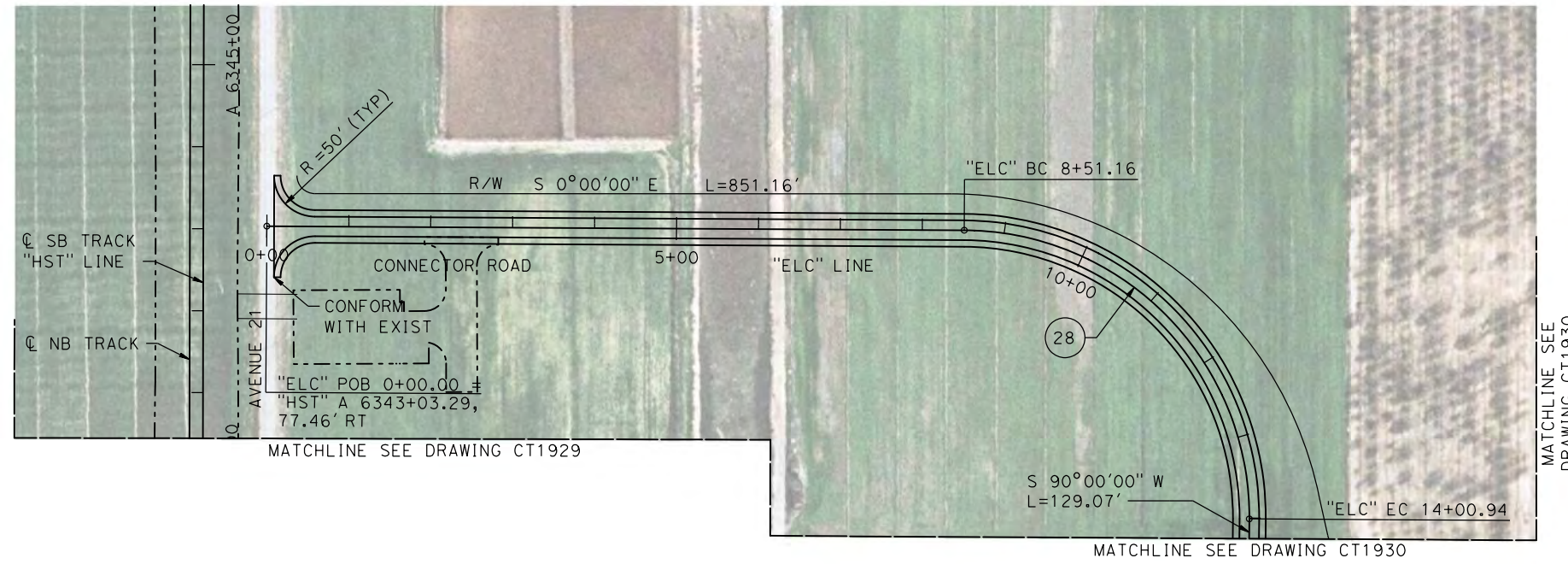
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 11 GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1930  
SCALE  
AS NOTED  
SHEET NO.

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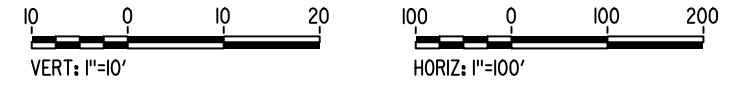


MADERA COUNTY

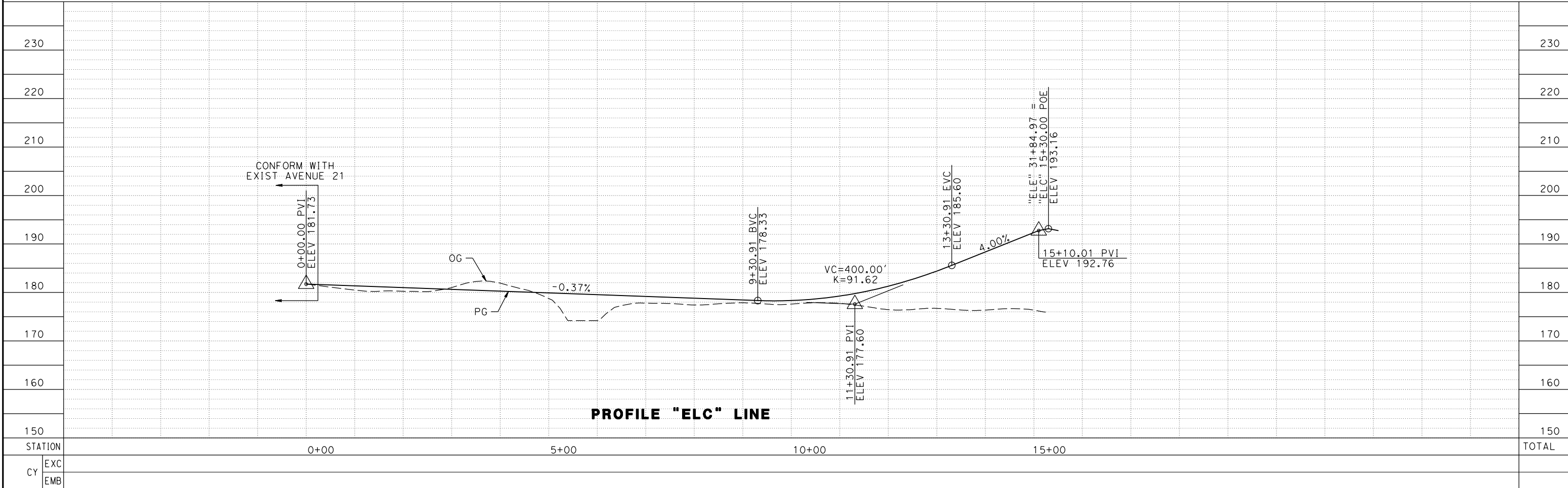


NOTE:

- 1. SEE DRAWINGS CT1929 AND CT1930 FOR DETAILS OF ROAD 11 "ELE" LINE.



PLAN



PROFILE "ELC" LINE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

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**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 11 GRADE SEPARATION

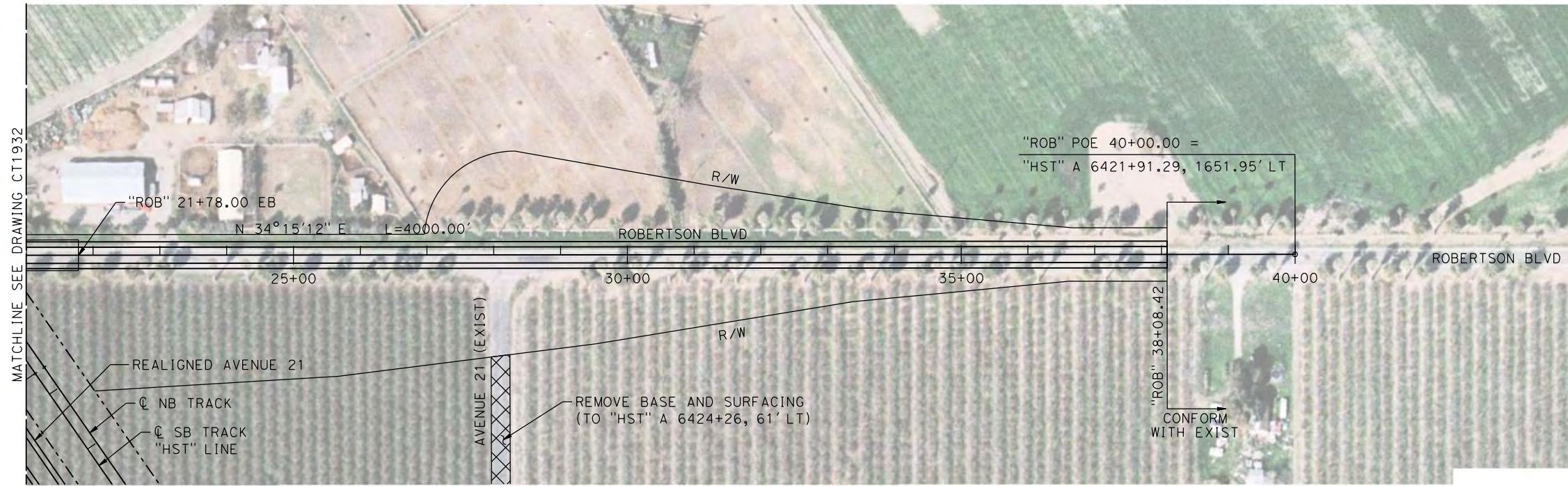
CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1931  
SCALE  
AS NOTED  
SHEET NO.

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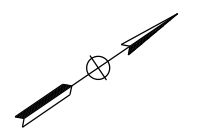




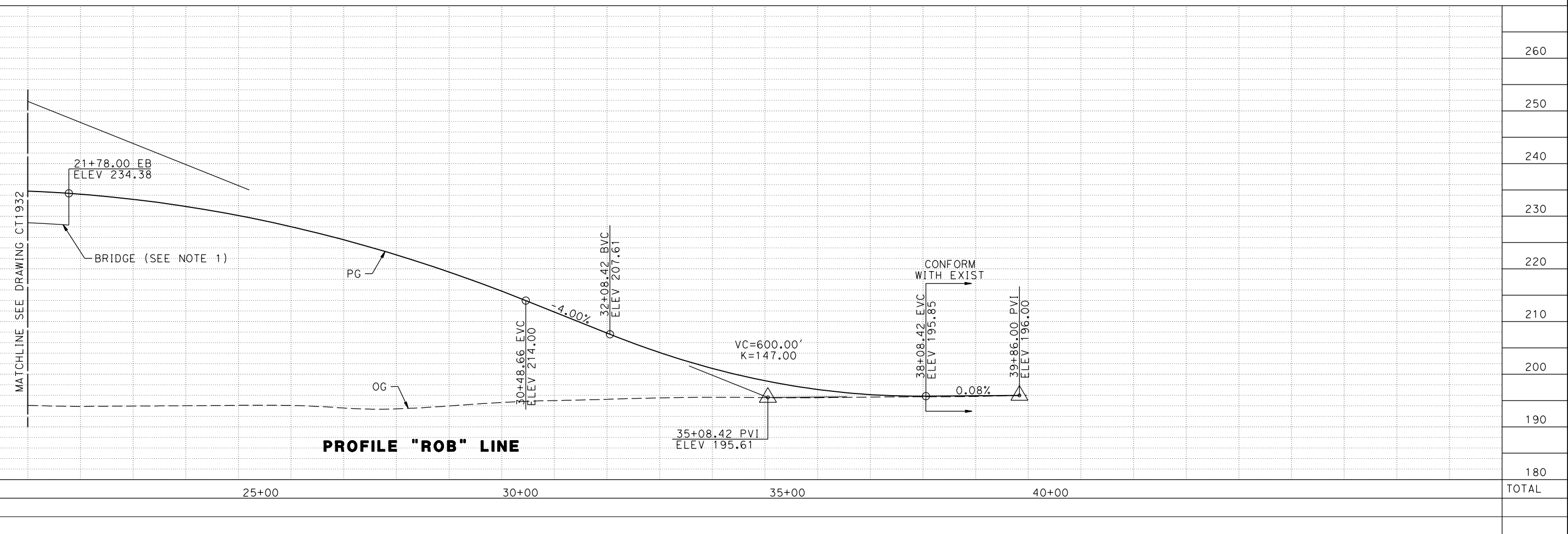
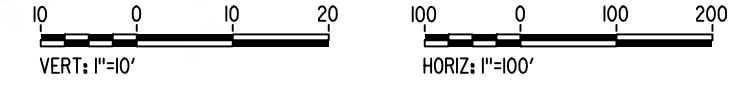
MADERA COUNTY



NOTE:  
1. FOR DETAILS OF ROBERTSON BLVD BRIDGE SEE STRUCTURE, VIADUCT AND TUNNEL PLANS.



PLAN



PROFILE "ROB" LINE

7/20/2011 4:26:22 PM c:\pwworking\ptg\pwiseb\p0039764\dms66815\JM-CT-1933-VA.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

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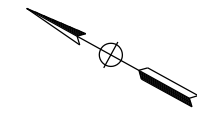
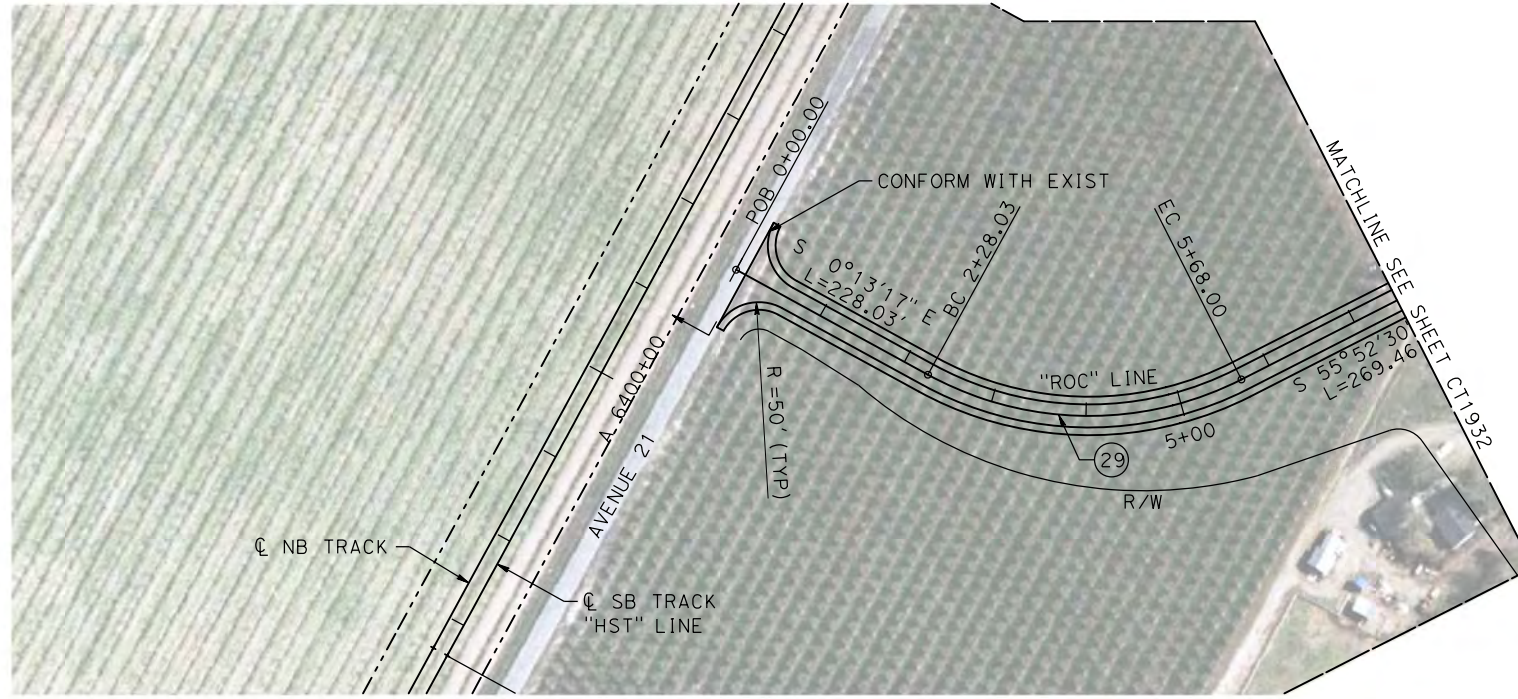
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROBERTSON BLVD GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1933  
SCALE  
AS NOTED  
SHEET NO.



MADERA COUNTY



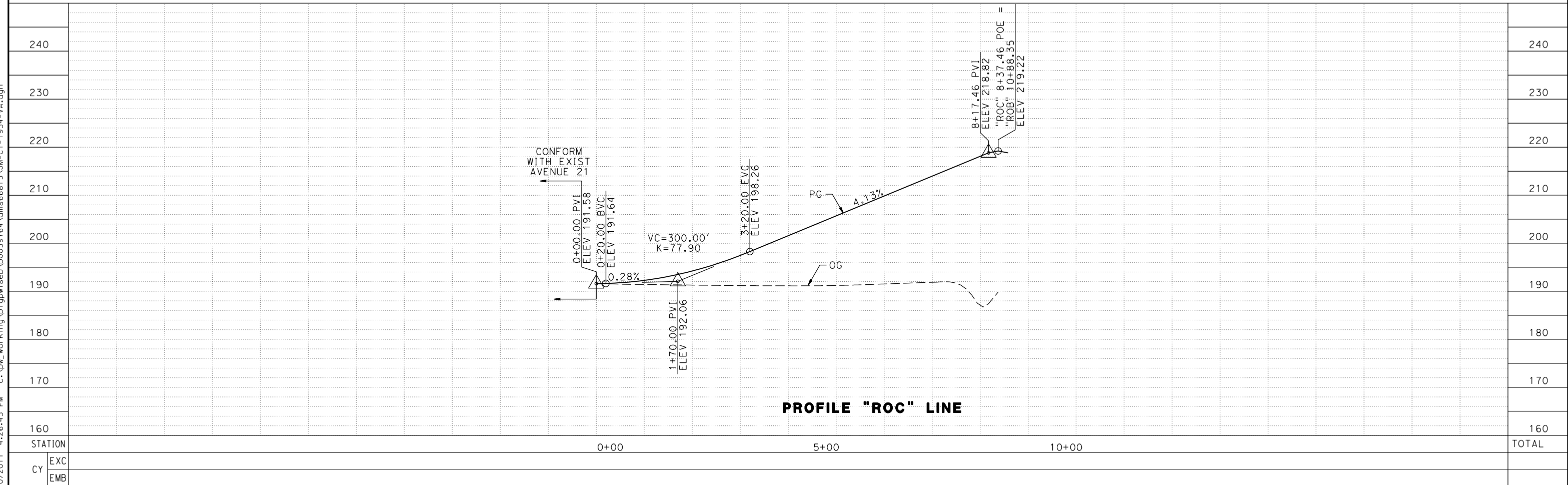
NOTE:

- SEE DRAWINGS CT1932 AND CT1933 FOR DETAILS OF ROBERTSON BLVD "ROB" LINE.



PLAN

PROFILE "ROC" LINE



7/20/2011 4:26:45 PM c:\pw\_working\ptgwiseb\p0039764\dms66815\JM-CT-1934-VA.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**

DRAWN BY  
**R. BROWNE**

CHECKED BY  
**M. SANTOS**

IN CHARGE  
**D. WEMMER**

DATE  
**4/15/2011**

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USE ONLY**

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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
 AVENUE 21  
 PLAN AND PROFILE  
 ROBERTSON BLVD GRADE SEPARATION

CONTRACT NO.  
HSR08-05

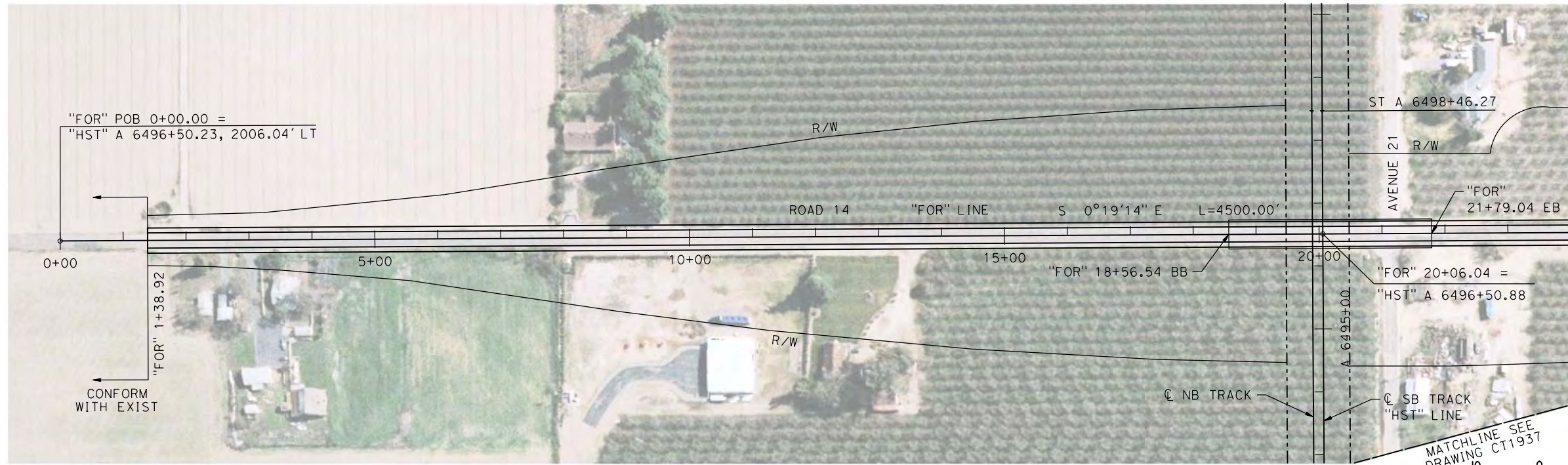
DRAWING NO.  
CT1934

SCALE  
AS NOTED

SHEET NO.

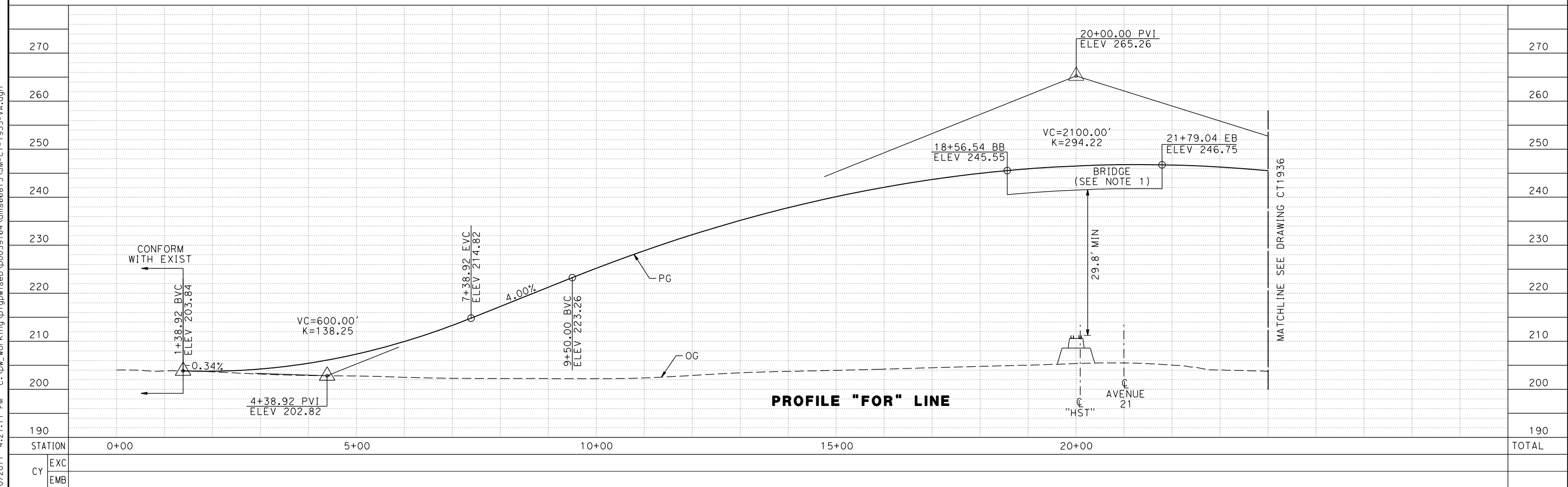
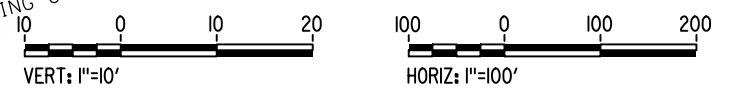


MADERA COUNTY



NOTE:  
1. FOR DETAILS OF ROAD 14 BRIDGE SEE STRUCTURE, VIADUCT, AND TUNNEL PLANS.

PLAN



PROFILE "FOR" LINE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

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FOR INTERNAL  
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CONSTRUCTION**



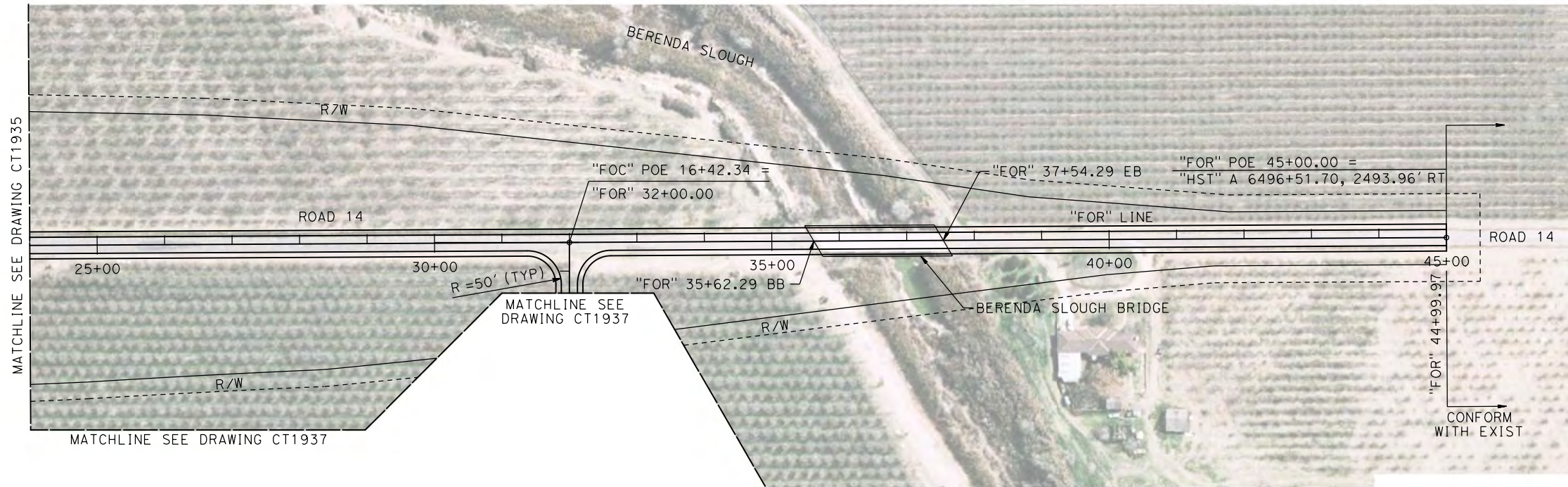
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**  
BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 14 GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1935  
SCALE  
AS NOTED  
SHEET NO.

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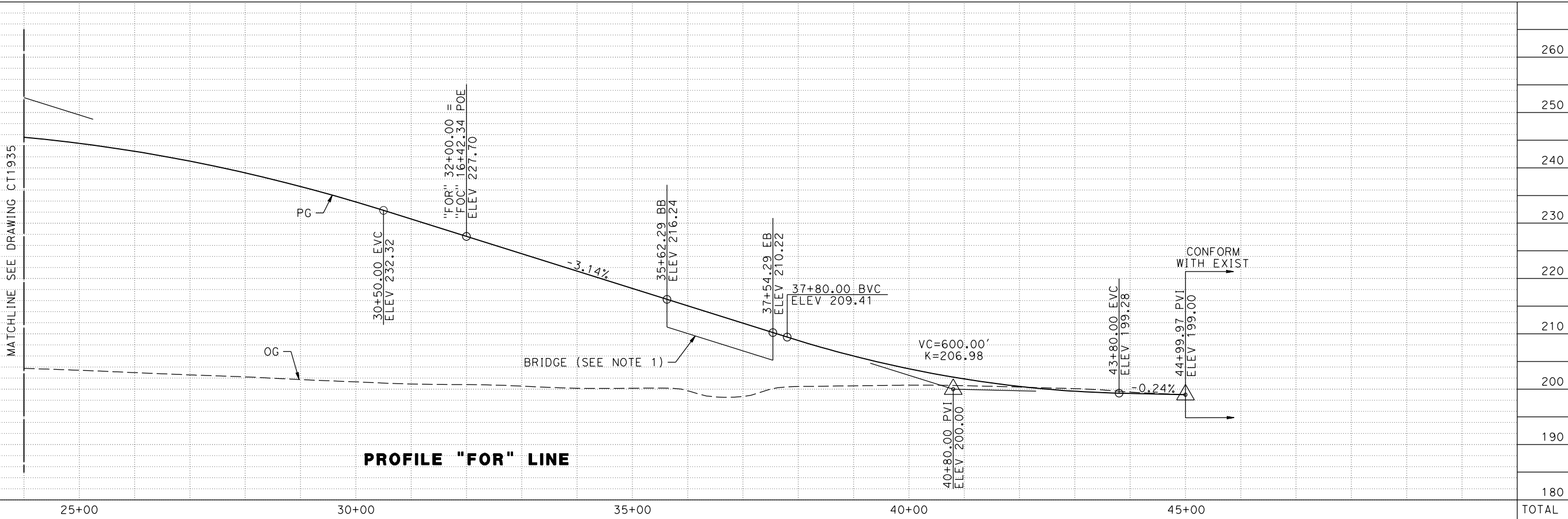


MADERA COUNTY



- NOTE:**
1. FOR BERENDA SLOUGH BRIDGE SEE STRUCTURE, VIADUCT, AND TUNNEL PLANS.
  2. SEE DRAWING CT1937 FOR DETAILS OF ROAD 14 TO AVENUE 21 CONNECTOR ROAD "FOC" LINE.

PLAN



PROFILE "FOR" LINE

7/20/2011 4:27:27 PM c:\pwworking\ptgwise\p0039764\dms66815\JM-CT-1936-VA.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**

DRAWN BY  
**R. BROWNE**

CHECKED BY  
**M. SANTOS**

IN CHARGE  
**D. WEMMER**

DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
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USE ONLY**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**

**MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 14 GRADE SEPARATION

CONTRACT NO.  
HSR08-05

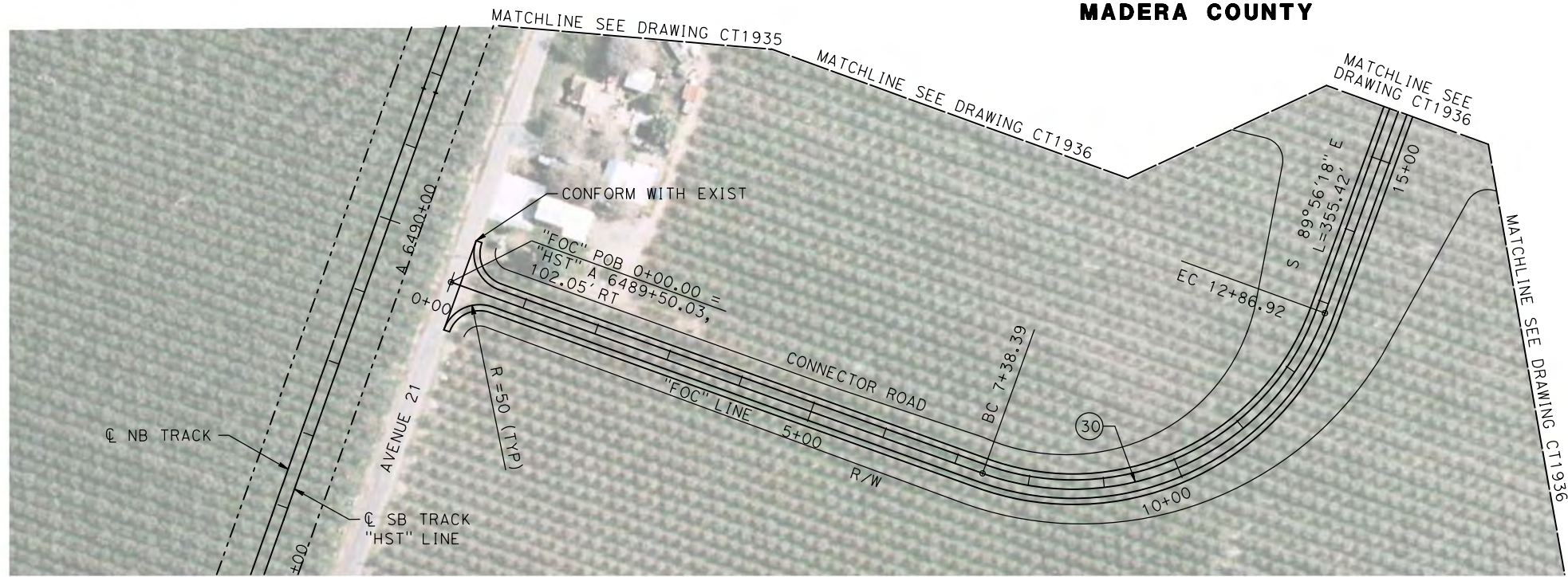
DRAWING NO.  
CT1936

SCALE  
AS NOTED

SHEET NO.

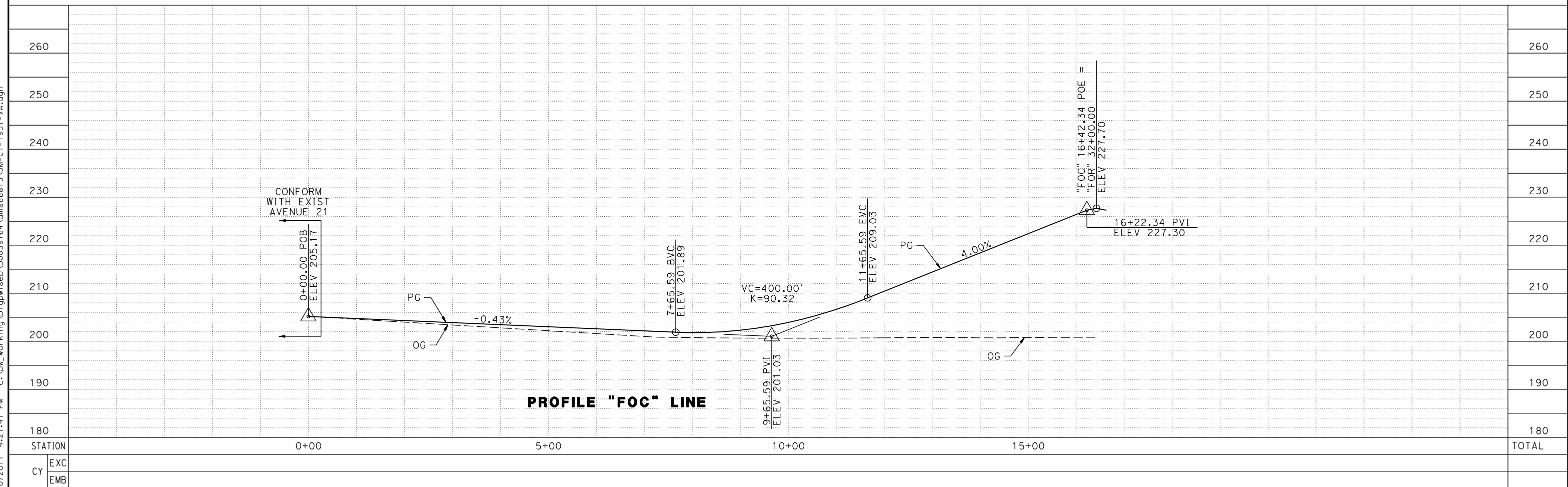
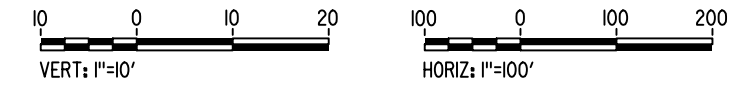


MADERA COUNTY



PLAN

NOTE:  
1. SEE DRAWINGS CT1935 AND CT1936 FOR DETAILS OF ROAD 14 "FOR" LINE.



PROFILE "FOC" LINE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. S. M.**  
DRAWN BY  
**R. BROWNE**  
CHECKED BY  
**M. SANTOS**  
IN CHARGE  
**D. WEMMER**  
DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 21  
PLAN AND PROFILE  
ROAD 14 GRADE SEPARATION

CONTRACT NO.  
HSR08-05  
DRAWING NO.  
CT1937  
SCALE  
AS NOTED  
SHEET NO.

7/20/2011 4:27:47 PM c:\pw\_working\ptgwiseb\p0039764\dms66815\JM-CT-1937-VA.dgn

7/22/2011 12:17:33 PM P:\60022962\Task\_02\_Merced-Fresno\cadd\Civil\Sheet\Package 4 - Ave 21 Hybrid Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Index of Drawings\B6990-B.dgn

LOCATION NO.	SHT NO.	DWG NO.	DRAWING TITLE LINE 3	DRAWING TITLE LINE 4	DRAWING TITLE LINE 5	DRAWING TITLE LINE 6
GENERAL						
		B6990-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 1 OF 2
		B6991-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 2 OF 2
		B6992-B	AVE 21 HYBRID	GENERAL	ABBREVIATIONS, SYMBOLS AND NOTES	SHEET 1 OF 1
		B7000-B	AVE 21 HYBRID		INDEX MAP	SHEET 1 OF 2
		B7001-B	AVE 21 HYBRID		INDEX MAP	SHEET 2 OF 2
		CB7005-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	KEY MAP	SHEET 1 OF 1
		CB7006-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	KEY MAP	SHEET 1 OF 1
		CT6990-B	AVE 21 HYBRID	HIGHWAY	TYPICAL CROSS SECTIONS	SHEET 1 OF 2
		CT6991-B	AVE 21 HYBRID	HIGHWAY	TYPICAL CROSS SECTIONS	SHEET 2 OF 2
		CT6992-B	AVE 21 HYBRID		GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN	SHEET 1 OF 2
		CT6993-B	AVE 21 HYBRID		GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN	SHEET 2 OF 2
AVE 21 HYBRID (LAYOUT)						
43		CT2001-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 8	LAYOUT	SHEET 1 OF 3
43		CT2002-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 8	LAYOUT	SHEET 2 OF 3
43		CT2003-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 8	LAYOUT	SHEET 3 OF 3
44		CT2004-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - SR 145	LAYOUT	SHEET 1 OF 3
44		CT2005-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - SR 145	LAYOUT	SHEET 2 OF 3
44		CT2006-A	BNSF MAIN LINE - (AVE 21 HYBRID)	GRADE SEPARATION - SR 145	LAYOUT	SHEET 3 OF 3
18		CT7034-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	LAYOUT	SHEET 1 OF 3
18		CT7035-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	LAYOUT	SHEET 2 OF 3
18		CT7036-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	LAYOUT	SHEET 3 OF 3
19		CT7037-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	LAYOUT	SHEET 1 OF 5
19		CT7038-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	LAYOUT	SHEET 2 OF 5
19		CT7039-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	LAYOUT	SHEET 3 OF 5
19		CT7040-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	LAYOUT	SHEET 4 OF 5
19		CT7041-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	LAYOUT	SHEET 5 OF 5
19		CT7042-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD IC SR99 SB ON-RAMP	LAYOUT	SHEET 1 OF 2
19		CT7043-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD IC SR99 SB OFF-RAMP	LAYOUT	SHEET 2 OF 2
AVE 21 HYBRID (PROFILE)						
43		CT3001-A	BNSF MAINLINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 8	PROFILE	SHEET 1 OF 3
43		CT3002-A	BNSF MAINLINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 8	PROFILE	SHEET 2 OF 3
43		CT3003-A	BNSF MAINLINE - (AVE 21 HYBRID)	GRADE SEPARATION - AVENUE 8	PROFILE	SHEET 3 OF 3
44		CT3004-A	BNSF MAINLINE - (AVE 21 HYBRID)	UNDERPASS - YOSEMITE AVE (SR 145)	PROFILE	SHEET 1 OF 3
44		CT3005-A	BNSF MAINLINE - (AVE 21 HYBRID)	UNDERPASS - YOSEMITE AVE (SR 145)	PROFILE	SHEET 2 OF 3
44		CT3006-A	BNSF MAINLINE - (AVE 21 HYBRID)	UNDERPASS - YOSEMITE AVE (SR 145)	PROFILE	SHEET 3 OF 3
18		CT8045-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	PROFILE	SHEET 1 OF 3
18		CT8046-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	PROFILE	SHEET 2 OF 3
18		CT8047-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	PROFILE	SHEET 3 OF 3
19		CT8048-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	PROFILE	SHEET 1 OF 5
19		CT8049-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	PROFILE	SHEET 2 OF 5
19		CT8050-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	PROFILE	SHEET 3 OF 5
19		CT8051-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	PROFILE	SHEET 4 OF 5
19		CT8052-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION - LE GRAND RD INTERCHANGE	PROFILE	SHEET 5 OF 5
19		CT8053-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION-LE GRAND RD IC SR99 SB ON-RAMP	PROFILE	SHEET 1 OF 4
19		CT8054-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION-LE GRAND RD IC SR99 SB ON-RAMP	PROFILE	SHEET 2 OF 4
19		CT8055-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION-LE GRAND RD IC SR99 SB OFF-RAMP	PROFILE	SHEET 3 OF 4
19		CT8056-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GRADE SEPARATION-LE GRAND RD IC SR99 SB OFF-RAMP	PROFILE	SHEET 4 OF 4
		T-1	ROUTE 99 RE-ALIGNMENT		TITLE	
		X-1	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-2	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-3	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-4	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-5	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-6	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-7	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-8	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-9	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-10	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-11	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-12	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-13	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-14	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		X-15	ROUTE 99 RE-ALIGNMENT		TYPICAL CROSS SECTIONS	
		K-1	ROUTE 99 RE-ALIGNMENT		KEY MAP	
		L-1	ROUTE 99 RE-ALIGNMENT		LAYOUT	
		L-2	ROUTE 99 RE-ALIGNMENT		LAYOUT	
		L-3	ROUTE 99 RE-ALIGNMENT		LAYOUT	
		L-4	ROUTE 99 RE-ALIGNMENT		LAYOUT	
		L-5	ROUTE 99 RE-ALIGNMENT		LAYOUT	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID  
GENERAL  
INDEX OF DRAWINGS  
SHEET 1 OF 2

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
B6990-B  
SCALE  
NONE  
SHEET NO.  
### OF ###





**ABBREVIATIONS**

**ALIGNMENT**

HORIZONTAL  
 BC BEGINNING OF CURVE  
 EC END OF CURVE  
 PC POINT OF CURVE  
 PCC POINT OF COMPOUNT CURVES  
 PI POINT OF INTERSECTION OF TWO TANGENTS  
 POB POINT OF BEGINNING  
 POC POINT ON CURVE  
 POE POINT OF ENDING  
 POT POINT ON TANGENT  
 PRC POINT OF REVERSE CURVES  
 PT POINT OF TANGENCY  
 R RADIUS OF CURVATURE IN FEET  
 V, DS DESIGN VELOCITY IN MILES PER HOUR





VERTICAL  
 BVC BEGIN OF VERTICAL CURVE  
 EVC END OF VERTICAL CURVE  
 PVC POINT OF VERTICAL CURVE (BEGINNING OF CURVE)  
 PVI POINT OF VERTICAL INTERSECTION (OF TANGENTS)  
 PVT POINT OF VERTICAL TANGENCY (ENDING OF CURVE)  
 VC VERTICAL CURVE

**MISCELLANEOUS**

ALT ALTERNATIVE  
 AVE AVENUE  
 BB BEGIN BRIDGE  
 BEG BEGIN  
 BLVD BOULEVARD  
 CL CENTER LINE  
 CLR CLEAR  
 COL COLUMN  
 DWG DRAWING  
 EB END BRIDGE  
 ELEV ELEVATION  
 EQ EQUATION  
 ES EDGE OF SIDEWALK  
 ETW EDGE OF TRAVELED WAY  
 EXIST(E) EXISTING  
 FL FLOW LINE  
 HORIZ HORIZONTAL  
 HP HINGE POINT  
 HST HIGH SPEED TRAIN  
 HWY HIGHWAY  
 IC INTERCHANGE  
 IN INCH  
 L LENGTH  
 LT LEFT  
 MBGR METAL BEAM GUARD RAIL  
 ML MAINLINE  
 MPH MILES PER HOUR  
 MAX MAXIMUM  
 MIN MINIMUM  
 N NORTH  
 NB NORTH BOUND  
 No, NO NUMBER  
 NTS NOT TO SCALE  
 OG ORIGINAL GROUND  
 O/H OH OVERHEAD  
 PG&E PACIFIC GAS & ELECTRIC  
 PGL, FG PROFILE GRADE LINE  
 RET RETAINING  
 RR RAILROAD  
 RD ROAD  
 R/W RIGHT OF WAY  
 RT RIGHT  
 SB SOUTH BOUND  
 SHLD SHOULDER  
 SR STATE ROUTE  
 SHT SHEET  
 SS SANITARY SEWER  
 SSD STOPPING SIGHT DISTANCE  
 ST STREET  
 STA STATION  
 STD STANDARD  
 SD STORM DRAIN  
 STRUCT, STR STRUCTURE  
 T TANGENT  
 TEL TELEPHONE  
 (OH) OVERHEAD LINE  
 (UG) UNDERGROUND LINE

TOR TOP OF RAIL  
 TK TRACK  
 TYP TYPICAL  
 TBD TO BE DETERMINED  
 TF TELECOMMUNICATIONS FIBER OPTIC  
 UPRR UNION PACIFIC RAILROAD  
 VAR VARIES  
 V VERT VERTICAL  
 W WATER, WEST

**SYMBOLS**

— — — — — MATCH LINE  
 ————— HST TRACK  
 — — — — — PROPOSED HST RIGHT-OF-WAY  
 — + — + — FREIGHT/PASSENGER TRACK - EXISTING  
 — — — — — EXISTING RIGHT-OF-WAY OR EXISTING BRIDGE FEATURES  
 —▲—▲—▲— RETAINING WALLS  
 - - - - - ORIGINAL GROUND  
 ——— G16 ——— GAS LINE (16")  
 - - - TC ——— COMMUNICATION LINE  
 - — W ——— WATER LINE  
 — FO ——— FIBER OPTIC LINE  
 — — E ——— ELECTRICAL LINE  
 × ELECTRICAL TOWER  
 — — — S ——— SEWER LINE  
 - - - SD ——— STORM DRAIN LINE  
 — — — 0 ——— FUEL LINE  
 - - - TC ——— TELEPHONE LINE  
 ——— P12 ——— PETROLEUM LINE (12")  
 ——— (OH) ——— OVERHEAD  
 NORTH ARROW  
 PVI  
 MBGR  
 DIRECTION OF TRAVEL  
 ——— 250 ——— PROPOSED CONTOUR

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
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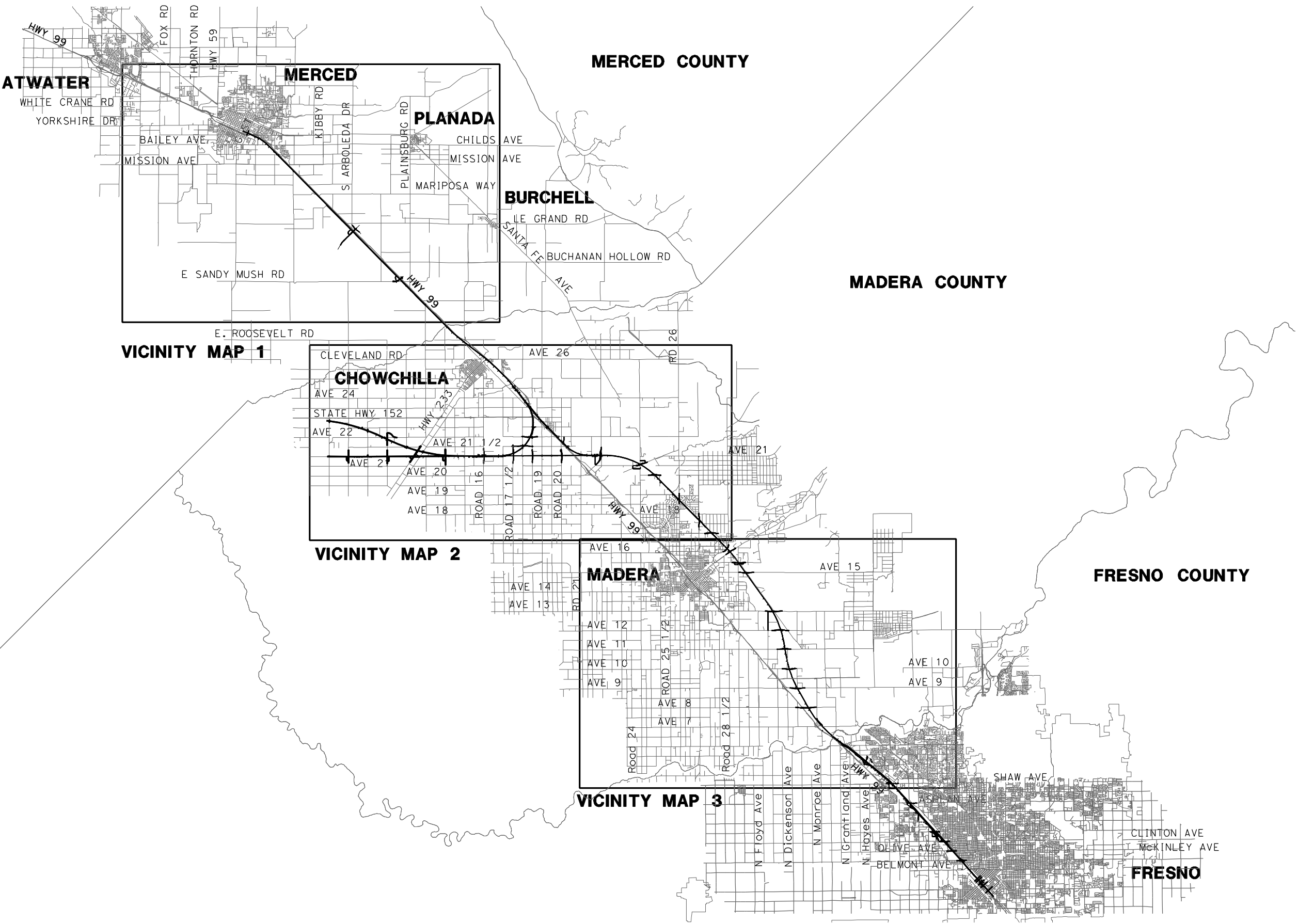


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID  
 GENERAL  
 ABBREVIATIONS, SYMBOLS AND NOTES  
 SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
B6992-B  
 SCALE  
NO SCALE  
 SHEET NO.  
### OF ###



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DESIGNED BY  
**D. AYELE**  
DRAWN BY  
**A. TRINH**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

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**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
AVE 21 HYBRID

INDEX MAP  
SHEET 1 OF 2

CONTRACT NO.  
HSR06-007

DRAWING NO.  
B7000-B

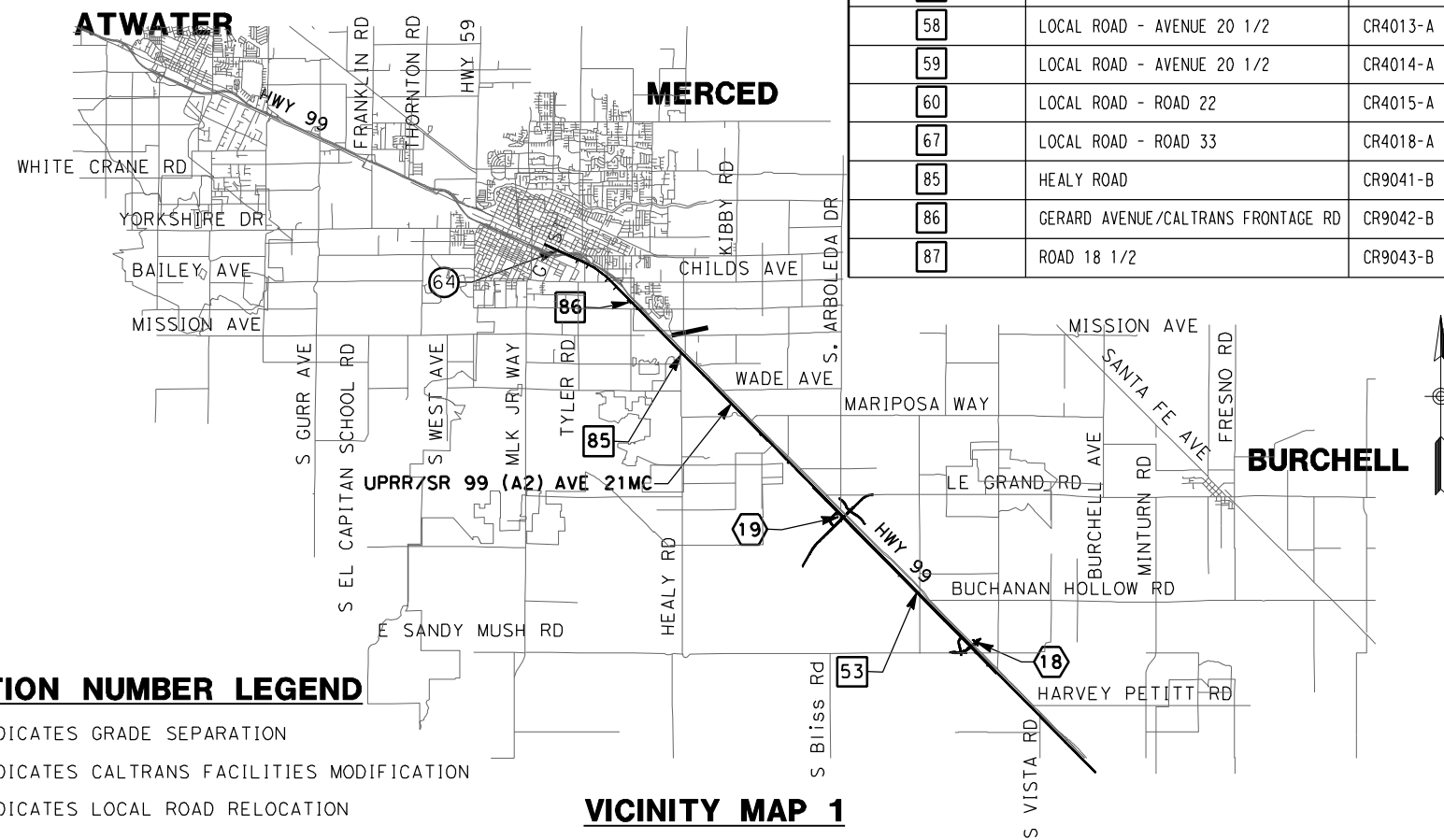
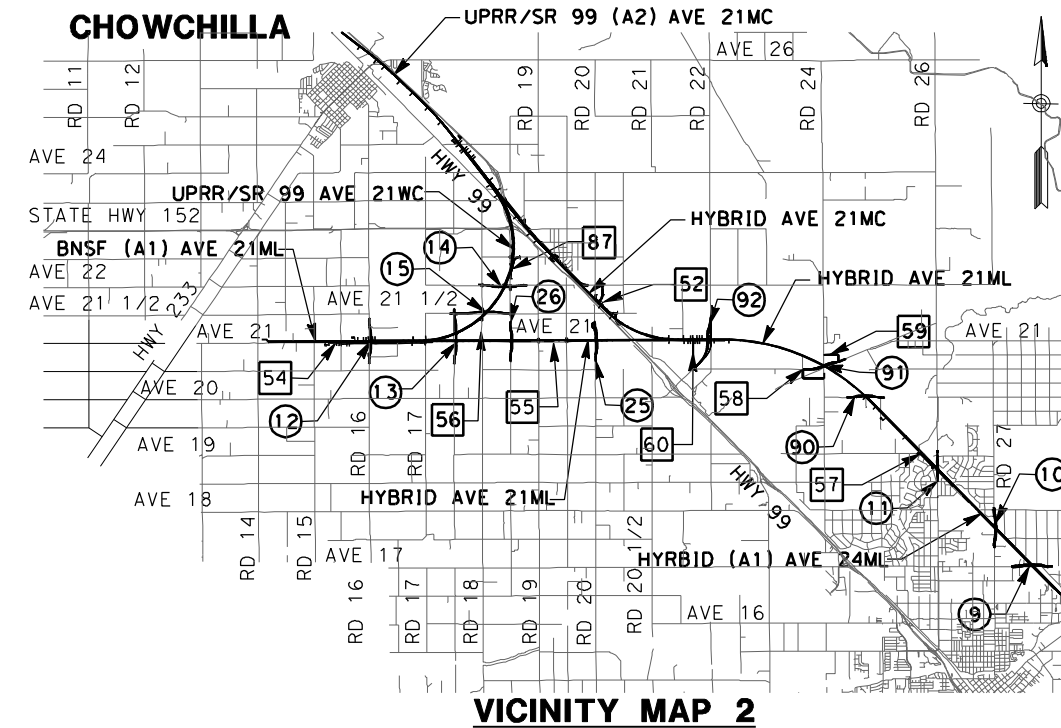
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SHEET NO.  
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LOCATION NO.	SHEET TITLE	ROADWAY DWG NO.	STR DWG NO.
1	GRADE SEPARATION - AVENUE 9	CT0001-A - CT0003-A	ST1001
2	GRADE SEPARATION - AVENUE 10	CT0004-A - CT0006-A	ST1002
3	GRADE SEPARATION - AVENUE 11	CT0007-A - CT0009-A	ST1003
4	GRADE SEPARATION - AVENUE 12	CT0010-A - CT0012-A	ST1004
5	GRADE SEPARATION - AVENUE 13	CT0013-A - CT0016-A	ST1005
6	GRADE SEPARATION - AVENUE 15	CT0017-A - CT0019-A	ST1006
7	GRADE SEPARATION - AVENUE 15 1/2	CT0020-A - CT0022-A	ST1007
8	GRADE SEPARATION - RAYMOND RD	CT0023-A - CT0025-A	ST1008
9	GRADE SEPARATION - AVENUE 17	CT0026-A - CT0028-A	ST1009
10	GRADE SEPARATION - ROAD 27	CT0029-A - CT0031-A	ST1010
11	GRADE SEPARATION - ROAD 26	CT0032-A - CT0034-A	ST1011
12	GRADE SEPARATION - ROAD 16	CT5000-B - CT5003-B	ST1101
13	GRADE SEPARATION - ROAD 17 1/2	CT5004-B - CT5007-B	ST1102 - ST1103
14	GRADE SEPARATION - AVENUE 22	CT5016-B - CT5018-B	ST1106
15	GRADE SEPARATION - AVENUE 21 1/2	CT5019-B - CT5022-B	ST1115
25	GRADE SEPARATION - ROAD 20	CT0076-A - CT0078-A	ST1026
26	GRADE SEPARATION - ROAD 18 1/2	CT0079-A - CT0081-A	ST1027
64	GRADE SEPARATION - G STREET	CT0149-A	ST1180

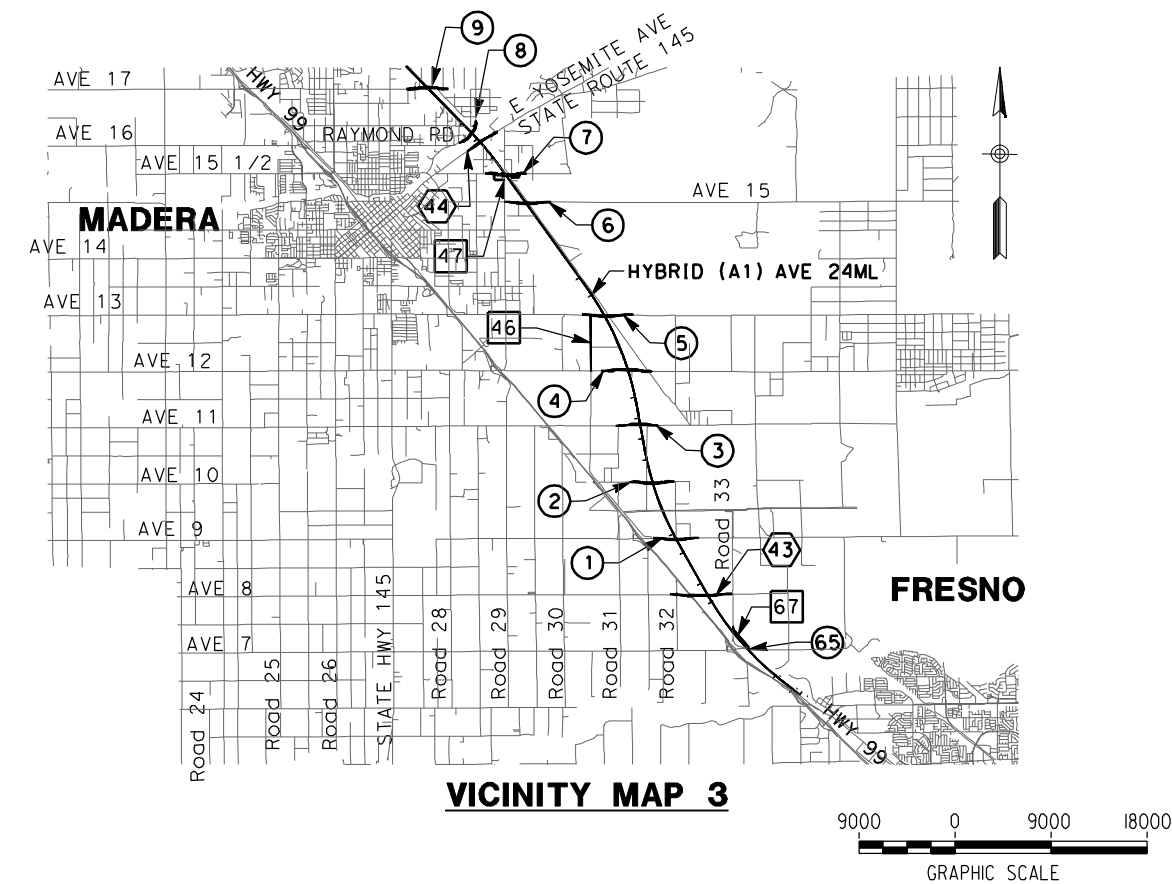
LOCATION NO.	SHEET TITLE	ROADWAY DWG NO.	STR DWG NO.
65	GRADE SEPARATION - AVENUE 7	CT0146-A - CT0148-A	ST1070
90	GRADE SEPARATION - AVENUE 20	CT0066-A - CT0068-A	ST1090
91	GRADE SEPARATION - AVENUE 20 1/2	CT0069-A - CT0071-A	ST1091
92	GRADE SEPARATION - ROAD 22	CT0073-A - CT0075-A	ST1092
18	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	CT7034-B - CT7036-B	ST1113
19	GRADE SEPARATION - LE GRAND RD INTERCHANGE	CT7037-B - CT7043-B	ST1114
43	CALTRANS - AVENUE 8	CT2001-A - CT2003-A	ST1000
44	CALTRANS - SR 145	CT2004-A - CT2006-A	
46	LOCAL ROAD - ROAD 30 1/2	CR4000-A	
47	LOCAL ROAD - ROAD 29	CR4001-A	
52	FAIRMEAD BLVD	CR9017-B - CR9020-B	
53	PROPOSED WEST FRONTAGE ROAD	CR9021-B - CR9028-B	
54	AVENUE 21	CR9029-B	
	AVENUE 21	CR9032-B - CR9033-B	
55	ROAD 19 & ROAD 19 1/2	CR9040-B	
56	ROAD 18	CR9035-B	
57	LOCAL ROAD - HANOVER RD	CR4012-A	
58	LOCAL ROAD - AVENUE 20 1/2	CR4013-A	
59	LOCAL ROAD - AVENUE 20 1/2	CR4014-A	
60	LOCAL ROAD - ROAD 22	CR4015-A	
67	LOCAL ROAD - ROAD 33	CR4018-A	
85	HEALY ROAD	CR9041-B	
86	GERARD AVENUE/CALTRANS FRONTAGE RD	CR9042-B	
87	ROAD 18 1/2	CR9043-B	



**LOCATION NUMBER LEGEND**

- (X) - INDICATES GRADE SEPARATION
- (X) - INDICATES CALTRANS FACILITIES MODIFICATION
- (X) - INDICATES LOCAL ROAD RELOCATION

**VICINITY MAP 1**



**VICINITY MAP 3**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. AYELE**  
DRAWN BY  
**A. TRINH**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID

INDEX MAP  
SHEET 2 OF 2

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
B7001-B  
SCALE  
NO SCALE  
SHEET NO.  
### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

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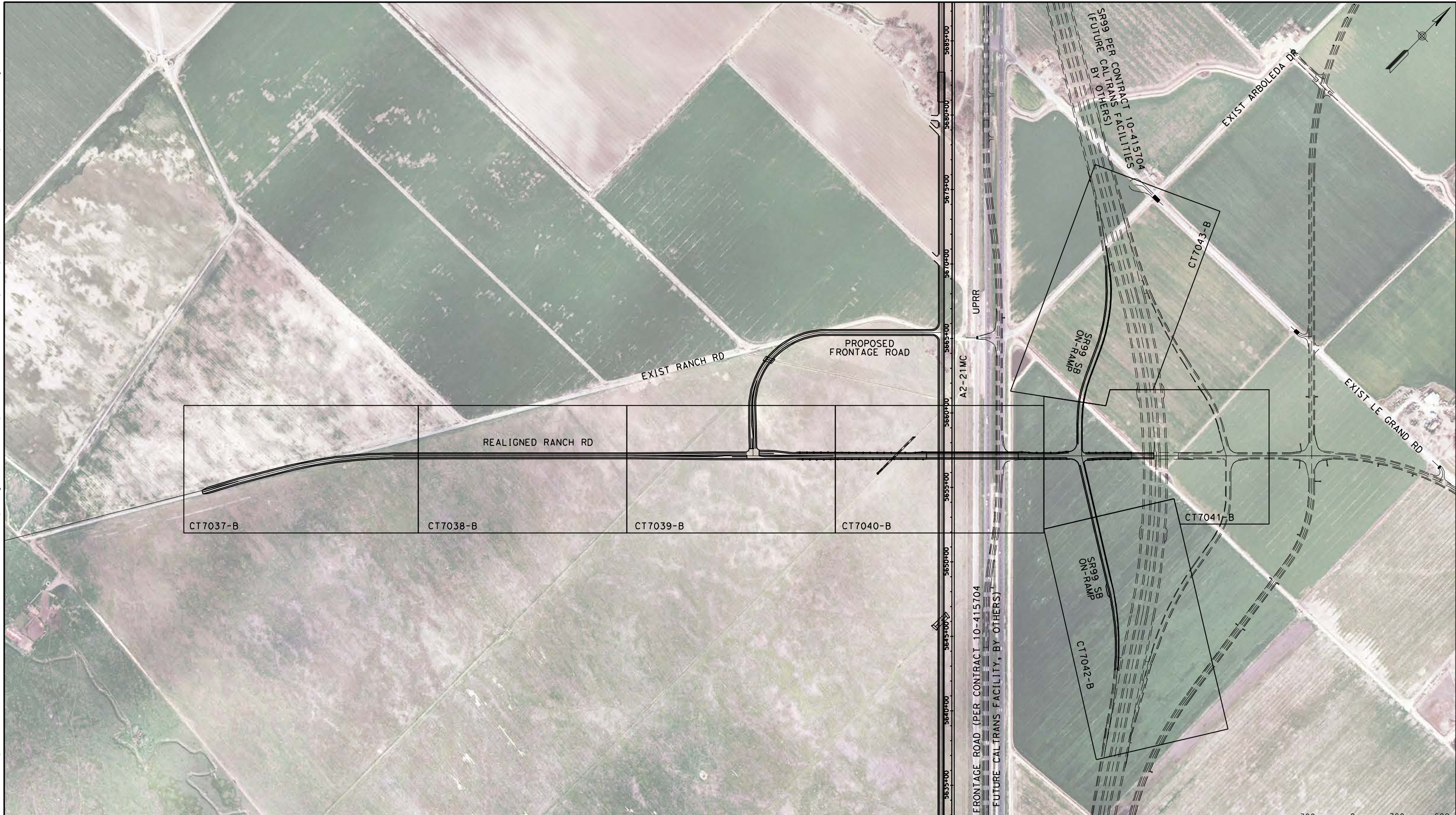
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CB7005-B  
SCALE  
AS SHOWN  
SHEET NO.  
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R. LI  
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A. TRINH  
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**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
KEY MAP  
SHEET 1 OF 1

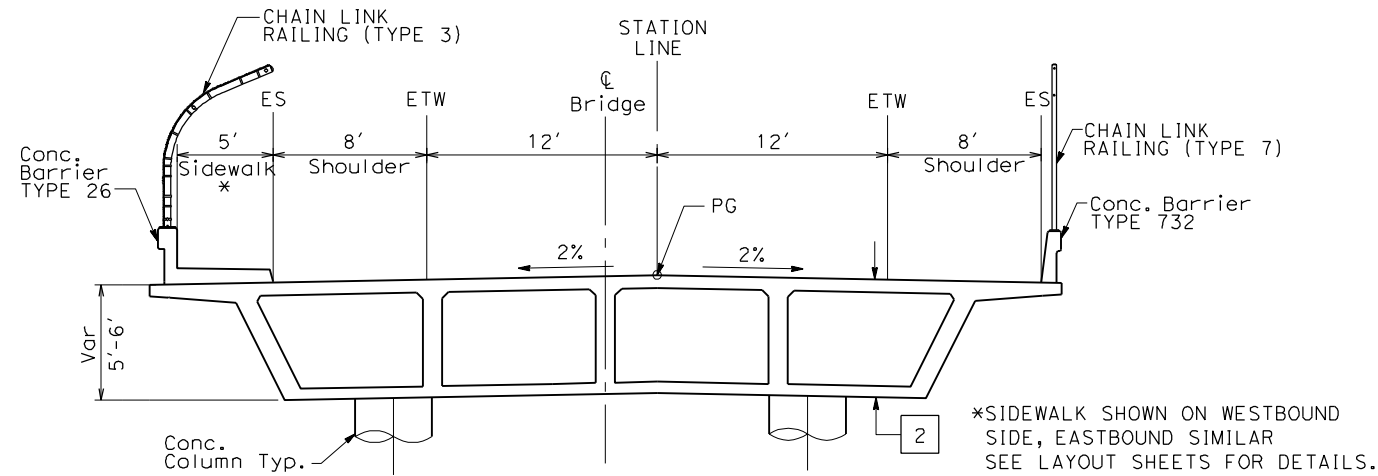
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DRAWING NO.  
CB7006-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



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**NOTES:**

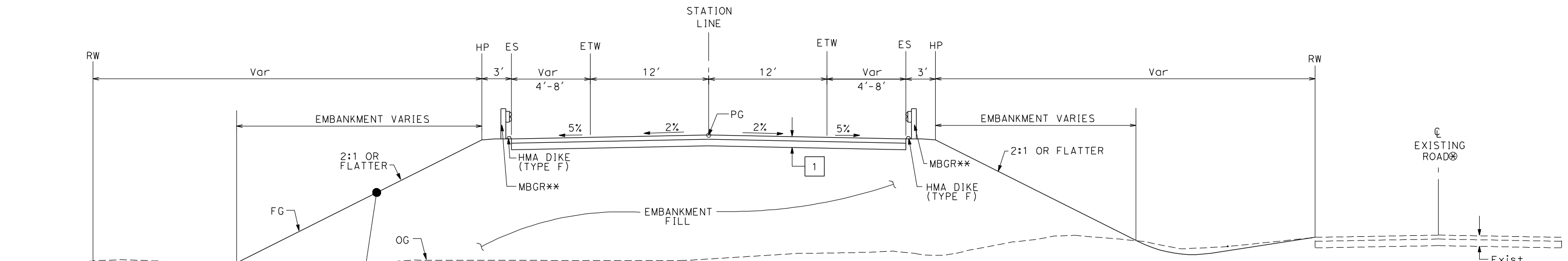
1. DIMENSIONS OF EXISTING PAVEMENT WIDTHS ARE BASED ON MEASUREMENTS MADE IN THE FIELD AND ARE APPROXIMATE.
2. PAVEMENT SECTIONS ARE TO BE DETERMINED. GEOTECHNICAL INVESTIGATIONS WILL BE CONDUCTED IN A SUBSEQUENT PHASE TO DETERMINE STRUCTURAL SECTIONS FOR EACH CROSSING.
3. SPACING OF BENCHES ON PROPOSED FILL SECTIONS ARE TO BE DETERMINED.
4. RIGHT-OF-WAY (R/W) WIDTH IS FOR INFORMATION ONLY. EXACT WIDTH TO BE DETERMINED IN COORDINATION WITH AFFECTED AGENCY.



**OVERHEAD STRUCTURE**  
SEE STRUCTURAL PLANS

**STRUCTURAL SECTIONS:**

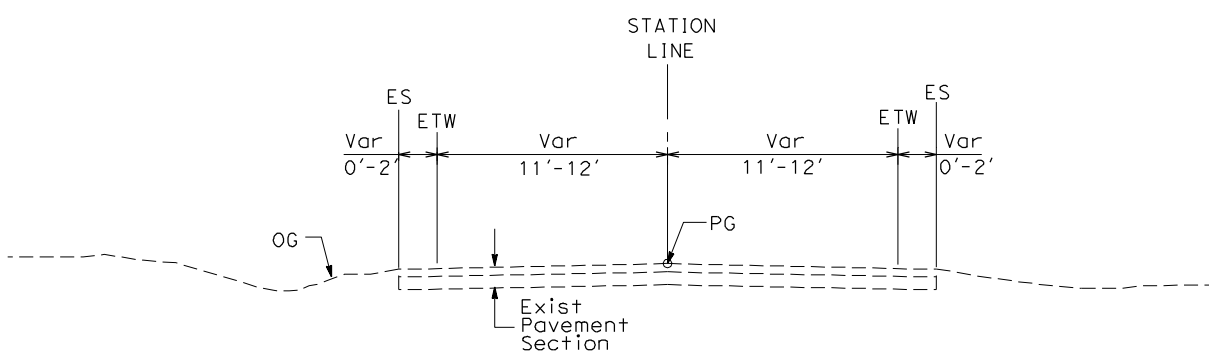
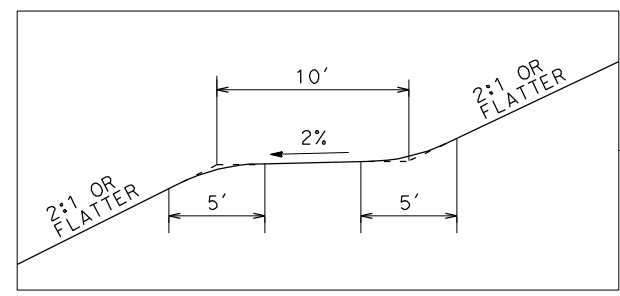
- 1 HMA TYPE A AB CLASS 2
- 2 CAST IN PLACE / PRESTRESSED BOX GIRDER (6' STRUCTURE DEPTH)



**FILL SECTIONS TO OVERHEAD STRUCTURE**  
WEST SIDE SHOWN (EAST SIDE SIMILAR)

⊗ EXISTING ROAD LOCATION VARIES AND SHALL REMAIN OPEN DURING CONSTRUCTION. WHERE SHOWN ON THE PLAN CLOSE AND OBLITERATE EXISTING ROADWAY SUBSEQUENT TO CONSTRUCTION OF THE REALIGNED ROADWAY.

\*\* EXACT LIMITS OF MBGR PER AGENCY REQUIREMENTS.



**EXISTING LOCAL ROAD**  
WEST SIDE SHOWN (EAST SIDE SIMILAR)  
SEE LAYOUT SHEETS FOR ACTUAL ROADWAY WIDTHS AT EACH CROSSING

TYPICAL CROSS SECTIONS ON THIS SHEET APPLY TO THE FOLLOWING ROADWAYS FOR ALIGNMENT AVE 21 HYBRID:

NO.	STREET NAME
1	Le Grand
2	E. Sandy Mush Road
3	AVENUE 8

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. OAKS**  
DRAWN BY  
**K. OAKS**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

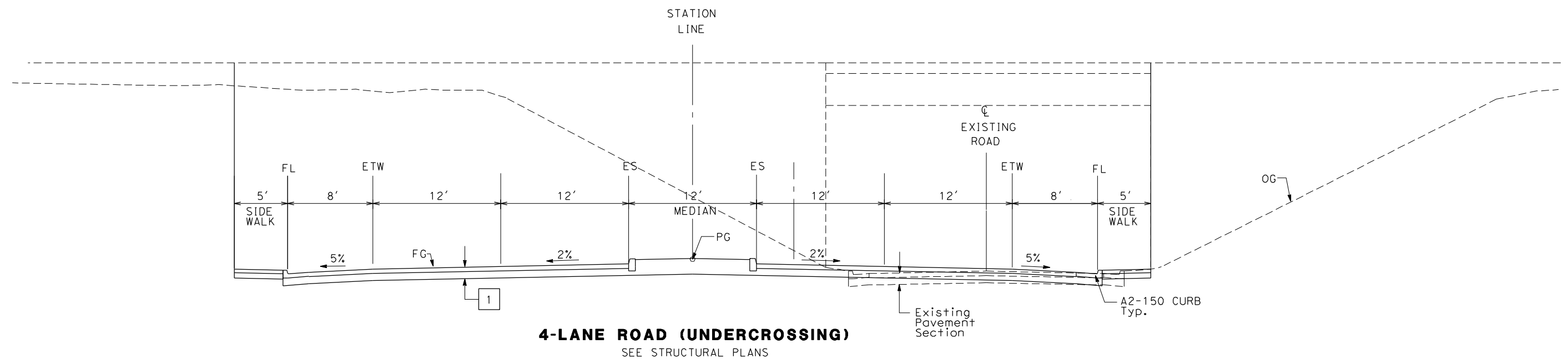
**NOT FOR**  
**CONSTRUCTION**



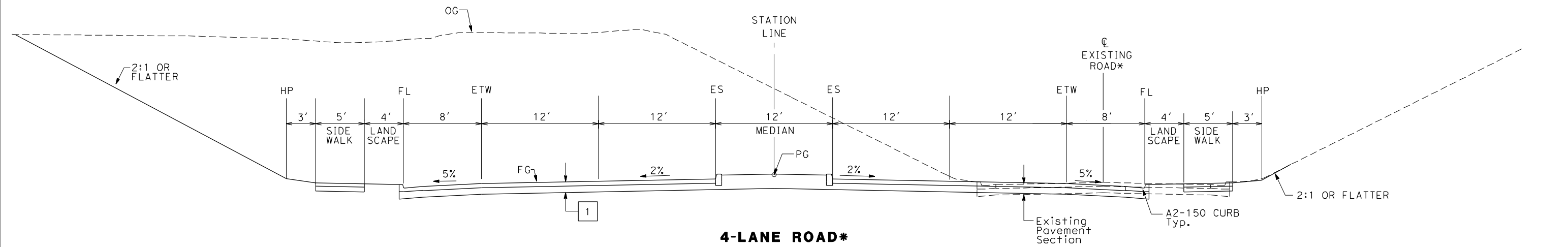
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
AVE 21 HYBRID  
HIGHWAY  
TYPICAL CROSS SECTIONS  
SHEET 1 OF 2

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT6990-B  
SCALE  
NTS  
SHEET NO.  
### OF ###

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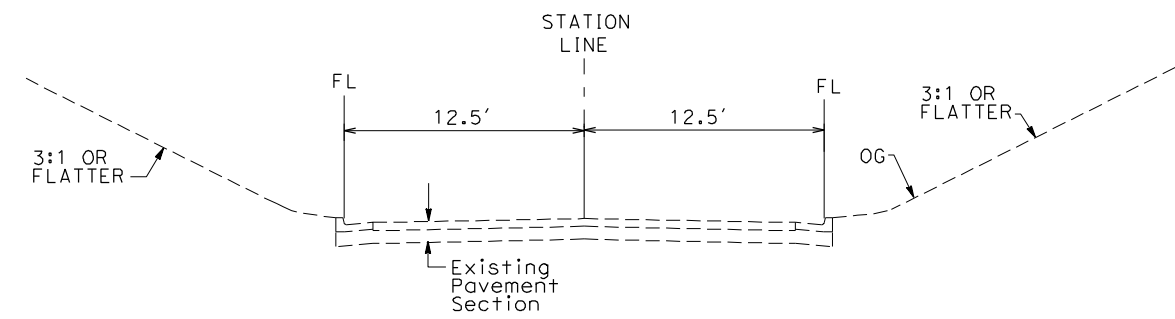


**4-LANE ROAD (UNDERCROSSING)**  
SEE STRUCTURAL PLANS



**4-LANE ROAD\***  
WEST SIDE SHOWN (EAST SIDE SIMILAR)

\* EXISTING ROAD LOCATION VARIES. CONSTRUCTION SHALL BE STAGED TO KEEP SR 145 OPEN DURING CONSTRUCTION.



**EXISTING SR 145**  
EAST SIDE SHOWN (WEST SIDE SIMILAR)

TYPICAL CROSS SECTIONS ON THIS SHEET APPLY TO THE FOLLOWING ROADWAYS FOR ALIGNMENT AVE 21 HYBRID:

NO.	STREET NAME
1	W. Yosemite Ave. (SR 145)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
K. OAKS  
 DRAWN BY  
K. OAKS  
 CHECKED BY  
J. ZANDIAN  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

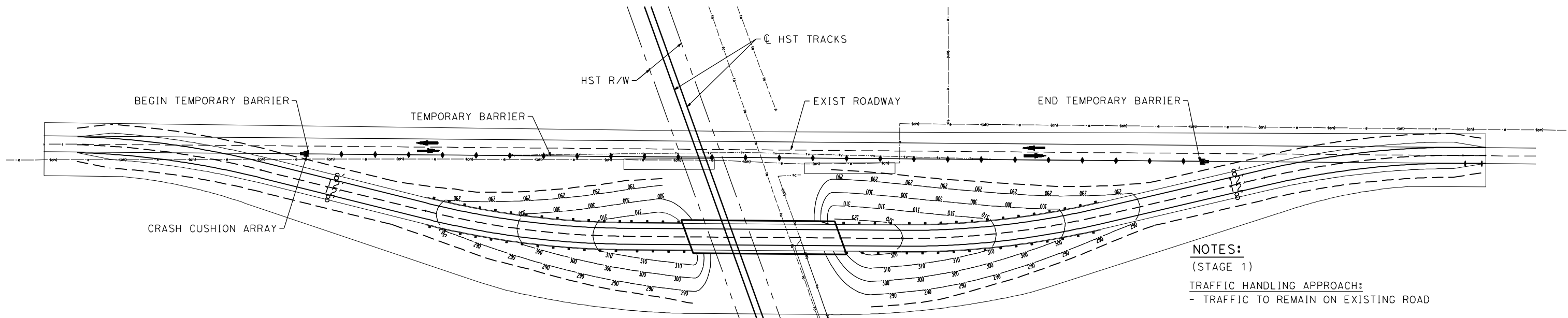


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID  
 HIGHWAY  
 TYPICAL CROSS SECTIONS  
 SHEET 2 OF 2

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT6991-B  
 SCALE  
NONE  
 SHEET NO.  
### OF ###



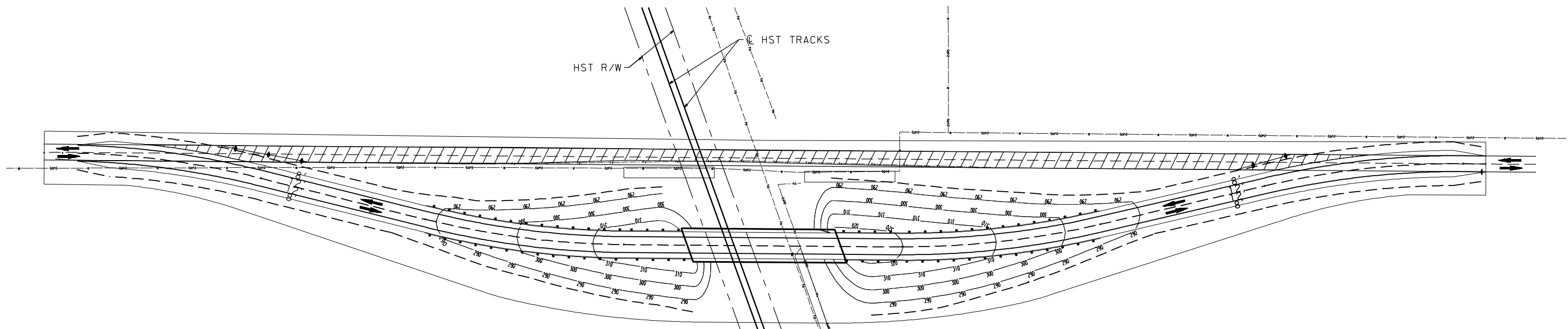
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**STAGE CONSTRUCTION (STAGE 1)**

**NOTES:**  
 (STAGE 1)  
**TRAFFIC HANDLING APPROACH:**  
 - TRAFFIC TO REMAIN ON EXISTING ROAD

**STAGE CONSTRUCTION ACTIVITIES:**  
 - CONSTRUCT NEW GRADE SEPARATION EMBANKMENT  
 - CONSTRUCT NEW GRADE SEPARATION STRUCTURE  
 - CONSTRUCT DRAINAGE FACILITY



**STAGE CONSTRUCTION (STAGE 2)**

**NOTES:**  
 (STAGE 2)  
**TRAFFIC HANDLING APPROACH:**  
 - SHIFT TRAFFIC TO NEW GRADE SEPARATION FACILITY

**STAGE CONSTRUCTION ACTIVITIES:**  
 - CONSTRUCT REALIGNED ROAD CONFORMS  
 - COMPLETE DRAINAGE FACILITIES  
 - REMOVE BASE AND SURFACING OF EXIST ROAD

**LEGEND:**

- CRASH CUSHION ARRAY (ARRAY TS 11)
- TEMPORARY BARRIER (TYPE K)
- DIRECTION OF TRAVEL
- REMOVE BASE AND SURFACING (EXIST ROAD)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
SW

DRAWN BY  
SW/FD

CHECKED BY  
JZ

IN CHARGE  
AB

DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
 Technical Services, Inc.  
 2020 L Street, Suite 300  
 Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID

GENERAL STAGE CONSTRUCTION AND TRAFFIC PLAN  
 SHEET 1 OF 2

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT6992-B

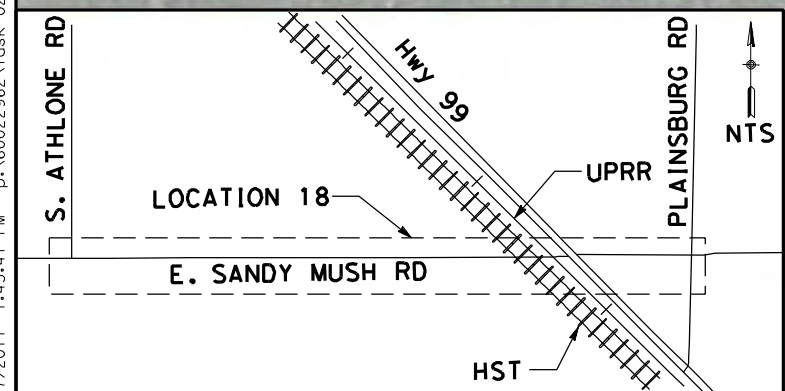
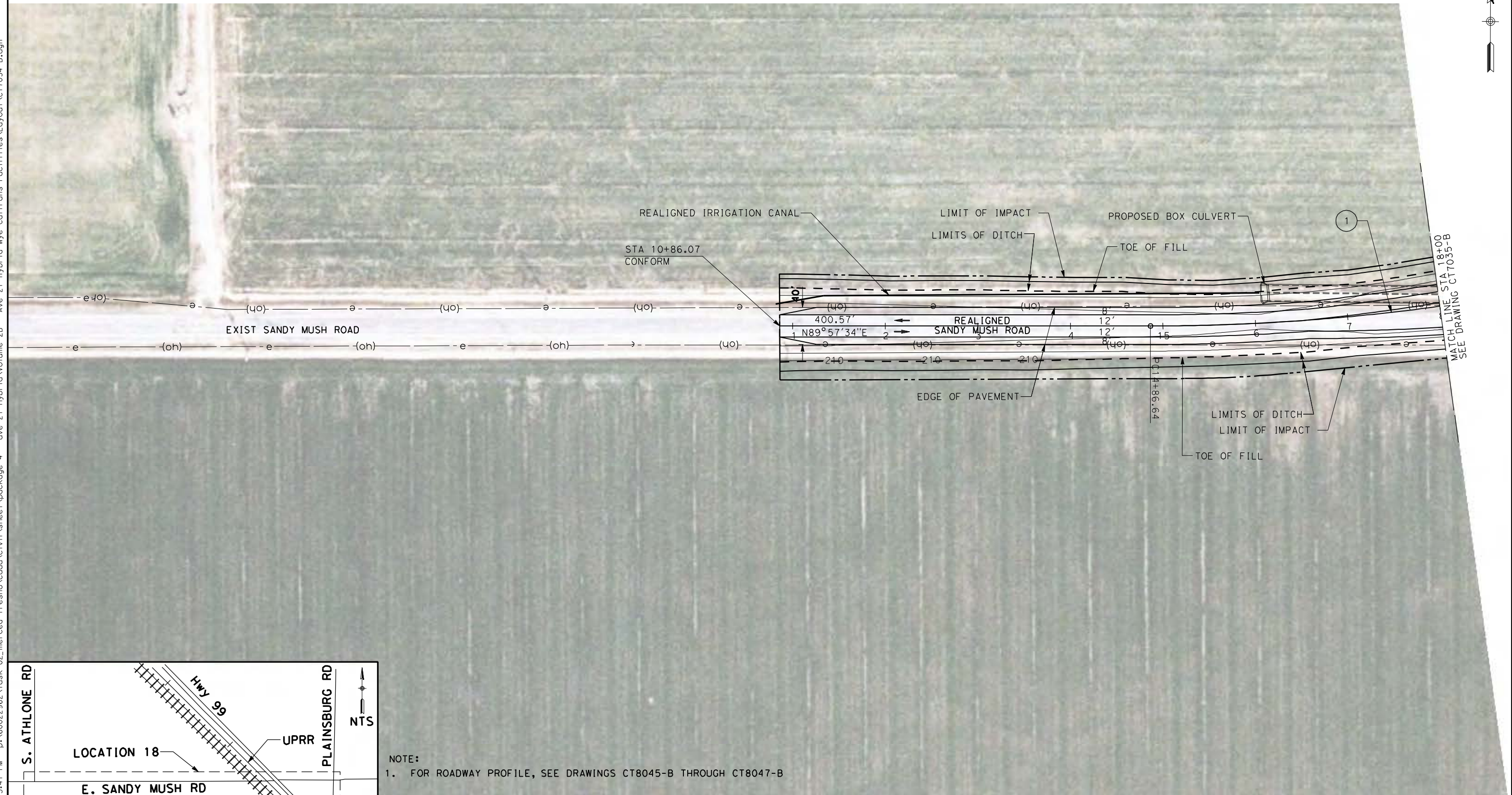
SCALE  
NO SCALE

SHEET NO.  
### OF ###



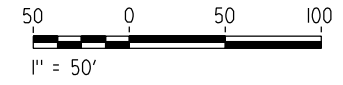


6/27/2011 1:43:47 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Layout\CT7034-B.dgn



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8045-B THROUGH CT8047-B

CURVE DATA					
No.	R	$\Delta$	T	L	V
(1)	2300.00	39° 51' 34"	833.94	1600.06	50 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



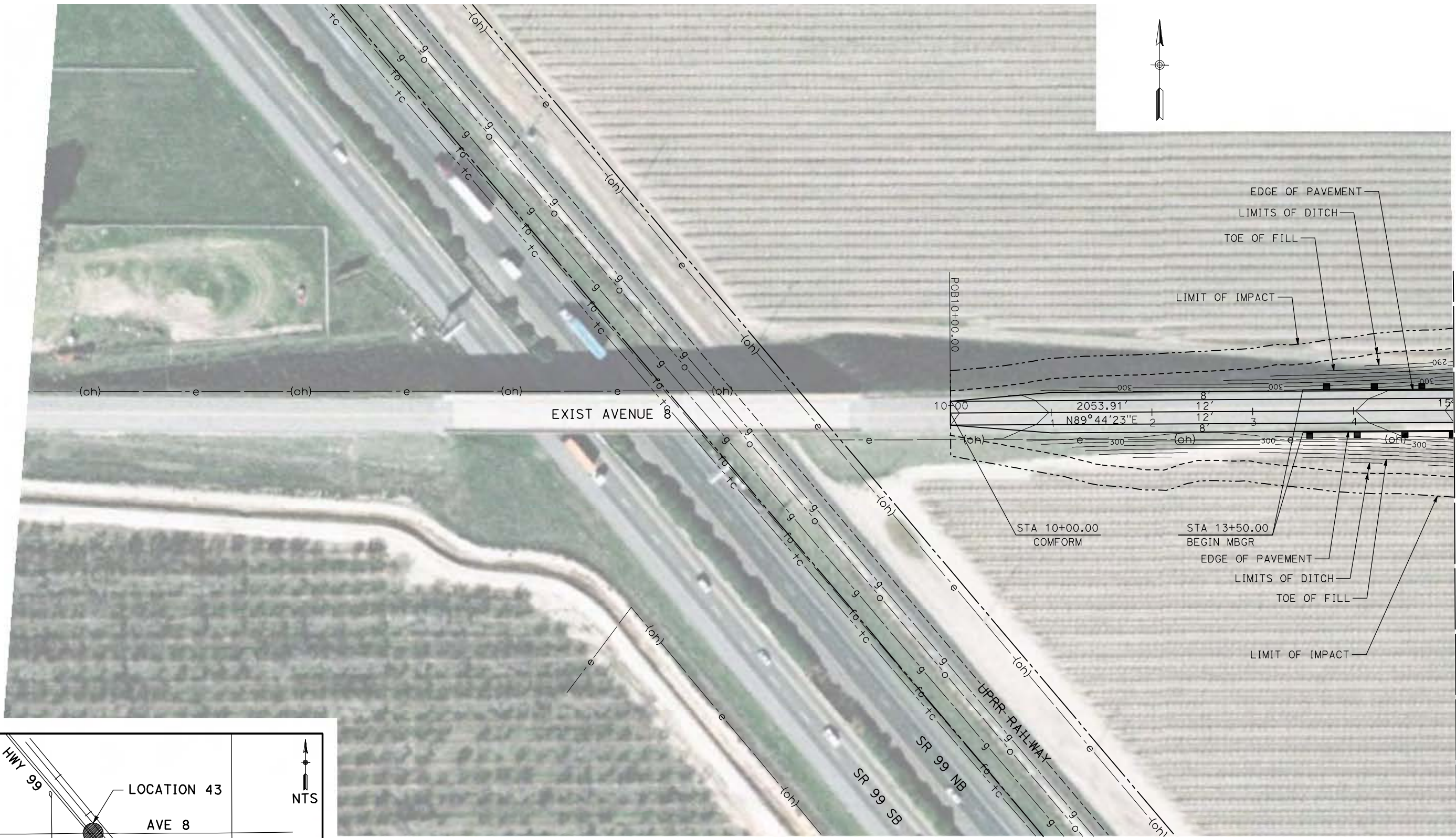
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
LAYOUT  
SHEET 1 OF 3

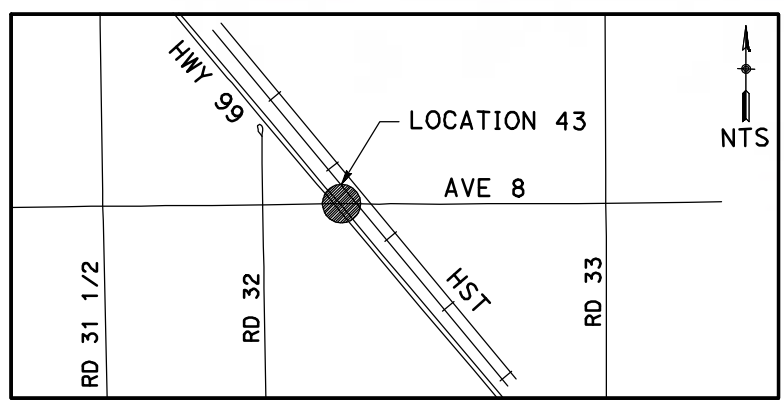
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT7034-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



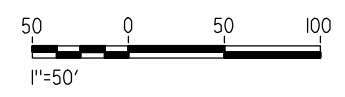
6/28/2011 4:36:18 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\sheet\roadway\hybrid-ave21\Volume 2 - Ave21Hybrid Caltrans Facilities Layout\MF-CT-2001-A.dgn



MATCH LINE STA 15+00  
SEE DRAWING CT2002-A



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT3001-A THROUGH CT3003-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

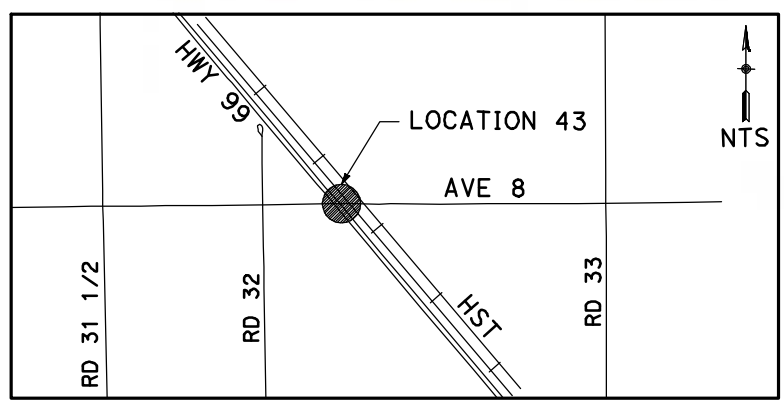
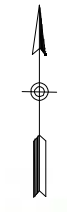
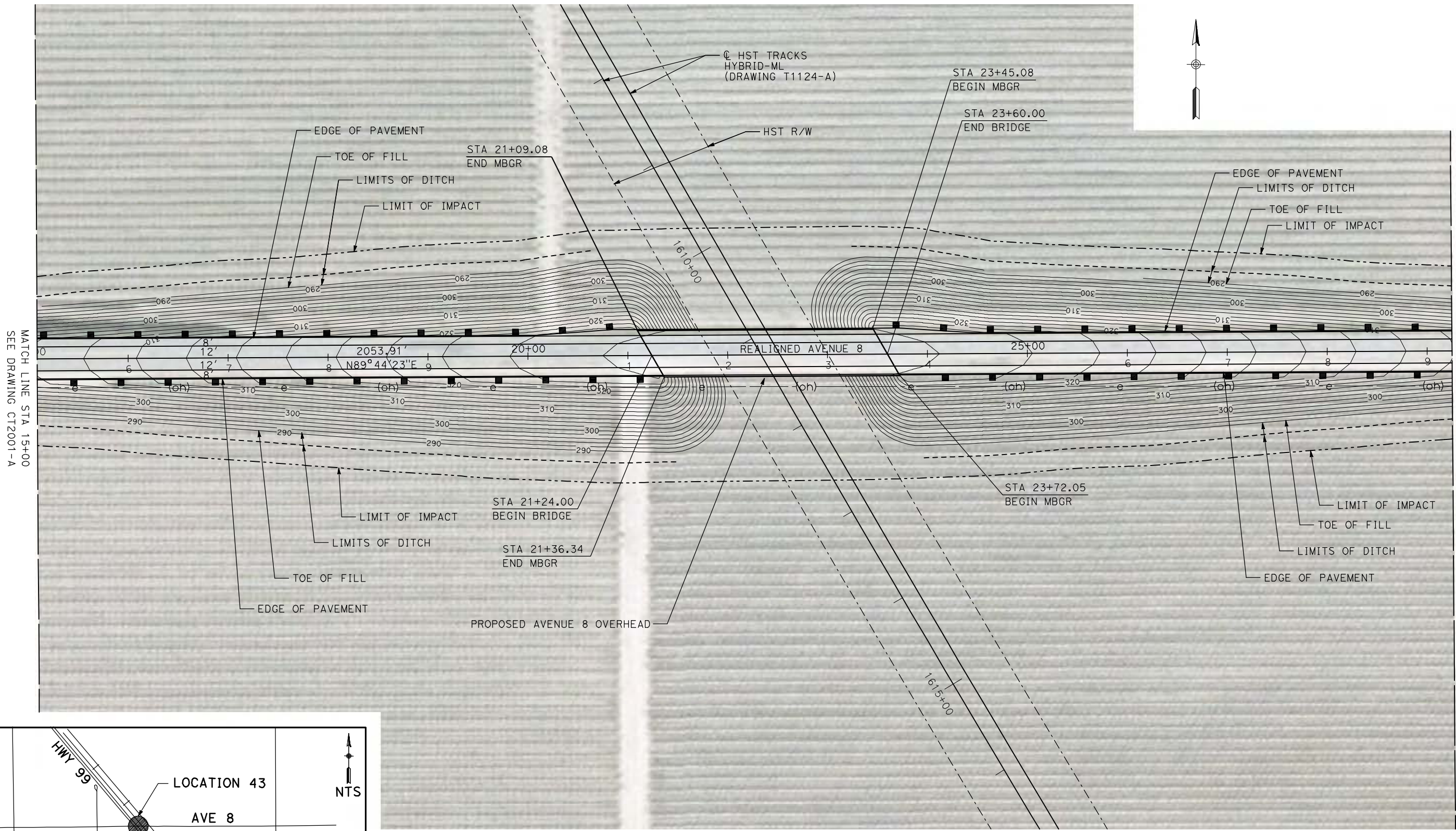


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAINLINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 8  
LAYOUT  
SHEET 1 OF 3

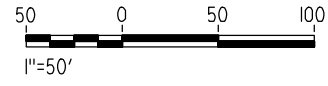
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT2001-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



6/28/2011 4:36:25 PM i:\chsr\60022962\Task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\Volume 2 - Ave21Hybrid Caltrans Facilities Layout\MF-CT-2002-A.dgn



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT3001-A THROUGH CT3003-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. GIBSON  
 DRAWN BY  
 H. PHAN  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



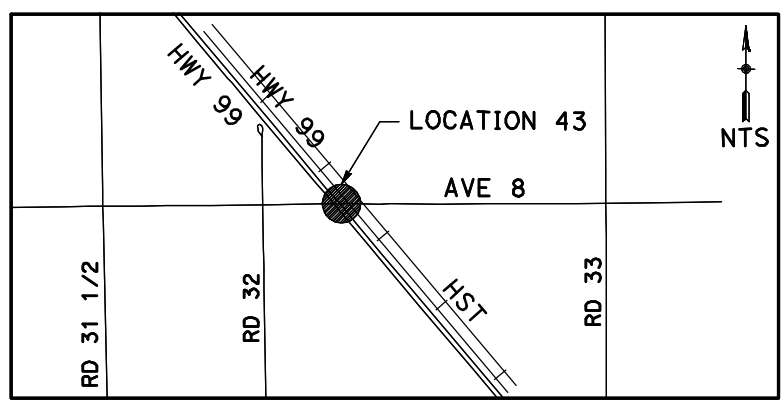
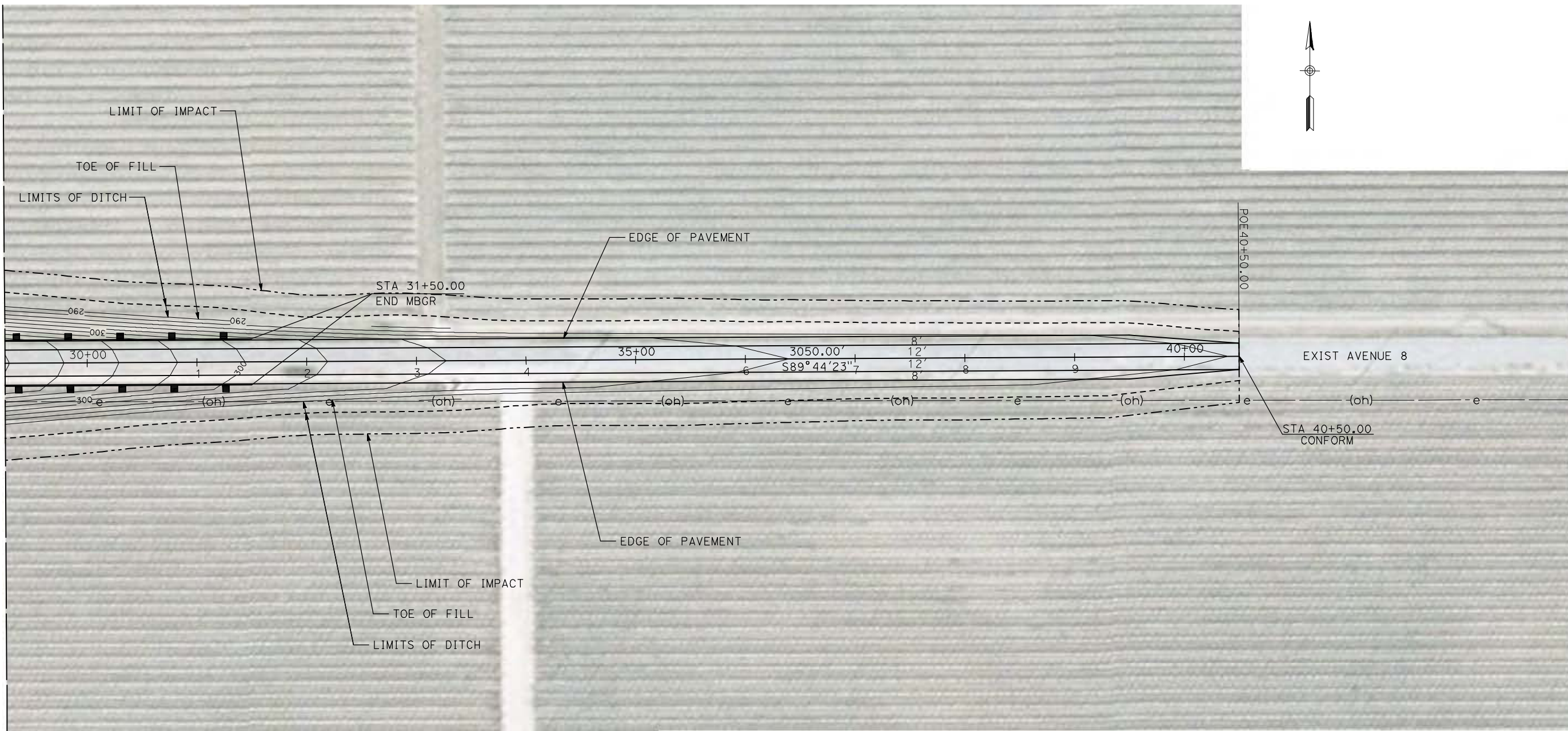
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAINLINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 8  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT2002-A  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 OF ###

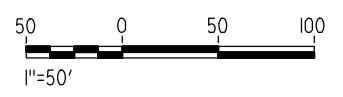


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MATCH LINE STA 29+25  
SEE DRAWING CT2002-A



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT3001-A THROUGH CT3003-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



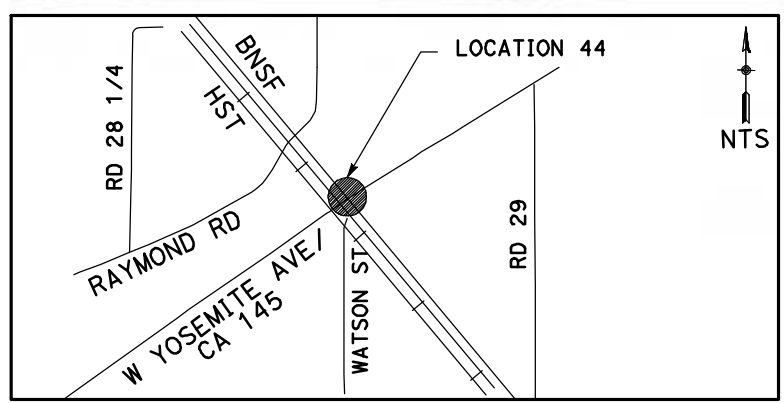
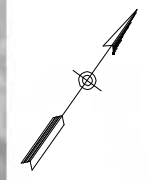
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 8  
LAYOUT  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT2003-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

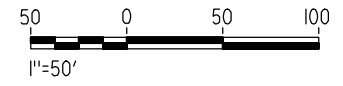


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CURVE DATA					
NO.	R	$\Delta$	T	L	V
①	3000.00'	4°58'23"	130.28'	260.39'	55 MPH



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT3004-A THROUGH CT3006-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

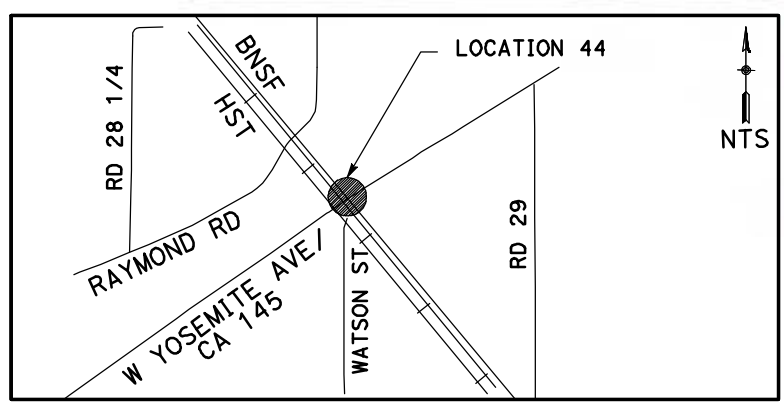
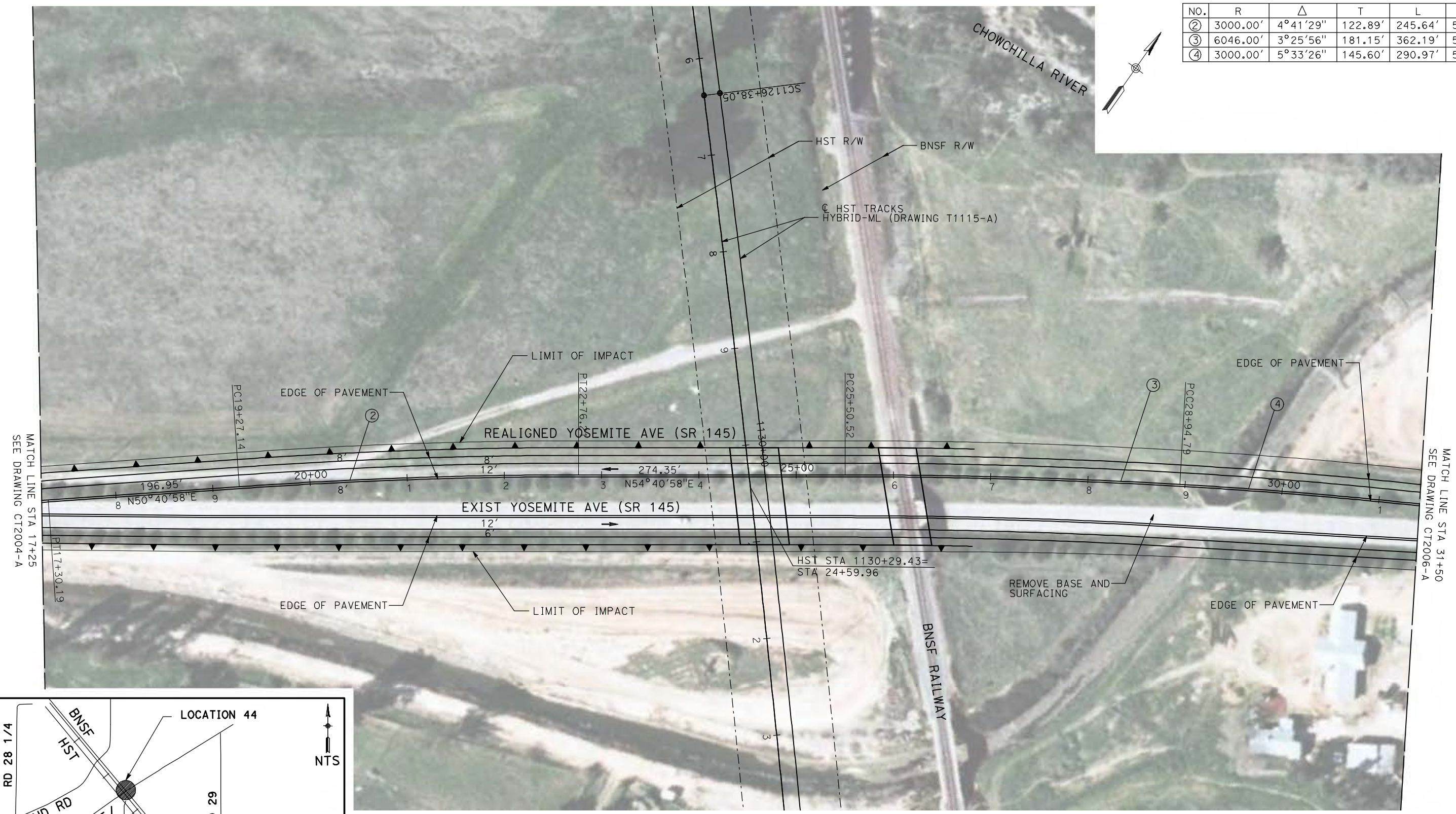
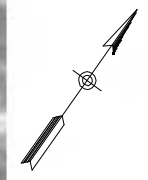
BNSF MAIN LINE - (AVE 21 HYBRID)  
UNDERPASS - YOSEMITE AVE (SR 145)  
LAYOUT  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT2004-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

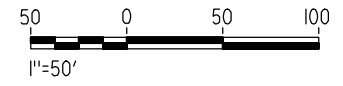


6/28/2011 4:36:48 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\Volume 2 - Ave21Hybrid Caltrans Facilities Layout\MF-CT-2005-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
②	3000.00'	4°41'29"	122.89'	245.64'	55 MPH
③	6046.00'	3°25'56"	181.15'	362.19'	55 MPH
④	3000.00'	5°33'26"	145.60'	290.97'	55 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT3004-A THROUGH CT3006-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



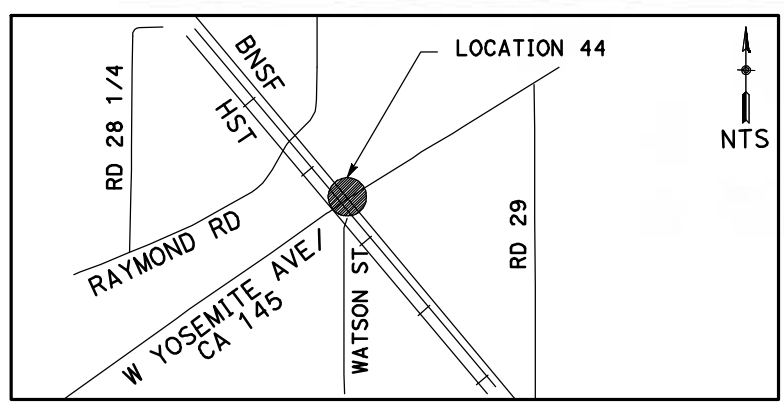
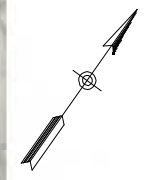
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 UNDERPASS - YOSEMITE AVE (SR 145)  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT2005-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

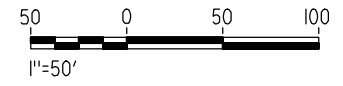


6/28/2011 4:36:55 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\Volume 2 - Ave21Hybrid Caltrans Facilities Layout\MF-CT-2006-A.dgn

CURVE DATA					
NO.	R	$\Delta$	T	L	V
④	3000.00'	5°33'26"	145.60'	290.97'	55 MPH
⑤	3000.00'	5°43'37"	150.06'	299.86'	55 MPH



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT3004-A THROUGH CT3006-A.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
H. PHAN  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

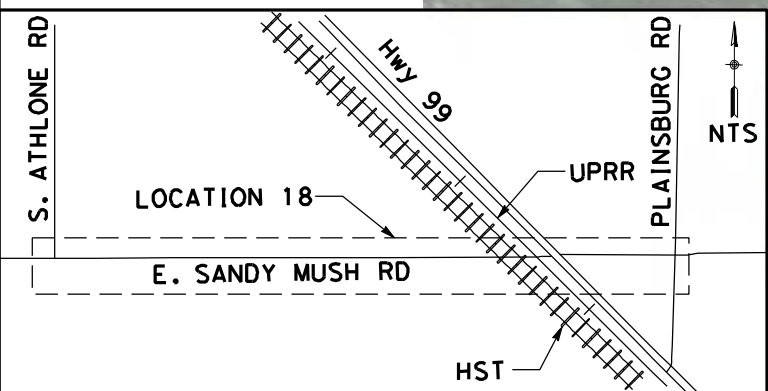
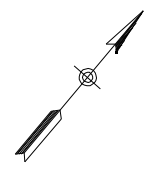
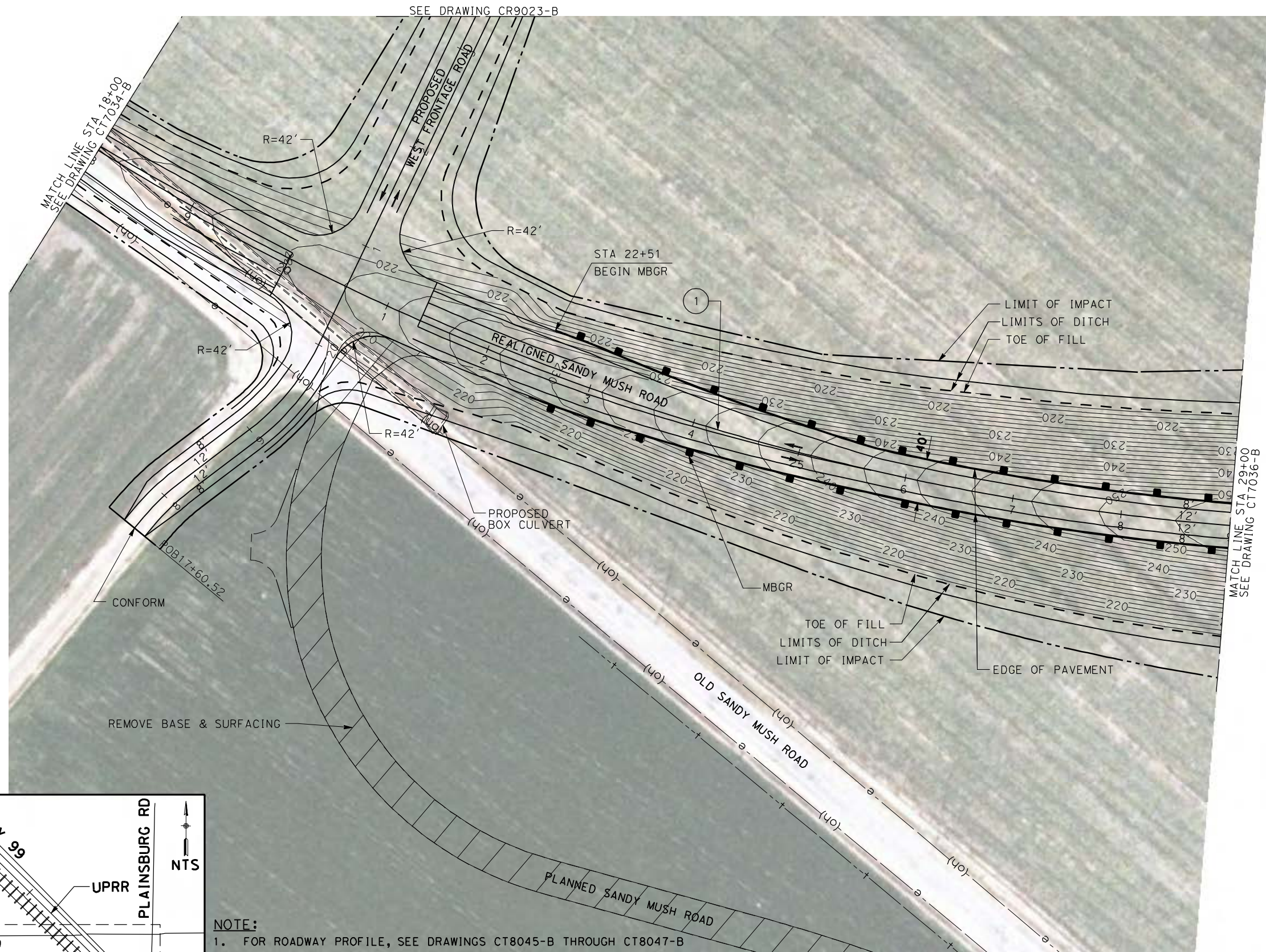


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAIN LINE - (AVE 21 HYBRID)  
 UNDERPASS - YOSEMITE AVE (SR 145)  
 LAYOUT  
 SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT2006-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

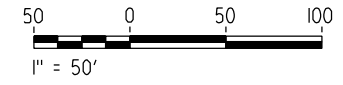


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**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8045-B THROUGH CT8047-B

CURVE DATA					
No.	R	$\Delta$	T	L	V
(1)	2300.00	39°51'34"	833.94	1600.06	50 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

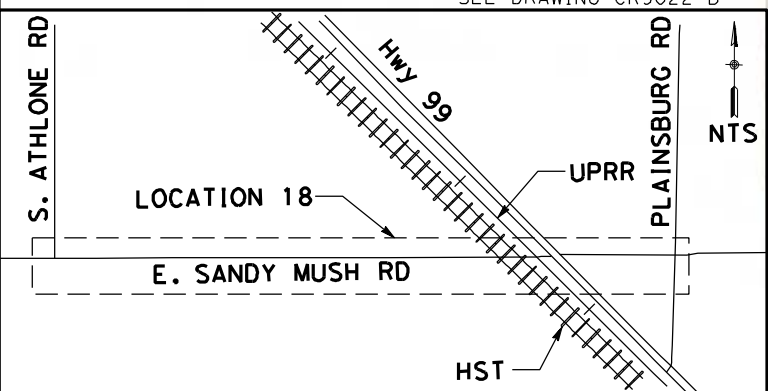
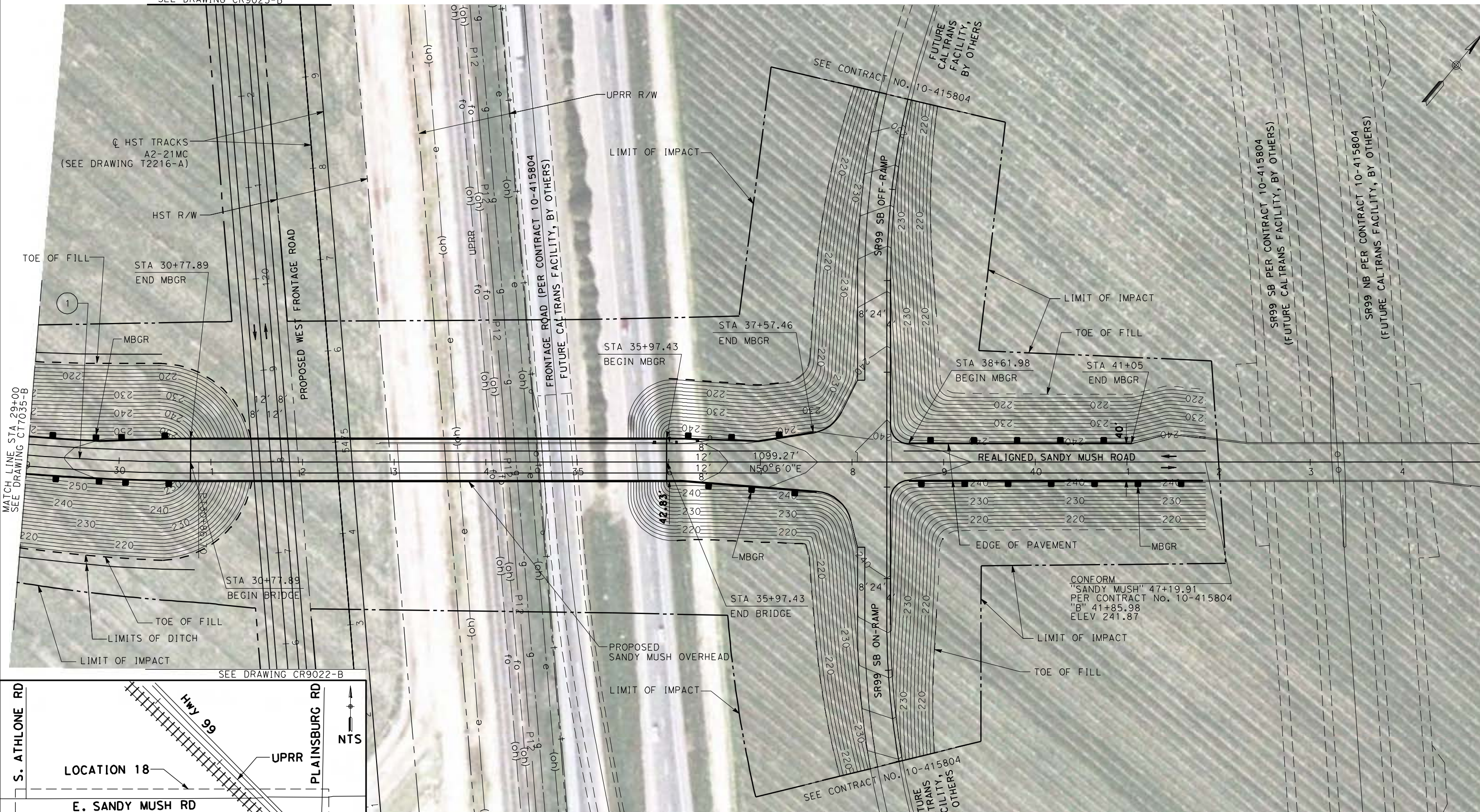
UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
 LAYOUT  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT7035-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



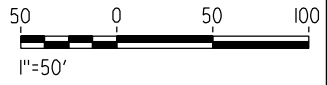
SEE DRAWING CR9023-B

6/27/2011 1:44:18 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Layout\CT7036-B.dgn



**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8045-B THROUGH CT8047-B

CURVE DATA					
No.	R	Δ	T	L	V
(1)	2300.00	39°51'34"	833.94	1600.06	50 MPH



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
 15% DESIGN  
 SUBMITTAL

**NOT FOR  
 CONSTRUCTION**

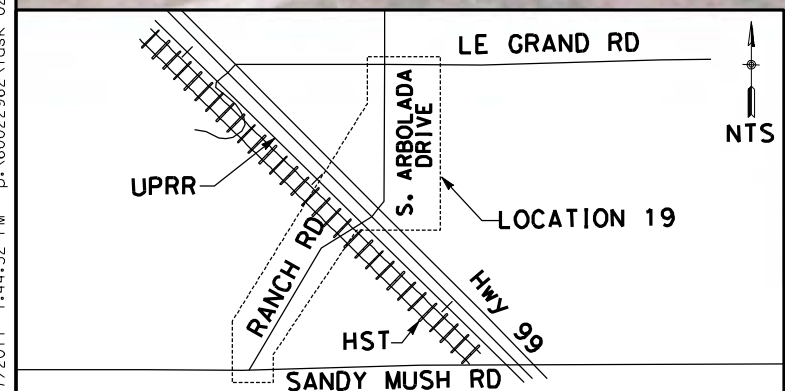


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
 LAYOUT  
 SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT7036-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

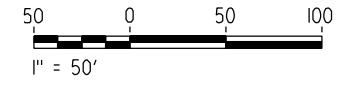


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**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8048-B THROUGH CT8052-B

CURVE DATA				
No.	R	Δ	T	L
(1)	3000.00	14°17'14"	375.99	748.07



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



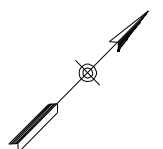
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION - LE GRAND RD INTERCHANGE  
 LAYOUT  
 SHEET 1 OF 5

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT7037-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###

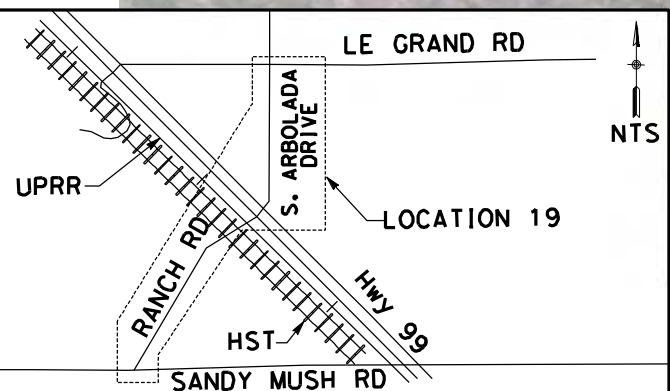


p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Layout\CT7038-B.dgn

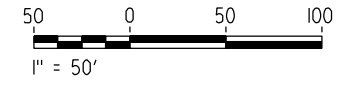


MATCH LINE STA 61+00  
SEE DRAWING CT7037-B

MATCH LINE STA 75+00  
SEE DRAWING CT7039-B



**NOTE:**  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8048-B THROUGH CT8052-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
LAYOUT  
SHEET 2 OF 5

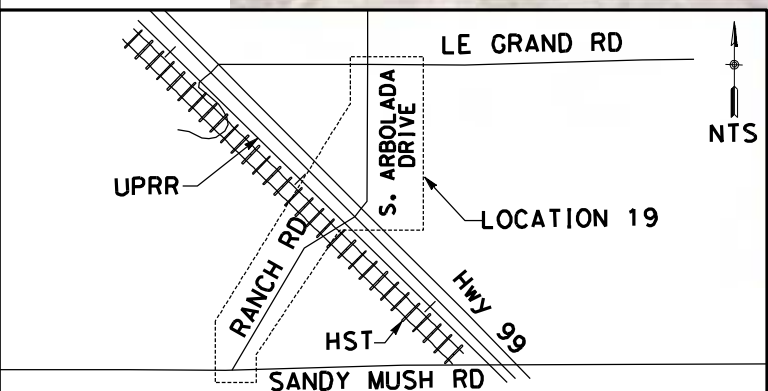
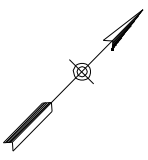
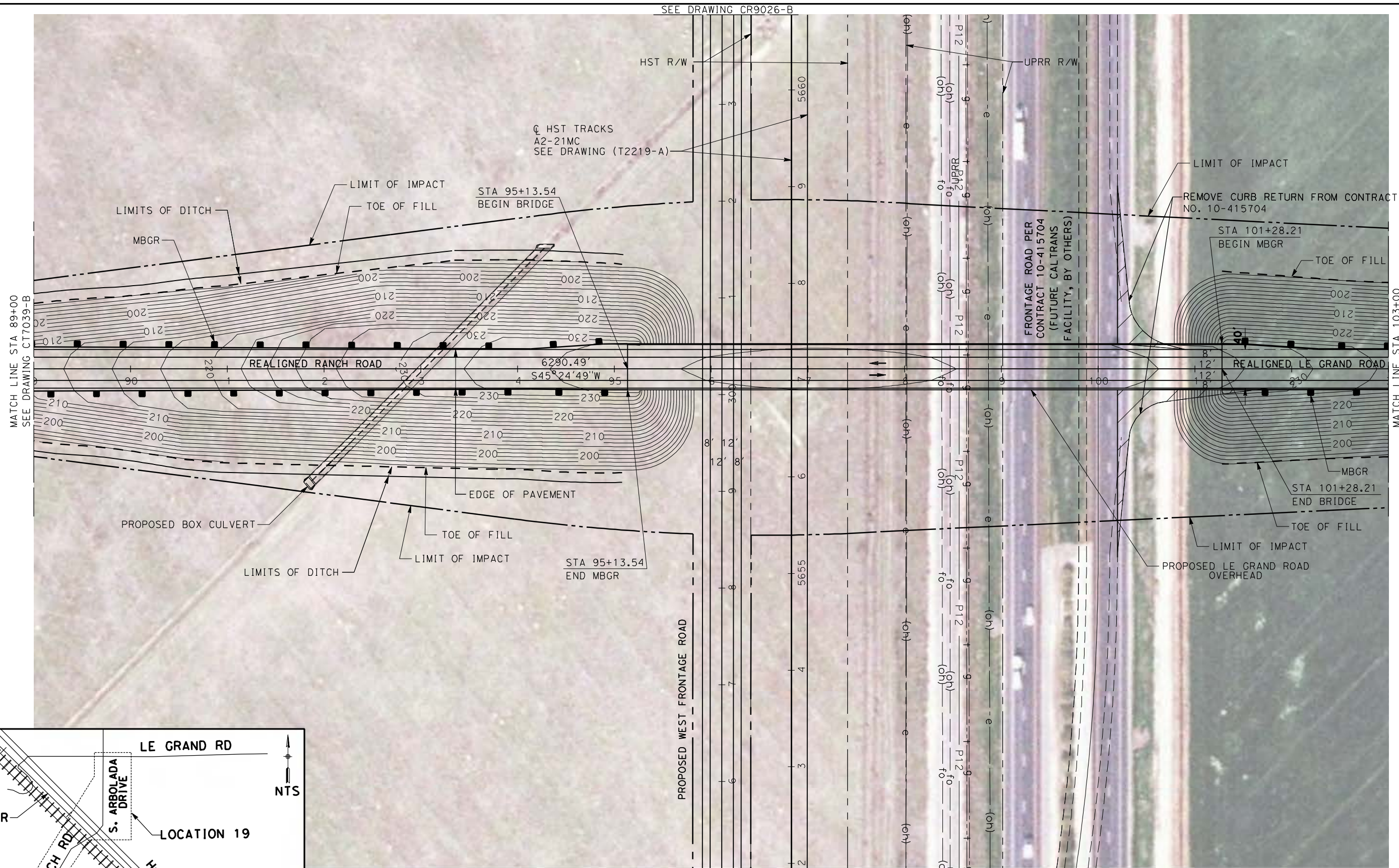
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT7038-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



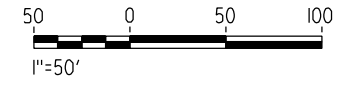




6/27/2011 1:45:17 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid\Layout\CT7040-B.dgn



NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8048-B THROUGH CT8052-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI

DRAWN BY  
A. TRINH

CHECKED BY  
A. SILVER

IN CHARGE  
A. BOONE

DATE  
06/30/2011

**RECORD SET**  
15% DESIGN  
SUBMITTAL

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
LAYOUT  
SHEET 4 OF 5

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT7040-B

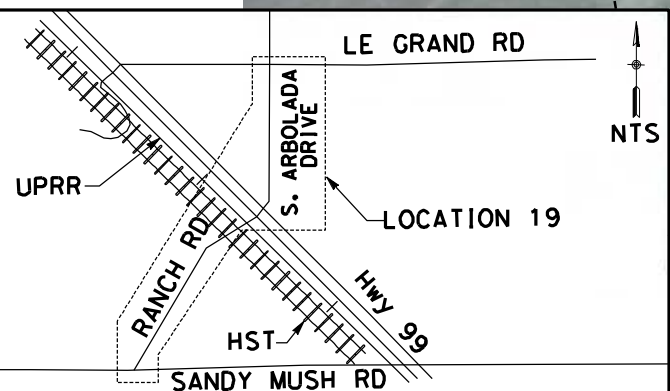
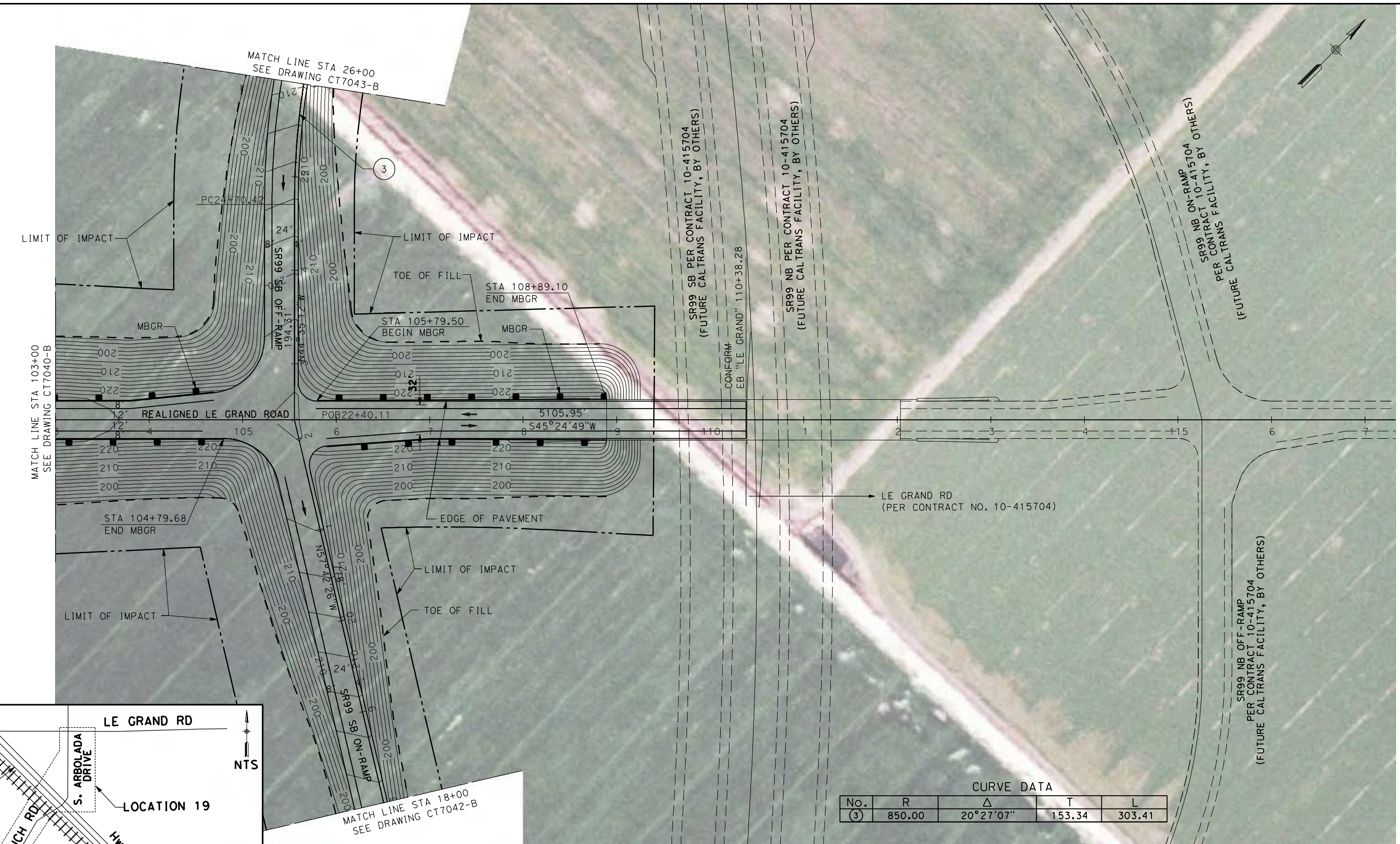
SCALE  
AS SHOWN

SHEET NO.  
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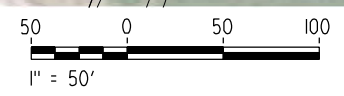
p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Layout\CT7041-B.dgn

oyeled



CURVE DATA

No.	R	$\Delta$	T	L
(3)	850.00	20°27'07"	153.34	303.41



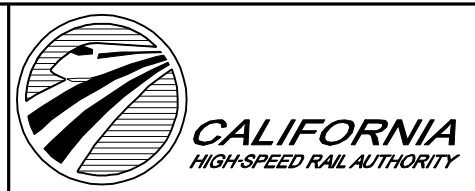
NOTE:  
1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8053-B THROUGH CT8056-B

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
LAYOUT  
SHEET 5 OF 5

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CT7041-B

SCALE  
AS SHOWN

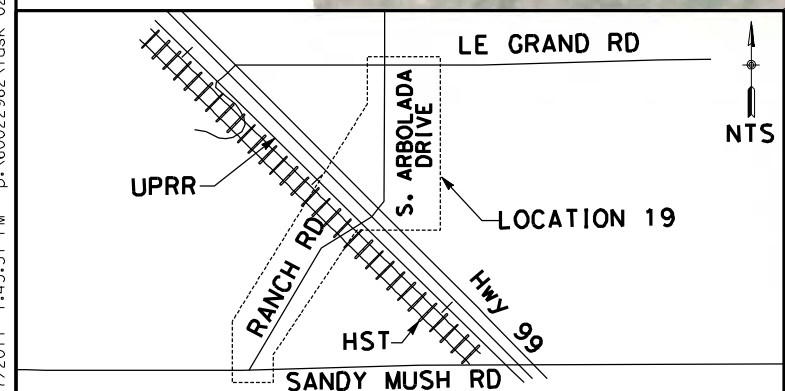
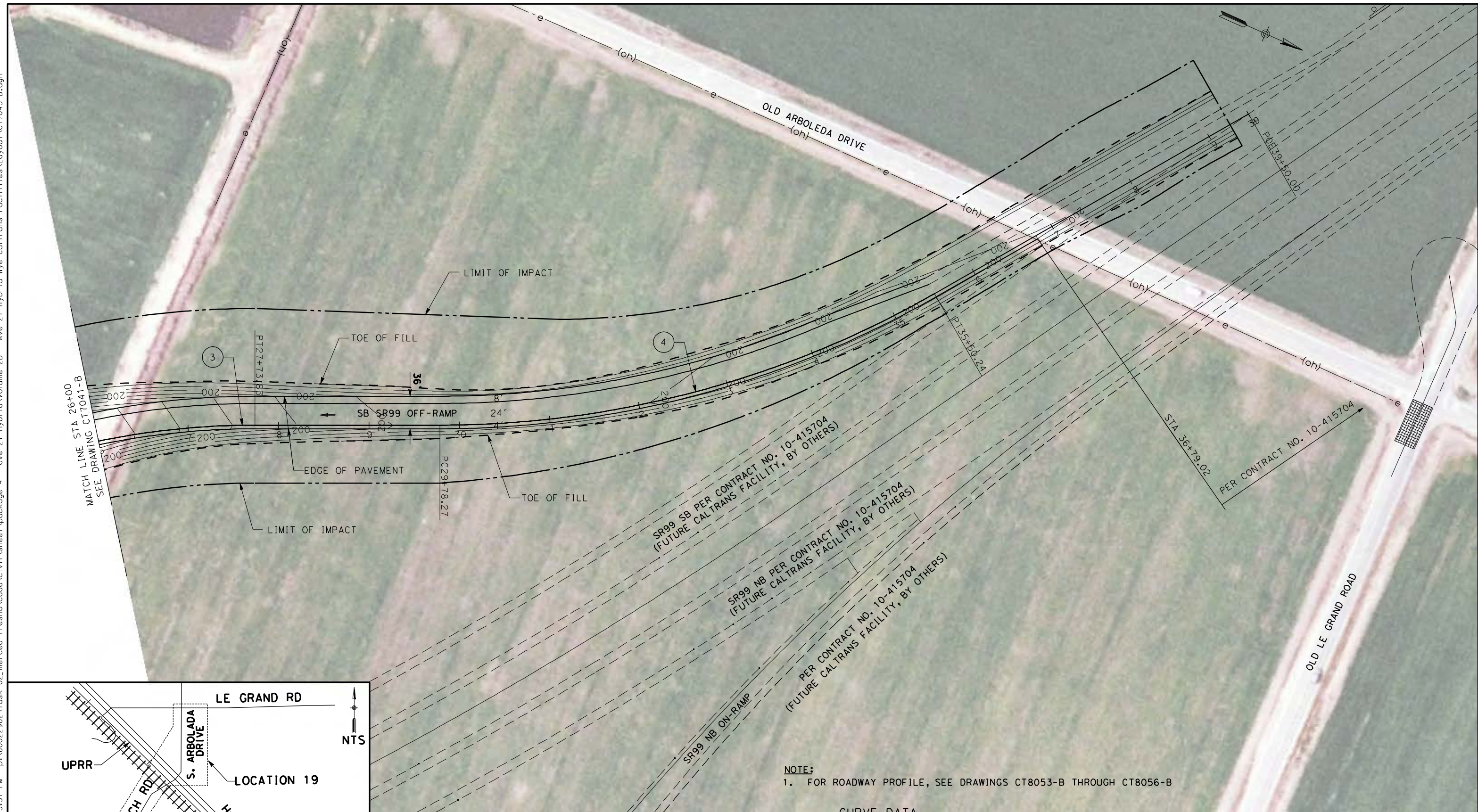
SHEET NO.  
### OF ###







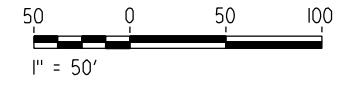
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**NOTE:**  
 1. FOR ROADWAY PROFILE, SEE DRAWINGS CT8053-B THROUGH CT8056-B

**CURVE DATA**

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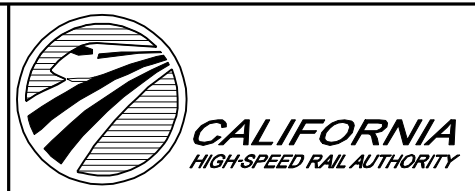


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. LI  
 DRAWN BY  
 A. TRINH  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET  
 15% DESIGN  
 SUBMITTAL**

**NOT FOR  
 CONSTRUCTION**



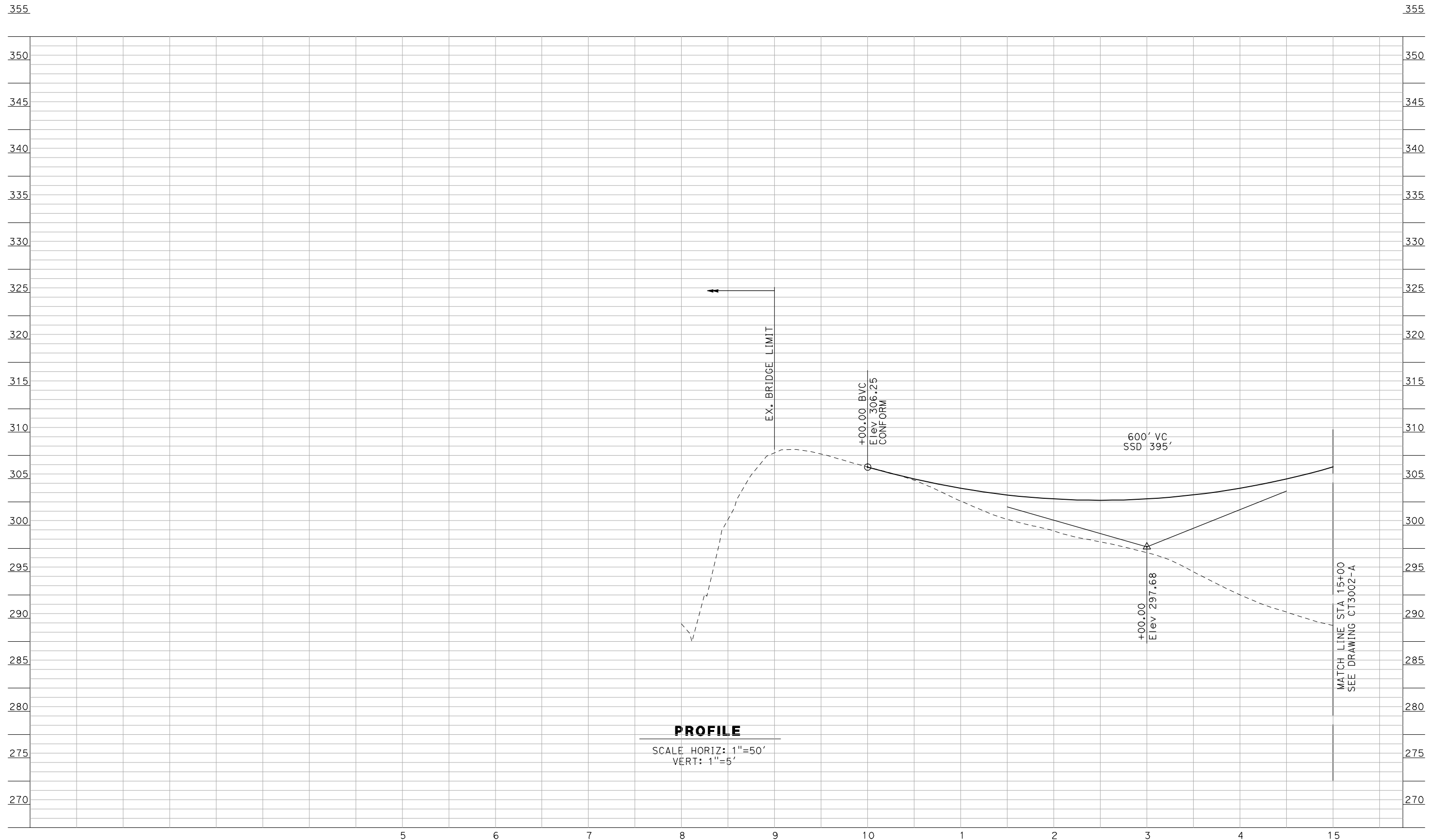
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
 MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION-LE GRAND RD IC SR99 SB OFF-RAMP  
 LAYOUT  
 SHEET 2 OF 2

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT7043-B  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



6/28/2011 4:37:00 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\Volume 2 - Ave21Hybrid Caltrans Facilities\Profile\MF-CT-3001-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

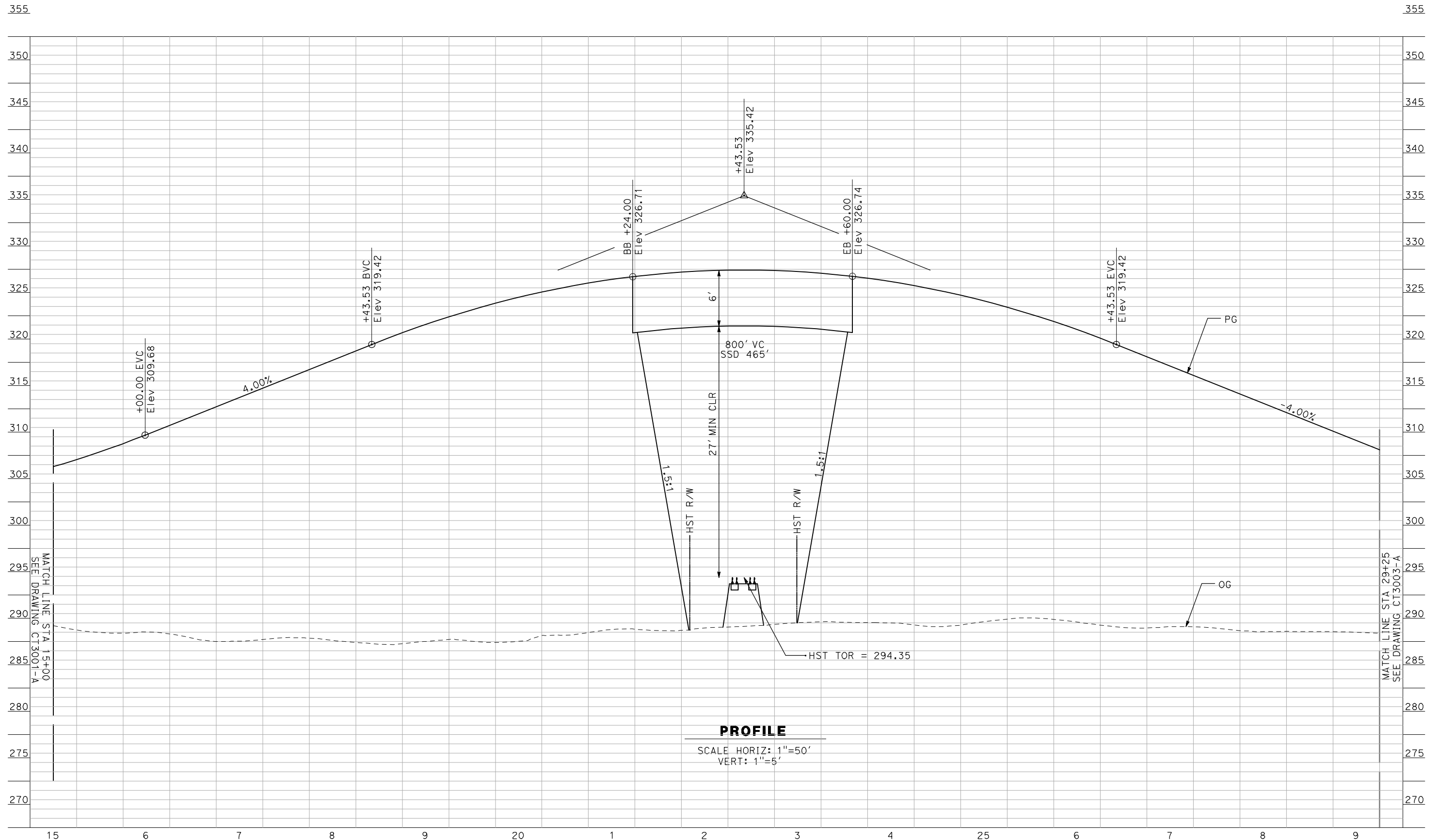
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAINLINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 8  
 PROFILE  
 SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT3001-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###

6/28/2011 4:37:03 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\Volume 2 - Ave21Hybrid Caltrans Facilities\Profile\MF-CT-3002-A.dgn



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

NOT FOR CONSTRUCTION  
 FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
 DRAWN BY  
F. DEMARCO  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

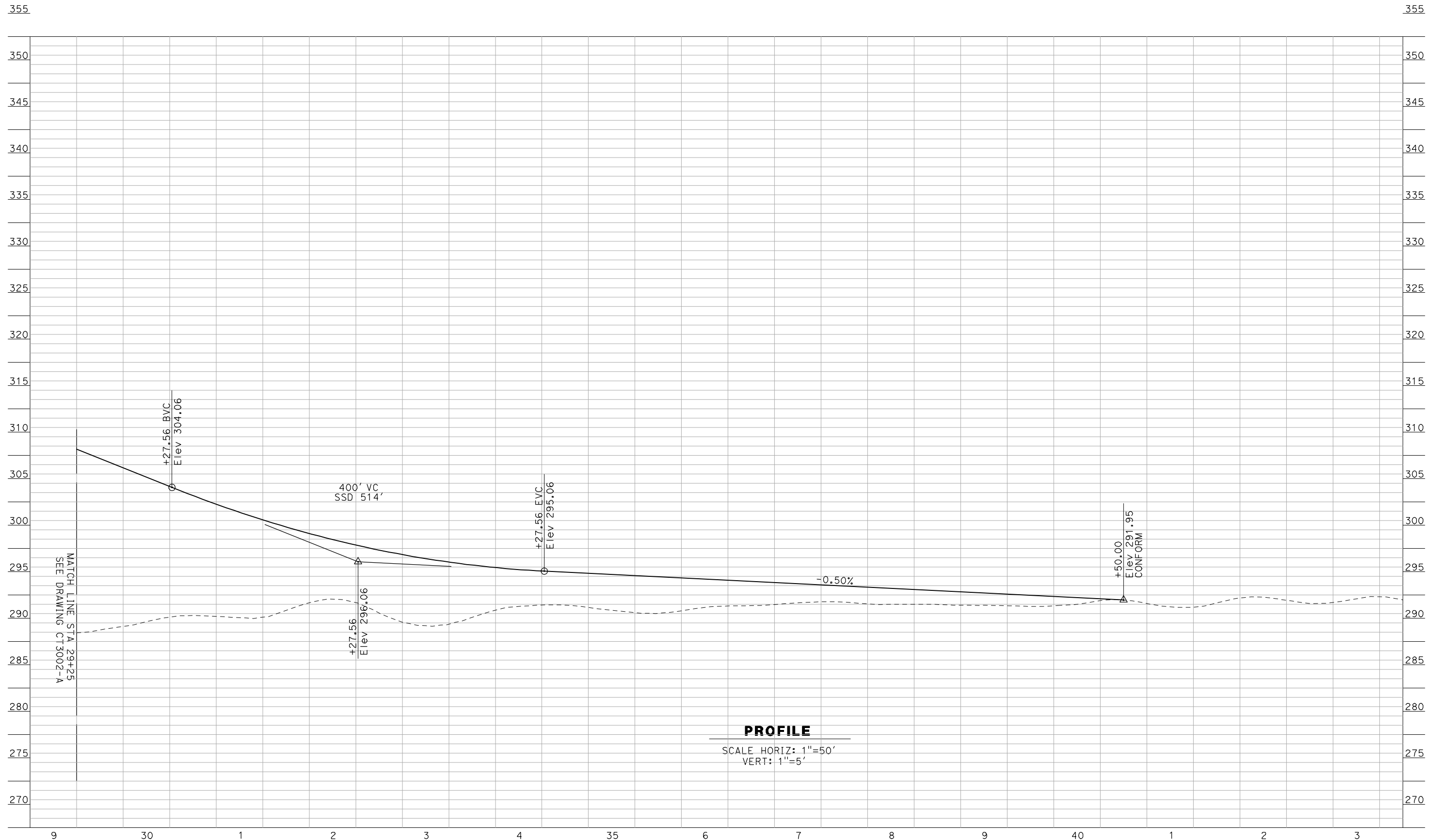


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 BNSF MAINLINE - (AVE 21 HYBRID)  
 GRADE SEPARATION - AVENUE 8  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT3002-A  
 SCALE  
AS SHOWN  
 SHEET NO.  
OF ###



6/28/2011 4:37:07 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\Volume 2 - Ave21Hybrid Caltrans Facilities\Profile\MF-CT-3003-A.dgn



**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

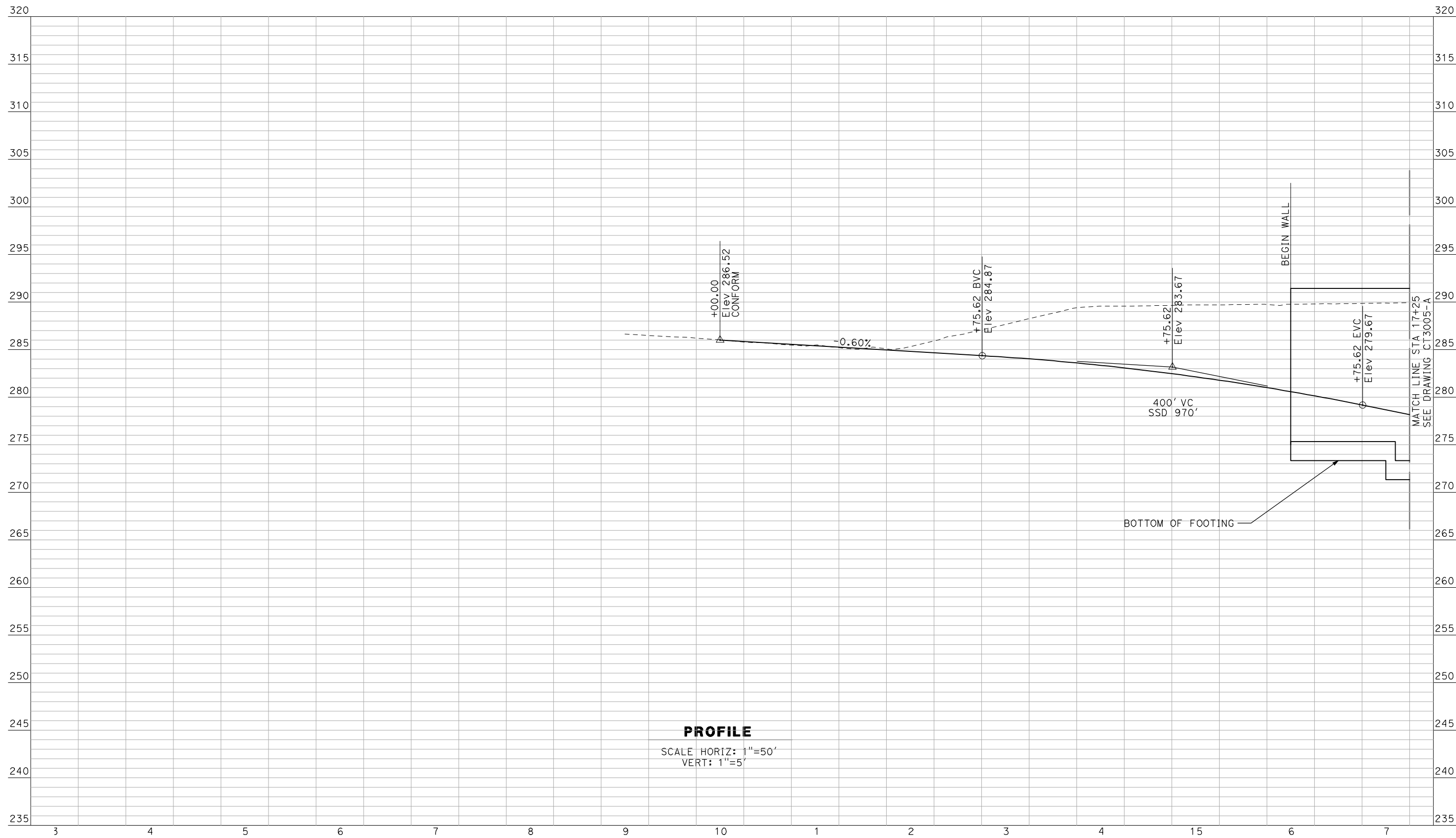


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAINLINE - (AVE 21 HYBRID)  
GRADE SEPARATION - AVENUE 8  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT3003-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###

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**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



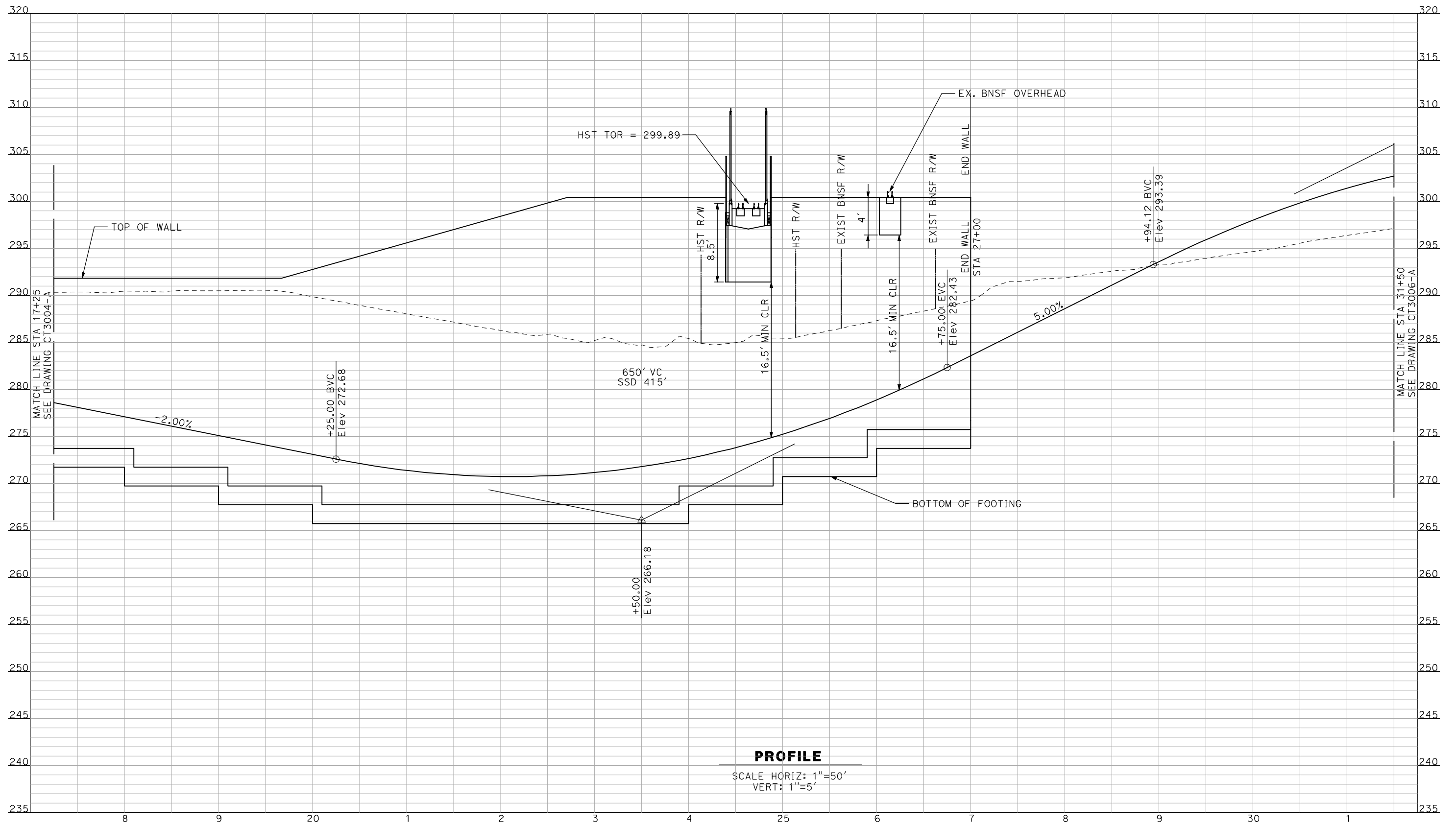
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAINLINE - (AVE 21 HYBRID)  
UNDERPASS - YOSEMITE AVE (SR 145)  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT3004-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



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**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

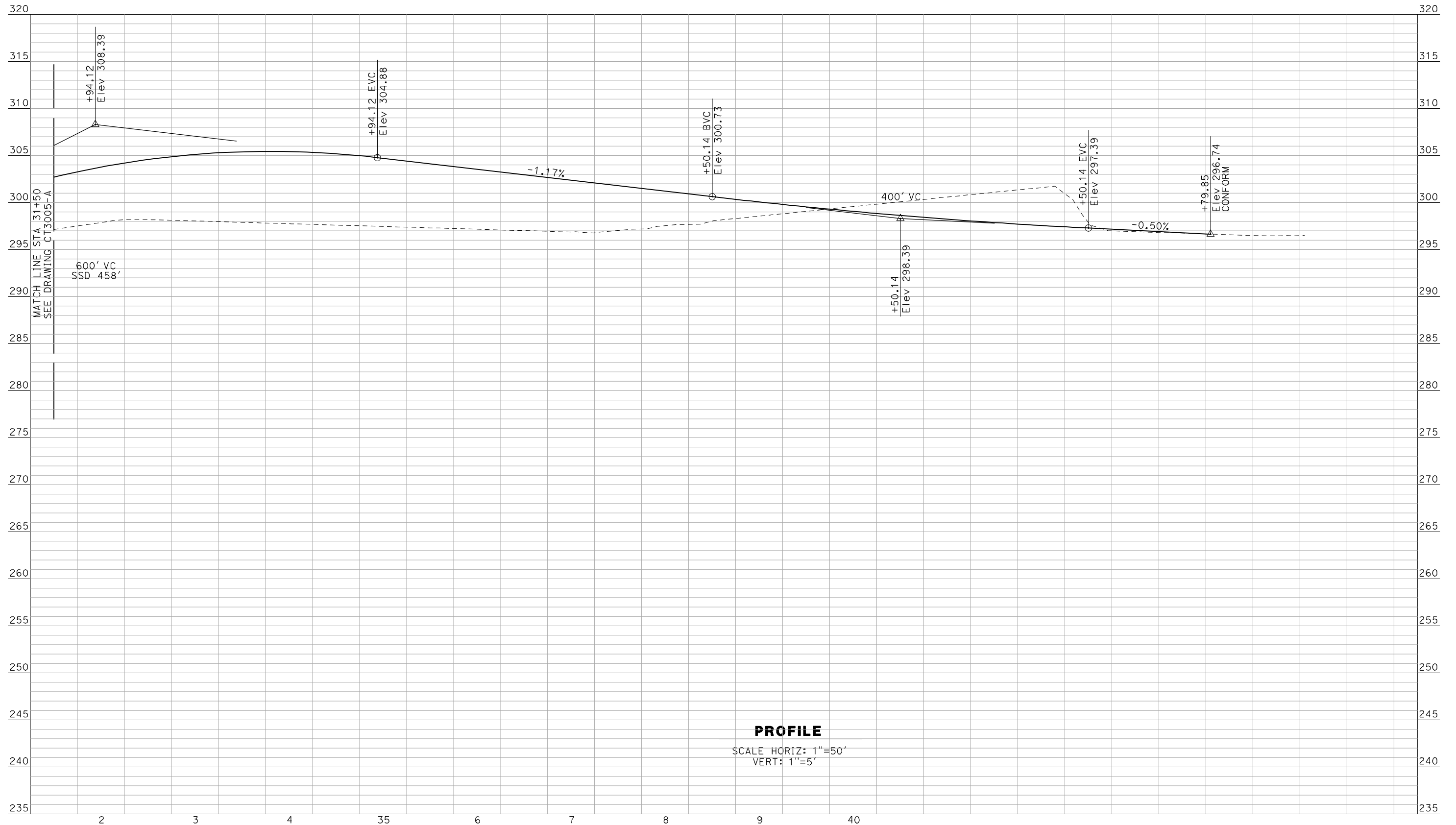


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAINLINE - (AVE 21 HYBRID)  
UNDERPASS - YOSEMITE AVE (SR 145)  
PROFILE  
SHEET 2 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT3005-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###

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**PROFILE**

SCALE HORIZ: 1"=50'  
VERT: 1"=5'

NOT FOR CONSTRUCTION  
FOR INTERNAL USE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
F. DEMARCO  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



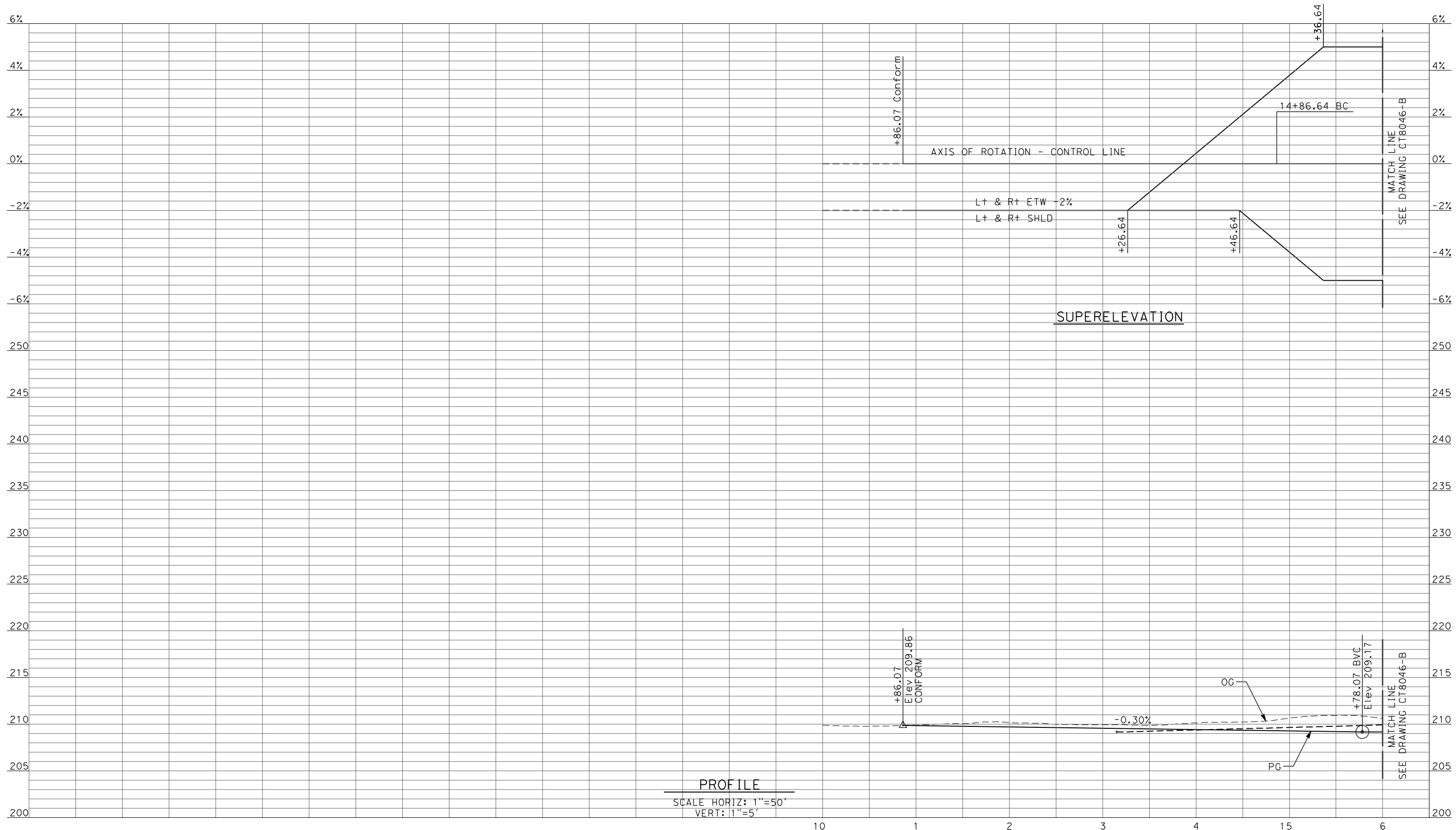
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAINLINE - (AVE 21 HYBRID)  
UNDERPASS - YOSEMITE AVE (SR 145)  
PROFILE  
SHEET 3 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT3006-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



6/27/2011 1:46:05 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Profile\CT8045-B.dgn



PROFILE  
SCALE HORIZ: 1"=50'  
VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

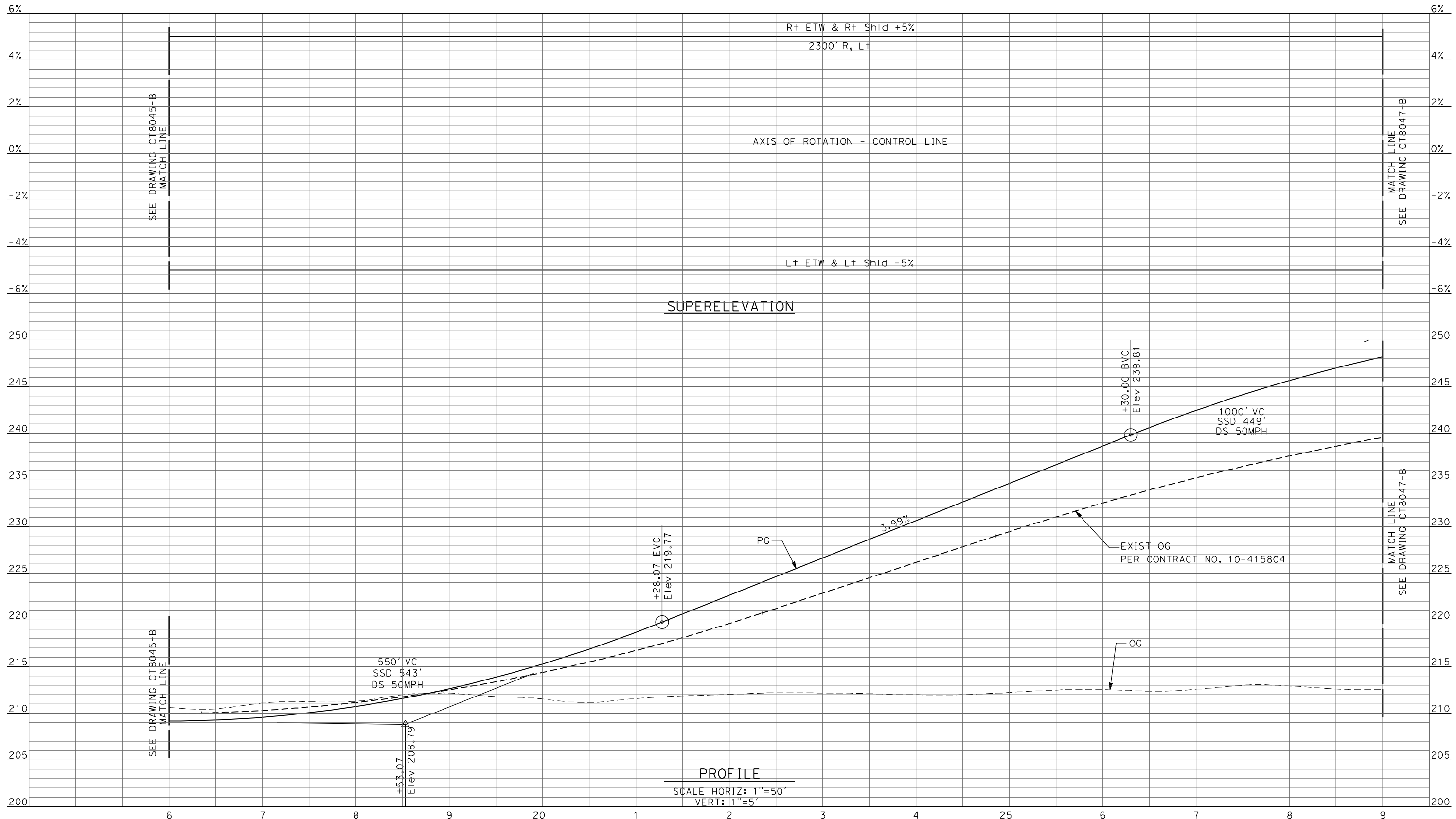


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
PROFILE  
SHEET 1 OF 3

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT8045-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

6/27/2011 1:46:08 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Profile\CT8046-B.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI

DRAWN BY  
A. TRINH

CHECKED BY  
A. SILVER

IN CHARGE  
A. BOONE

DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
 PROFILE  
 SHEET 2 OF 3

CONTRACT NO.  
HSR06-007

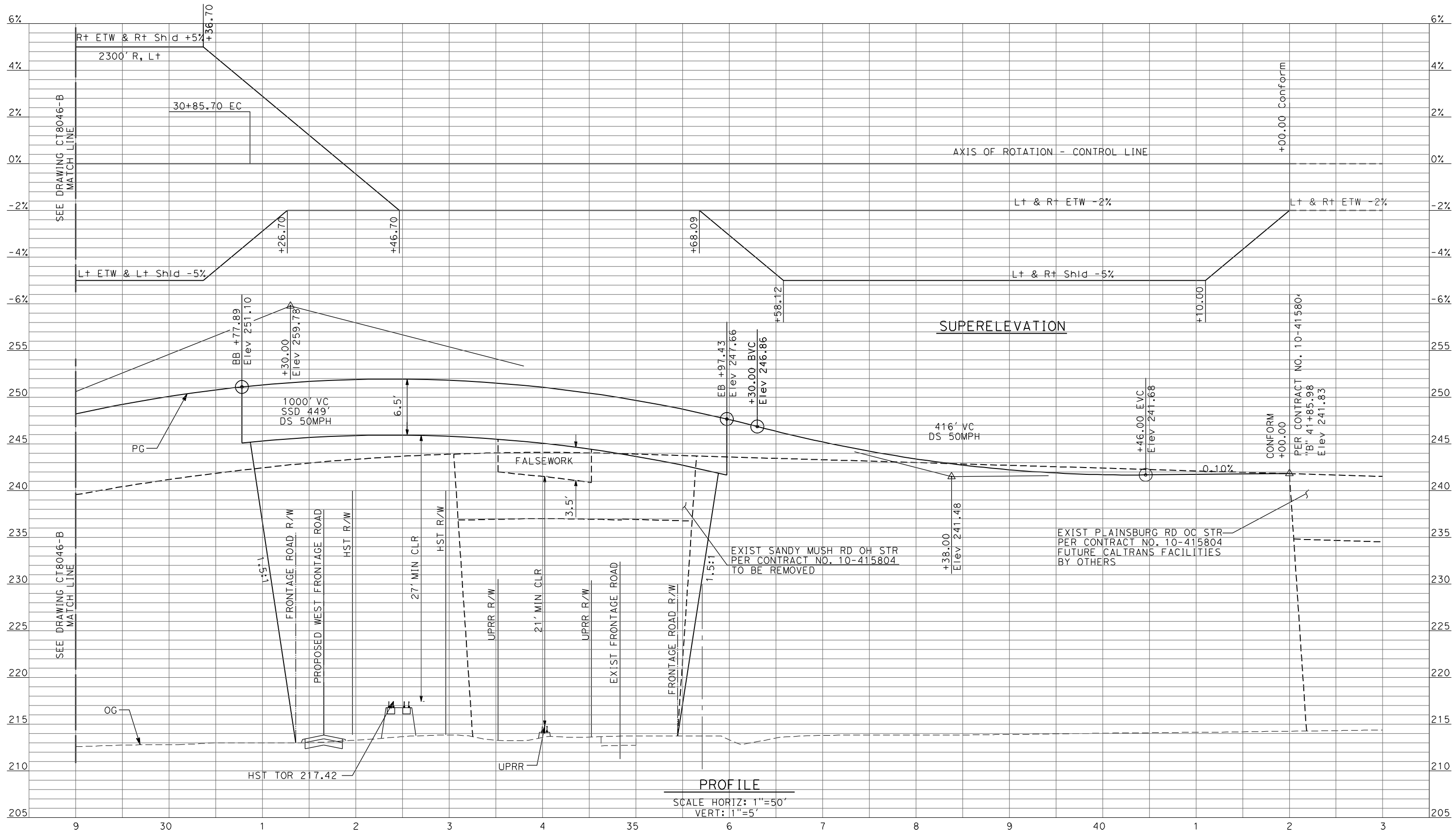
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CT8046-B

SCALE  
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SHEET NO.  
### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - SANDY MUSH RD INTERCHANGE  
PROFILE  
SHEET 3 OF 3

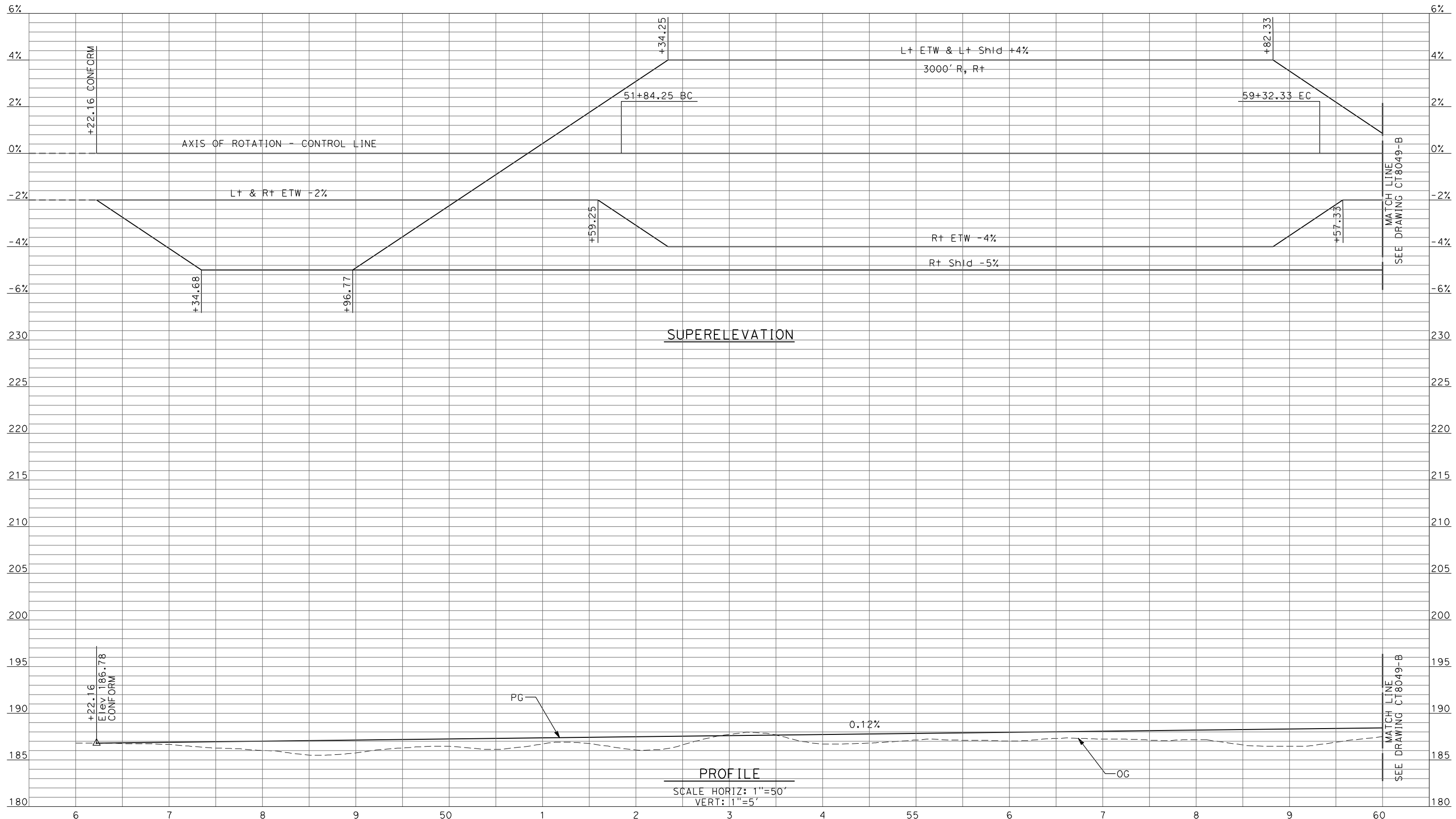
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HSR06-007

DRAWING NO.  
CT8047-B

SCALE  
AS SHOWN

SHEET NO.  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI

DRAWN BY  
A. TRINH

CHECKED BY  
A. SILVER

IN CHARGE  
A. BOONE

DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
PROFILE  
SHEET 1 OF 5

CONTRACT NO.  
HSR06-007

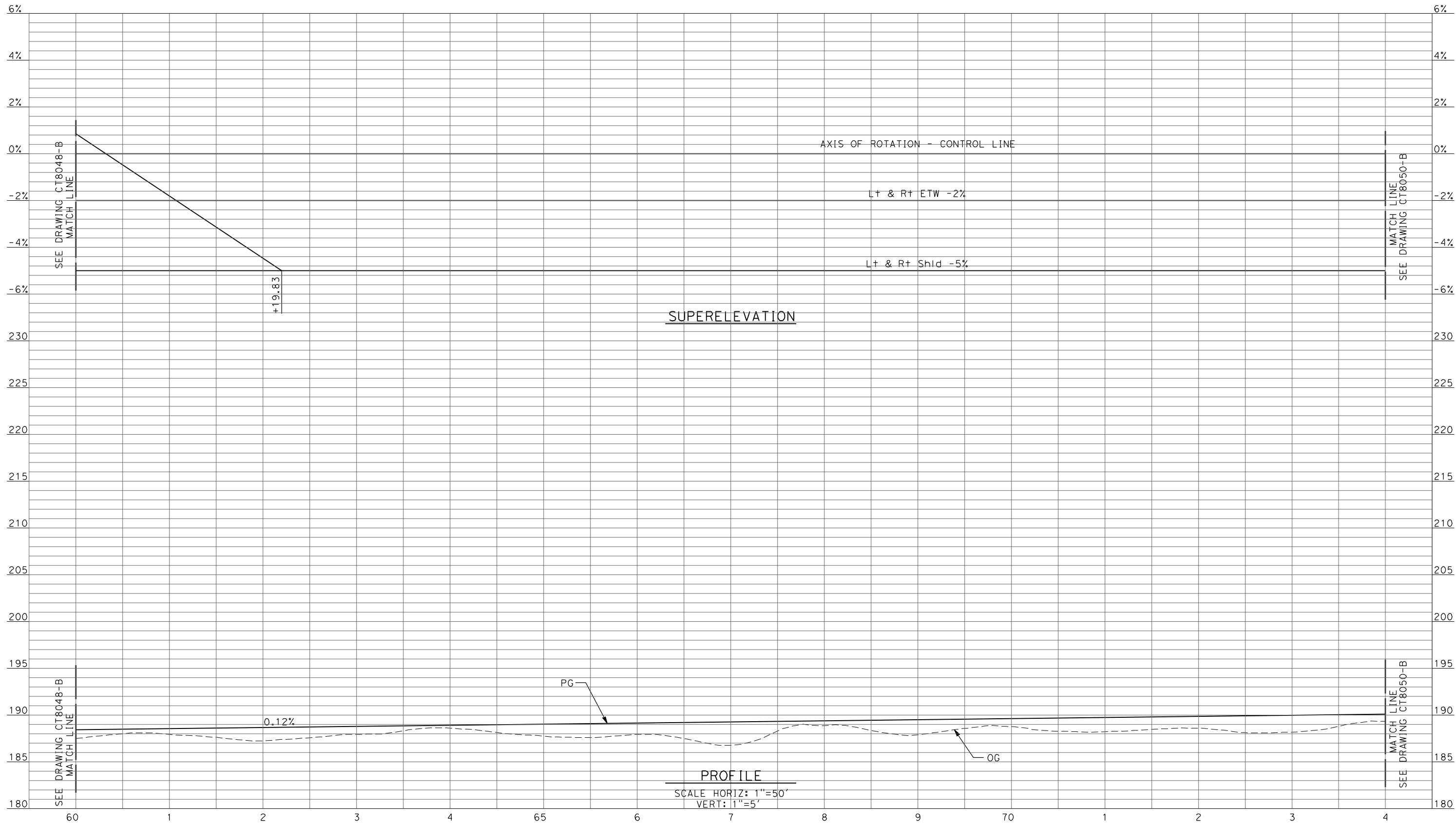
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CT8048-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

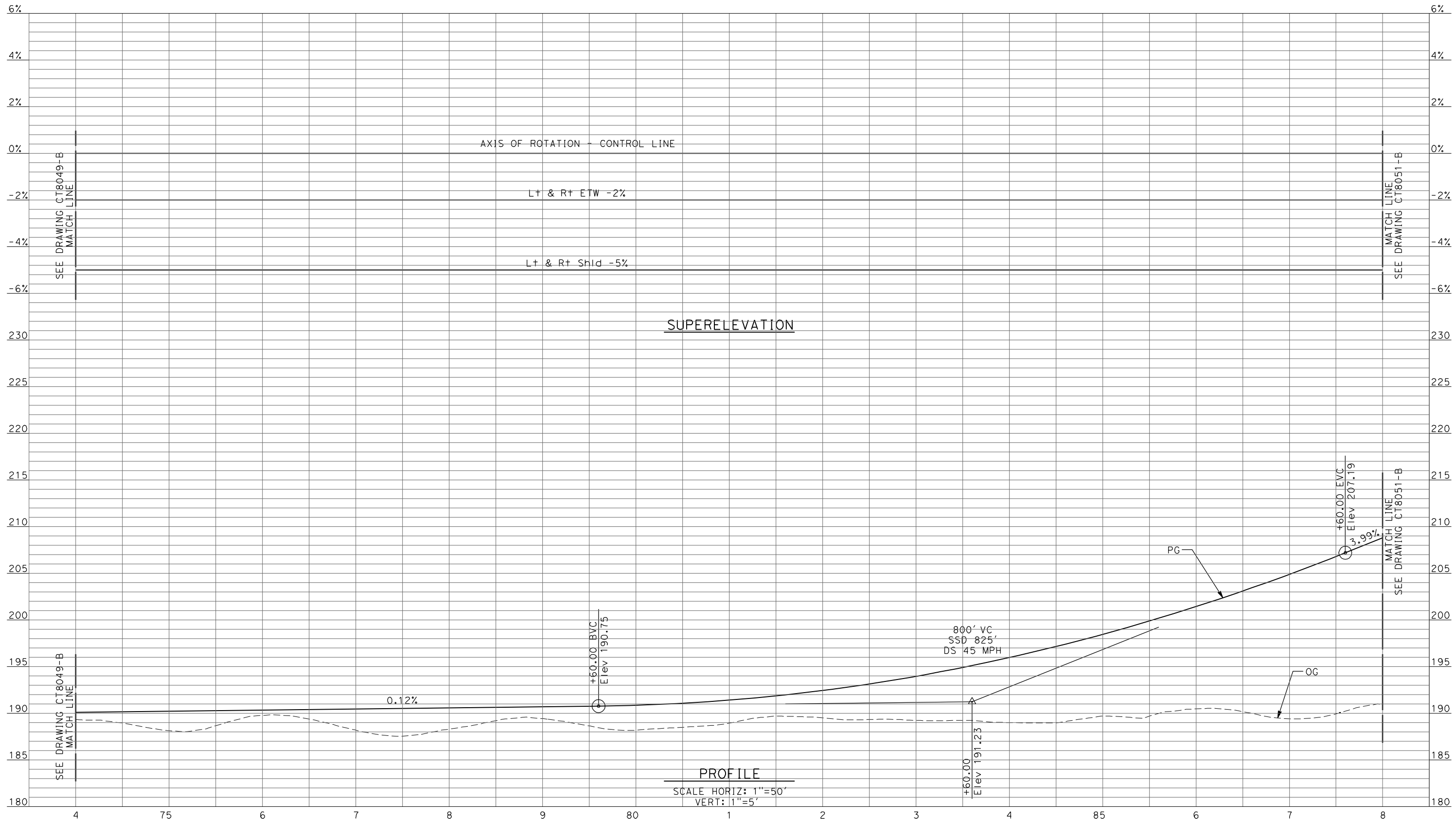


**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
PROFILE  
SHEET 2 OF 5

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT8049-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

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**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

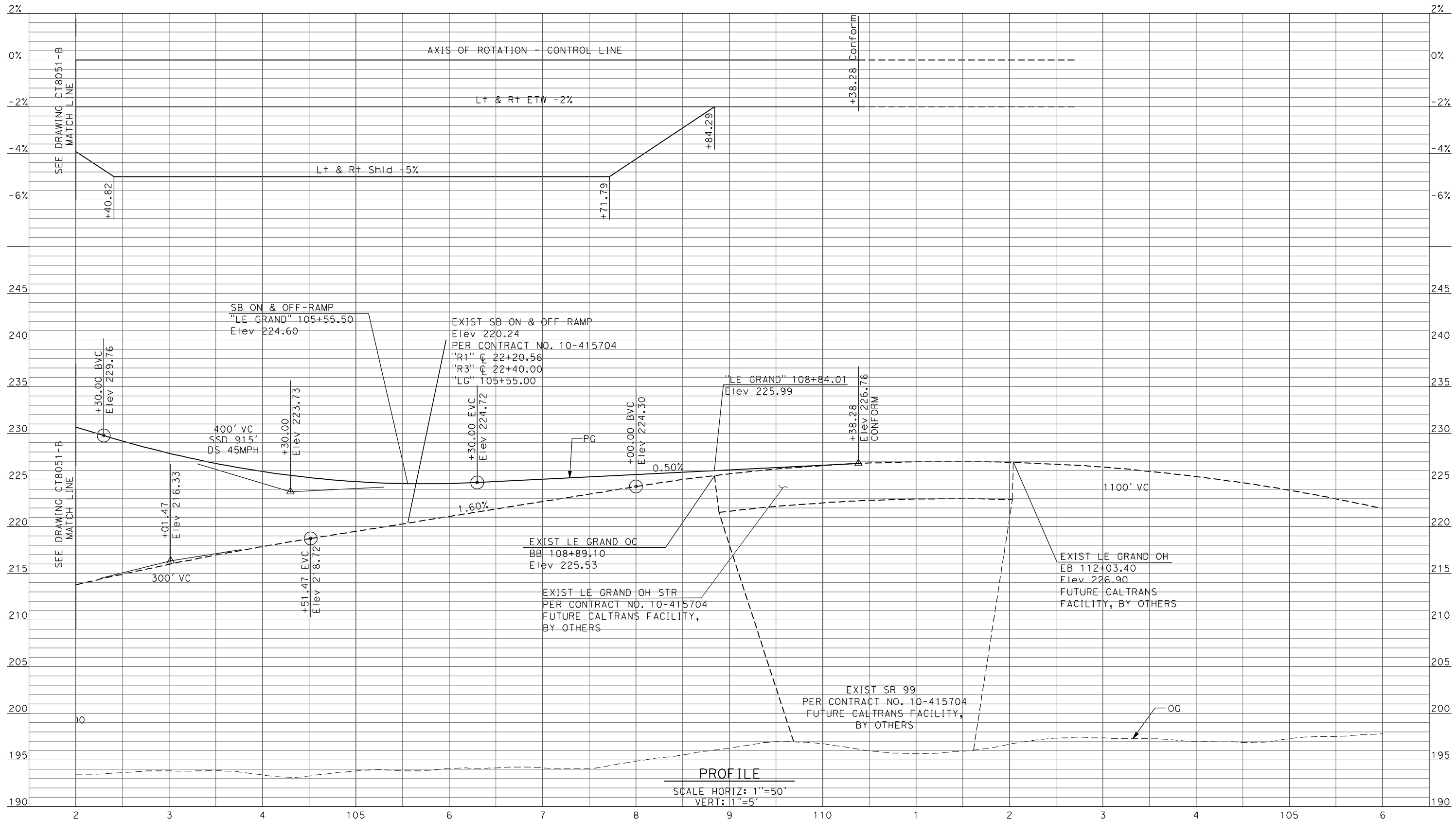
UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION - LE GRAND RD INTERCHANGE  
 PROFILE  
 SHEET 3 OF 5

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CT8050-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###





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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



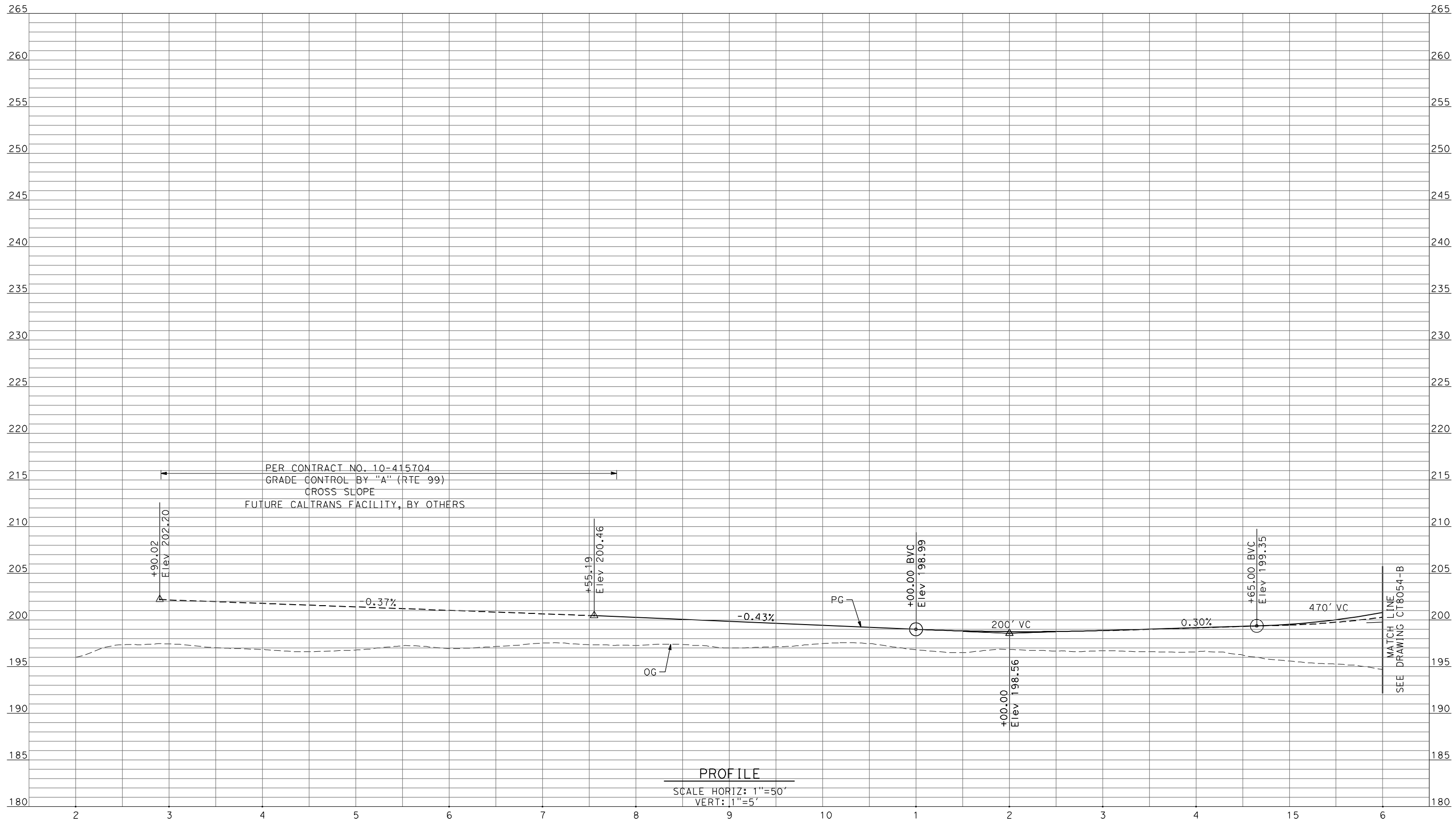
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GRADE SEPARATION - LE GRAND RD INTERCHANGE  
PROFILE  
SHEET 5 OF 5

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CT8052-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



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 oyeled



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. LI  
 DRAWN BY  
 A. TRINH  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

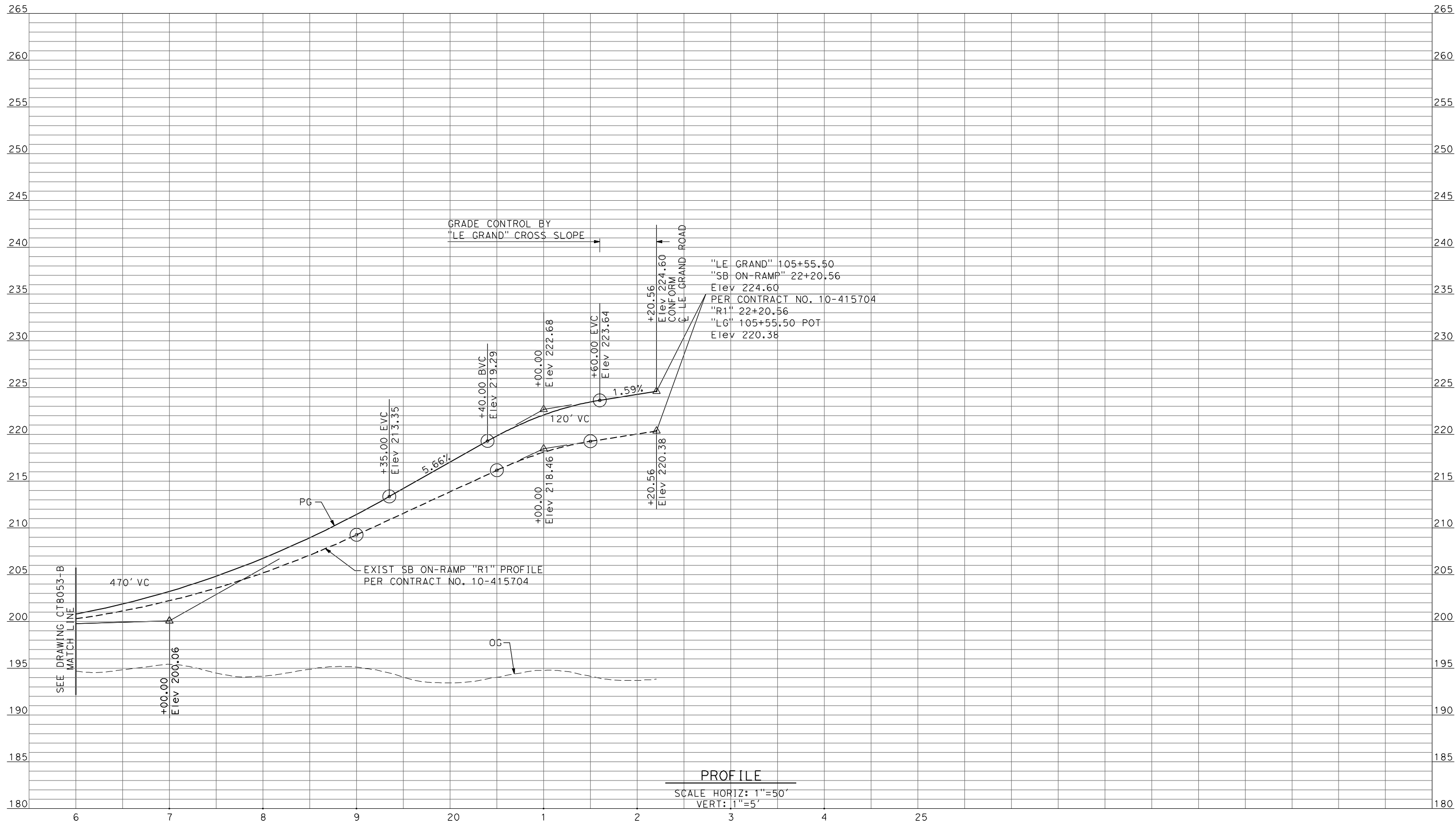
**RECORD SET**  
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**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION-LE GRAND RD IC SR99 SB ON-RAMP  
**PROFILE**  
 SHEET 1 OF 4

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT8053-B  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###

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 oyeled



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. LI  
 DRAWN BY  
 A. TRINH  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



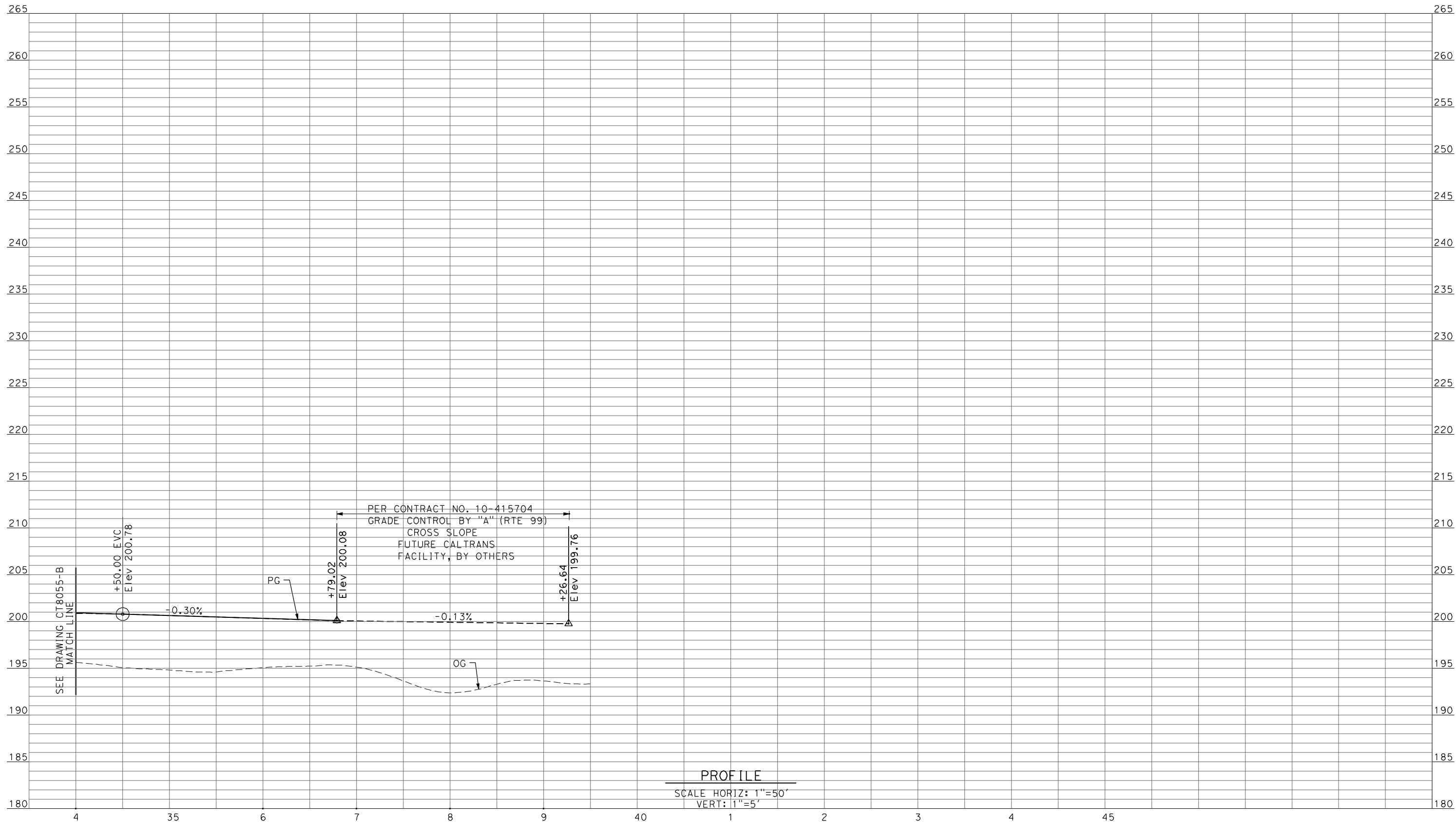
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION-LE GRAND RD IC SR99 SB ON-RAMP  
 PROFILE  
 SHEET 2 OF 4

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT8054-B  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###





6/27/2011 1:46:47 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 2B - Ave 21 Hybrid Wye Caltrans Facilities\Profile\CT8056-B.dgn  
 oyeled



**PROFILE**  
 SCALE HORIZ: 1"=50'  
 VERT: 1"=5'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 R. LI  
 DRAWN BY  
 A. TRINH  
 CHECKED BY  
 A. SILVER  
 IN CHARGE  
 A. BOONE  
 DATE  
 06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 MERCED - (AVE 21 HYBRID)  
 GRADE SEPARATION-LE GRAND RD IC SR99 SB OFF-RAMP  
 PROFILE  
 SHEET 4 OF 4

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
 CT8056-B  
 SCALE  
 AS SHOWN  
 SHEET NO.  
 ### OF ###



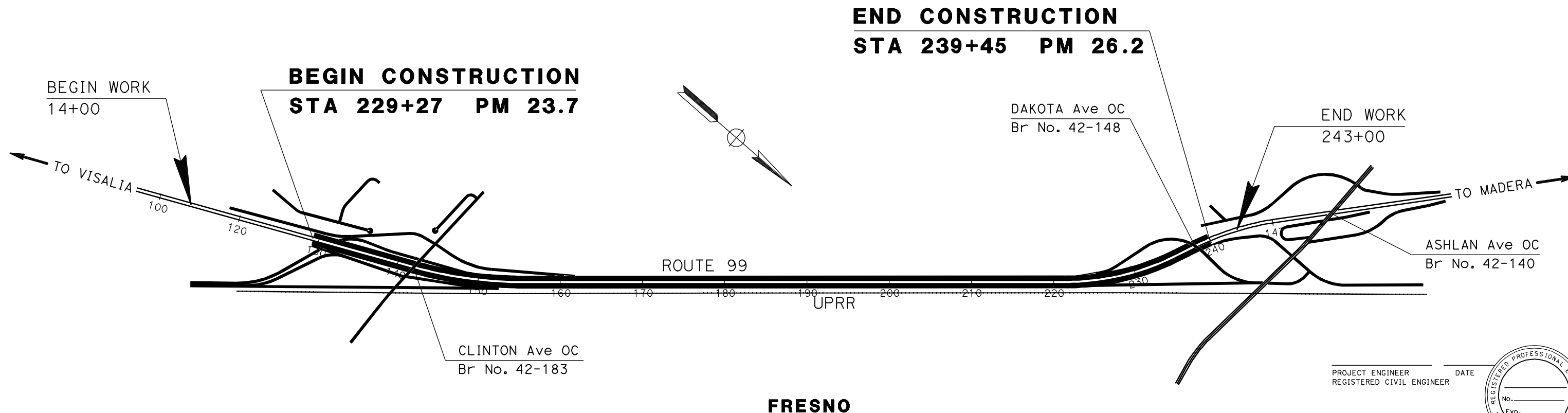
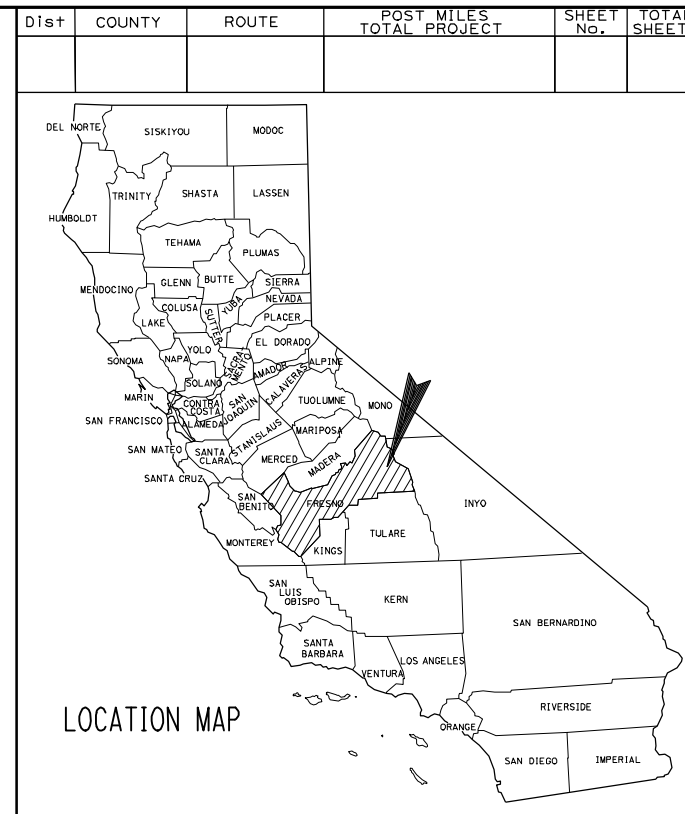
**INDEX OF PLANS**

T-1	TITLE SHEET
X-1 TO X-15	TYPICAL CROSS SECTIONS
K-1	KEYMAP
L-1 TO L-17	LAYOUT
P-1 TO P-27	PROFILE AND SUPERELEVATION
SC-1 TO SC-18	STAGE CONSTRUCTION
BR-1 TO BR-6	STRUCTURE PLANS

# CALIFORNIA HIGH SPEED RAIL AUTHORITY

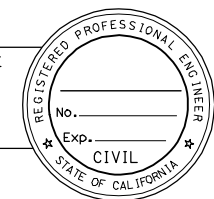
## PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY IN THE CITY OF FRESNO 0.5 MI SOUTH OF CLINTON AVENUE TO 0.2 MI SOUTH OF ASHLAN AVENUE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE \_\_\_\_\_



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**G. MANOREK**

DRAWN BY  
**L. ROS**

CHECKED BY  
**L. HEUSTON**

IN CHARGE  
**J. MATSUI-DRURY**

DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**TITLE**

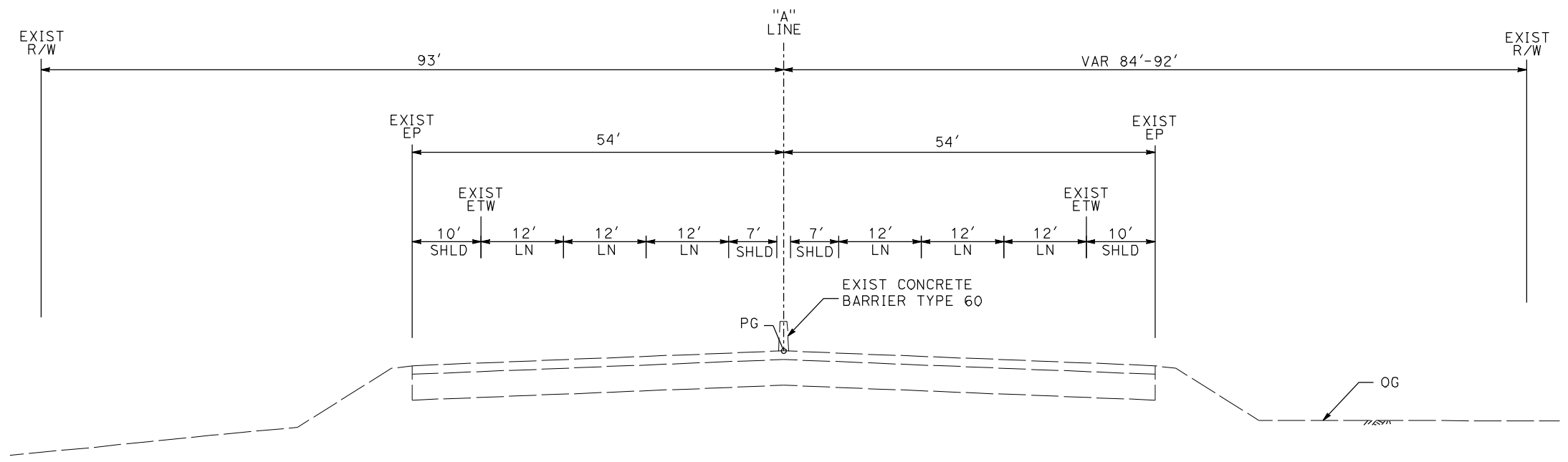
CONTRACT NO.  
**HSR06-007**

DRAWING NO.  
**T-1**

SCALE  
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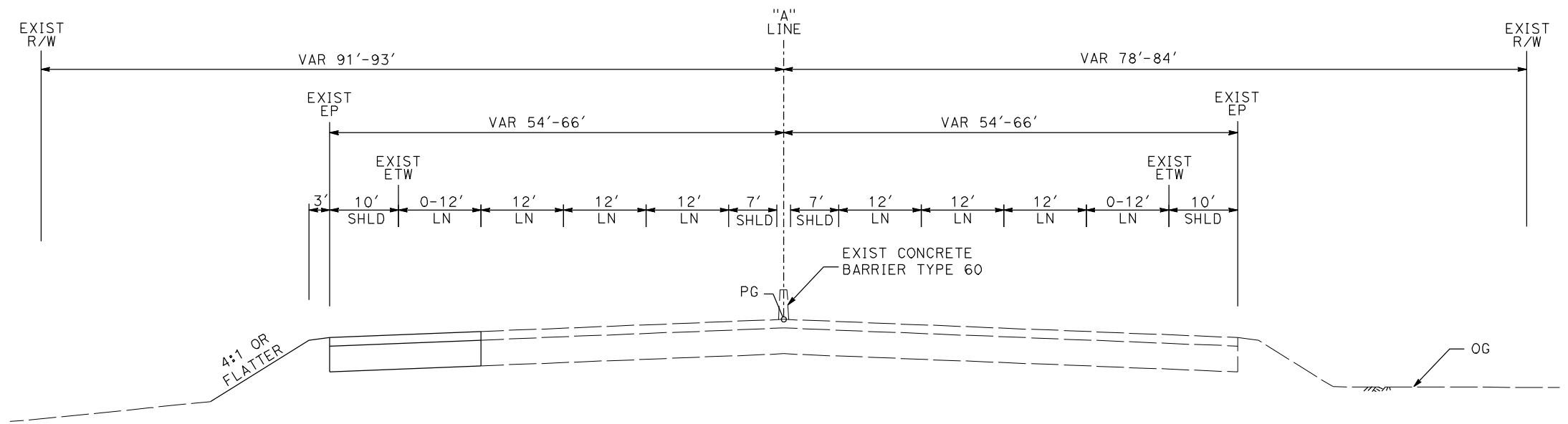
SHEET NO.

DATE PLOTTED: 03/26/11



**SB 117+00 TO 117+40**

**NB 117+00 TO 119+55**



**SB 117+40 TO 123+40**

**NB 119+55 TO 123+15**

**ROUTE 99**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

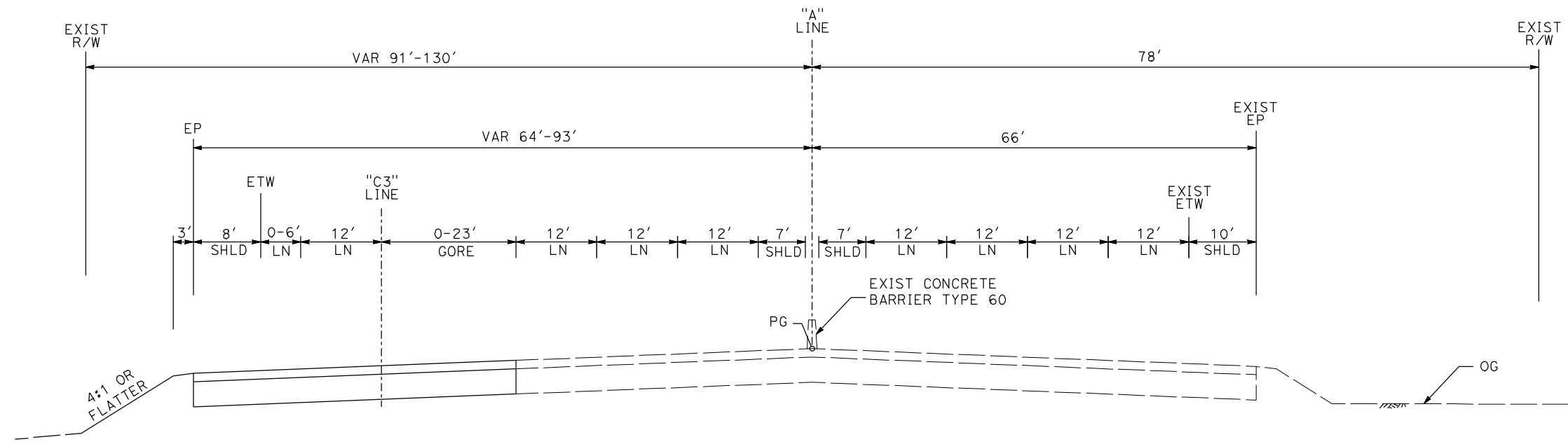


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-1**  
SCALE  
NO SCALE  
SHEET NO.

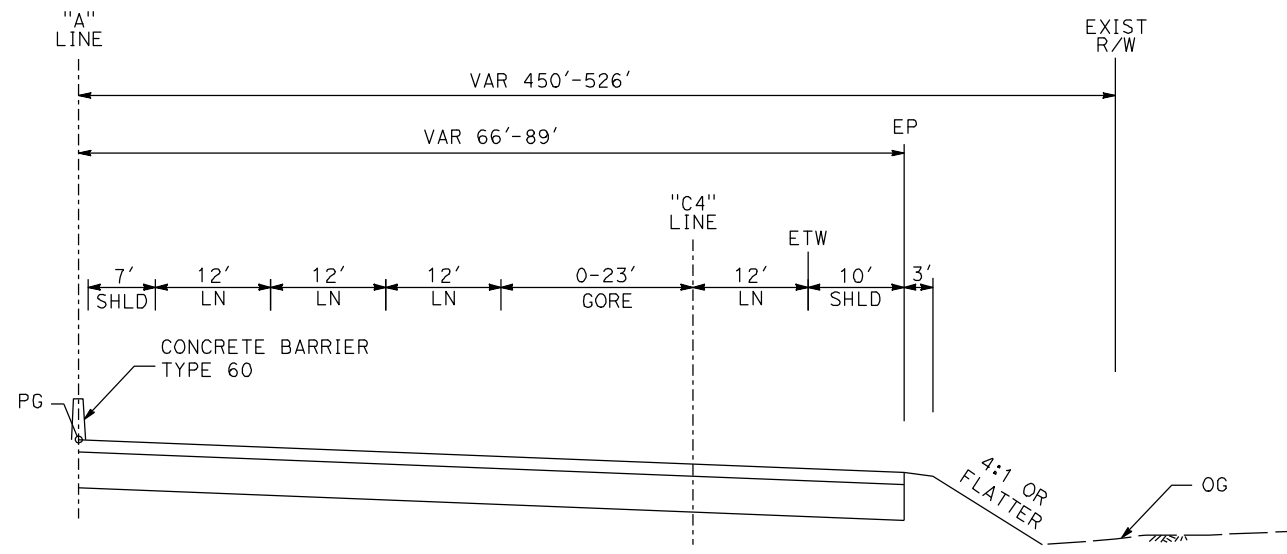
DATE PLOTTED => 26-APR-2011





**SB 123+40 TO 129+27**

**NB 123+15 TO 130+18**



**NB 130+18 TO 132+89**

**ROUTE 99**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

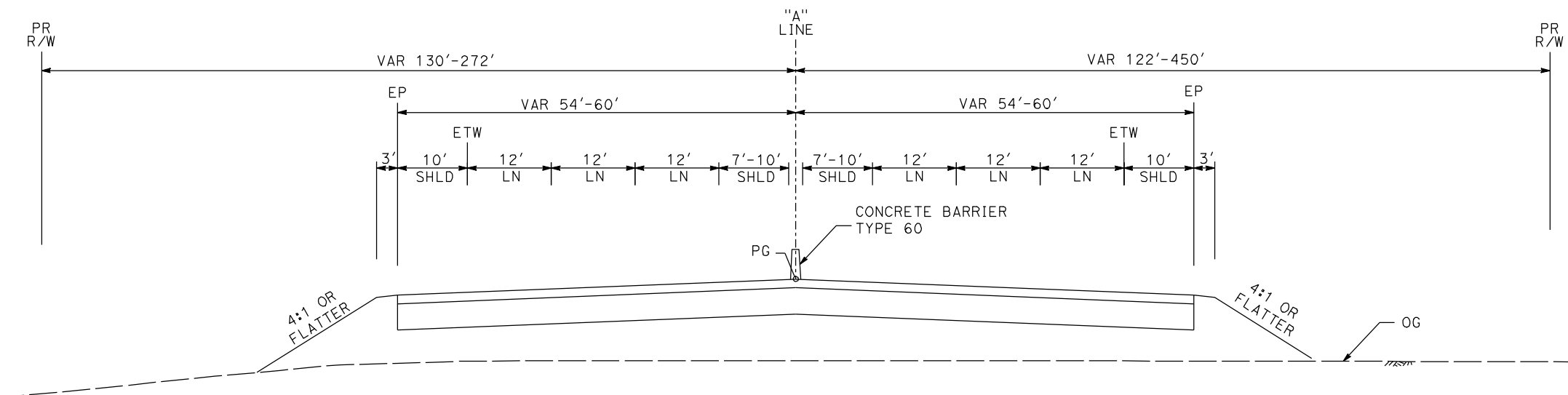
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

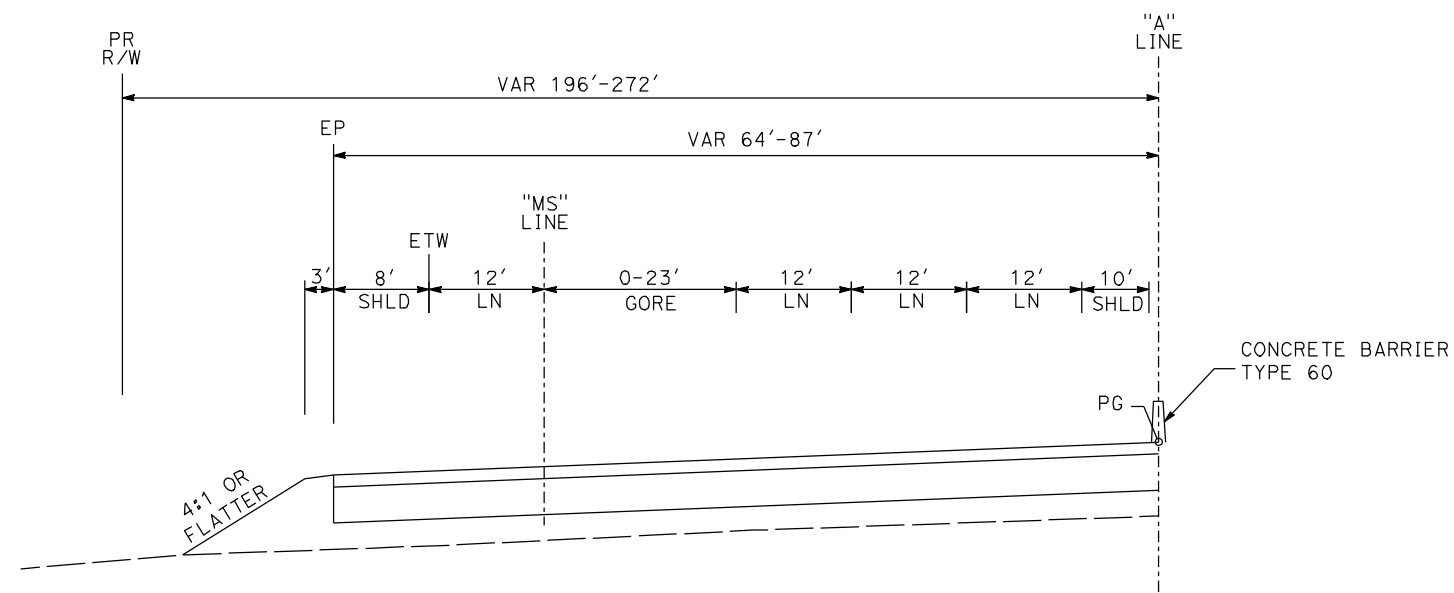
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HSR06-007  
DRAWING NO.  
**X-2**  
SCALE  
NO SCALE  
SHEET NO.

DATE: 01/07/11 10:26:43 AM



SB 129+27 TO 146+07

NB 132+89 TO 152+18



SB 146+07 TO 148+79

ROUTE 99

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

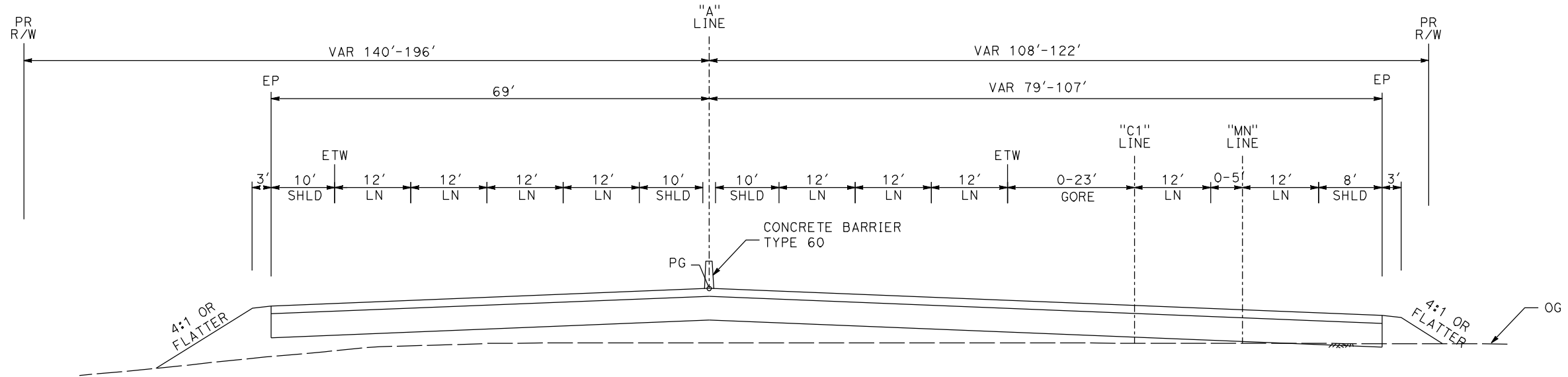


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-3**  
SCALE  
NO SCALE  
SHEET NO.

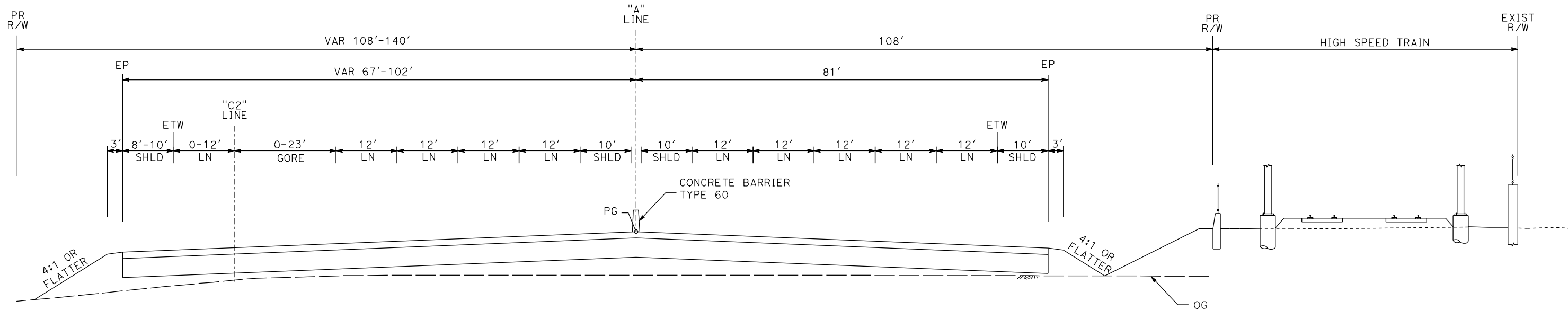
DATE PLOTTED => 26-APR-2011





**SB 148+79 TO 157+19**

**NB 152+18 TO 158+14**



**SB 157+19 TO 161+30**

**NB 152+18 TO 158+14**

**ROUTE 99**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

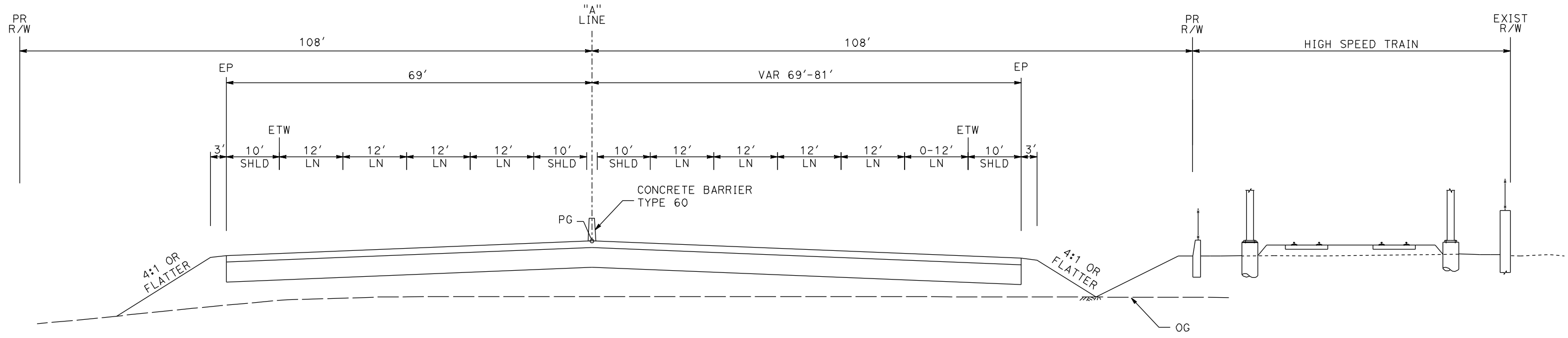
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

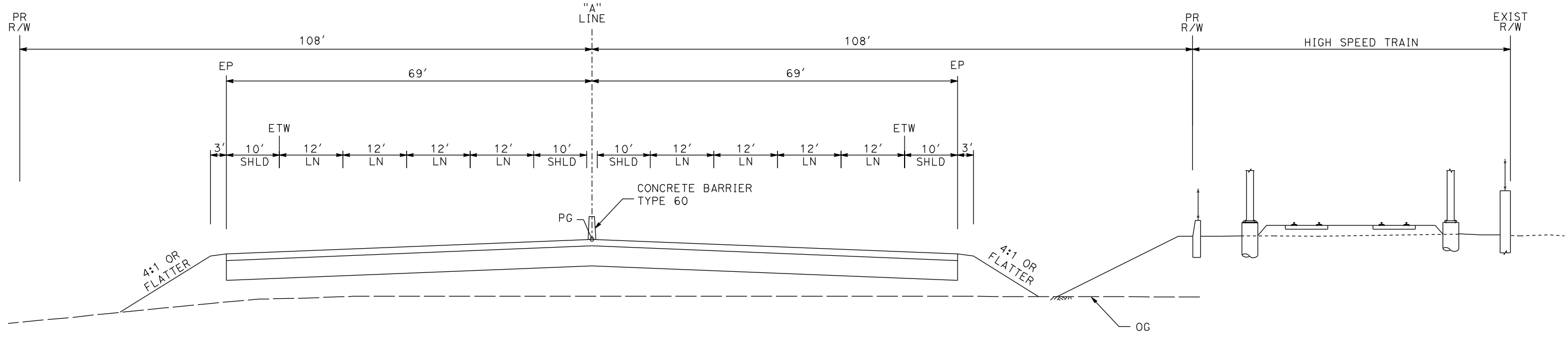
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HSR06-007  
DRAWING NO.  
**X-4**  
SCALE  
NO SCALE  
SHEET NO.

DATE PLOTTED => 26-APR-2011



SB 161+30 TO 164+14

NB 158+14 TO 164+14



SB 164+14 TO 220+00

NB 164+14 TO 220+80

ROUTE 99

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

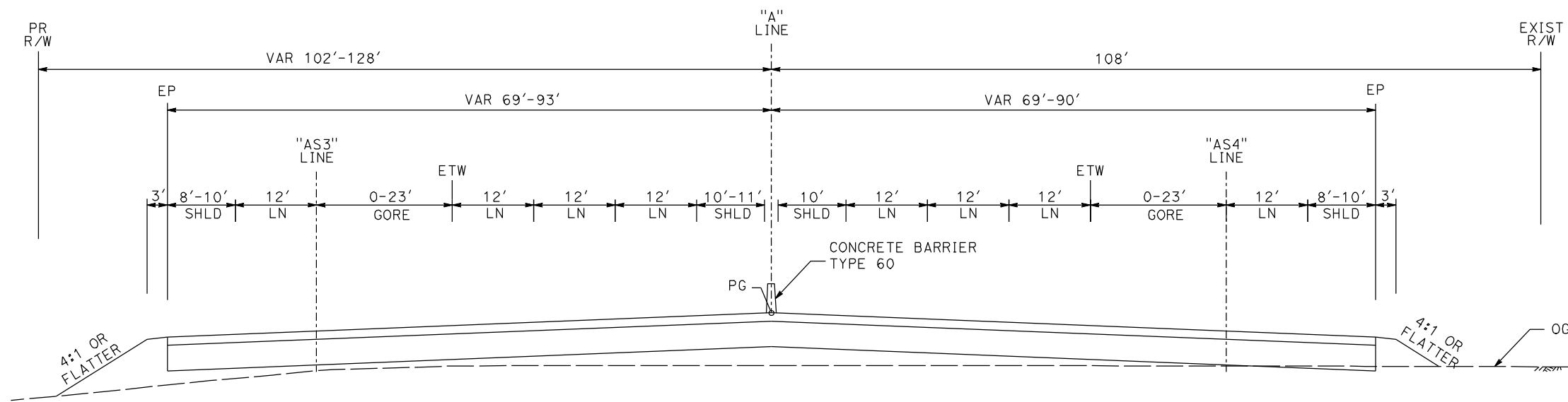


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-5**  
SCALE  
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SHEET NO.

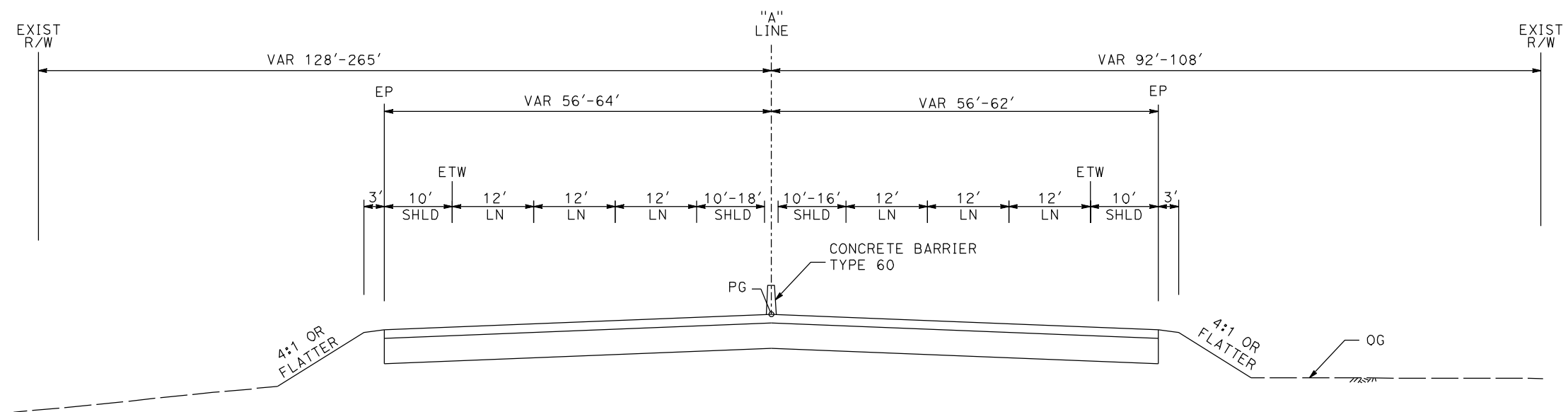
DATE PLOTTED => 26-APR-2011





**SB 220+00 TO 226+80**

**NB 220+80 TO 223+50**



**SB 226+80 TO 239+45**

**NB 223+50 TO 239+45**

**ROUTE 99**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

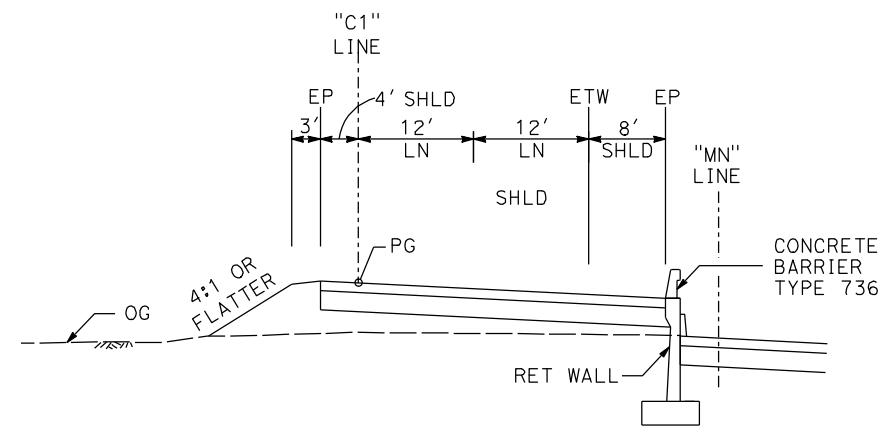
**NOT FOR  
CONSTRUCTION**



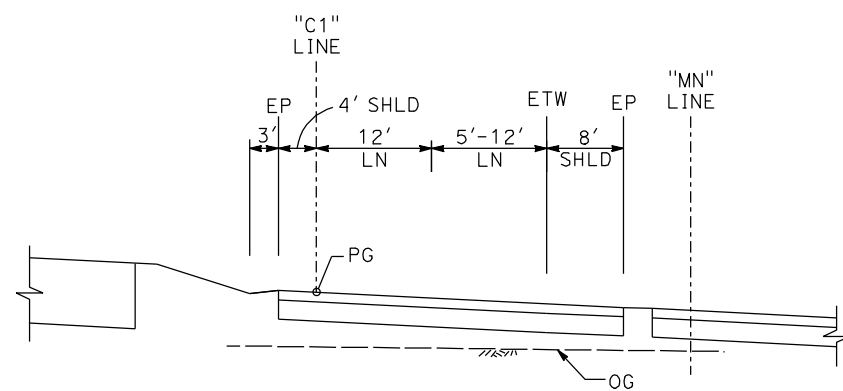
**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>X-6</b>
SCALE	NO SCALE
SHEET NO.	

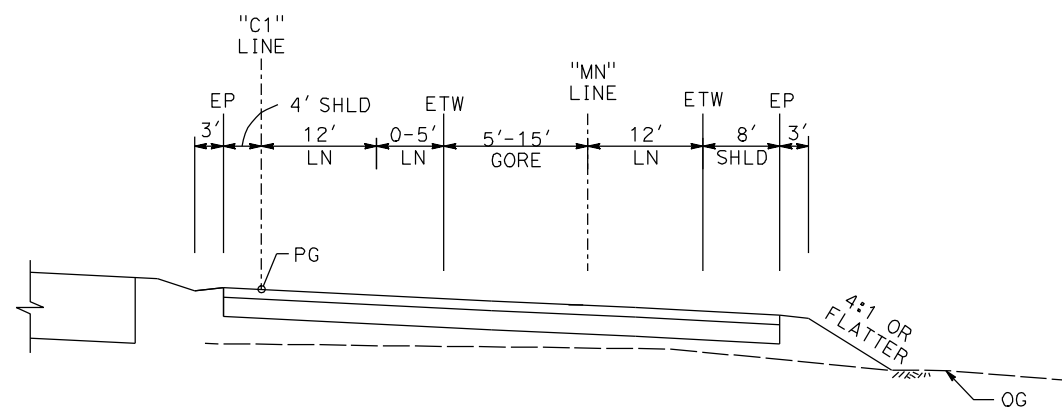
DATE PLOTTED => 26-APR-2011



**142+10 TO 1147+31**

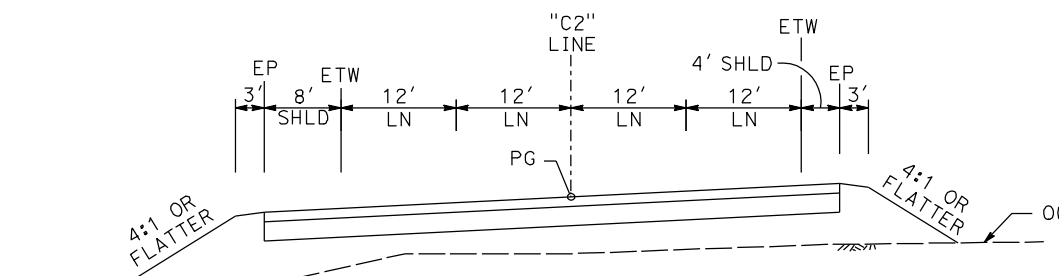


**147+31 TO 149+07**

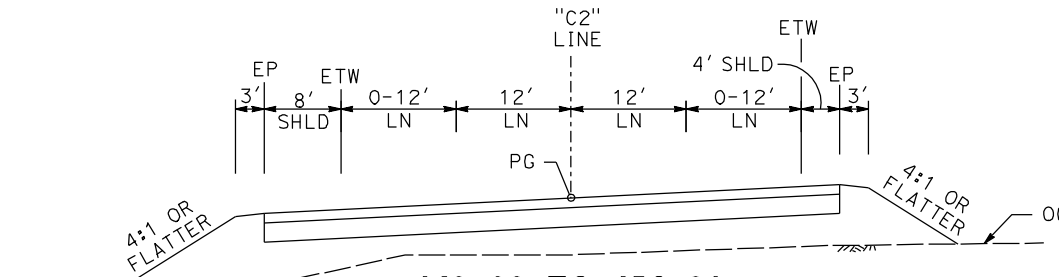


**149+07 TO 152+15**

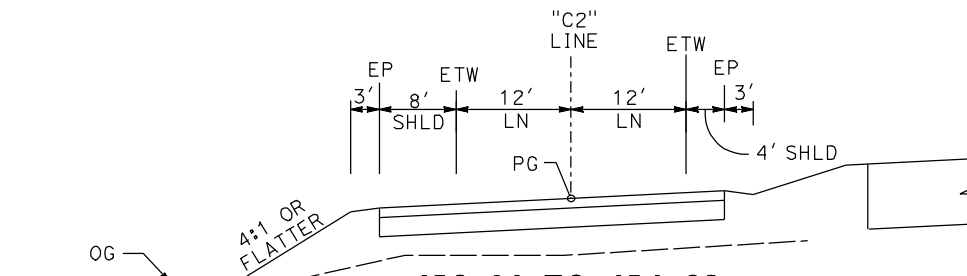
**C1 LINE  
(NB ON RAMP AT CLINTON AVE)**



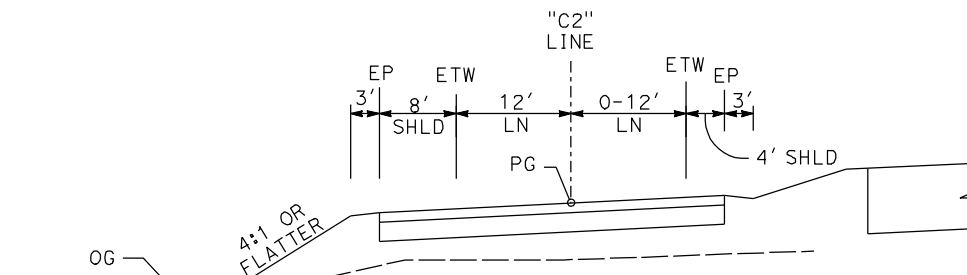
**144+66 TO 149+68**



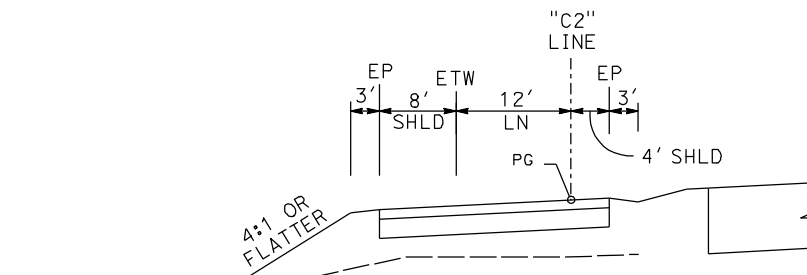
**149+68 TO 150+81**



**150+81 TO 154+32**



**154+32 TO 155+52**



**154+32 TO 155+52**

**C2 LINE  
(SB OFF RAMP AT CLINTON AVE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

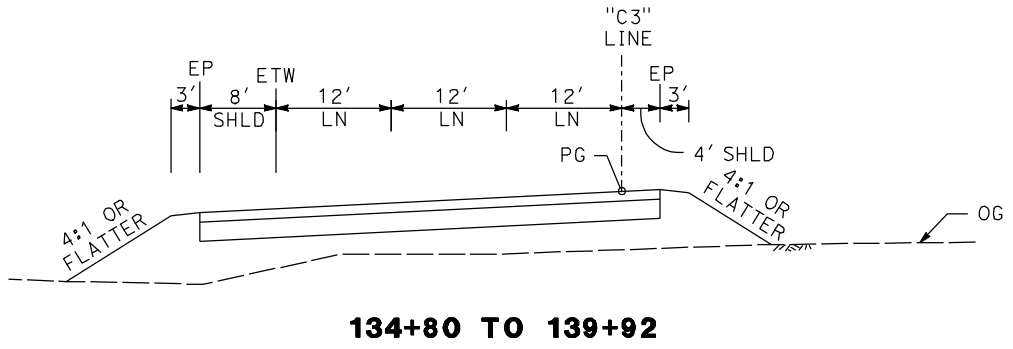
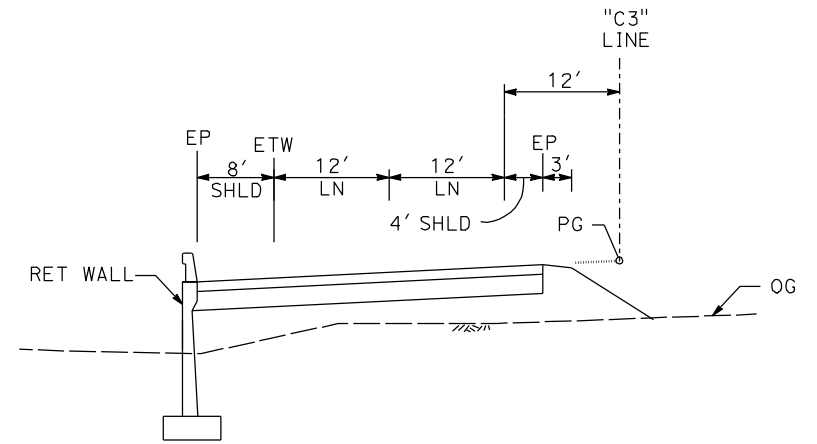
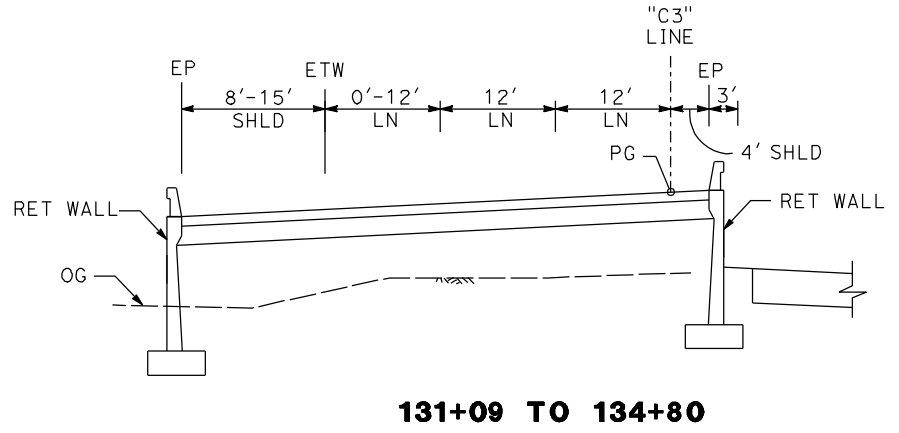
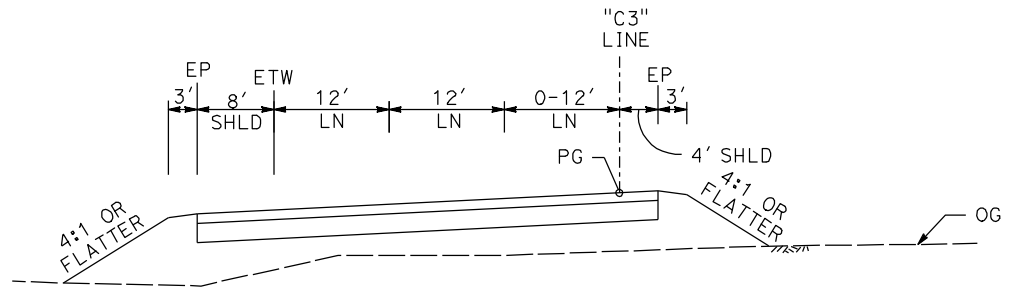
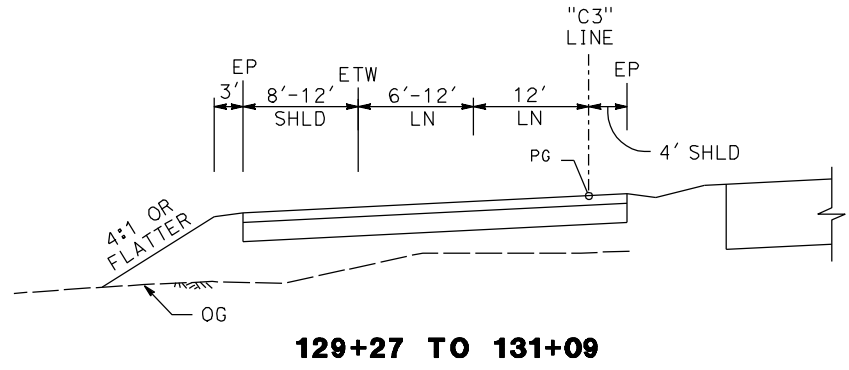


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>X-7</b>
SCALE	NO SCALE
SHEET NO.	

DATE PLOTTED: 23-APR-2011





**C3 LINE**  
**(SB ON RAMP AT CLINTON AVE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

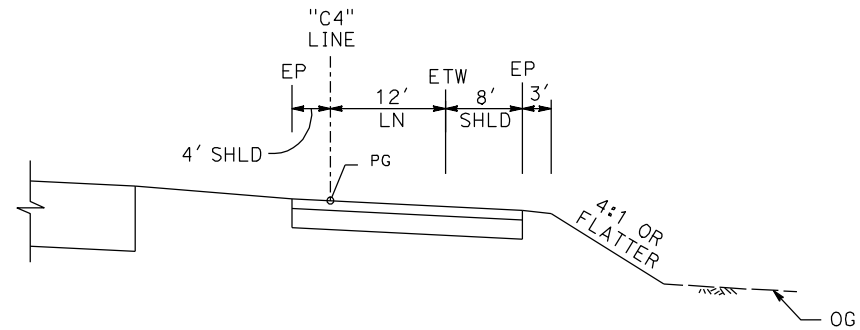
**NOT FOR**  
**CONSTRUCTION**



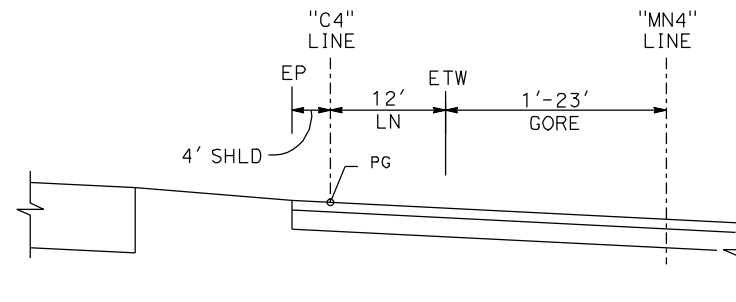
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**TYPICAL CROSS SECTIONS**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>X-8</b>
SCALE	NO SCALE
SHEET NO.	

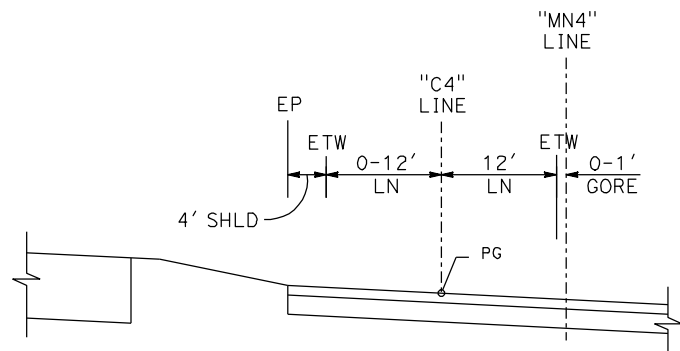
DATE PLOTTED => 26-APR-2011



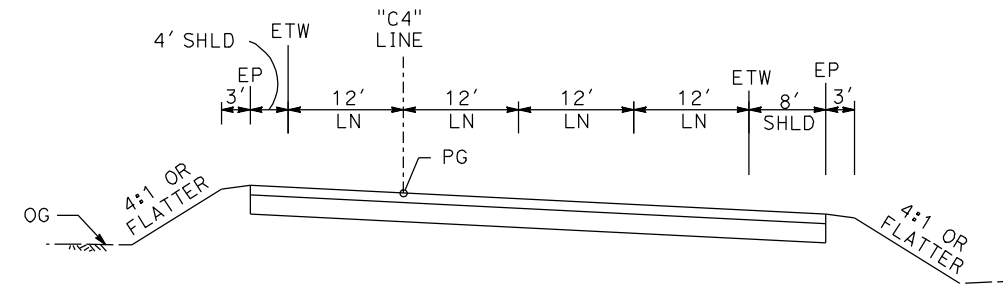
**132+89 TO 133+20**



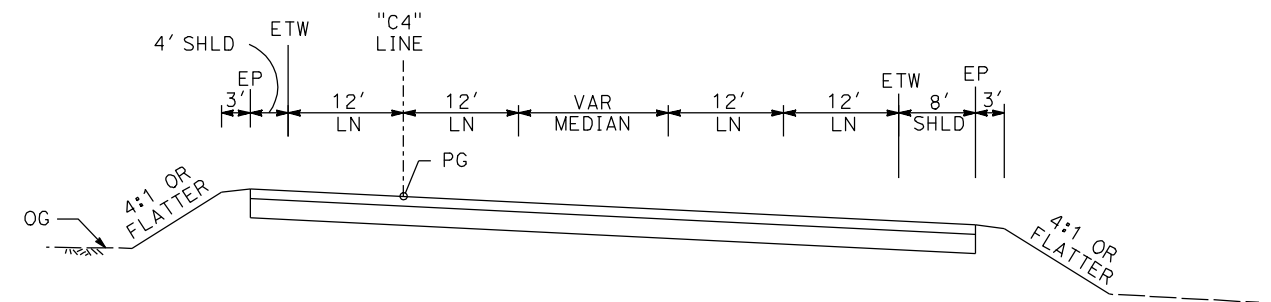
**133+20 TO 134+72**



**134+72 TO 135+92**



**135+92 TO 139+95**



**139+95 TO 141+12**

**C4 LINE  
(NB OFF RAMP AT CLINTON AVE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**G. MANOREK**  
DRAWN BY  
**L. ROS**  
CHECKED BY  
**L. HEUSTON**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.  
**HSR06-007**

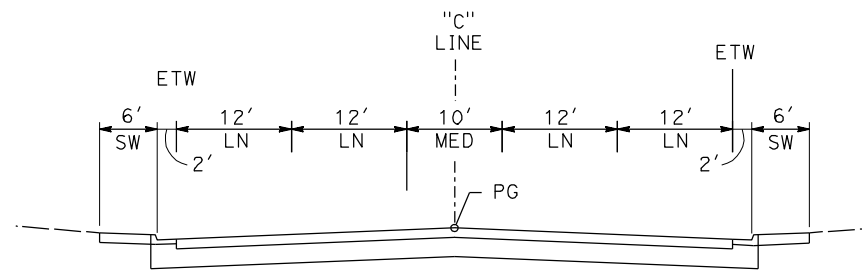
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SCALE  
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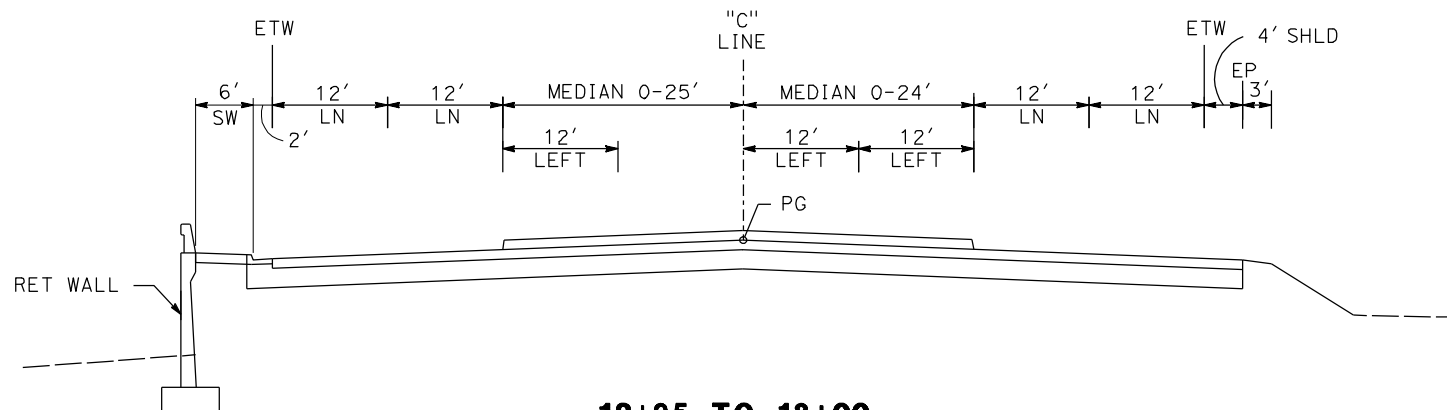
SHEET NO.

DATE PLOTTED: 23-APR-2011

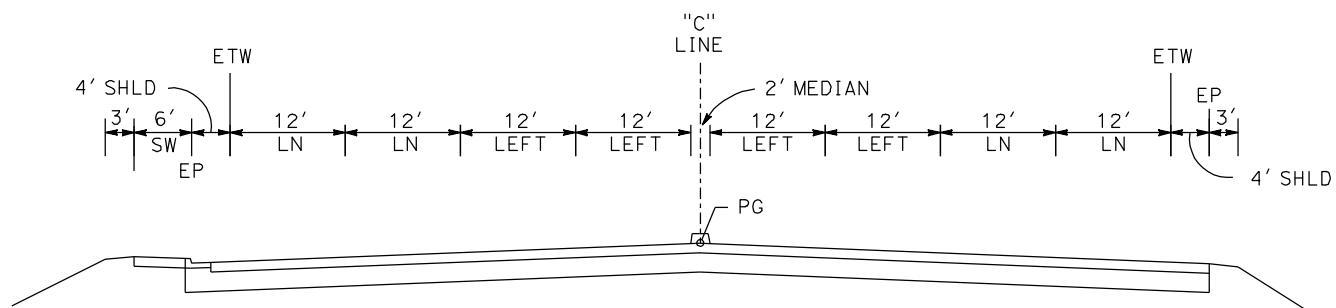




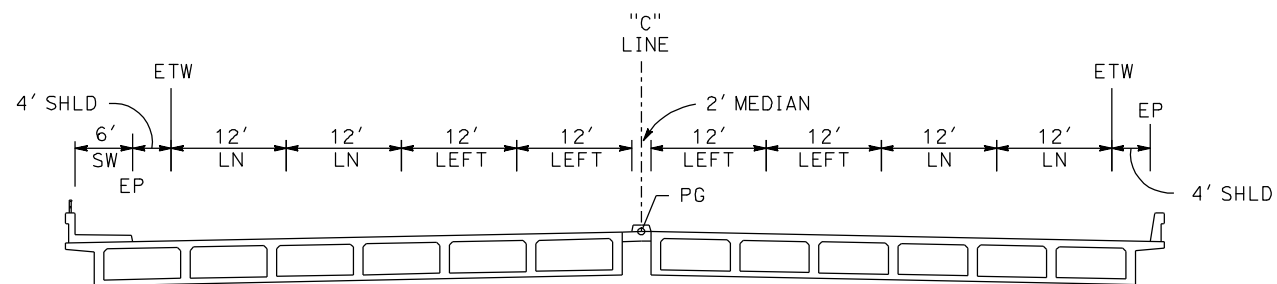
**10+00 TO 12+95**



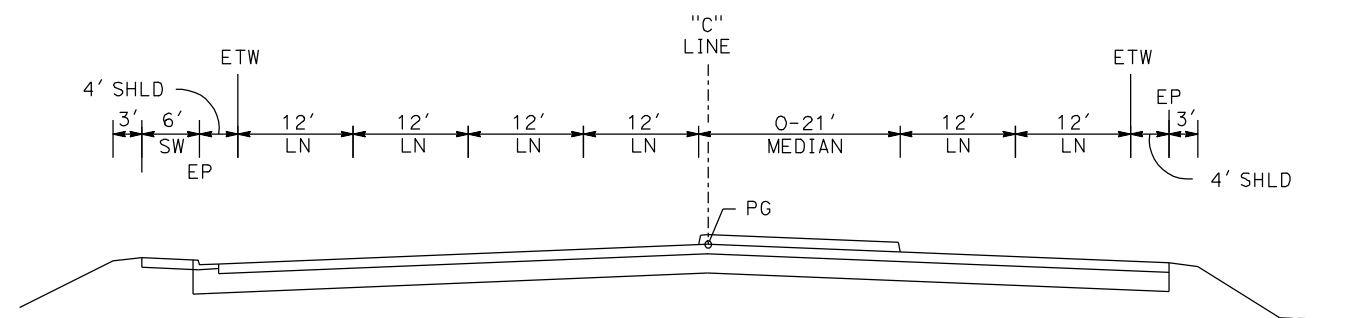
**12+95 TO 18+00**



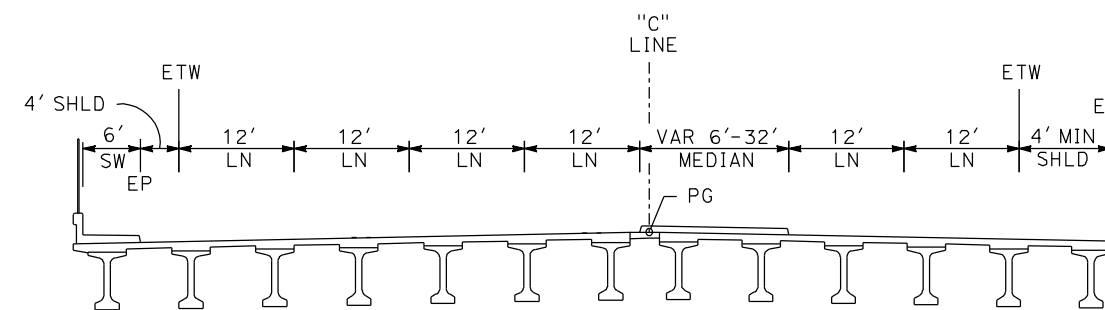
**18+00 TO 19+66**



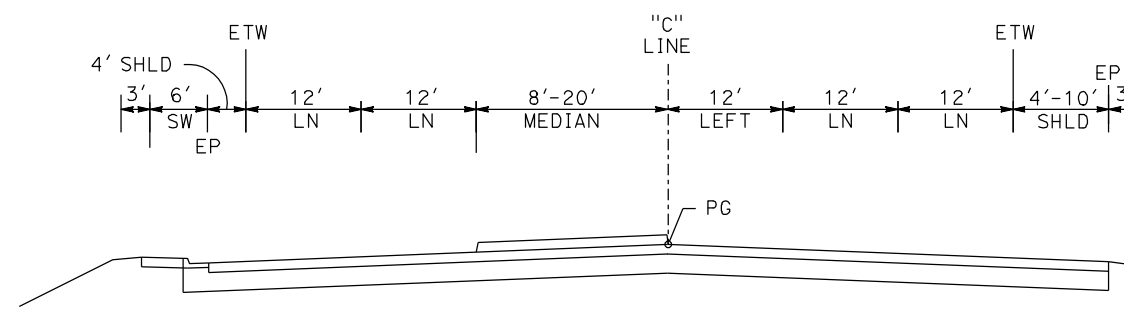
**19+66 TO 22+49  
CLINTON AVE OC**



**22+49 TO 24+08**



**24+08 TO 27+98  
FREPNO YARD OH**



**27+98 TO 34+18**

**CLINTON AVE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

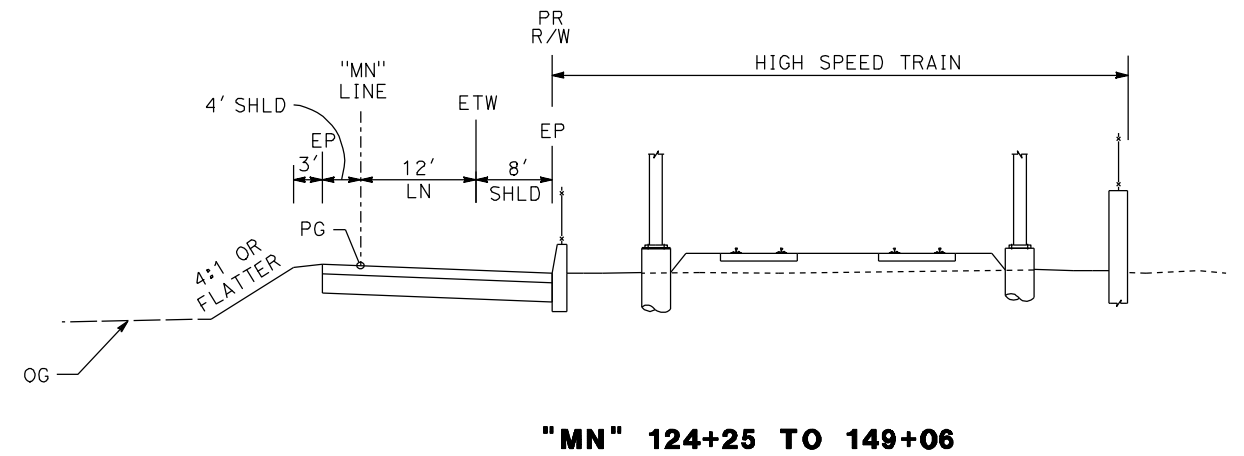
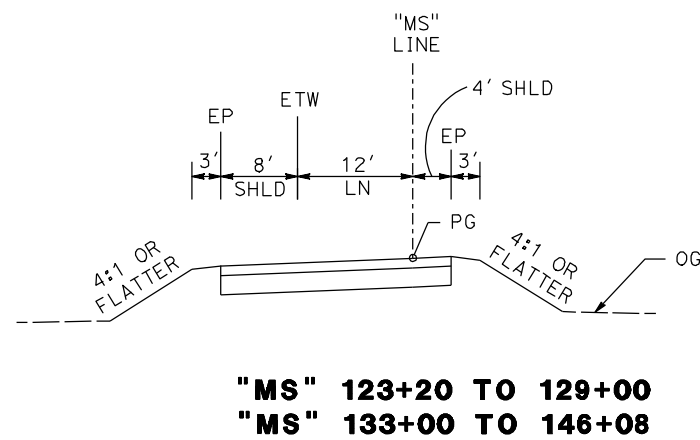
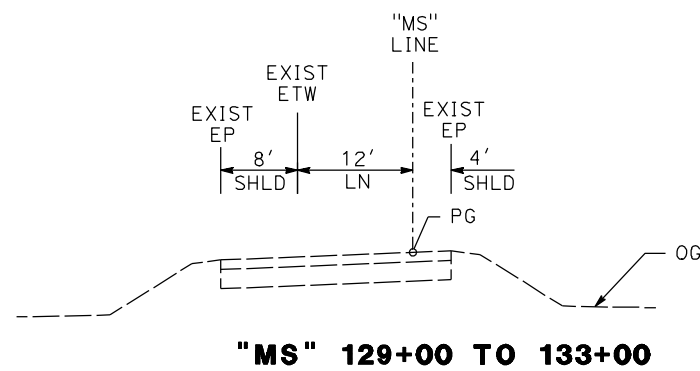
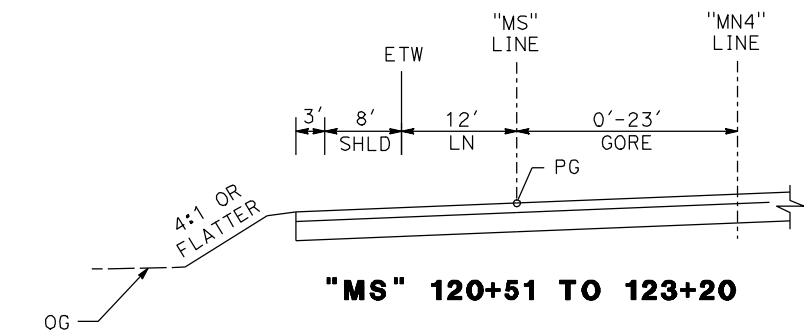
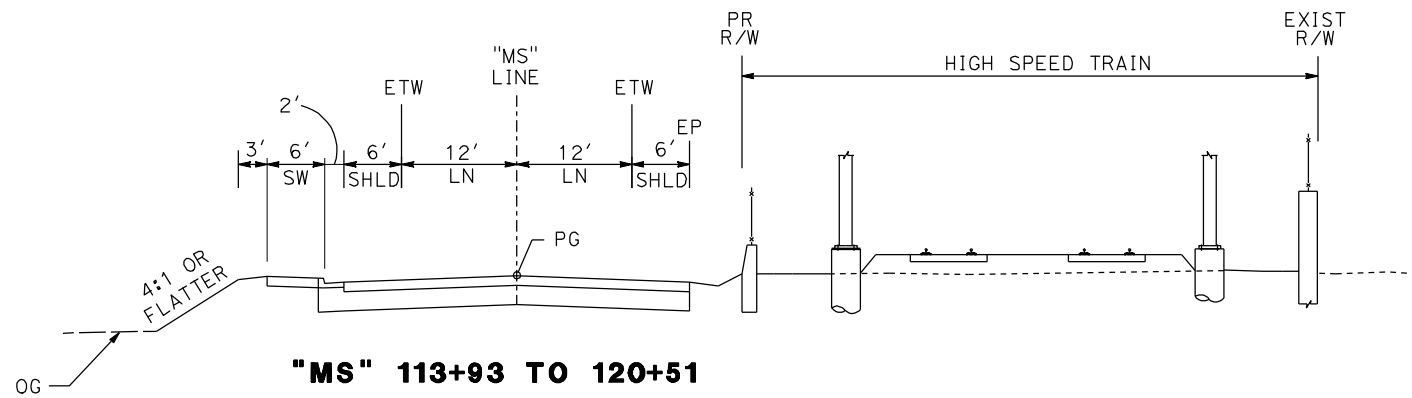
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-10**  
SCALE  
NO SCALE  
SHEET NO.

DATE PLOTTED: 23-APR-2011



**GOLDEN STATE BLVD**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

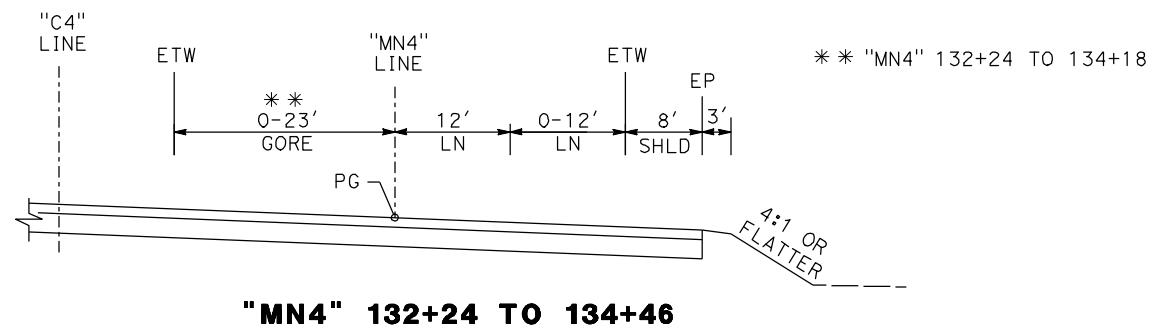
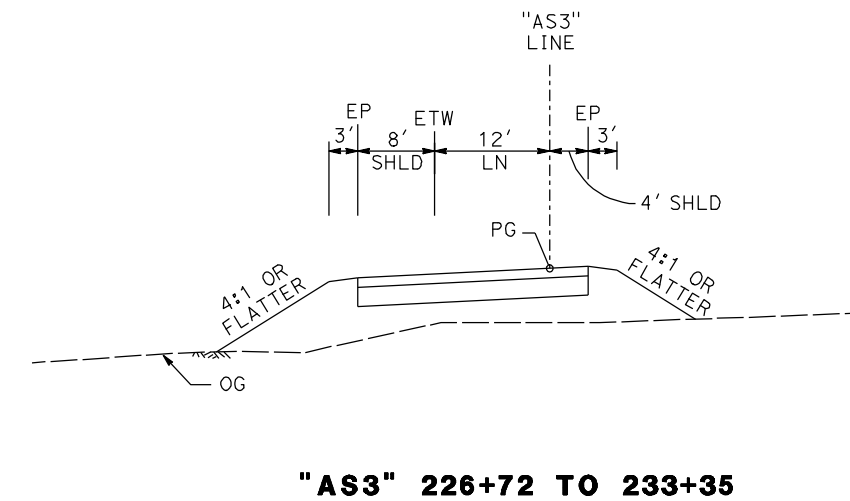
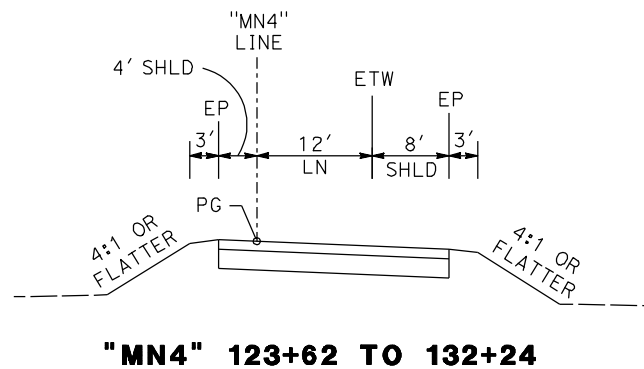
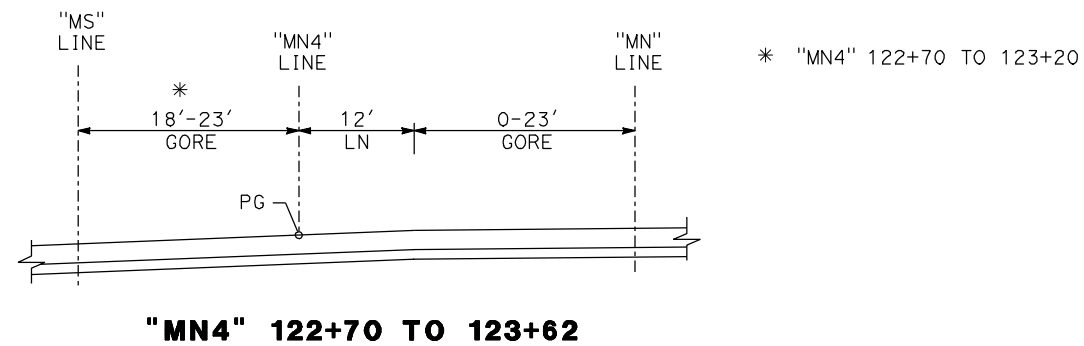
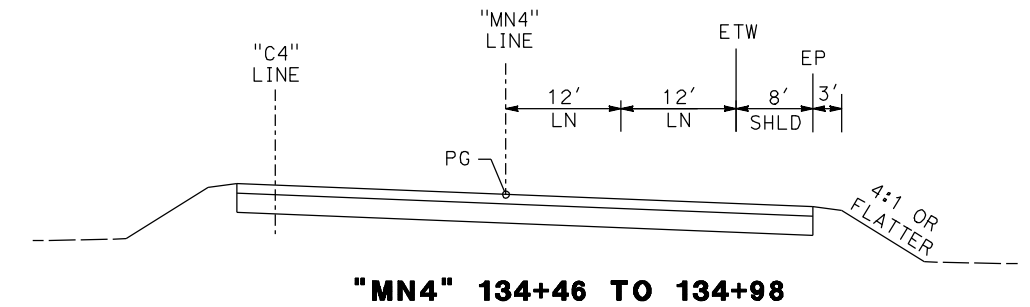
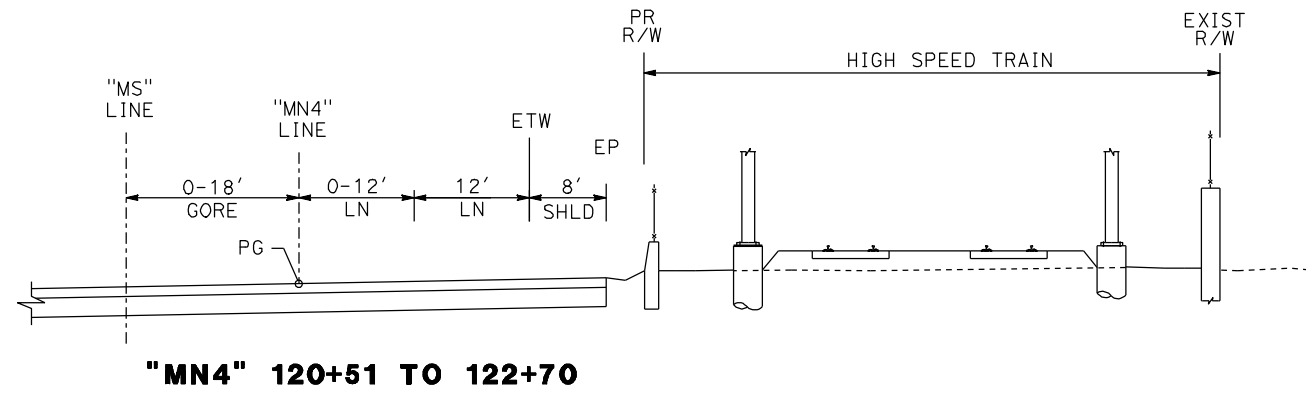


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-11**  
SCALE  
NO SCALE  
SHEET NO.

DATE PLOTTED => 26-APR-2011





**MN4 LINE**  
(GOLDEN STATE BLVD NB OFF RAMP AT)

**AS3 LINE**  
(SB ON RAMP AT ASHLAN AVE)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

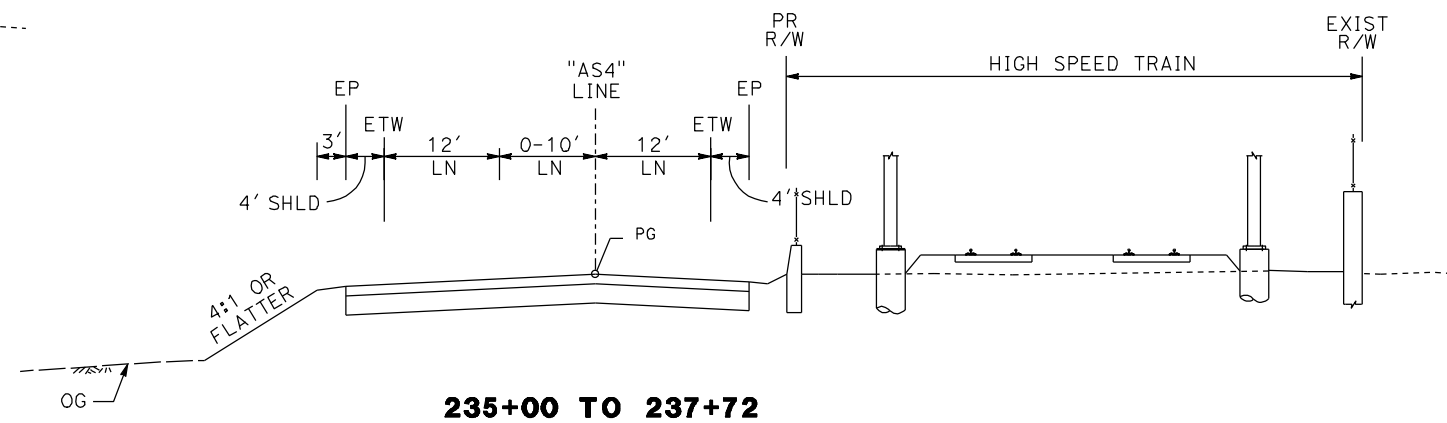
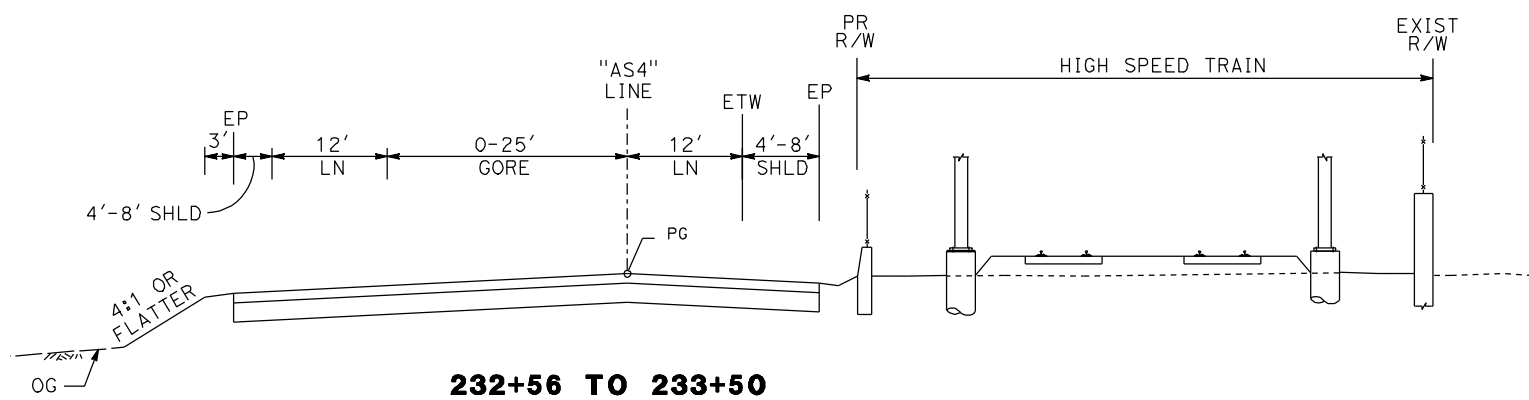
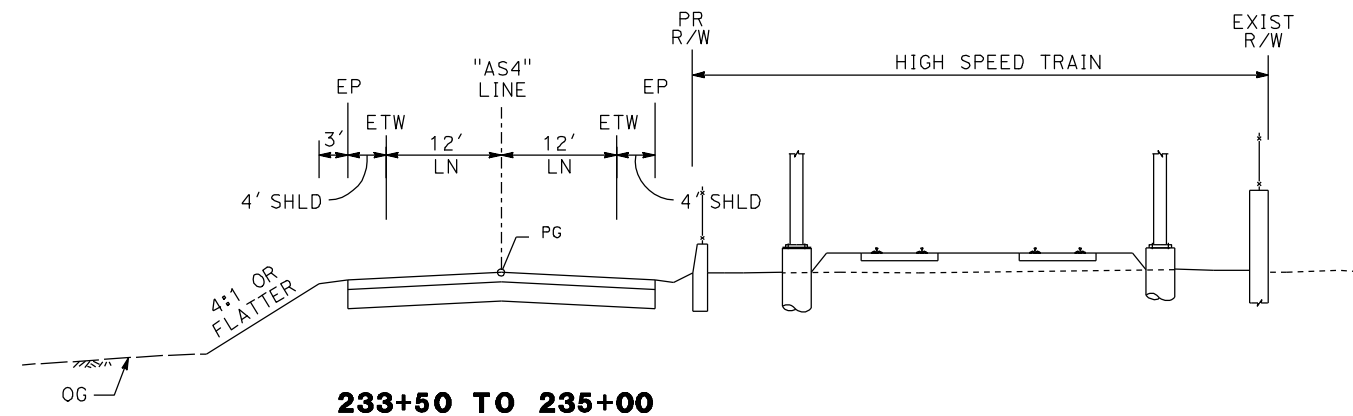
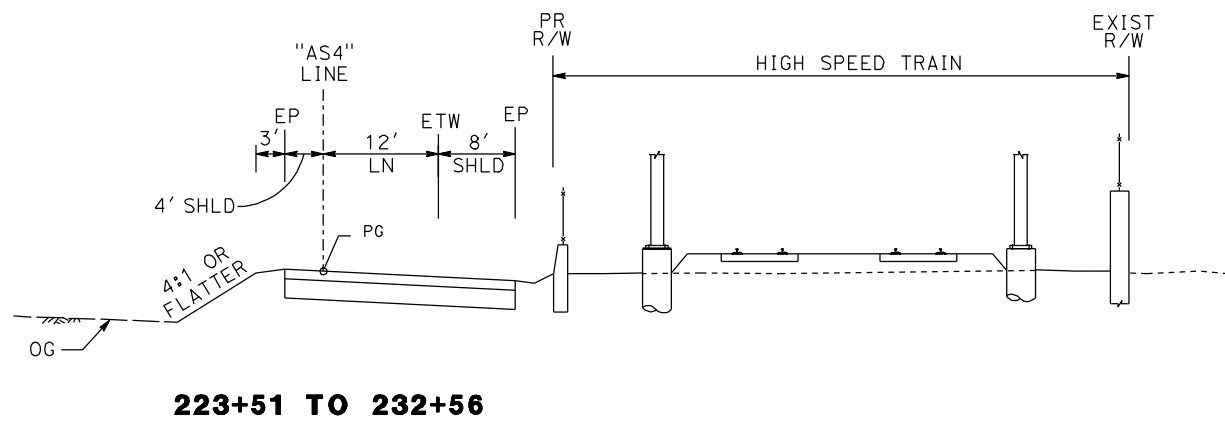
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**TYPICAL CROSS SECTIONS**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>X-12</b>
SCALE	NO SCALE
SHEET NO.	

DATE PLOTTED: 03/26/11 09:23:00



**AS4 LINE  
(NB OFF RAMP AT ASHLAN AVE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

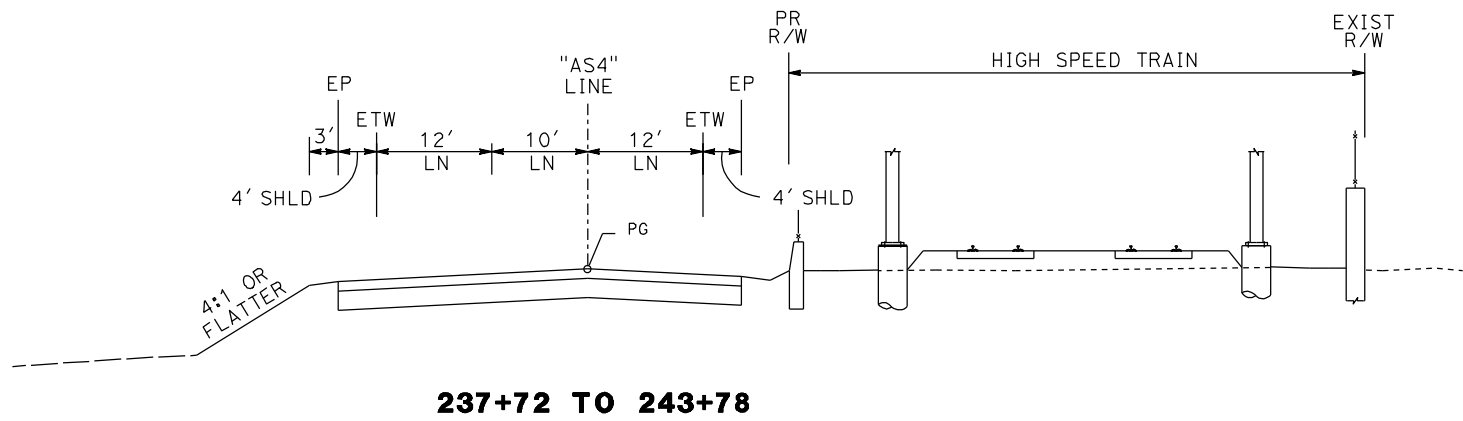


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

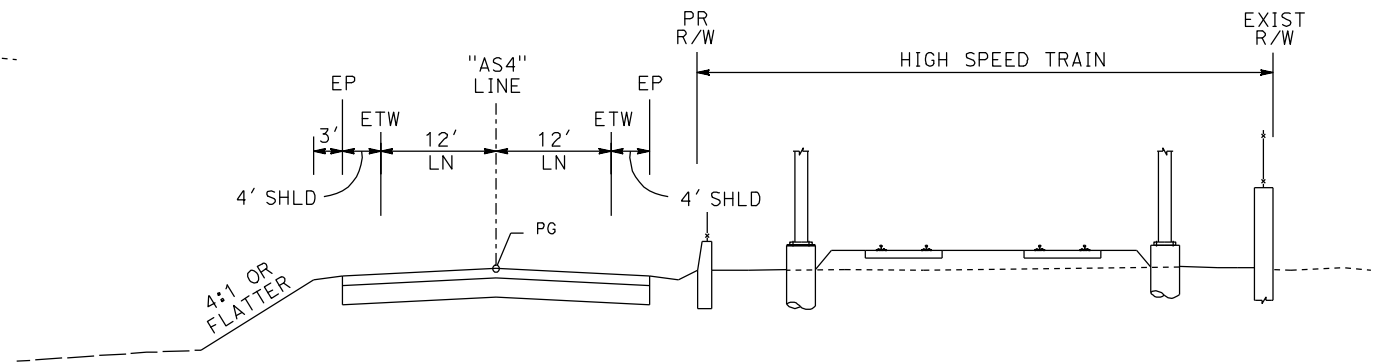
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-13**  
SCALE  
NO SCALE  
SHEET NO.

DATE PLOTTED => 26-APR-2011

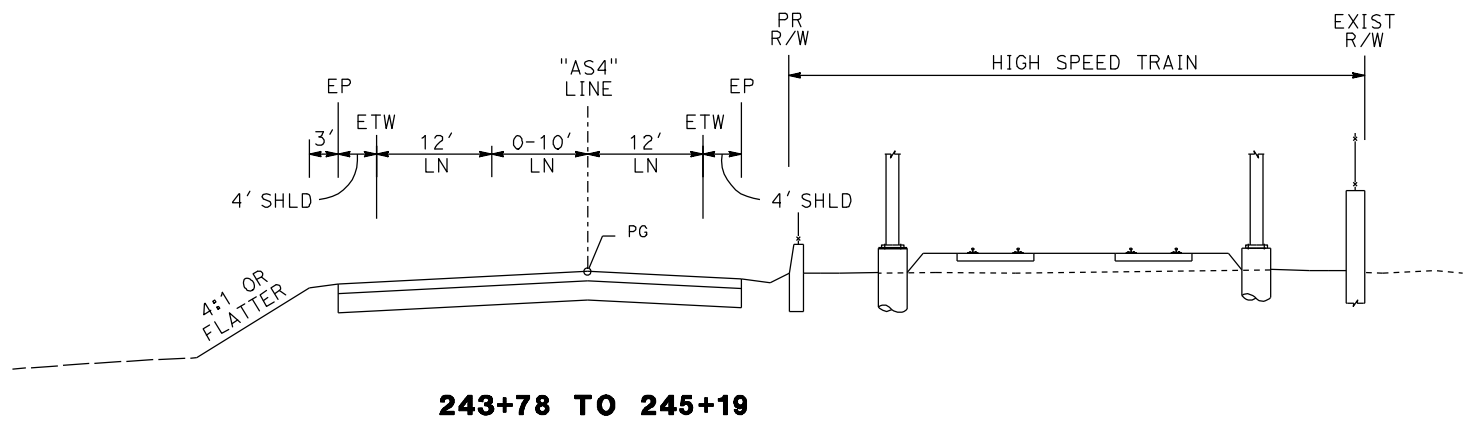




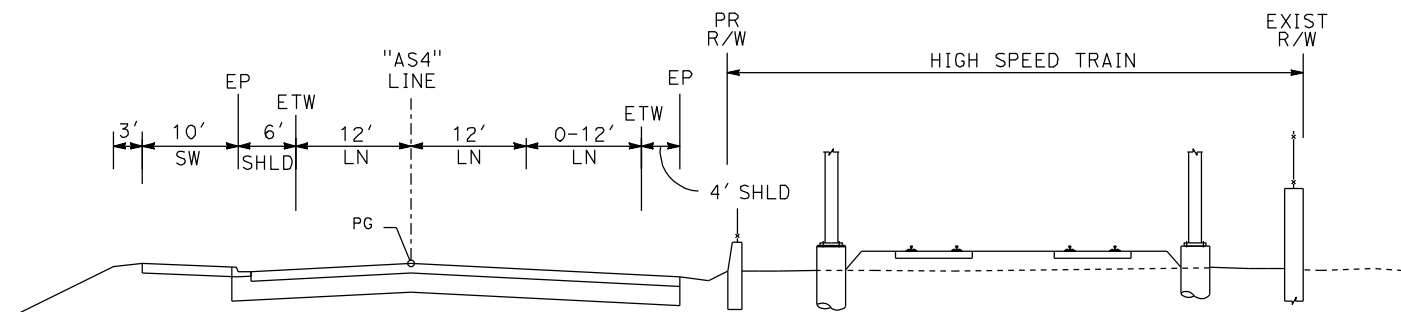
**237+72 TO 243+78**



**245+19 TO 249+52**



**243+78 TO 245+19**



**245+19 TO 249+52**

**AS4 LINE  
(NB OFF RAMP AT ASHLAN AVE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

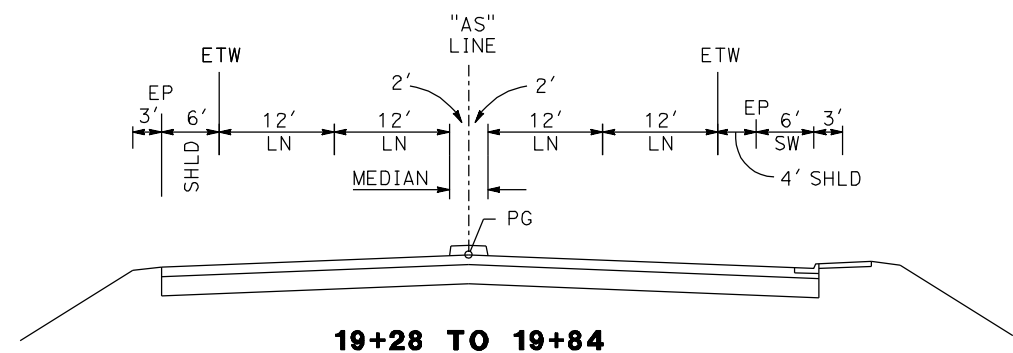
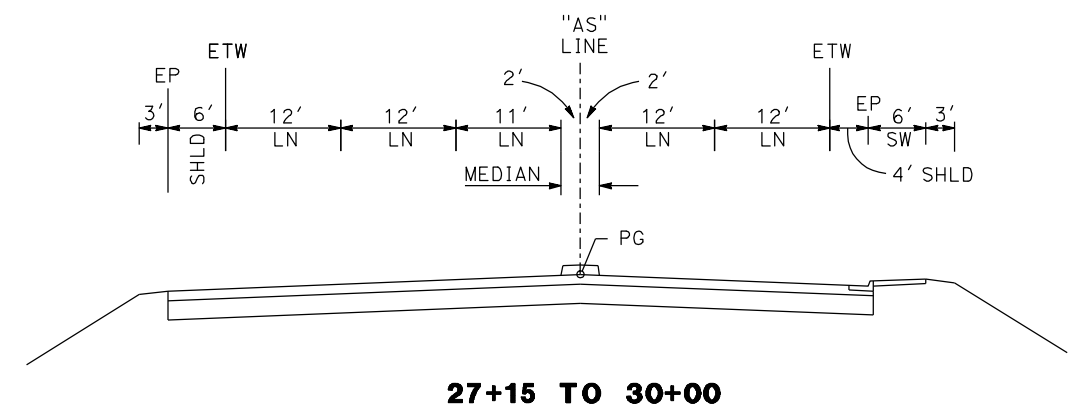
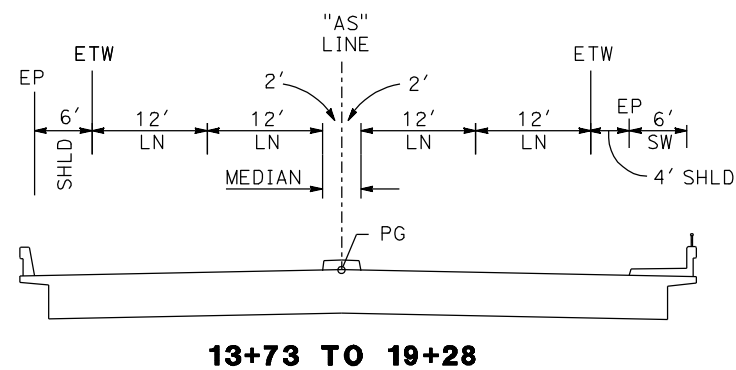
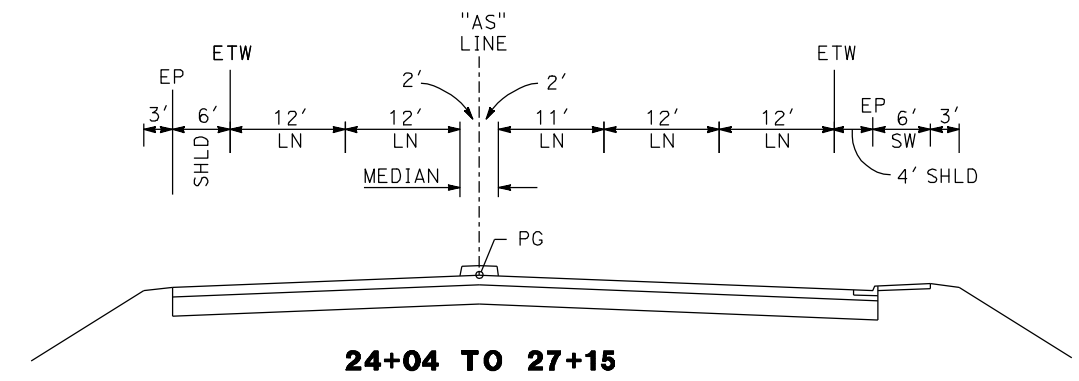
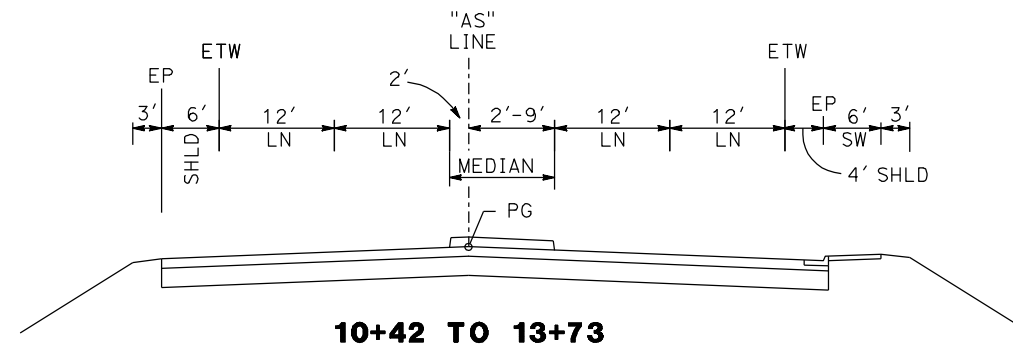
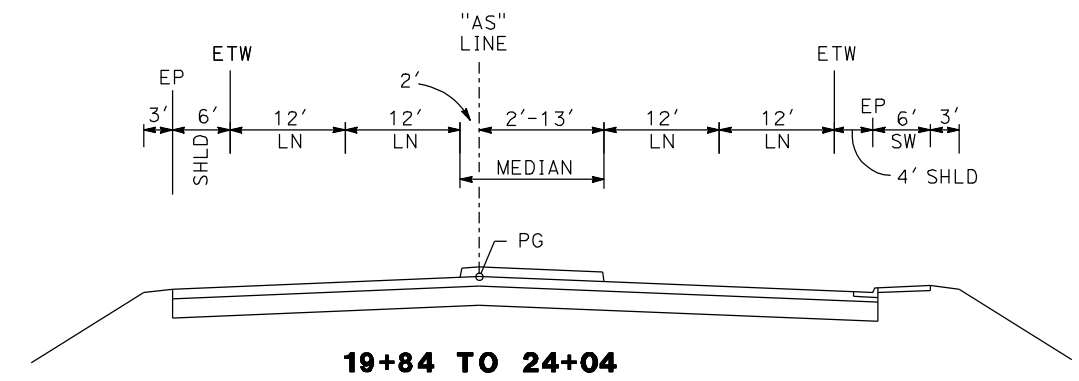
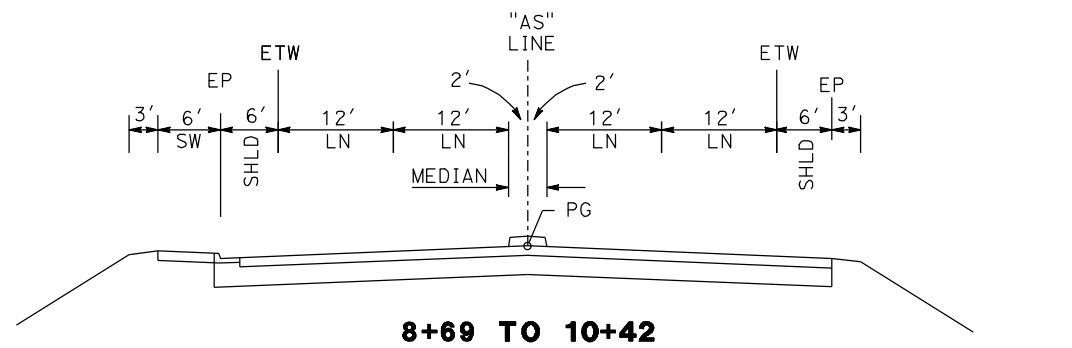
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-14**  
SCALE  
NO SCALE  
SHEET NO.

DATE PLOTTED => 26-APR-2011



**ASHLAN AVE**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

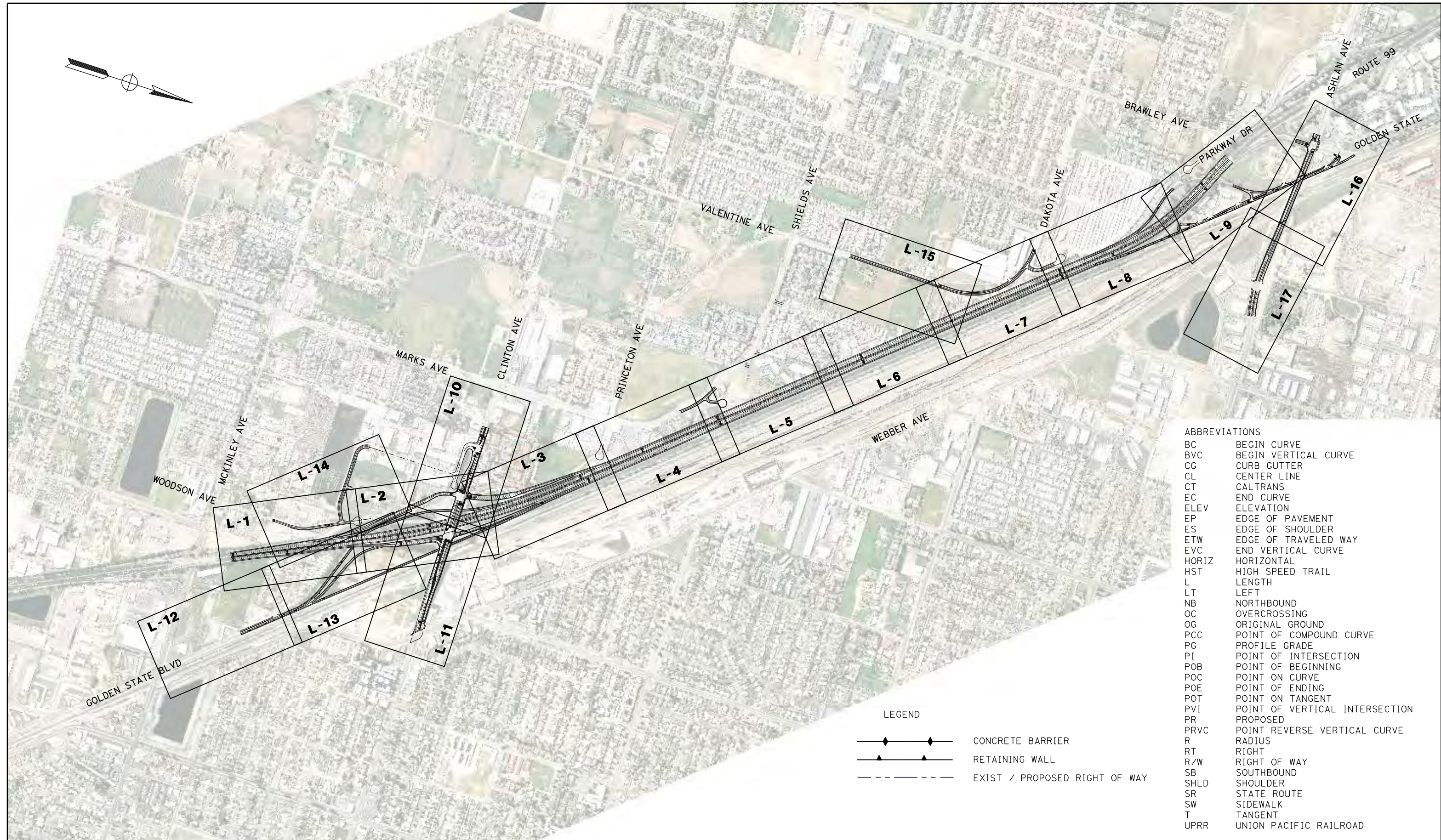
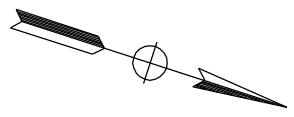


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
TYPICAL CROSS SECTIONS**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**X-15**  
SCALE  
NO SCALE  
SHEET NO.

DATE: 01/07/11 03:26:44 PM





**ABBREVIATIONS**

BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
CG	CURB GUTTER
CL	CENTER LINE
CT	CALTRANS
EC	END CURVE
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
ETW	EDGE OF TRAVELED WAY
EVC	END VERTICAL CURVE
HORIZ	HORIZONTAL
HST	HIGH SPEED TRAIN
L	LENGTH
LT	LEFT
NB	NORTHBOUND
OC	OVERCROSSING
OG	ORIGINAL GROUND
PCC	POINT OF COMPOUND CURVE
PG	PROFILE GRADE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POC	POINT ON CURVE
POE	POINT OF ENDING
POT	POINT ON TANGENT
PVI	POINT OF VERTICAL INTERSECTION
PR	PROPOSED
PRVC	POINT REVERSE VERTICAL CURVE
R	RADIUS
RT	RIGHT
R/W	RIGHT OF WAY
SB	SOUTHBOUND
SHLD	SHOULDER
SR	STATE ROUTE
SW	SIDEWALK
T	TANGENT
UPRR	UNION PACIFIC RAILROAD

**LEGEND**

	CONCRETE BARRIER
	RETAINING WALL
	EXIST / PROPOSED RIGHT OF WAY

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
J. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**

**MERCED TO FRESNO**

**ROUTE 99 RE-ALIGNMENT**

**KEY MAP**

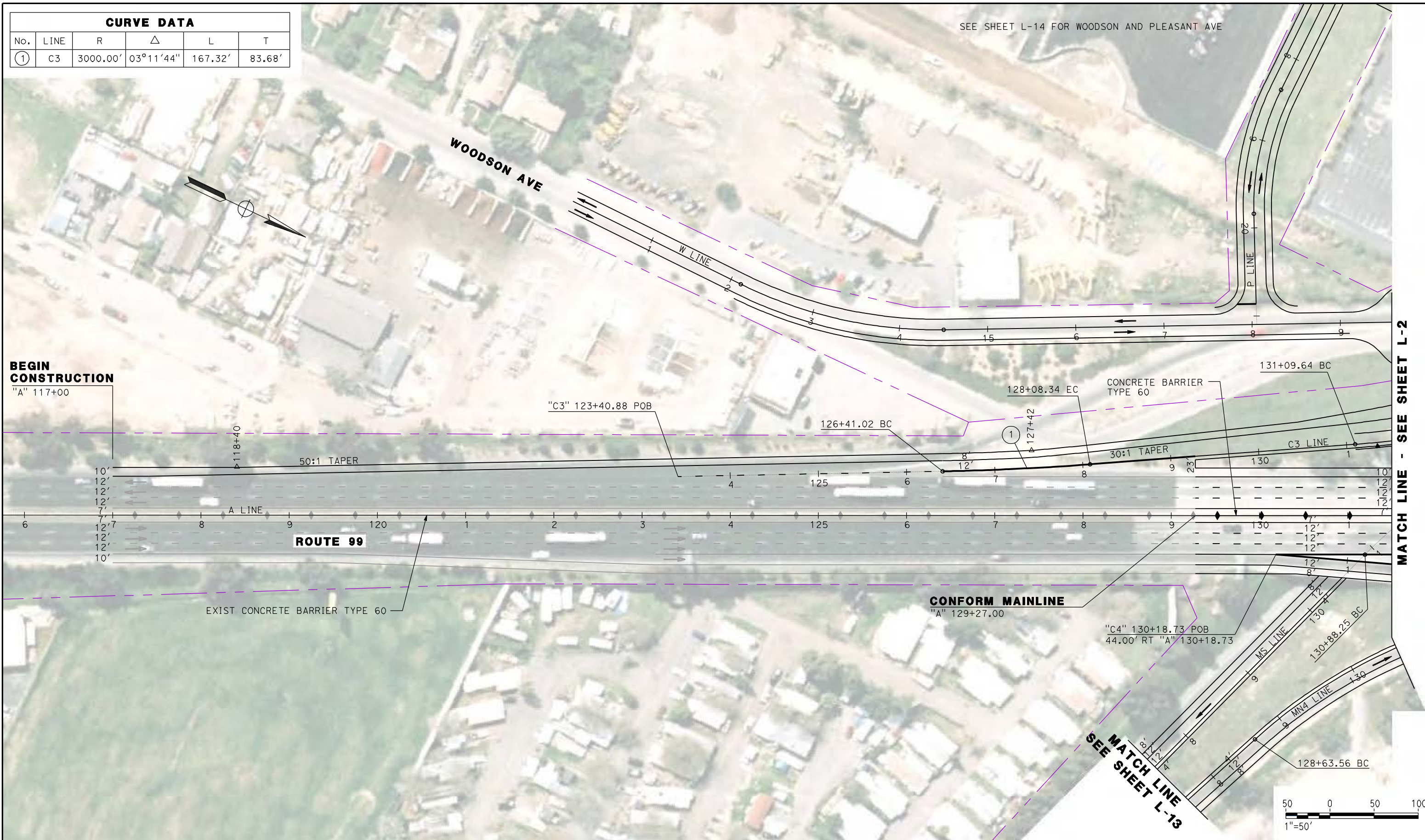
CONTRACT NO.	HSR06-007
DRAWING NO.	<b>K-1</b>
SCALE	NO SCALE
SHEET NO.	

DATE PLOTTED: 23-APR-2011



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
①	C3	3000.00'	03°11'44"	167.32'	83.68'

SEE SHEET L-14 FOR WOODSON AND PLEASANT AVE



**BEGIN CONSTRUCTION**

"A" 117+00

MATCH LINE - SEE SHEET L-2

MATCH LINE SEE SHEET L-13

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN SUBMITTAL**  
  
**NOT FOR CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT LAYOUT**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>L-1</b>
SCALE	AS SHOWN
SHEET NO.	

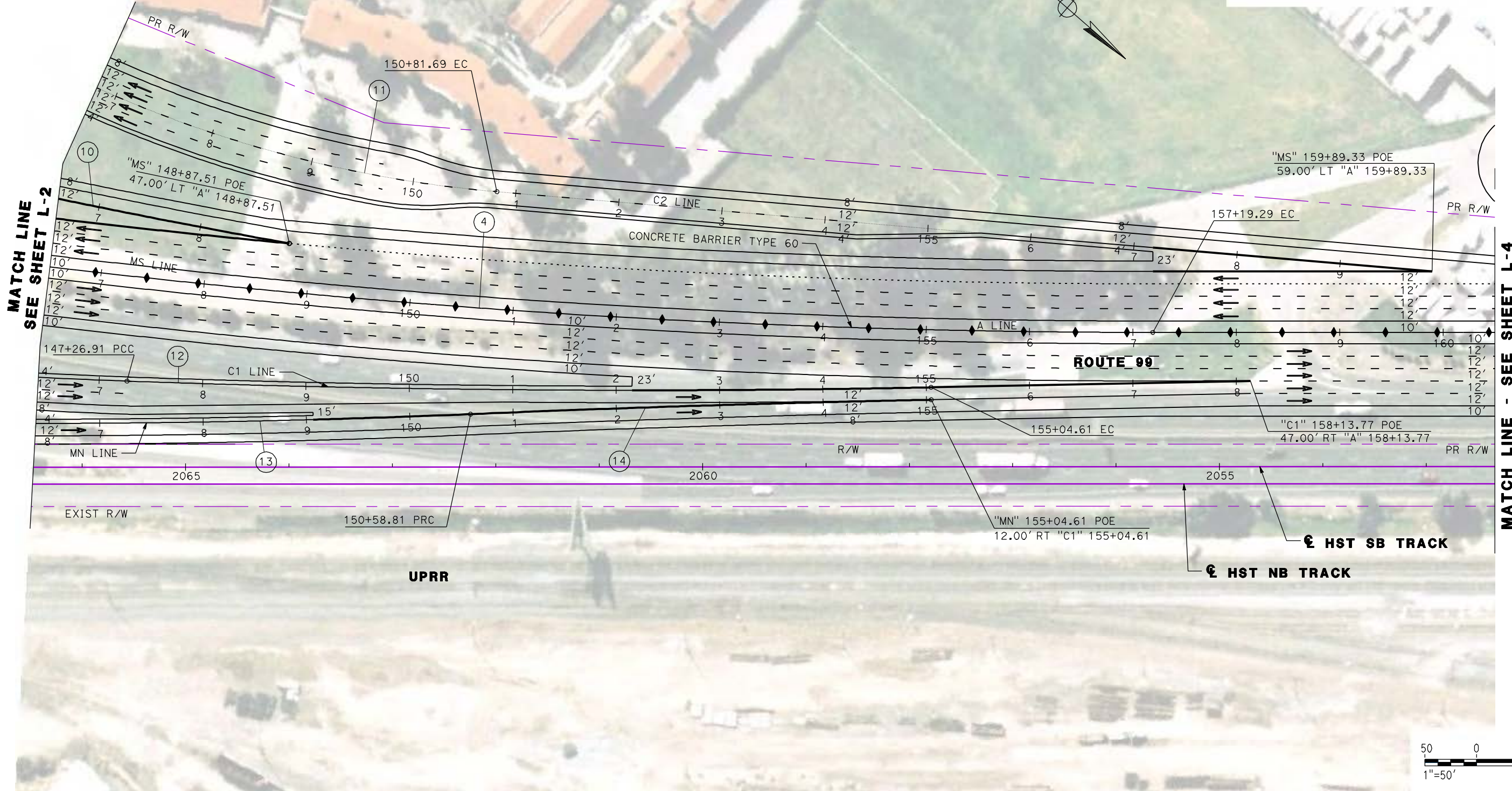
DATE PLOTTED: 03/26/11







CURVE DATA					
No.	LINE	R	Δ	L	T
④	A	9000.00'	15°38'27"	2456.85'	1236.11'
⑩	MS	8000.00'	01°56'18"	270.64'	135.34'
⑪	C2	1188.00'	27°12'55"	564.30'	287.58'
⑫	C1	14000.00'	03°10'58"	777.70'	388.95'
⑬	MN	10000.00'	02°25'22"	422.87'	697.58'
⑭	MN	20000.00'	01°16'38"	445.80'	222.91'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

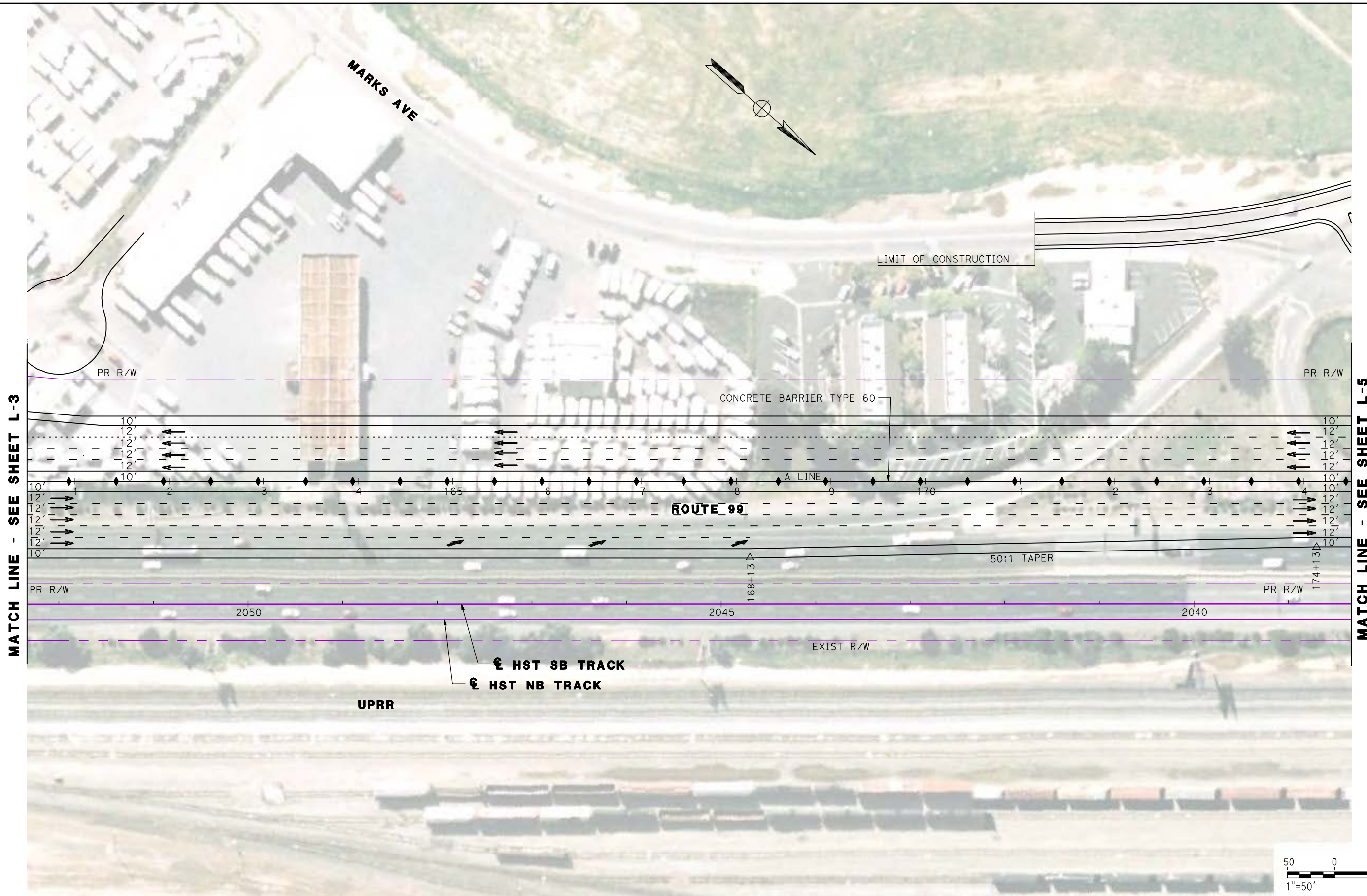


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-3**  
SCALE  
AS SHOWN  
SHEET NO.

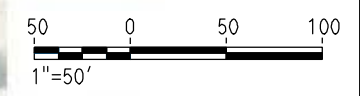
DATE PLOTTED: 03/26/11





MATCH LINE - SEE SHEET L-3

MATCH LINE - SEE SHEET L-5



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007

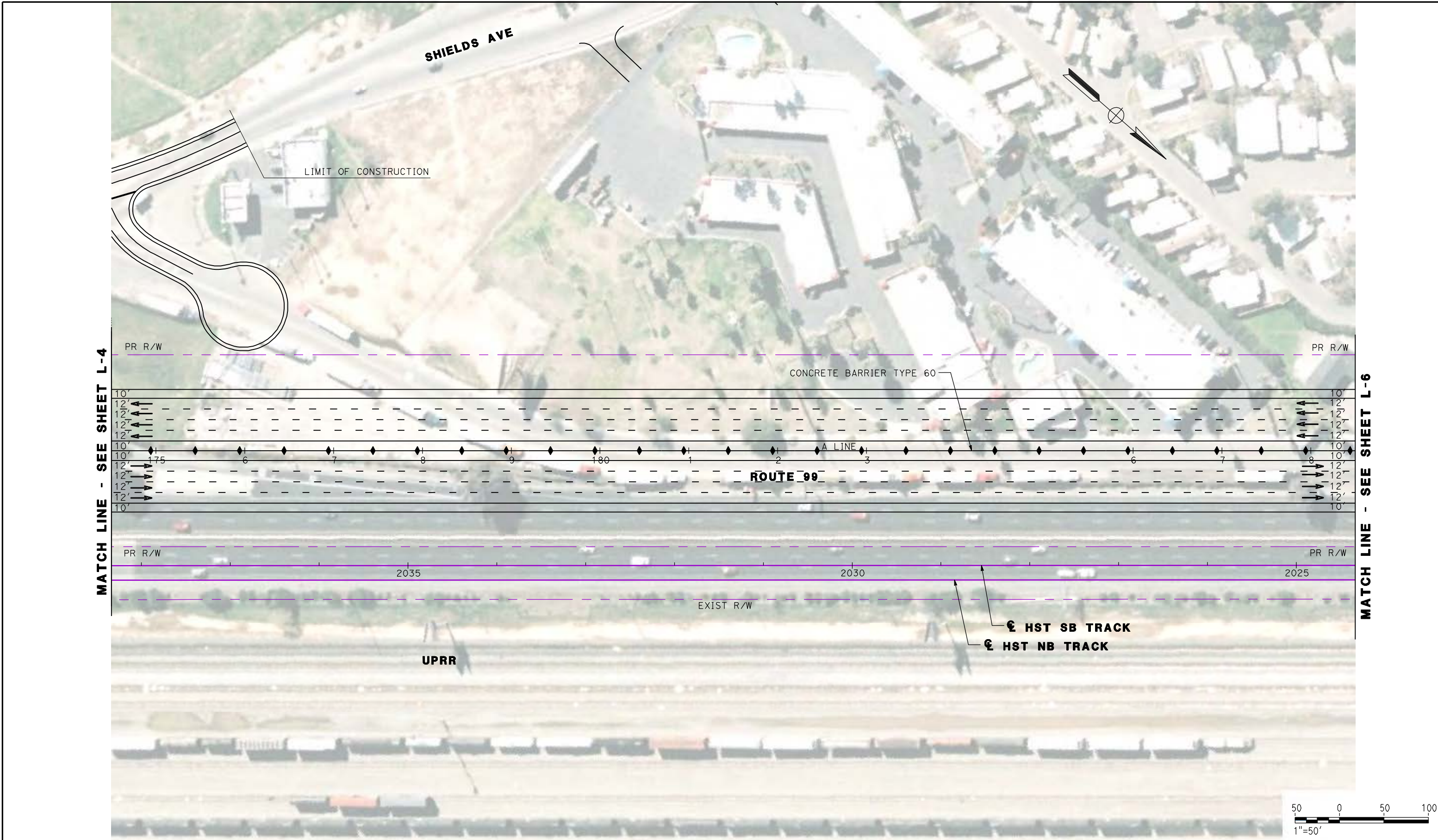
DRAWING NO.  
**L-4**

SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED: 03/26/11





MATCH LINE - SEE SHEET L-4

MATCH LINE - SEE SHEET L-6

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

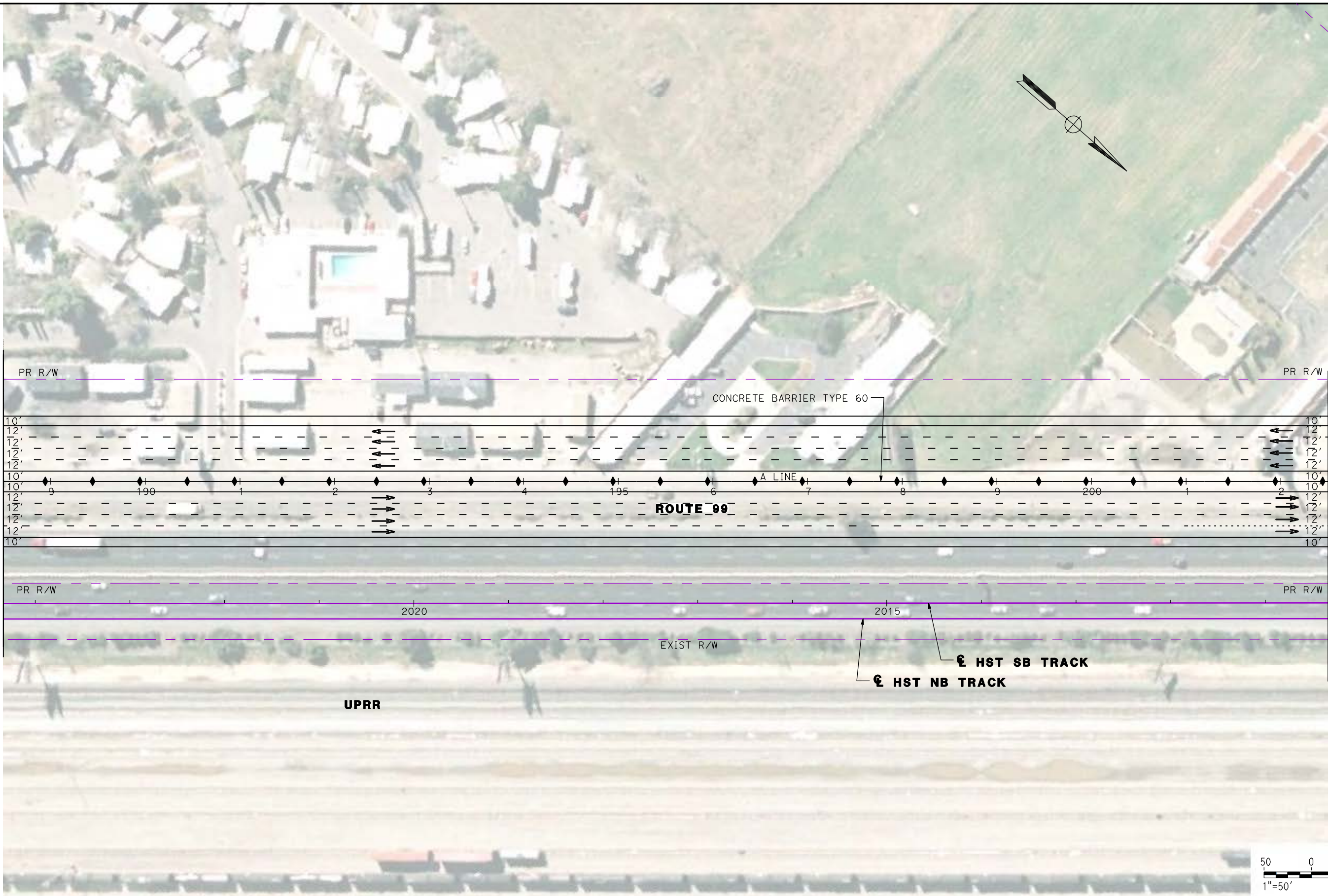
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-5**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23 26-APR-2011



MATCH LINE - SEE SHEET L-5

MATCH LINE - SEE SHEET L-7



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



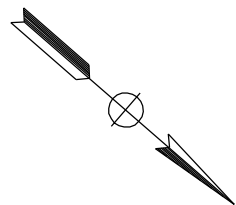
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-6**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



CURVE DATA					
No.	LINE	R	Δ	L	T
15	V	730.00'	90°37'32"	1154.65'	738.01'



"V" 34+70.52 POE

**END CONSTRUCTION**  
33+80.63 EC

**DAKOTA AVE**

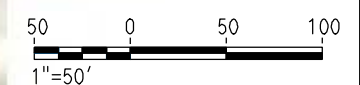
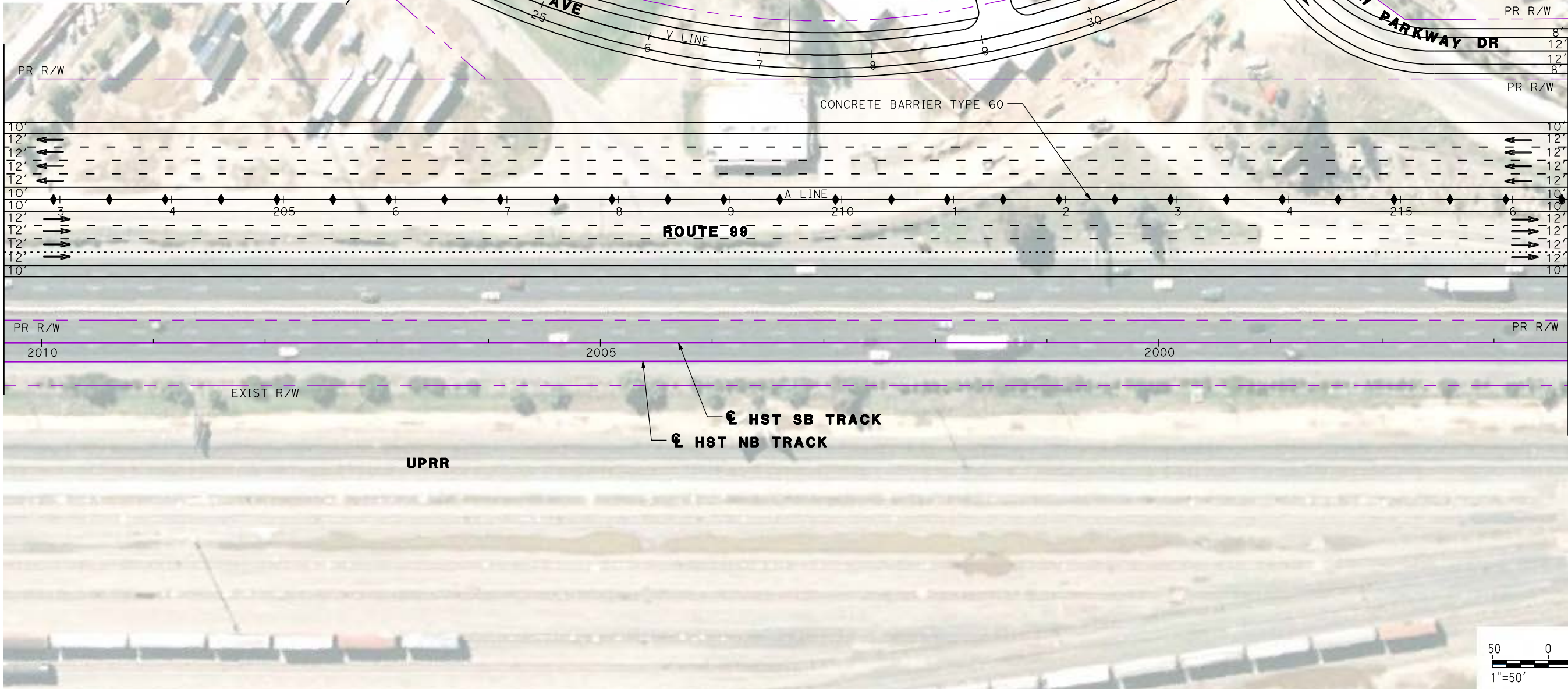
**MATCH LINE**  
**SEE SHEET L-15**

**VALENTINE AVE**

**NORTH PARKWAY DR**

**MATCH LINE - SEE SHEET L-6**

**MATCH LINE - SEE SHEET L-8**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007

DRAWING NO.  
**L-7**

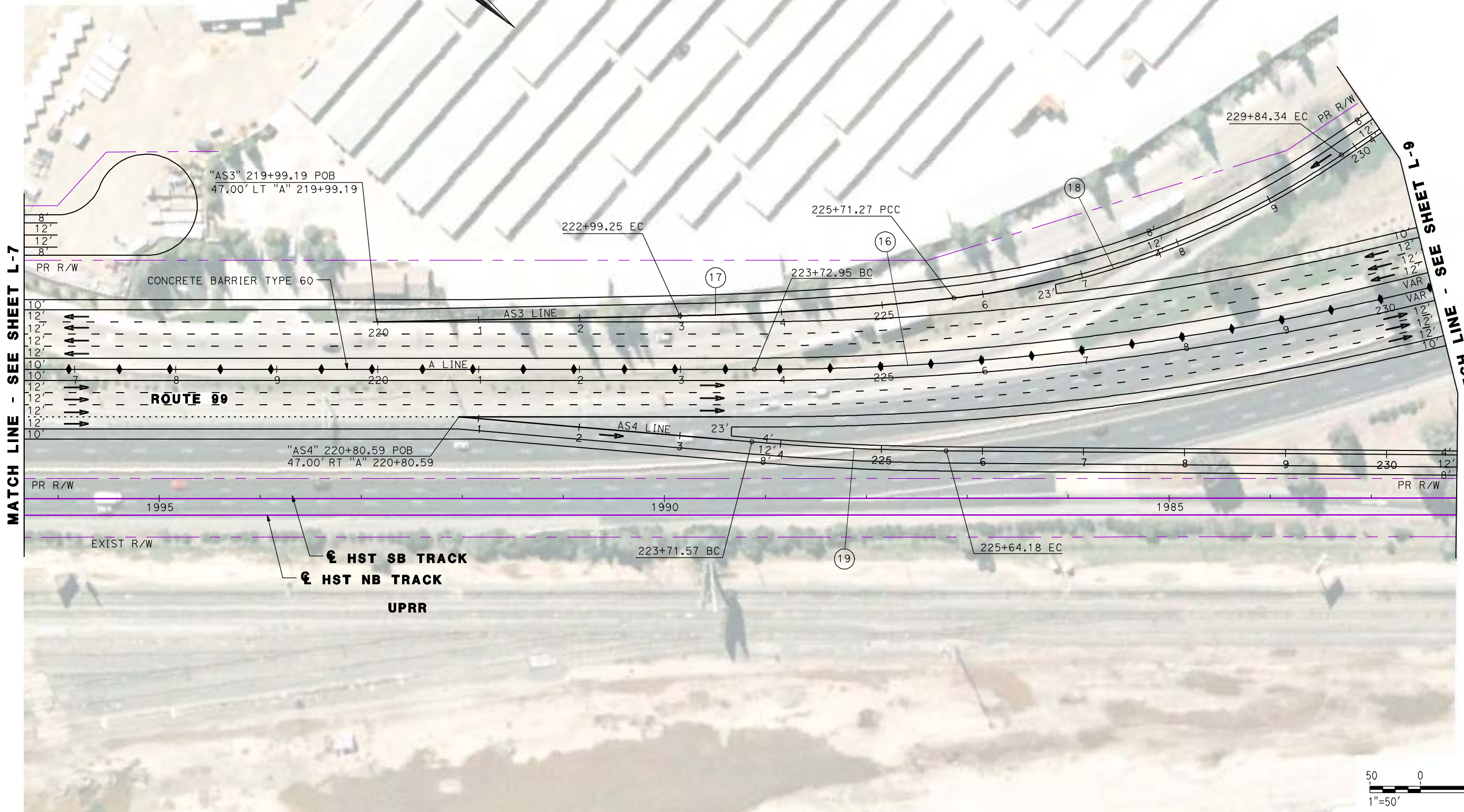
SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED: 03/26/11



CURVE DATA					
No.	LINE	R	Δ	L	T
16	A	2800.00'	25°05'16"	1226.02'	623.00'
17	AS3	3000.00'	05°11'43"	272.02'	136.10'
18	AS3	850.00'	27°50'37"	413.07'	210.70'
19	AS4	2500.00'	04°24'52"	192.62'	96.36'



MATCH LINE - SEE SHEET L-7

MATCH LINE - SEE SHEET L-9



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

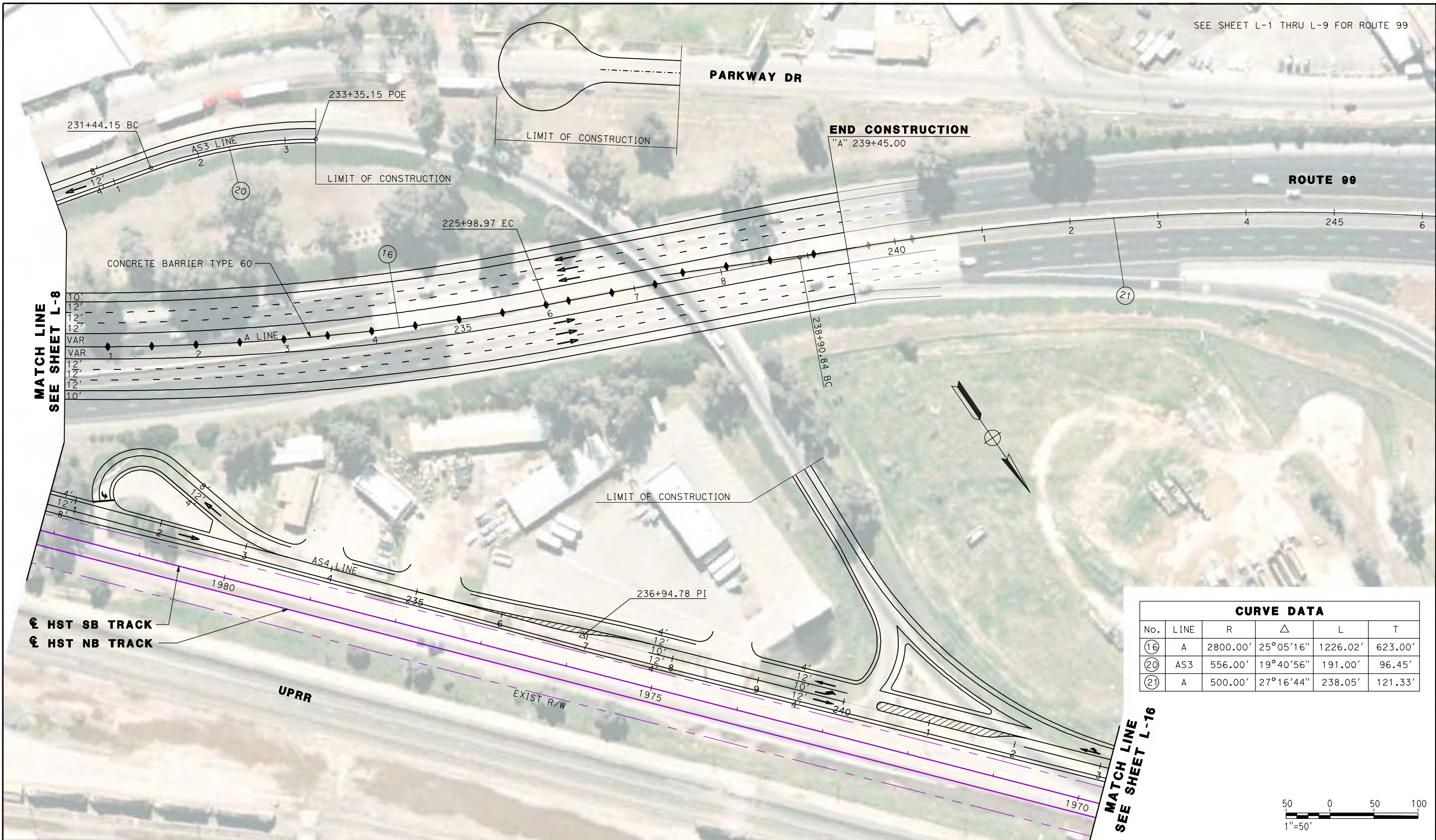


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-8**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 03/26/11





CURVE DATA					
No.	LINE	R	Δ	L	T
16	A	2800.00'	25°05'16"	1226.02'	623.00'
20	AS3	556.00'	19°40'56"	191.00'	96.45'
21	A	500.00'	27°16'44"	238.05'	121.33'

MATCH LINE  
SEE SHEET L-8

MATCH LINE  
SEE SHEET L-16

⊕ HST SB TRACK  
⊕ HST NB TRACK

UPRR

EXIST R/W

END CONSTRUCTION  
"A" 239+45.00

ROUTE 99

PARKWAY DR

LIMIT OF CONSTRUCTION

LIMIT OF CONSTRUCTION

LIMIT OF CONSTRUCTION

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-9**  
SCALE  
AS SHOWN  
SHEET NO.



SEE SHEET L-1 THRU L-9 FOR ROUTE 99

**CURVE DATA**

No.	LINE	R	Δ	L	T
22	C	2031.50'	05°47'54"	205.59'	102.88'
23	C	2000.00'	06°02'32"	210.91'	105.55'



**BEGIN CONSTRUCTION**  
"C" 10+00.00 POB

**CLINTON AVE**

12+95.47 BC

15+01.06 PRC

23 RETAINING WALL

"C3" 144+21.46 POE =  
"C" 18+36.94 POT

**VASSAR AVE**

17+11.97 EC

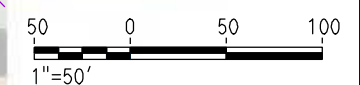
"C" 20+07.05 POT =  
"MS" 143+26.56 POT

"A" 142+42.66 POC =  
"C" 21+49.47 POT

LIMIT OF CONSTRUCTION

**PLEASANT AVE**

**MATCH LINE - SEE SHEET L-11**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-10**  
SCALE  
AS SHOWN  
SHEET NO.

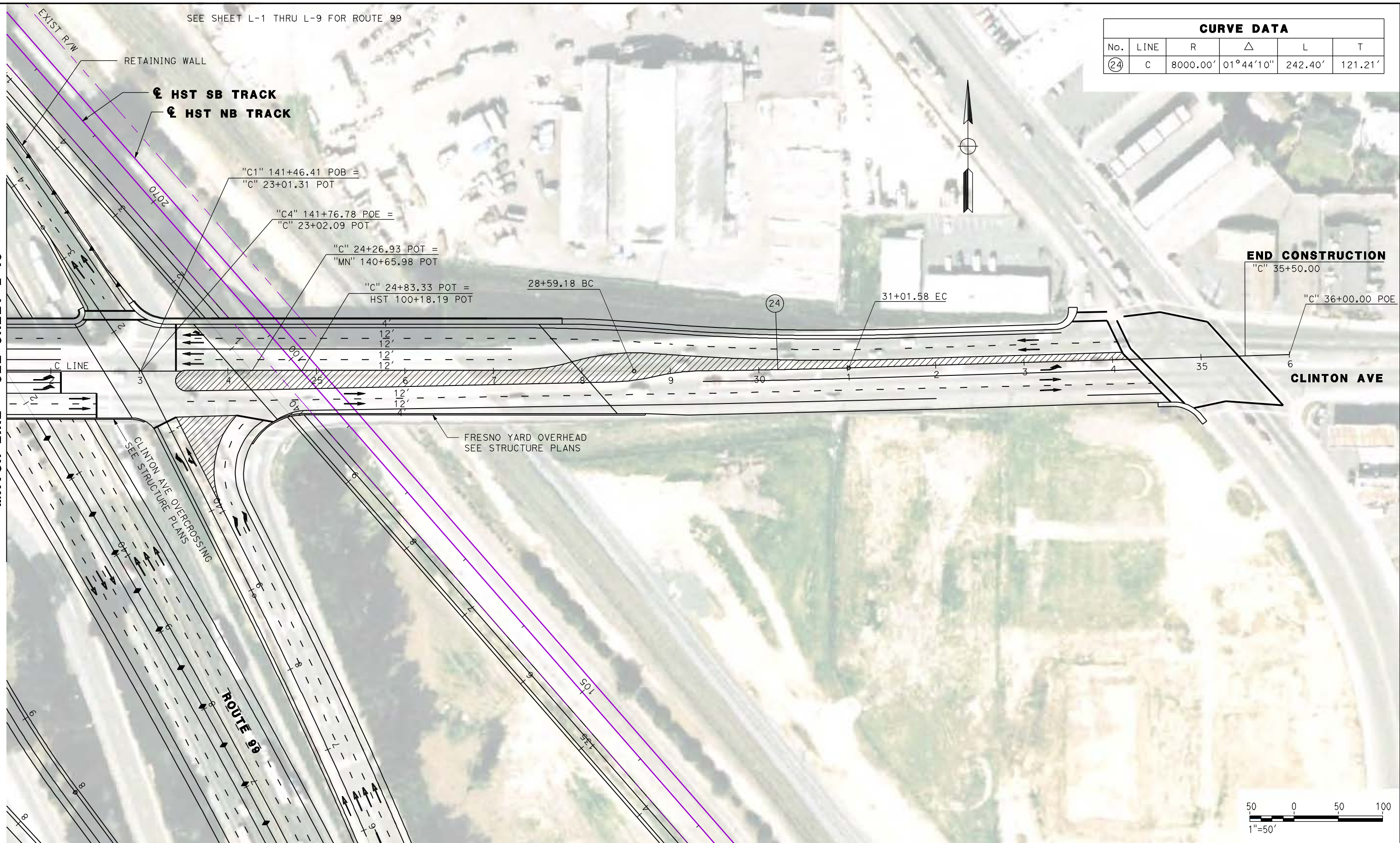
DATE PLOTTED: 03/26/11



SEE SHEET L-1 THRU L-9 FOR ROUTE 99

CURVE DATA					
No.	LINE	R	Δ	L	T
(24)	C	8000.00'	01°44'10"	242.40'	121.21'

MATCH LINE - SEE SHEET L-10



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

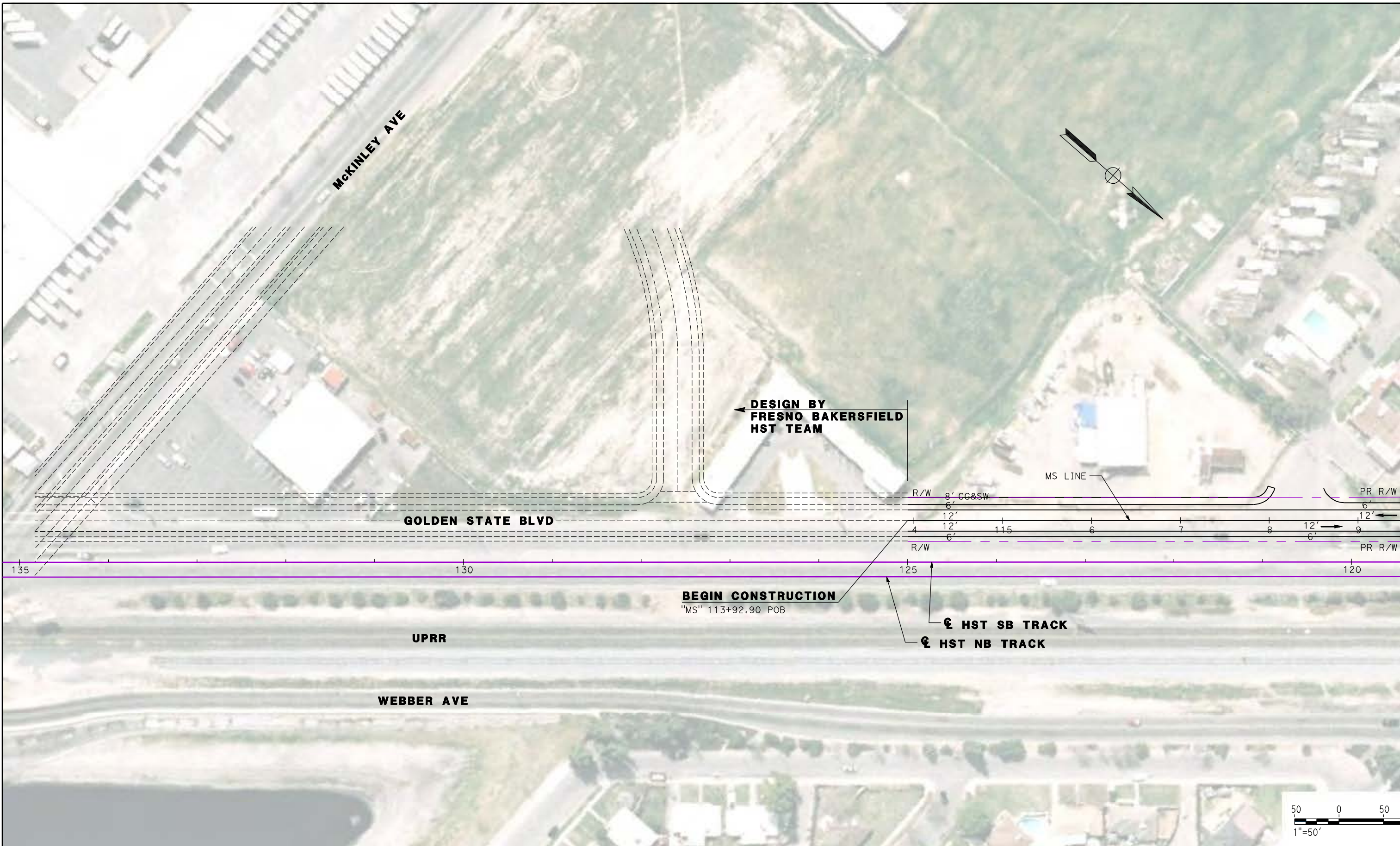


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>L-11</b>
SCALE	AS SHOWN
SHEET NO.	

DATE PLOTTED: 03/26/11





DESIGN BY  
FRESNO BAKERSFIELD  
HST TEAM

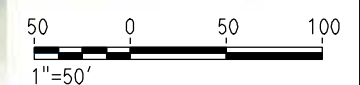
GOLDEN STATE BLVD

BEGIN CONSTRUCTION  
"MS" 113+92.90 POB

⊕ HST SB TRACK  
⊕ HST NB TRACK

MS LINE

MATCH LINE - SEE SHEET L-13



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007

DRAWING NO.  
**L-12**

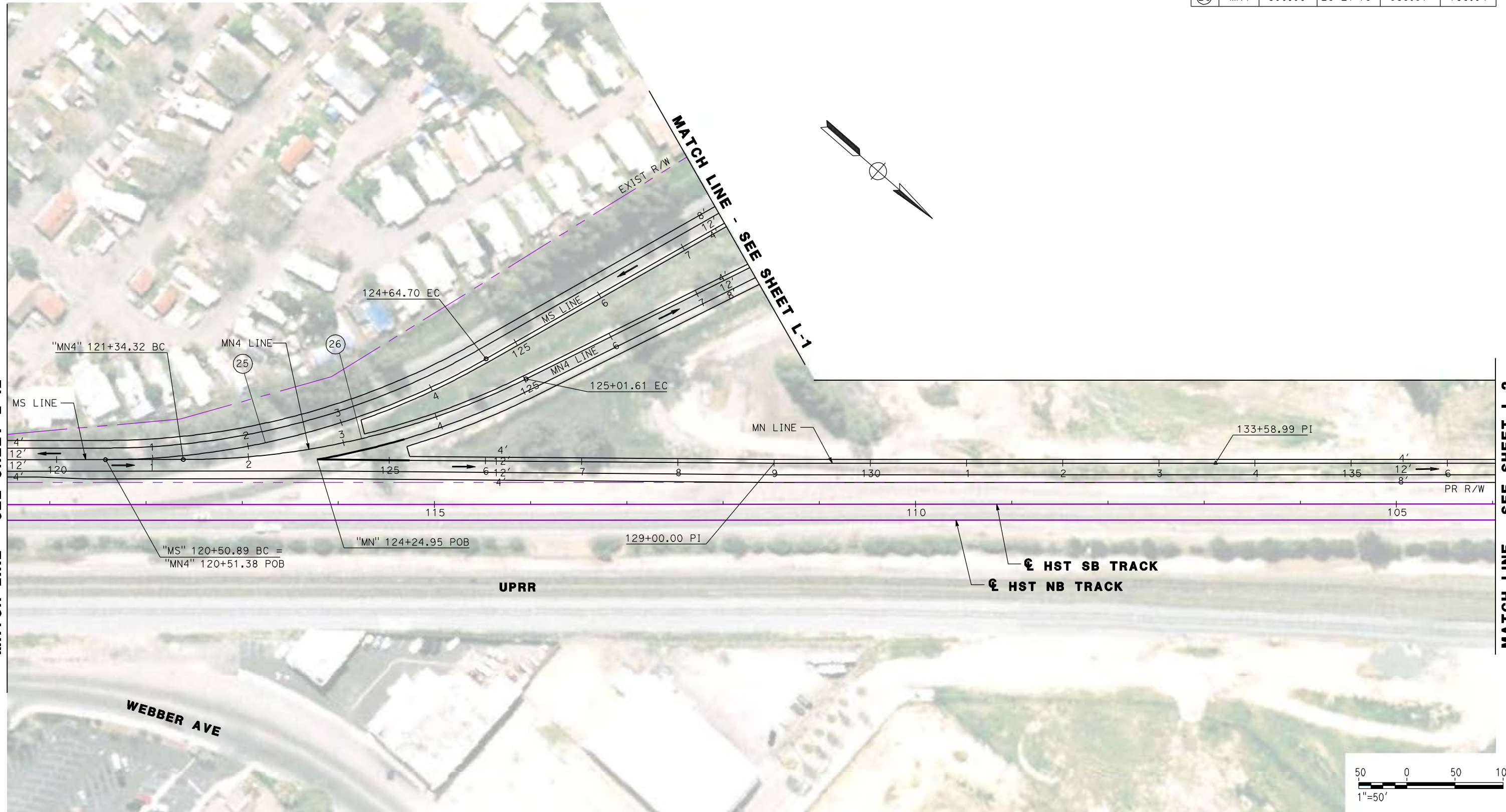
SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED => 26-APR-2011



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
25	MS	800.00'	29°28'13"	413.81'	211.65'
26	MN4	800.00'	26°27'15"	369.37'	188.04'



MATCH LINE - SEE SHEET L-12

MATCH LINE - SEE SHEET L-2

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
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**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

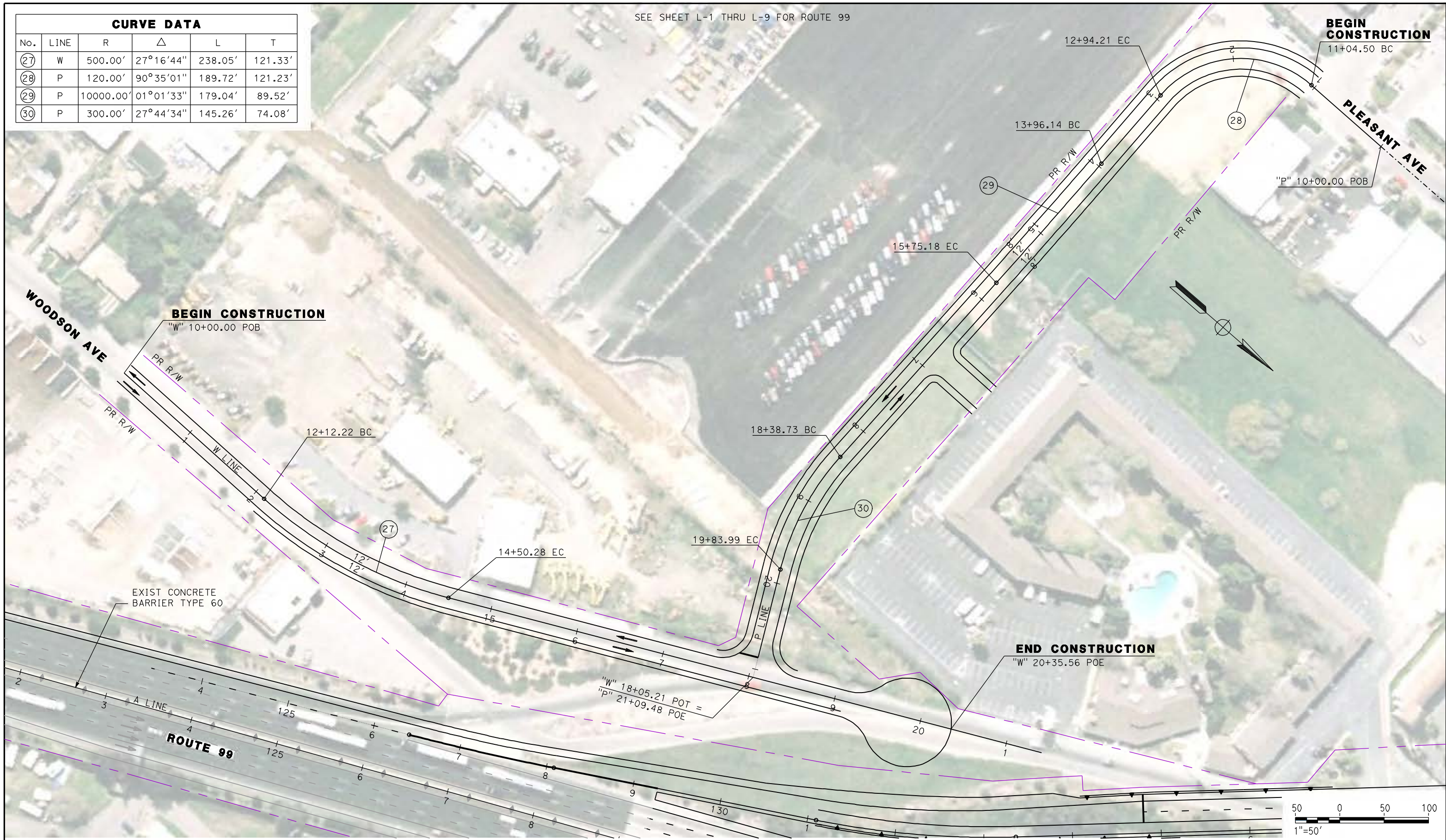
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-13**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 03/26/11



SEE SHEET L-1 THRU L-9 FOR ROUTE 99

CURVE DATA					
No.	LINE	R	Δ	L	T
27	W	500.00'	27°16'44"	238.05'	121.33'
28	P	120.00'	90°35'01"	189.72'	121.23'
29	P	10000.00'	01°01'33"	179.04'	89.52'
30	P	300.00'	27°44'34"	145.26'	74.08'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-14**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23-APR-2011



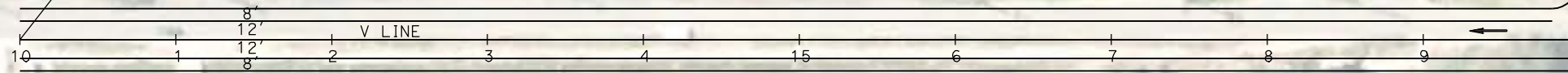
SEE SHEET L-1 THRU L-9 FOR ROUTE 99



**BEGIN CONSTRUCTION**

"V" 10+00.00 POB

**VALENTINE AVE**



22+25.97 BC

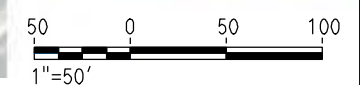
**MATCH LINE**  
SEE SHEET L-7

R/W

A LINE

**ROUTE 99**

R/W 2010



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



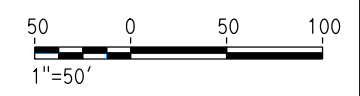
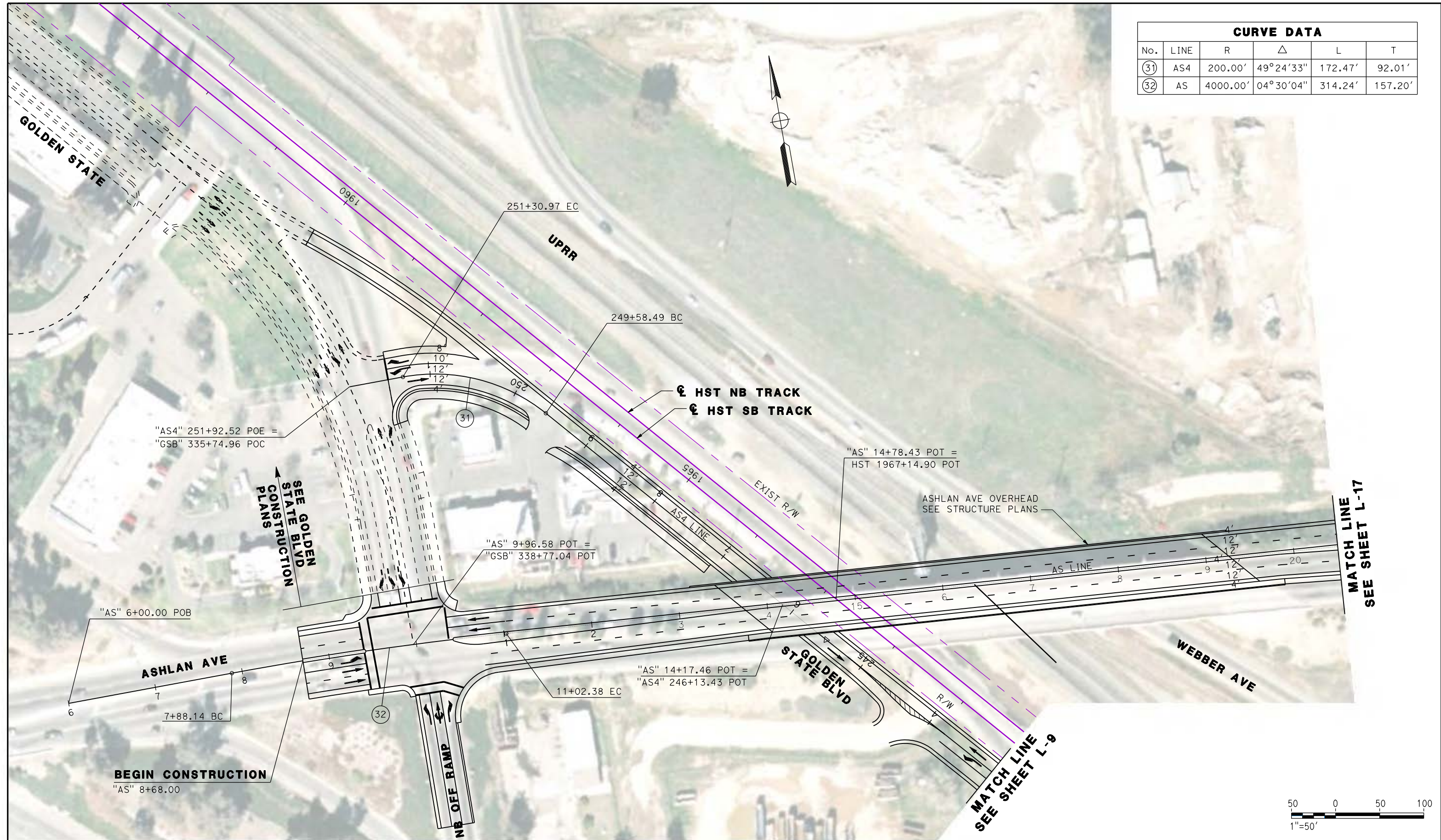
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**L-15**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
31	AS4	200.00'	49°24'33"	172.47'	92.01'
32	AS	4000.00'	04°30'04"	314.24'	157.20'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.  
HSR06-007

DRAWING NO.  
**L-16**

SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED: 23-APR-2011



CURVE DATA					
No.	LINE	R	$\Delta$	L	T
33	AS	1802.00'	17°05'39"	537.62'	270.82'
34	AS	2098.00'	11°01'06"	403.45'	202.35'



MATCH LINE  
SEE SHEET L-16

END CONSTRUCTION  
"AS" 30+00.00



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

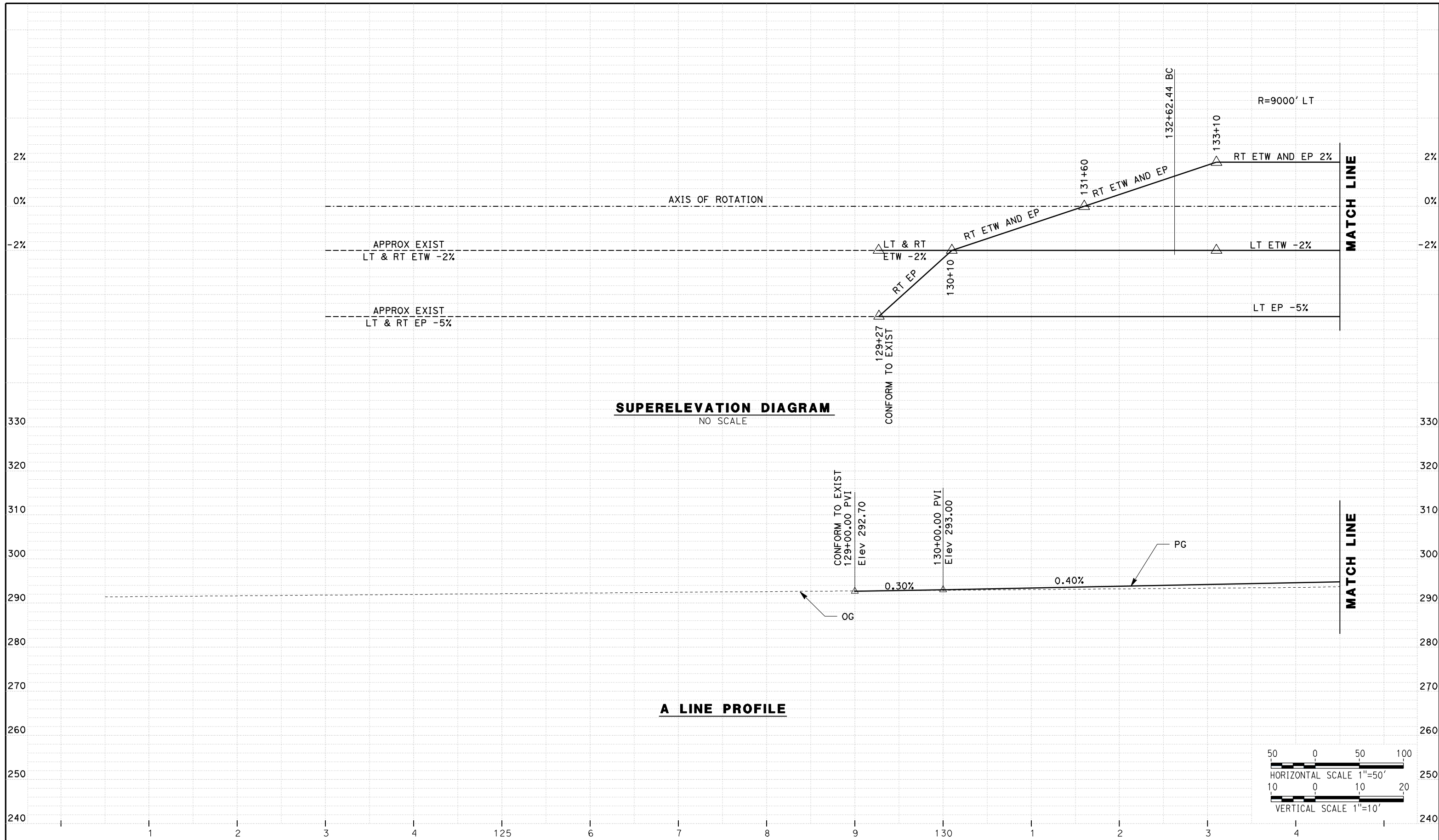


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**LAYOUT**

CONTRACT NO.	HSR06-007
DRAWING NO.	<b>L-17</b>
SCALE	AS SHOWN
SHEET NO.	

DATE PLOTTED: 23 APR 2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK

DRAWN BY  
L. ROS

CHECKED BY  
L. HEUSTON

IN CHARGE  
J. MATSUI-DRURY

DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

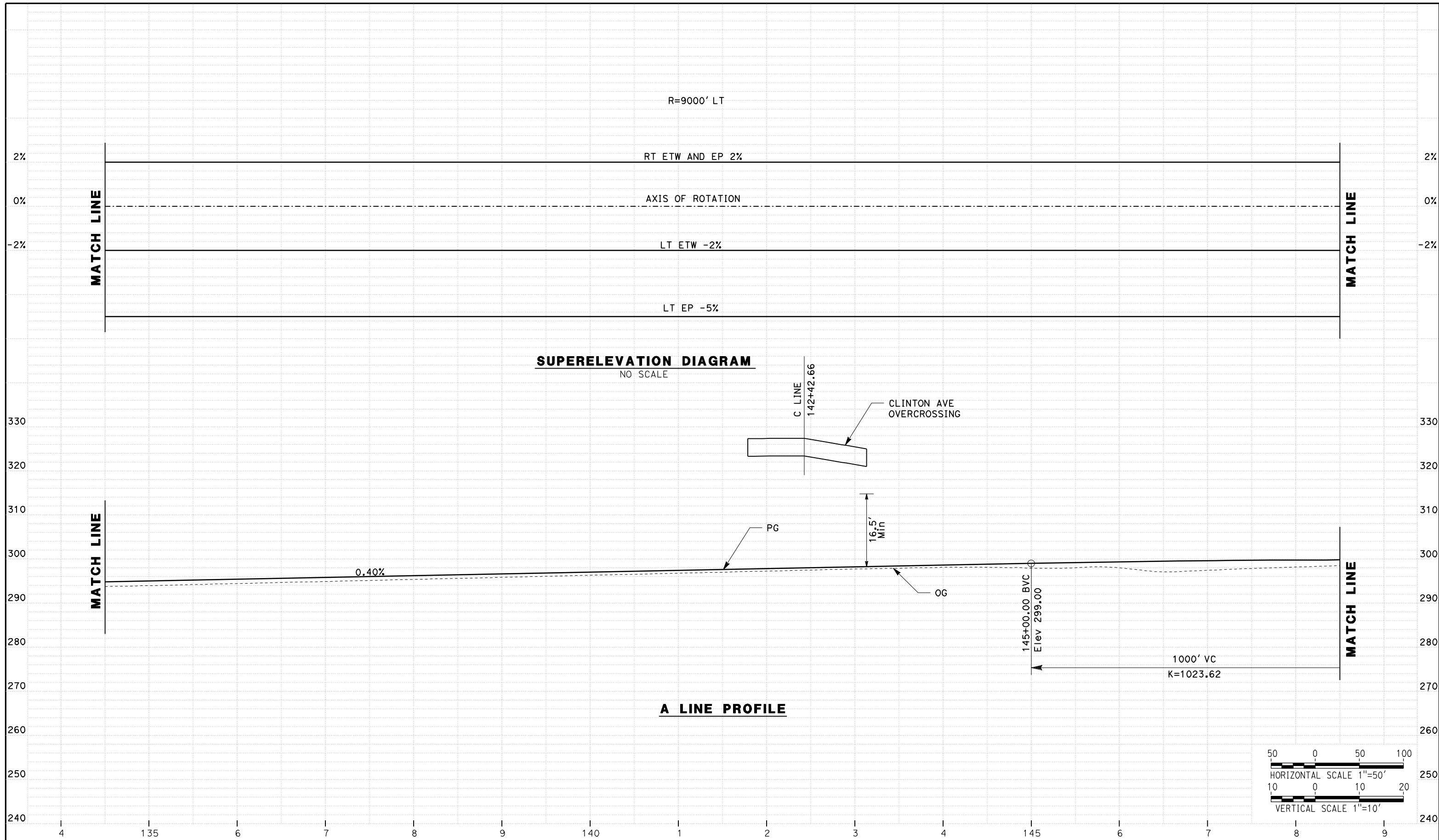
CONTRACT NO.  
HSR06-007

DRAWING NO.  
**P-1**

SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK

DRAWN BY  
L. ROS

CHECKED BY  
L. HEUSTON

IN CHARGE  
J. MATSUI-DRURY

DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007

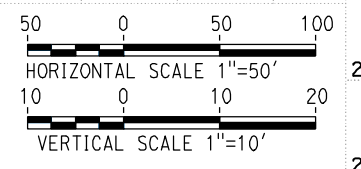
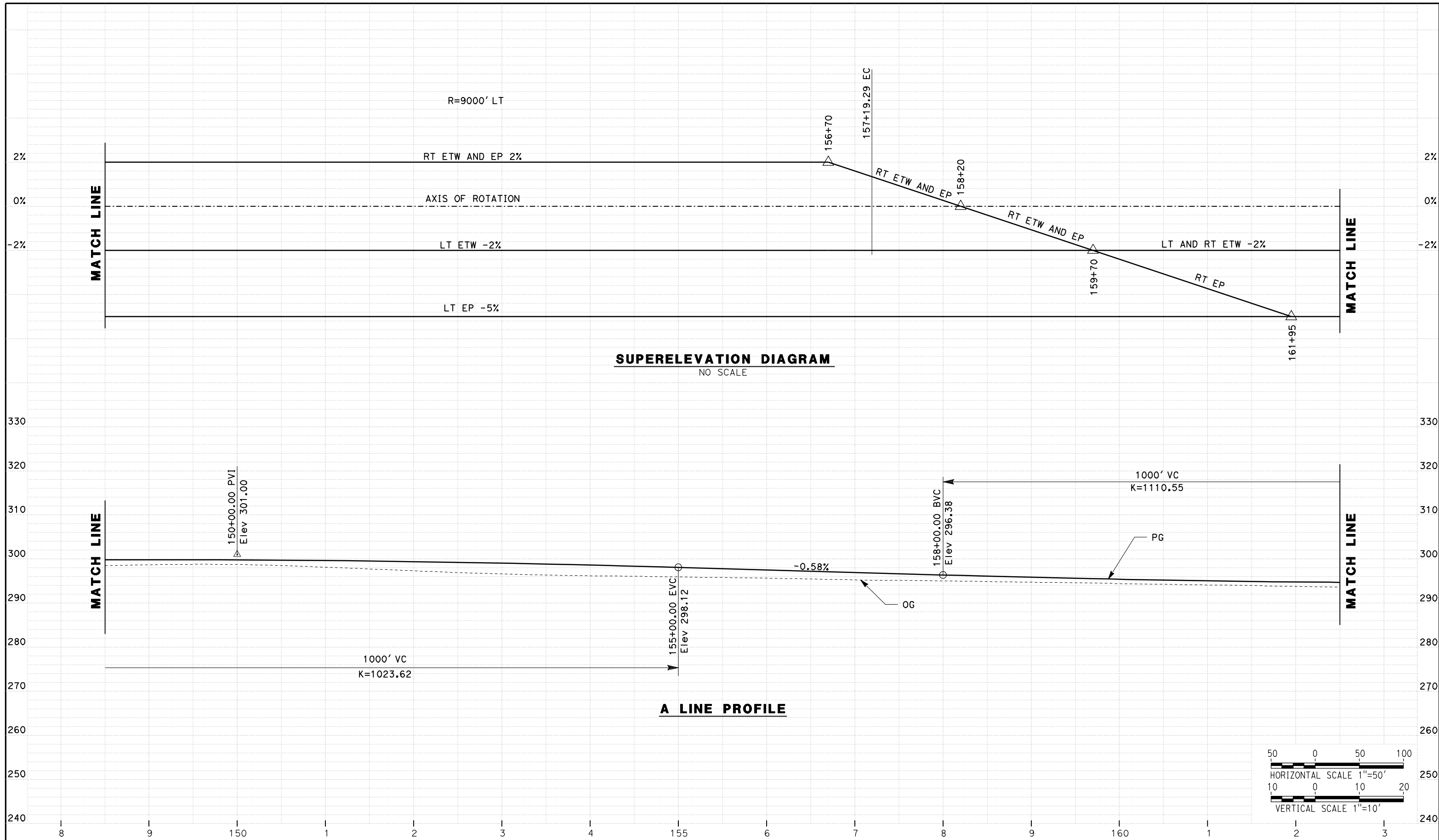
DRAWING NO.  
**P-2**

SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

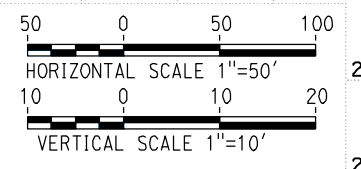
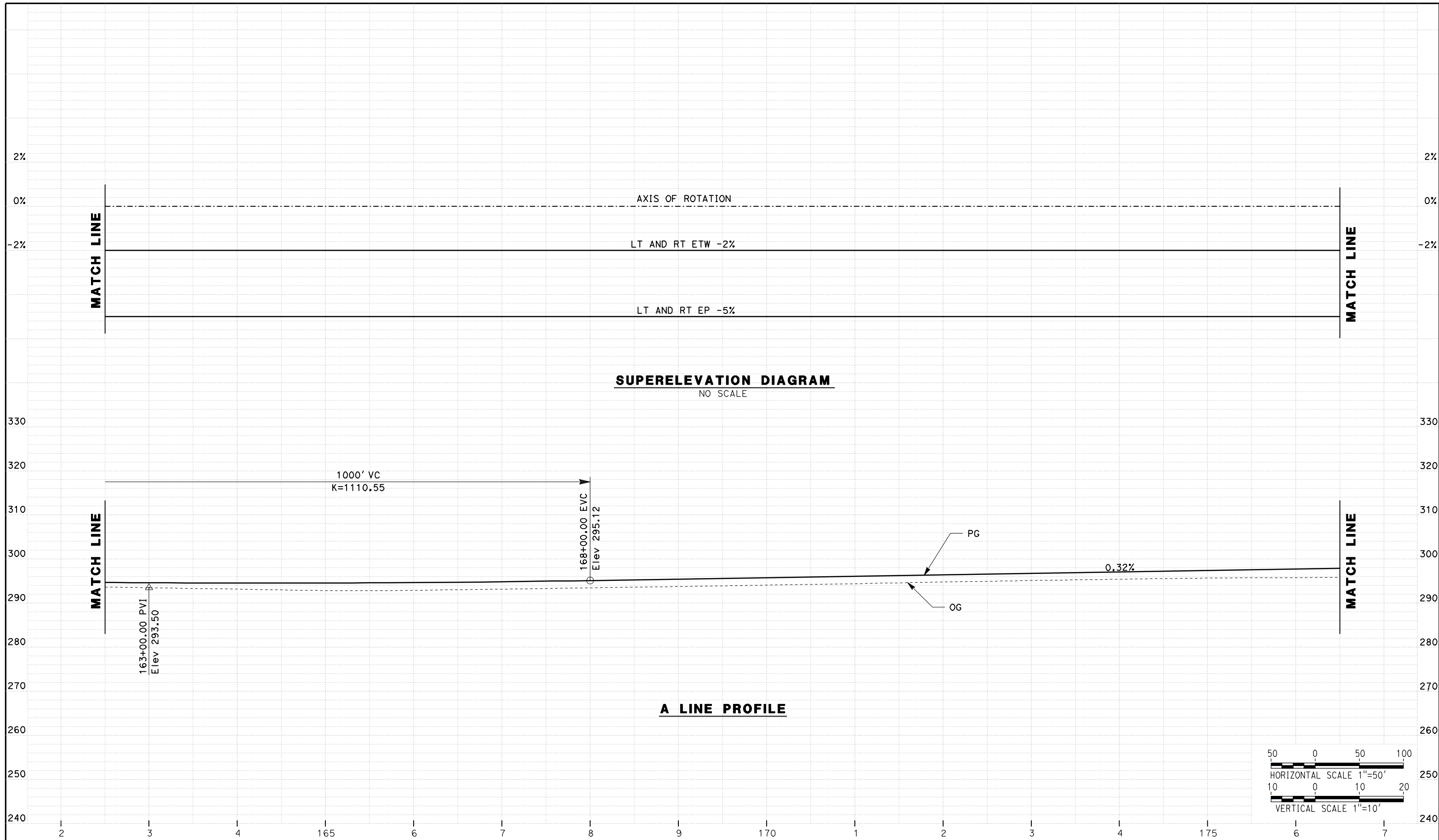
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-3**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**G. MANOREK**  
 DRAWN BY  
**L. ROS**  
 CHECKED BY  
**L. HEUSTON**  
 IN CHARGE  
**J. MATSUI-DRURY**  
 DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

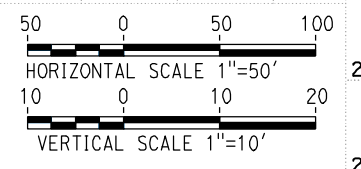
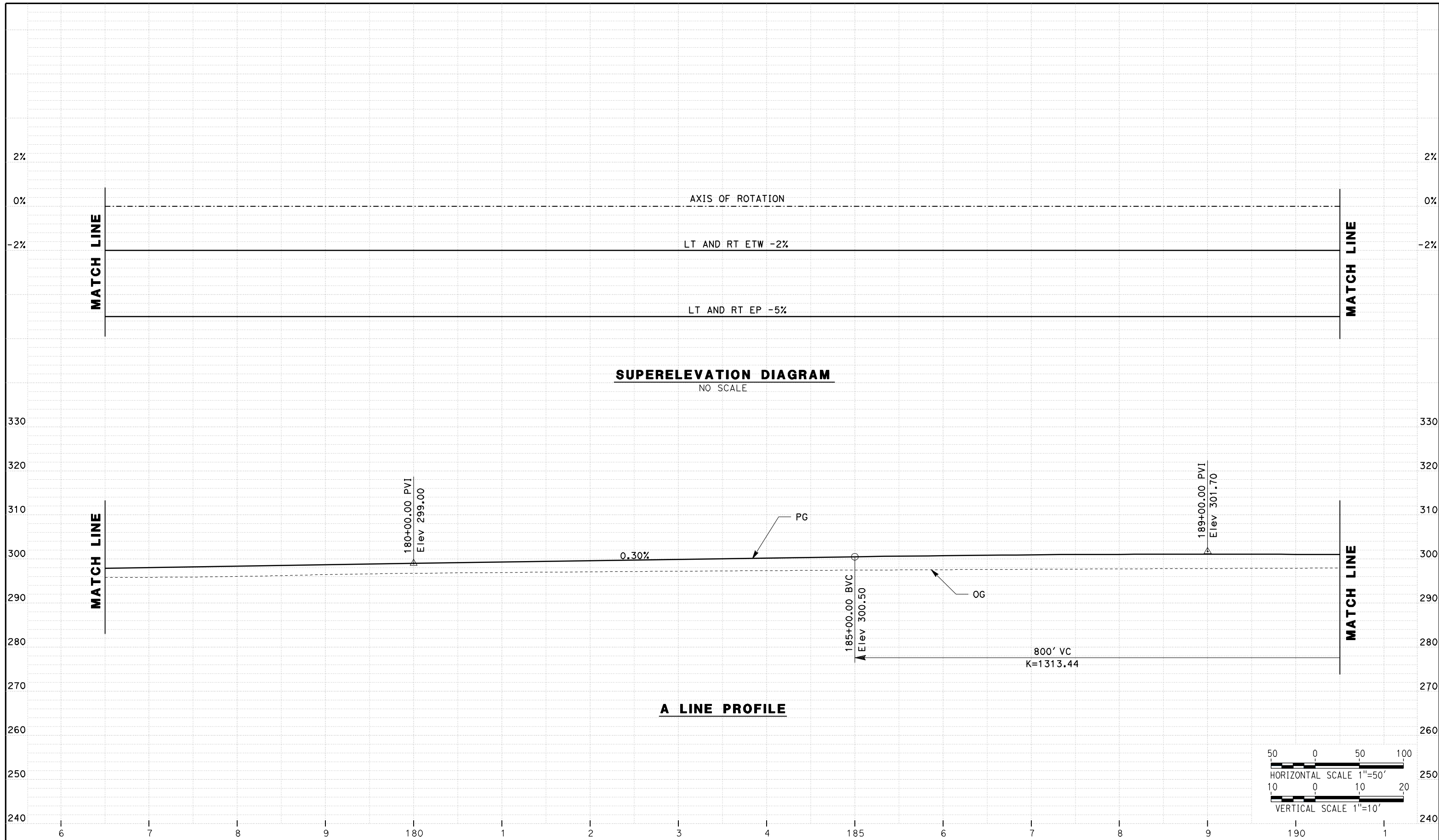


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
**HSR06-007**  
 DRAWING NO.  
**P-4**  
 SCALE  
**AS SHOWN**  
 SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

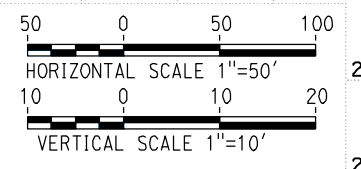
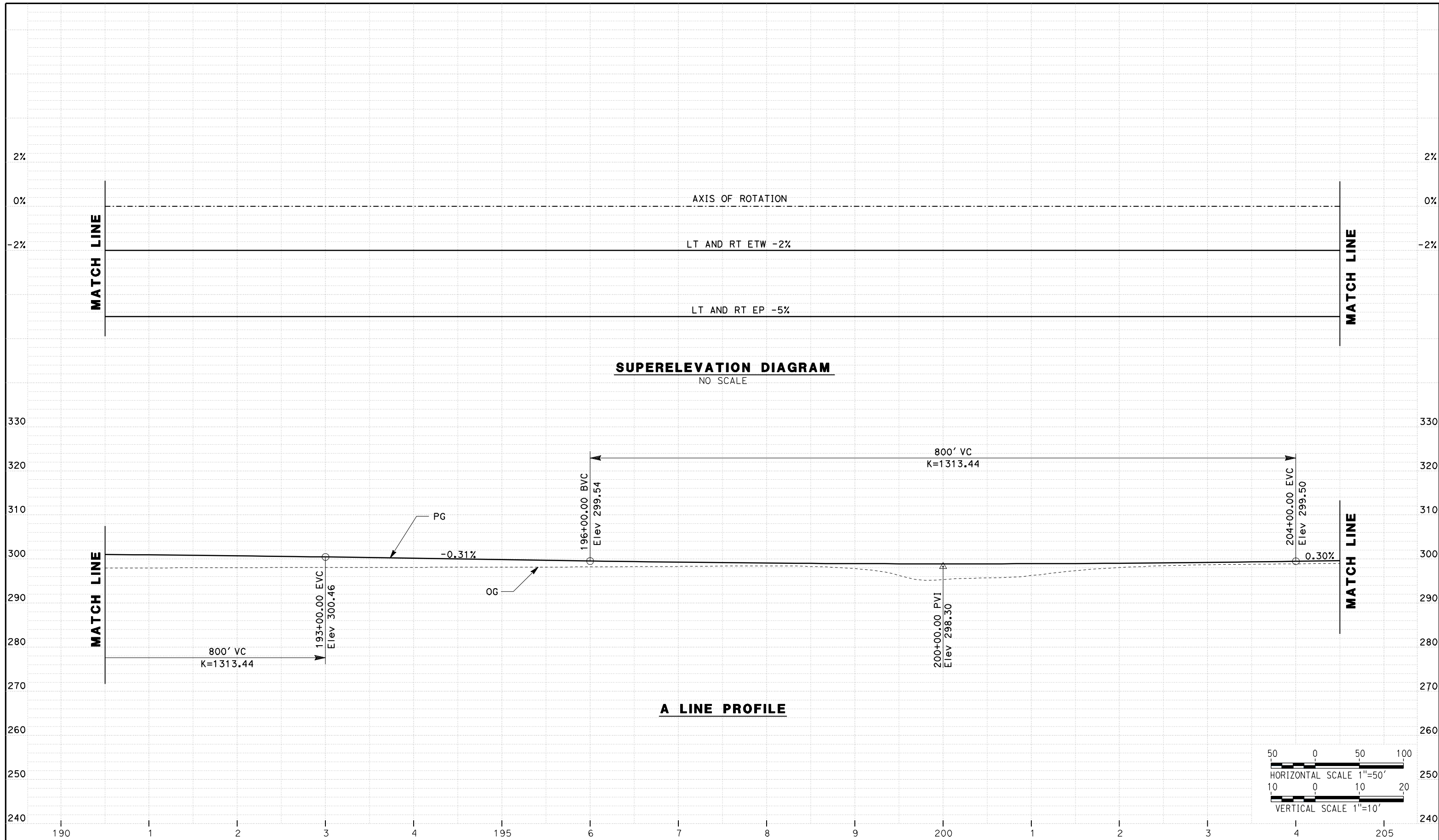
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-5**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

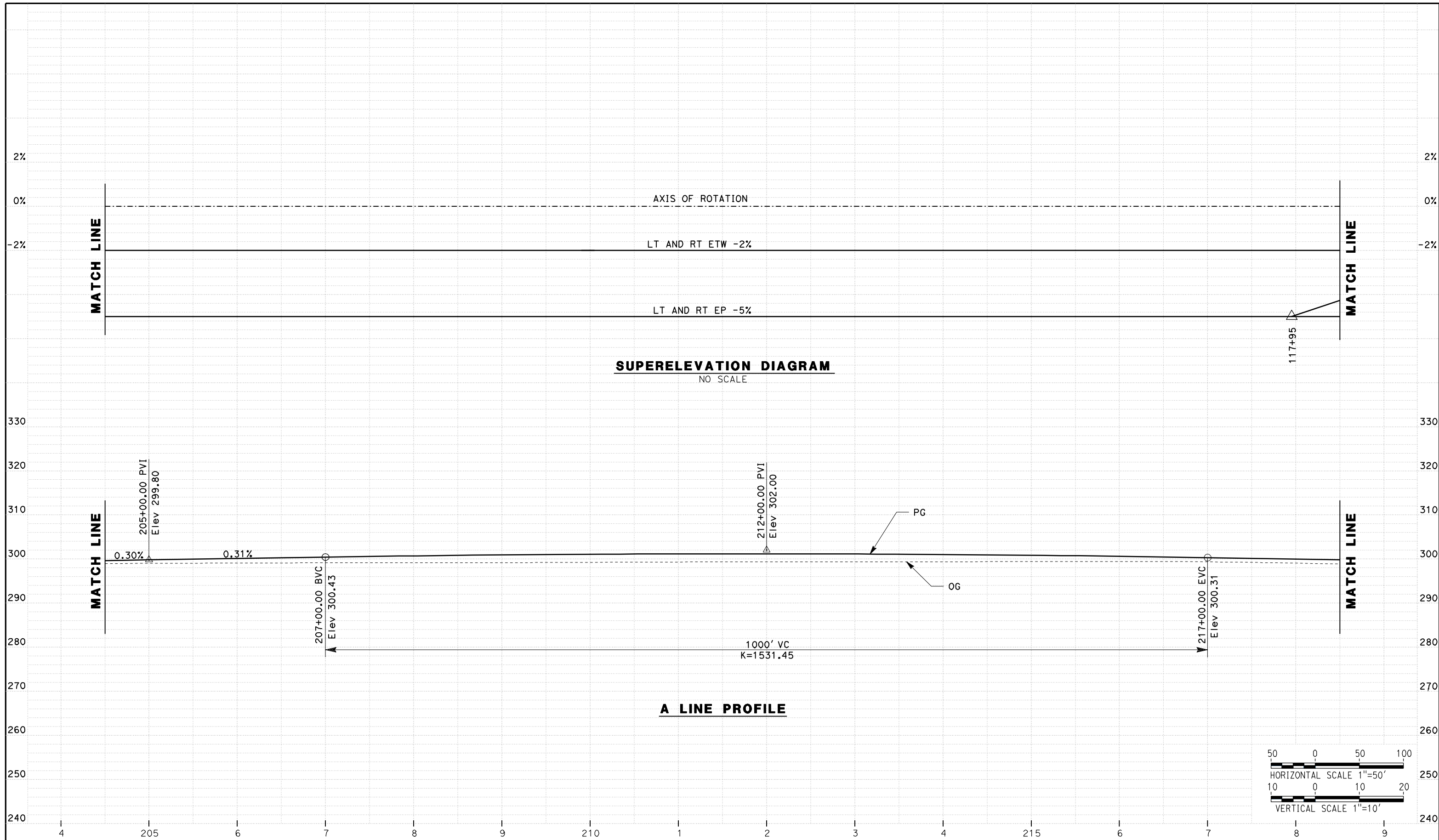


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-6**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK

DRAWN BY  
L. ROS

CHECKED BY  
L. HEUSTON

IN CHARGE  
J. MATSUI-DRURY

DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

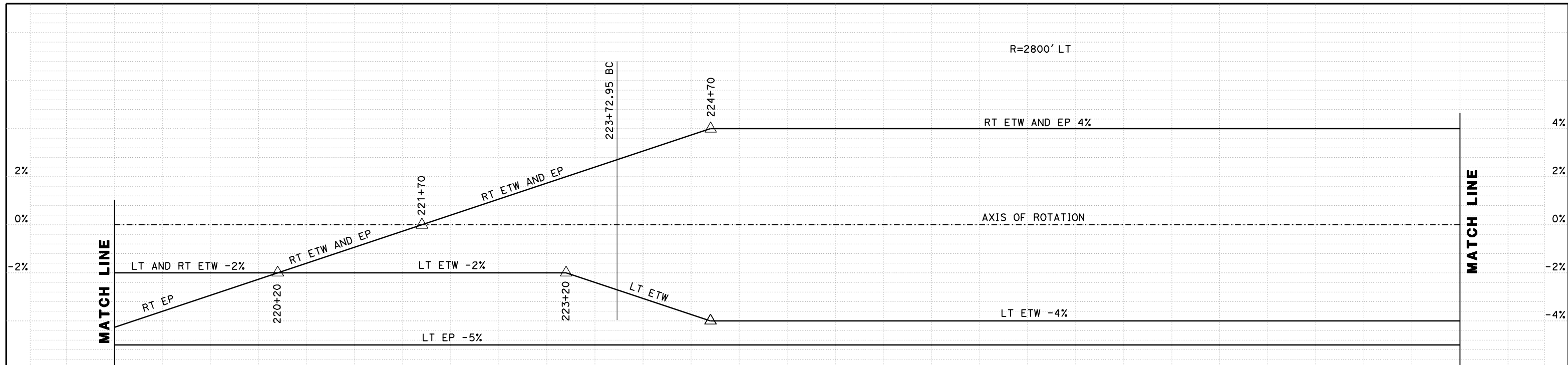
CONTRACT NO.  
HSR06-007

DRAWING NO.  
**P-7**

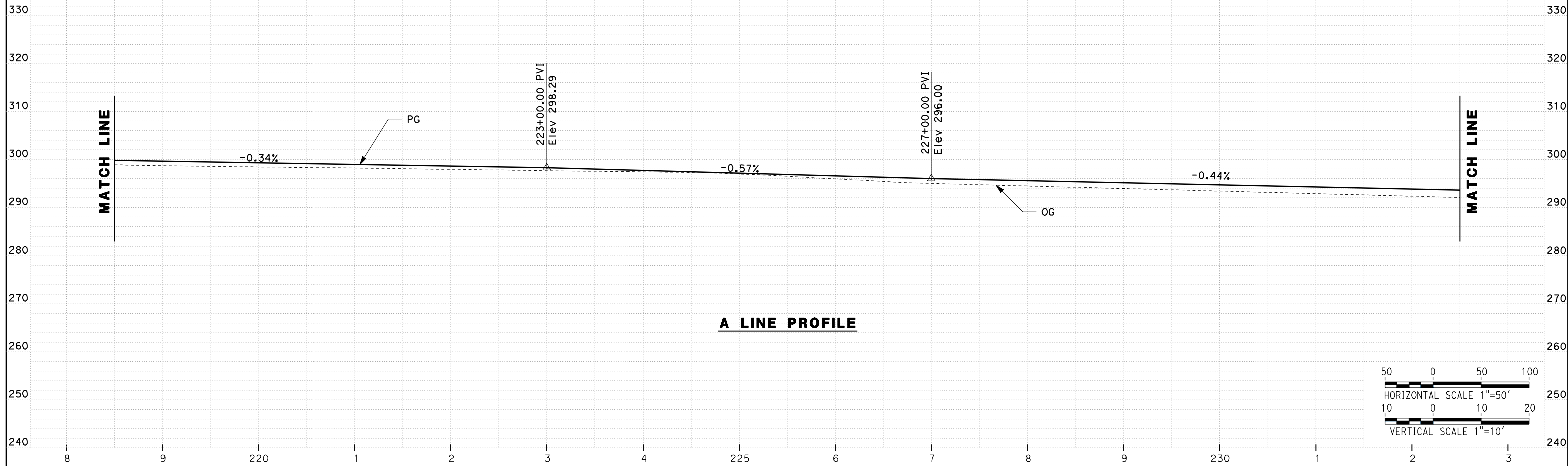
SCALE  
AS SHOWN

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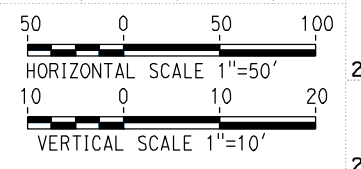
DATE PLOTTED => 26-APR-2011



**SUPERELEVATION DIAGRAM**  
NO SCALE



**A LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

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**CONSTRUCTION**

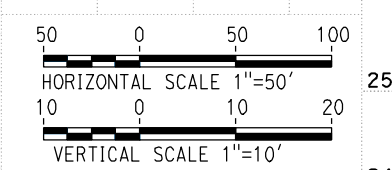
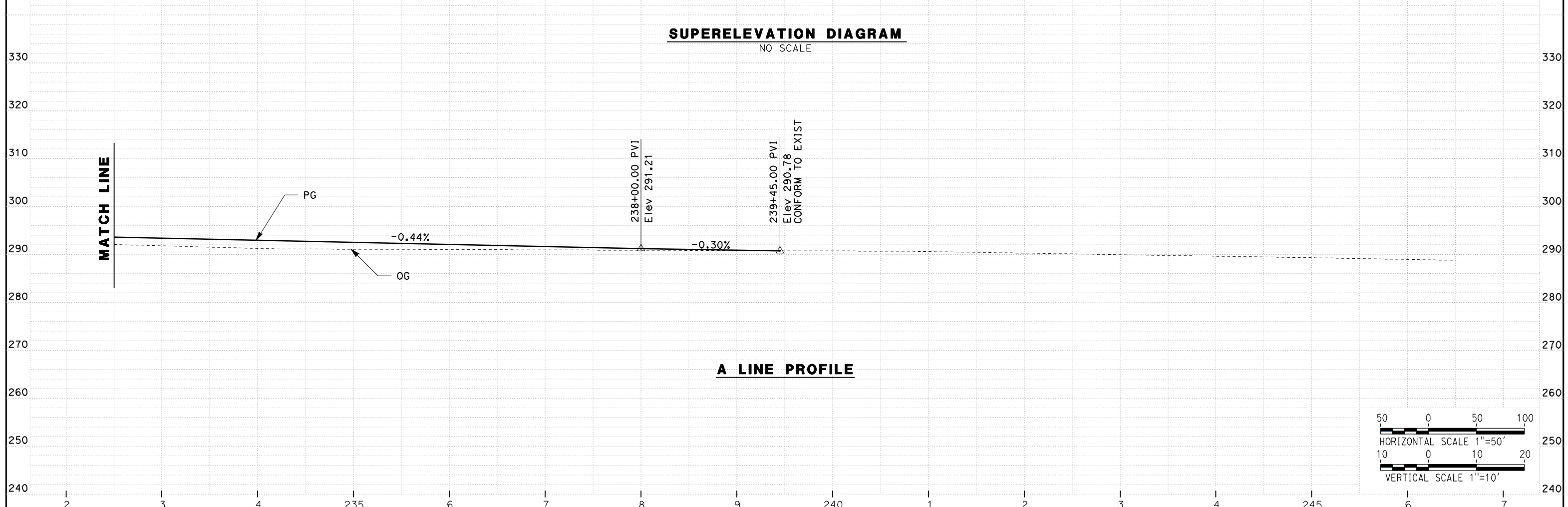
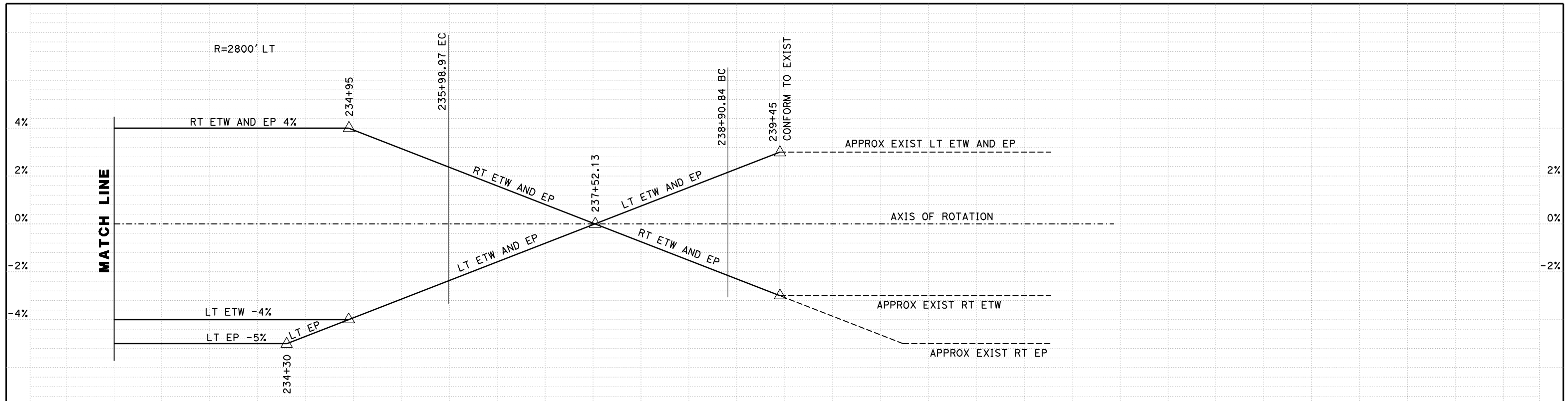


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-8**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

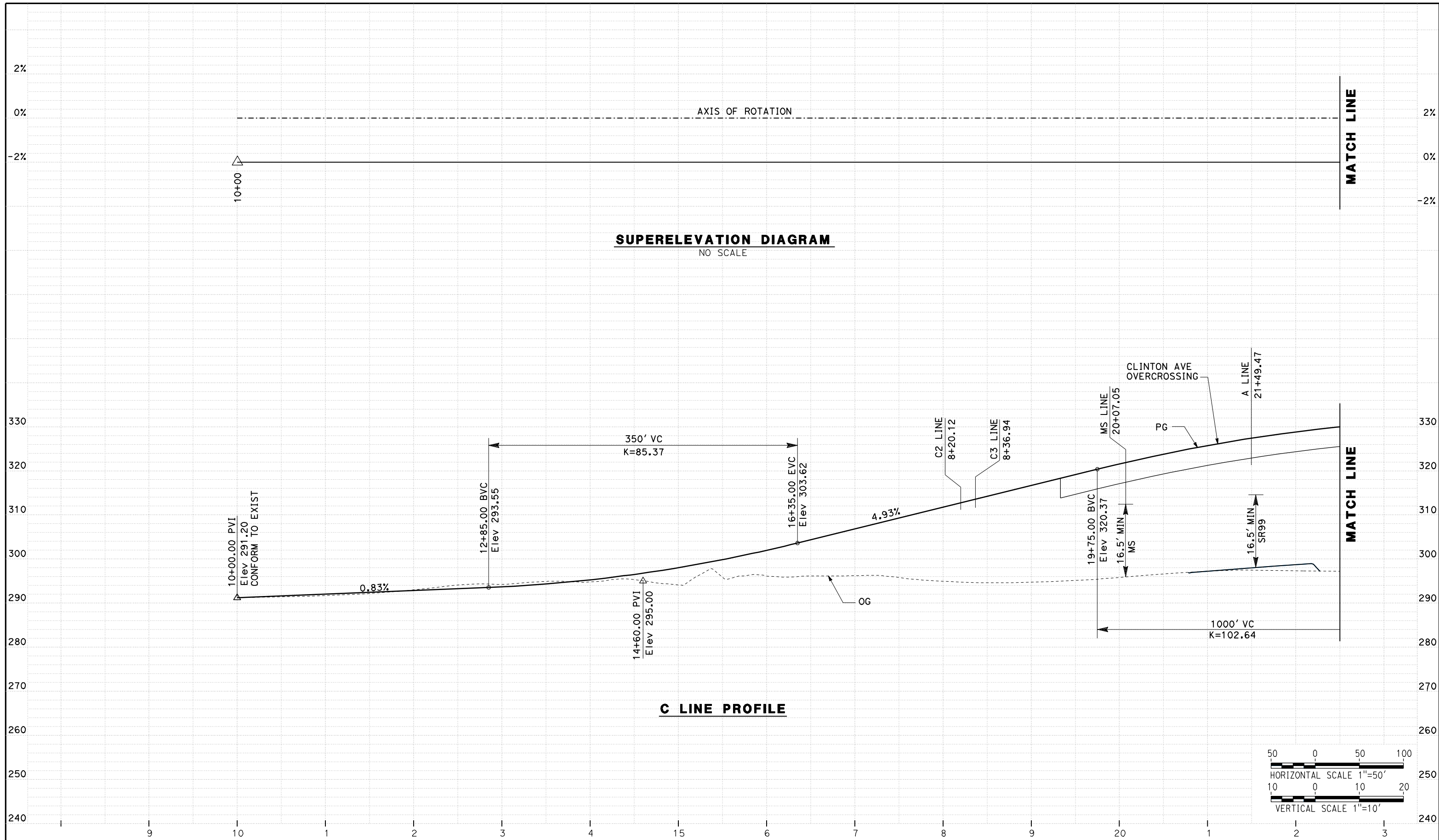
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-9**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
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**NOT FOR**  
**CONSTRUCTION**

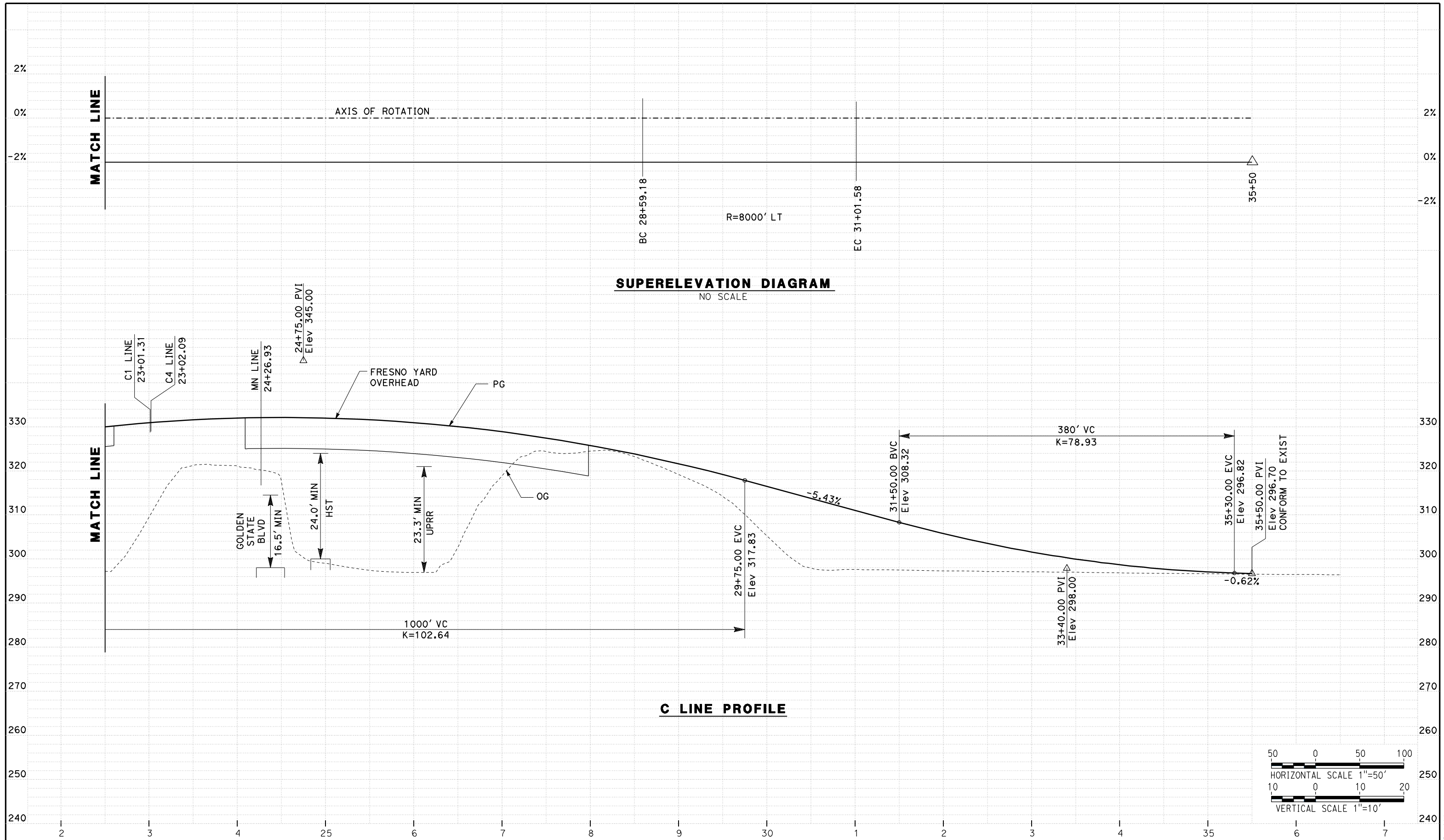


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-10**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
 DRAWN BY  
L. ROS  
 CHECKED BY  
L. HEUSTON  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

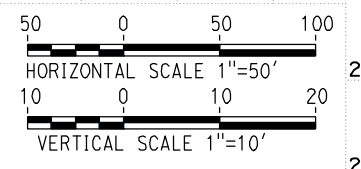
**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

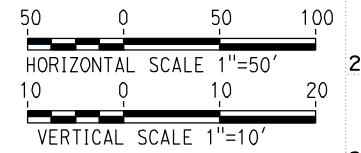
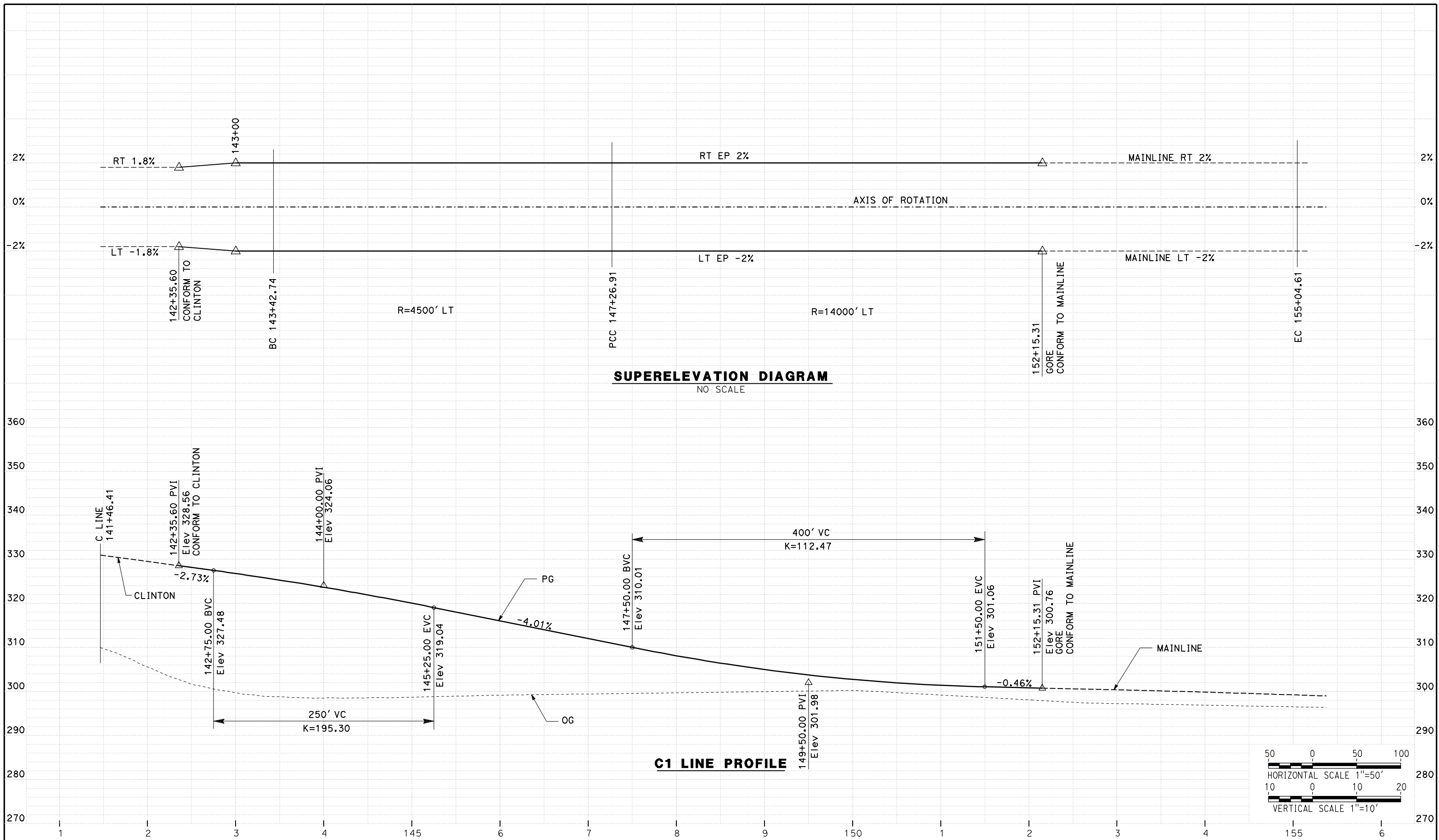


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
**P-11**  
 SCALE  
AS SHOWN  
 SHEET NO.



DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
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J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

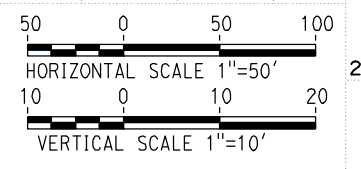
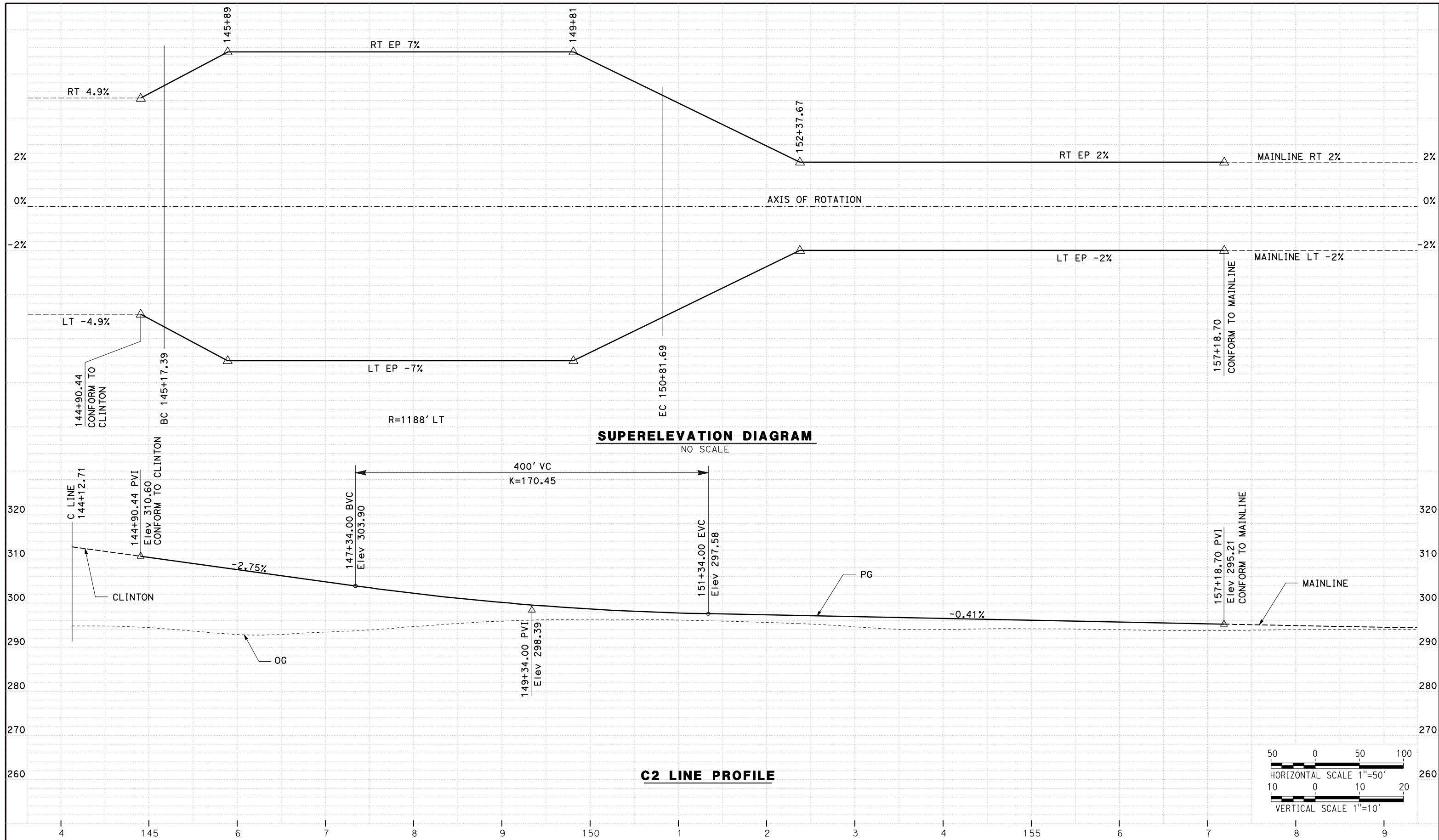


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-12**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK

DRAWN BY  
L. ROS

CHECKED BY  
L. HEUSTON

IN CHARGE  
J. MATSUI-DRURY

DATE  
04/29/11

**RECORD SET**  
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**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

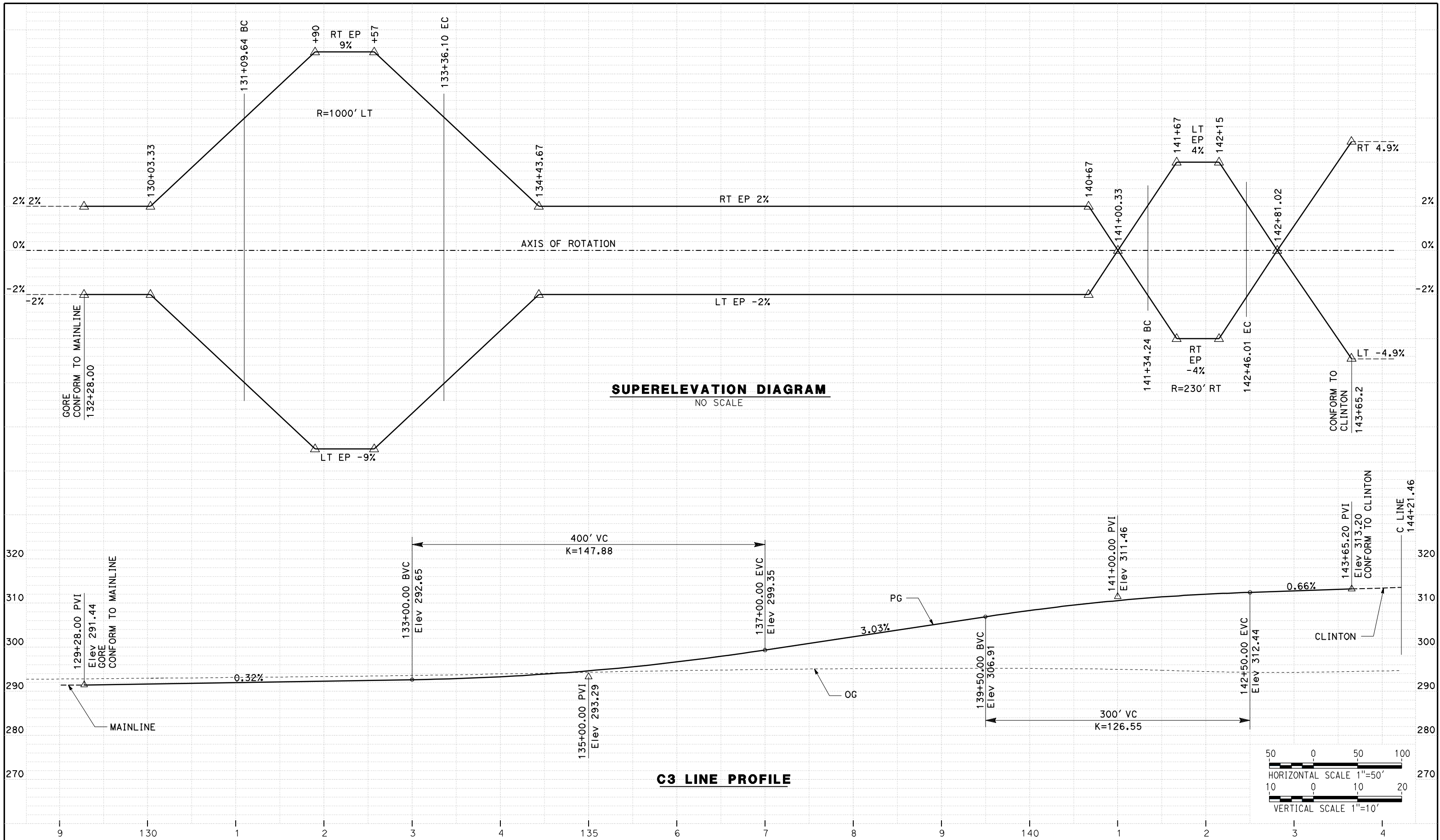
CONTRACT NO.  
HSR06-007

DRAWING NO.  
**P-13**

SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

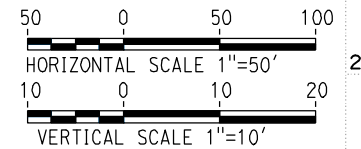
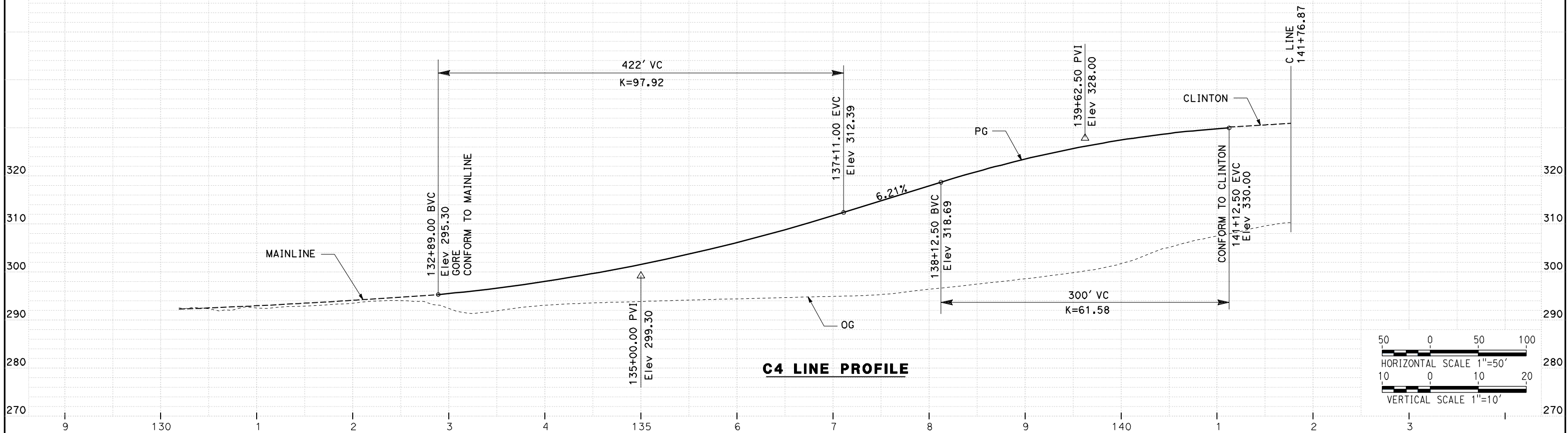
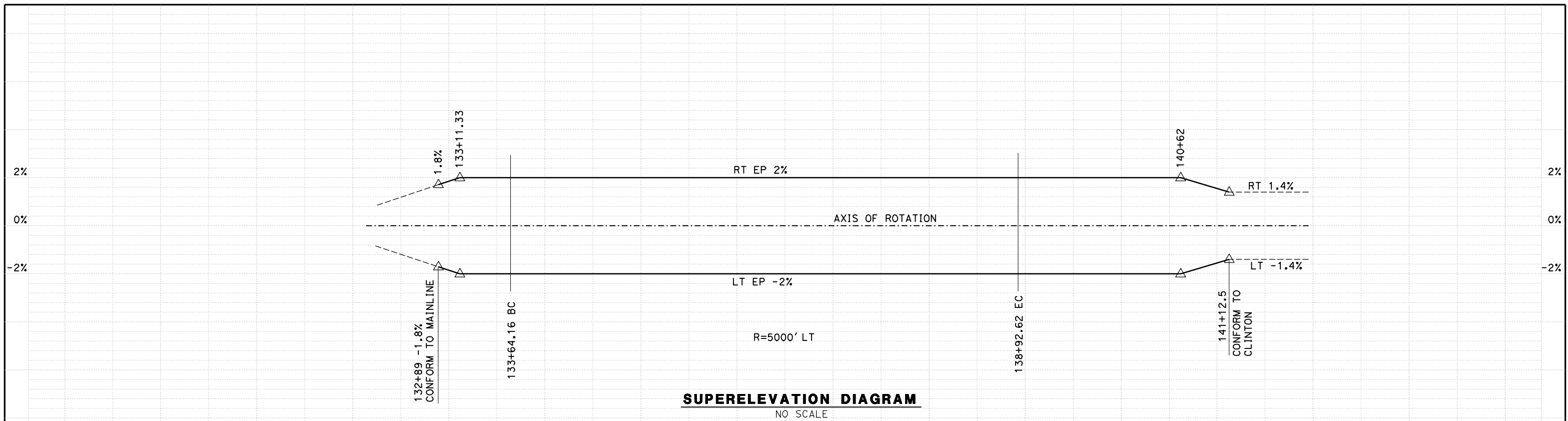


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-14**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

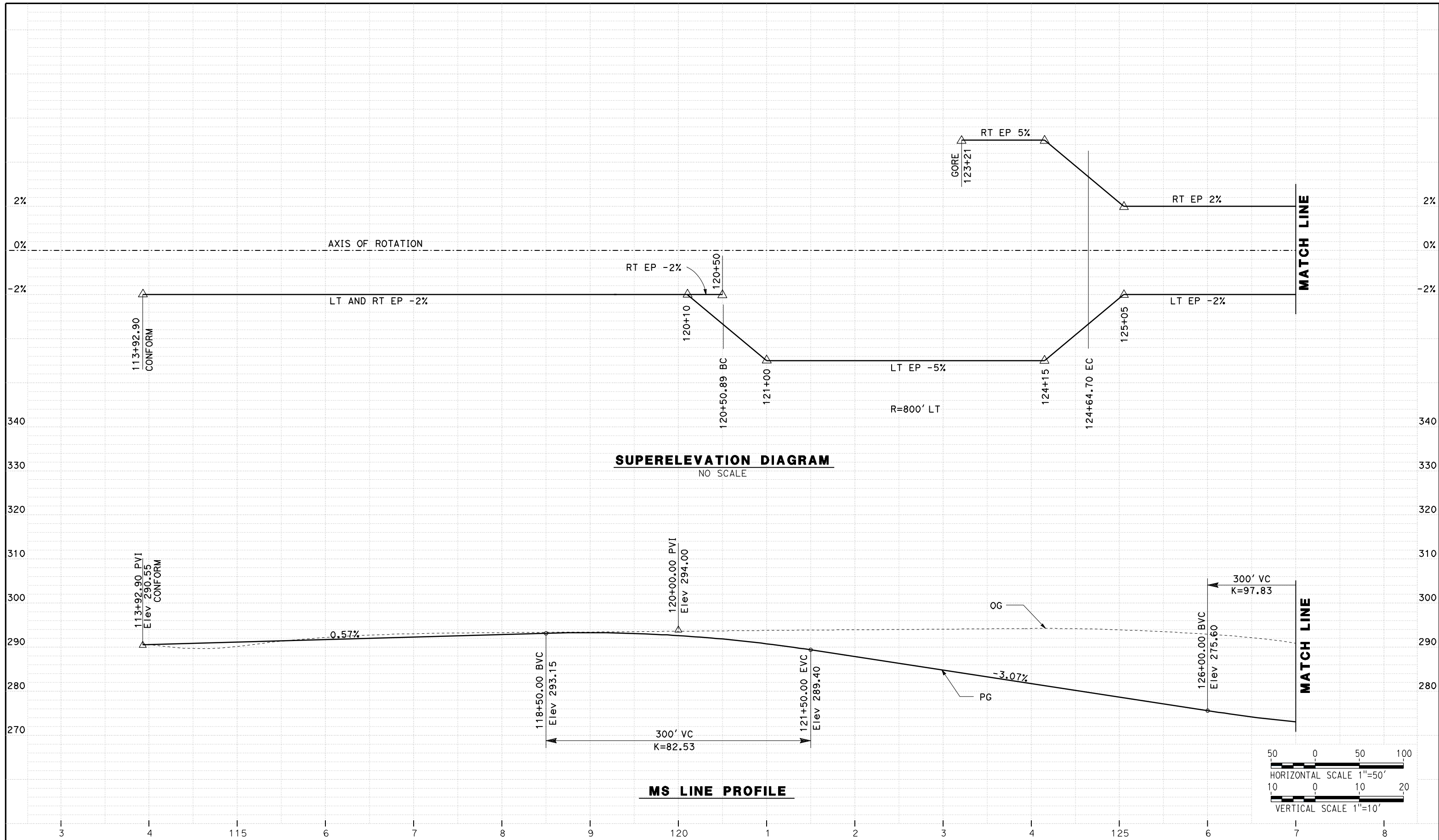
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-15**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

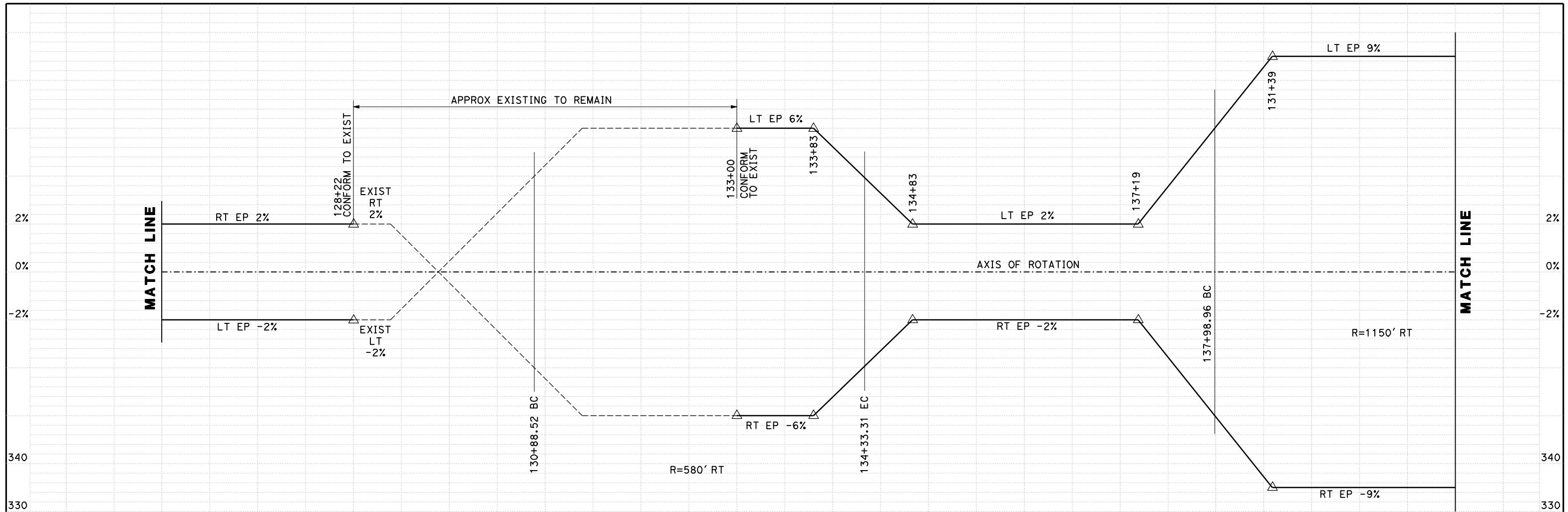


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

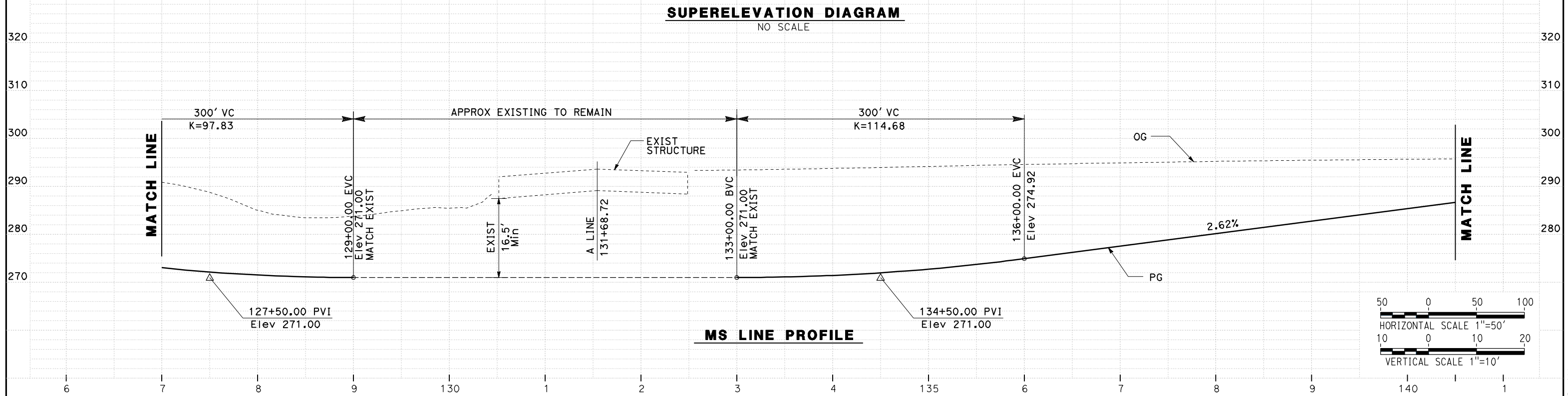
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-16**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011

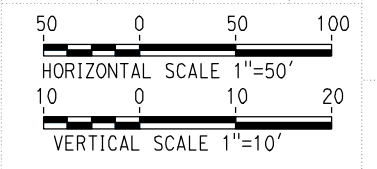




**SUPERELEVATION DIAGRAM**  
NO SCALE



**MS LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

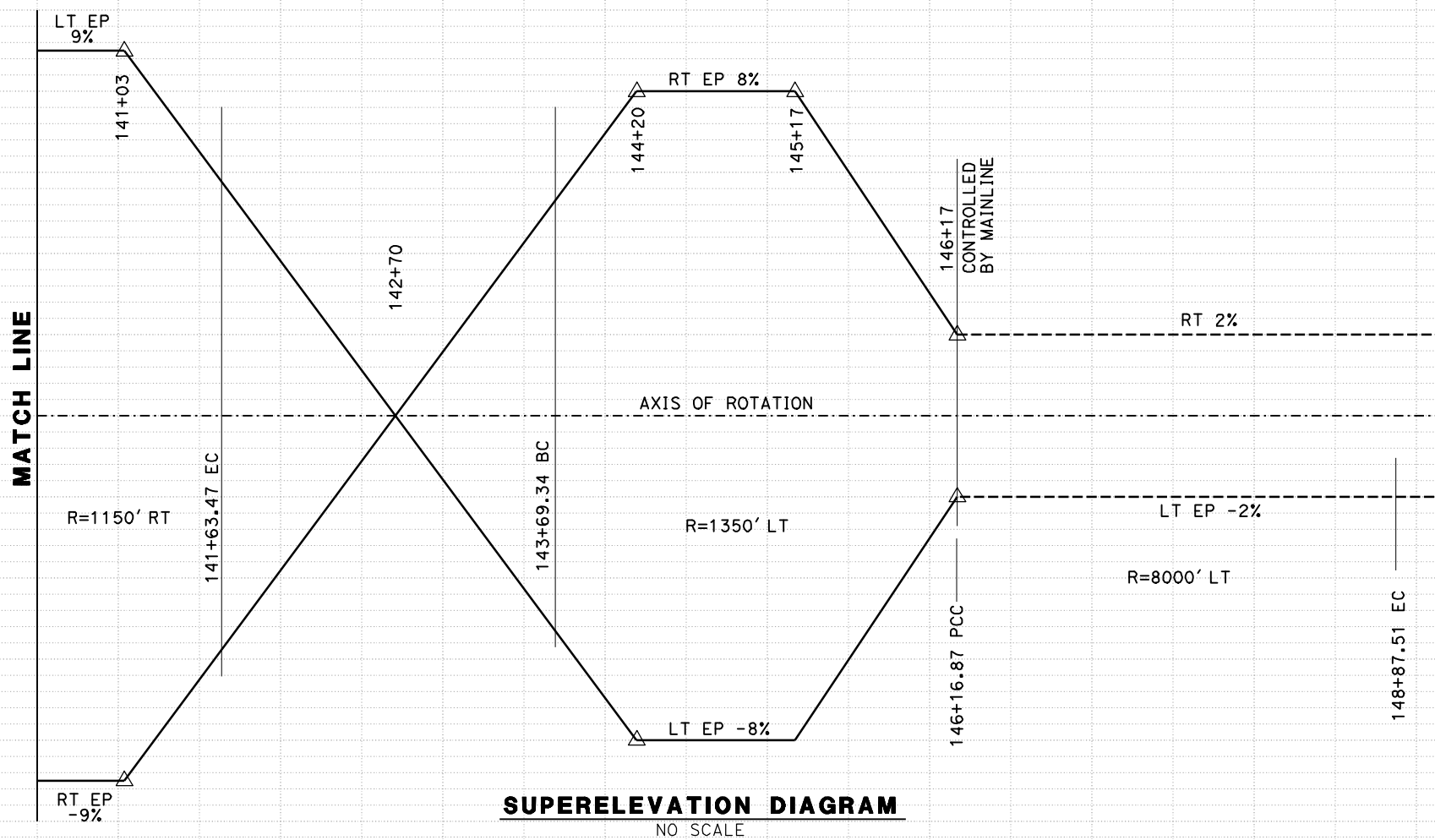
**NOT FOR**  
**CONSTRUCTION**



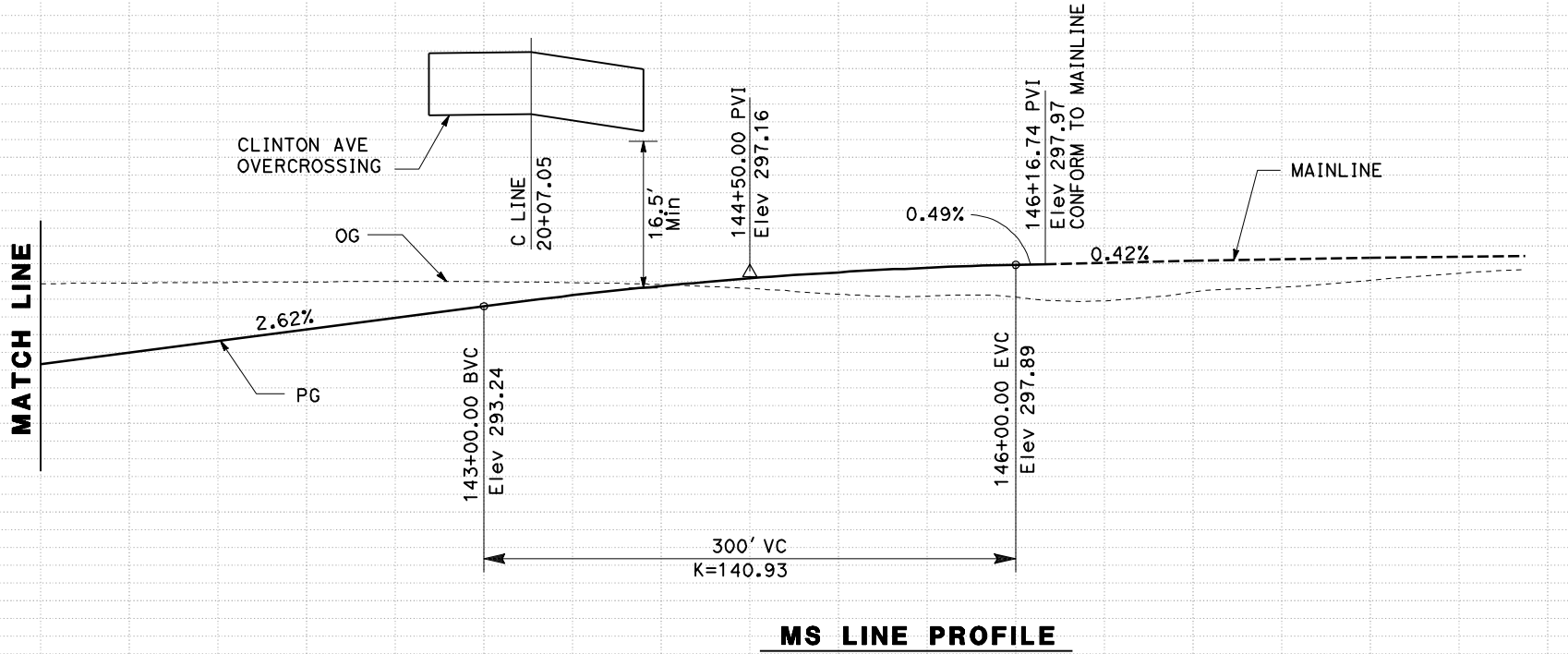
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-17**  
SCALE  
AS SHOWN  
SHEET NO.

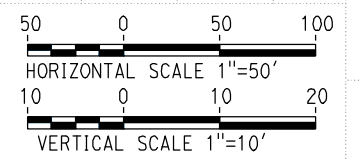
DATE PLOTTED => 26-APR-2011



**SUPERELEVATION DIAGRAM**  
NO SCALE



**MS LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**G. MANOREK**  
DRAWN BY  
**L. ROS**  
CHECKED BY  
**L. HEUSTON**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

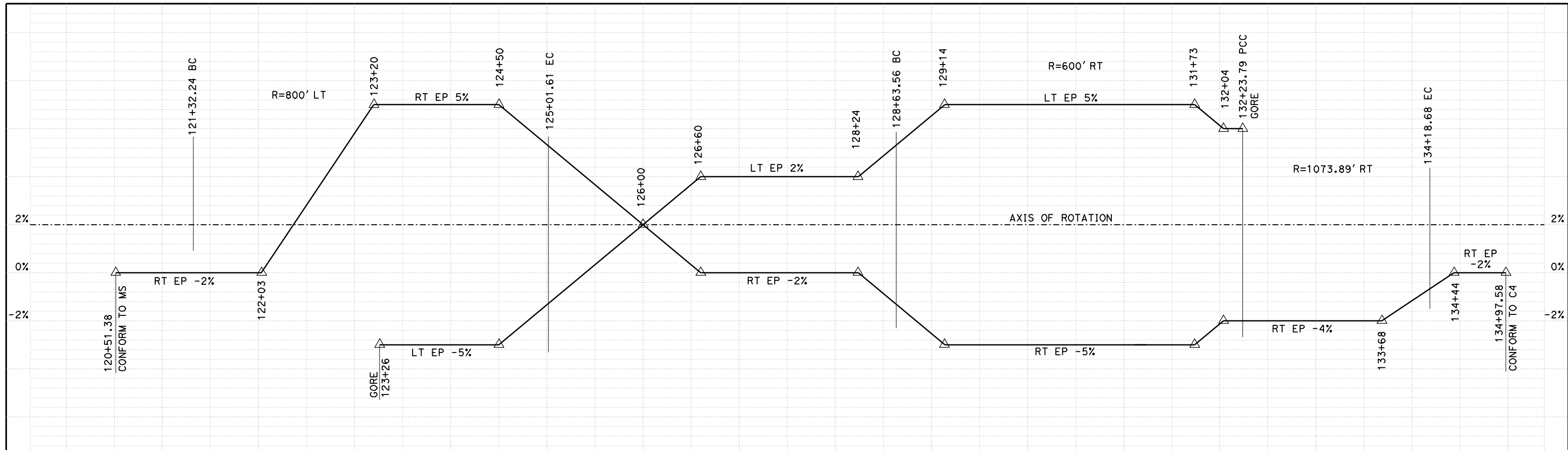


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

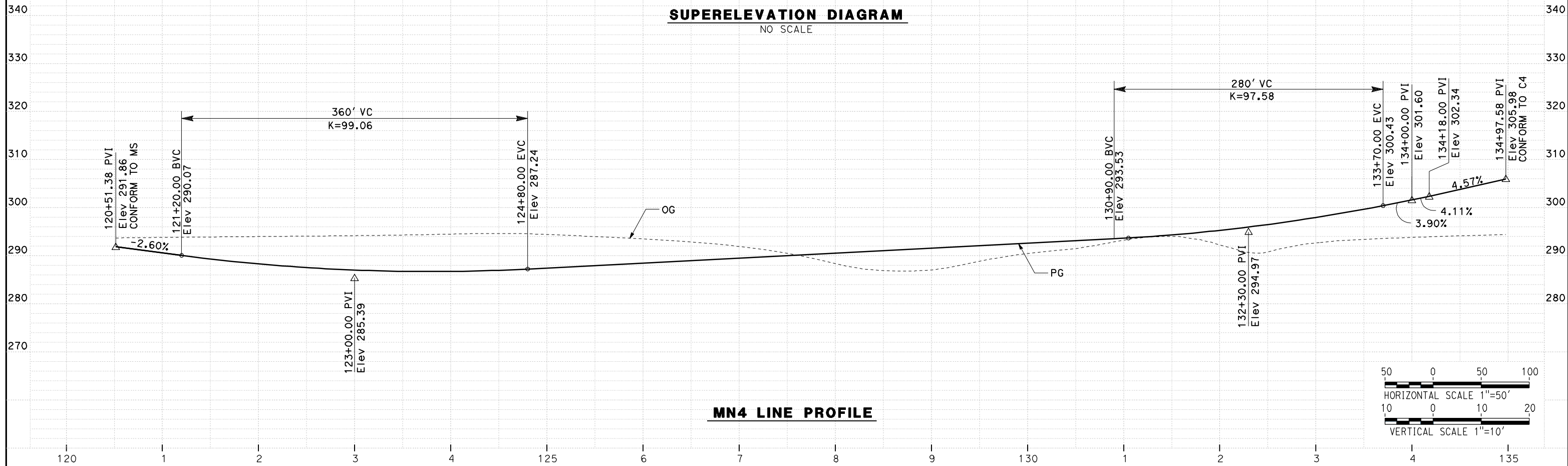
CONTRACT NO.  
**HSR06-007**  
DRAWING NO.  
**P-18**  
SCALE  
**AS SHOWN**  
SHEET NO.

DATE PLOTTED => 26-APR-2011

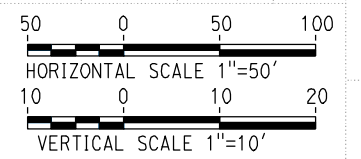




**SUPERELEVATION DIAGRAM**  
NO SCALE



**MN4 LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

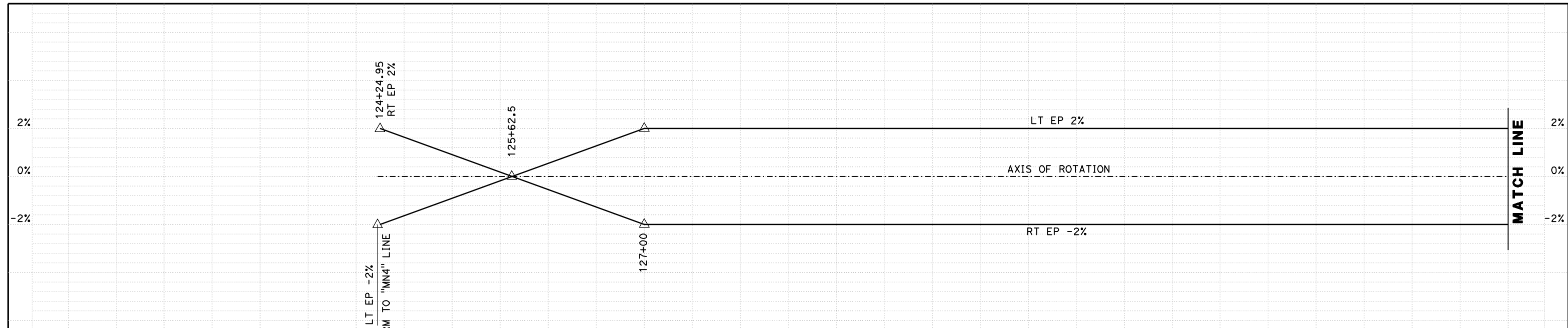
**NOT FOR**  
**CONSTRUCTION**



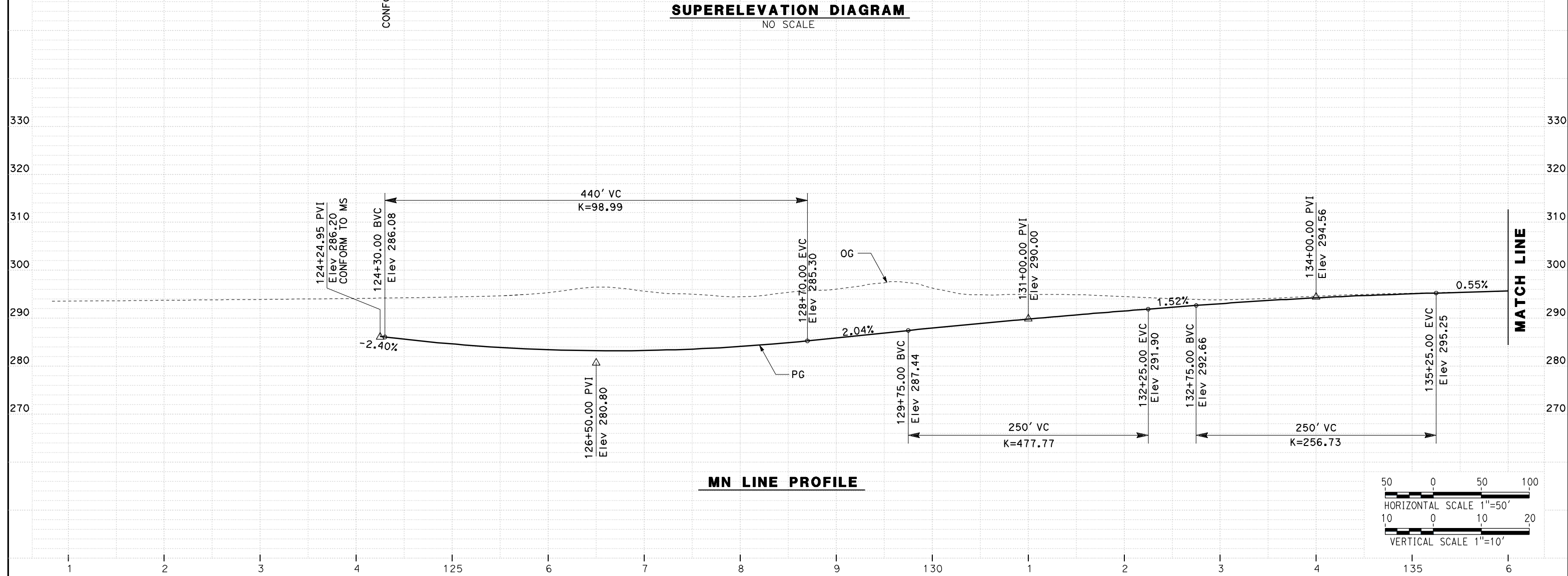
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-19**  
SCALE  
AS SHOWN  
SHEET NO.

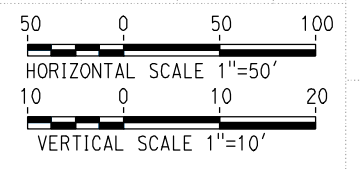
DATE PLOTTED => 26-APR-2011



**SUPERELEVATION DIAGRAM**  
NO SCALE



**MN LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**G. MANOREK**  
DRAWN BY  
**L. ROS**  
CHECKED BY  
**L. HEUSTON**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
**HSR06-007**

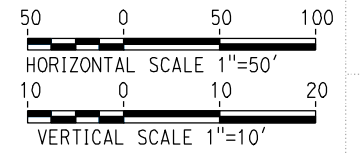
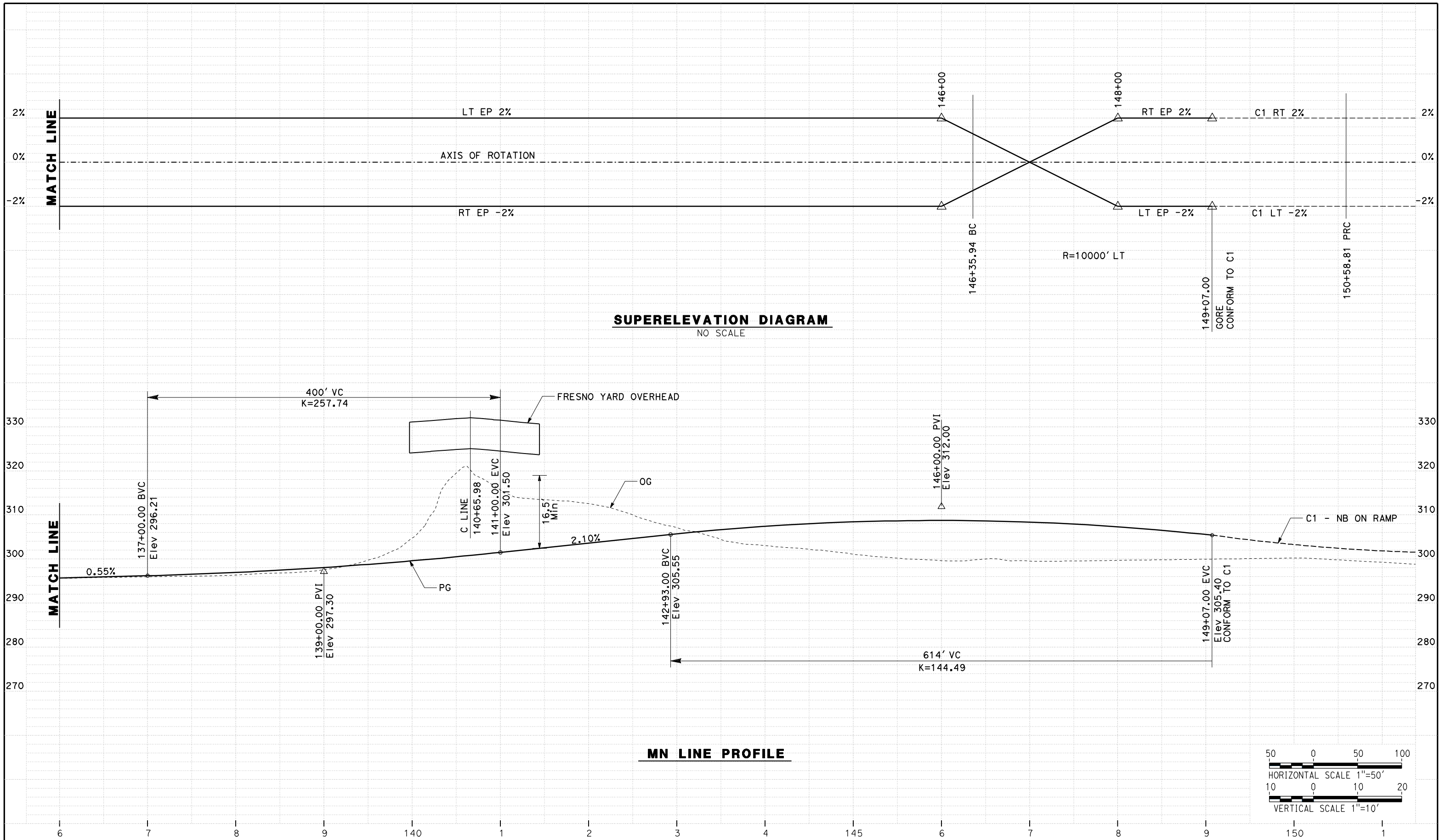
DRAWING NO.  
**P-20**

SCALE  
**AS SHOWN**

SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

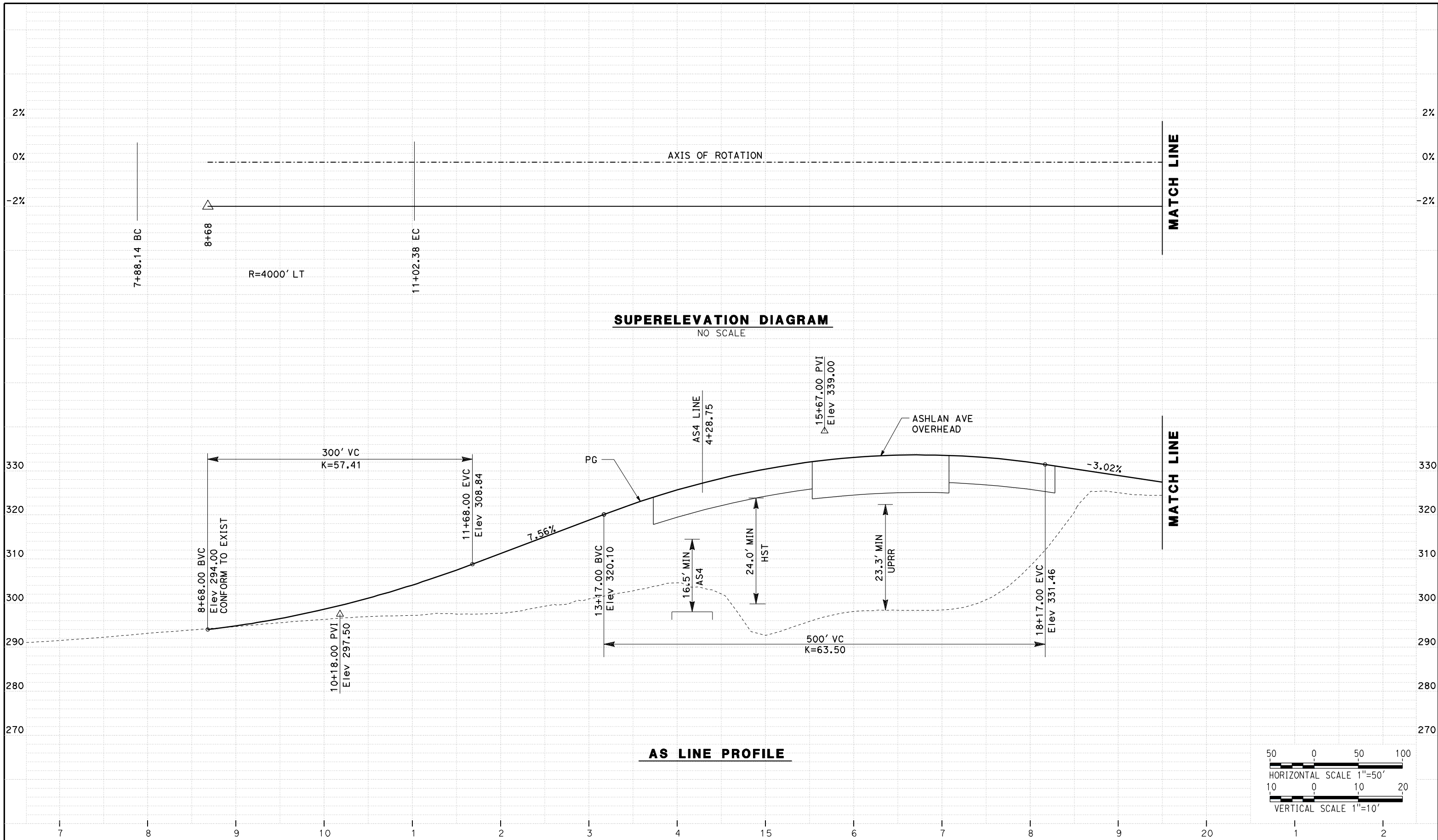
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

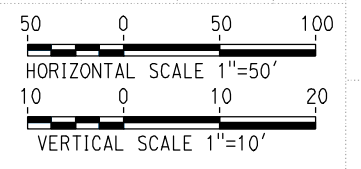
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-21**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



**SUPERELEVATION DIAGRAM**  
NO SCALE

**AS LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

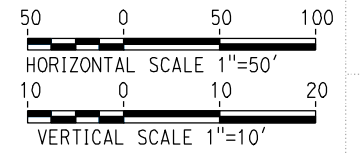
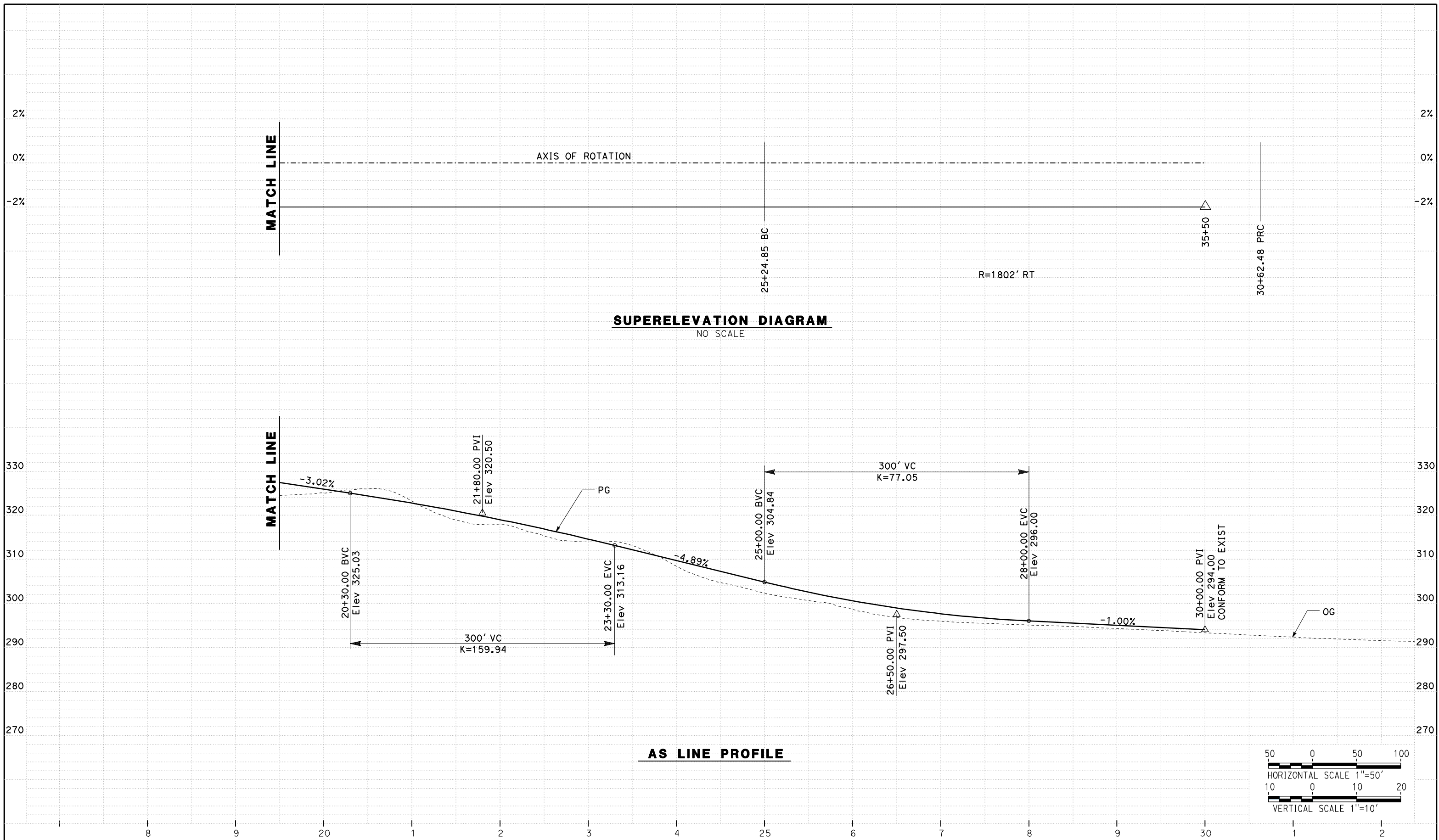


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-22**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

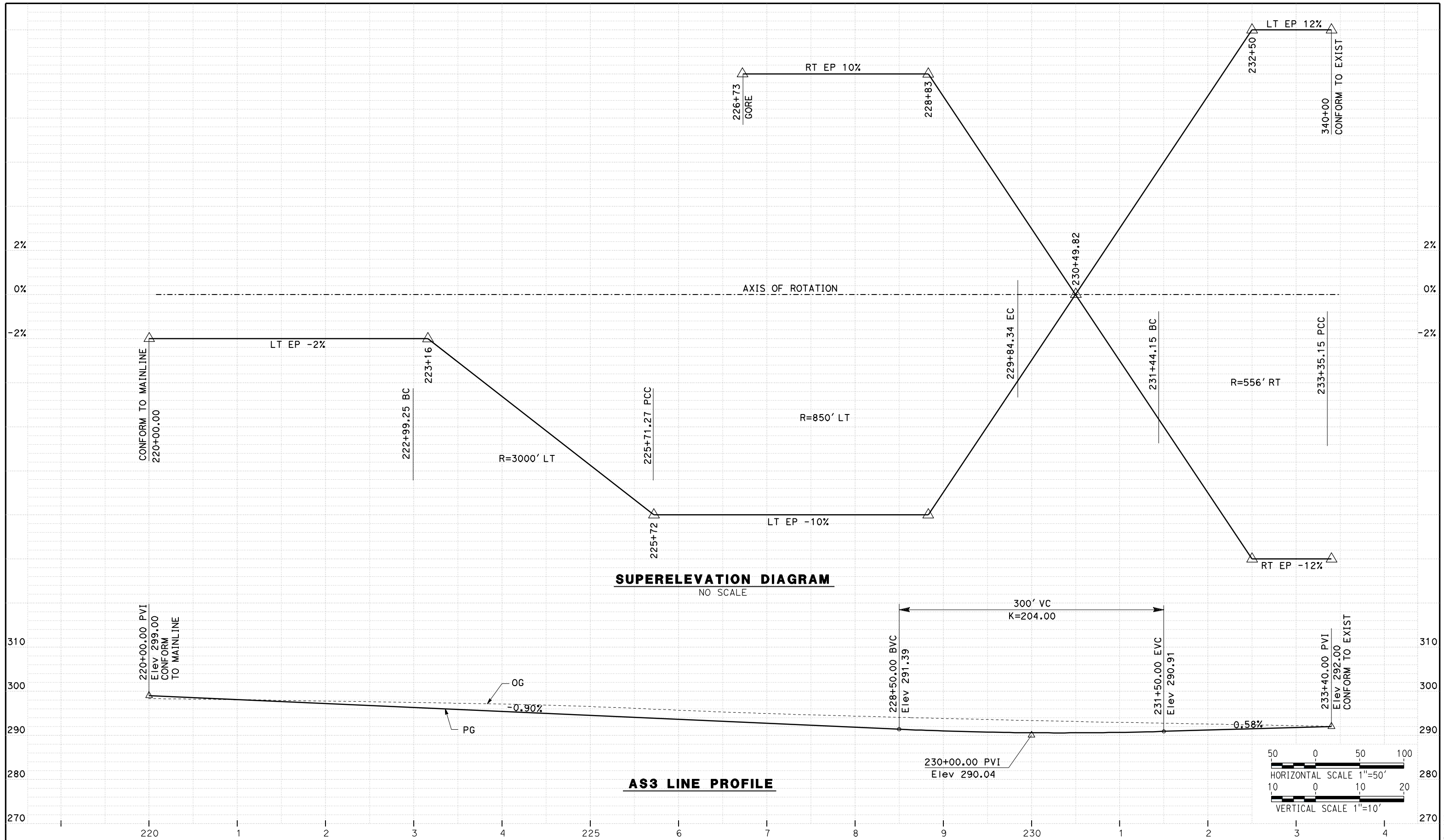
**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-23**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

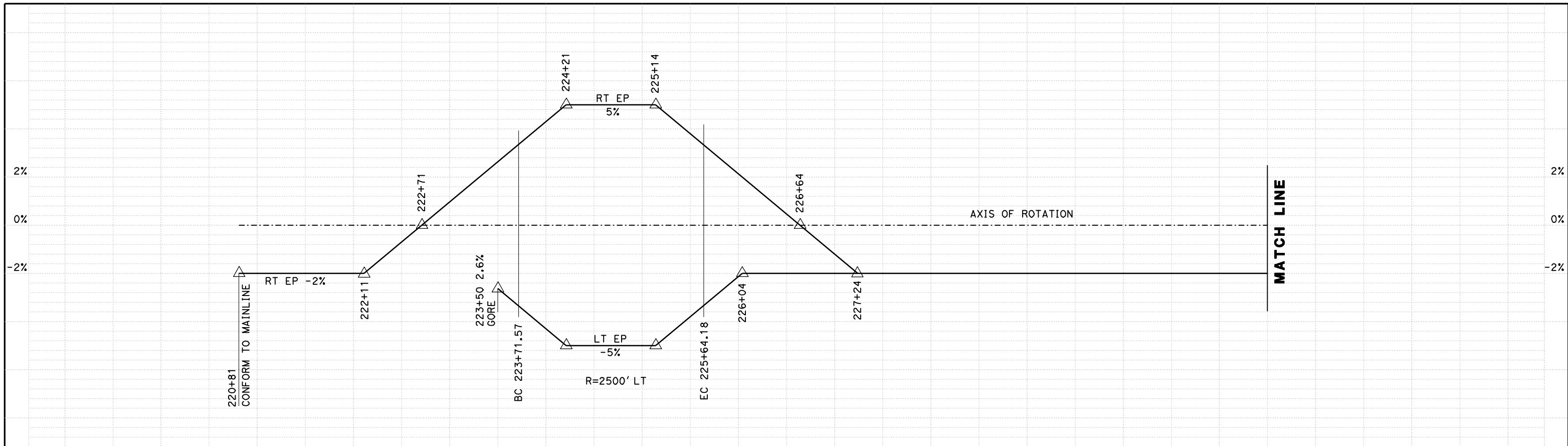


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

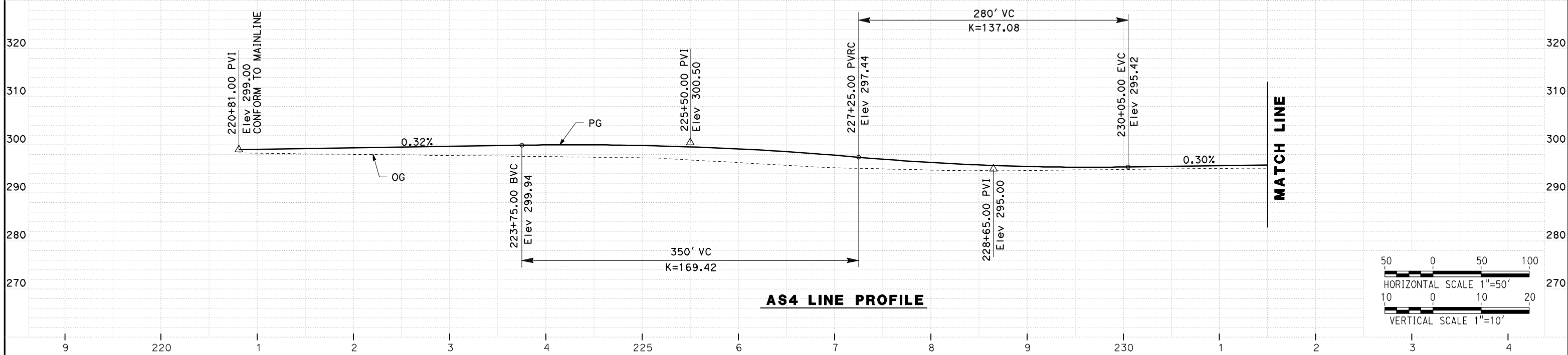
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**P-24**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011

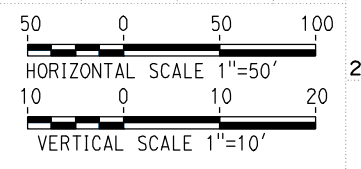




**SUPERELEVATION DIAGRAM**  
NO SCALE



**AS4 LINE PROFILE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**G. MANOREK**  
DRAWN BY  
**L. ROS**  
CHECKED BY  
**L. HEUSTON**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

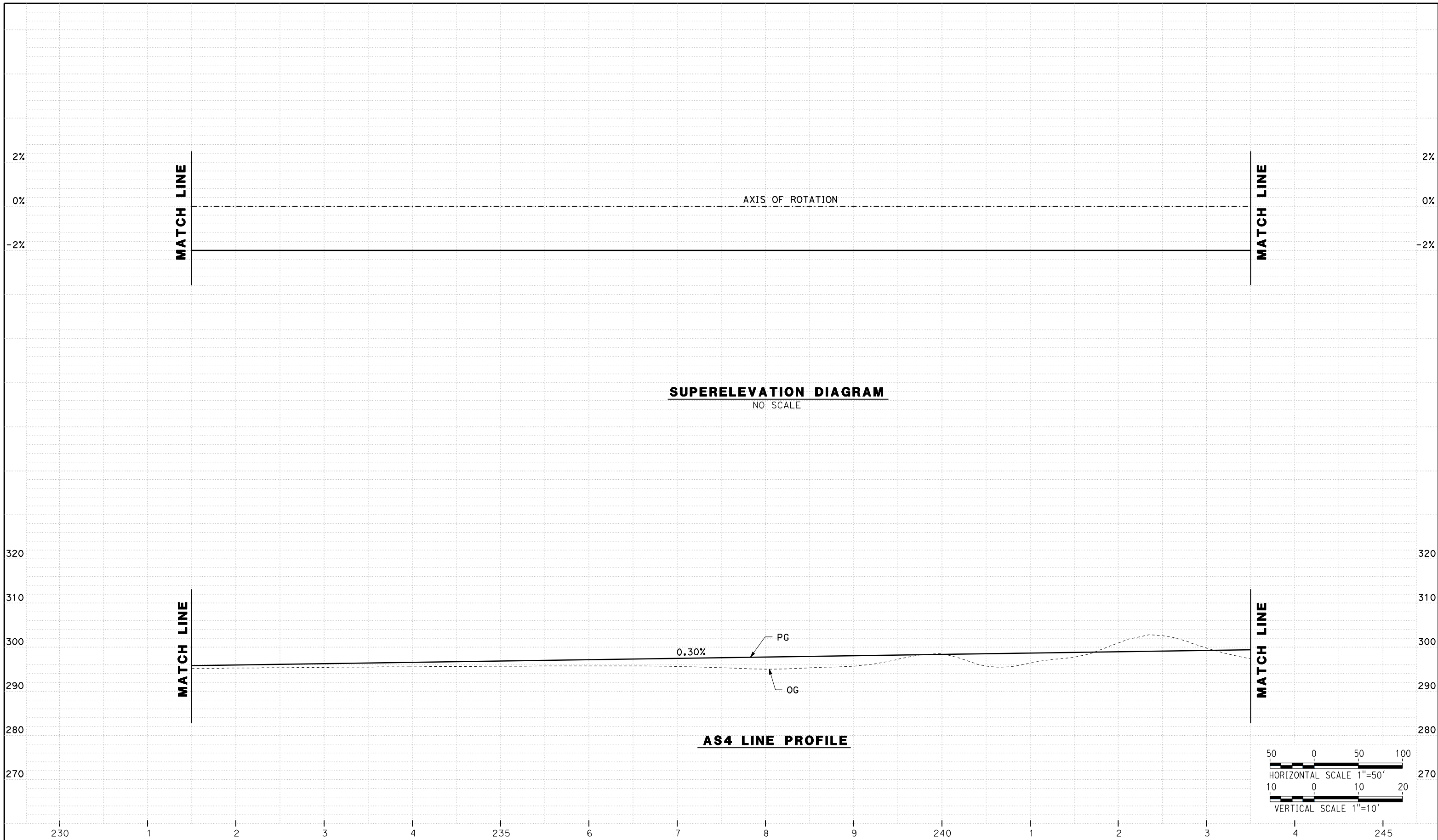
CONTRACT NO.  
**HSR06-007**

DRAWING NO.  
**P-25**

SCALE  
**AS SHOWN**

SHEET NO.

DATE PLOTTED => 26-APR-2011



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 G. MANOREK  
 DRAWN BY  
 L. ROS  
 CHECKED BY  
 L. HEUSTON  
 IN CHARGE  
 J. MATSUI-DRURY  
 DATE  
 04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
 Technical Services, Inc.  
 2020 L Street, Suite 300  
 Sacramento, CA 95811  
**CH2MHILL**

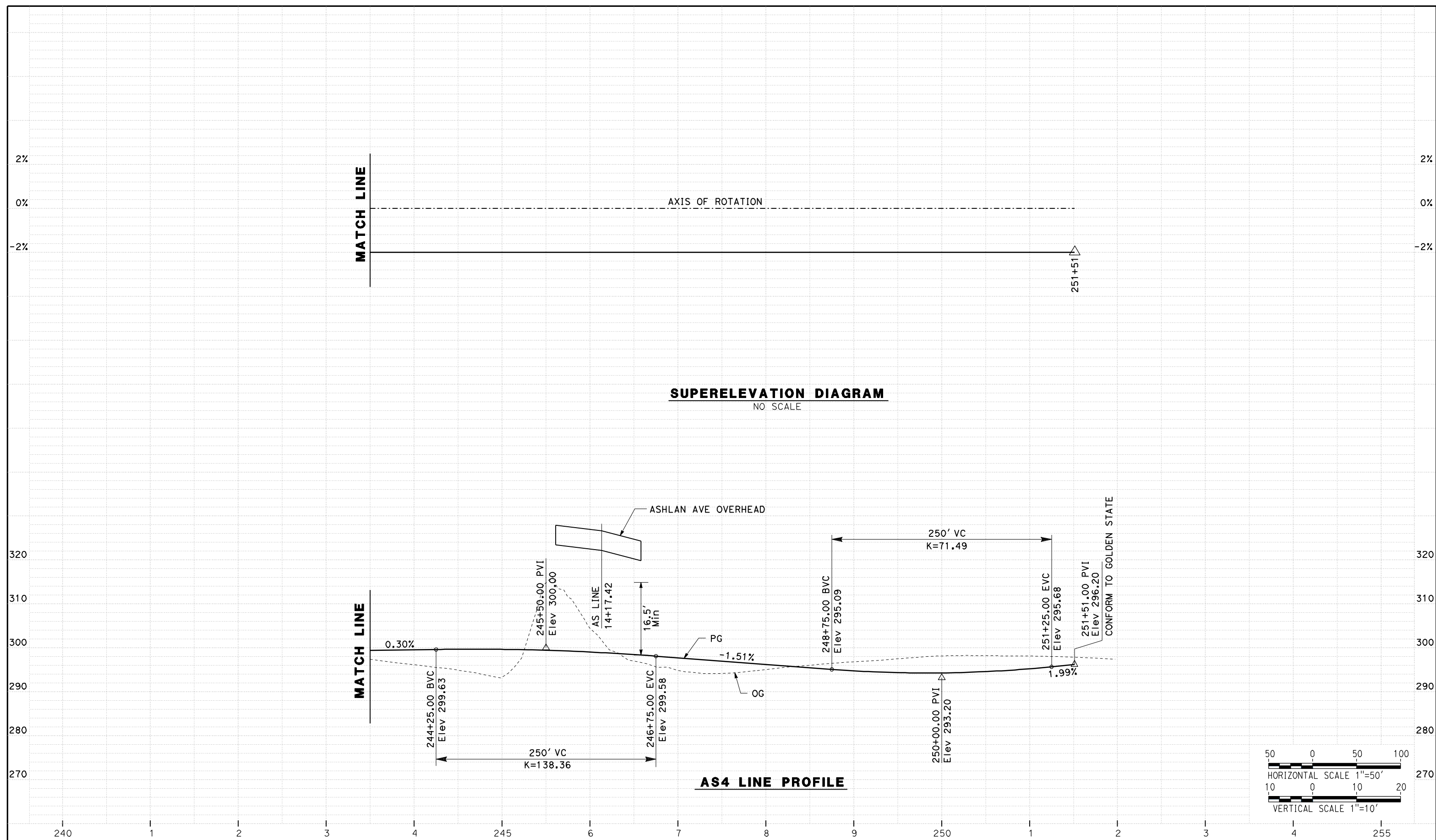


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
**P-26**  
 SCALE  
 AS SHOWN  
 SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**PROFILE AND SUPERELEVATION**

CONTRACT NO.  
HSR06-007

DRAWING NO.  
**P-27**

SCALE  
AS SHOWN


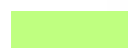
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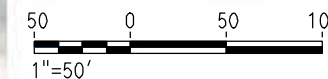
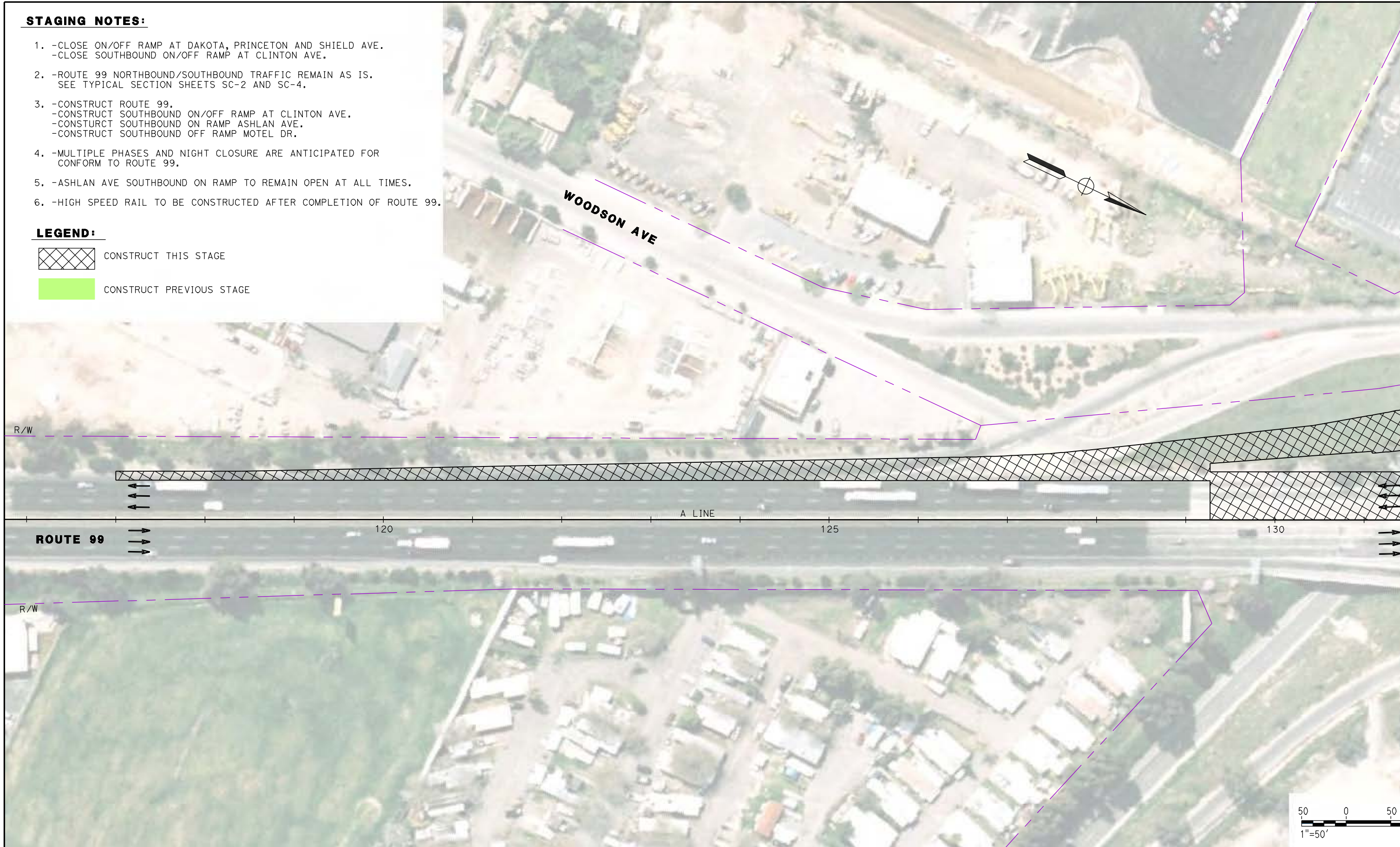
DATE PLOTTED => 26-APR-2011

**STAGING NOTES:**

1. -CLOSE ON/OFF RAMP AT DAKOTA, PRINCETON AND SHIELD AVE.  
-CLOSE SOUTHBOUND ON/OFF RAMP AT CLINTON AVE.
2. -ROUTE 99 NORTHBOUND/SOUTHBOUND TRAFFIC REMAIN AS IS.  
SEE TYPICAL SECTION SHEETS SC-2 AND SC-4.
3. -CONSTRUCT ROUTE 99.  
-CONSTRUCT SOUTHBOUND ON/OFF RAMP AT CLINTON AVE.  
-CONSTRUCT SOUTHBOUND ON RAMP ASHLAN AVE.  
-CONSTRUCT SOUTHBOUND OFF RAMP MOTEL DR.
4. -MULTIPLE PHASES AND NIGHT CLOSURE ARE ANTICIPATED FOR  
CONFORM TO ROUTE 99.
5. -ASHLAN AVE SOUTHBOUND ON RAMP TO REMAIN OPEN AT ALL TIMES.
6. -HIGH SPEED RAIL TO BE CONSTRUCTED AFTER COMPLETION OF ROUTE 99.

**LEGEND:**

-  CONSTRUCT THIS STAGE
-  CONSTRUCT PREVIOUS STAGE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

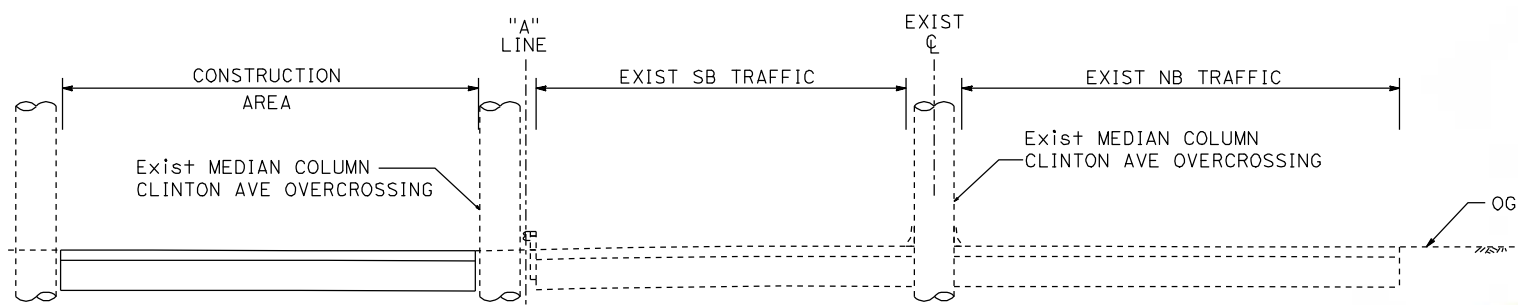
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-1**  
SCALE  
AS SHOWN  
SHEET NO.

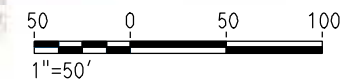
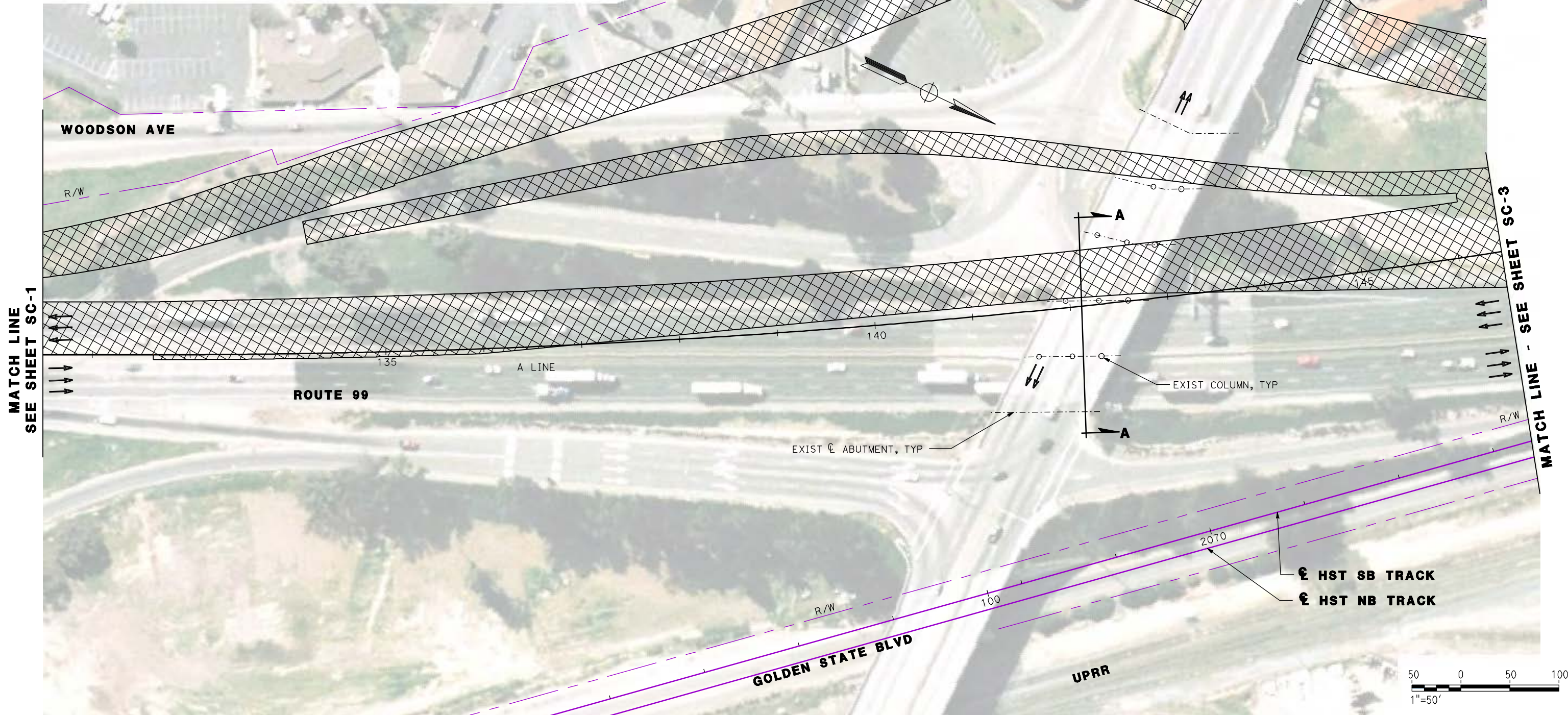
MATCH LINE - SEE SHEET SC-2

DATE PLOTTED: 03/26/11





**SECTION A-A  
ROUTE 99 AT CLINTON AVE**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

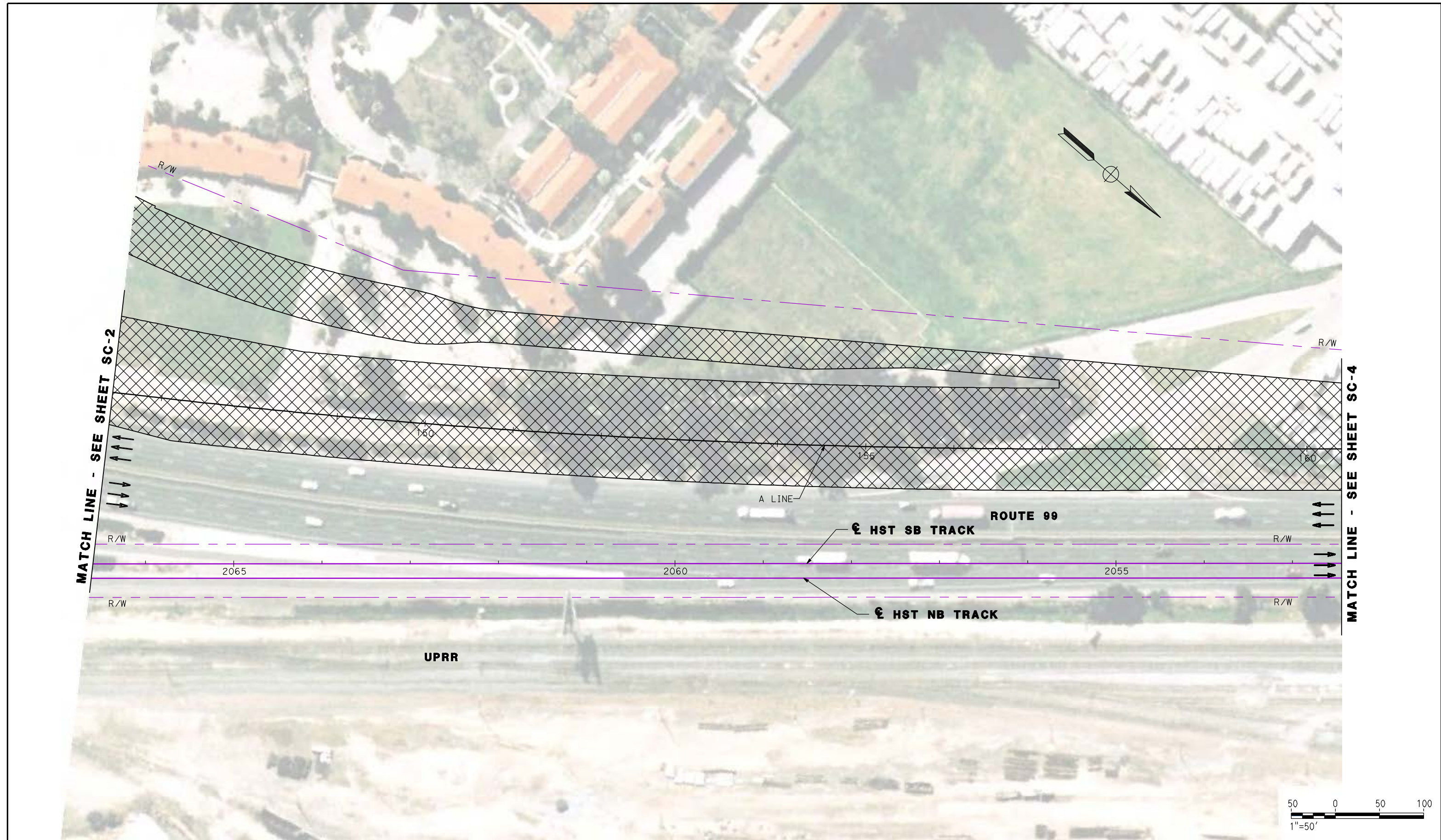


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-2**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
 G. MANOREK  
 DRAWN BY  
 L. ROS  
 CHECKED BY  
 L. HEUSTON  
 IN CHARGE  
 J. MATSUI-DRURY  
 DATE  
 04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

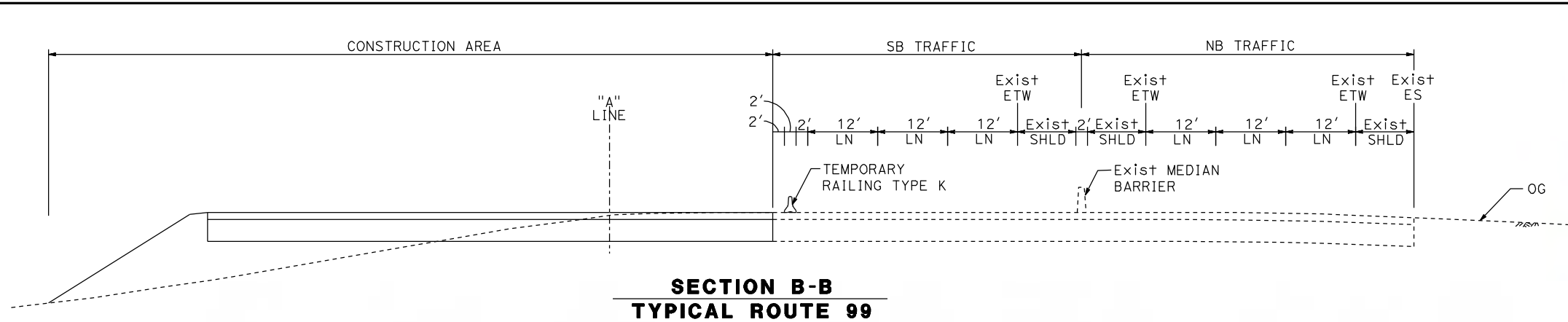


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

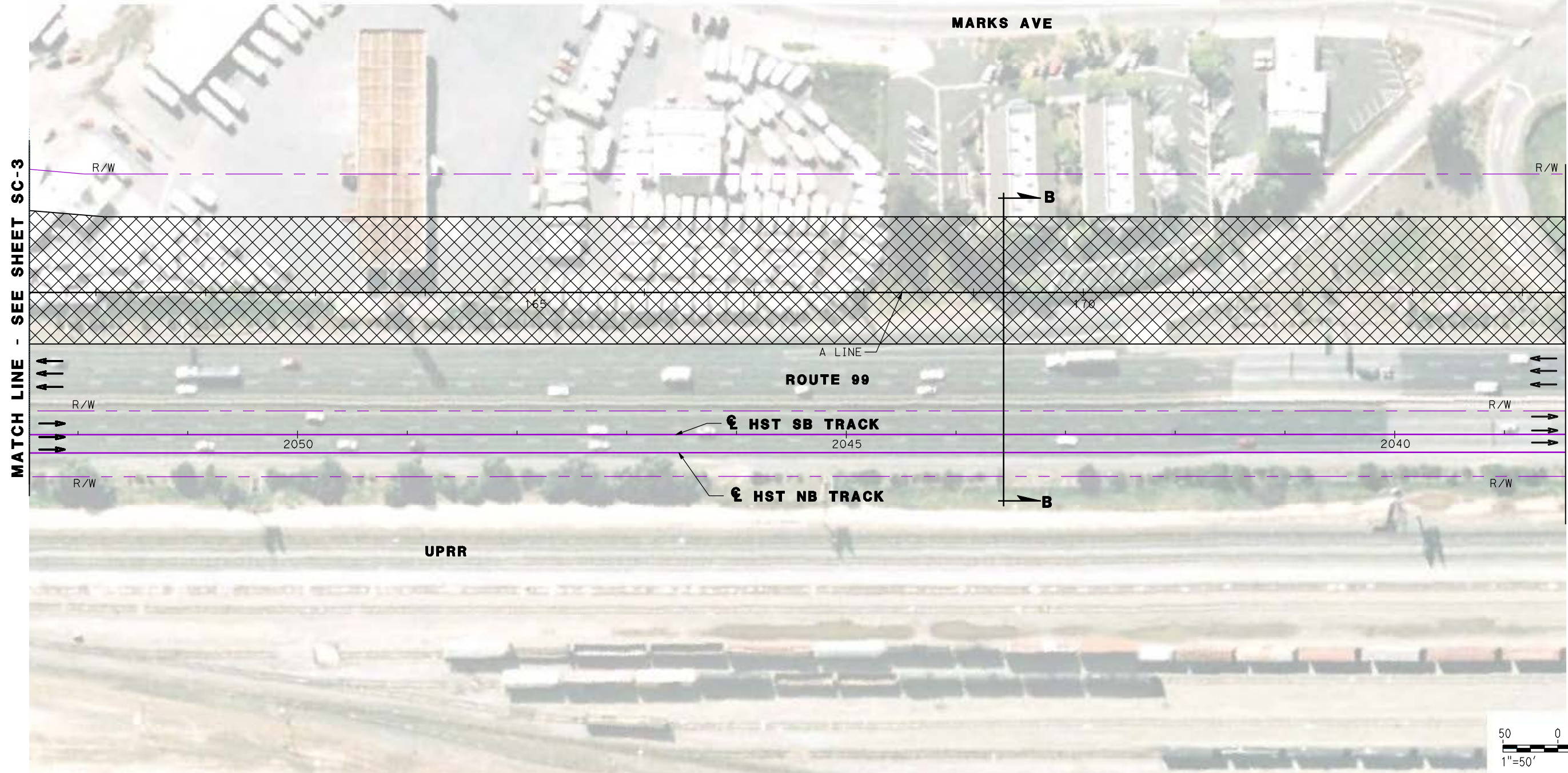
CONTRACT NO.  
 HSR06-007  
 DRAWING NO.  
**SC-3**  
 SCALE  
 AS SHOWN  
 SHEET NO.

DATE PLOTTED: 03/26/11





**SECTION B-B  
TYPICAL ROUTE 99**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

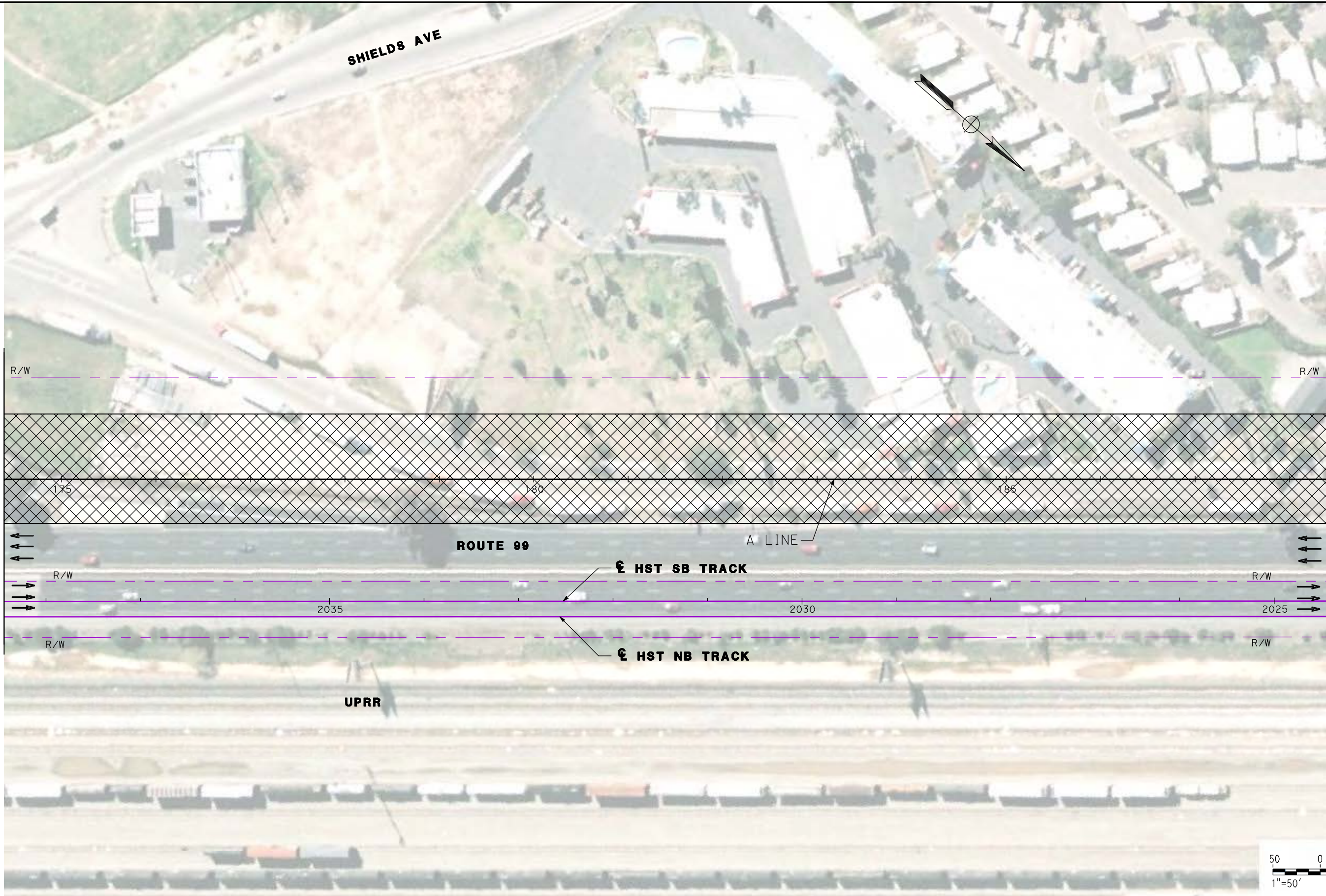


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-4**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 03/26/11 09:44:00





MATCH LINE - SEE SHEET SC-4

MATCH LINE - SEE SHEET SC-6



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

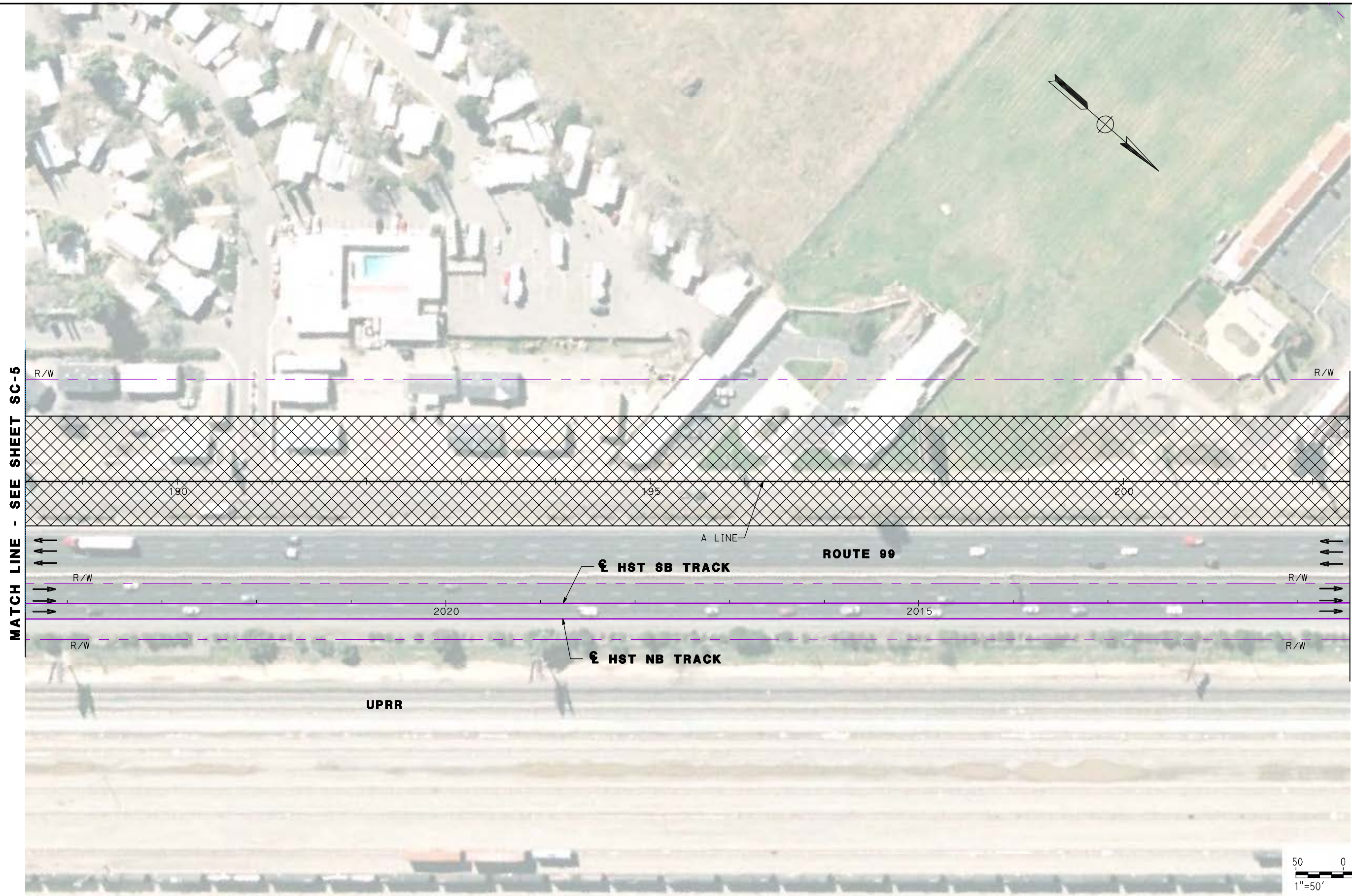


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-5**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





MATCH LINE - SEE SHEET SC-5

MATCH LINE - SEE SHEET SC-7



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

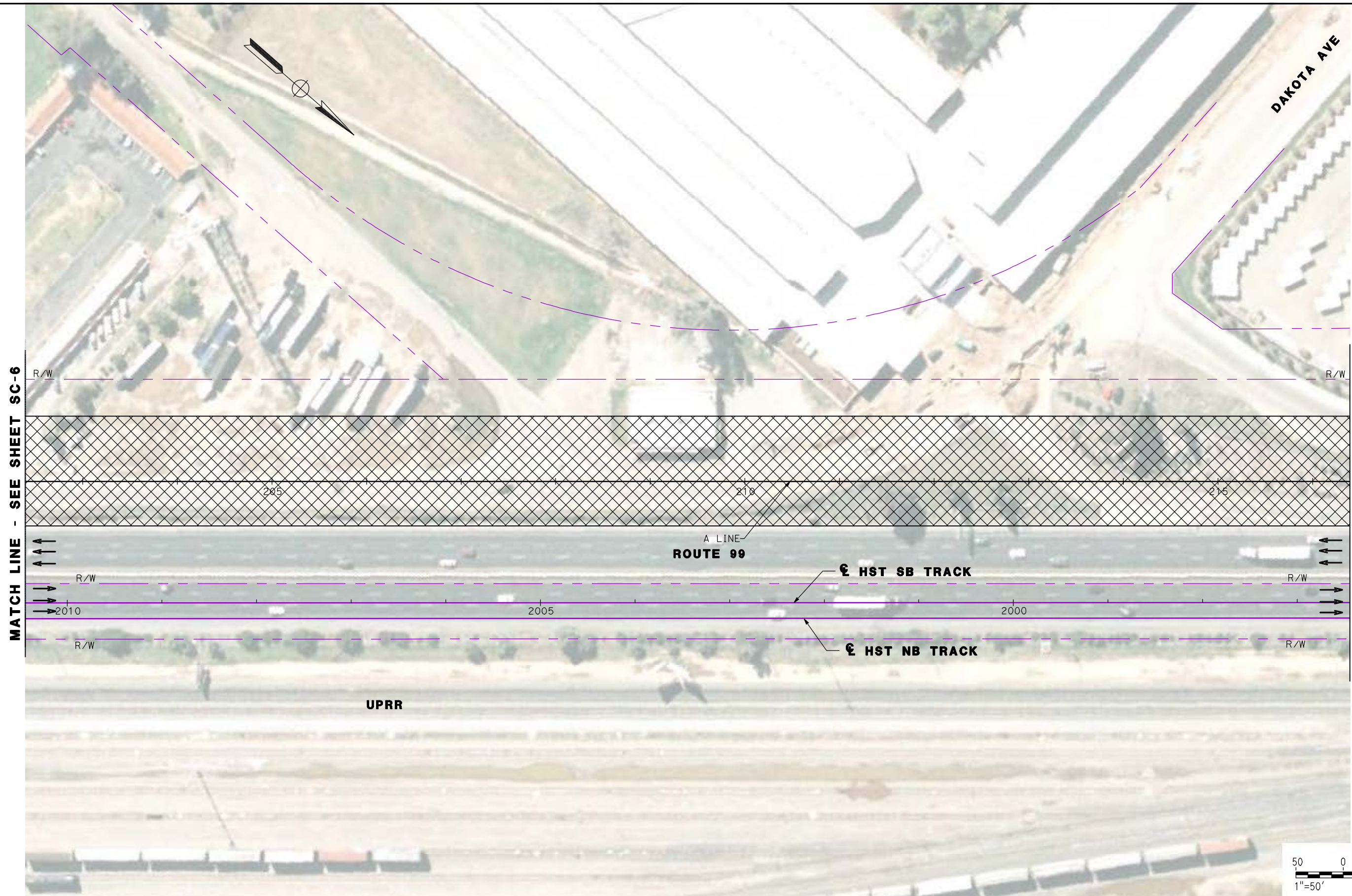


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-6**  
SCALE  
AS SHOWN  
SHEET NO.

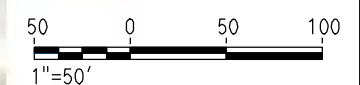
DATE PLOTTED => 26-APR-2011





MATCH LINE - SEE SHEET SC-6

MATCH LINE - SEE SHEET SC-8



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

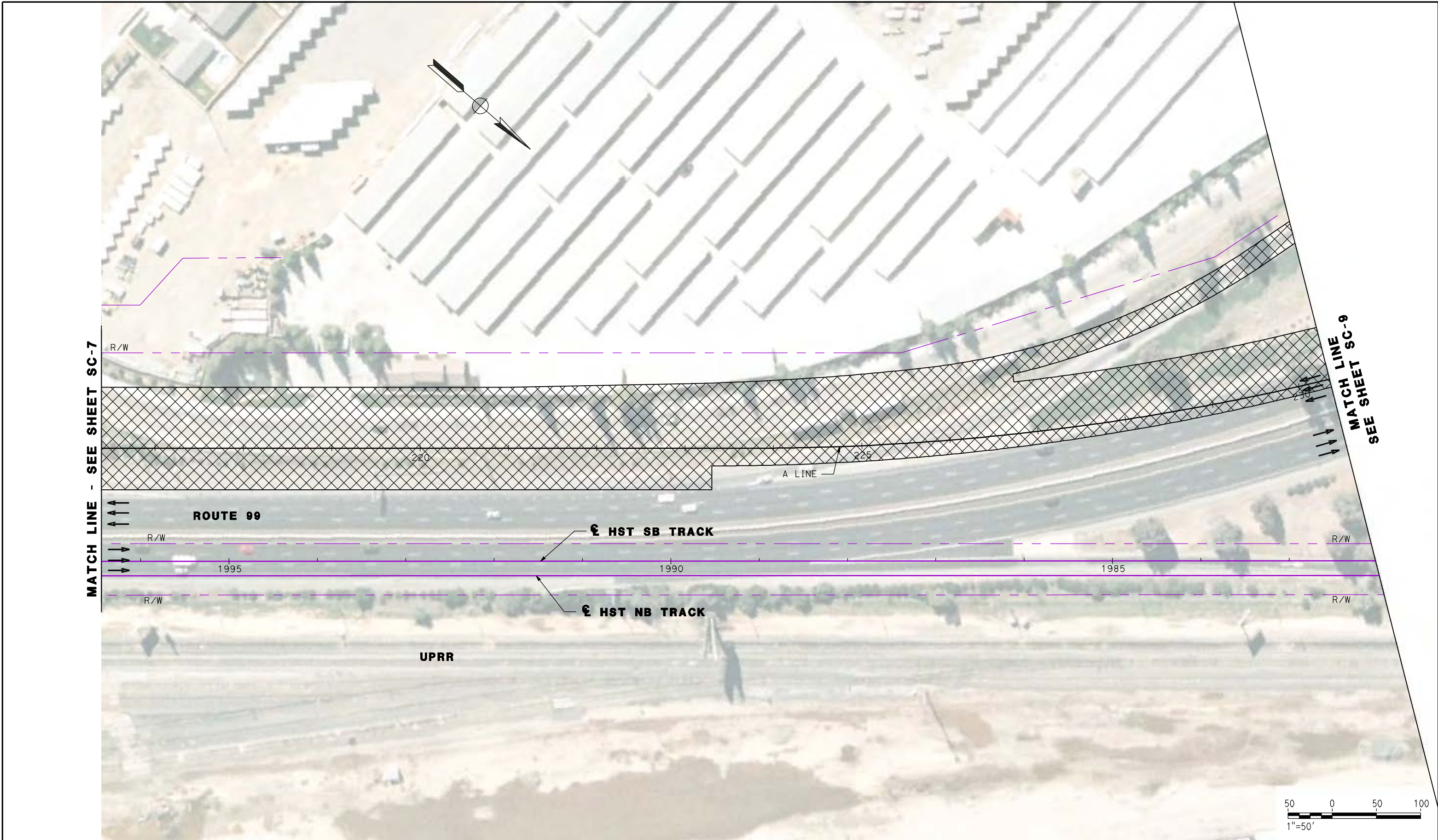


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-7**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007

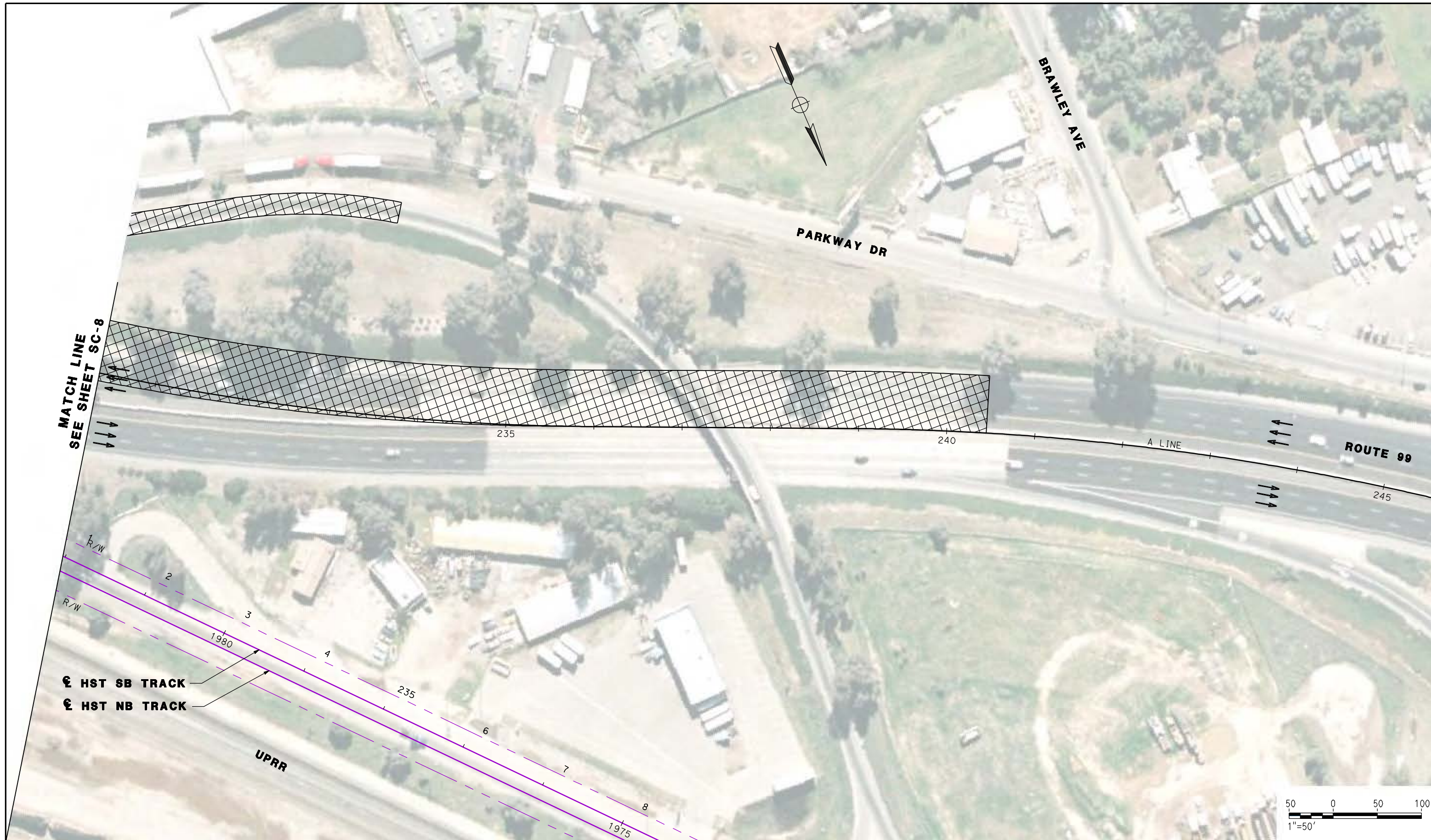
DRAWING NO.  
**SC-8**

SCALE  
AS SHOWN

SHEET NO.

DATE PLOTTED => 26-APR-2011



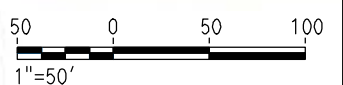


MATCH LINE  
SEE SHEET SC-8

€ HST SB TRACK  
€ HST NB TRACK

UPRR

ROUTE 99



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 1 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-9**  
SCALE  
AS SHOWN  
SHEET NO.



DATE PLOTTED: 03/26/11

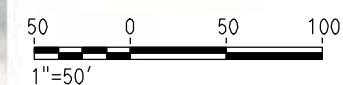


**STAGING NOTES:**

1. -CLOSE ON/OFF RAMP AT DAKOTA, PRINCETON AND SHIELD AVE.  
-CLOSE SOUTHBOUND ON/OFF RAMP AT CLINTON AVE.  
-CLOSE NORTHBOUND ON/OFF RAMP AT CLINTON AVE.
2. -SHIFT ROUTE 99 NORTHBOUND/SOUTHBOUND TO STAGE 1 PAVEMENT.  
SEE TYPICAL SECTION SHEETS SC-11 AND SC-13.
3. -CONSTRUCT REMAINDER OF ROUTE 99.  
-CONSTRUCT NORTHBOUND ON/OFF RAMP AT CLINTON AVE.  
-CONSTRUCT NORTHBOUND OFF RAMP ASHLAN AVE.  
-CONSTRUCT NORTHBOUND ON RAMP MOTEL DR.
4. -SHIFT EASTBOUND AND WESTBOUND CLINTON AVE TRAFFIC TO SOUTHERLY PORTION OF CLINTON AVENUE.  
-REMOVE NORTHERLY PORTION OF CLINTON AVENUE OC.  
-CONSTRUCT NEW NORTHERLY PORTION OF CLINTON AVE.  
-SHIFT EASTBOUND AND WESTBOUND CLINTON AVE TRAFFIC TO NORTHERLY PORTION OF CLINTON AVENUE.  
-CONSTRUCT NEW SOUTHERLY PORTION OF CLINTON AVE.  
-SEE TYPICAL SECTION SHEET SC-11.
5. -MULTIPLE PHASES AND NIGHT CLOSURES ARE ANTICIPATED FOR REMOVAL OF EXISTING BRIDGE, BRIDGE CONSTRUCTION AND CONFORM TO ROUTE 99.
6. -ASHLAN AVE NORTHBOUND OFF RAMP TO REMAIN OPEN AT ALL TIMES.
7. -HIGH SPEED RAIL TO BE CONSTRUCTED AFTER COMPLETION OF ROUTE 99.

**LEGEND:**

-  CONSTRUCT THIS STAGE
-  CONSTRUCT PREVIOUS STAGE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



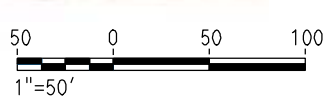
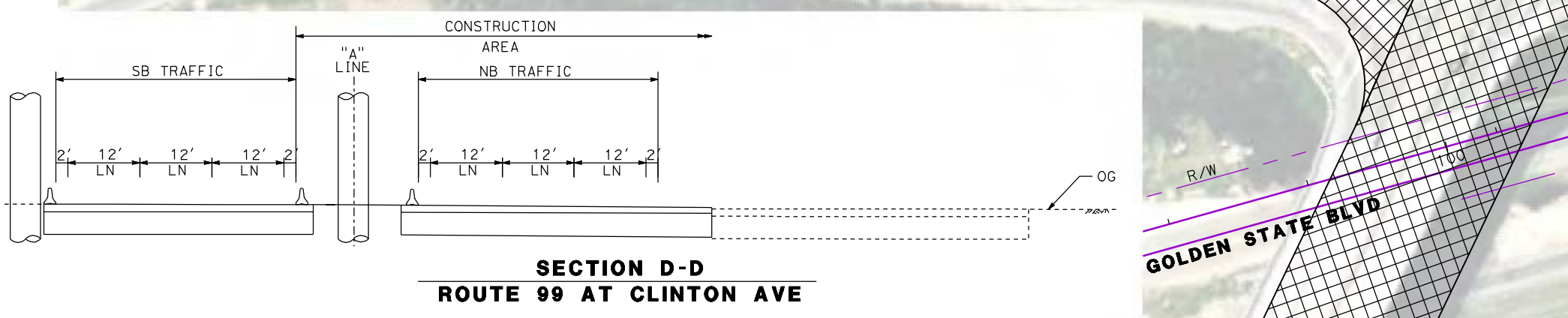
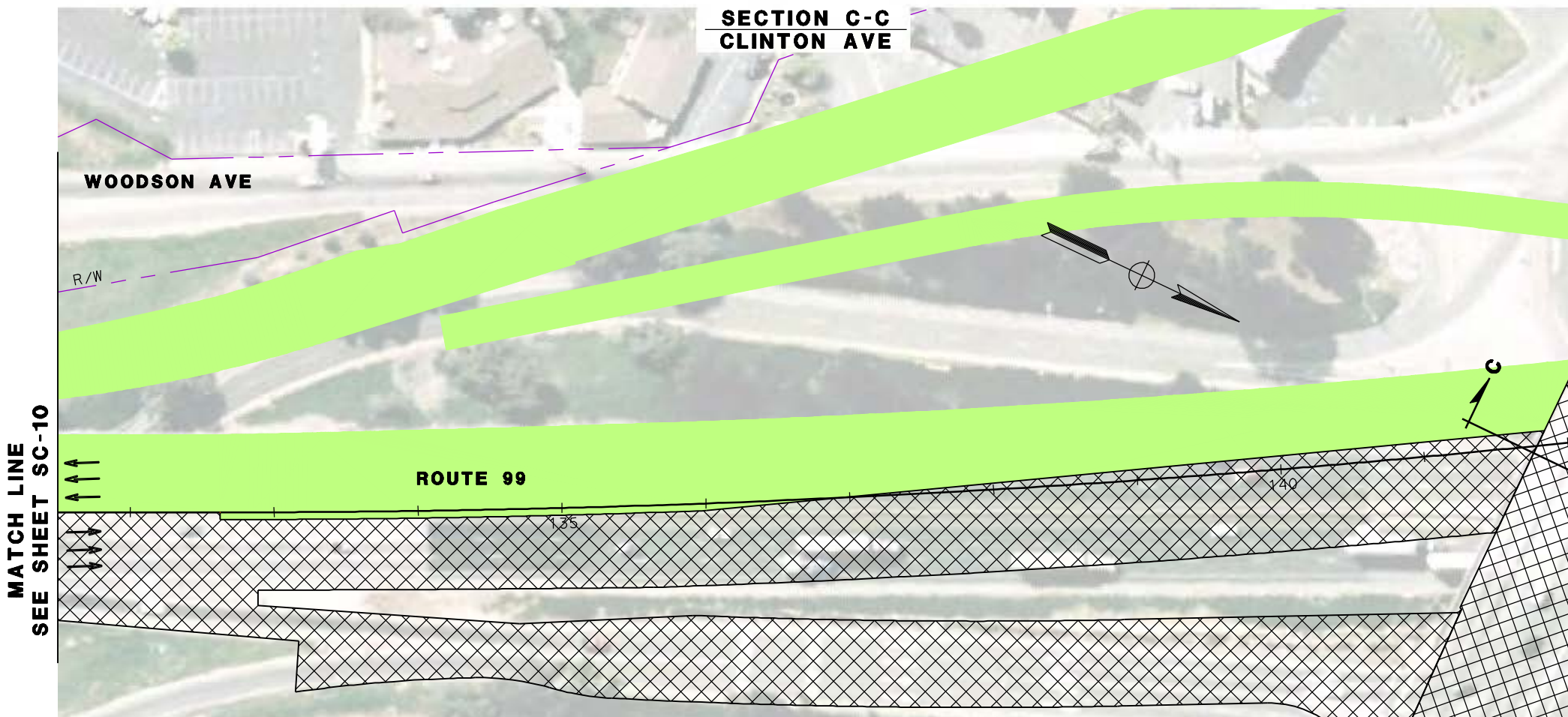
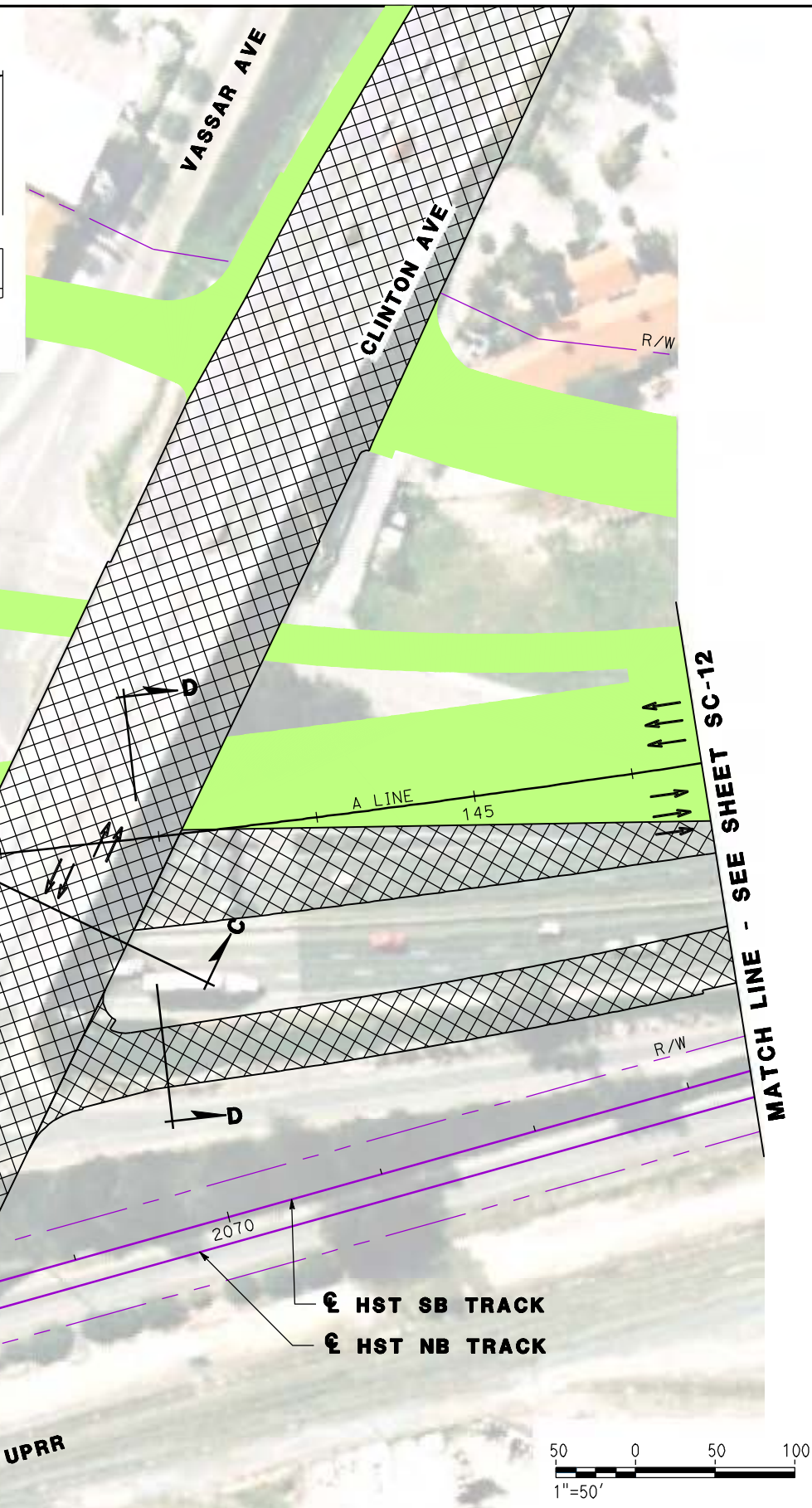
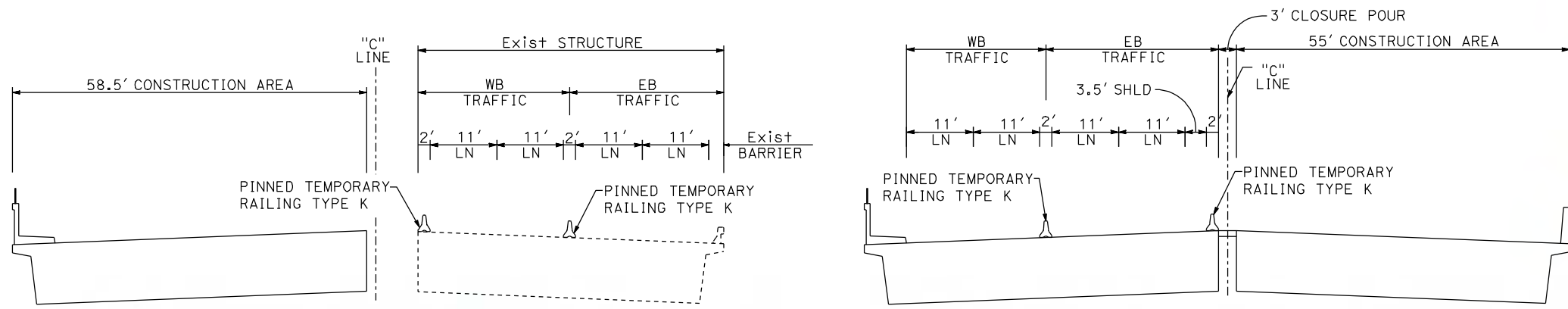
**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-10**  
SCALE  
AS SHOWN  
SHEET NO.

MATCH LINE - SEE SHEET SC-11

DATE PLOTTED: 23-APR-2011





REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

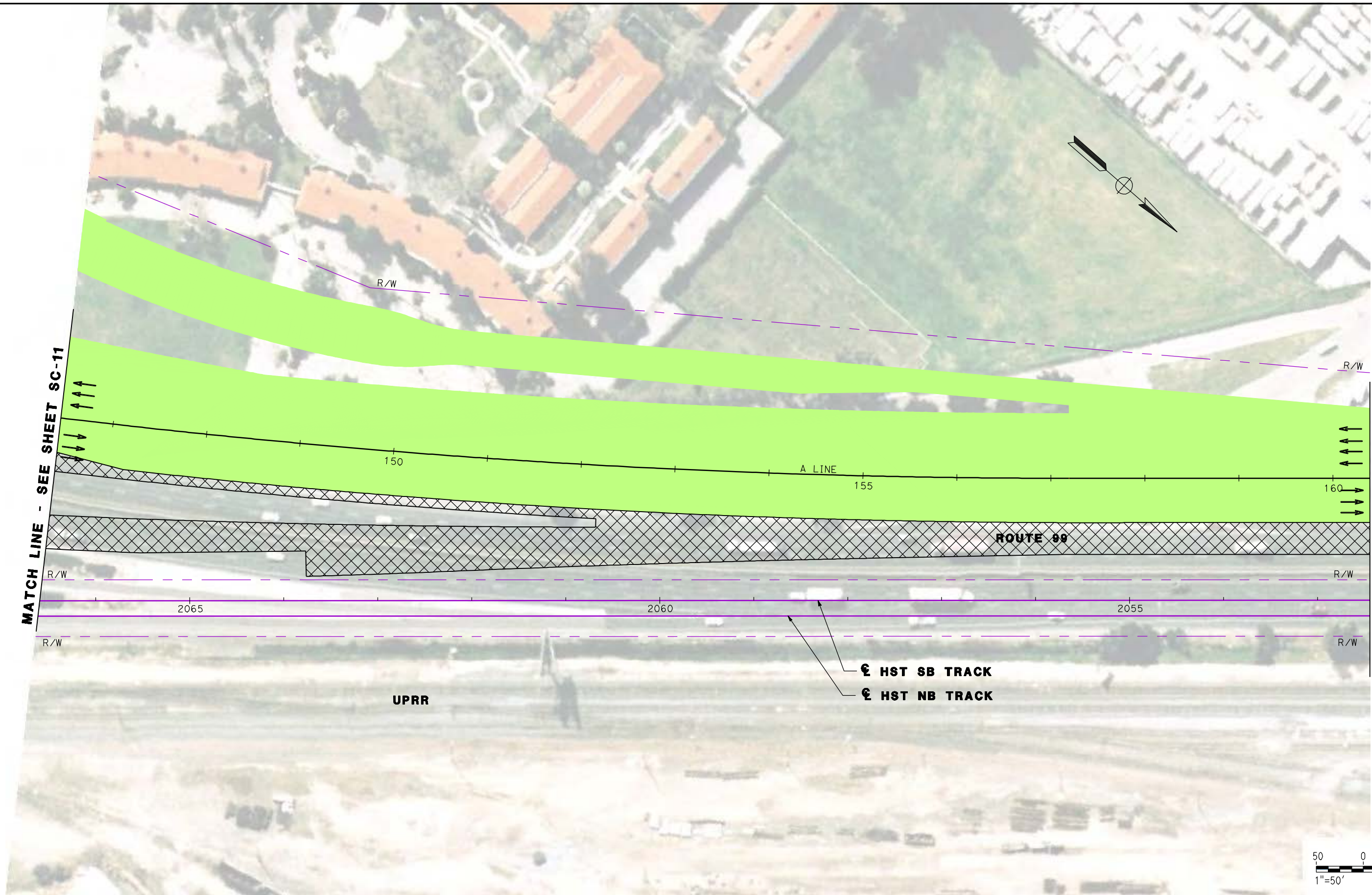


**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-11**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23-APR-2011





MATCH LINE - SEE SHEET SC-11

MATCH LINE - SEE SHEET SC-13

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

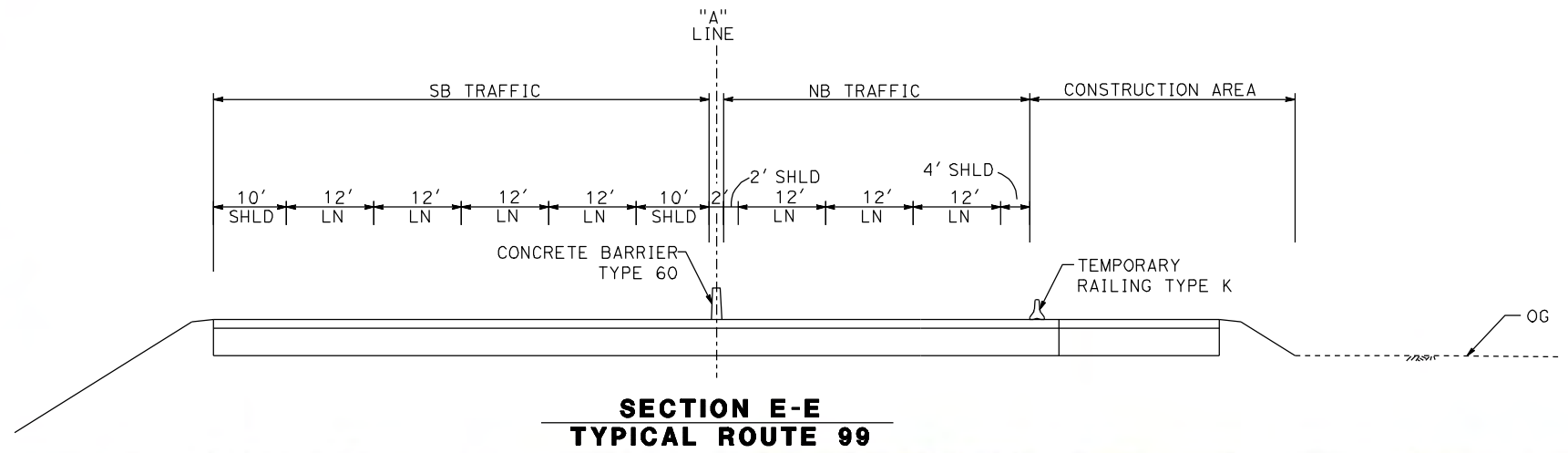
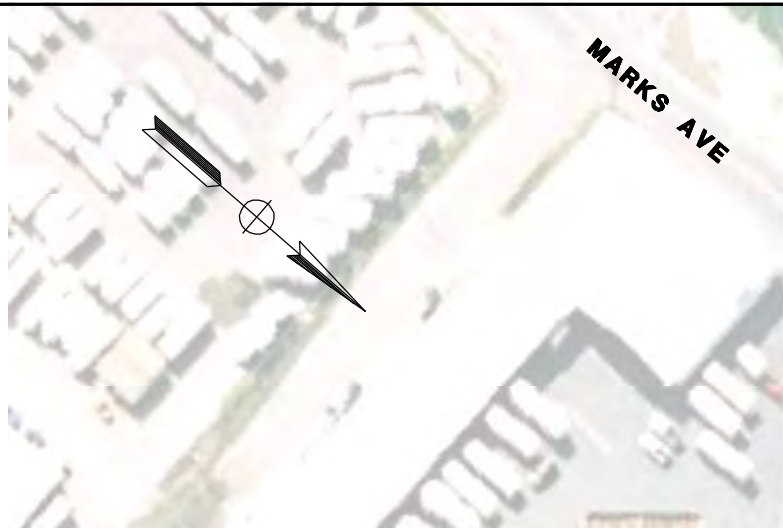


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

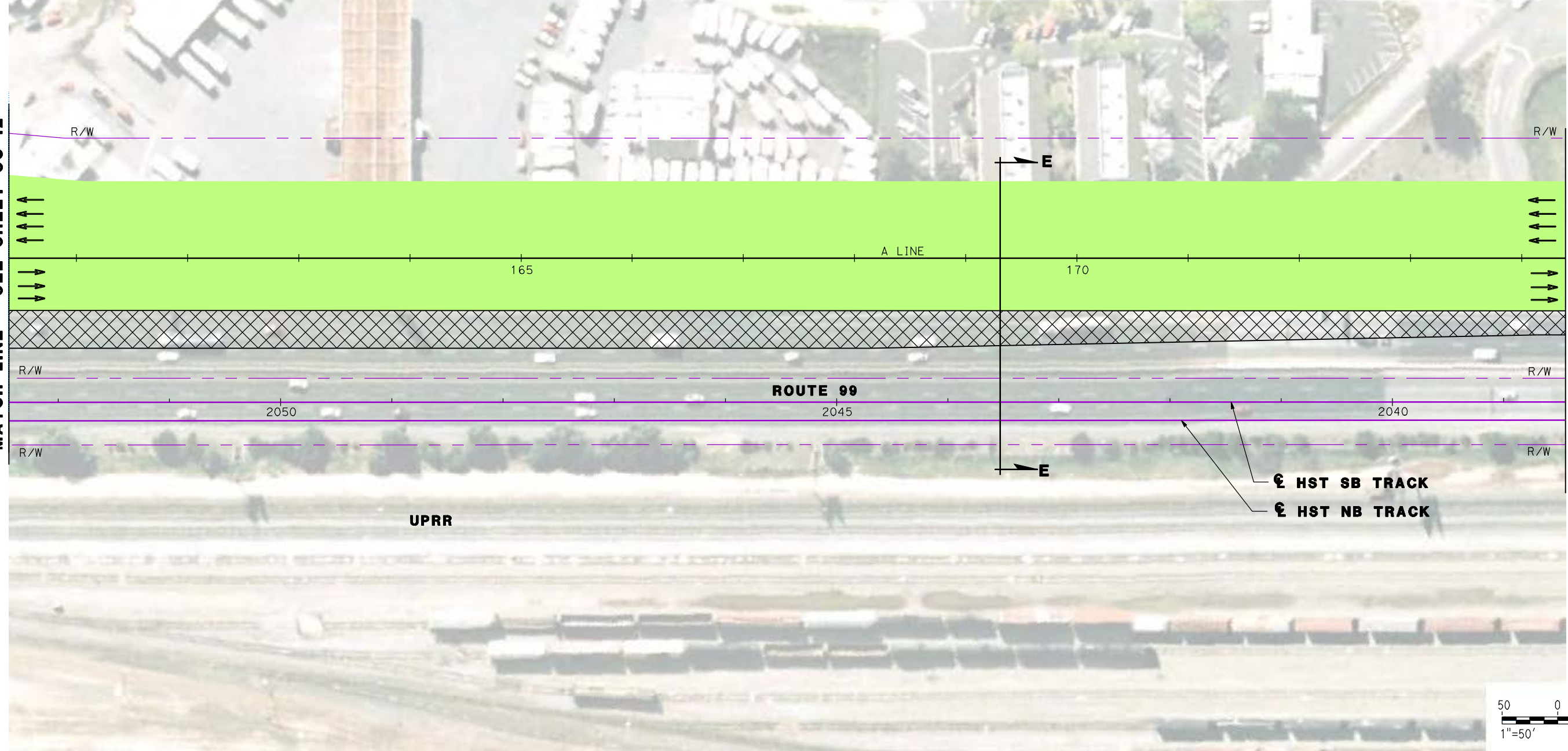
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-12**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 03/26/11

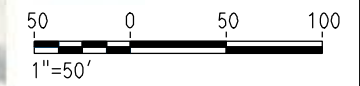




MATCH LINE - SEE SHEET SC-12



MATCH LINE - SEE SHEET SC-14



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

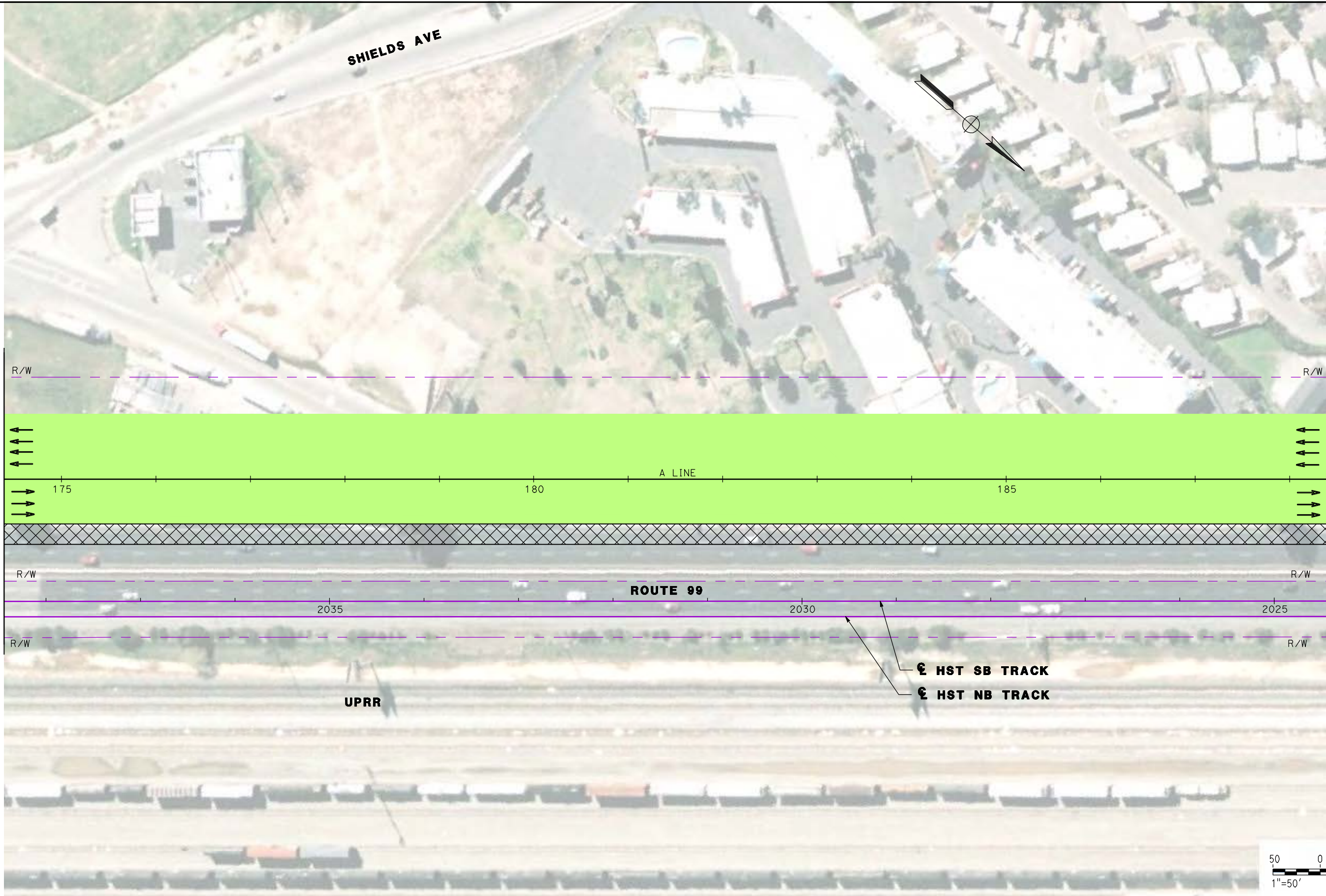


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-13**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





MATCH LINE - SEE SHEET SC-13

MATCH LINE - SEE SHEET SC-15



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

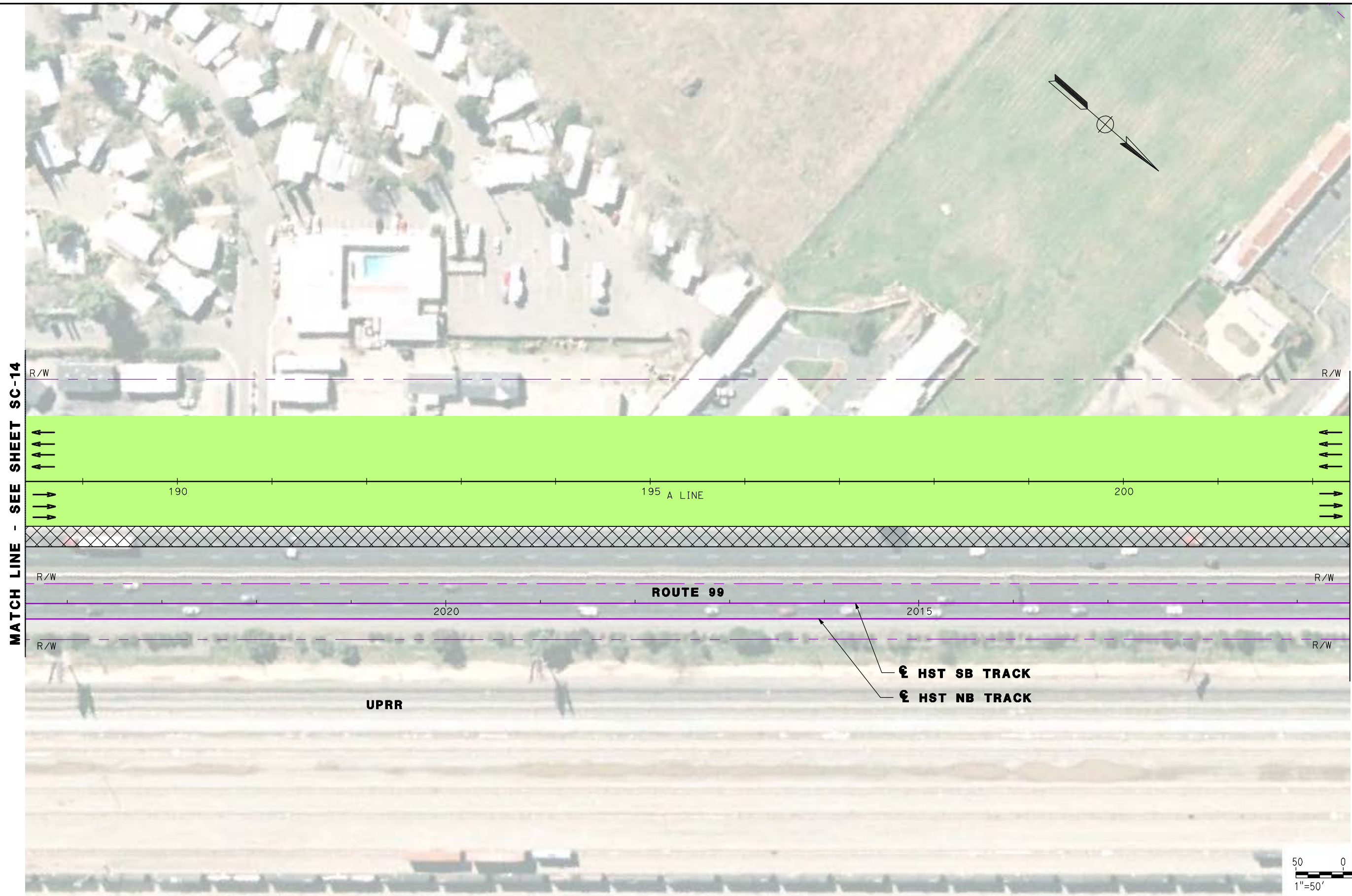


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-14**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23 26-APR-2011





MATCH LINE - SEE SHEET SC-14

MATCH LINE - SEE SHEET SC-16

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

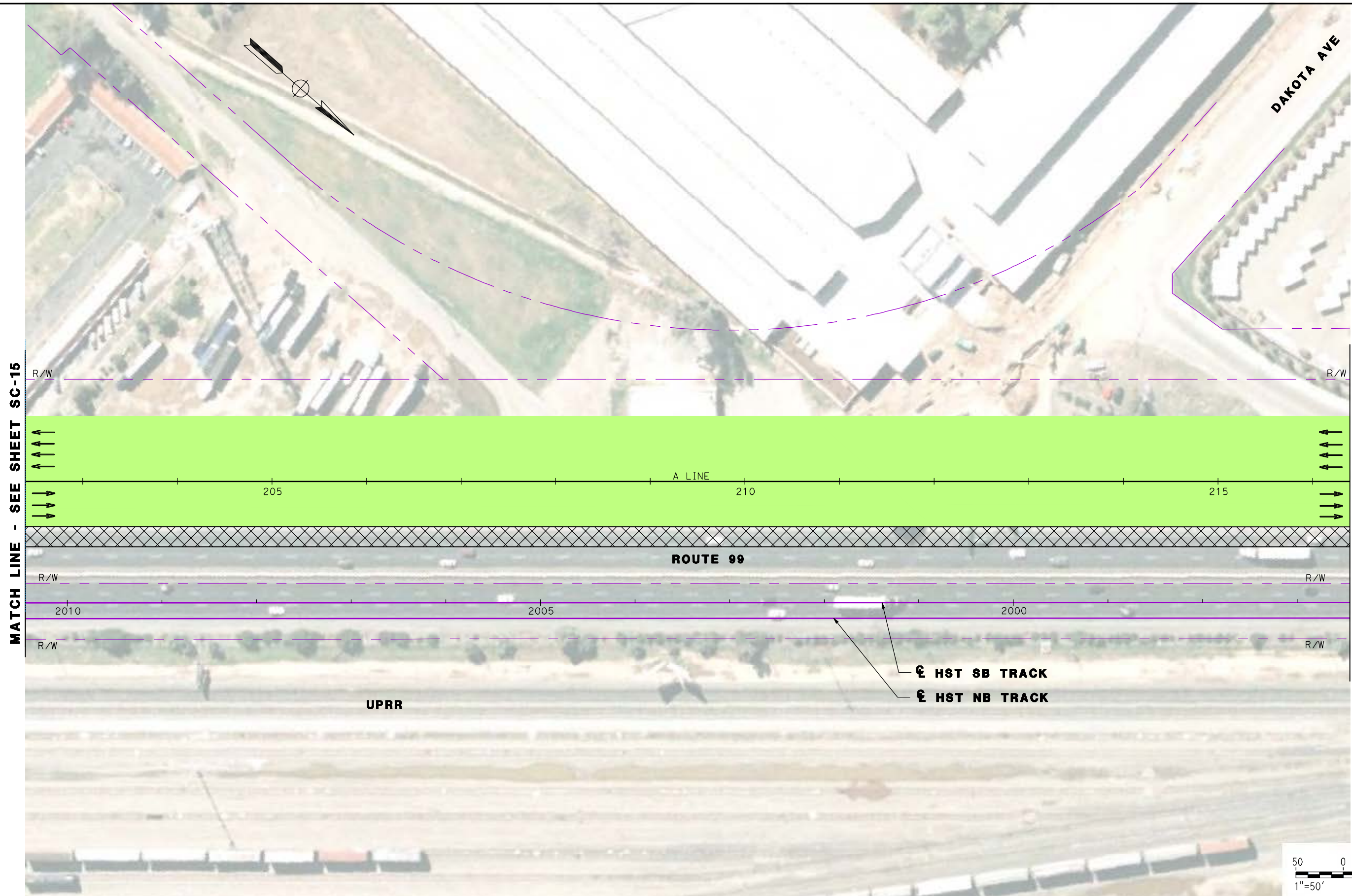


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-15**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





MATCH LINE - SEE SHEET SC-15

MATCH LINE - SEE SHEET SC-17

205

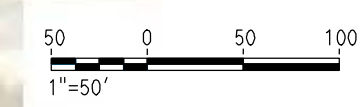
210

215

ROUTE 99

UPRR

⊕ HST SB TRACK  
⊕ HST NB TRACK



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

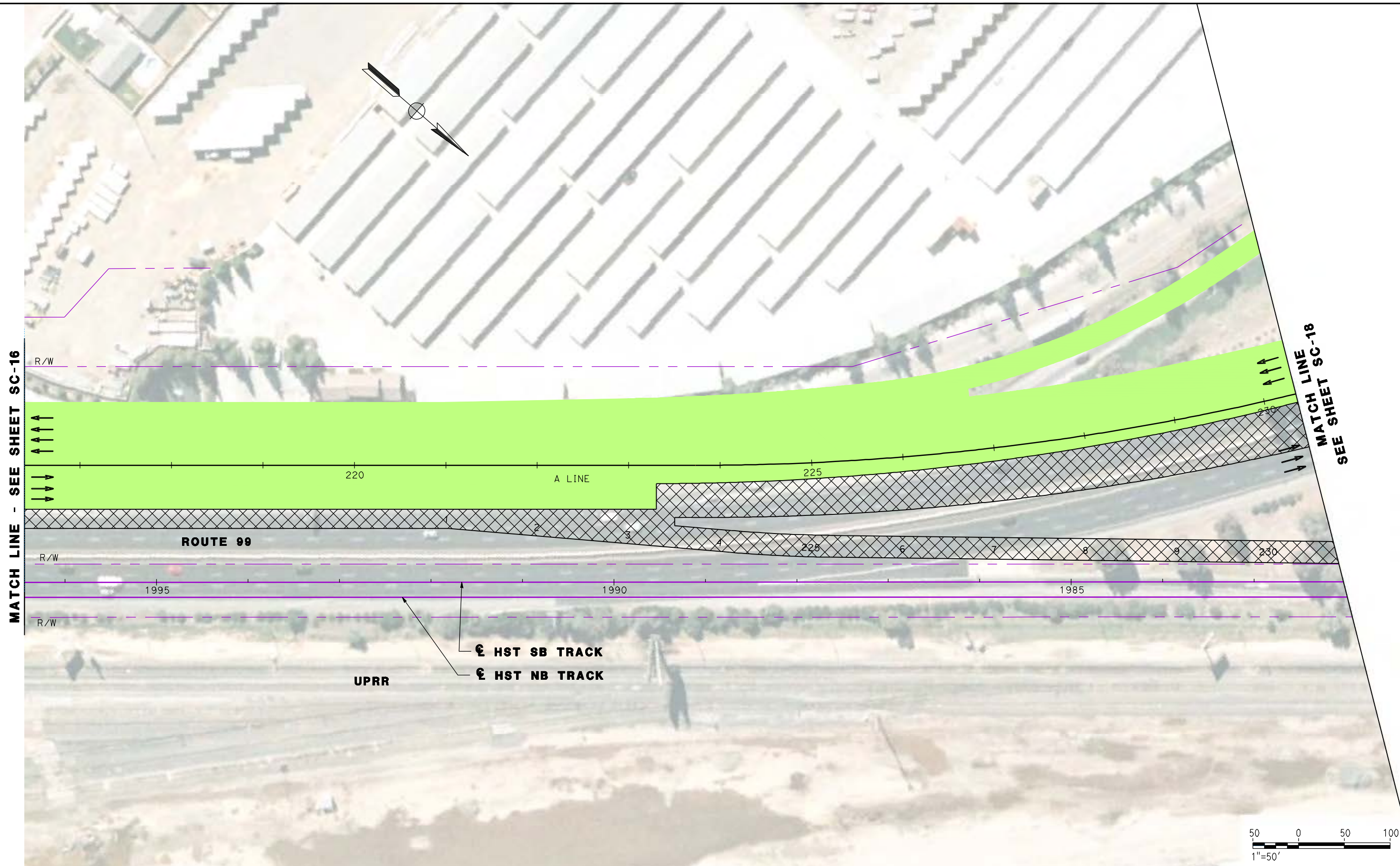


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-16**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





MATCH LINE - SEE SHEET SC-16

MATCH LINE SC-18  
SEE SHEET SC-18



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

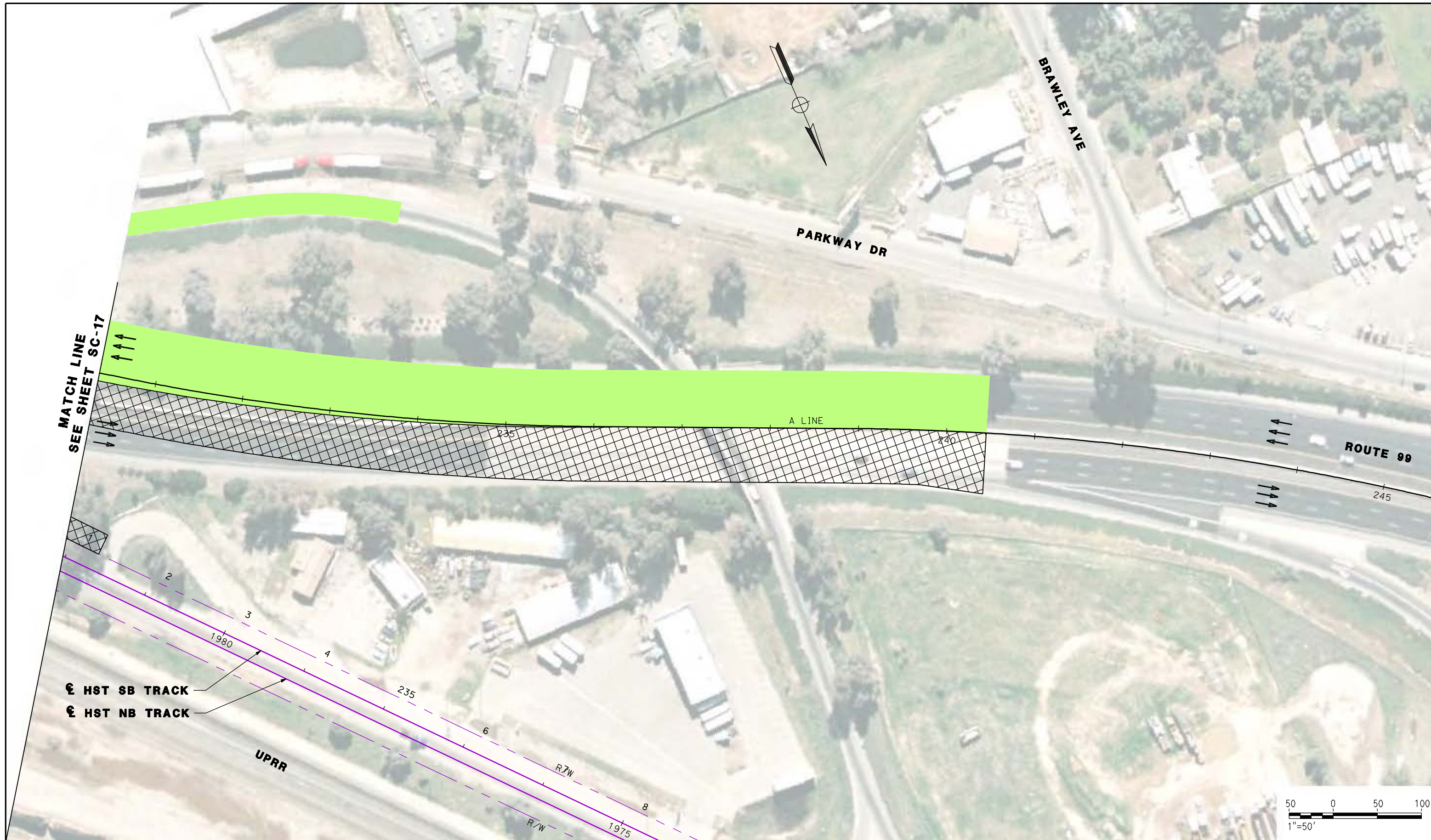


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-17**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED => 26-APR-2011





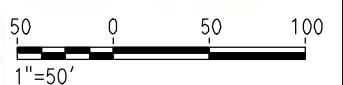
MATCH LINE  
SEE SHEET SC-17

⊕ HST SB TRACK  
⊕ HST NB TRACK

UPRR

A LINE

ROUTE 99



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
G. MANOREK  
DRAWN BY  
L. ROS  
CHECKED BY  
L. HEUSTON  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

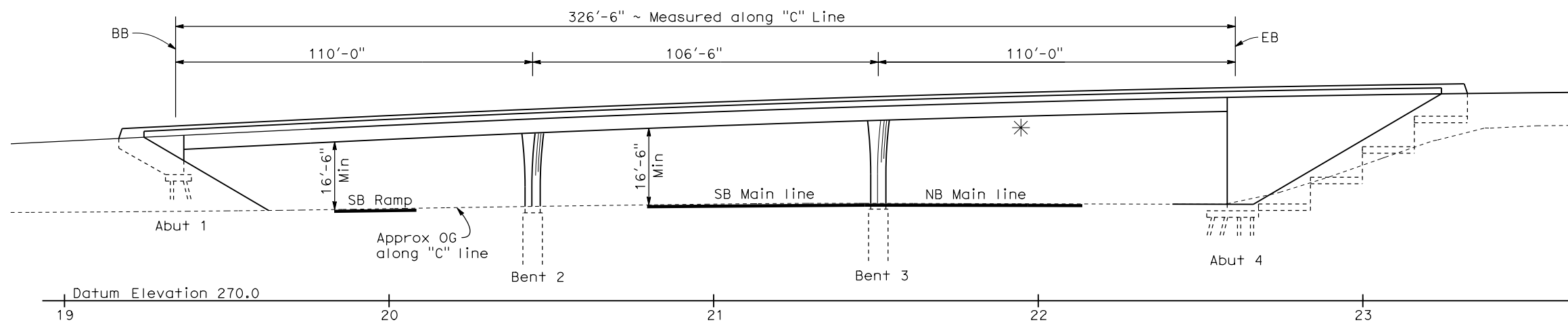
**CH2MHILL**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**STAGE 2 CONSTRUCTION**

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
**SC-18**  
SCALE  
AS SHOWN  
SHEET NO.

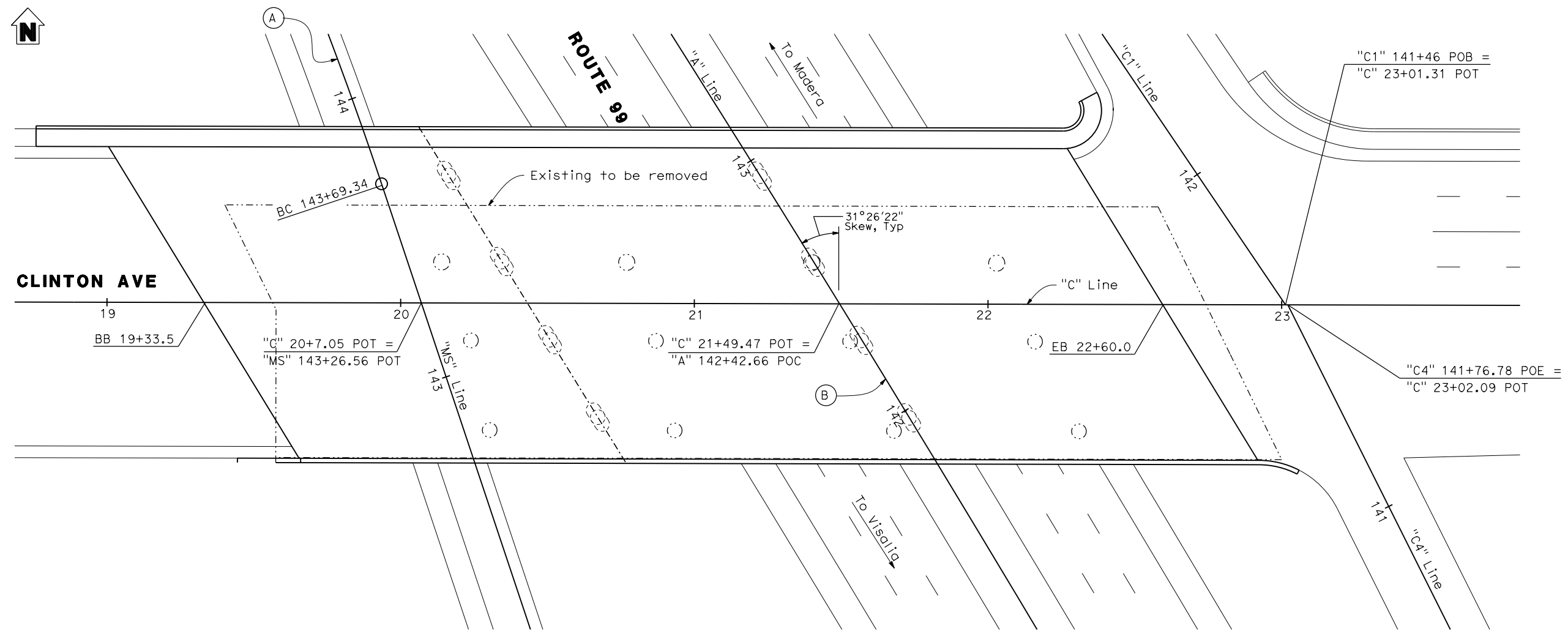
DATE PLOTTED: 23-APR-2011



DATE OF ESTIMATE	=	10-21-2010
BRIDGE REMOVAL	=	\$ 600,000
STRUCTURE DEPTH	=	4'-6"
LENGTH	=	326'-6"
WIDTH	=	114'-6"
AREA	=	37,385 ft <sup>2</sup>
COST/ft <sup>2</sup> INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	=	\$ 175/ft <sup>2</sup>
TOTAL COST	=	\$ 6,543,000

**ELEVATION**  
1"=20'

\* Temporary Falsework Clearance = 15'-0"  
Falsework Depth = 3'-3 1/2"



<b>CURVE DATA (A)</b>	
R = 1350'	
Δ = 10°30'20"	
L = 247.53'	
T = 124.11'	
<b>CURVE DATA (B)</b>	
R = 9000.00'	
Δ = 15°38'27"	
L = 2456.85'	
T = 1236.11'	

**PLAN**  
1"=20'

**CLINTON AVE OVERCROSSING (REPLACE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**

DRAWN BY  
**P. WALKER**

CHECKED BY  
**J. SHOWERS**

IN CHARGE  
**J. MATSUI-DRURY**

DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

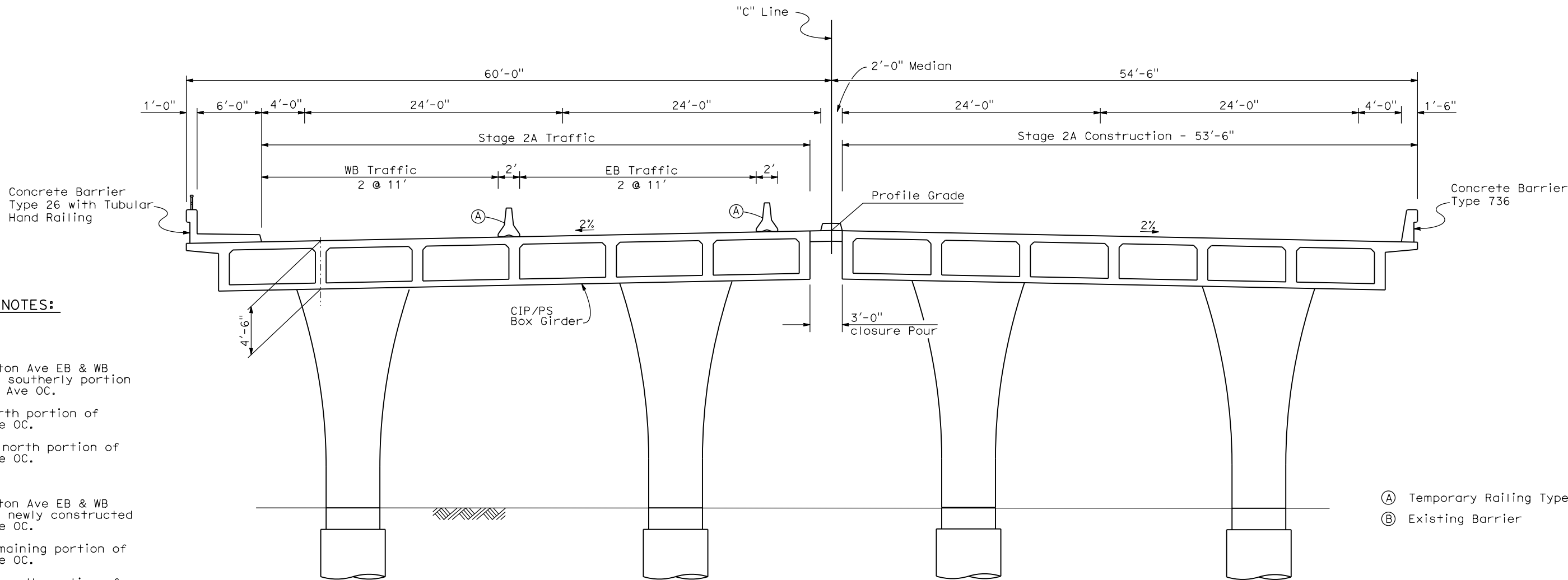


**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.	HSR006-007
DRAWING NO.	<b>BR-1</b>
SCALE	AS SHOWN
SHEET NO.	

DATE PLOTTED: 23-APR-2011





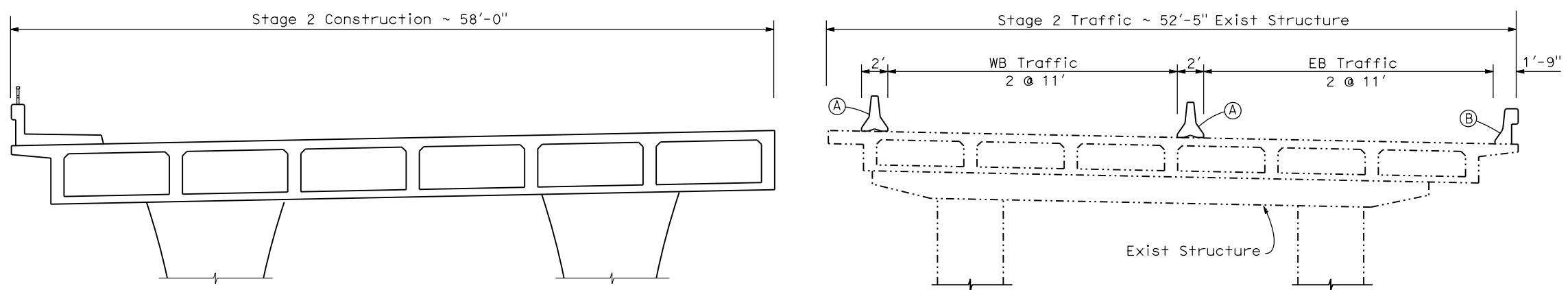
**STAGING NOTES:**

**STAGE 1:**  
 Shift Clinton Ave EB & WB traffic to southerly portion of Clinton Ave OC.  
 Remove north portion of Clinton Ave OC.  
 Construct north portion of Clinton Ave OC.

**STAGE 2:**  
 Shift Clinton Ave EB & WB traffic to newly constructed Clinton Ave OC.  
 Remove remaining portion of Clinton Ave OC.  
 Construct south portion of Clinton Ave OC.  
 Closure pour.

- Ⓐ Temporary Railing Type K
- Ⓑ Existing Barrier

**TYPICAL SECTION**  
1"=5'



**STAGE CONSTRUCTION**  
1"=5'

**CLINTON AVE OVERCROSSING (REPLACE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
D. FREDERICKS  
 DRAWN BY  
P. WALKER  
 CHECKED BY  
J. SHOWERS  
 IN CHARGE  
J. MATSUI-DRURY  
 DATE  
04/29/11

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

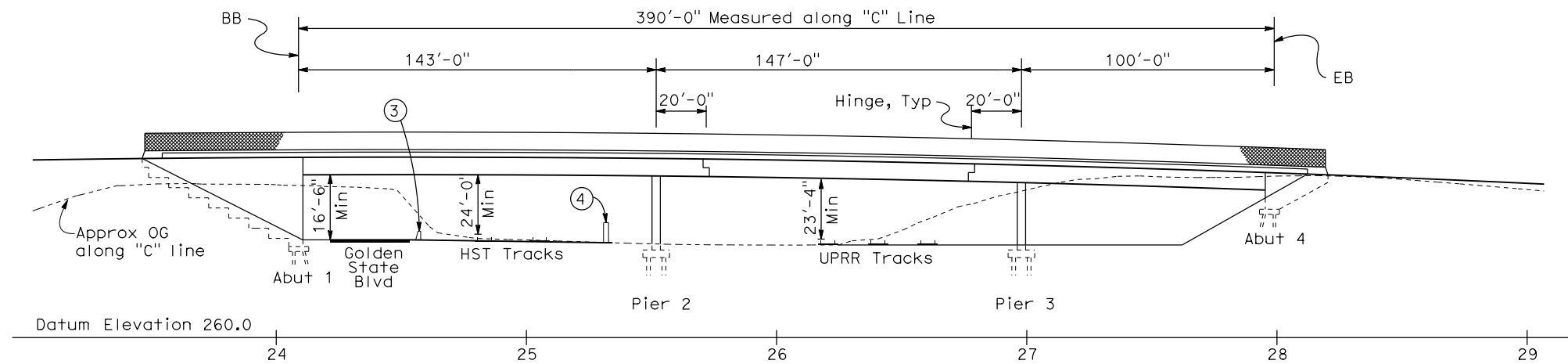
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

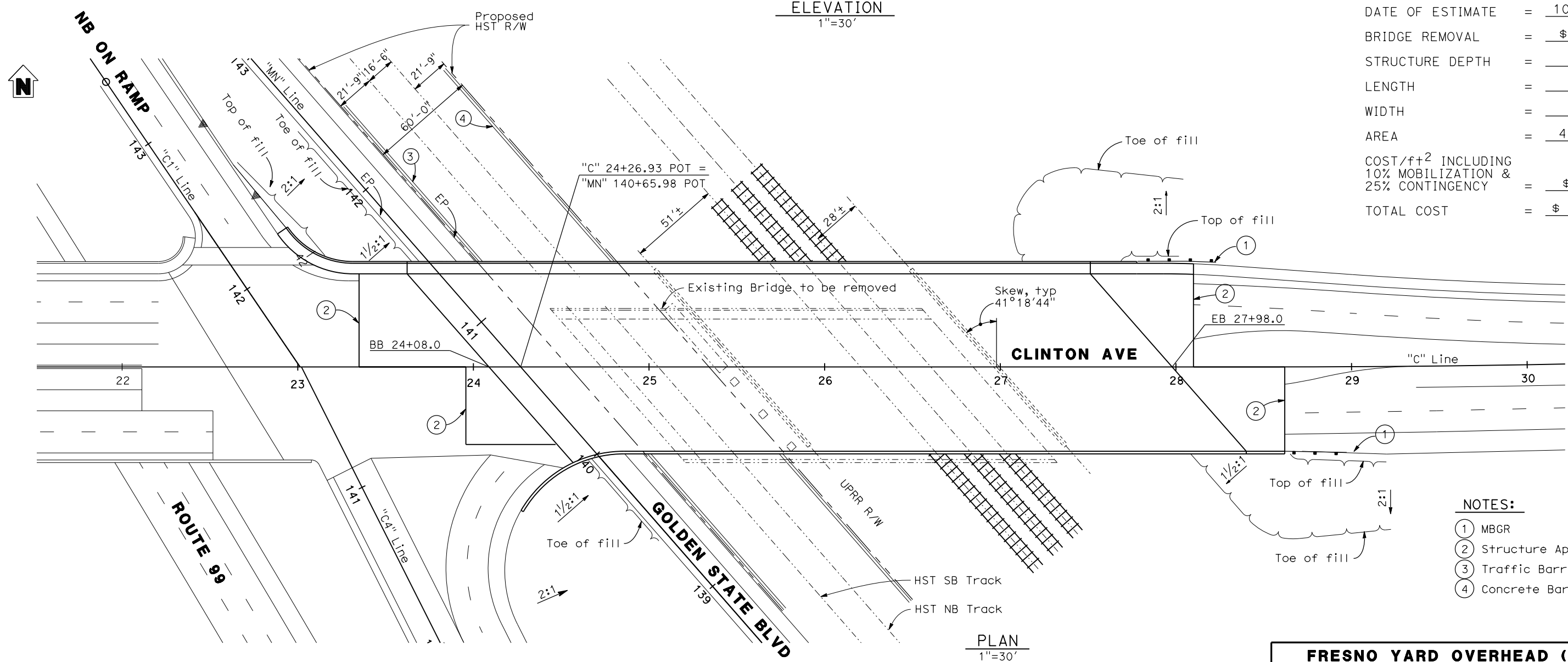
CONTRACT NO.  
HSR006-007  
 DRAWING NO.  
**BR-2**  
 SCALE  
AS SHOWN  
 SHEET NO.

DATE PLOTTED: 23-APR-2011



ELEVATION  
1"=30'

DATE OF ESTIMATE	=	10-21-2010
BRIDGE REMOVAL	=	\$ 400,000
STRUCTURE DEPTH	=	7'-6"
LENGTH	=	390'-0"
WIDTH	=	109'-6"
AREA	=	42,705 ft <sup>2</sup>
COST/ft <sup>2</sup> INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	=	\$ 150/ft <sup>2</sup>
TOTAL COST	=	\$ 6,810,000



PLAN  
1"=30'

- NOTES:
- ① MBGR
  - ② Structure Approach
  - ③ Traffic Barrier
  - ④ Concrete Barrier Wall

**FRESNO YARD OVERHEAD (REPLACE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
D. FREDERICKS  
DRAWN BY  
P. WALKER  
CHECKED BY  
J. SHOWERS  
IN CHARGE  
J. MATSUI-DRURY  
DATE  
04/29/11

**RECORD SET  
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CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

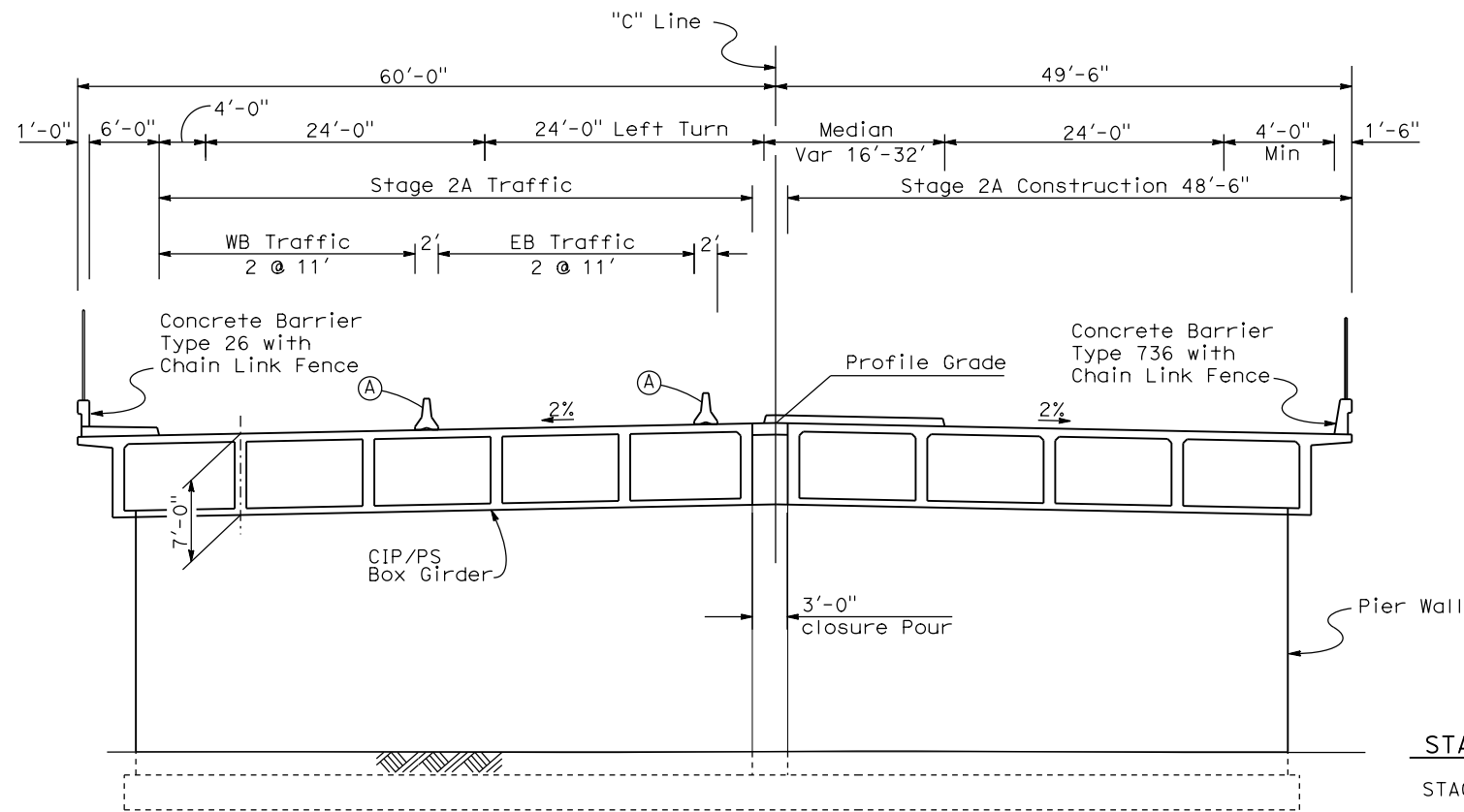
**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH SPEED TRAIN PROJECT  
MERCED TO FRESNO  
ROUTE 99 RE-ALIGNMENT  
ADVANCE PLANNING STUDY**

CONTRACT NO.	HSR006-007
DRAWING NO.	<b>BR-3</b>
SCALE	AS SHOWN
SHEET NO.	

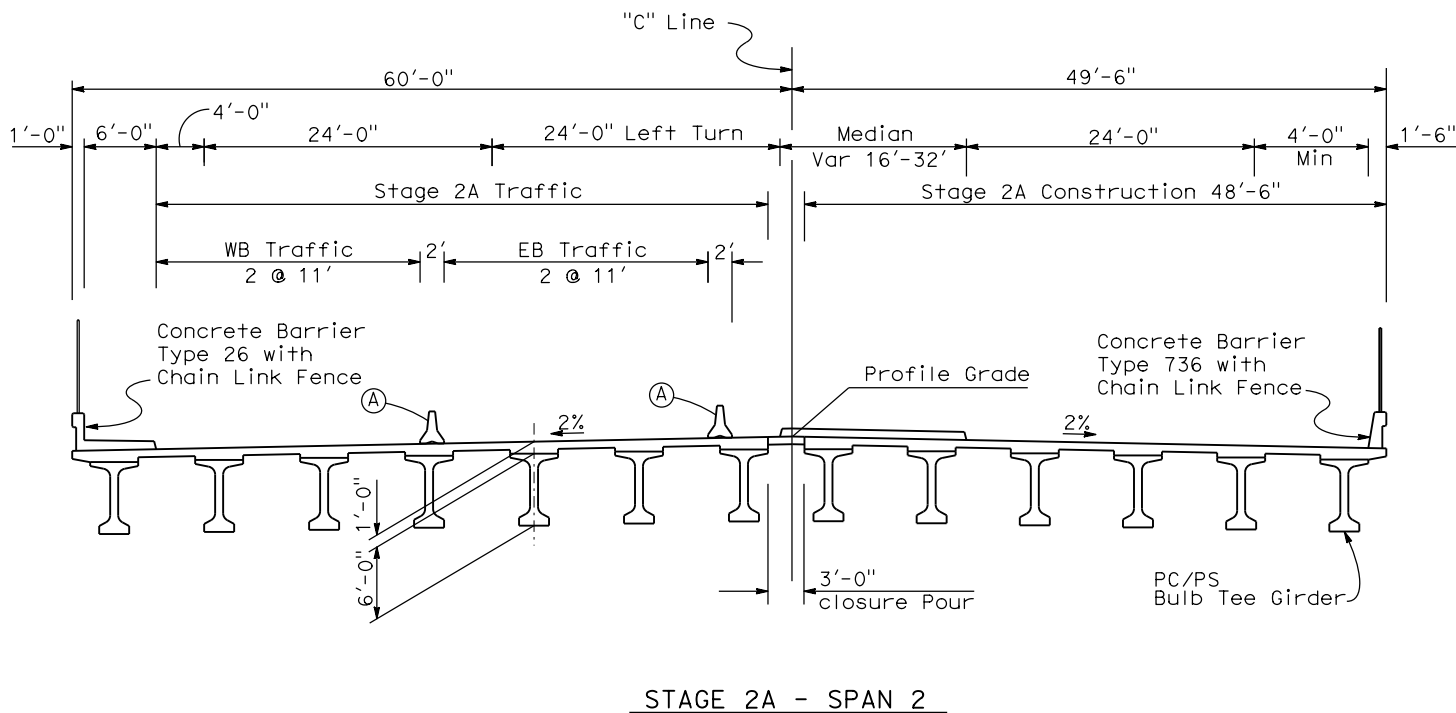
DATE PLOTTED: 23-28-APR-2011





STAGE 2A - SPANS 1 & 3

- (A) Temporary Railing Type K
- (B) Existing Barrier



STAGE 2A - SPAN 2

**STAGING NOTES:**

**STAGE 2:**

Shift Clinton Ave EB & WB traffic to southerly portion of Fresno Yard OH.

Remove north portion of Fresno Yard OH.

Construct north portion of Fresno Yard OH.

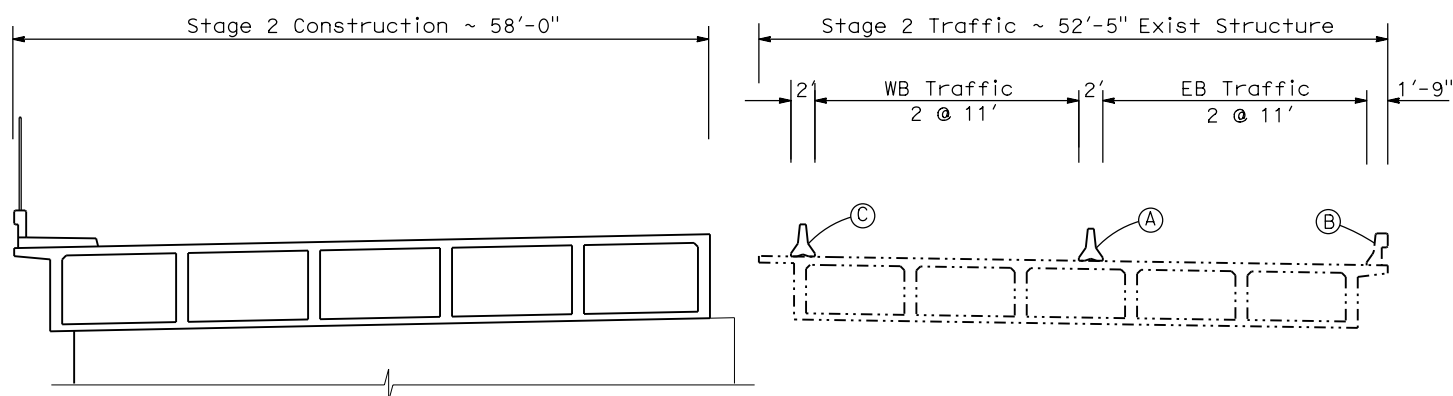
**STAGE 2A:**

Shift Clinton Ave EB & WB traffic to newly constructed Fresno Yard OH.

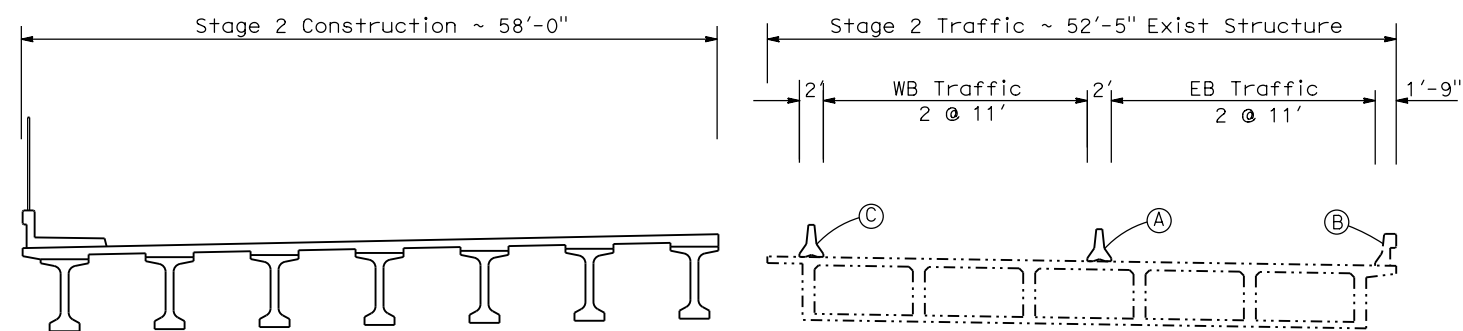
Remove remaining portion of Fresno Yard OH.

Construct south portion of Fresno Yard OH.

Closure pour.



STAGE 1 - SPANS 1 & 3



STAGE 1 - SPAN 2

**TYPICAL SECTION**  
1/8"=1'-0"

**FRESNO YARD OVERHEAD (REPLACE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

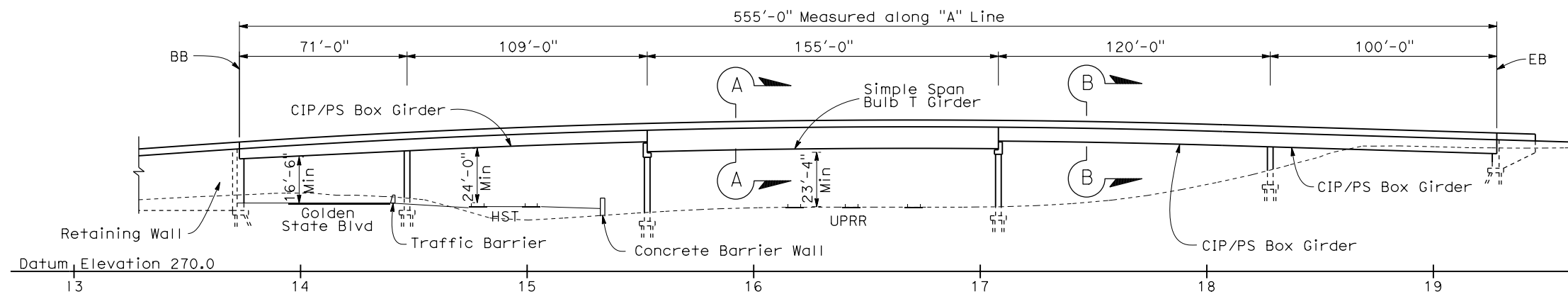
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**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.  
HSR006-007  
DRAWING NO.  
**BR-4**  
SCALE  
AS SHOWN  
SHEET NO.

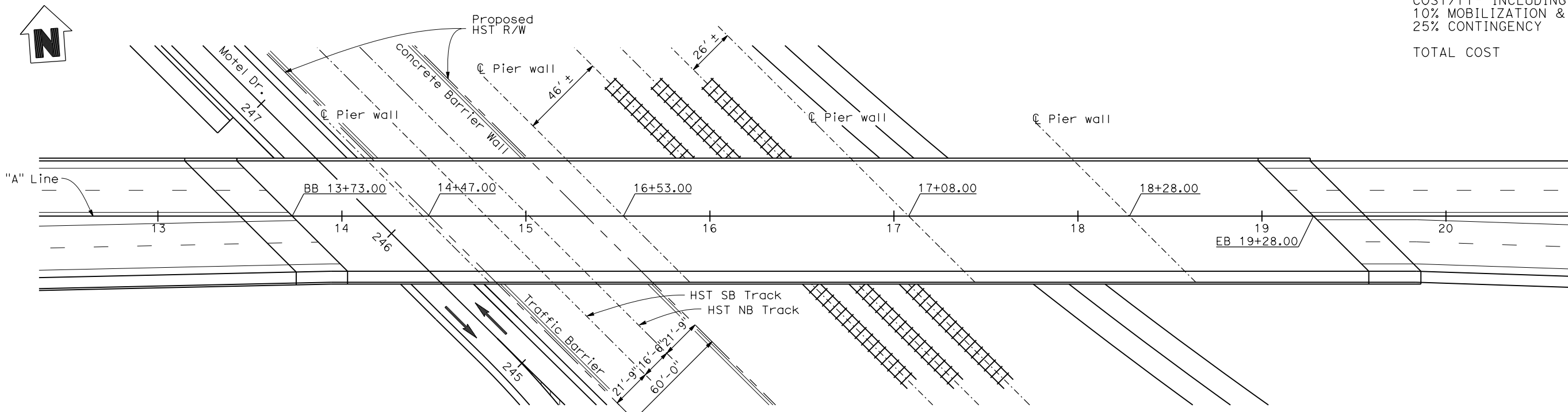
DATE PLOTTED: 23-APR-2011



**ELEVATION**

1" = 30'

DATE OF ESTIMATE	=	3-14-2011
BRIDGE REMOVAL	=	\$ 600,000
STRUCTURE DEPTH	=	9'-6"
LENGTH	=	555'-0"
WIDTH	=	68'-6"
AREA	=	38,020 ft <sup>2</sup>
COST/ft <sup>2</sup> INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	=	\$ 175/ft <sup>2</sup>
TOTAL COST	=	\$ 6,700,000



**PLAN**

1" = 30'

**ASHLAN AVE OVERHEAD (REPLACE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**

DRAWN BY  
**P. WALKER**

CHECKED BY  
**J. SHOWERS**

IN CHARGE  
**J. MATSUI-DRURY**

DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH SPEED TRAIN PROJECT**

**MERCED TO FRESNO**

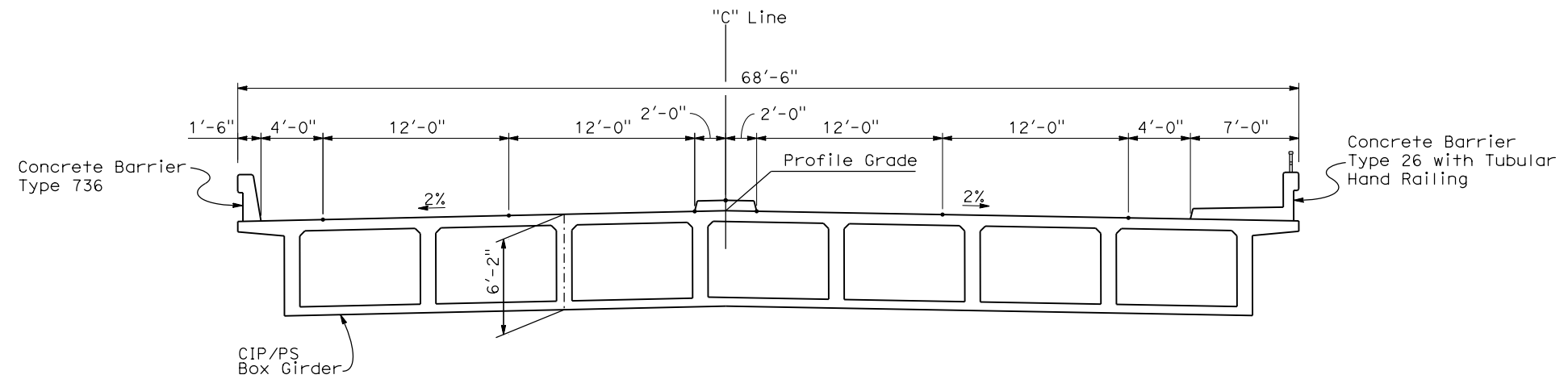
**ROUTE 99 RE-ALIGNMENT**

**ADVANCE PLANNING STUDY**

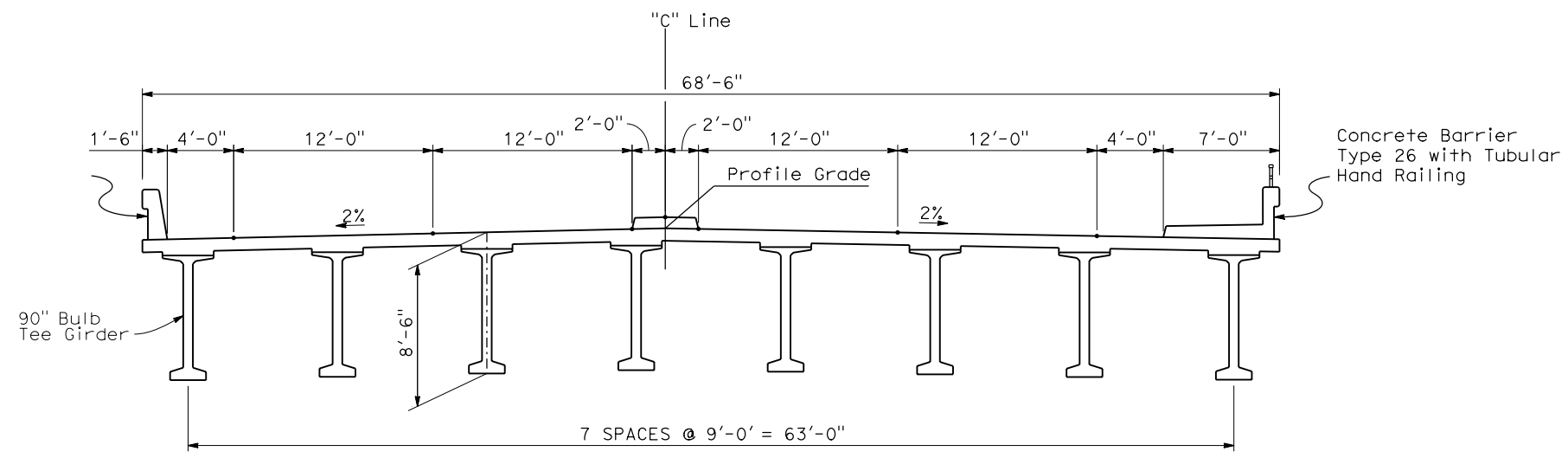
CONTRACT NO.	HSR006-007
DRAWING NO.	<b>BR-5</b>
SCALE	AS SHOWN
SHEET NO.	

DATE PLOTTED: 03-28-APR-2011





SECTION A-A  
1"=5'



SECTION B-B  
1"=5'

**ASHLAN AVE OVERHEAD (REPLACE)**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. FREDERICKS**  
DRAWN BY  
**P. WALKER**  
CHECKED BY  
**J. SHOWERS**  
IN CHARGE  
**J. MATSUI-DRURY**  
DATE  
**04/29/11**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
**ROUTE 99 RE-ALIGNMENT**  
**ADVANCE PLANNING STUDY**

CONTRACT NO.  
HSR006-007  
DRAWING NO.  
**BR-6**  
SCALE  
AS SHOWN  
SHEET NO.

DATE PLOTTED: 23 APR 2011 10:00 AM

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LOCATION NO.	SHT NO.	DWG NO.	DRAWING TITLE LINE 3	DRAWING TITLE LINE 4	DRAWING TITLE LINE 5	DRAWING TITLE LINE 6
GENERAL						
		B8990-B	AVE 21 HYBRID	GENERAL	INDEX OF DRAWINGS	SHEET 1 OF 1
		B8991-B	AVE 21 HYBRID	GENERAL	ABBREVIATIONS, SYMBOLS AND NOTES	SHEET 1 OF 1
		B9000-B	AVE 21 HYBRID		INDEX MAP	SHEET 1 OF 2
		B9001-B	AVE 21 HYBRID		INDEX MAP	SHEET 2 OF 2
		CB9002-B	UPRR/SR99 MAINLINE/WYE/MERCED - (AVE 21 HYBRID)	LOCAL & FRONTAGE RD	KEY MAP	SHEET 1 OF 2
		CB9003-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	LOCAL & FRONTAGE RD	KEY MAP	SHEET 2 OF 2
		CR8990-B	AVE 21 HYBRID	LOCAL ROADS	TYPICAL CROSS SECTIONS	SHEET 1 OF 1
AVE 21 HYBRID (LAYOUT)						
46		CR4000-A	BNSF MAIN LINE - (AVE 21 HYBRID)	LOCAL ROAD - ROAD 30 1/2	LAYOUT	SHEET 1 OF 1
47		CR4001-A	BNSF MAIN LINE - (AVE 21 HYBRID)	LOCAL ROAD - ROAD 29	LAYOUT	SHEET 1 OF 1
57		CR4012-A	BNSF MAIN LINE - (AVE 21 HYBRID)	LOCAL ROAD - HANOVER RD	LAYOUT	SHEET 1 OF 1
58		CR4013-A	BNSF MAIN LINE - (AVE 21 HYBRID)	LOCAL ROAD - AVENUE 20 1/2	LAYOUT	SHEET 1 OF 1
59		CR4014-A	BNSF MAIN LINE - (AVE 21 HYBRID)	LOCAL ROAD - AVENUE 20 1/2	LAYOUT	SHEET 1 OF 1
60		CR4015-A	BNSF MAIN LINE - (AVE 21 HYBRID)	LOCAL ROAD - ROAD 22	LAYOUT	SHEET 1 OF 1
67		CR4018-A	BNSF MERCED CONNECTION - (AVE 21 HYBRID)	LOCAL ROAD - ROAD 33	LAYOUT	SHEET 1 OF 1
52		CR9017-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	FAIRMEAD BLVD	LAYOUT	SHEET 1 OF 4
52		CR9018-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	FAIRMEAD BLVD	LAYOUT	SHEET 2 OF 4
52		CR9019-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	FAIRMEAD BLVD	LAYOUT	SHEET 3 OF 4
52		CR9020-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	FAIRMEAD BLVD	LAYOUT	SHEET 4 OF 4
53		CR9021-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 1 OF 8
53		CR9022-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 2 OF 8
53		CR9023-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 3 OF 8
53		CR9024-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 4 OF 8
53		CR9025-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 5 OF 8
53		CR9026-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 6 OF 8
53		CR9027-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 7 OF 8
53		CR9028-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	PROPOSED WEST FRONTAGE ROAD	LAYOUT	SHEET 8 OF 8
54		CR9029-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	AVENUE 21	LAYOUT	STA 63+99.89 TO STA 77+00
54		CR9032-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	AVENUE 21	LAYOUT	STA 77+00 TO STA 135+00
54		CR9033-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	AVENUE 21	LAYOUT	STA 135+00 TO STA 160+00
56		CR9035-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	ROAD 18	LAYOUT	
55		CR9040-B	UPRR/SR99 MAINLINE - (AVE 21 HYBRID)	ROAD 19 AND ROAD 19 1/2	LAYOUT	
85		CR9041-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	HEALY ROAD	LAYOUT	
86		CR9042-B	UPRR/SR99 MERCED - (AVE 21 HYBRID)	GERARD AVENUE/CALTRANS FRONTAGE ROAD	LAYOUT	
87		CR9043-B	UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)	ROAD 18 1/2	LAYOUT	STA 50+00 TO STA 74+07.87
		CR1479-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	AVENUE 22 CONNECTOR TO ROAD 11	PLAN AND PROFILE
		CR1480-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	AVENUE 22 CONNECTOR TO ROAD 11	PLAN AND PROFILE
		CR1483-A	UPRR MAIN LINE	AVENUE 24/SR152/AVENUE 21	AVENUE 21	PLAN AND PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
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CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

AVE 21 HYBRID  
GENERAL  
INDEX OF DRAWINGS  
SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
B8990-B  
SCALE  
NONE  
SHEET NO.  
### OF ###



**ABBREVIATIONS**

**ALIGNMENT**

HORIZONTAL  
 BC BEGINNING OF CURVE  
 EC END OF CURVE  
 PC POINT OF CURVE  
 PCC POINT OF COMPOUNT CURVES  
 PI POINT OF INTERSECTION OF TWO TANGENTS  
 POB POINT OF BEGINNING  
 POC POINT ON CURVE  
 POE POINT OF ENDING  
 POT POINT ON TANGENT  
 PRC POINT OF REVERSE CURVES  
 PT POINT OF TANGENCY  
 R RADIUS OF CURVATURE IN FEET  
 V, DS DESIGN VELOCITY IN MILES PER HOUR





VERTICAL  
 BVC BEGIN OF VERTICAL CURVE  
 EVC END OF VERTICAL CURVE  
 PVC POINT OF VERTICAL CURVE (BEGINNING OF CURVE)  
 PVI POINT OF VERTICAL INTERSECTION (OF TANGENTS)  
 PVT POINT OF VERTICAL TANGENCY (ENDING OF CURVE)  
 VC VERTICAL CURVE

**MISCELLANEOUS**

ALT ALTERNATIVE  
 AVE AVENUE  
 BB BEGIN BRIDGE  
 BEG BEGIN  
 BLVD BOULEVARD  
 CL CENTER LINE  
 CLR CLEAR  
 COL COLUMN  
 DWG DRAWING  
 EB END BRIDGE  
 ELEV ELEVATION  
 EQ EQUATION  
 ES EDGE OF SIDEWALK  
 ETW EDGE OF TRAVELED WAY  
 EXIST(E) EXISTING  
 FL FLOW LINE  
 HORIZ HORIZONTAL  
 HP HINGE POINT  
 HST HIGH SPEED TRAIN  
 HWY HIGHWAY  
 IC INTERCHANGE  
 IN INCH  
 L LENGTH  
 LT LEFT  
 MBGR METAL BEAM GUARD RAIL  
 ML MAINLINE  
 MPH MILES PER HOUR  
 MAX MAXIMUM  
 MIN MINIMUM  
 N NORTH  
 NB NORTH BOUND  
 No, NO NUMBER  
 NTS NOT TO SCALE  
 OG ORIGINAL GROUND  
 O/H OH OVERHEAD  
 PG&E PACIFIC GAS & ELECTRIC  
 PGL, FG PROFILE GRADE LINE  
 RET RETAINING  
 RR RAILROAD  
 RD ROAD  
 R/W RIGHT OF WAY  
 RT RIGHT  
 SB SOUTH BOUND  
 SHLD SHOULDER  
 SR STATE ROUTE  
 SHT SHEET  
 SS SANITARY SEWER  
 SSD STOPPING SIGHT DISTANCE  
 ST STREET  
 STA STATION  
 STD STANDARD  
 SD STORM DRAIN  
 STRUCT, STR STRUCTURE  
 T TANGENT  
 TEL TELEPHONE  
 (OH) OVERHEAD LINE  
 (UG) UNDERGROUND LINE

TOR TOP OF RAIL  
 TK TRACK  
 TYP TYPICAL  
 TBD TO BE DETERMINED  
 TF TELECOMMUNICATIONS FIBER OPTIC  
 UPRR UNION PACIFIC RAILROAD  
 VAR VARIES  
 V VERT VERTICAL  
 W WATER, WEST

**SYMBOLS**

— — — — — MATCH LINE  
 ————— HST TRACK  
 — — — — — PROPOSED HST RIGHT-OF-WAY  
 — + — + — FREIGHT/PASSENGER TRACK - EXISTING  
 — — — — — EXISTING RIGHT-OF-WAY OR EXISTING BRIDGE FEATURES  
 —▲—▲—▲— RETAINING WALLS  
 - - - - - ORIGINAL GROUND  
 ——— G16 ——— GAS LINE (16")  
 - - - TC ——— COMMUNICATION LINE  
 - — W ——— WATER LINE  
 — FO ——— FIBER OPTIC LINE  
 — — E ——— ELECTRICAL LINE  
 × ELECTRICAL TOWER  
 — — — S ——— SEWER LINE  
 - - - SD ——— STORM DRAIN LINE  
 — — — 0 ——— FUEL LINE  
 - - - TC ——— TELEPHONE LINE  
 ——— P12 ——— PETROLEUM LINE (12")  
 ——— (OH) ——— OVERHEAD  
 NORTH ARROW  
 PVI  
 MBGR  
 DIRECTION OF TRAVEL  
 ——— 250 ——— PROPOSED CONTOUR

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

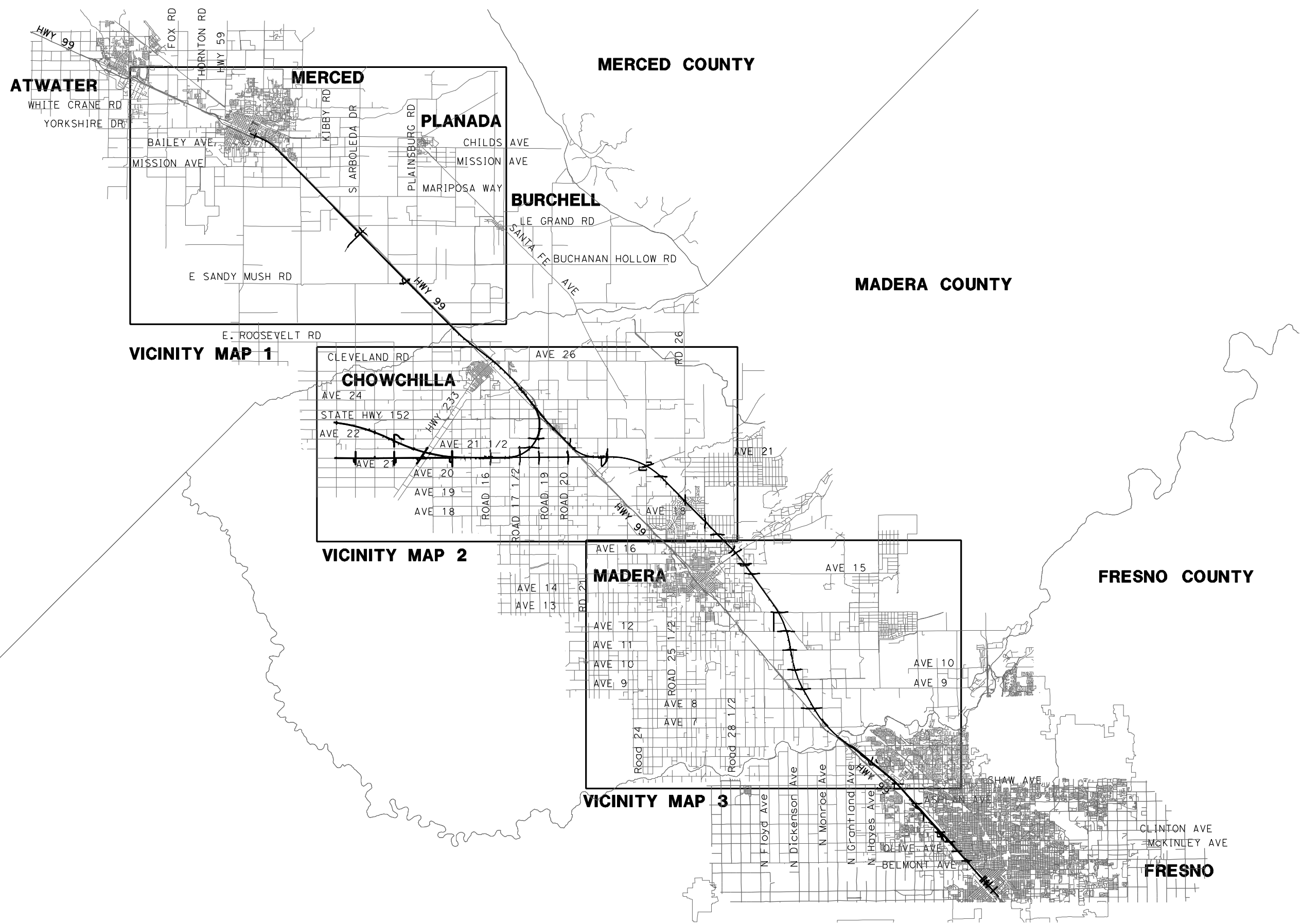
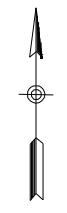
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**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID  
 GENERAL  
 ABBREVIATIONS, SYMBOLS AND NOTES  
 SHEET 1 OF 1

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
B8991-B  
 SCALE  
NO SCALE  
 SHEET NO.  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. AYELE**  
DRAWN BY  
**A. TRINH**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

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**15% DESIGN**  
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**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
AVE 21 HYBRID

INDEX MAP  
SHEET 1 OF 2

CONTRACT NO.  
HSR06-007

DRAWING NO.  
B9000-B

SCALE  
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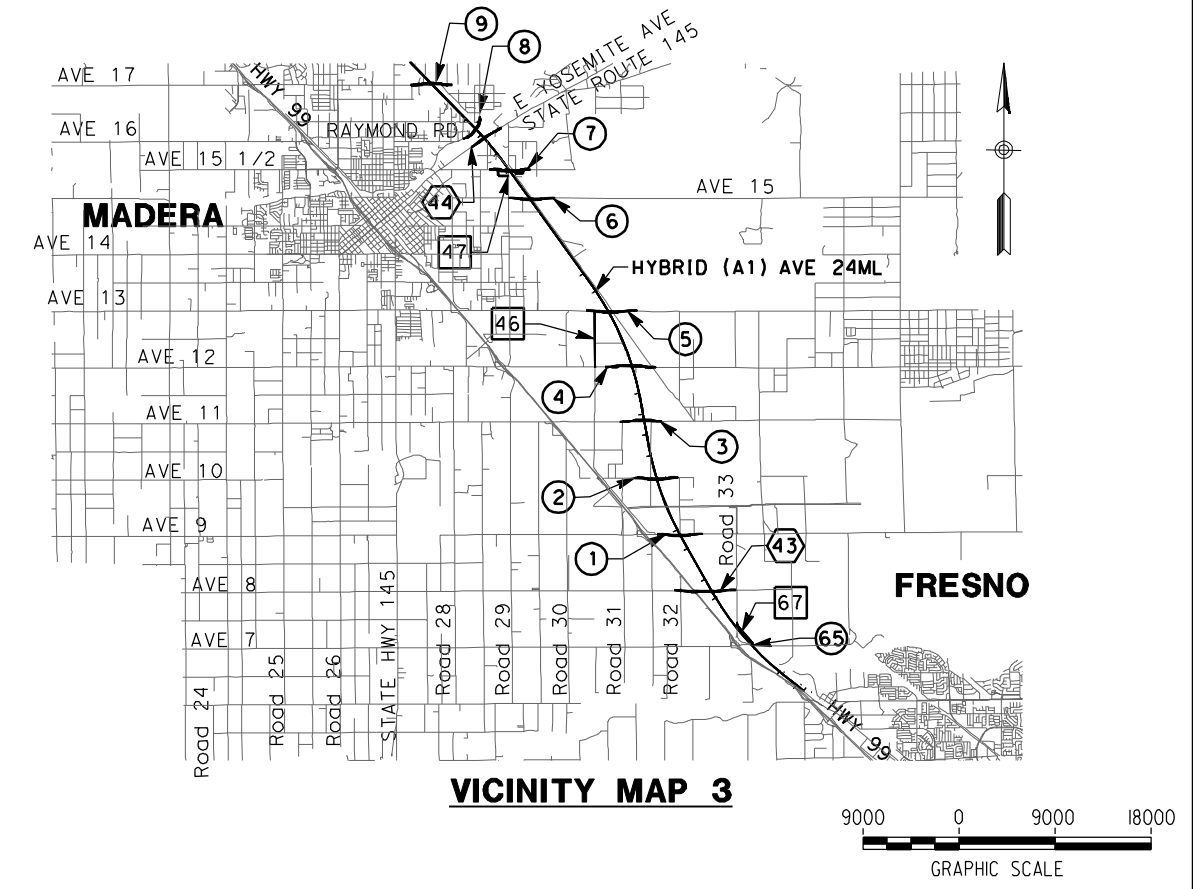
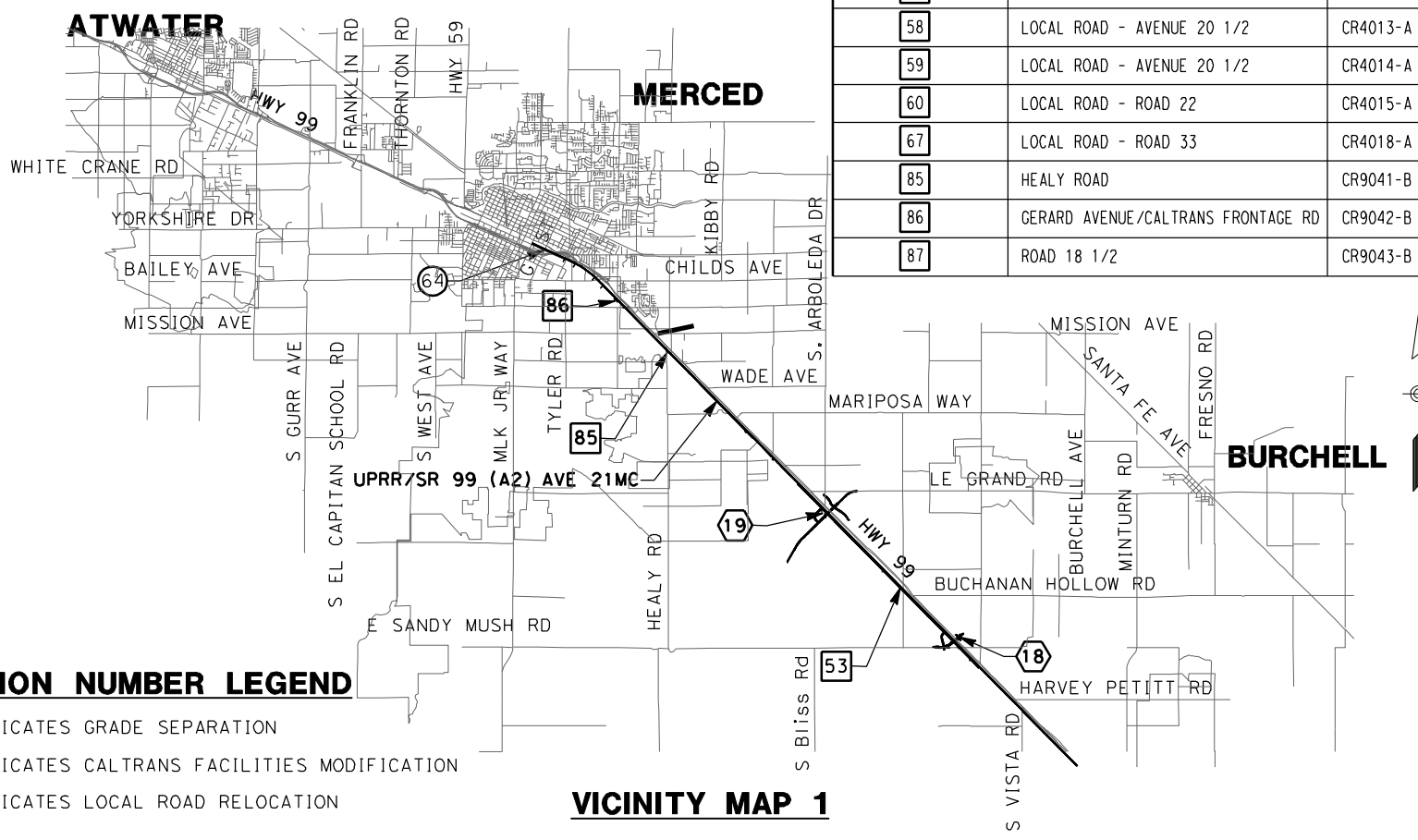
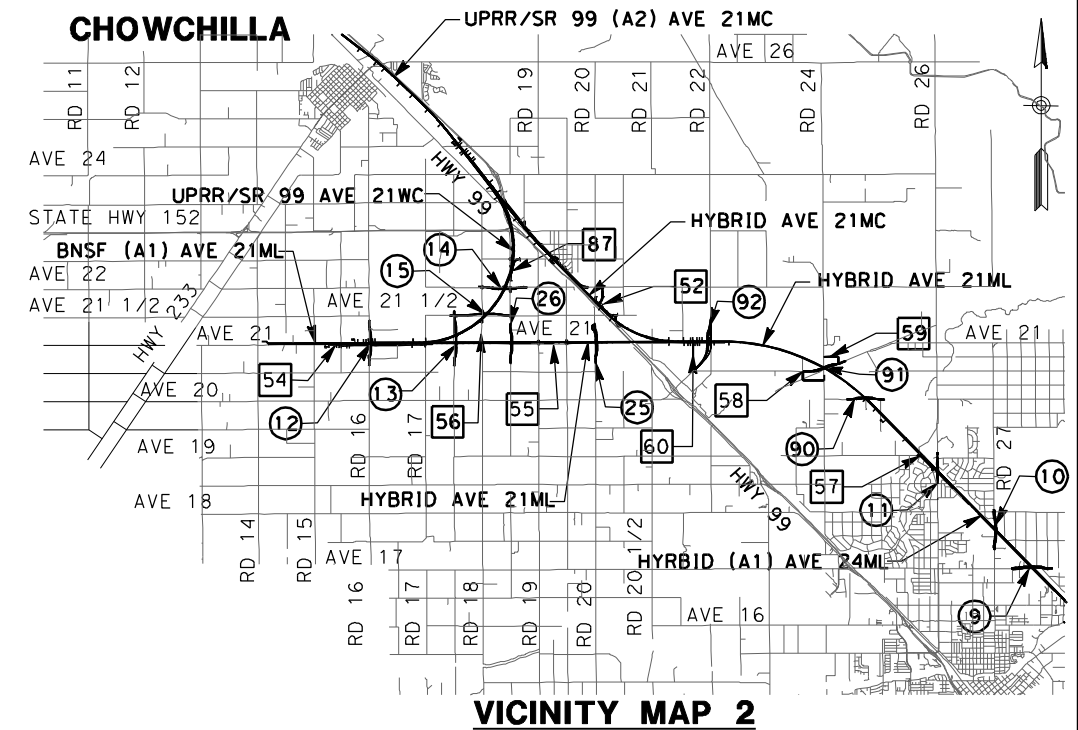
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LOCATION NO.	SHEET TITLE	ROADWAY DWG NO.	STR DWG NO.
1	GRADE SEPARATION - AVENUE 9	CT0001-A - CT0003-A	ST1001
2	GRADE SEPARATION - AVENUE 10	CT0004-A - CT0006-A	ST1002
3	GRADE SEPARATION - AVENUE 11	CT0007-A - CT0009-A	ST1003
4	GRADE SEPARATION - AVENUE 12	CT0010-A - CT0012-A	ST1004
5	GRADE SEPARATION - AVENUE 13	CT0013-A - CT0016-A	ST1005
6	GRADE SEPARATION - AVENUE 15	CT0017-A - CT0019-A	ST1006
7	GRADE SEPARATION - AVENUE 15 1/2	CT0020-A - CT0022-A	ST1007
8	GRADE SEPARATION - RAYMOND RD	CT0023-A - CT0025-A	ST1008
9	GRADE SEPARATION - AVENUE 17	CT0026-A - CT0028-A	ST1009
10	GRADE SEPARATION - ROAD 27	CT0029-A - CT0031-A	ST1010
11	GRADE SEPARATION - ROAD 26	CT0032-A - CT0034-A	ST1011
12	GRADE SEPARATION - ROAD 16	CT5000-B - CT5003-B	ST1101
13	GRADE SEPARATION - ROAD 17 1/2	CT5004-B - CT5007-B	ST1102 - ST1103
14	GRADE SEPARATION - AVENUE 22	CT5016-B - CT5018-B	ST1106
15	GRADE SEPARATION - AVENUE 21 1/2	CT5019-B - CT5022-B	ST1115
25	GRADE SEPARATION - ROAD 20	CT0076-A - CT0078-A	ST1026
26	GRADE SEPARATION - ROAD 18 1/2	CT0079-A - CT0081-A	ST1027
64	GRADE SEPARATION - G STREET	CT0149-A	ST1180

LOCATION NO.	SHEET TITLE	ROADWAY DWG NO.	STR DWG NO.
65	GRADE SEPARATION - AVENUE 7	CT0146-A - CT0148-A	ST1070
90	GRADE SEPARATION - AVENUE 20	CT0066-A - CT0068-A	ST1090
91	GRADE SEPARATION - AVENUE 20 1/2	CT0069-A - CT0071-A	ST1091
92	GRADE SEPARATION - ROAD 22	CT0073-A - CT0075-A	ST1092
18	GRADE SEPARATION - SANDY MUSH RD INTERCHANGE	CT7034-B - CT7036-B	ST1113
19	GRADE SEPARATION - LE GRAND RD INTERCHANGE	CT7037-B - CT7043-B	ST1114
43	CALTRANS - AVENUE 8	CT2001-A - CT2003-A	ST1000
44	CALTRANS - SR 145	CT2004-A - CT2006-A	
46	LOCAL ROAD - ROAD 30 1/2	CR4000-A	
47	LOCAL ROAD - ROAD 29	CR4001-A	
52	FAIRMEAD BLVD	CR9017-B - CR9020-B	
53	PROPOSED WEST FRONTAGE ROAD	CR9021-B - CR9028-B	
54	AVENUE 21	CR9029-B	
	AVENUE 21	CR9032-B - CR9033-B	
55	ROAD 19 & ROAD 19 1/2	CR9040-B	
56	ROAD 18	CR9035-B	
57	LOCAL ROAD - HANOVER RD	CR4012-A	
58	LOCAL ROAD - AVENUE 20 1/2	CR4013-A	
59	LOCAL ROAD - AVENUE 20 1/2	CR4014-A	
60	LOCAL ROAD - ROAD 22	CR4015-A	
67	LOCAL ROAD - ROAD 33	CR4018-A	
85	HEALY ROAD	CR9041-B	
86	GERARD AVENUE/CALTRANS FRONTAGE RD	CR9042-B	
87	ROAD 18 1/2	CR9043-B	



**LOCATION NUMBER LEGEND**

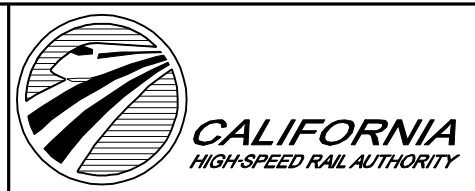
- (X) - INDICATES GRADE SEPARATION
- (X) - INDICATES CALTRANS FACILITIES MODIFICATION
- (X) - INDICATES LOCAL ROAD RELOCATION

**VICINITY MAP 1**

**VICINITY MAP 3**

DESIGNED BY D. AYELE	<b>RECORD SET</b> <b>15% DESIGN</b> <b>SUBMITTAL</b>  <b>NOT FOR</b> <b>CONSTRUCTION</b>
DRAWN BY A. TRINH	
CHECKED BY A. SILVER	
IN CHARGE A. BOONE	
DATE 06/30/2011	

**NOT FOR CONSTRUCTION**

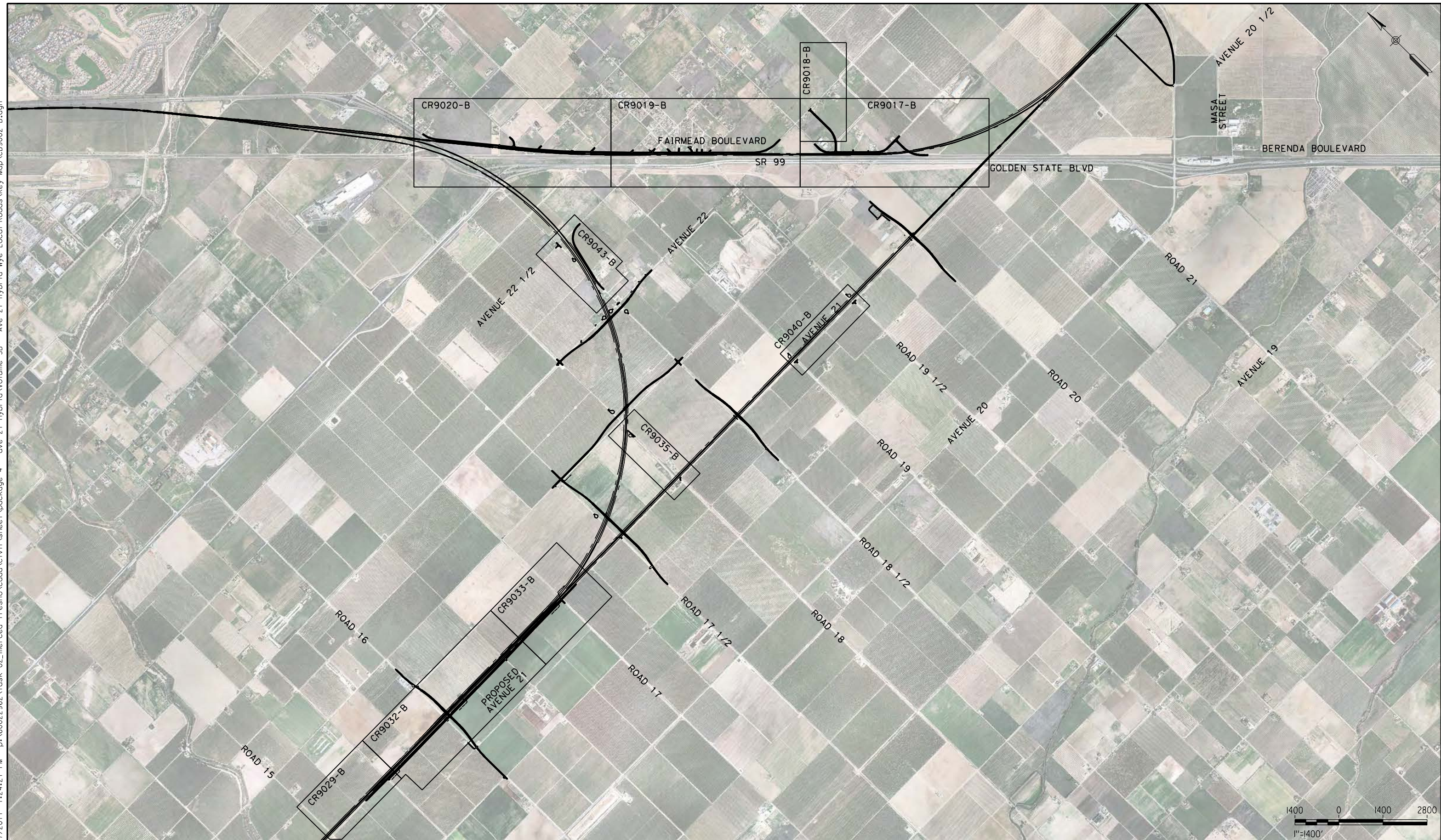


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 AVE 21 HYBRID  
 INDEX MAP  
 SHEET 2 OF 2

CONTRACT NO. HSR06-007
DRAWING NO. B9001-B
SCALE NO SCALE
SHEET NO. ### OF ###



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 oyeled



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE/MERCED - (AVE 21 HYBRID)  
 LOCAL & FRONTAGE RD  
 KEY MAP  
 SHEET 1 OF 2

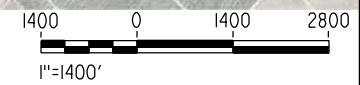
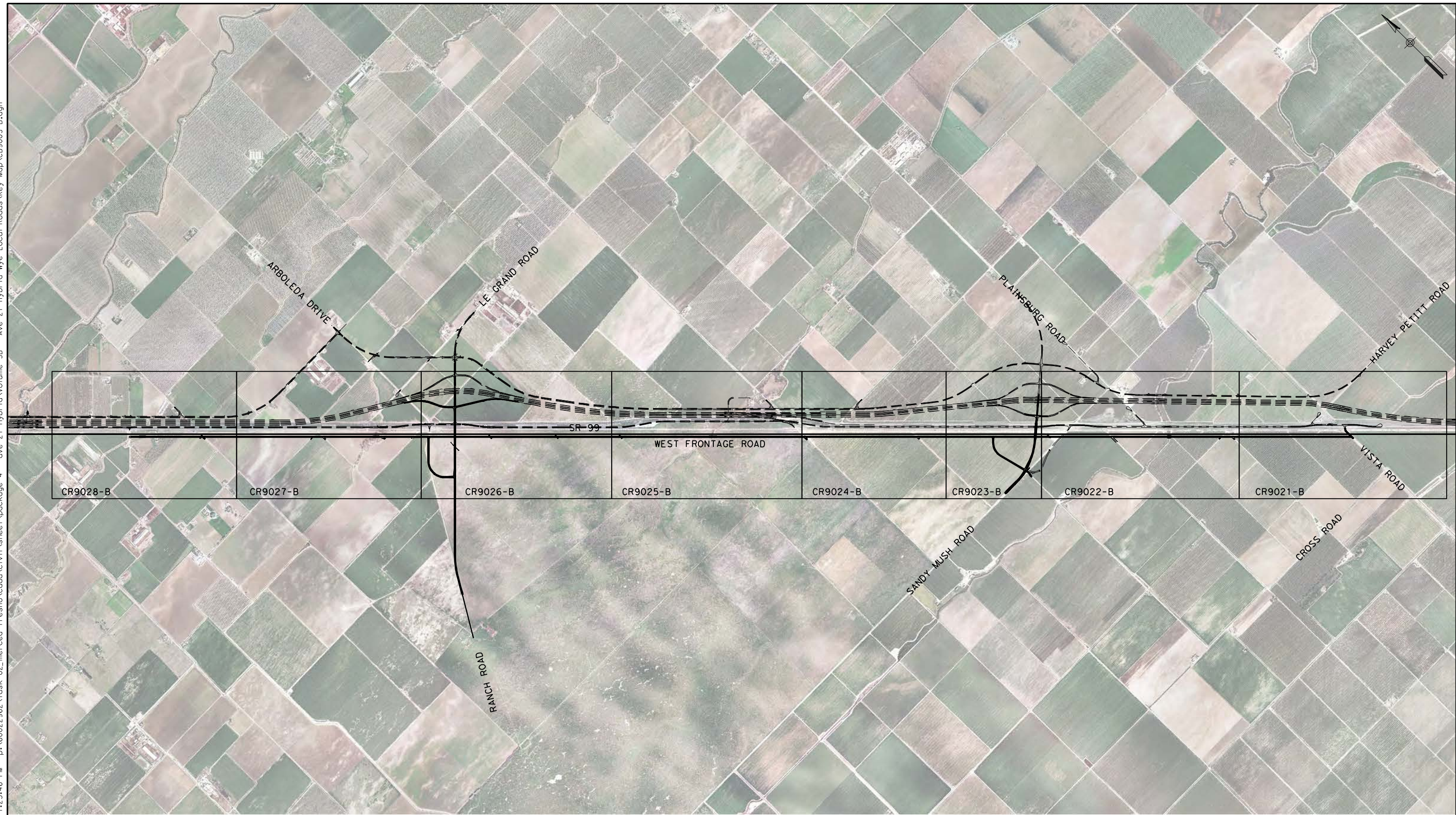
CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CB9002-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 3B - Ave 21 Hybrid\Mye Local Roads\Key Map\CB9003-B.dgn

6/27/2011 1:25:46 PM

oyeiled



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



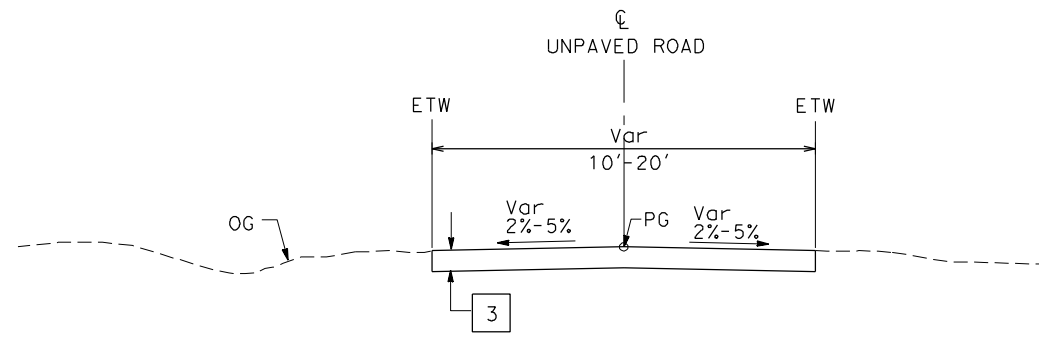
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
LOCAL & FRONTAGE RD  
KEY MAP  
SHEET 2 OF 2

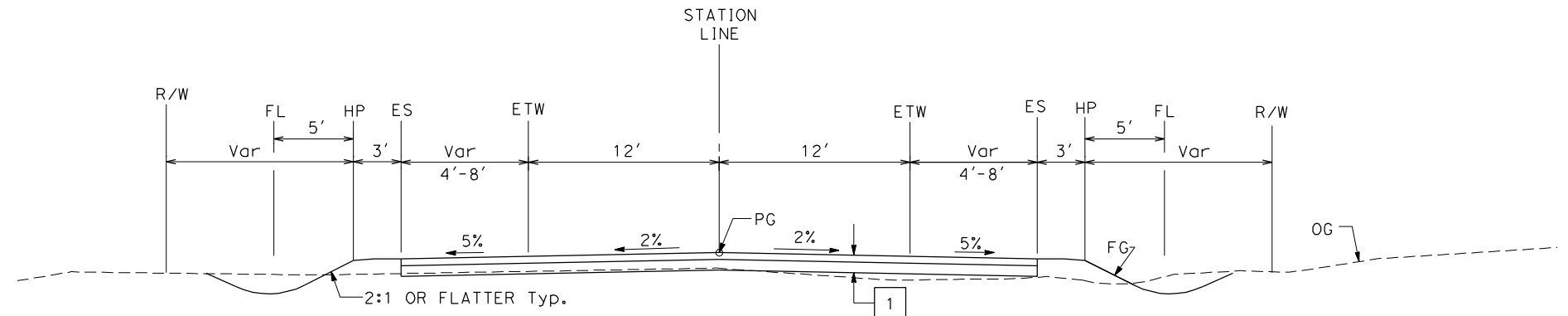
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CB9003-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 4:09:21 PM p:\60022962\task 02\_merced-fresno\cadd\civil\Sheet\Package 4 - Ave 21 Hybrid\Volume 3B - Ave 21 Hybrid\Typical Section\CR8990-B.dgn



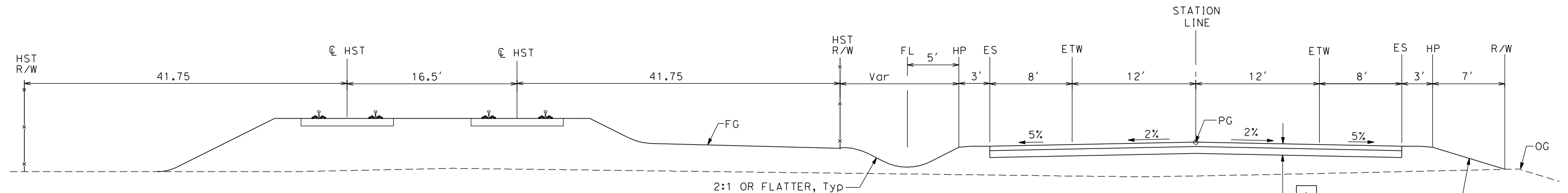
**UNPAVED ROAD (TYP)**  
SEE LAYOUT SHEETS  
FOR ACTUAL ROADWAY WIDTHS



**2-LANE FRONTAGE ROAD**  
SEE LAYOUT SHEETS  
FOR ACTUAL SHOULDER WIDTHS

STRUCTURAL SECTIONS:

- 1 — HMA TYPE A  
AB CLASS 2
- 3 — AB CLASS 2



**2-LANE FRONTAGE ROAD**  
FRONTAGE ROAD ALONG TRACK ALIGNMENT

4:1 OR FLATTER, Typ

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. OAKS**  
DRAWN BY  
**K. OAKS**  
CHECKED BY  
**A. SILVER**  
IN CHARGE  
**A. BOONE**  
DATE  
**06/30/2011**

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

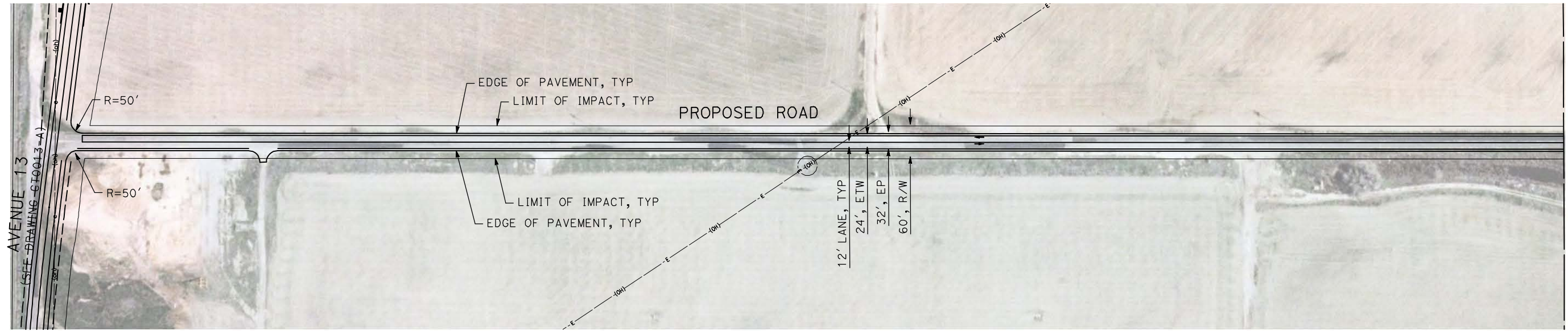


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
AVE 21 HYBRID  
LOCAL ROADS  
TYPICAL CROSS SECTIONS  
SHEET 1 OF 1

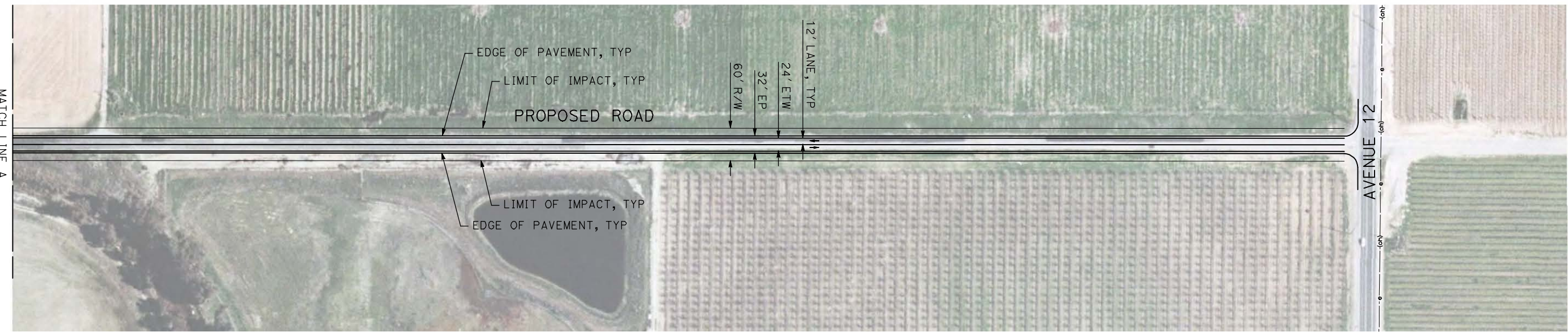
CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CR8990-B  
SCALE  
NTS  
SHEET NO.  
### OF ###



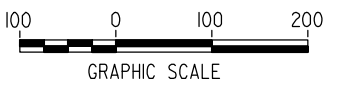
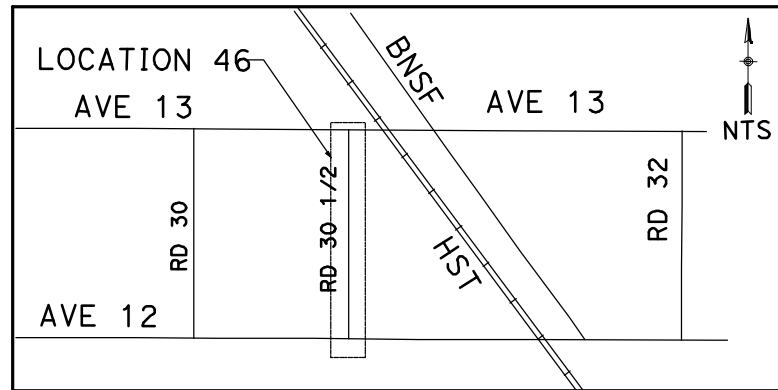
6/28/2011 4:39:31 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\Volume 3 - Ave21Hybrid Local Roads\Layout\MF-CR-4000-A.dgn



MATCH LINE A  
SEE BOTTOM LEFT



MATCH LINE A  
SEE TOP RIGHT



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

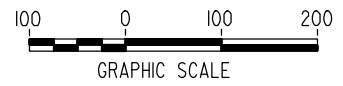
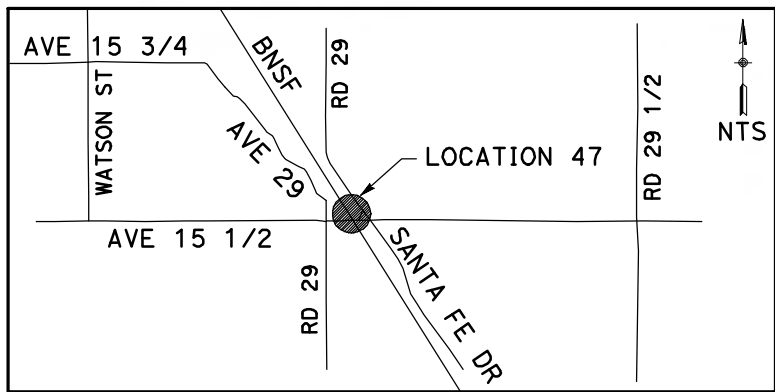
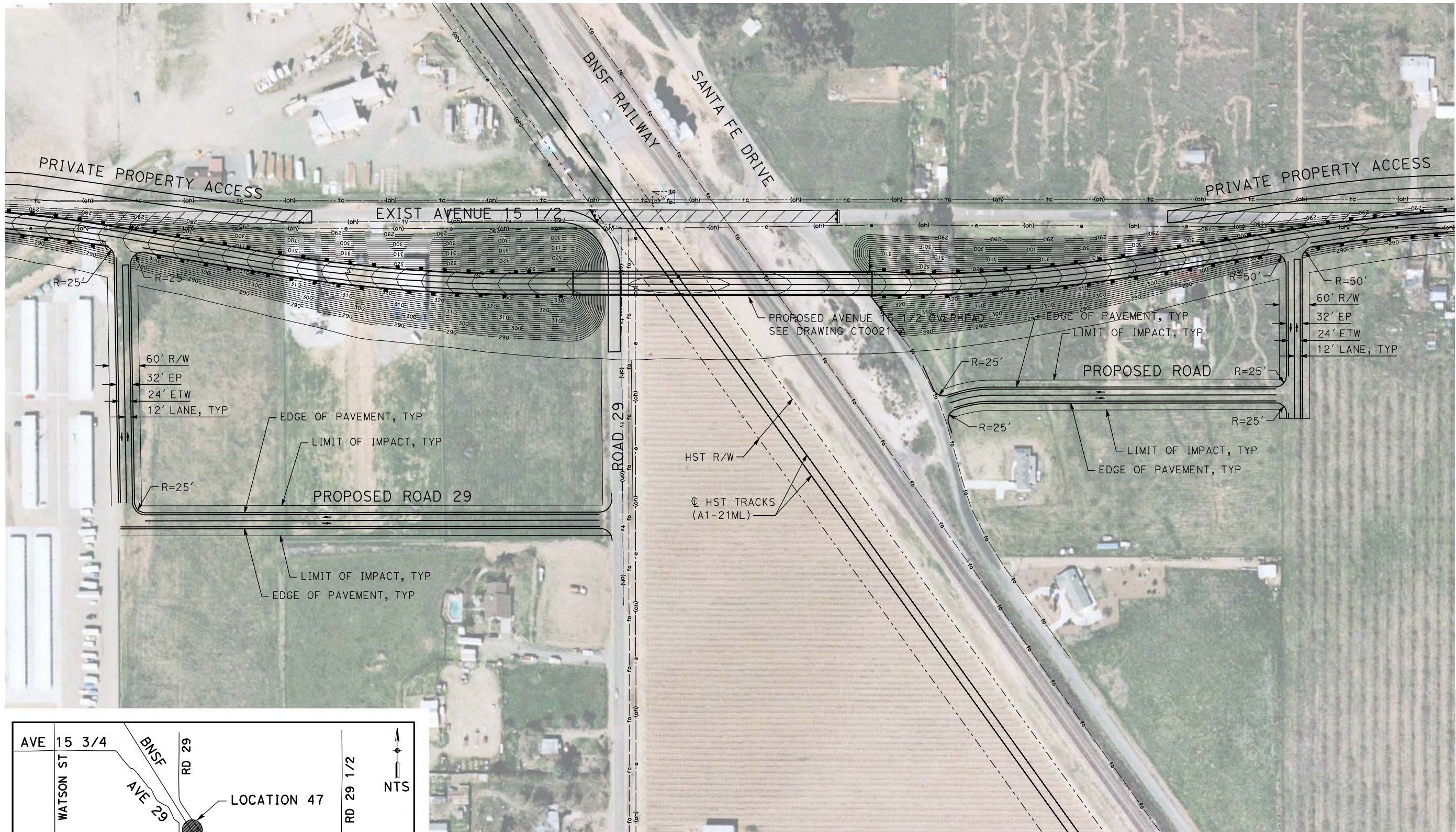


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
LOCAL ROAD - ROAD 30 1/2  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4000-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:39:42 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid-ave21\Volume 3 - Ave21Hybrid Local Roads Layout\MF-CR-4001-A.DGN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

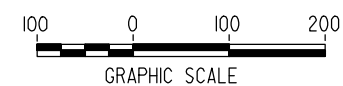
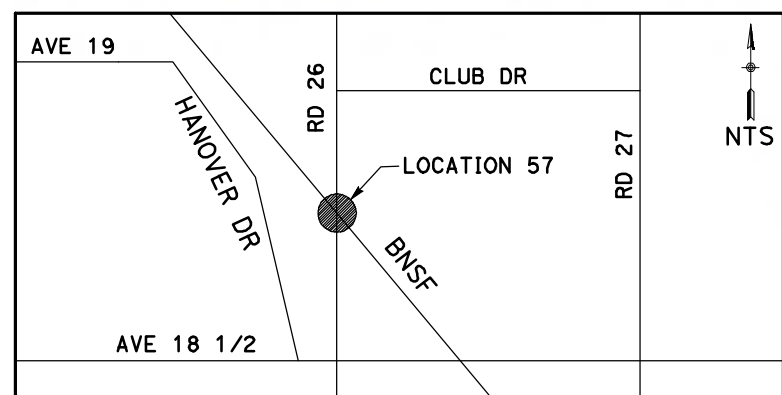
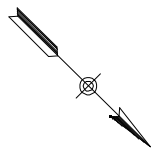
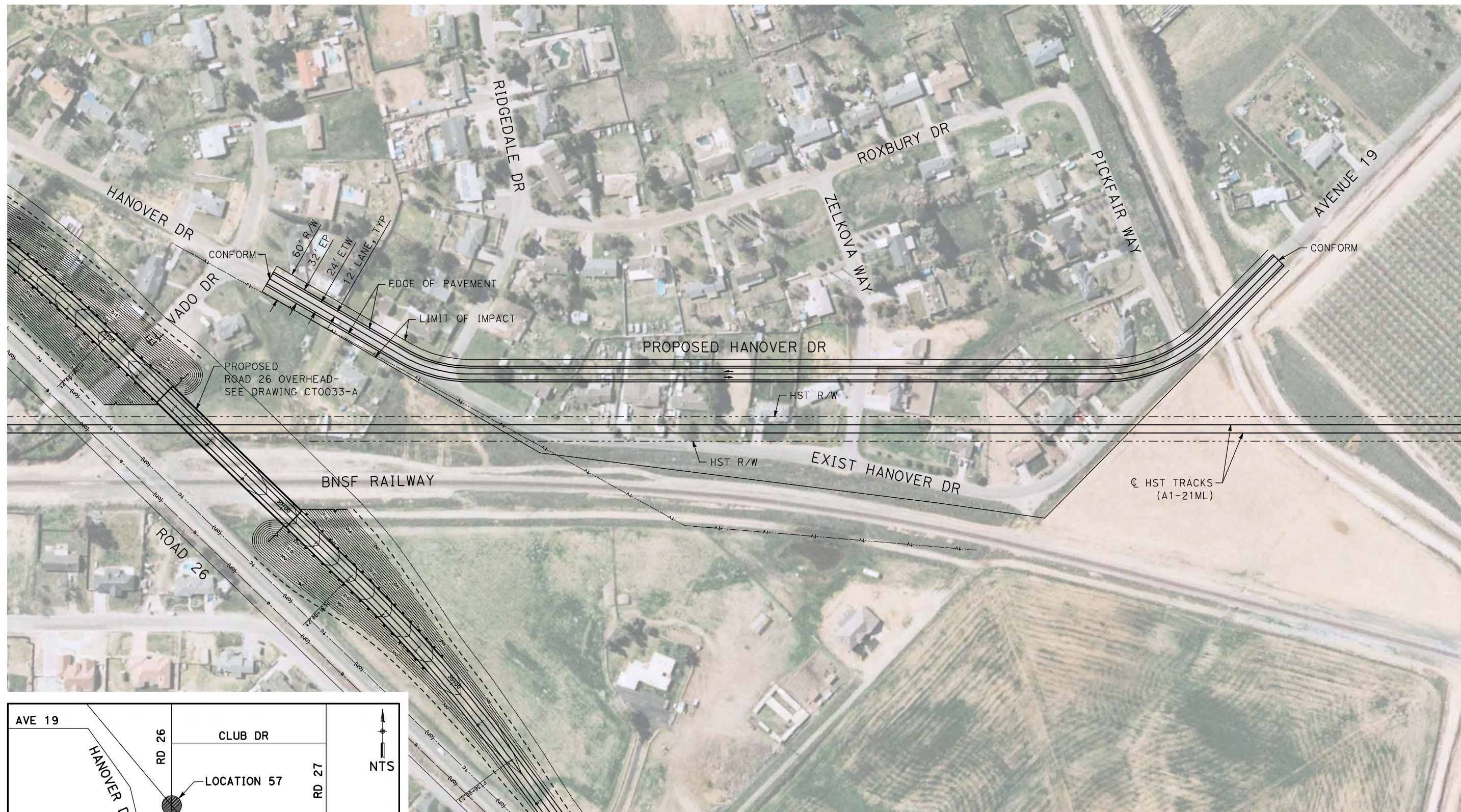


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
BNSF MAIN LINE - (AVE 21 HYBRID)  
LOCAL ROAD - ROAD 29  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4001-A  
SCALE  
AS SHOWN  
SHEET NO.  
OF ###



7/6/2011 8:48:26 AM I:\CHSR\60022962\Task-02\_Merced-Fresno\cadd\Civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 3 - Ave21Hybrid Local Roads\Layout\MF-CR-4012-A.DGN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



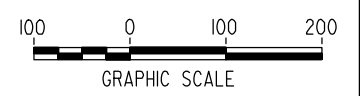
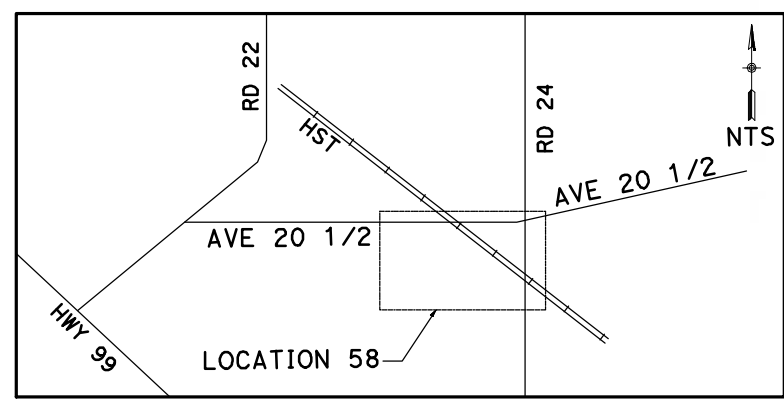
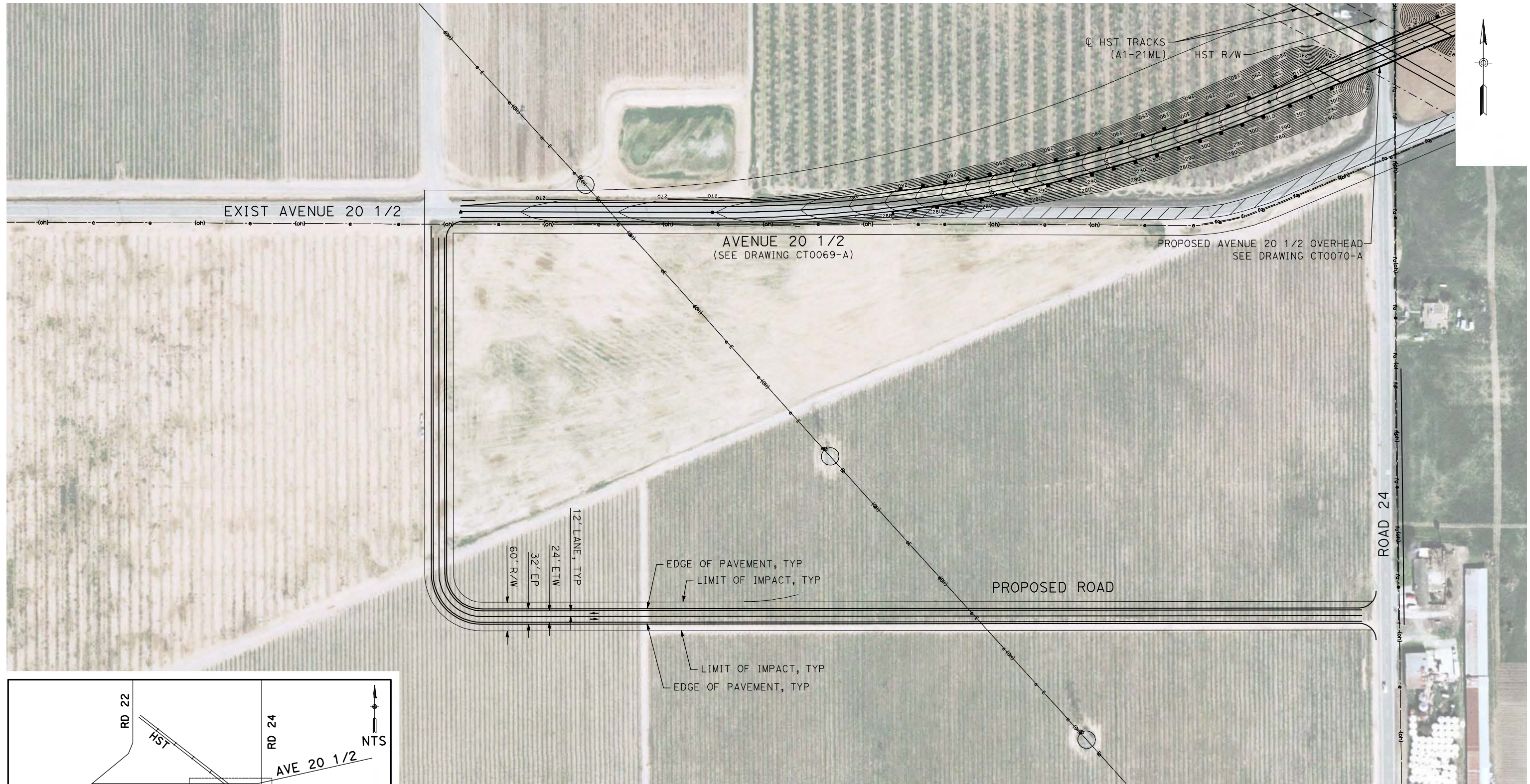
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
LOCAL ROAD - HANOVER DR  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4012-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/28/2011 4:40:10 PM i:\chsr\60022962\task-02\_merced-fresno\cadd\civil\sheet\roadway\hybrid\ave21\Volume 3 - Ave21Hybrid Local Roads Layout\MF-CR-4013-A.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



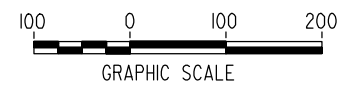
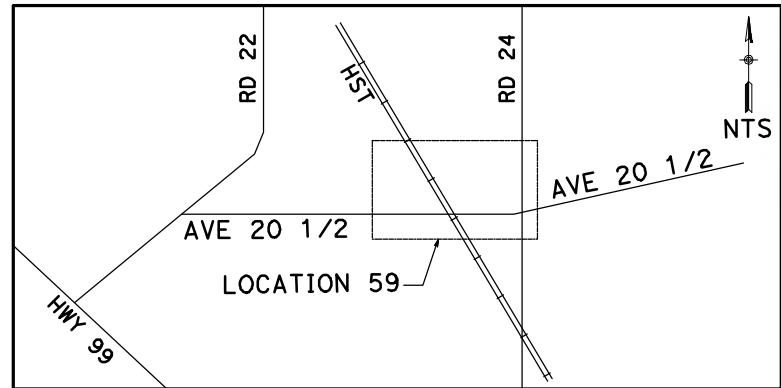
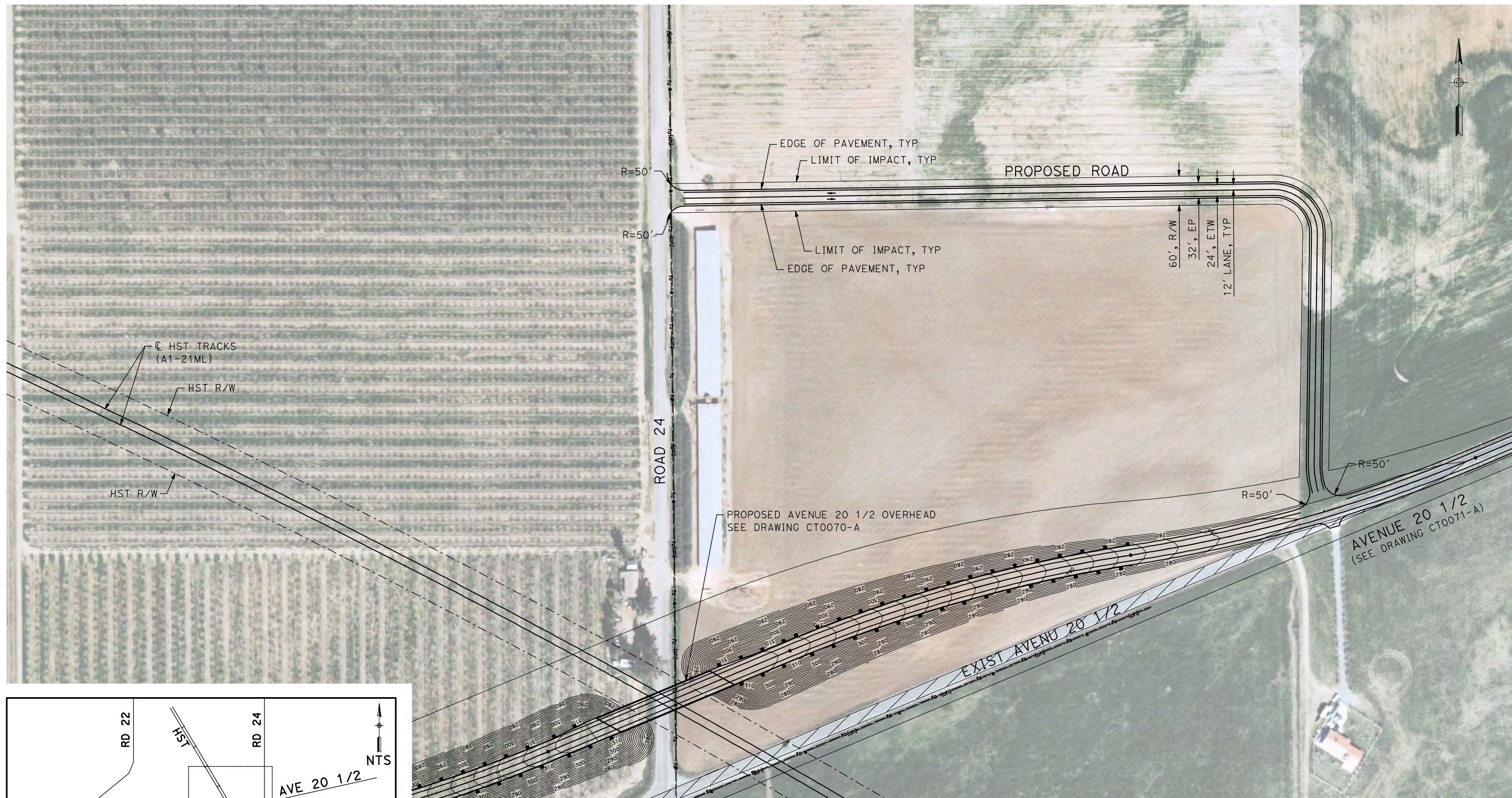
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
LOCAL ROAD - AVENUE 20 1/2  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4013-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



7/6/2011 9:03:23 AM I:\CHSR\60022962\Task-02\_Merced-Fresno\Cadd\Civil\Sheet\ROADWAY\Hybrid-Ave21\Volume 3 - Ave21Hybrid Local Roads\Layout\MF-CR-4014-A.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



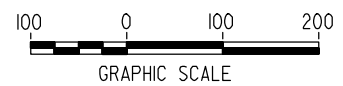
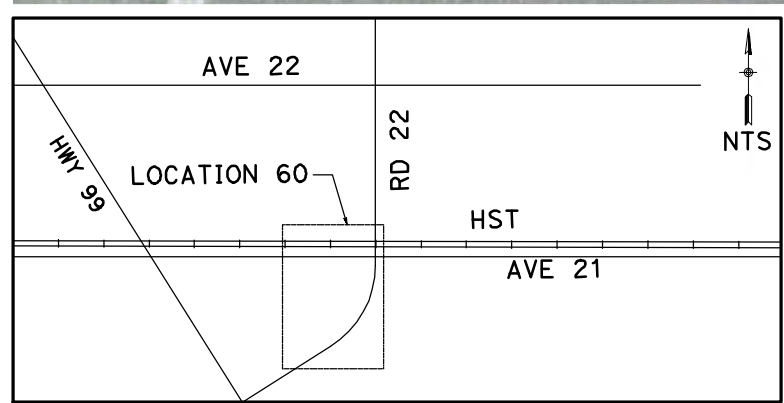
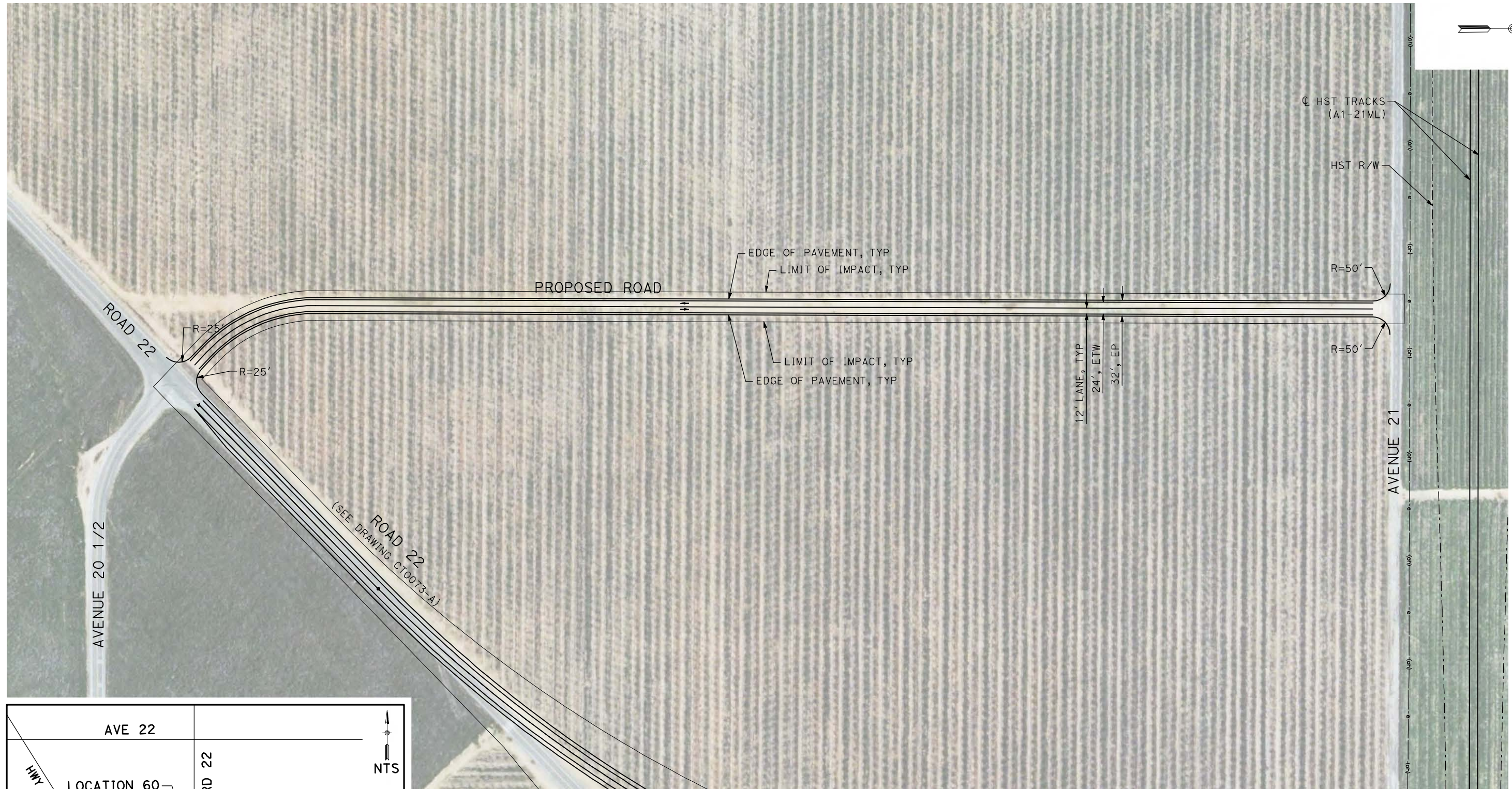
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
LOCAL ROAD - AVENUE 20 1/2  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4014-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



7/6/2011 10:43:10 AM I:\CHSR\60022962\Task-02\_Merced-Fresno\cadd\Civil\Sheet\ROADWAY Hybrid-Ave21\Volume 3 - Ave21Hybrid Local Roads\Layout\MF-CR-4015-A.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
J. ZANDIAN  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



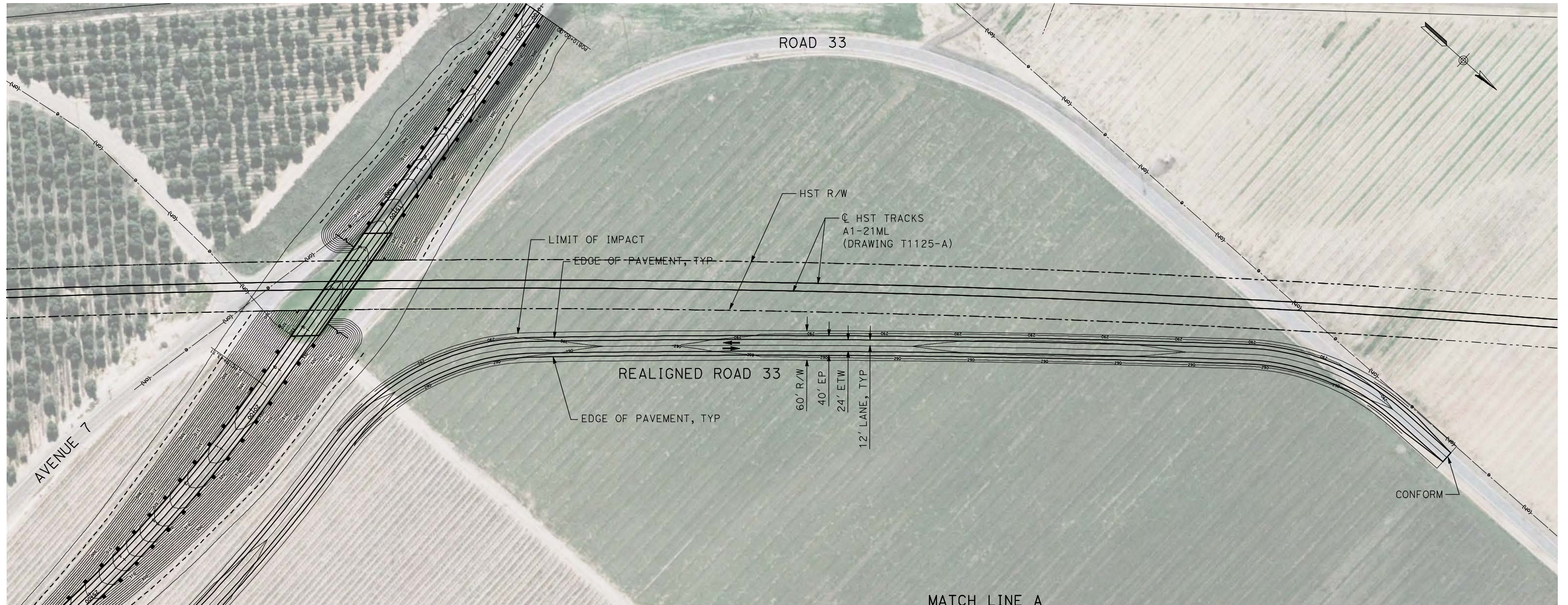
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

BNSF MAIN LINE - (AVE 21 HYBRID)  
LOCAL ROAD - ROAD 22  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4015-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

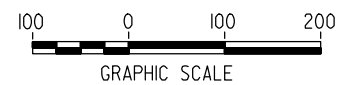
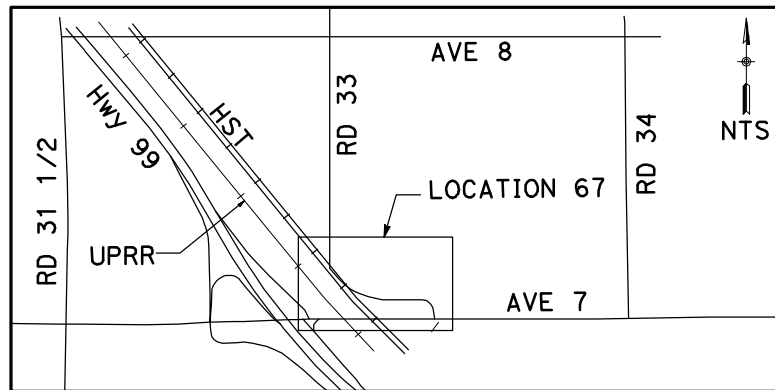


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MATCH LINE A  
SEE BELOW RIGHT

MATCH LINE A  
SEE ABOVE LEFT



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. GIBSON  
DRAWN BY  
H. PHAN  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



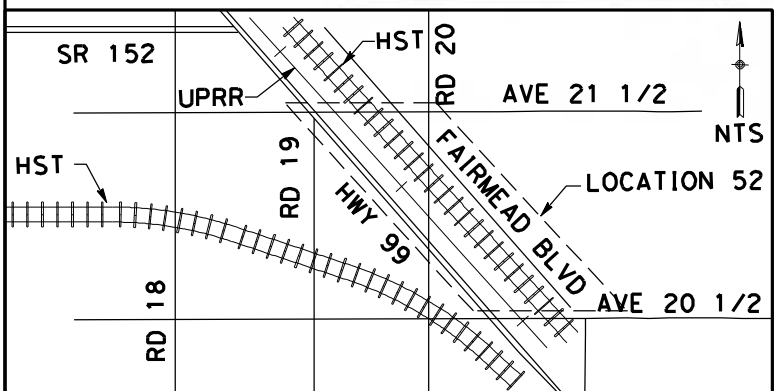
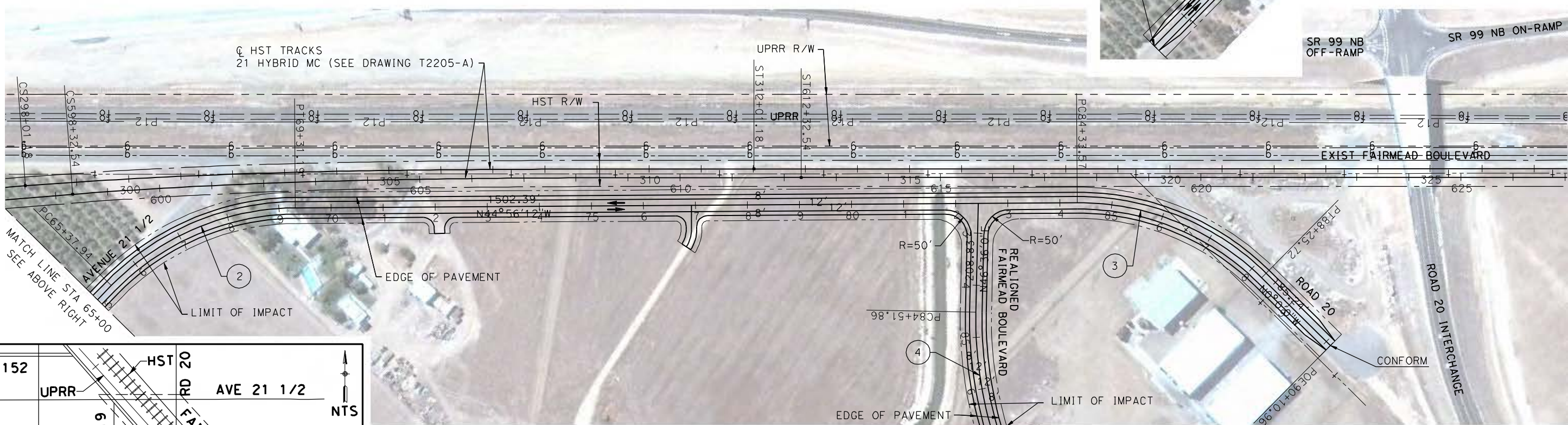
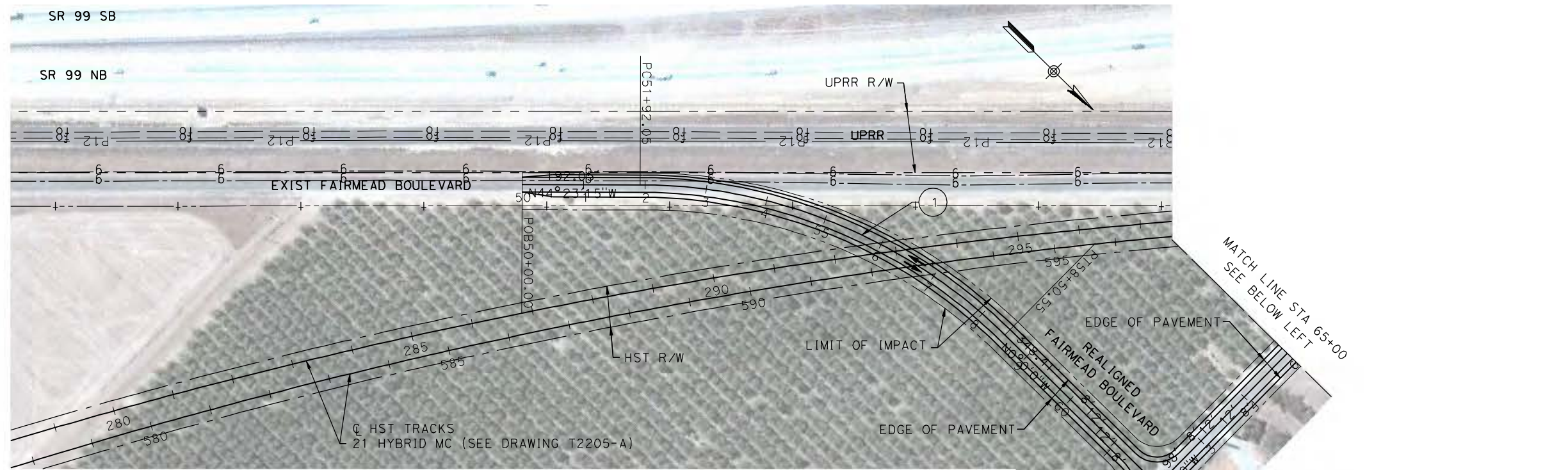
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MERCED CONNECTION - (AVE 21 HYBRID)  
LOCAL ROAD - ROAD 33  
LAYOUT  
SHEET 1 OF 1

CONTRACT NO.  
HST06-007  
DRAWING NO.  
CR4018-A  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

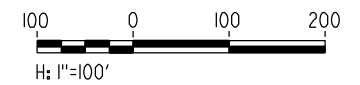


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**CURVE DATA**

No.	R	$\Delta$	T	L
①	850.00	44°23'15"	346.77	658.50
②	500.00	45°3'48"	207.43	393.25
③	500.00	44°56'12"	206.78	392.15
④	750.00	46°36'0"	323.00	609.99



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
FAIRMEAD BLVD  
LAYOUT  
SHEET 1 OF 4

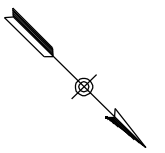
CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9017-B

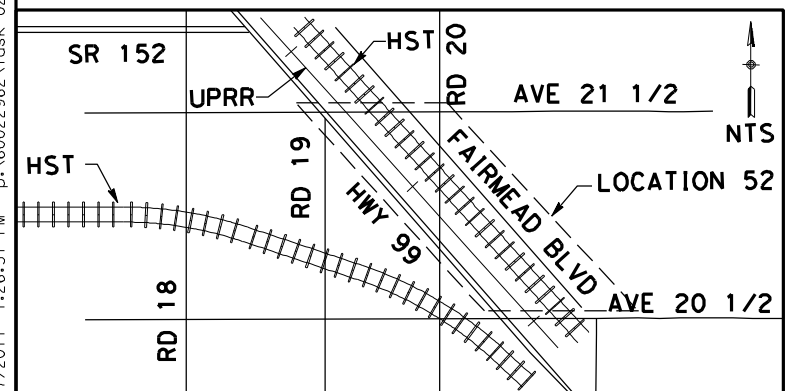
SCALE  
AS SHOWN

SHEET NO.  
### OF ###



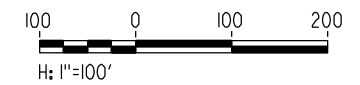


6/27/2011 1:26:31 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 3B - Ave 21 Hybrid\Mye Local Roads\Layout\CR9018-B.dgn



CURVE DATA

No.	R	Δ	T	L
(4)	750.00	46° 36' 0"	323.00	609.99



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
FAIRMEAD BLVD  
LAYOUT  
SHEET 2 OF 4

CONTRACT NO.  
HSR06-007

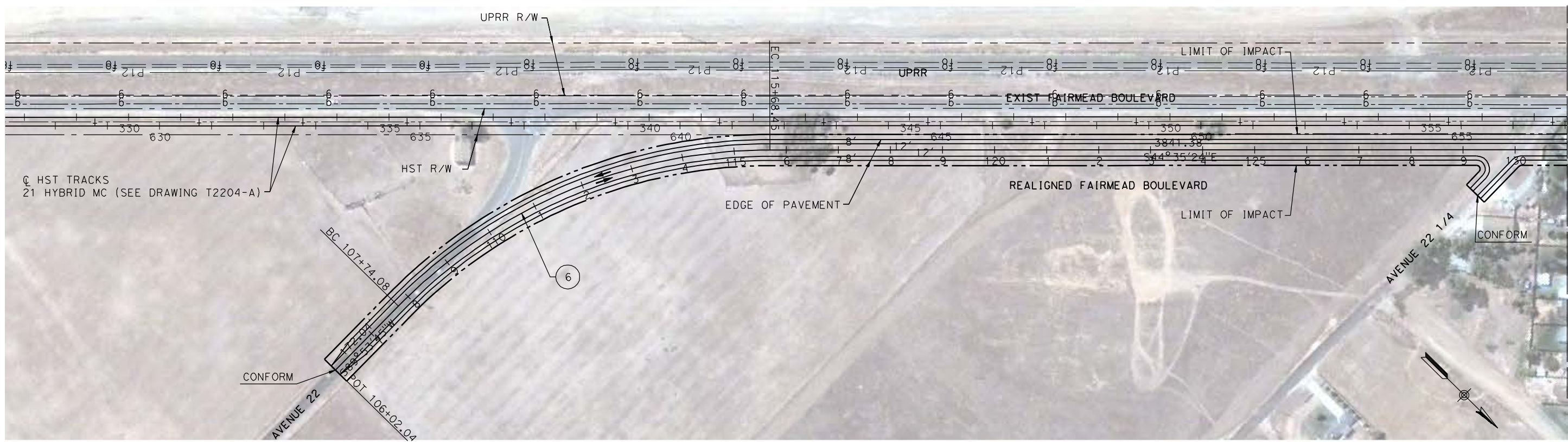
DRAWING NO.  
CR9018-B

SCALE  
AS SHOWN

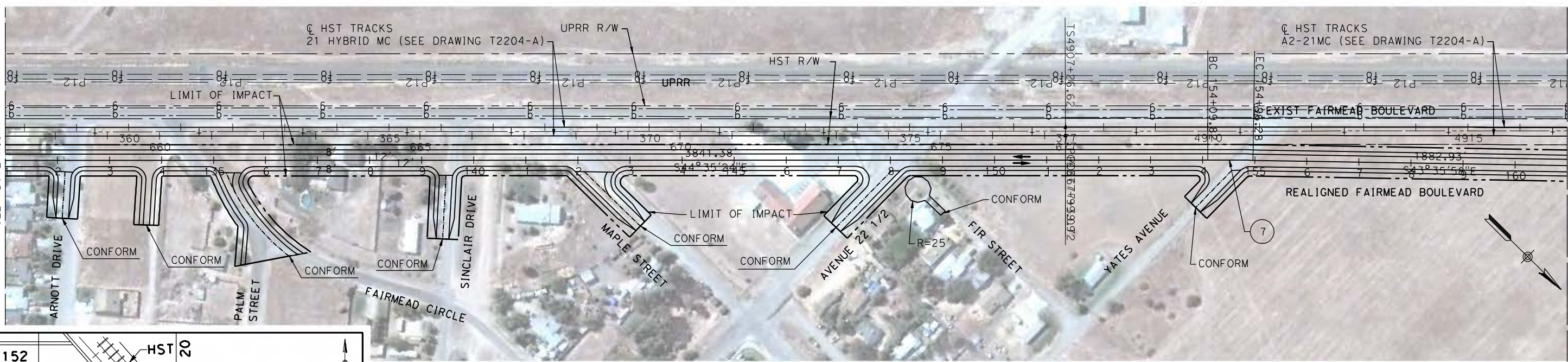
SHEET NO.  
### OF ###



6/27/2011 1:26:41 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid\Layout\CR9019-B.dgn

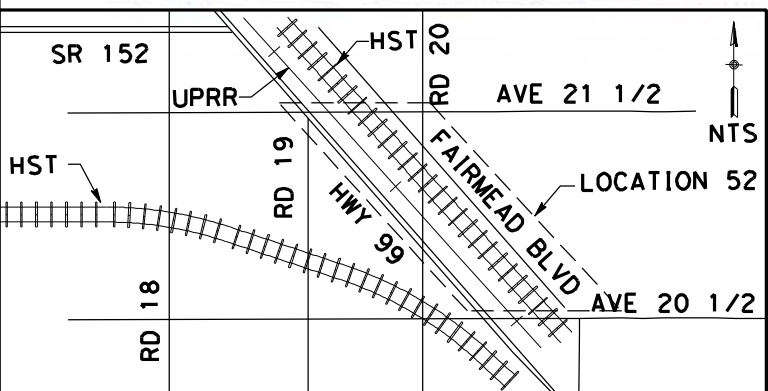


MATCH LINE STA 131+00  
SEE BELOW LEFT



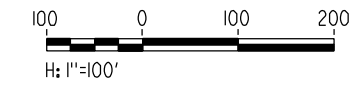
MATCH LINE STA 131+00  
SEE ABOVE RIGHT

MATCH LINE STA 161+00  
SEE DRAWING CR9020-B



CURVE DATA

No.	R	Δ	T	L
⑥	1000.00	45°30'50"	419.48	794.37
⑦	5000.00	0°59'26"	43.23	86.45



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
FAIRMEAD BLVD  
LAYOUT  
SHEET 3 OF 4

CONTRACT NO.  
HSR06-007

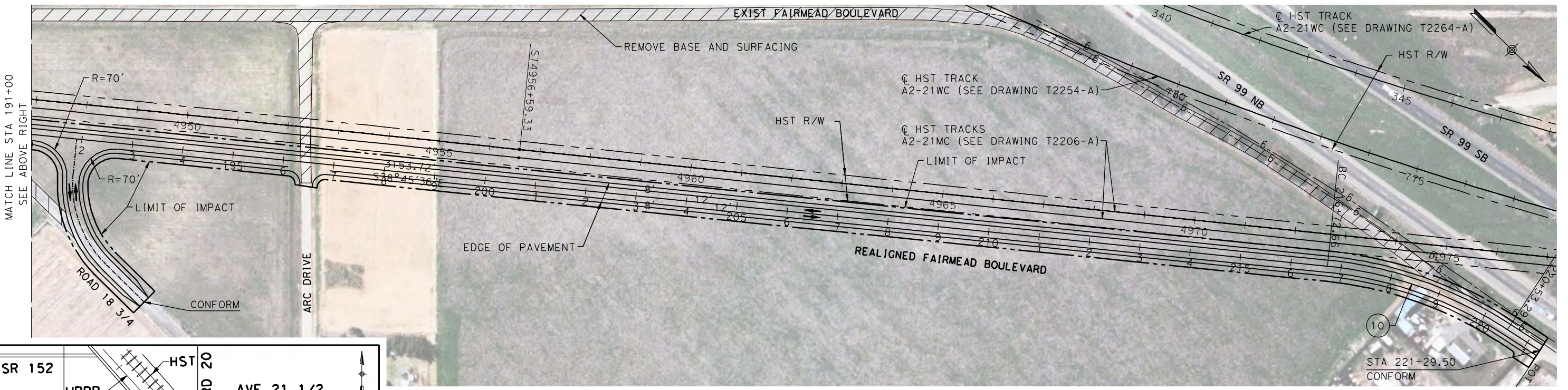
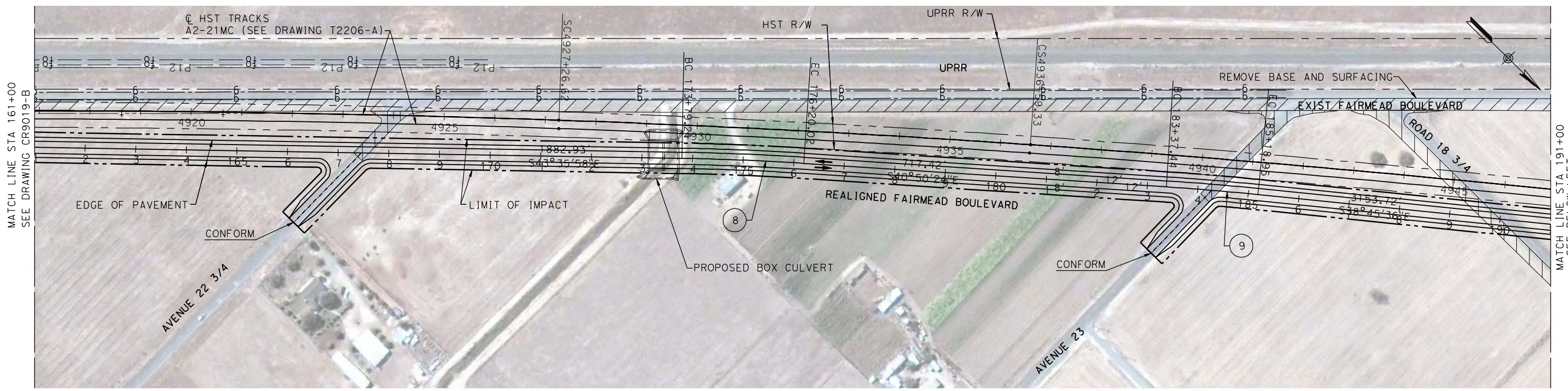
DRAWING NO.  
CR9019-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

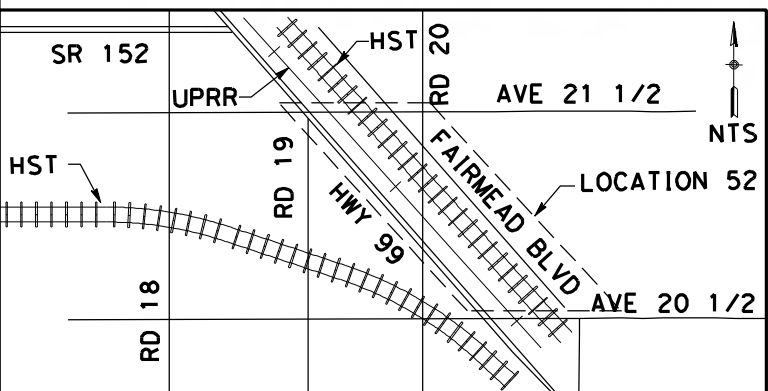


6/27/2011 1:26:57 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\volume 3B - Ave 21 Hybrid Wye Local Roads\Layout\CR9020-B.dgn



CURVE DATA

No.	R	Δ	T	L
(8)	5000.00	87°14'26"	120.43	240.81
(9)	5000.00	87°55'12"	90.76	181.51
(10)	800.00	62°44'23"	193.99	380.63



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
FAIRMEAD BLVD  
LAYOUT  
SHEET 4 OF 4

CONTRACT NO.  
HSR06-007

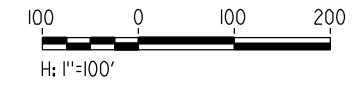
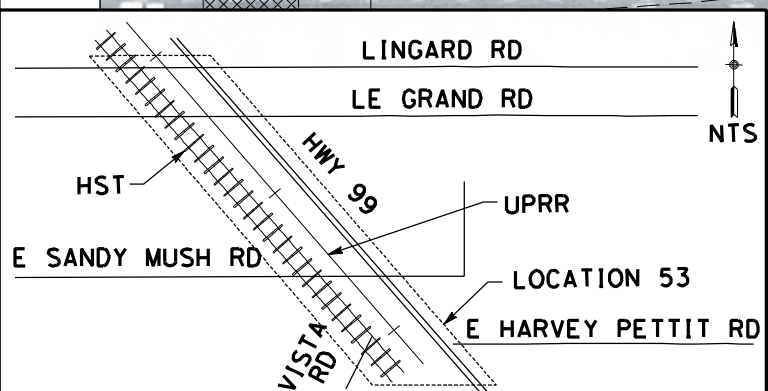
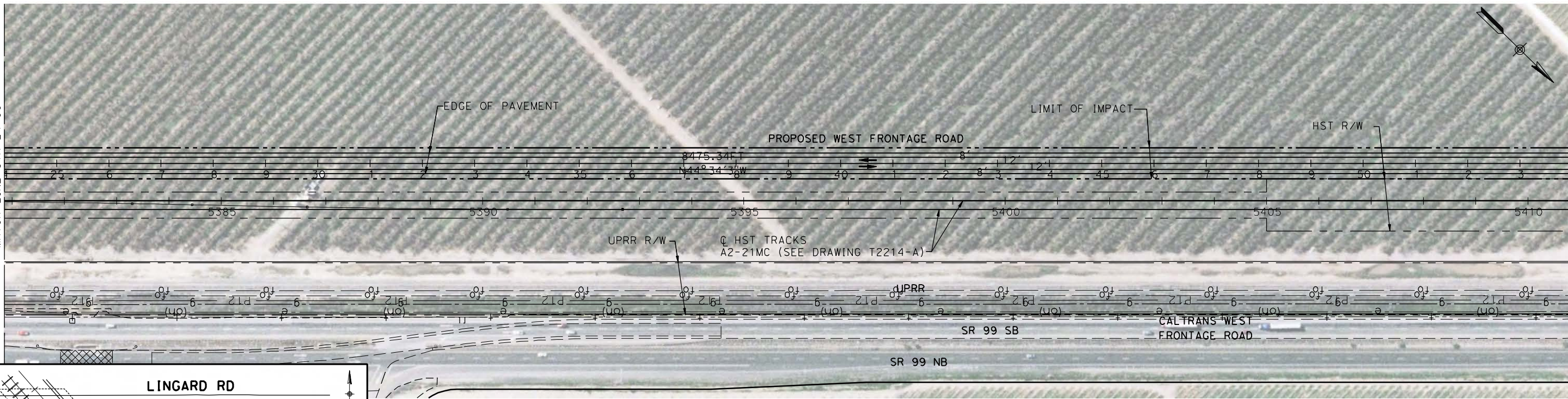
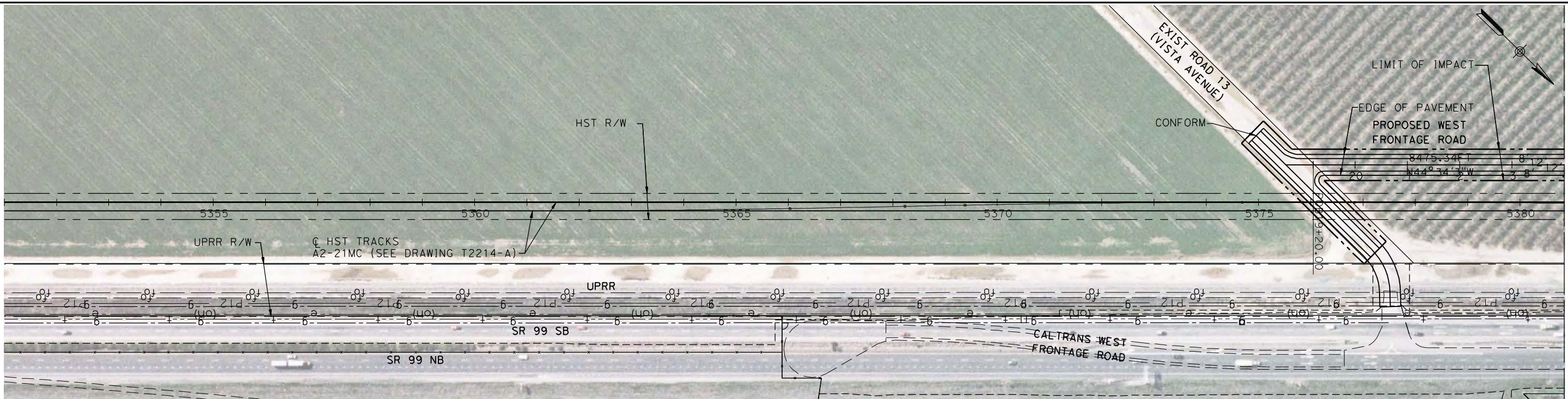
DRAWING NO.  
CR9020-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 1 OF 8

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9021-B

SCALE  
AS SHOWN

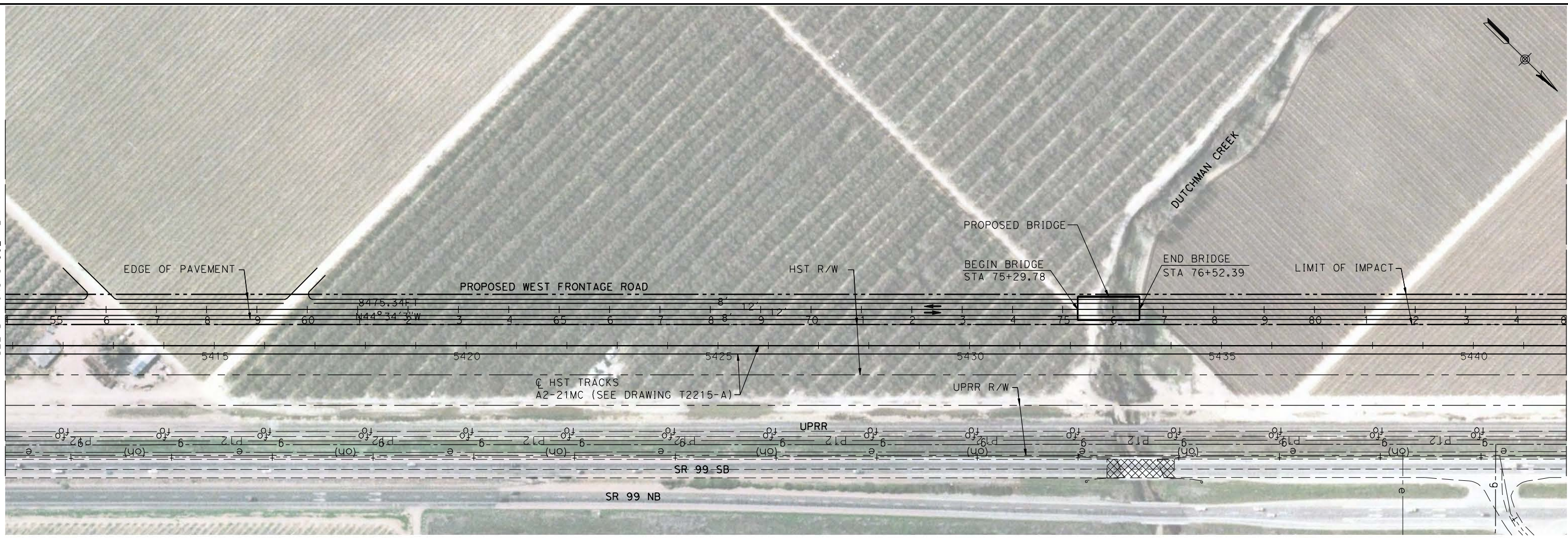
SHEET NO.  
### OF ###



6/27/2011 1:27:39 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid\Ave Local Roads\Layout\CR9022-B.dgn

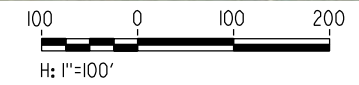
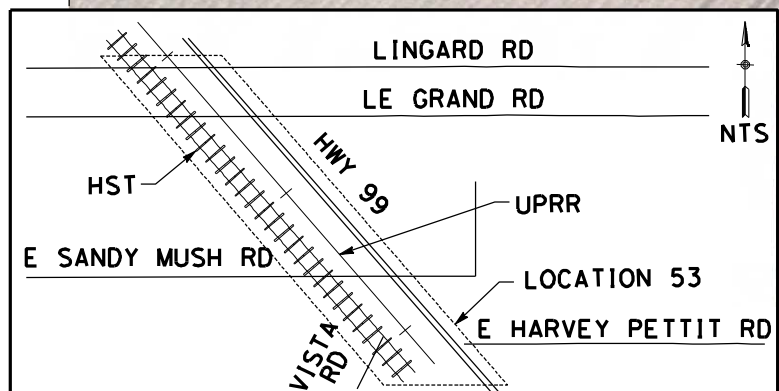
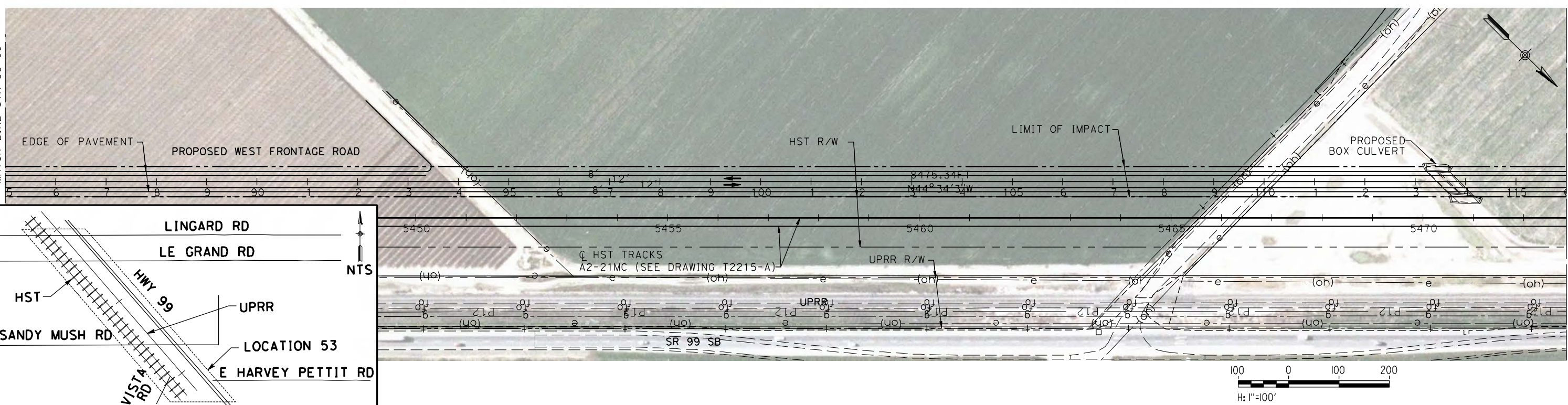
MATCH LINE STA 54+00  
SEE DRAWING CR9021-B

MATCH LINE STA 85+00  
SEE BELOW LEFT



SEE ABOVE RIGHT  
MATCH LINE STA 85+00

MATCH LINE STA 116+00  
SEE DRAWING CR9023-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 2 OF 8

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CR9022-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###

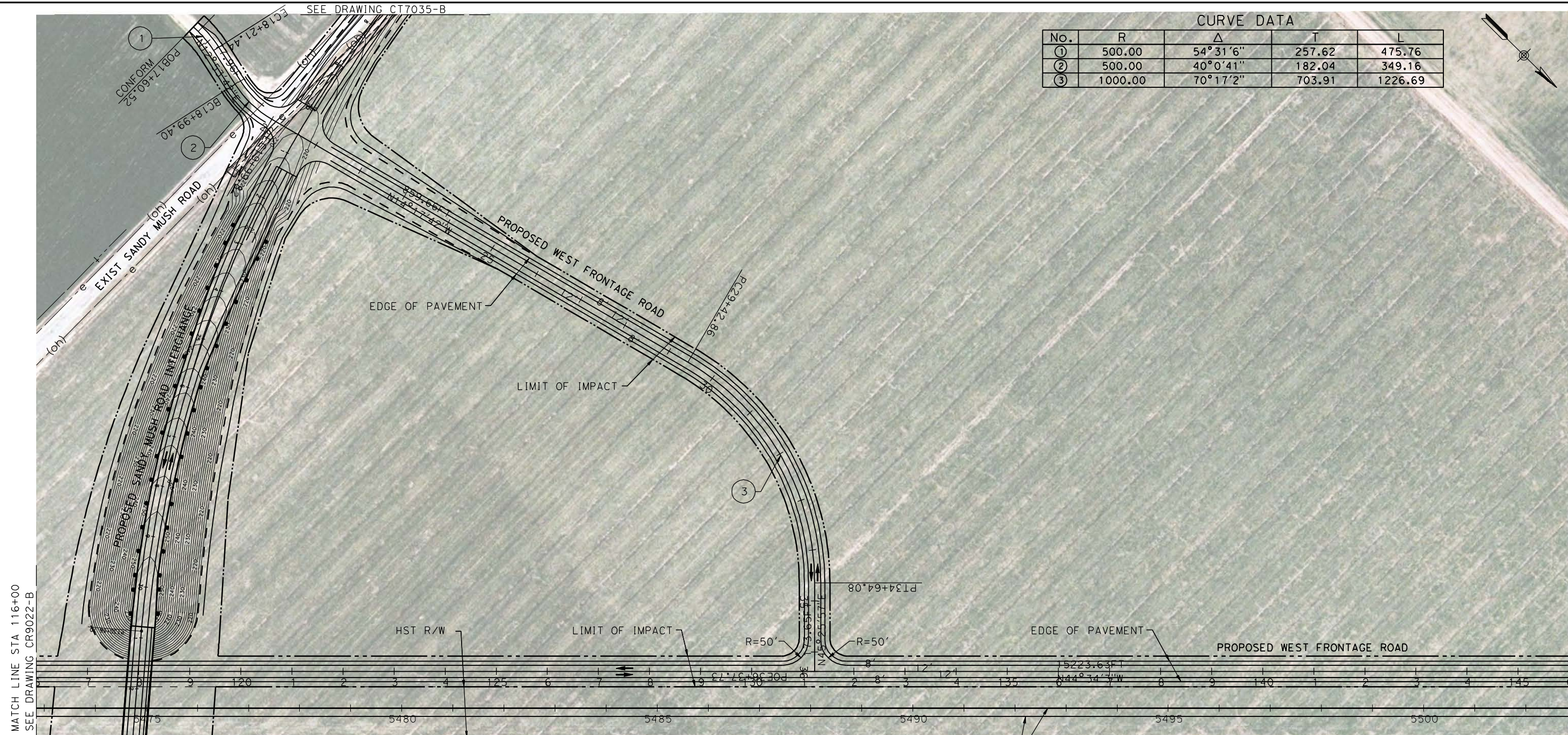
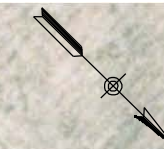


6/27/2011 1:28:02 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid Wye Local Roads\Layout\CR9023-B.dgn

SEE DRAWING CT7035-B

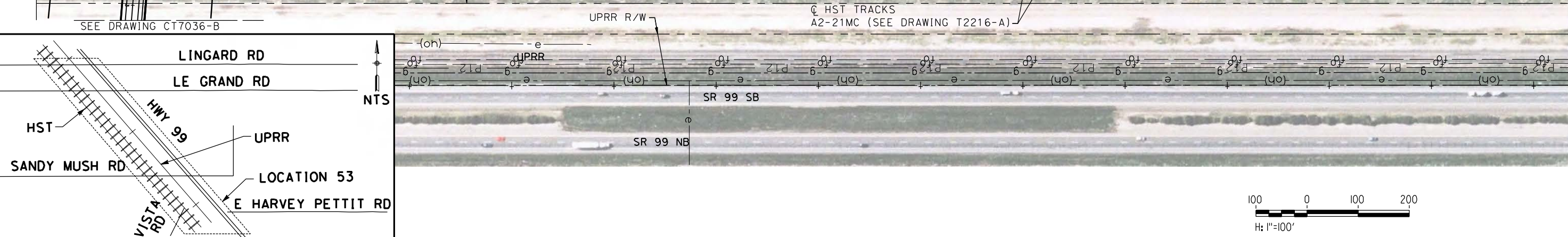
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No.	R	Δ	T	L
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②	500.00	40°0'41"	182.04	349.16
③	1000.00	70°17'2"	703.91	1226.69



MATCH LINE STA 116+00  
SEE DRAWING CR9022-B

MATCH LINE STA 146+00  
SEE DRAWING CR9024-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 3 OF 8

CONTRACT NO.  
HSR06-007

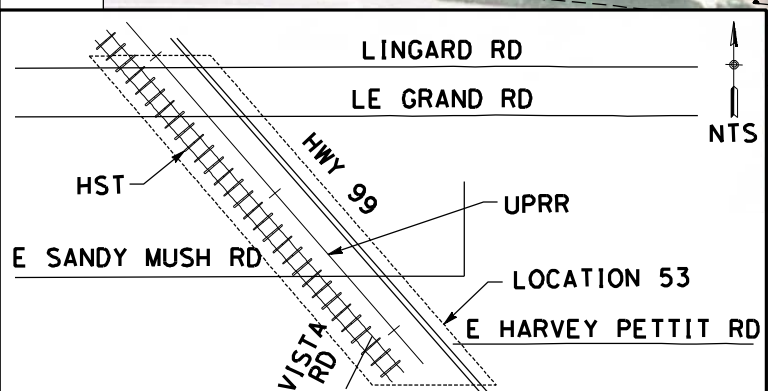
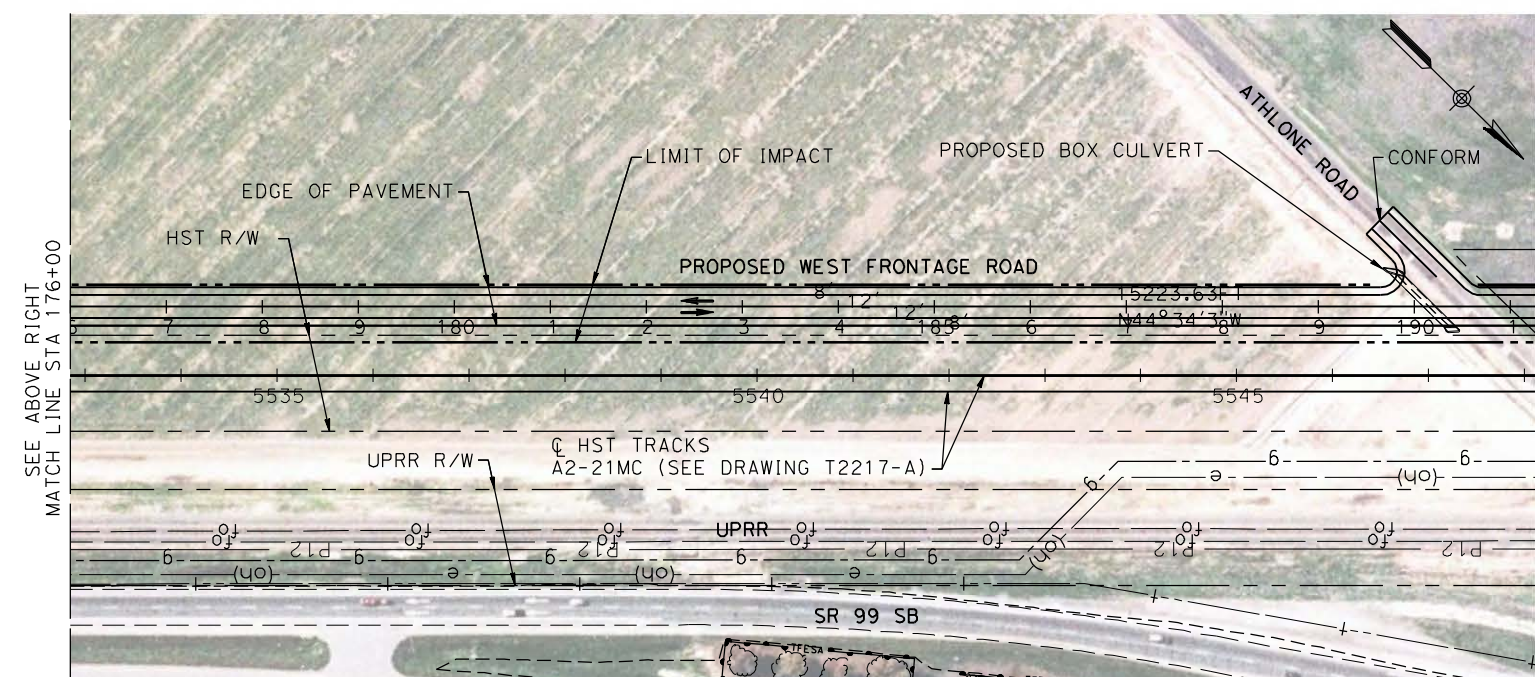
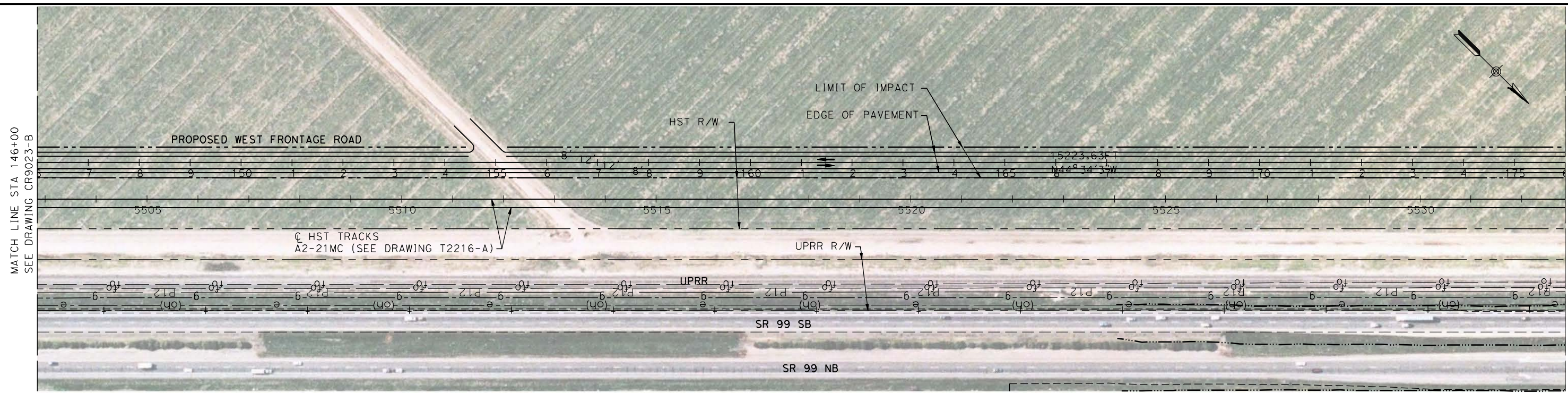
DRAWING NO.  
CR9023-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 4 OF 8

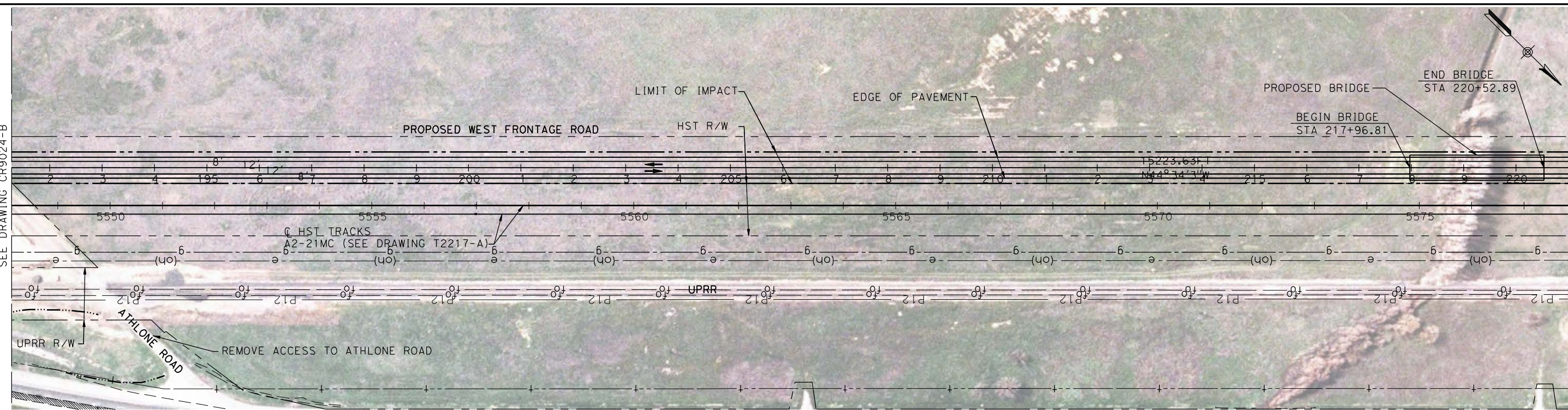
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HSR06-007  
DRAWING NO.  
CR9024-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



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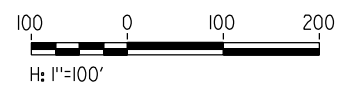
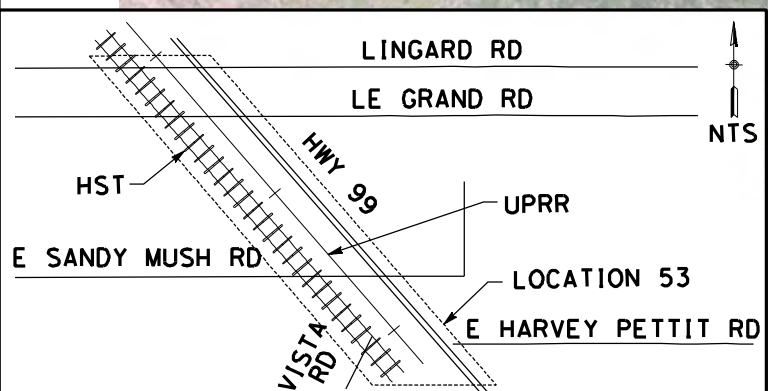
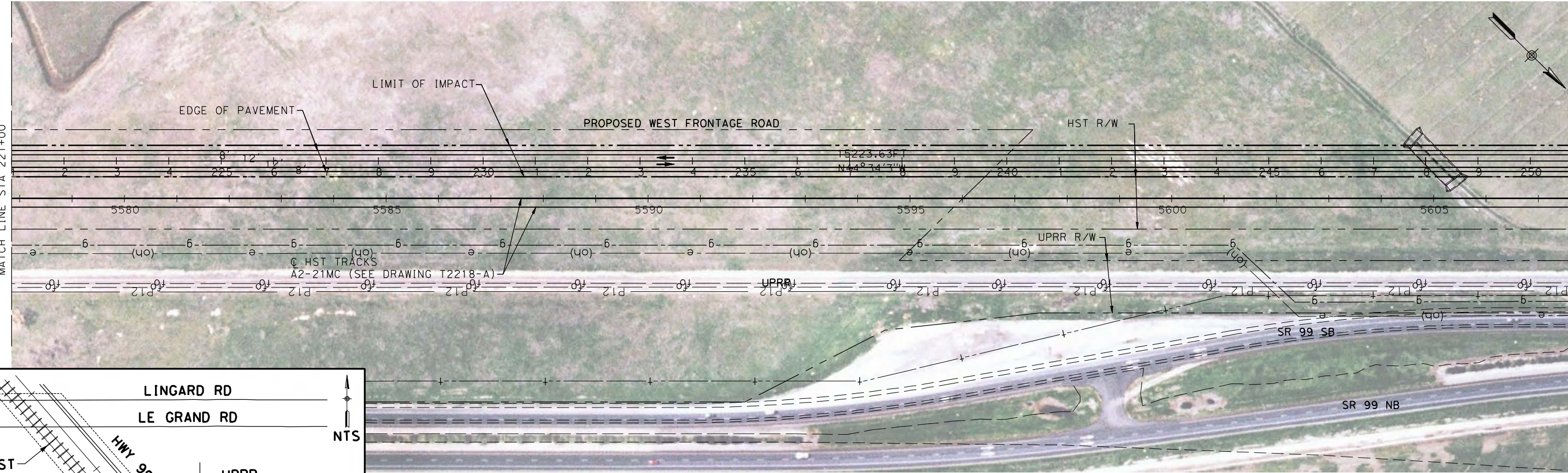
MATCH LINE STA 191+27.40  
SEE DRAWING CR9024-B

MATCH LINE STA 221+00  
SEE BELOW LEFT



SEE ABOVE RIGHT  
MATCH LINE STA 221+00

MATCH LINE STA 251+00  
SEE DRAWING CR9026-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 5 OF 8

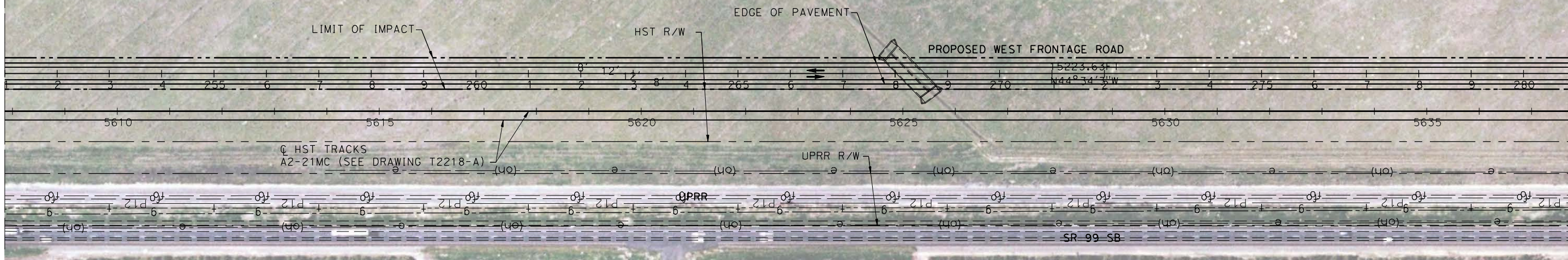
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HSR06-007  
DRAWING NO.  
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SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 1:29:05 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid\Local Roads\Layout\CR9026-B.dgn

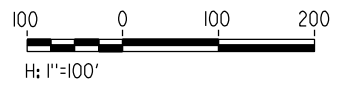
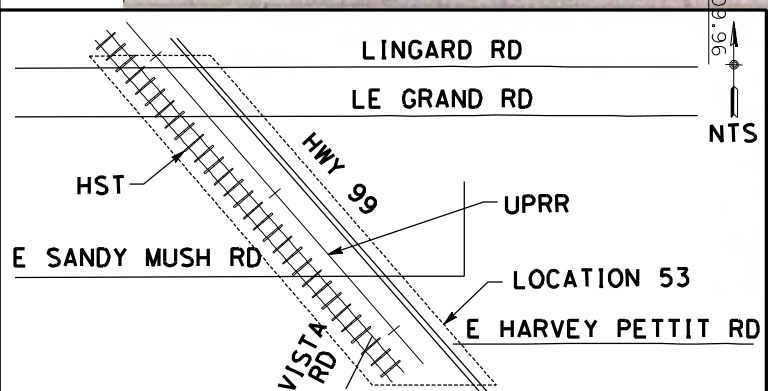
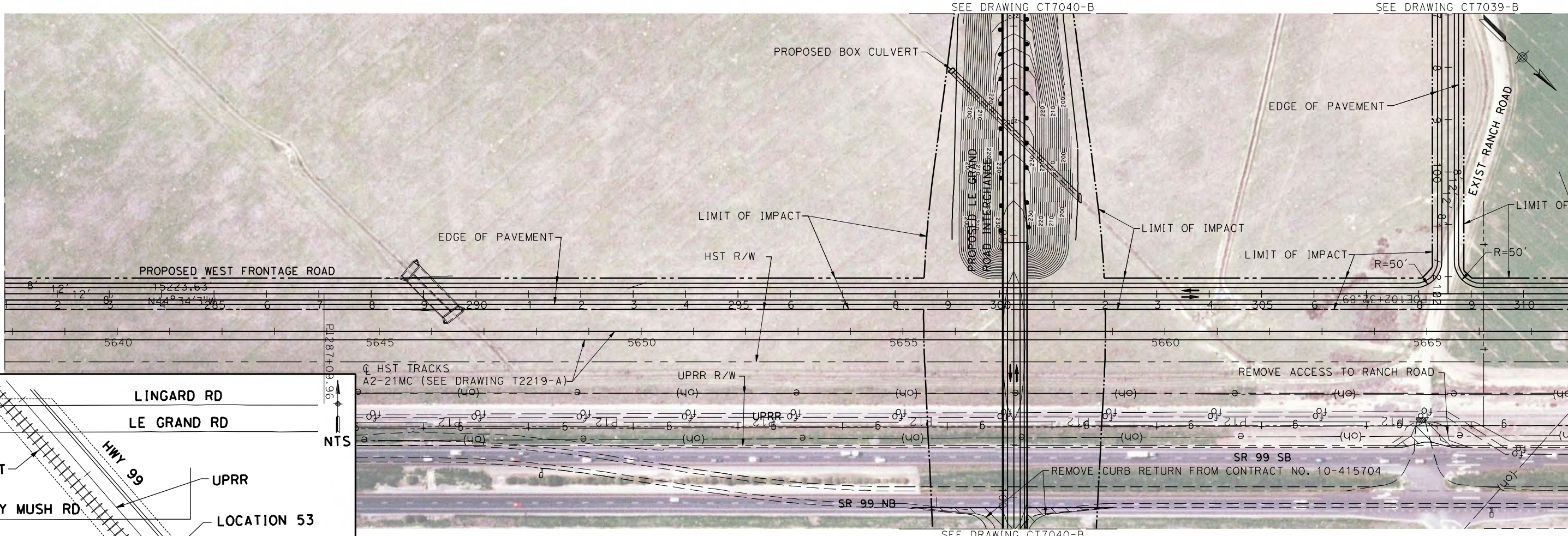
MATCH LINE STA 251+00  
SEE DRAWING CR9025-B

MATCH LINE STA 281+00  
SEE BELOW LEFT



SEE ABOVE RIGHT  
MATCH LINE STA 281+00

MATCH LINE STA 311+00  
SEE DRAWING CR9027-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 6 OF 8

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9026-B

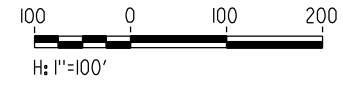
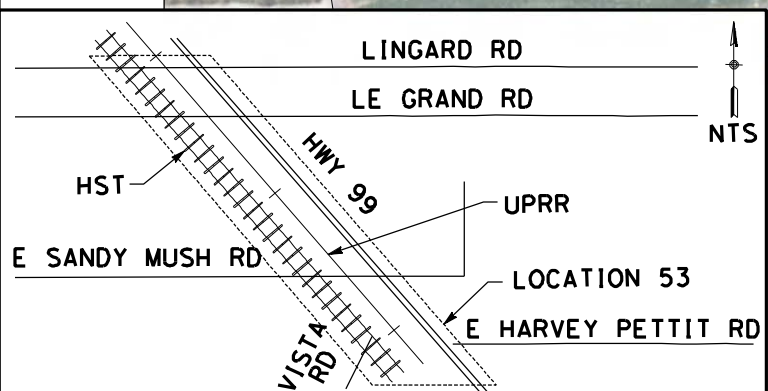
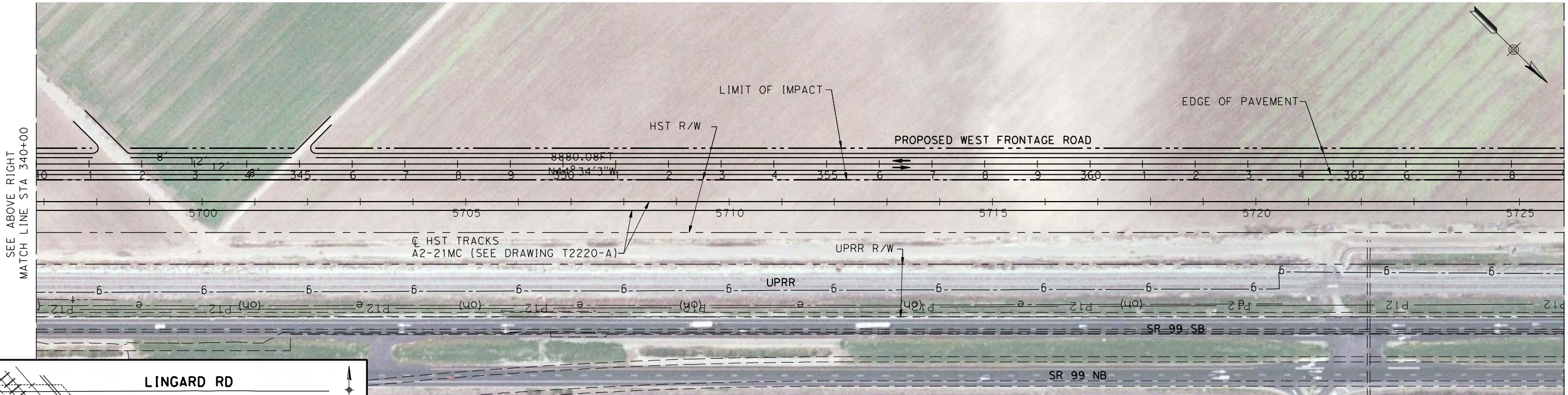
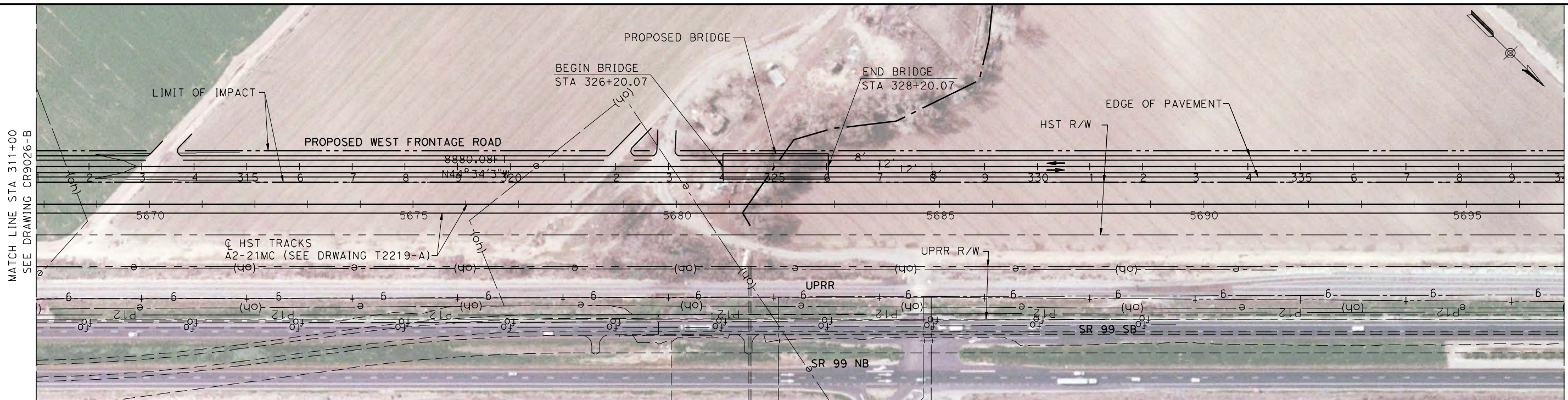
SCALE  
AS SHOWN

SHEET NO.  
### OF ###



p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\_package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid\Layout\CR9027-B.dgn

6/27/2011 1:29:26 PM



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
Technical Services, Inc.  
2020 L Street, Suite 300  
Sacramento, CA 95811

**CH2MHILL**

**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 7 OF 8

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9027-B

SCALE  
AS SHOWN

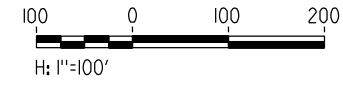
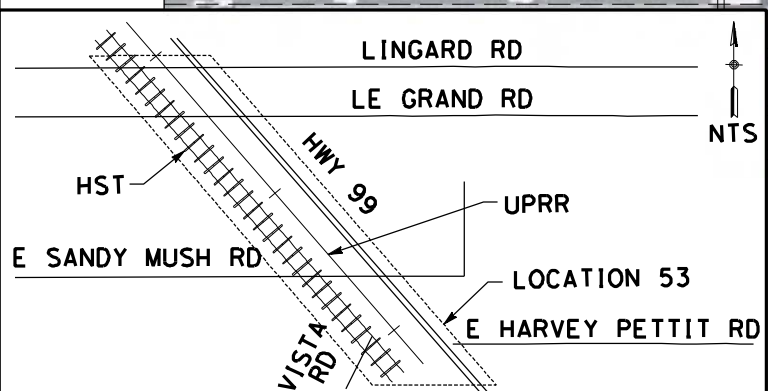
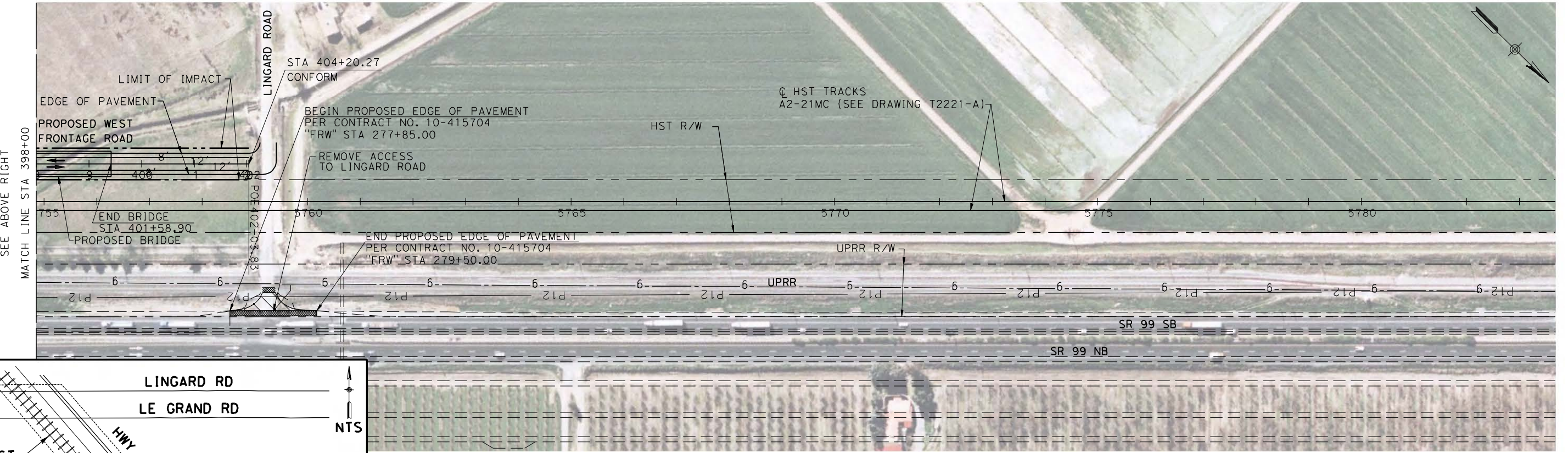
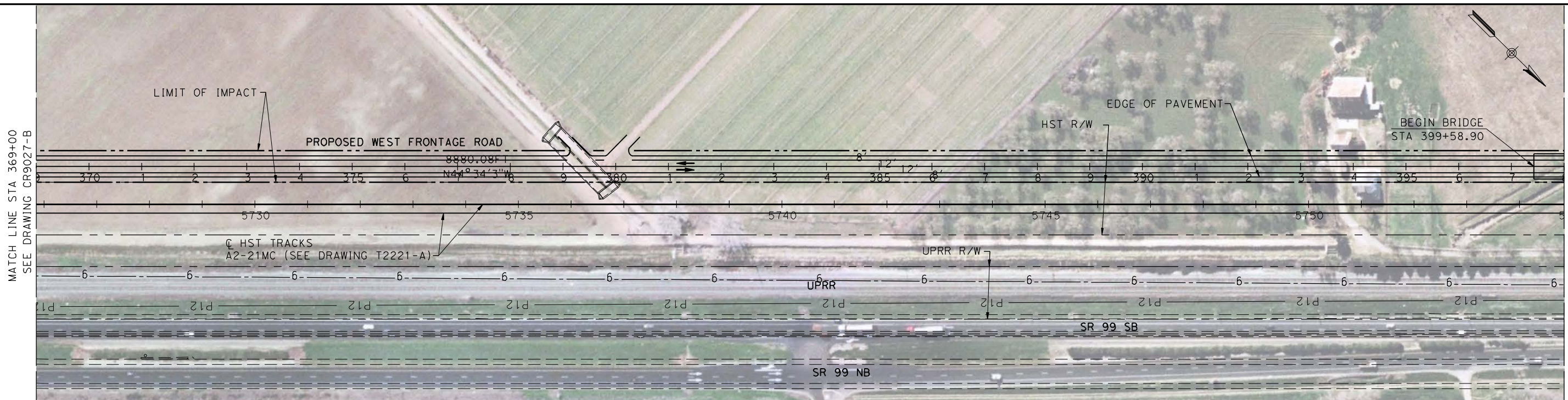
SHEET NO.  
### OF ###



p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid\Mye Local Roads\Layout\CR9028-B.dgn

6/27/2011 1:29:48 PM

oyeiled



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
PROPOSED WEST FRONTAGE ROAD  
LAYOUT  
SHEET 8 OF 8

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9028-B

SCALE  
AS SHOWN

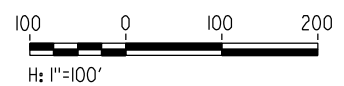
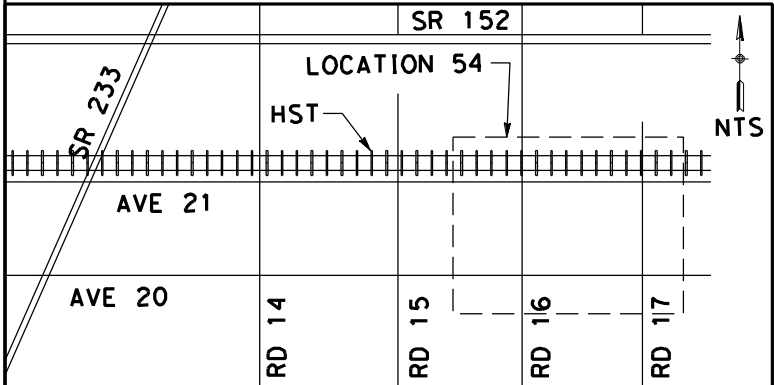
SHEET NO.  
### OF ###



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SEE DRAWING CR9032-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
AVENUE 21  
LAYOUT  
STA 63+99.89 TO STA 77+00

CONTRACT NO.  
HSR06-007

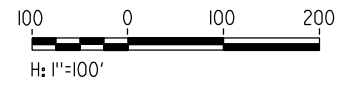
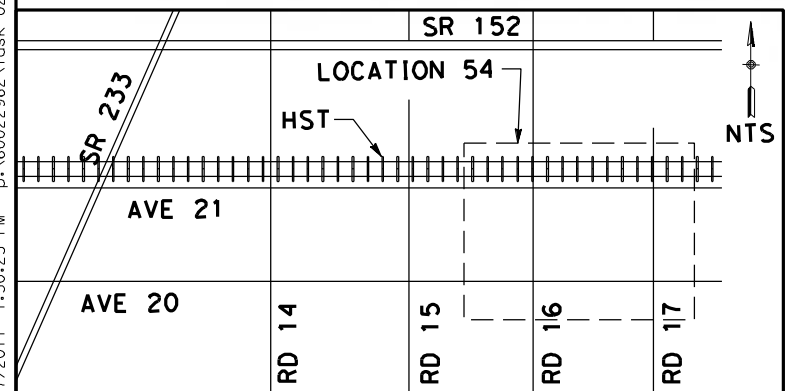
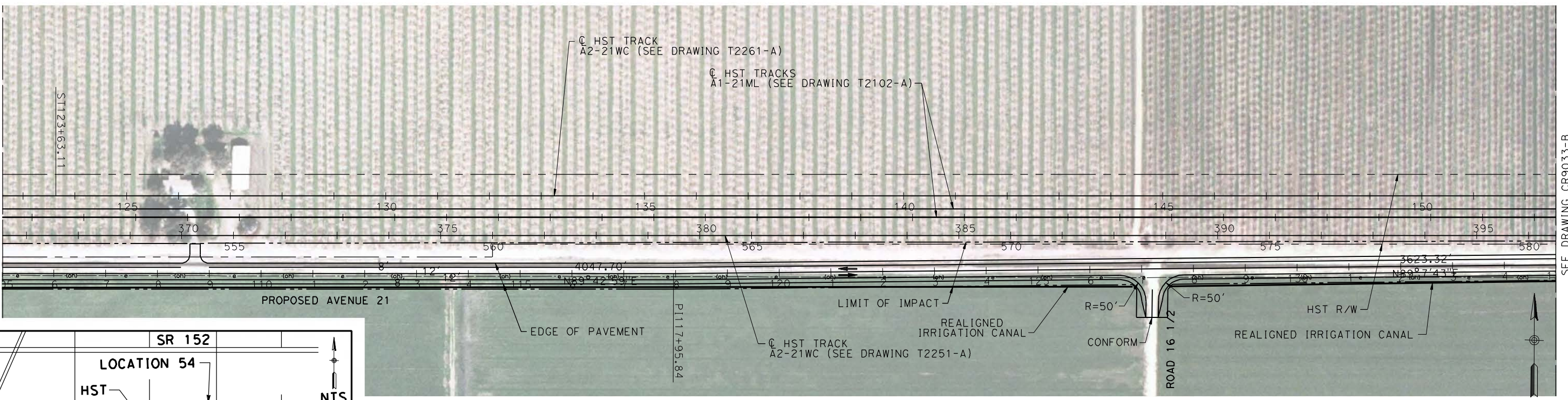
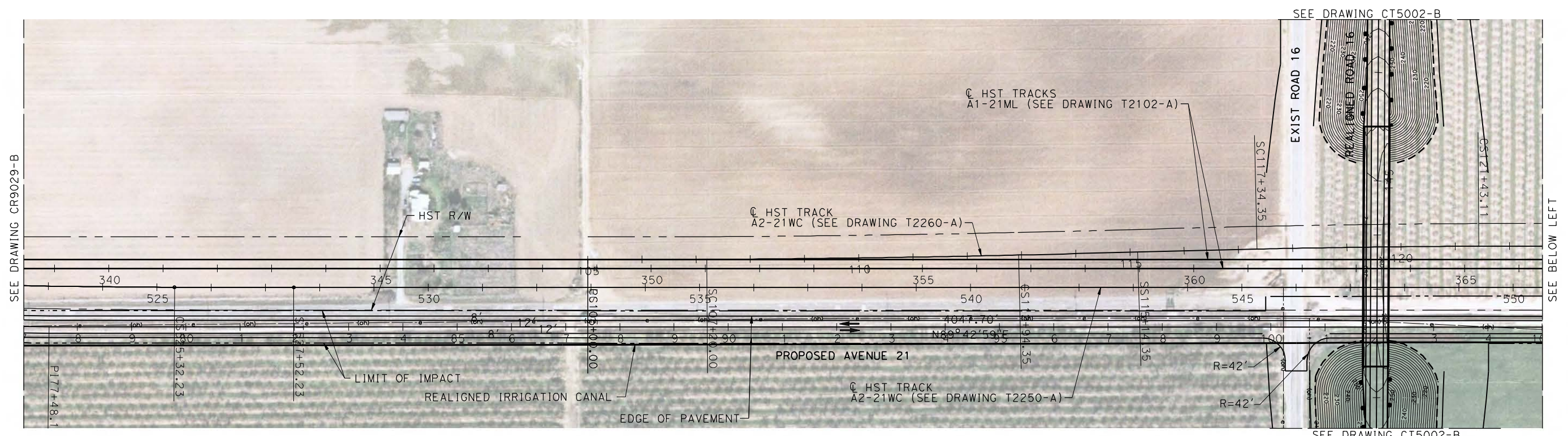
DRAWING NO.  
CR9029-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
AVENUE 21  
LAYOUT  
STA 77+00 TO STA 135+00

CONTRACT NO.  
HSR06-007

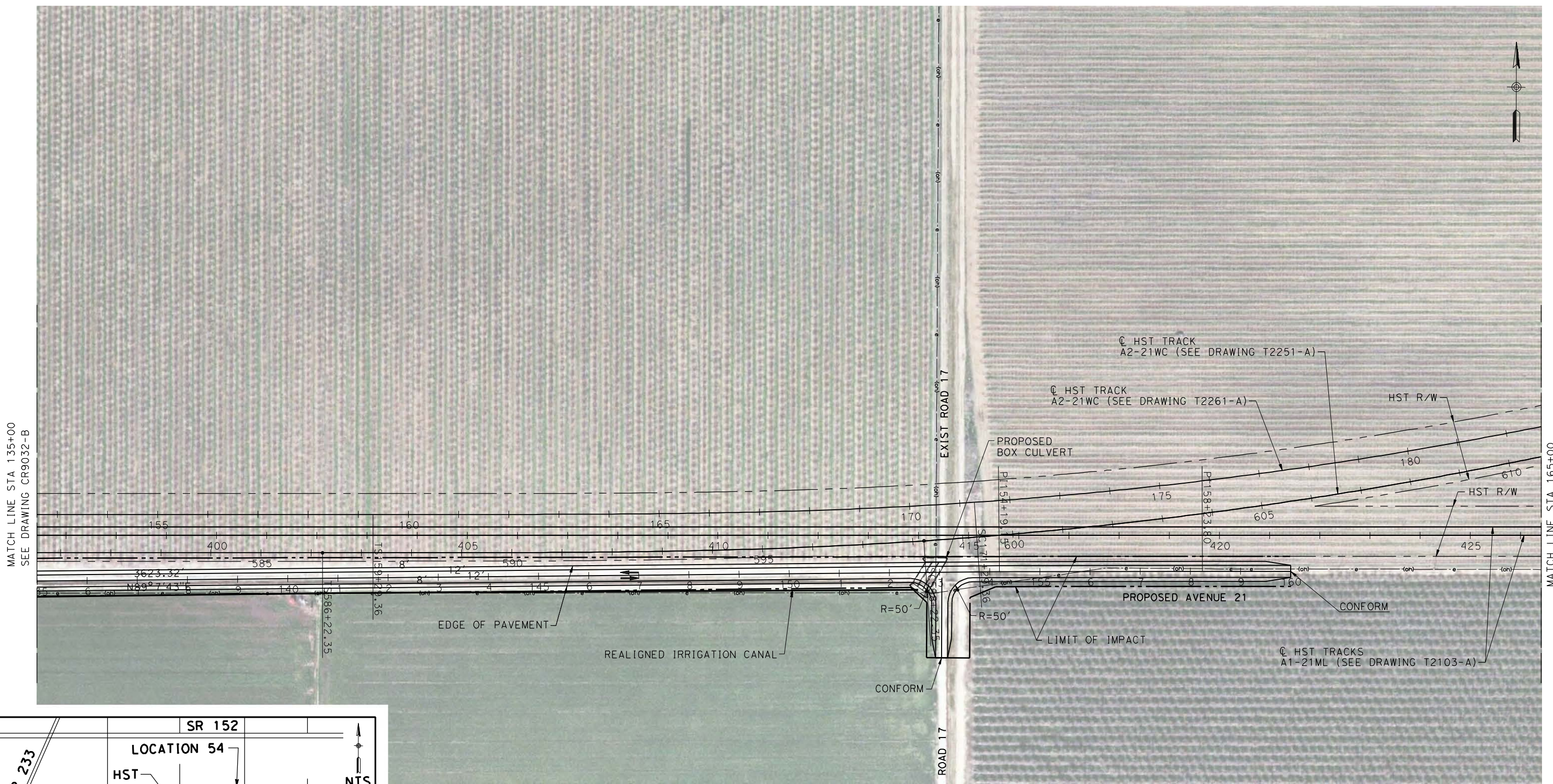
DRAWING NO.  
CR9032-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###

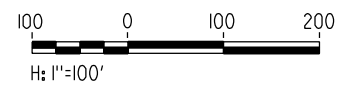
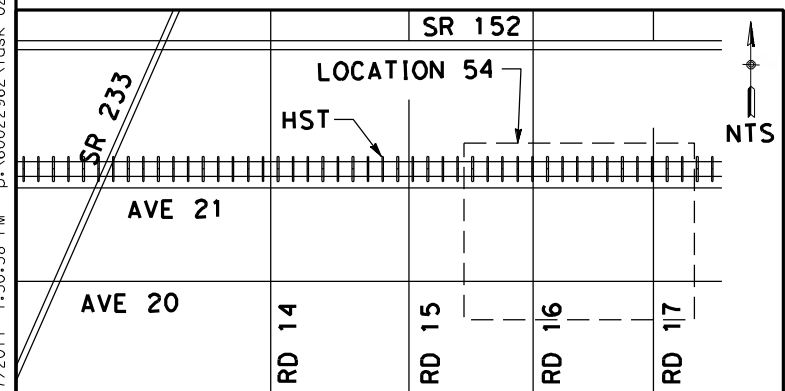


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MATCH LINE STA 135+00  
SEE DRAWING CR9032-B

MATCH LINE STA 165+00  
SEE DRAWING CR9034-B



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
AVENUE 21  
LAYOUT  
STA 135+00 TO STA 160+00

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9033-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###



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 oyeled



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
 DRAWN BY  
A. TRINH  
 CHECKED BY  
A. SILVER  
 IN CHARGE  
A. BOONE  
 DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

**AECOM**  
 Technical Services, Inc.  
 2020 L Street, Suite 300  
 Sacramento, CA 95811  
**CH2MHILL**

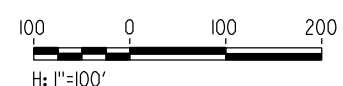
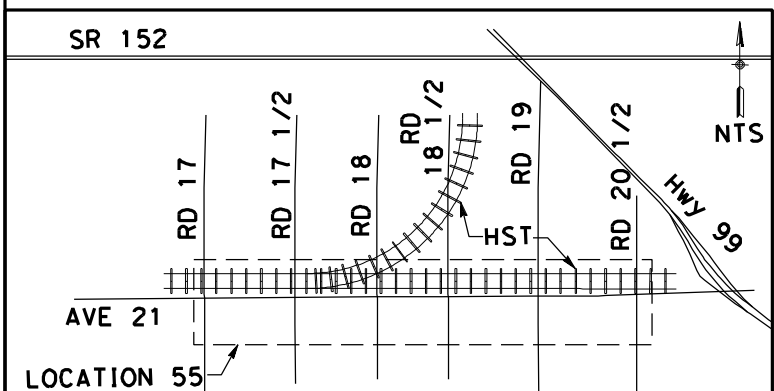


**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**  
 UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
 ROAD 18  
 LAYOUT

CONTRACT NO.  
HSR06-007  
 DRAWING NO.  
CR9035-B  
 SCALE  
AS SHOWN  
 SHEET NO.  
### OF ###



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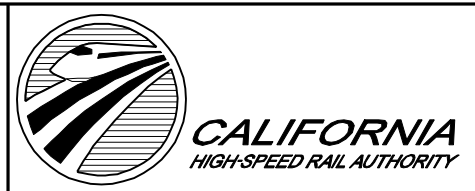


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE - (AVE 21 HYBRID)  
ROAD 19 & ROAD 19 1/2  
LAYOUT

CONTRACT NO.  
HSR06-007

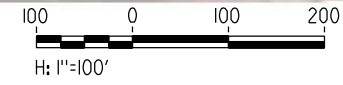
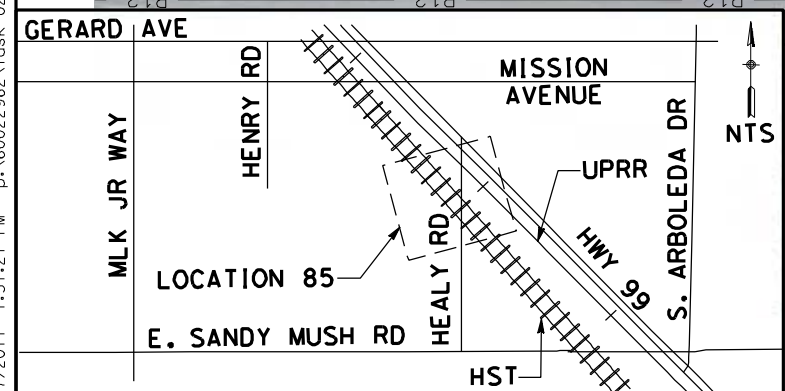
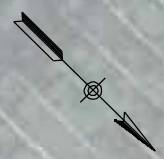
DRAWING NO.  
CR9040-B

SCALE  
AS SHOWN

SHEET NO.  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
D. AYELE  
DRAWN BY  
C. DELOS REYES  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



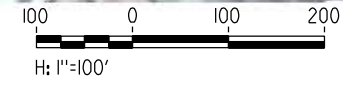
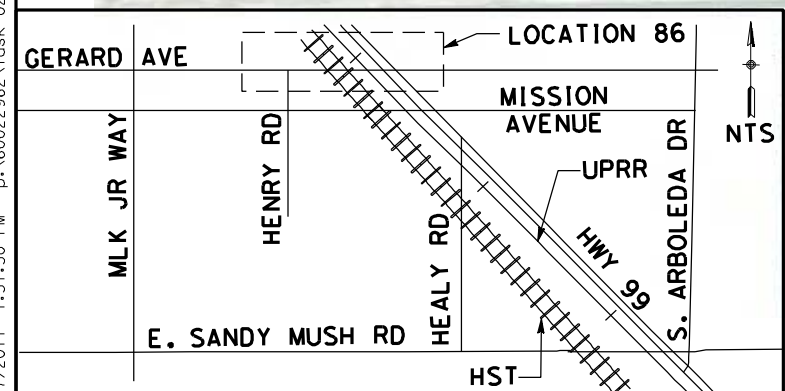
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
HEALY ROAD  
LAYOUT

CONTRACT NO.  
HSR06-007  
DRAWING NO.  
CR9041-B  
SCALE  
AS SHOWN  
SHEET NO.  
### OF ###



6/27/2011 1:31:30 PM p:\60022962\task 02\_merced-fresno\cadd\civil\sheet\package 4 - ave 21 hybrid\Volume 3B - Ave 21 Hybrid Wye Local Roads\Layout\CR9042-B.dgn



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
D. AYELE  
DRAWN BY  
C. DELOS REYES  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET  
15% DESIGN  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

UPRR/SR99 MERCED - (AVE 21 HYBRID)  
GERARD AVENUE/CALTRANS FRONTAGE ROAD  
LAYOUT

CONTRACT NO.  
HSR06-007

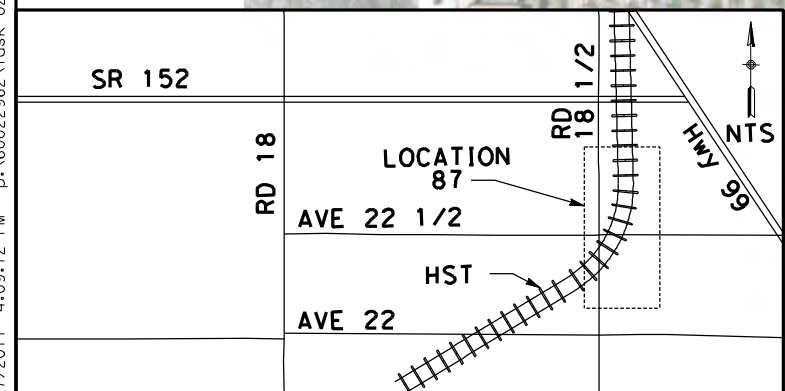
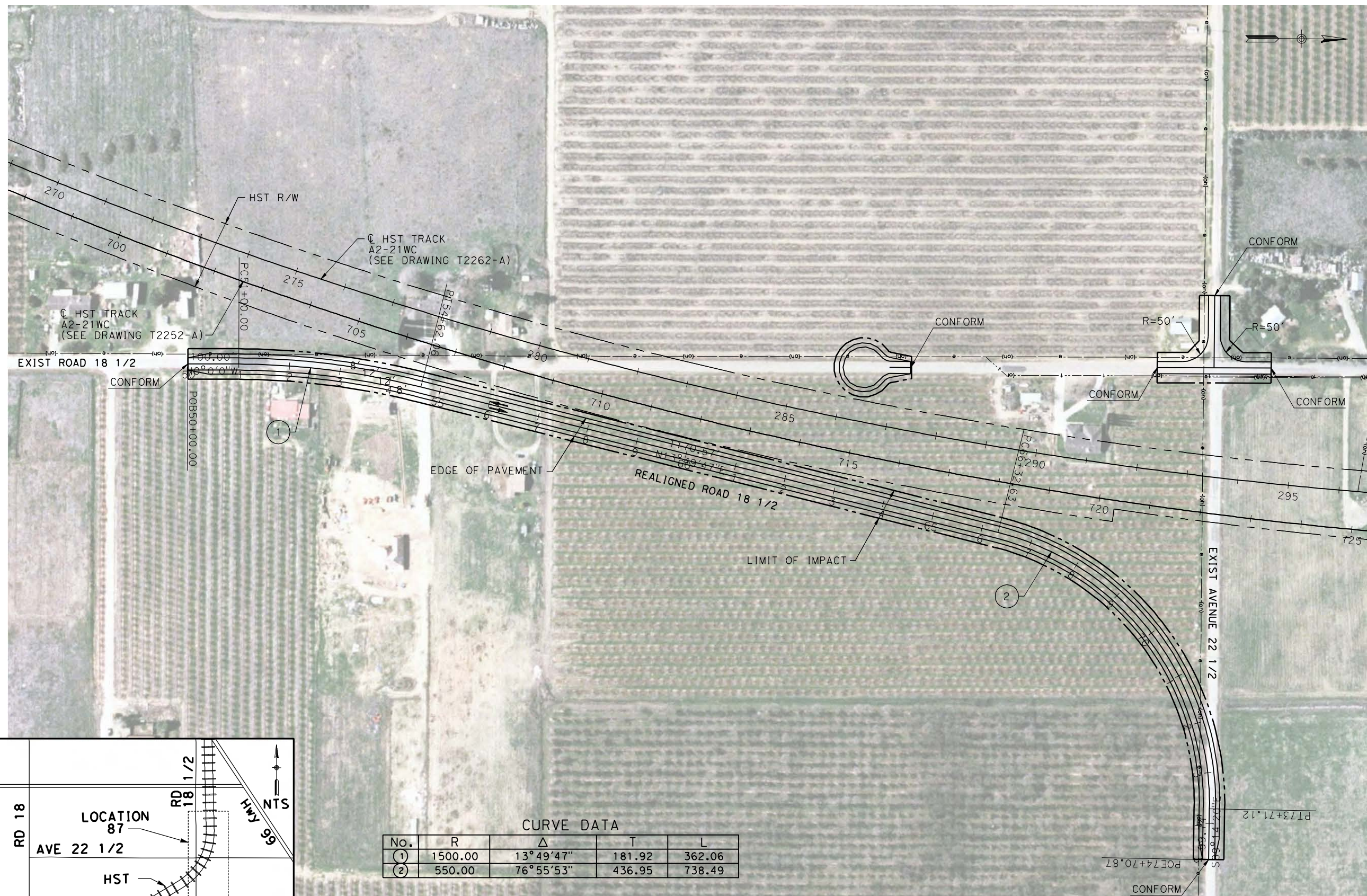
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SCALE  
AS SHOWN

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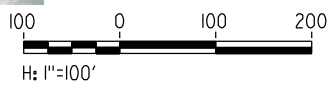


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**CURVE DATA**

No.	R	Δ	T	L
①	1500.00	13°49'47"	181.92	362.06
②	550.00	76°55'53"	436.95	738.49



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
R. LI  
DRAWN BY  
A. TRINH  
CHECKED BY  
A. SILVER  
IN CHARGE  
A. BOONE  
DATE  
06/30/2011

**RECORD SET**  
**15% DESIGN**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**MERCED TO FRESNO**

UPRR/SR99 MAINLINE/WYE - (AVE 21 HYBRID)  
ROAD 18 1/2  
LAYOUT  
STA 50+00 TO STA 74+07.87

CONTRACT NO.  
HSR06-007

DRAWING NO.  
CR9043-B

SCALE  
AS SHOWN

SHEET NO.  
### OF ###



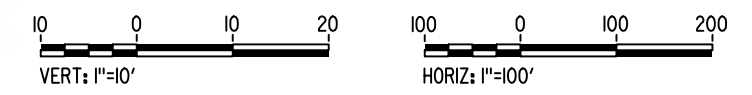
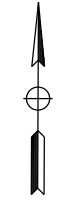
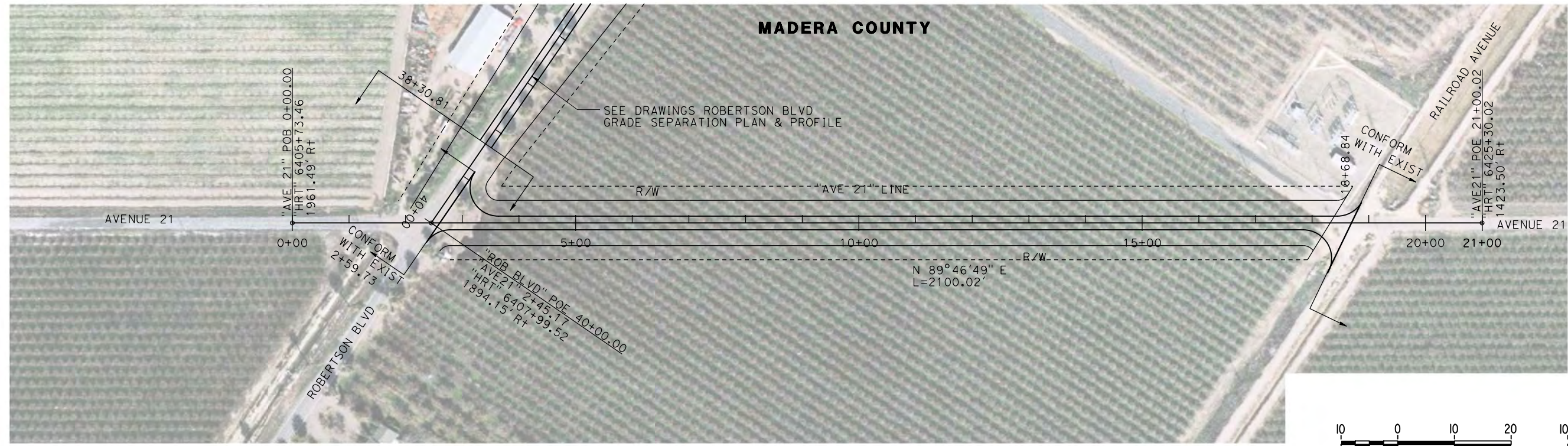




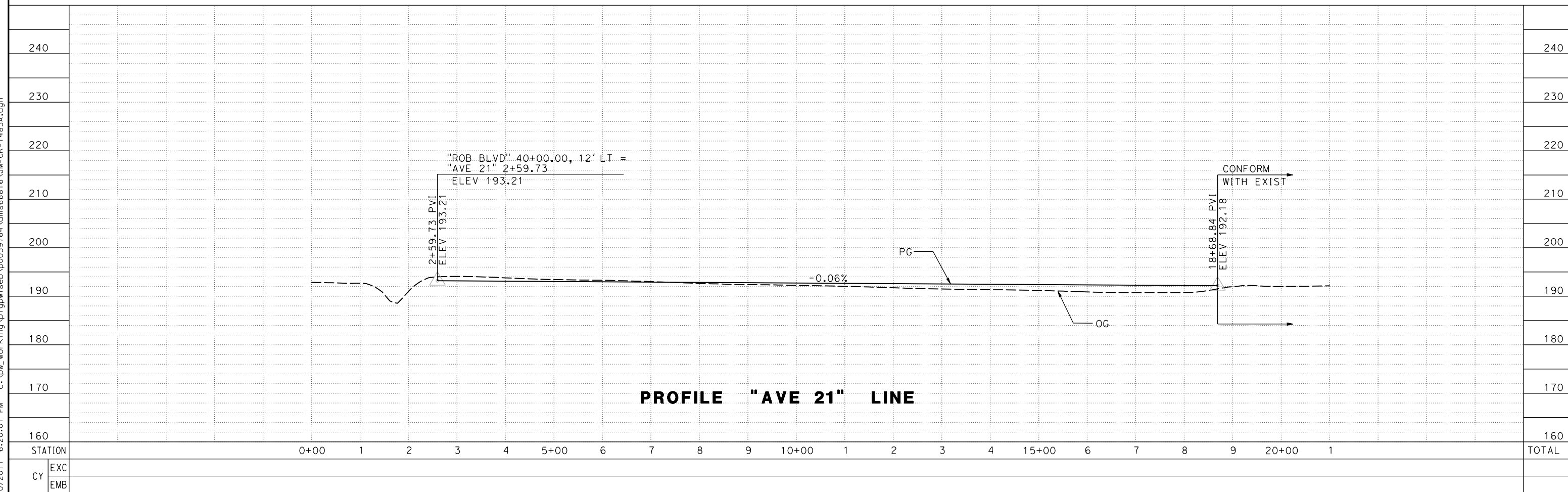




MADERA COUNTY



PLAN



7/20/2011 6:20:01 PM c:\pw\_working\ptg\pwiseb\p0039764\dms66816\JM-CR-1483A.dgn

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**P. JACOBY**

DRAWN BY  
**ALBERT S.**

CHECKED BY  
**RESHMA C.**

IN CHARGE  
**D. WEMMER**

DATE  
**4/15/2011**

**15% DRAFT  
SUBMITTAL  
FOR INTERNAL  
USE ONLY**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
MERCED TO FRESNO**

BNSF MAIN LINE  
AVENUE 24/SR152/AVENUE 21  
AVENUE 21  
PLAN AND PROFILE

CONTRACT NO.  
HSR08-05

DRAWING NO.  
CR1483A

SCALE  
AS SHOWN

SHEET NO.  
1 OF 1