

STAFF REPORT

DATE: April 12, 2018
TO: Bicycling, Transportation, and Street Safety Commission
FROM: Kevin Fong, Senior Civil Engineer
SUBJECT: Richards Boulevard Interchange Improvements, CIP No. 8730 (30% Design)

Recommendation

Informational

Background and Analysis

City Council approved entering into a cooperative agreement with Caltrans, in which the City would not have to pay for review of Plan Approval and Environmental Documents (PA&ED). The City's consultant, Mark Thomas and Company (MT&Co.) is working on the geometric approval drawing (GAD), the initial study, and environmental assessment for Caltrans review, and approval. Fehr and Peers is working on the transportation analysis report (TAR), which will be incorporated into the environmental assessment.

The TAR highlights travel demand forecasting, traffic operations analysis of existing, construction, and future conditions, and takes into account the layout of the facilities, and developments. Fehr and Peers completed their initial TAR, and are revising it based on the traffic impacts of future developments, such as Lincoln 40, Nishi, and the Davis Archway.

A sample of the average daily traffic (ADT) for the existing conditions, construction year, and design year are shown below:

Scenario	Year	I-80 east of Olive Dr		Richards Blvd at I-80	
		Annual ADT	Peak Hour	Annual ADT	Peak Hour
Existing	2016	133,600	8,898	23,950	1,609
Construction Year	2022	144,350	9,620	27,920	1,890
Design Year	2042	180,180	12,000	41,160	2,800

Source: Fehr & Peers, 2018

Table 1. Forecasted Average Daily Traffic

MT&Co. is completing the 30% design drawing for Caltrans, and City review. The design focuses on intersection, and freeway onramp and off ramp layouts, and will be designed to align with freeway lanes should Caltrans proposed high occupancy vehicle lanes (HOV) on Interstate 80 be constructed. A design exception exhibit for designs which do not meet Caltrans standards for items such as grade, or turn radiuses is also being drafted for Caltrans acceptance. One of the

difficulties faced is the separate bicycle, and pedestrian path which will be adjacent to the freeway overcrossing due to grade and turn radii, as shown in Figure 1 below.

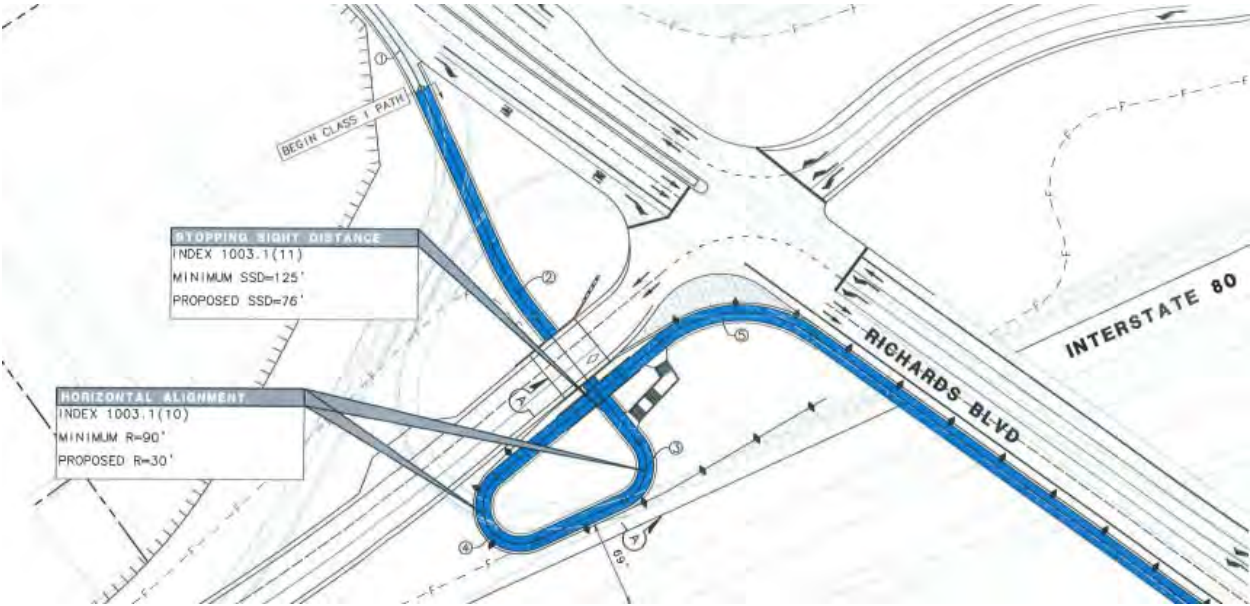


Figure 1. Design Exception Exhibit

Environmental Science Associates (ESA) completed noise measurements at various locations around Interstate 80 to determine if a soundwall would need to be constructed to mitigate freeway noise. ESA is working on completing their noise analysis report as part of the environmental documents for Caltrans approval, and City review. A figure showing the noise measurement sites is shown below.

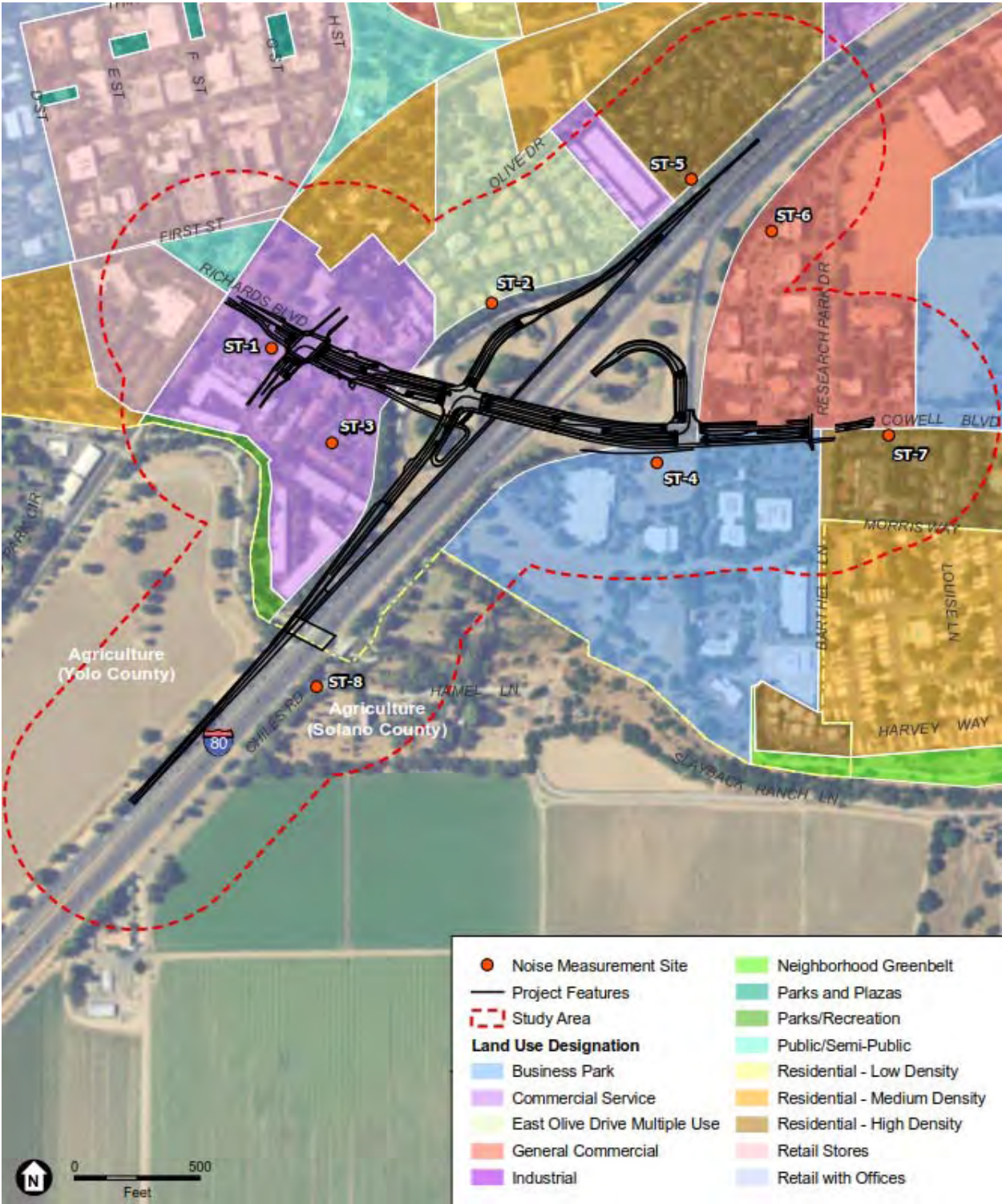


Figure 2. Noise Measurement Sites

Next Steps / Timeline

Staff anticipates the effort to prepare the initial draft of the Project Approval and Environmental Determination to be completed by in June 2018. Caltrans review, modification if necessary, and approval would then be completed in approximately November 2018.

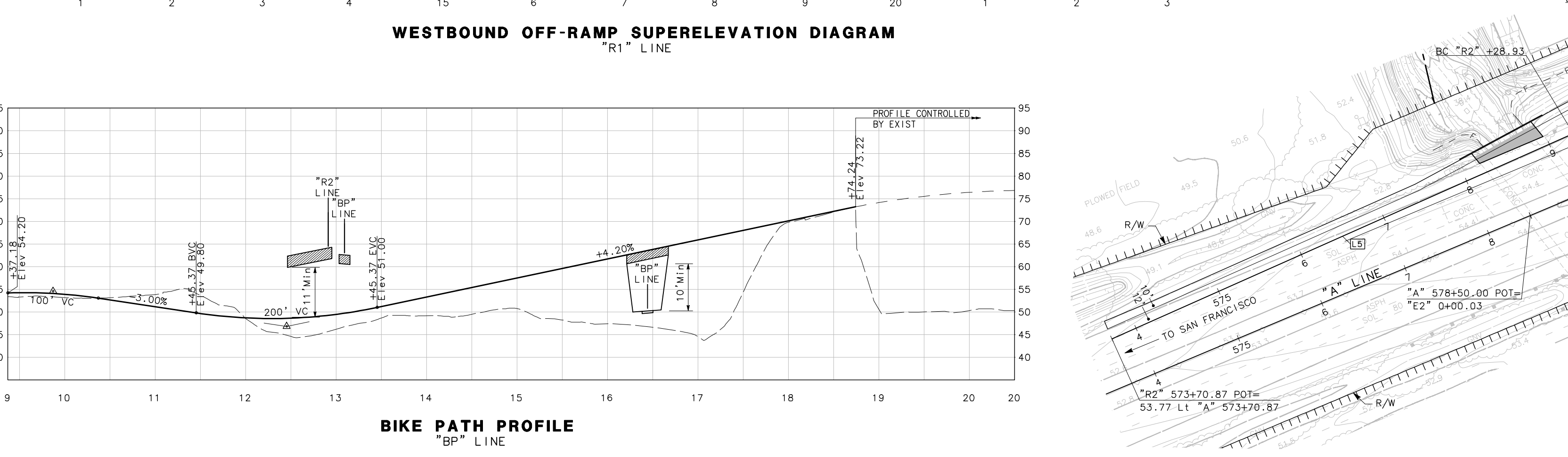
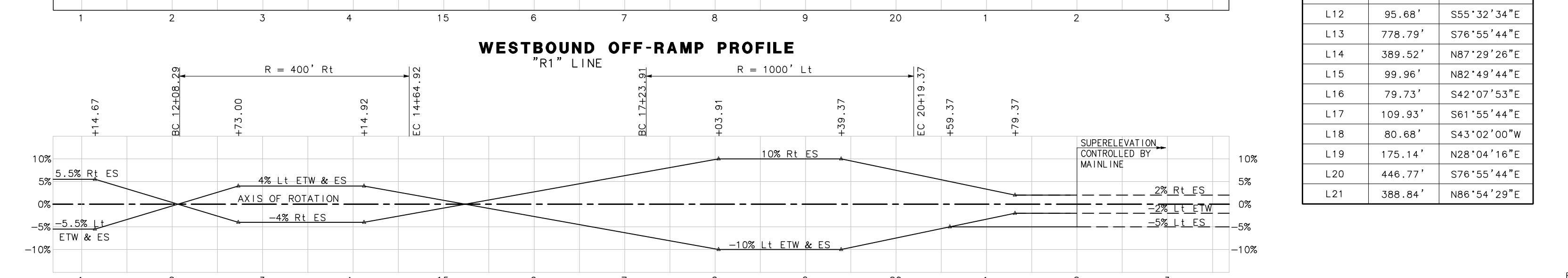
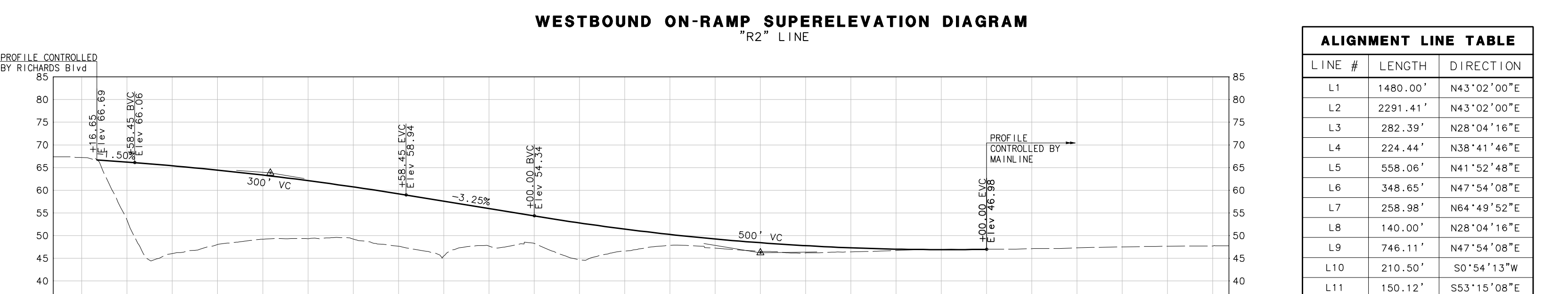
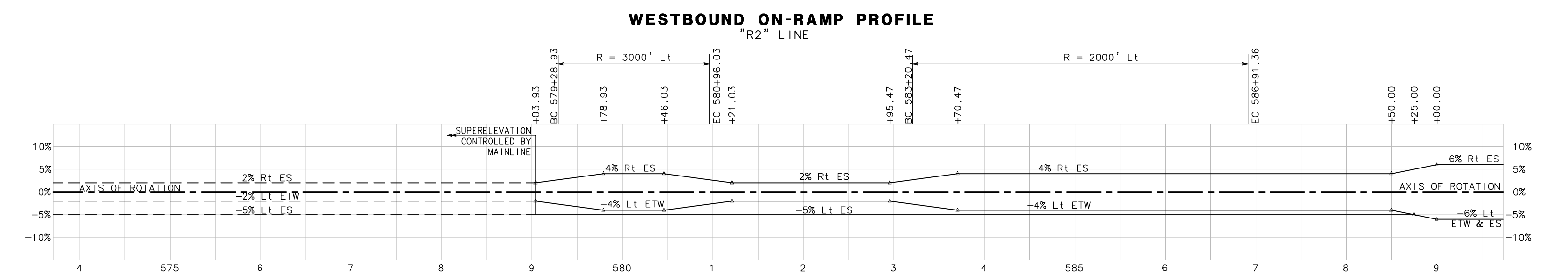
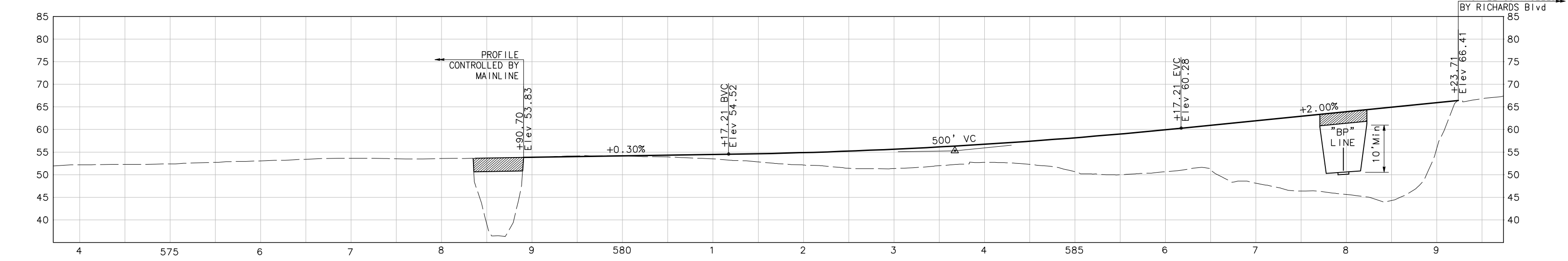
The initial draft of the 65% Plans is expected to be in June 2018, with the 65% Cost Estimate to be complete in September 2018. Caltrans review, modification, and approval would then be completed in approximately September 2018. The 65% Plans and Cost Estimate are expected to be complete in approximately December 2018.

Attachments

- 30% Design Drawing

LEGEND/ ABBREVIATIONS

BC/EC	BEGIN CURVE / END CURVE		REMOVE BASE AND SURFACING
L1	LINE DATA (SEE TABLE)		TEXTURED PAVING
(C)	CURVE DATA (SEE TABLE)		EXISTING CALTRANS ACCESS CONTROL
(S)	TRAFFIC SIGNAL		BARRIER
(A)	ANGLE POINT		WALL



ALIGNMENT LINE TABLE

LINE #	LENGTH	DIRECTION
L1	1480.00'	N43°02'00"E
L2	2291.41'	N43°02'00"E
L3	282.39'	N28°04'16"E
L4	224.44'	N38°41'46"E
L5	558.06'	N41°52'48"E
L6	348.65'	N47°54'08"E
L7	258.98'	N64°49'52"E
L8	140.00'	N28°04'16"E
L9	746.11'	N47°54'08"E
L10	210.50'	S0°54'13"W
L11	150.12'	S53°15'08"E
L12	95.68'	S55°32'34"E
L13	778.79'	S76°55'44"E
L14	389.52'	N87°29'26"E
L15	99.96'	N82°49'44"E
L16	79.73'	S42°07'53"E
L17	109.93'	S61°55'44"E
L18	80.68'	S43°02'00"W
L19	175.14'	N28°04'16"E
L20	446.77'	S76°55'44"E
L21	388.84'	N86°54'29"E

ALIGNMENT CURVE TABLE

CURVE	RADIUS	DELTA	TANGENT	LENGTH
C1	5000.00'	30°41'30"	1372.14'	2678.35'
C2	2000.00'	10°37'30"	185.98'	370.89'
C3	3000.00'	3°11'29"	83.57'	167.10'
C4	1000.00'	16°55'44"	148.82'	295.46'
C5	400.00'	36°45'36"	132.91'	256.63'
C6	165.00'	133°00'05"	379.49'	383.02'
C7	2491.00'	1°56'24"	42.18'	84.34'
C8	1826.00'	6°36'06"	105.31'	210.39'
C9	1356.00'	15°34'50"	185.51'	368.74'
C10	1394.00'	16°09'47"	197.94'	393.25'
C11	20.00'	165°02'16"	152.30'	57.61'
C12	1210.00'	21°23'10"	228.48'	451.64'
C13	30.00'	104°57'44"	39.07'	54.96'
C14	100.00'	75°00'00"	76.73'	130.90'
C15	250.00'	19°47'51"	43.63'	86.38'
C16	250.00'	29°11'01"	65.08'	127.34'

