

Project Report For Project Approval

On Route I-10

Between 9th Street Undercrossing

And Route 10/215 Separation

I have reviewed the right of way information contained in this report and the right of way data sheet attached hereto, and find the data to be complete, current, and accurate:

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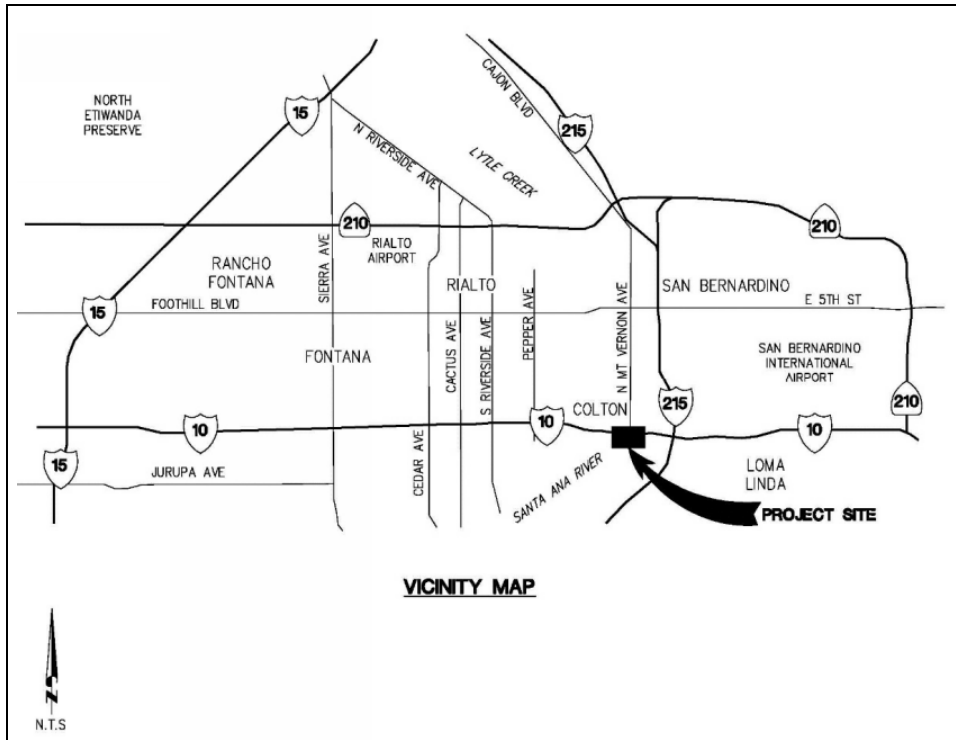
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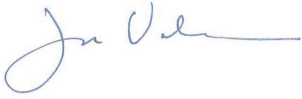
Date

Vicinity Map



In San Bernardino County
 In Colton
 On I-10 from 9th Street Interchange to the I-215 Interchange

This project report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.



02/24/2022

JASON VALENCIA, P.E.*Date*

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1. INTRODUCTION

Project Description

This project proposes to construct improvements to Mount (Mt.) Vernon Avenue at the Interstate 10 (I-10) Interchange to improve traffic operation as well as improve bicycle and pedestrian access along Mt. Vernon Avenue through the interchange. The Mt. Vernon Avenue Interchange on I-10 is in the City of Colton in San Bernardino County. See **Attachment A** Location Map. The project limits along I-10 begin at the 9th Street (St.) Interchange Post Mile (PM) R22.7 to the west and end at the I-215 Interchange PM R24.3. The study area extends along Mt. Vernon Avenue approximately 540 feet north of the existing freeway centerline and approximately 640 feet south of the existing freeway centerline at the Union Pacific Railroad (UPRR) bridge overcrossing.

The existing Mt. Vernon Avenue, through the interchange has four striped lanes, which transitions to three striped through lanes north of the eastbound ramps. The Build Alternative (Preferred Alternative) will accommodate four continuous through lanes through the interchange, two additional left turn lanes in the northbound direction, and bike lanes in both directions. The Mt. Vernon Avenue overcrossing structure will be reconstructed to accommodate the widening on Mt. Vernon Avenue and the future widening of the I-10 freeway to its ultimate configuration.

The City of Colton has a separate project which will widen Mt. Vernon Avenue from two through lanes to four through lanes from the I-10 eastbound ramps to approximately 300 feet south of the intersection. This project will further widen the southern leg of the intersection to accommodate a northbound dedicated left turn lane to E. Mission Street.

North of the bridge, the existing five-leg intersection connecting Mt. Vernon Avenue and East Valley Boulevard to the I-10 westbound on-ramp, would be realigned with exclusive turn lanes, signalization, and signage improvements incorporated to improve traffic operations. The existing westbound on-ramp and eastbound off-ramp are proposed to be modified to accommodate the wider and taller bridge structure. See **Attachment B** Roadway Layout, Profiles, and Typical Sections.

The project also addresses bicycle and pedestrian modes of travel. Specifically, it would upgrade bicycle access from Class III to Class II bike lane with striped buffer in each direction through the interchange. For pedestrians, it would add a sidewalk on the northeastern side of the bridge and address Americans with Disabilities Act (ADA) access with up-to-date curb ramps.

Improvements to the Mt. Vernon Avenue at the I-10 Interchange will be funded by San Bernardino County Transportation Authority (SBCTA) and the City of Colton as part of the Measure I Program. The project is part of the Valley Interchange Program identified in the Measure I Ordinance approved by San Bernardino County voters in 2004. SBCTA administers transportation funds for San Bernardino County jurisdictions.

This project is under Category 4B according to the California Department of Transportation

(Caltrans) Project Development Procedures Manual (PDPM), Chapter 8, Section 5, Project Development Categories. This project is Category 4B because Mt. Vernon Avenue at I-10 is an existing facility, does not increase traffic capacity, does not require substantial new right-of-way, and a revised freeway agreement is not required. See **Attachment L** Project Category Determination.

This project will be referred to as the Mt. Vernon Avenue Improvements Project throughout this document.

Project Limits	08-SBd-10 PM R22.7/R24.3	
Number of Alternatives	2 (Build Alternative and No-Build Alternative)	
	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	\$14,198,720.00	\$14,400,000.00
Capital Outlay Construction	\$48,932,500.00	\$52,960,000.00
Capital Outlay Right of Way	\$3,813,000.00	\$3,813,00.00
Funding Source	Measure I and Other Local Funds	
Funding Year	2023	
Type of Facility	Freeway Interchange	
Number of Structures	1 (Mount Vernon Overcrossing)	
Environmental Determination or Document	California Environmental Quality Act (CEQA) - Initial Study with Mitigated Negative Declaration (IS/MND) National Environmental Policy Act (NEPA) – Categorical Exclusion (CE)	
Legal Description	Construction on and adjacent to state highway in San Bernardino County in Colton from Ninth Street Undercrossing to Route 10/215 Separation.	
Project Development Category	Category 4B	

2. RECOMMENDATION

It is recommended that the Project Report be approved using the Preferred Alternative and that the project proceed to the next phase.

3. BACKGROUND

Project History

SBCTA initiated the preparation of the Project Study Report-Project Development Support (PSR-PDS) for this project in 2015. Build and No-Build alternatives were evaluated, as discussed in the approved PSR-PDS dated December 2018. Through coordination with Caltrans, the Build and No-Build alternatives were recommended for further study. The Build and No-Build Alternatives were included in the approved Draft Project Report. The

Draft Project Report was approved on July 2, 2021.

Community Interaction

This project is supported by Caltrans District 8, SBCTA, and the City of Colton. There is no known opposition to the project. During the Project Approval and Environmental Document (PA&ED) process, frequent coordination was maintained with the above organizations.

Meetings were also held with the owner of the Valley Colton Truck Stop. They are currently planning updates for their facility. This project will impact the south east corner of their property. Coordination will continue in the Plans, Specifications, and Estimates (PS&E) phase.

Thorough coordination was performed with city staff and elected officials regarding the aesthetics of the new bridge. Aesthetic alternatives were developed and evaluated during the PA&ED phase (see **Attachment G**). The City of Colton preferred and selected Aesthetic Alternative A over Alternative B. The City also requested that a community identifier consisting of the word 'COLTON' and the City of Colton logo be placed on the bridge to be consistent with the I-10/Pepper Avenue bridge. However, the Caltrans PDPM only allows for one community identifier in each direction. Since the Pepper Avenue bridge includes 'COLTON', incorporation of the text 'COLTON' on the new Mt. Vernon Avenue bridge would constitute a second community identifier which does not satisfy Caltrans' standards of only one identifier in each direction. The City of Colton applied for an exception to incorporate a second community identifier to address equity concerns for the disadvantaged community surrounding the Mt. Vernon Avenue interchange. Caltrans approved this proposal and Alternative A with 'COLTON' will move forward as the bridge aesthetic.

Coordination with Omnitrans, the primary transit operator in the San Bernardino Valley, began in PA&ED and will continue into PS&E. Omnitrans has three bus stops within the project area.

The Draft Environmental Document was distributed for public review and comments. The Draft Environmental Document was circulated for public review for 32 days between July 2, 2021 and August 3, 2021. A virtual public meeting was also held on July 15, 2021 during the public review period. This meeting was in English and Spanish. It was streamed online and for individuals without high-speed internet, a phone-in option was made available.

During public circulation of the Draft Environmental Document, a consideration for Class IV separated bikeway was requested to be included in the project instead of the proposed Class II bike lanes. The Project Development Team has reviewed the feasibility of incorporating a Class IV bikeway in place of the existing Class III bicycle lane. After review of potential options and discussions between SBCTA, Caltrans, and the City of Colton, it was determined that the Class IV separated bikeway cannot be accommodated in the project due to the City of Colton's street sweeping requirements. A Notice of Determination (NOD) will be filed with the State Clearing House indicating the approval of the project and the adoption of the MND. Caltrans as the lead agency will send a letter and PDF of the FED to the commenter.

Further community outreach will be carried out as specified in the TMP at a later date.

Existing Facilities

Interstate 10

I-10 is a major east-west transcontinental surface transportation route. Its primary purpose is to provide safe, efficient interstate and interregional movement of people and goods. In San Bernardino County, it is also known as the San Bernardino Freeway. Originating in Santa Monica at the Pacific Coast Highway near the Pacific Ocean, it crosses Los Angeles County before entering San Bernardino County on its way to the Arizona State line and continues east. It terminates near the Atlantic Ocean in Florida.

The freeway generally lies on gentle rolling terrain through the project area, alternating between segments on embankment and in depressed sections. The eastbound and westbound roadbeds typically are at different elevations and separated by a median concrete barrier, metal beam guard rails, or temporary K-rails. The design speed for I-10 is 70 miles per hour (mph) and the posted speed limit is 65 mph.

Large numbers of commuters use the route daily to and from San Bernardino, Riverside, and Los Angeles Counties. Based on the 2018 Caltrans Traffic Census, the annual average daily traffic (AADT) through the segment is 204,000 vehicles.

Within the project limits, I-10 is composed of four mixed flow lanes and auxiliary lanes in each direction. The alignments for eastbound and westbound roadbeds are depressed beneath the Mt. Vernon Avenue Overcrossing. The depressed section rises on the east as it approaches the Santa Ana River channel and the I-215/I-10 interchange, and it rises to the west as it approaches the 9th St./La Cadena intersections. The existing pavement is Portland Cement Concrete (PCC) on the mainline lanes and Asphalt Concrete (AC) on the shoulders and ramps.

Mt. Vernon Avenue

Mt. Vernon Avenue is a north-south major arterial that serves as an access point to the freeway for the southern and northern portions of the City of Colton. It is the first local service interchange to the west of the I-10/I-215 system interchange.

Mt. Vernon Avenue north of the East Valley Boulevard intersection to East F Street includes two through lanes in each direction; a southbound to eastbound turn pocket; Class III (unmarked/unsigned/shared use) bike lanes, sidewalks, and non-compliant ADA curb ramps. This area north of the interchange is posted at 40 mph.

Between East Valley Boulevard and Mission Street, Mt. Vernon Avenue has one to two southbound lanes, two northbound lanes, Class III (unmarked/unsigned/shared use) bike lanes, and no sidewalks. Between East Valley Boulevard and Mission Street the posted speed transitions from 40 mph to an advisory 30 mph.

Further south, over the UPRR overhead, Mt. Vernon Avenue has one lane in each direction, Class III (unmarked/unsigned/shared use) bike lanes, and no sidewalks. This area is posted at an advisory 30 mph. The City is leading a project to widen the existing UPRR Overhead. See Regional and Local Planning Section for more information.

Mt. Vernon Avenue is part of the City truck route network. Trucks operating on Mt. Vernon Avenue in this vicinity are not restricted by length or weight. Mt. Vernon Avenue is classified as a multimodal and bicycle facility in the City of Colton's General Plan, Mobility Element.

The nearest westbound I-10 off-ramp accessing Mt. Vernon Avenue is at Sperry Drive, approximately 1200 feet east of the East Valley Boulevard/Mt. Vernon Avenue intersection. The westbound on-ramp to I-10 from Mt. Vernon Avenue creates a five-leg intersection with East Valley Boulevard and Mt. Vernon Avenue, resulting in deteriorated traffic operations.

Destinations along and near Mt. Vernon Avenue in proximity of I-10 include San Bernardino Valley College, Richardson PREP HI Middle School, Colton Middle School, Colton High School, City Government Office, shopping centers, public parks and amusement parks, Colton Plunge Park, and large tracts of single and multi-family dwelling units. Omnitrans Route 1 provides transit service along this portion of Mt. Vernon Avenue.

Land use surrounding the Mt. Vernon Avenue/I-10 westbound entrance ramp and eastbound entrance and exit ramps includes truck stops, convenience stores, restaurants, motels, and single/multi-family residences. Since the end of the 2008-2010 recession, the City has experienced population and employment growth. This growth is reflected in increasing traffic volumes at intersections adjacent to freeway entrance and exit ramps, contributing to congestion and delays.

East Valley Boulevard

East Valley Boulevard is an east-west minor arterial (west of Mt. Vernon Avenue) and a major collector (east of Mt. Vernon Avenue). Posted speed limit east of Mt. Vernon Avenue is 25 mph and west of Mt. Vernon Avenue is 35 mph. East of Mt. Vernon Avenue this road has one lane in each direction and a sidewalk on the north side. West of Mt. Vernon Avenue this road has two lanes and sidewalks in each direction and a median. Omnitrans Route 1 provides transit service along East Valley Boulevard west of Mt. Vernon Avenue.

East Valley Boulevard is part of the City Truck Route network. Trucks operating in this vicinity are not restricted by length or weight. East Valley Boulevard west of Mt. Vernon Avenue is classified as a multimodal and bicycle facility in the City of Colton's General Plan, Mobility Element.

Sperry Drive

Sperry Drive is a north-south two-lane secondary arterial and becomes East Valley Boulevard south of the Mt. Vernon Avenue I-10 Westbound off-ramp. Sperry Drive and

Valley Boulevard connect to the Mt. Vernon Avenue I-10 Westbound off-ramp with Mt. Vernon Avenue. During rain events, the corner of Sperry Drive and East Valley Boulevard experiences flooding.

4. PURPOSE AND NEED

4A. Problem, Deficiencies, Justification

Purpose:

The purpose of the project is to:

- Improve traffic operations along Mt. Vernon Avenue between East Valley Boulevard on the north side and the I-10 eastbound ramps/Mt. Vernon Avenue intersection to the south
- Improve bicycle and pedestrian facilities along Mt. Vernon Avenue through the interchange
- Accommodate anticipated future I-10 improvements

Need:

Mt. Vernon Avenue at the I-10 interchange currently experiences inefficient traffic operation at the local facility during peak periods and has existing geometric and intersection elements that do not provide for acceptable traffic operations. In particular, the north/south split phase operation does not allow for concurrent movement of through-lanes on Mt. Vernon Avenue. Modification of the phasing on Mt. Vernon Avenue is not possible because the existing bridge does not allow the addition of a northbound left turn pocket.

It is expected that this condition will worsen in the future as traffic volumes increase through the project area. The queues on East Valley Boulevard and Mt. Vernon Avenue are extensive during peak hours, which result in increased travel times as well as high concentrations of congestion-related collisions. Existing Level of Service (LOS) for the East Valley Boulevard and Mt. Vernon Avenue intersection is LOS E. At the Design Year (2045) this intersection would perform at LOS F. See Section **4C. Traffic** for further discussion of traffic patterns, impacts, and analysis.

Mt. Vernon Avenue at the I-10 interchange features discontinuous facilities for pedestrian and bicycle traffic connectivity in the north-south direction. For most of the project length, there are no shoulders on either side of Mt. Vernon Avenue. North of East Valley Boulevard, there are sidewalks, but they have non-compliant ADA curb ramps. South of East Valley Boulevard, there are no sidewalks on either side of Mt. Vernon Avenue.

The existing Mt. Vernon Avenue Overcrossing has non-compliant vertical clearance at 16.07 feet. The standard vertical clearance for this facility is 16.50 feet per the Caltrans Highway Design Manual. The horizontal clearance under the Mt. Vernon Avenue Overcrossing is also limited and does not allow for the future I-10 Corridor Project (EA 08-0C250, PN

0800000040). See **Section 4B. Regional and System Planning** for more information on the future I-10 improvements.

4B. Regional and System Planning

Systems

I-10 is part of the Interstate System. The entire length of the I-10 freeway in San Bernardino County is included in the State Interregional Road System and the California Freeway and Expressway System. I-10 is also part of the National Highway System, the Department of Defense Priority Network, and the Strategic Highway Corridor Network. The National Network for Surface Transportation Assistance Act (STAA) also identifies I-10 as a “National Network” route for STAA trucks.

State Planning

The *Transportation Concept Report, Interstate 10, District 8*, dated June 2017, calls for 10 general purpose lanes plus four High-Occupancy Toll (HOT) lanes on I-10 in the project area for the 2040 concept facility.

The I-10 Corridor Project (EA 08-0C250, PN 0800000040) proposes to have eight general purpose lanes plus four High-Occupancy Vehicle (HOV) or Express lanes through the project area. The PA&ED for this project was completed in 2017. In late 2017, the SBCTA Board of Directors selected the express lane alternative to move ahead into the design phase of work. EA 0C251, Segment 1, has been awarded as Contract 1, and is in the design-build phase. The area inclusive of Mt. Vernon Avenue will be in the first segment of Contract 2. The 2019 SBCTA 10-Year Delivery Plan calls for the first segment of I-10 Contract 2 to be constructed from January 2026 to December 2029. SBCTA is currently evaluating possible early construction packages as well as alternative funding sources that could help bring this schedule forward. Throughout 2021, SBCTA will be preparing an updated 10-year delivery plan and evaluating funding opportunities for the balance of Contract 2.

The Mt. Vernon Avenue Improvements Project proposes a bridge that will accommodate eight general purpose lanes and four Express lanes with standard lane widths and shoulders. Two additional general-purpose lanes (10 total per the Concept Report) could fit under the proposed bridge with reduced lane and shoulder widths.

Caltrans District 8 Landscape Architecture has an Interstate 10 Corridor Master Plan for San Bernardino County dated November 2011. This will be used as the basis for aesthetic design of the project.

Regional and Local Planning

Directly south of the project is the Mt. Vernon Avenue/UPRR Overhead bridge project (UPRR Overhead City Project). The City of Colton is leading a project to widen the existing UPRR Overhead from two to four lanes in order to accommodate additional traffic from the

eastbound I-10 off- and on-ramps to Mission Street. The UPRR Overhead City Project also accommodates pedestrians with the construction of a sidewalk on the west side of the bridge and Class II bike lane in each direction. The UPRR Overhead City Project is in the final design phase. Along with federal Highway Bridge Program (HBP)/High Priority Projects (HPP) money, the project is funded locally by Measure I Street/Arterial Program funds. The UPRR Overhead City Project is currently in the process of R/W acquisition. Construction is anticipated to be from January 2022 to June 2023.

The Mt. Vernon Viaduct Project is located north of the Mt. Vernon Avenue Improvements Project and west of I-215. The Mt. Vernon Viaduct Project will improve safety by replacing the existing bridge over the Burlington Northern Santa Fe (BNSF) Railway intermodal yard in San Bernardino. The purpose of the Mt. Vernon Viaduct Project is to provide a bridge that is structurally safe, meeting current seismic, design and roadway standards. The bridge removal started in January 2021 and the bridge is anticipated to be in construction between Fall 2022 to early 2024.

The Mt. Vernon Avenue Improvements Project is also consistent with the City of Colton General Plan, Mobility Element (2013) and Amendment to Mobility Element (November 2016).

Transit Operator Planning

Omnitrans is the primary transit operator in the San Bernardino Valley providing bus services and special services for individuals with disabilities. There are three routes within the project area, two freeway express routes without bus stops (Route 215 and Route 290) and one local route with three bus stops (Route 1). Route 1 connects San Bernardino Valley College and Arrowhead Regional Medical Center. Coordination with Omnitrans has begun and will continue in the PS&E phase. Any refinements to the current bus stop locations will be coordinated with Omnitrans during PS&E.

4C. Traffic

Current and Forecasted Traffic

A Traffic Operations Analysis Report (TOAR) was approved for this project in April 2020. The TOAR identifies existing and future traffic conditions and establishes a need for the Mt. Vernon Avenue Improvements Project. The analysis evaluated the following:

- Existing (2018) Conditions
- Opening Year (2024) No-Build Alternative
- Opening Year (2024) Build Alternative
- Design Year (2045) No-Build Alternative
- Design Year (2045) Build Alternative

In the immediate project vicinity, the I-10 provides four general purpose lanes in each direction and has an existing Annual Average Daily Traffic (AADT) volume of approximately 204,000

vehicles based on the 2018 Caltrans Traffic Census. The traffic volumes used for the traffic operational analyses are summarized in **Table 4.C-1**. The traffic volumes include peak hour volumes and the directional split between the northbound and southbound traffic along Mt. Vernon Avenue. The Existing Year (2018) traffic counts were taken on Tuesday, October 16, 2018.

The analysis methodologies are presented in the *Traffic Forecasting and Operations Assessment Methodology and Assumptions for Mt. Vernon Avenue Improvements Project (EA: 1G800)* and approved by the PDT in May 2019. The traffic forecasts are presented in the *I-10/Mt. Vernon Avenue Improvements Project Traffic Volume Report (EA: 1G800)* and approved in August 2019.

TABLE 4.C-1 TRAFFIC VOLUME SUMMARY										
Facility	Existing (2018)			Opening Year (2024)			Design Year (2045)			Truck Percentage
	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	
Mt. Vernon Avenue										
SB Mt. Vernon Ave. (E. H St. to E. Valley Blvd.)	530	630	9,100	620	680	10,000	820	820	12,300	14%
NB Mt. Vernon Ave. (E. H St. to E. Valley Blvd.)	335	601	6,800	370	680	7,500	410	850	9,200	14%
SB Mt. Vernon Ave. (E. Valley Blvd. to I-10 EB Ramps)	572	612	8,700	650	670	9,900	860	820	12,600	14%
NB Mt. Vernon Ave. (E. Valley Blvd. to I-10 EB Ramps)	495	799	9,500	560	930	10,700	690	1,220	13,700	14%
SB Mt. Vernon Ave. (I-10 EB Ramps to M St.)	786	839	11,400	900	930	13,000	1,220	1,200	17,100	14%
NB Mt. Vernon Ave. (I-10 EB Ramps to M St.)	485	850	10,400	540	990	11,700	670	1,330	15,500	14%
East Valley Boulevard										
WB E. Valley Blvd. (N. 13 th St. to Mt. Vernon Ave.)	185	281	5,300	220	310	5,700	270	370	7,400	14%
EB E. Valley Blvd. (N. 13 th St. to Mt. Vernon Ave.)	221	340	6,200	260	380	6,700	270	420	8,100	14%
WB E. Valley Blvd. (Mt. Vernon Ave. to I-10 WB Off-Ramp)	332	338	4,500	370	360	4,900	440	430	5,800	14%
EB E. Valley Blvd. (Mt. Vernon Ave. to I-10 WB Off-Ramp)	94	132	1,600	110	150	1,700	130	180	2,100	14%
I-10 Ramps										
EB Off-Ramp	516	555	7,200	580	630	8,200	780	830	10,700	14%
EB On-Ramp	273	391	5,100	300	430	5,600	370	560	7,300	14%
WB Off-Ramp	405	486	6,300	440	530	6,900	520	620	8,000	14%
WB On-Ramp	392	481	6,200	450	540	7,000	550	670	8,700	14%
Note: All values shown in the table represent traffic volumes. The AM and PM values represent 1-hour peak traffic volumes and the ADT values represent 24-hour traffic volumes.										

The San Bernardino Transportation Analysis Model (SBTAM) was used as the base model for this project. The following updates were made to the SBTAM model to refine the roadway network and land use assumptions in the study area:

- RTP ID SBD31850: Reconstruction of overcrossing and ramps with a roundabout at the I-215/Barton Road interchange (Completion Year 2019)
- RTP ID 1830: Reconstruction of I-10/Cedar Avenue interchange with widening from four to six lanes and adding one lane to eastbound off-ramp and two lanes to the westbound off ramp (Completion Year 2022)
- RTP ID 20159901: Implement two express lanes in each direction from I-10/I-15 interchange to California Street (Completion Year 2024)

Traffic forecasts for study locations were developed using different methodologies. The Base Year and Future Year models were used to calculate the annual growth of study facilities, which then were applied to Existing (2018) traffic counts to develop the Opening Year (2024) and Design Year (2045) traffic forecasts. Opening Year (2024) forecasts were developed using interpolation between Existing (2018) traffic volumes and the Design Year (2045) forecasts. Conservation of flow was applied to forecasted volumes where appropriate to ensure volumes were balanced along the study corridors.

As the project improvements will be operational improvements at the westbound on-ramp/Mt. Vernon Avenue/Valley Boulevard intersection, and no major capacity enhancing improvements are assumed in the study area, only one set of traffic volumes was developed to analyze the two Alternatives.

Table 4.C-2 compares peak hour intersection LOS for Existing (2018), Opening Year (2024), and Design Year (2045) conditions. As shown in this table, the Mt. Vernon Avenue and East Valley Boulevard intersection is characterized as LOS E during the PM peak hours under existing conditions. Under Year 2024 and 2045 with the No-Build Alternative, the intersection would operate in LOS E and F respectively during both peaks. The Build Alternative will improve the intersections to an acceptable LOS in the Year 2024 and Year 2045. Acceptable LOS include A, B, C, and D.

**TABLE 4.C-2
INTERSECTION OF LEVEL OF SERVICE**

Intersection	Peak Hour	Existing (2018)		Opening Year (2024) No-Build		Opening Year (2024) Build		Design Year (2045) No-Build		Design Year (2045) Build	
		Delay (a)	LOS (b)	Delay (a)	LOS (b)	Delay (a)	LOS (b)	Delay (a)	LOS (b)	Delay (a)	LOS (b)
Mt. Vernon Avenue & Valley Blvd./I-10 WB On-Ramp	AM	49	D	55	E	35	C	82	F	40	D
	PM	55	E	74	E	37	D	209	F	45	D
Mt. Vernon Avenue & I-10 EB Ramps	AM	17	B	29	C	20	C	43	D	23	C
	PM	15	B	35	D	22	C	66	E	39	D

Notes:

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the *Highway Capacity Manual (HCM) 6th Edition* and performed using Synchro/Simtraffic, Version 10.0 software.

Collision Analysis

As part of the PA&ED process, Caltrans staff provided collision data for the study area for the three-year period between August 1, 2018 and July 31, 2021. **Table 4.C-3** summarizes the actual collision rates compared to the average collision rates for similar facilities. **Table 4.C-4** shows the collision types found to occur on the study facilities. **Table 4.C-5** documents the primary collision factors on the study facilities.

**TABLE 4.C-3
COLLISION DATA: COLLISION RATES**

Actual Rates and Average Rates (# of Collisions/Million Vehicles)						
Location	Actual Collision Rates			Averages Collision Rates		
	Fatal	Fat+Inj	Total	Fatal	Fat+Inj	Total
WB I-10 On-Ramp at Mt. Vernon Ave (PM R23.135)	0.00	0.00	0.12	0.002	0.23	0.63
WB I-10 Off-Ramp to Mt. Vernon (PM R23.563)	0.00	0.15	0.31	0.008	0.39	1.03
EB I-10 On-Ramp at Mt. Vernon Ave (PM R23.442)	0.00	0.00	0.14	0.007	0.21	0.61
EB I-10 Off-Ramp to Mt. Vernon Ave (PM R23.240)	0.00	0.53	2.13	0.006	0.39	1.25

Source: Caltrans TASAS, August 1, 2018 to July 31, 2021

Note: Bold values denote collision rates are higher than statewide average for similar facilities.

The actual collision rates on the study facilities are lower than the statewide average collision rates for similar facilities, except for the total and fatal plus injury rates for the I-10 eastbound Mt. Vernon Avenue off-ramp.

TABLE 4.C-4
COLLISION DATA: TYPE OF COLLISION

Type of Collision									
Location	Head On	Side-swipe	Rear End	Broad-side	Hit Object	Over-turn	Auto-Ped	Other	Not Stated
WB I-10 On-Ramp at Mt. Vernon Ave (PM R23.135)	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
WB I-10 Off-Ramp to Mt. Vernon (PM R23.563)	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%
EB I-10 On-Ramp at Mt. Vernon Ave (PM R23.442)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
EB I-10 Off-Ramp to Mt. Vernon Ave (PM R23.240)	16.7%	16.7%	41.7%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%
Source: Caltrans TASAS, August 1, 2018 to July 31, 2021									

The I-10 westbound Mt. Vernon on-ramp had collision type of hit object (100%). The collision types for the I-10 westbound Mt. Vernon off-ramp are rear end (50%) and hit object (50%). The collision type for the I-10 eastbound Mt. Vernon on-ramp is overturn (100%). The collision types for the I-10 eastbound Mt. Vernon off-ramp are head on (16.7%), sideswipe (16.7%), rear end (41.7%) and hit object (25%).

TABLE 4.C-5
COLLISION DATA: PRIMARY COLLISION FACTOR

Location	HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	FA	NS
WB I-10 On-Ramp at Mt. Vernon Ave (PM R23.135)	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WB I-10 Off-Ramp to Mt. Vernon (PM R23.563)	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EB I-10 On-Ramp at Mt. Vernon Ave (PM R23.442)	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EB I-10 Off-Ramp to Mt. Vernon Ave (PM R23.240)	50.0%	0.0%	0.0%	0.0%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Source: Caltrans TASAS, August 1, 2018 to July 31, 2021											
HBD = Influence of Alcohol				IT = Improper Turn				OTD = Other Than Driver			
FTC = Following Too Close				ESS = Speeding				UNK = Unknown			
FTY = Failure to Yield				OV = Other Violations				FA = Fell Asleep			
ID = Improper Driving				NS = Not Stated							

The I-10 westbound Mt. Vernon Avenue off-ramp had primary collision factors of speeding (50.0%) and other violations (50%) identified. The primary collision factor for the I-10 westbound Mt. Vernon Avenue on-ramp is Improper Turn (100.0%). The primary collision factors for the I-10 eastbound Mt. Vernon Avenue off-ramp are Influence of Alcohol (50.0%), Speeding (25.0%), and Other Violations (25.0%). The primary collision factor for

the I-10 eastbound Mt. Vernon Avenue on-ramp is Improper Turn (100.0%).

This project proposes features that will improve the safety of the roadway. Overhead signs and pavement delineation will help drivers navigate the five-leg intersection at Mt. Vernon Avenue, East Valley Boulevard, and the westbound I-10 on-ramp. The project proposes three overhead signs—two on northbound Mt. Vernon Avenue and one on westbound East Valley—to help drivers navigate the dual left turns. At the eastbound I-10 off-ramp, increasing the length of the right turn lane and widening the lanes at the curve will help in reducing sideswipes and rear end collisions.

Vehicle Miles Traveled (VMT) Analysis

On July 1, 2020, the PDT, in consultation with Caltrans Department of Environmental Analysis, concurred that this project would not lead to substantial or measurable increase in VMT, therefore will not require analysis for induced travel. This project is considered an operational improvement focused on relieving current traffic issues within the local community as well as improving conditions for pedestrians and bicyclists.

5. ALTERNATIVES

5A. Viable Alternatives

Two Alternatives were considered for this project, a Build Alternative and a No Build alternative. After evaluation and public circulation of the environmental document, the Build Alternative was selected as the preferred alternative.

Build Alternative – Preferred Alternative

The Build Alternative proposes to realign and widen Mt. Vernon Avenue, reconstruct the Mt. Vernon Avenue bridge, modify ramps to I-10, and provide additional local street improvements. The objective of this alternative is to improve Mt. Vernon Avenue traffic operations, improve geometric elements and to minimize traffic conflicts. Major elements of work for this proposed interchange alternative consist of the following:

- Mt. Vernon Avenue will be realigned and widened from just north of East Valley Boulevard to the eastbound ramps
 - It will have four through-lanes (two lanes in each direction); two northbound dedicated left turn lanes heading to the westbound entrance ramp; one sidewalk on the east side of the structure; and a Class II bike lane with striped buffer in each direction.
 - Improve alignment radius from 450 ft to 650 feet.
- Mt. Vernon Avenue overcrossing over I-10 will be reconstructed
 - The structure will be wider than the existing bridge to accommodate the new roadway configuration.
 - The bridge span will be longer than the existing in order to span the ultimate freeway facility.
 - The structure profile will be higher than the existing bridge in order to meet vertical clearance standards over the ultimate I-10 mainline lanes.
 - The structure alignment will be shifted east of the existing alignment to improve geometry and accommodate traffic during construction.
 - The structure will include a sidewalk on the northeast side.
- The westbound I-10 on-ramp profile will be raised to accommodate the higher Mt. Vernon Avenue bridge profile. The westbound on-ramp gore location would not be moved.
- The HOV lane on the westbound I-10 on-ramp will be converted to a general purpose lane. This has been documented in the approved Exception to Ramp Metering Policy dated January 22, 2021.
- The eastbound I-10 off-ramp will be shifted south at the bridge to avoid the bridge columns. The eastbound off-ramp gore location would not be moved. The off-ramp will be widened to increase the right-turn lane length and accommodate truck turning movements. Some of the existing pavement will be cold plane and overlaid. It is anticipated that no major drainage will be installed or replaced for this ramp work.

- Part of East Valley Boulevard will be reconstructed to accommodate the raised intersection at Mt Vernon Ave due to higher bridge profile. It will also accommodate truck turn movements and improved ADA facilities. Left turn lanes will be added for dual left turn movements from eastbound East Valley Boulevard onto Mt. Vernon Avenue and from westbound East Valley Boulevard onto Mt. Vernon Avenue and the westbound I-10 on-ramp.
- The existing five-leg intersection layout at Mt. Vernon Avenue, East Valley Boulevard, and the westbound I-10 on-ramp will remain.
- Mt. Vernon Avenue, between the eastbound ramps and the UPRR overcrossing, will be widened to match improvements at the bridge with four through-lanes (two lanes in each direction); one northbound dedicated left turn lane; and one northbound dedicated right turn lane to the eastbound on-ramp.
- Drainage will be improved at the corner of Sperry Drive and East Valley Boulevard by adding an underground drainage system that is anticipated to be a 24" RCP.
- Two retaining walls will be needed on each side of the westbound I-10 on-ramp. A third retaining wall will be needed between Mt. Vernon Avenue and the UPRR property to avoid grading impacts to their property.
- The pump station that collects water from I-10 will be relocated due to the new alignment of the Mt. Vernon Avenue bridge.
- Existing guardrail systems within the project limits will be upgraded to the current approved Midwest Guardrail System (MGS).

This alternative would significantly improve the traffic operations compared to the No-Build Alternative. Under this alternative, intersections at the interchange are expected to operate between LOS C and LOS D in 2045. Due to the projected large volumes of turning traffic at westbound I-10 on-ramp, it is necessary to provide dedicated dual left-turns on northbound Mt. Vernon Avenue in order to mitigate queuing into and blocking the northbound through movement. The additional lanes will improve overall operational efficiency of the interchange. Maintenance Vehicle Pullout (MVP) locations will be coordinated with Caltrans Maintenance and other functional groups during PS&E.

The roadway improvement exhibits for the Build Alternative are included in **Attachment B. Nonstandard Design Features**

The preliminary design has identified nonstandard features for this project. Mt. Vernon Avenue interchange is restricted by physical constraints:

1. South of the interchange, the UPRR railyard
2. North of the interchange, several businesses including two gas stations

To meet these restrictions, boldface and underlined design exceptions are being requested. These nonstandard features have been coordinated with Caltrans and the nonstandard features within the city right of way have been coordinated with the city. The city has provided a memorandum dated October 14, 2020 stating their concurrence with the nonstandard features. Detailed requests for the nonstandard features are documented in the

Design Standard Decision Document (DSDD) approved on April 16, 2021. Below is a list of nonstandard features and design exceptions.

Boldface Nonstandard Features:

See **Table 5.A-1** for the Boldface nonstandard features that are approved for the Build Alternative.

TABLE 5.A-1 BOLDFACE EXCEPTIONS					
Nonstandard Feature No.	Design Standard from Highway Design Manual	Standard	Existing	Proposed	Location
B1a	201.1 Stopping Sight Distance (Vertical)	430'	324'	161'	"WB10" 59+34 TO 61+34
B2a	202.2 Superelevation	>12.00%	>12.00%	8.00%	"EB10" 20+97 TO 22+35
B3a	501.3 Interchange Spacing	2 miles	1 mile	1 mile	Mt. Vernon Ave. to I-10/I-215 Interchange
B3b	501.3 Interchange Spacing	1 mile	0.5 Mile	0.5 Mile	N. 9th St. to Mt Vernon. Ave. Interchange
B4a	504.3(3) Location and Design of Ramp Intersections	400'	None	None	E. Valley Blvd. to I-10 WB On-Ramp
B5a	504.8 Access Control	50'	0'	0'	MV 65+00
B5b	504.8 Access Control	Opposite Side	0'	0'	MV 75+00
B6a	201.1 Stopping Sight Distance (Vertical)	300'	399'	176'	"MV" 72+70 TO 74+90
B7a	202.2 Superelevation	5.80%	4.00%	4.00%	"MV" 62+76 TO 71+37
B7b	202.2 Superelevation	10.00%	6.00%	6.00%	"MV" 76+18 TO 78+88
B7c*	202.2 Superelevation	2.40%	2.00%	1.99%	"EV-West" 63+80 TO 64+42
B8a*	301.1 Lane Width	12'	12'	11'	"EV-East" 58+04 TO 63+22
* Outside of Caltrans R/W, concurred by the City of Colton					

Underlined Nonstandard Features:

See **Table 5.A-2** for the Underline nonstandard features that are approved for the Build Alternative.

TABLE 5.A-2 UNDERLINE EXCEPTIONS					
Nonstandard Feature No.	Design Standard from Highway Design Manual	Standard	Existing	Proposed	Location
U1a	101.1(2)(c)(2) Highway Design Speed Standards	45 MPH	35 MPH	40 MPH	"MV" 61+00 TO 78+57
U2a*	202.5(1) Superelevation Transition	150'	260'	123'	"EV-WEST" 61+80 TO 64+42
	202.5(2) Superelevation Transition	2/3 Tangent, 1/3 Curve	2/3 Tangent, 1/3 Curve	4/5 Tangent, 1/5 Curve	"EV-WEST" 61+80 TO 64+42
U2b*	202.5(1) Superelevation Transition	150'	190'	100'	"EV-EAST" 64+42 TO 65+14
U2c	202.5(1) Superelevation Transition	210'	260'	189'	"EB10" 22+35 TO 23+53
U3a*	204.3 Standards for Grades (Minimum Grades)	0.30%	0%-0.30%	0%-0.30%	"MV" 61+75 TO 63+85
U4a	204.4 Vertical Curve Length	400'	100'	200'	"MV" 63+85 TO 65+85
U4b	204.4 Vertical Curve Length	400'	600'	220'	"MV" 72+70 TO 74+90
U4c	204.4 Vertical Curve Length	500'	400'	200'	"WB10" 59+34 TO 61+34
U4d*	204.4 Vertical Curve Length	200'	N/A	120'	"EV-WEST" 62+75 TO 63+95
U5a	304.1 Side Slopes	4:1 Slope	2:1 Slope	2:1 Slope	"MV" 75+50 TO 79+00
U6a*	403.3 Angle of Intersection	75°-90°	77°	67°	"MV" 64+47 & "EV WEST" 64+42
U7a	404.4(1)(b) Design Vehicle	STAA	36-Foot Bus	45-Foot Bus & Motorhome	EB E. Valley Blvd. to I-10 WB On-Ramp
	404.4(2)(b) Design Vehicle	California Legal	36-Foot Bus	45-Foot Bus & Motorhome	EB E. Valley Blvd. to I-10 WB On-Ramp
U8a	405.1(2)(b) Corner Sight Distance	300'	132.6'	227'	"MV" 64+67 to 67+06
U9a	504.2(2) Freeway Exit – Standard Design	Fig 504.2B 23' at Exit Nose	26' at Exit Nose	28.40' at Exit Nose	"EB10" 10+00 to 13+13.53
* Outside of Caltrans R/W, concurred by the City of Colton					

Interim Features

No interim features are proposed for this project.

High-Occupancy Vehicle (Bus and Carpool) Lanes

There is an existing High-Occupancy Vehicle (HOV) lane on the westbound I-10 on-ramp that will be converted into a general-purpose lane. This is due to the addition of the dual left-turn lanes and the traffic demand onto the ramp. A Ramp Metering Exception has been documented to remove the HOV lane and was approved on January 22, 2021.

Ramp Metering

The westbound on-ramp meter will be replaced. The eastbound on-ramp is outside of the project limits and will remain as existing. The eastbound-off ramp will be modified.

California Highway Patrol Enforcement Areas

There is an existing California Highway Patrol (CHP) Enforcement Area on the westbound on-ramp. This is outside of the project improvements and will remain as existing.

There is no existing CHP Enforcement Area on the eastbound on-ramp. The eastbound on-ramp is also outside of the project improvements and will remain as existing.

Park-and-Ride Facilities

There are no specific Park-and-Ride sites planned within the project limits.

Utility and Other Owner Involvement

Coordination with utility owners and review of right of way maps, as-built records, and design drawings from completed road construction projects revealed and verified the existence of utilities in the area of potential construction.

Utility as-builts have been obtained from the following utility owners:

- AT&T
- Southern California Gas
- Southern California Edison (SCE)
- Charter
- City of Colton
- Meeks & Daley

The following Utility agencies/companies were contacted but do not have utilities within the project area:

- Kinder Morgan
- Level 3
- MCI
- San Bernardino Valley MWD
- Sprint
- Sunesys

Telecommunications, water, sewer, gas, and electrical facilities are present on Mt. Vernon Avenue, East Valley Boulevard, and Sperry Drive. Facilities of significance include overhead

SCE electrical that cross I-10 as well as overhead AT&T and Charter Telecommunications and SCE electrical that cross Mt. Vernon Avenue. The exact location of all facilities will be determined by field survey to evaluate relocation requirements. Some poles and overhead utilities may need to be relocated or raised. Any required relocations or protection measures will be coordinated with the utility owners. Early coordination with utility owners is important during the final design to avoid impact to project delivery. Notices to relocate any utilities will be required for each company along with encroachment permits to enter State operating right of way.

The Right of Way Data Sheet is included in **Attachment D**. The Utility Conflict Map illustrating the locations of the existing utility lines is included as **Attachment F**.

Railroad Involvement

This project is just northeast of a Union Pacific Railroad (UPRR) parcel. Currently, there are no impacts to the UPRR parcel and no involvement with UPRR. The project includes a wall in order to avoid grading into the UPRR parcel.

Highway Planting

Existing highway planting and irrigation systems removed during construction of the proposed improvements will be replaced. The design will incorporate aesthetic and landscape elements recommended in the I-10 Project Aesthetics and Landscape Masterplan (PALM) document along with the I-10 Corridor Master Plan (CMP), San Bernardino County.

Highway planting will be installed as part of the highway construction contract for the Mt. Vernon Avenue Improvements Project. Per the Caltrans' PDPM Chapter 29, if Highway Planting/Landscaping cost is over \$300,000 and is to be installed as part of the highway construction contract, an exception to the separate contract policy is required. A three-year planting establishment period is also required. The current cost estimate is over \$300,000 and a Fact Sheet Exception to Separate Contract Policy for Highway Planting was approved by Caltrans on June 30, 2021.

Highway planting will implement the Caltrans Water Conservation Plan by including water-saving irrigation facilities, using California native and drought tolerant plant species, and using little or no water once established. In addition, this project's planting will be in alignment with District Directive D08-22-01, which addressed highway planting in the District.

Bridge aesthetic alternatives were developed and evaluated during the PA&ED (see **Attachment G**). Aesthetic Alternative A with a community identifier consisting of the word 'COLTON' was selected for the project.

Erosion Control

A PR level Storm Water Data Report (SWDR) was prepared for the project and concurred by Caltrans. It will be approved once the Project Report is signed. This report identifies site data, storm water quality design issues, and Best Management Practices (BMPs) to minimize pollution and proposed permanent treatment. The project is within the Santa Ana Regional Water Quality Control Board jurisdiction. The total Disturbed Soil Area (DSA) within the project area is approximately 6.5 acres.

The SWDR analyzed the feasibility of all potential permanent treatment BMPs for this project. A detention basin is proposed for this project as permanent BMP treatment. Standard erosion control practices will be implemented to minimize soil erosion during and following construction activities. Typical measures utilized during construction will include:

- Silt fences to contain the construction within the right of way
- Fiber rolls for slope stabilization
- Stabilized entrances to minimize sediment tracking on paved surfaces
- Concrete washouts
- Gravel bags
- Inlet protection
- Energy dissipaters
- Sweeping/vacuuming

Permanent erosion and sedimentation control features may include, but will not be limited to, fertilizer, seeding, and hydraulic mulching to replace landscaping, along with the improvement of drainage facilities to handle excess runoff.

Noise Barriers

No noise barriers are proposed for this project. The maximum increase in noise levels between existing and future build conditions would be 2 A-Weighted Decibels (dBA), which would not be a substantial increase in noise levels. Predicted design-year traffic noise levels are not anticipated to result in traffic noise impacts at outdoor areas of frequent human use; therefore, noise abatement was not required for the project. See the Noise Study Report approved on September 4, 2020 for more information.

Non-motorized and Pedestrian Features

The proposed alternative includes enhancements of nonmotorized vehicles and pedestrian features for safe mobility across the Mt. Vernon Avenue overcrossing. The proposed improvements include a continuous six-foot wide sidewalk on the east side of the structure. The sidewalk is proposed where there is least conflict with traffic. The project also proposes Class II bike lane along each side of the Mt. Vernon Avenue overcrossing. The bike lanes are six feet wide and separated by a 2-foot buffer. Sidewalk on the west side of the overcrossing

is not proposed as part of the Build Alternative to reduce safety conflicts between traffic and pedestrians at the I-10 westbound on-ramp.

South of the bridge, the bike lanes and sidewalk along Mt. Vernon Avenue will continue south to the eastbound ramps. The City's Mt. Vernon Avenue UPRR Bridge Widening Project is adding six-foot bike lanes and a sidewalk on the west side of the bridge.

The bike lane along Mt. Vernon Avenue north of the bridge will become a Class III shared bike lane with sharrow pavement delineation. Sidewalk widths will remain as existing.

On East Valley Boulevard, sidewalk widths will remain the same as existing.

Lighting along the structure will be implemented to benefit pedestrians and bicyclists by improving visibility.

Needed Roadway Rehabilitation and Upgrading

Within the project limits, the existing I-10 freeway mainline is primarily comprised of PCC pavement. The freeway auxiliary lanes, shoulders, and ramps are comprised of asphalt concrete (AC) pavement.

This project consists of local street and interchange ramp reconstruction/realignment. Roadway rehabilitation is not planned for this project.

Cost Estimates

The total costs for the interchange improvements can be found in the engineer's estimate, see **Attachment C**. A summary of the project costs are provided in **Table 5.A-3** below:

TABLE 5.A-3		
COST ESTIMATE SUMMARY: BUILD ALTERNATIVE		
	Current Cost	Escalated Cost
Roadway Items	\$26,284,500.00	\$28,450,000.00
Structures Items	\$22,648,000.00	\$24,510,000.00
Subtotal Construction Cost	\$48,932,500.00	\$52,960,000.00
Support Cost	\$14,198,720.00	\$14,400,000.00
Right of Way Cost	\$3,813,000.00	\$3,813,000.00

Right of Way Data

A Right of Way Data Sheet was prepared for this project and included in **Attachment D**. Discussion of right of way issues is summarized in Section 6.

Effects of Projects Funded by Others on State Highway

The Build Alternative will not affect the capacity and operating characteristics of I-10. This is a non-capacity enhancing project.

5B. Rejected Alternatives

The following alternatives were considered during the PA&ED process; however, after thorough review and discussions, they were rejected by the project development team:

- No-Build Alternative
- Alternative 2: Realign Bridge to the West
- Alternative 3: Maintain the Existing Bridge Alignment (higher profile, bridge widens to the east)
- Alternative 4: Maintain Existing Alignment on Bridge while Widening to the East + GAD Proposed North of Intersection
- Alternative 5: Maintain Existing Alignment on Bridge while Widening to the East + Taper to Existing Alignment
- Alternative 6: Demo ½ of Existing Bridge Before Building ½ of the New Bridge
- Alternative 7: Four-Leg Intersection

The following alternatives were considered during the PSR-PDS process but not recommended for advancement to the PA&ED phase:

- Widening of the Existing Overcrossing
- Hook Ramps
- Stop-Control, Diverging Diamond, and Roundabout Intersection Configuration

Below are discussions of each alternative and the reasons for rejection.

No-Build Alternative

The No-Build Alternative proposed no improvements be constructed at the facility at this time. This alternative will not address operational deficiencies at Mt. Vernon Avenue.

The lack of adequate and timely improvements would result in increased congestion and lower levels of service, leading to the operational breakdown of the interchange. Traffic analysis shows the operating conditions on Mt. Vernon Avenue and East Valley Boulevard have already reached LOS E for the PM peak. The TOAR shows that without improvements, both the AM and PM peaks would operate at LOS F in 2045. The Mt. Vernon Avenue and eastbound I-10 off-ramp intersection would also reach LOS E in 2045.

Additionally, this alternative would maintain constrained access for pedestrians and bicyclists.

This alternative fails to meet the established purpose and need of the project. For this reason, the No-Build Alternative was rejected.

Alternative 2: Realign Bridge to the West

This alternative is similar to the proposed Build Alternative; however, it proposes to realign Mt. Vernon Avenue west of the existing bridge:

- Improved angle of intersection of Mt. Vernon Avenue and East Valley Boulevard
- Reduced the horizontal curve in comparison to the Build Alternative and existing conditions which reduced stopping sight distance
- Impacted railroad right of way
- Reduced the length of the westbound on-ramp
- Greater impact to the Valley Colton gas station property
- Stage Construction would still be a two-phase bridge construction similar to the Build Alternative

Alternative 3: Maintaining the Existing Bridge Alignment (higher profile, bridge widens to the east)

This alternative is similar to the proposed Build Alternative; however, it proposes to maintain the existing curvature of the bridge with a wider footprint to the east:

- Improved angle of intersection
- Reduced the horizontal curve in comparison to the Build Alternative and existing conditions, which reduced stopping sight distance
- Greater impact to the 7-11 gas station property and underground gas tanks at 7-11 gas station
- Stage Construction would still be a two-phase bridge construction similar to the Build Alternative

Alternative 4: Maintaining the Existing Bridge Alignment + Compound Curve

This alternative is similar to Alternative 3; however, it has an additional curve north of the bridge in order to avoid the 7-11 underground gas tanks:

- Improved angle of intersection
- Reduced the horizontal curve in comparison to the Build Alternative and existing conditions which reduced stopping sight distance
- Introduced a compound curve with a tangent in between the curves
- Stage Construction would still be a two-phase bridge construction similar to the Build Alternative

Alternative 5: Maintaining the Existing Bridge Alignment + Taper to Existing

This alternative is similar to Alternative 3; however, it has a sharp taper in order to avoid the 7-11 underground gas tanks:

- Improved angle of intersection
- Reduced the horizontal curve in comparison to the Build Alternative and existing conditions which reduced stopping sight distance
- Introduced a sharp taper with a design speed less than 20 MPH
- Stage Construction would still be a two-phase bridge construction similar to the Build Alternative

Alternative 6: Demolish Half of the Existing Bridge Before Building Half of the New Bridge

This alternative is similar to the Build Alternative, but the alignment is more consistent with the existing alignment. In order to construct Alternative 6, half of the existing bridge would need to be demolished in order to build half of the new bridge:

- Improved angle of intersection
- Reduced the horizontal curve in comparison to the Build Alternative and existing conditions, which reduced stopping sight distance
- Stage Construction would be more complicated than the Build Alternative

Alternative 7: Four-Leg Intersection

This alternative would remove the existing five-leg intersection with a more standard four-leg intersection. In order to do this, the on-ramp leg of the 5-leg intersection would be removed, and an additional intersection would be added just west of the Mt. Vernon Avenue and East Valley Boulevard intersection. The additional intersection would be the access for the westbound on-ramp. This alternative was rejected because of the following:

- Intersection spacing would be less than the required 400 feet
- The ramp length and storage would be reduced, or the Auxiliary lane length would be reduced
- There would have been more right of way take
- More work on the ramp
- The gore would have to move, reducing the distance between interchanges

Widening of the Existing Overcrossing (Rejected in the PSR-PDS)

This alternative would widen the existing Mt. Vernon Avenue Bridge and was rejected due to vertical clearance issues.

Hook Ramps (Rejected in the PSR-PDS)

This alternative would relocate the westbound off and on-ramps approximately 800 feet east of the existing Mt. Vernon Avenue and East Valley Boulevard intersection. East Valley Boulevard would be realigned north of the existing alignment to make room for the hook ramps onto the freeway. After investigation, it was agreed that the scope, environmental, and right of way impacts would be beyond the scope of the project. Consequently, the PDT decided not to study this alternative any further.

Stop-Control, Diverging Diamond and Roundabout Intersection Configurations (Rejected in the PSR-PDS)

Caltrans District Traffic Operations Policy Directive 13-02: ICE requires the consideration of various strategies, treatments, and configurations at State highway intersections to balance the needs of all modes and users with system performance goals and the highway facility context. To address the ICE requirements, the PSR-PDS assessed the viability of multiple intersection control strategies.

Stop-Control was considered for the Mt. Vernon Avenue/East Valley Boulevard intersection but dismissed based on the intersection already being signalized. Stop-Control would worsen existing operations, and therefore would not meet the purpose and need of this project.

The diverging diamond configuration was eliminated from further analysis for the Mt. Vernon Avenue and East Valley Boulevard intersection based on the five-leg intersection at westbound on-ramp intersection.

A one-lane roundabout configuration was considered for the Sperry Drive and westbound I-10 off-ramp intersection. Using Signalized & Unsignalized Intersection Design and Research Aid (SIDRA) software, this roundabout performed satisfactorily in the future (2045) year with an AM LOS of B and a PM LOS of D. However, this configuration was eliminated due to significant right of way impacts and increased construction cost.

A two-lane roundabout configuration was considered for the Mt. Vernon Avenue and East Valley Boulevard intersection for the future year. Using SIDRA software, this roundabout did not perform satisfactorily, resulting in a LOS E during the PM peak period. This configuration was also eliminated for its poor performance and significant right of way impacts.

A two-lane roundabout configuration was also studied for the Mt. Vernon Avenue, Mission Street, and eastbound I-10 ramp intersection. This design variation resulted in acceptable LOS; however, it did not compare as favorably to the signal-controlled intersection due to greater right of way impacts.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

A complete discussion of hazardous waste issues and recommendations is presented in the Initial Site Assessment (ISA). The ISA was performed to evaluate the potential for existing presence of hazardous substances and/or petroleum product impacts at the site, which may affect construction of the proposed improvements. The ISA included a site reconnaissance on May 28, 2020 and review of historical topographic maps, aerial photographs, regulatory databases, and other site-related record sources for indications of Recognized Environmental Conditions (RECs) that might be encountered during construction. The ISA was initially approved on September 23, 2020. The ISA was updated October 29, 2021. Site reconnaissance and data search were reconducted to confirm current condition. No changes to site condition were identified. Relocation or replacement of guard rails, roadside signs, and/or power poles on wooden posts may generate treated wood waste if wooden posts are unable to be reused.

The ISA recommended the following additional actions:

Evidence of Aerially-Deposited Lead (ADL)

Based on the age of roadways in the project vicinity, non-hazardous ADL is known to be present in exposed soils adjacent to I-10 and the on- and off-ramps. An evaluation is needed to develop management and identify disposal options for soil containing ADL.

Evidence of Asbestos Containing Materials (ACM) and Lead Based Paint (LBP)

There is potential for ACM and LBP to be present within or on the existing bridge and on-ramp structures. ACM and LBP surveys of the bridge will be required in order to obtain permits from the South Coast Air Quality Management District (SCAQMD). If present, removal and disposal of ACM and LBP should be performed prior to the start of demolition/renovation.

6B. Value Analysis

A Value Analysis (VA) was performed for this project from August 31, 2020 through September 3, 2020 using the Cisco Webex virtual meeting platform due to Covid-19 restrictions. VA participants included representatives from Caltrans, the City, SBCTA, Kimley-Horn, and ICF. Value Management Strategies, Inc. facilitated the analysis and prepared the Value Analysis Study Report (VASR). The Draft VASR was prepared in September 2020 and the Final VASR was finalized in November 2020.

The VA is an independent study intended to analyze the project and provide recommendations that would improve performance attributes like local operations, construction impacts, maintainability, phaseability, and environmental impacts. The study

evaluated the current proposed Build Alternative as the baseline alternative. The additional alternatives developed by the VA team and evaluated in the VA study are described below:

VA Alt 1 Construct the bridge with a spread footing in lieu of a CIDH pile (**Accepted**)

VA Alt 2 Reduce bridge width by eliminating the space proposed for a future sidewalk (**Rejected**)

VA Alt 3 Implement 12-hour full freeway closures for bridge demolition and bridge girder erection (**Accepted**)

VA Alt 4 Lower the roadway profile north of the new bridge to reduce impacts (**Rejected**)

VA Alt 5 Construct the new bridge in one stage on the alignment of the existing bridge (**Rejected**)

These additional VA Alternatives were evaluated using the same criteria previously identified. Of these alternatives, VA Alternatives 1 and 3 were accepted by the VA team and the PDT to be incorporated into the project. VA Alternative 1 will be explored during the Bridge Type Selection Process in the PS&E. A geotechnical study in PS&E would confirm the feasibility and size of the spread footings. The main benefit to VA Alternative 1 is reducing bridge costs, which would save \$3,700,000. For Alternative 3, the PDT will pursue a 12-hour full freeway closure during PS&E. The main benefit of VA Alternative 3 is to save on time-related overhead, traffic management costs, and construction time for a cost savings of \$150,000.

VA Alternative 2, 4, and 5 were rejected by the PDT. For VA Alternative 2, further structural analysis showed that removal of the space proposed for future sidewalk (6 feet) would still require the same amount of foundation and would only save approximately \$350,000. If a sidewalk is needed in the future, the bridge would need to be widened 12 feet-17 feet to add a 6 feet sidewalk and could cost more than \$3,000,000 due to minimum girders required and additional foundation for bridge widening. Therefore, VA Alternative 2 was rejected.

For VA Alternative 4, lowering the profile at this location cannot be achieved without significantly impacting sight distance at the bridge crest, vertical clearance over the freeway, grade difference of roadway south of the bridge, stage construction, and EB ramps intersection grade, therefore VA Alternative 4 was rejected.

VA Alternative 5 was not acceptable due to its significant impact on the current Mt. Vernon Avenue traffic. This alternative would require closing the existing bridge during construction and detouring traffic to adjacent interchanges that are already experiencing a deteriorated level of service. This alternative would cause significant traffic congestion to other interchanges and streets for more than a year during construction of the bridge.

6C. Resource Conservation

Existing asphalt pavement (ramps, local streets, freeway shoulders) removed because of proposed improvements will be recycled and reused in the construction to the extent possible. Existing concrete pavement (freeway lanes and bridges) removed will be crushed and used as base material wherever possible.

Hardware (roadside signs, drainage grates) and electrical equipment (controller cabinets; light standards; Closed Circuit Television poles and assemblies; Changeable Message Sign units) will be reused on the project wherever possible or stockpiled for future uses. The use of a photovoltaic (solar generating) energy system is consistent with Caltrans' policy and will be used for emergency call boxes in this project.

6D. Right of Way Issues

Right of Way Required

Right of way acquisition is anticipated for the Build Alternative. A total of 12 parcels are impacted: five of which will likely require a partial take and temporary construction easements and seven of which will likely require temporary construction easements only. Below is the summary of the impacted properties:

- Additional right of way is necessary for widening of the Mt. Vernon Avenue and East Valley Boulevard curb returns in order to provide adequate space for truck turns. The two properties impacted by the widened curb returns are Valley Colton Truck Stop Gas Station, owned by Tabbaa Mardini Real Estate Investments, and the 7-11 Gas Station, owned by Song Sue Chin Liv TR 3/13/07
- There are two vacant parcels southeast of the eastbound ramps that will be impacted by the grading required for the right turn lane addition. These two properties are vacant and are owned by Vasili Ivan & Iva Trust 2011
- UPRR owns a parcel southwest of the project limits. This project will not impact the UPRR parcel acknowledged
- A small portion of right of way will be required at the parking lot at the intersection of Sperry Drive and East Valley Boulevard for sidewalk improvements

Right of way constraints within the project vicinity have major influence on the design of the proposed improvements. The proximity of the UPRR right of way and business right of way limit the geometric design of the project. The main alignment of Mt. Vernon Avenue was designed to avoid encroaching into the UPRR right of way and limit impact to the businesses north of the overcrossing. A retaining wall is also proposed so that there is no grading going into the UPRR parcel. The face of the retaining wall will be located 11.5 feet away from the right of way line at the pinch point. Other design exceptions identified in this document are due to the constraints of the right of way.

Both permanent and temporary easements are necessary to construct the proposed improvements. There are no relocations required for this project. Right of way data sheets are included in **Attachment D**. A right of way map exhibit is included in **Attachment E**.

6E. Environmental Compliance

Caltrans is the lead agency under CEQA and NEPA for this project. An Initial Study with Mitigated Negative Declaration (IS/MND) was prepared for this project in accordance with Caltrans' environmental procedures and CEQA regulations. The Draft IS/MND was circulated for public review between July 2, 2021 and August 3, 2021. A virtual Public Meeting was also conducted on July 15, 2021. One public comment was received during the public circulation period requesting the implementation of a Class IV bikeway. The Project Development Team has reviewed the feasibility of providing a Class IV bikeway and determined that it cannot be accommodated due to the City of Colton's street sweeping requirements. Response to this comment letter has been incorporated into the Final IS/MND prepared for the project. A Categorical Exclusion under the National Environmental Policy Act (NEPA) was prepared and approved on March 4, 2022, and the CEQA MND was signed on March 9, 2022. Refer to **Attachment K**.

6E.1 Wetlands

Jurisdictional surveys were conducted for the project and several potential features within the delineation area were evaluated pursuant to regulations. One feature was identified as a potential aquatic resource however, this feature was determined to not be Waters of the United States and not subject to regulation by the US Army Corps of Engineers. No permits under Section 404 of the Clean Water Act are required. The project would result in 0.01 acre of permanent impact and 0.03 acre of temporary impact to waters of the State and would therefore require a Clean Water Action Section 401 Water Quality Certification under the Regional Water Quality Control Board. Construction would also result in permanent impacts on 0.04 acre, and temporary impacts on 0.06 acre of potentially jurisdictional California Department of Fish and Wildlife (CDFW) unvegetated streambed requiring a Streambed Alteration Agreement.

6E.2 Hydrology and Floodplains

The Federal Emergency Management Agency (FEMA) creates Flood Insurance Rate Maps (FIRM) that designate 100-year floodplain zones and delineate flood hazard areas. The project area is located within FIRM Map #06071C8679J and 06071C8683J (FEMA 2016). The project area is designated as Zone X (Area of Minimal Flood Hazard). Warm Creek and the Santa Ana River are located approximately 0.3 mile east and southeast of the proposed project, respectively, and are designated as Zone AE (Floodway). However, no project improvements would occur in any dedicated floodways and as such the project would not result in a significant impact related to impeding or redirecting flood flows.

In addition, the project would result in approximately 0.9 acre of Net New Impervious (NNI)

surface area that would result in an increase in stormwater runoff. However, with implementation of permanent BMPs, consistent with the requirements of NPDES permit, Caltrans MS4 Permit, and Waste Discharge Requirements for San Bernardino County Municipal Stormwater Permit Order No. R8-2010-0036, NPDES Permit No. CAS618036, it is not anticipated that the project would result in hydrologic impacts, such as flooding, that would result in the exceedance of the drainage system's capacity or contribute a substantial amount of polluted runoff.

6F. Air Quality Conformity

An Air Quality Report has been prepared for the project to assess the potential for environmental impacts related to emissions of air pollutants and greenhouse gas (GHG) resulting from the project.

Regional Conformity

Each project alternative is fully compatible with the design concept and scope described in the regional transportation plan.

The proposed project is listed in the 2020-2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), which was found to be adopted by the SCAG Regional Council on May 7, 2020; the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) subsequently determined that the 2020-2045 RTP/SCS conformed to the State Implementation Plan on June 5, 2020. On November 4, 2021, SCAG's Regional Council approved 2020-2045 RTP/SCS Draft Amendment #1, in which an amended description of the proposed project is included. The project is also included in SCAG's financially constrained 2021 Federal Transportation Improvement Program (FTIP), adopted March 4, 2021. On July 16, 2021, the project was amended in FTIP Amendment 21-06 so that the project description and cost, as reflected in the FTIP, matches the project description described in this report.

Project-Level Conformity

The project is in a federal nonattainment area for Particulate Matter 2.5 (PM_{2.5}) and in an attainment/maintenance area for Particulate Matter 10 (PM₁₀) and carbon monoxide (CO). Therefore, a project-level conformity analysis is required under 40 CFR 93.109. The project complies with all PM_{2.5} and PM₁₀ measures in the State Implementation Plan (SIP), and implements measures relied upon in the RTP/FTIP regional conformity analysis in a timely manner. The project would not cause or contribute to any new localized PM_{2.5} or PM₁₀ exceedances or delay timely attainment of any National Ambient Air Quality Standards (NAAQS) or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

The project-level PM hot-spot analysis was presented to SCAG's Transportation Conformity Working Group (TCWG) for discussion and review on January 26, 2021. This form reflects

the project description, limits, and traffic volumes and is listed under the current RTP/FTIP project identification numbers. It was determined that the proposed project is not a project of air quality concern (POAQC).

6G. Title VI Considerations

Caltrans, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the United States shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers. This project will comply with Title VI of the Civil Rights Act by ensuring that no person will be excluded from participating in the environmental review process. All members of the public are welcome to review and comment on the project and the environmental document will be accessible to all, including in alternative formats for those that request it. In addition, a virtual public meeting was held to discuss the potential impacts of the project. The public meeting included a separate channel for Spanish speakers and a call-in number for people without access to the internet. The project would upgrade bicycle access to a Class II bike lane on both sides of Mt. Vernon Avenue, along with wider raised sidewalks for pedestrian access. The project also implements Americans with Disabilities Act access with up-to-date curb ramps, crossing activators, and tactile sensors. To limit construction related disruptions to the roadway, the project would implement a Traffic Management Plan (TMP) and utilize staged construction, beginning with the eastern bridge structure, to minimize traffic disturbances and maintain all possible traffic movements during the construction period. Furthermore, the project improvements would occur primarily within the existing ROW or temporary construction easements. The project would not diminish access to or reduce the ability to use vacant land and open spaces adjacent to the project, nor would it impact existing established communities. No residences or businesses would be required to relocate as a result of the project.

6H. Life-Cycle Cost Analysis

The proposed project improvements are limited to local streets and minor ramp improvements. Because of this, the PDT has agreed that a Pavement Life-Cycle Cost Analysis was not required in this project. This was confirmed with Caltrans at a focus meeting held on June 5, 2020.

6I. Reversible Lanes

This project does not qualify as a capacity increasing or a major street or highway realignment project and reversible lanes have not been considered.

7. OTHER CONSIDERATIONS

Public Hearing Process

SBCTA held an open-house style public meeting on July 15, 2021 from 6:00 p.m. to 7:00 p.m. Due to Covid-19, the public meeting was held virtually. The meeting included a separate channel for Spanish speakers and a call-in number for people without internet. A Notice of Availability for the Draft Initial Study was distributed to the federal, state, regional, and local agencies and elected officials, as well as interested groups, organizations, and property owners and occupants within 500 feet of the project limits. At the public meeting there were no public comments. After the meeting, one comment was received via a letter from the Center for Community Action and Environmental Justice primarily asking to consider a Class IV bikeway instead of the proposed Class II bikeway. The Project Development Team has reviewed the feasibility of providing a Class IV bikeway and determined that it cannot be accommodated due to the City of Colton's street sweeping requirements.

Route Matters

The proposed improvements at the existing I-10/Mount Vernon Avenue interchange do not create any new connections or permanent closures of existing local roads. Consent from the California Transportation Commission is not required for a new public road connection. The most current freeway agreement between the State and the City of Colton was executed on December 21, 1965 and it reflects existing freeway connections within the vicinity of the project limits.

Permits

Temporary permits would be required where needed to facilitate construction. In addition, permanent easements may be required. **Table 7-1** identifies the permits and approvals that are, or may be, required prior to or during the construction of the proposed project.

The project would result in 0.01 acre of permanent impact and 0.03 acre of temporary impact to waters of the State and would therefore require a Clean Water Act Section 401 Water Quality Certification, as administered by the Regional Water Quality Control Board (RWQCB). Construction of the proposed project would also result in permanent impacts on 0.04 acre and temporary impacts on 0.06 acre of potentially jurisdictional CDFW unvegetated streambed, thus requiring a Streambed Alteration Agreement.

**TABLE 7-1
PERMITS AND/OR APPROVALS NEEDED**

Permit/Approval	Agency	Status
Encroachment Permit	Caltrans	To be obtained prior to construction.
Temporary Construction Easement	Caltrans	To be obtained prior to construction.
Streambed Alteration Agreement	California Department of Fish and Wildlife	Caltrans will consult with CDFW to determine whether a Streambed Alteration Agreement and mitigation are required.
Section 401 Permit	Santa Ana Regional Water Quality Control Board	Caltrans will determine if a Section 401 Permit is required after consultation with the Army Corps regarding potentially jurisdictional wetlands and waters.
Construction General Stormwater and Caltrans' Statewide NPDES Permits	State Water Resources Control Board	Project design plans will comply with Statewide Storm Water Permit and Waste Discharge Requirements for the State of California, Department of Transportation order number 2012-0011-DWQ, NPDES No. CAS00003 and NPDES General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activities (Order No.2009-0009-DWQ- NPDES No. CAS000002, as well as subsequent amendment or renewal.

Cooperative Agreements

A Cooperative Agreement (No. 08-1652) was executed for PA&ED, PS&E, and R/W between Caltrans and SBCTA on July 25, 2018.

A Cooperative Agreement (No. 18-1001904) was executed for PA&ED, PS&E, and R/W between SBCTA and the City of Colton on August 8, 2018. An amendment to this Cooperative Agreement (No. 18-1001904-01) was executed in March 2019. A construction agreement with the City and Caltrans will be executed when the project gets closer to finalizing PS&E.

Other Agreements

A Project Specific Maintenance Agreement, Electrical Maintenance Agreement, and Freeway Maintenance Agreement will be needed for this project. The latest Freeway Maintenance Agreement was between Caltrans and the City in 1986.

Report on Feasibility of Providing Access to Navigable Rivers

There are traditional navigable waterways as defined by the Army Corps of Engineers found within the proposed project limits.

Public Boat Ramps

There are no public boat ramps within the proposed project limits.

Transportation Management Plan

The TMP was prepared for this project to minimize motorist delays during construction. The TMP was approved in April 2020. The TMP is designed to be accomplished without compromising public or worker safety, or the quality of the work being performed. The TMP elements recommended in this report are the following:

Public Information/Public Awareness Campaign (PAC)

The primary goal of a PAC is to educate motorists, merchants, residents, elected officials, and governmental agencies about construction impacts. Brochures and mailers, media releases, paid advertising, public meetings, internet, e-mail, social media, and hand delivered notices to vicinity will be used to inform motorists about construction activities. This material will inform drivers about construction activities and alternate routes available.

Motorist Information Strategies

The effective implementation of this element is crucial in order to divert some traffic away from the construction site. It enables motorists to make informed decisions about their own travel plans and options with information as close as possible to being “real time.” This element includes the use of existing overhead changeable message signs, portable changeable message signs, ground mounted signs, lane closure system website, Caltrans Highway Information Network (CHIN), and Automated Workzone Information System (AWIS).

Incident Management

This element of the TMP is aimed towards effectively avoiding and relieving traffic congestion in the areas of construction. Key aspects to this element include Construction Zone Enhanced Enforcement Program (COZEEP) lead by California Highway Patrol and Freeway Service Patrol (FSP) for towing availability during peak hours.

Construction Strategies

The contractor will be required to follow guidelines to improve the traffic flow during construction. Construction strategy elements include lane requirement charts for planned lane or ramp closures during off-peak hours, night or weekend; delay clause for violation of lane requirement charts; and coordination with special events or other projects in the area that could impact traffic.

Alternate Route Strategies

No prolonged closures are expected. Most closures can be accomplished during night work. Minor temporary detours are planned to minimize impact to traffic during construction.

Stage Construction

Preliminary construction staging concept plans have been prepared. The construction stages were aimed to minimize traffic disturbances and maintain all possible traffic movements during construction. Four major construction stages were recognized for the Build Alternative (see **Attachment H**).

The Build Alternative can be constructed while maintaining traffic on the existing bridge. The proposed alignment is east of the existing structure in order to construct 44 feet and 2 inches of the proposed bridge without removing the existing bridge. This will allow for four 10-foot lanes of traffic while the existing bridge is demolished. After the existing bridge is removed, the rest of the proposed bridge can be constructed.

A detailed stage construction and traffic handling plan will be developed during the PS&E phase in coordination with Caltrans Traffic Operation group to minimize impact to traffic during construction and accommodate oversized loads. Pedestrian and other nonmotorized vehicle movement will also be accommodated during construction.

Accommodation of Oversized Loads

The existing vertical clearance at the Mt. Vernon Avenue overcrossing is 16.07 feet which does not meet the minimum vertical clearance standard of 16.50 feet for all freeways and expressways. The proposed Mt. Vernon Avenue overcrossing will meet the standard of 16.50 feet minimum over I-10. The STAA design vehicle was used for the design and the profile of Mt. Vernon Avenue was raised to accommodate the increased vertical clearance.

Graffiti Control

Wherever there are large vertical surfaces (retaining walls and bridge structures), an aesthetic architectural treatment shall be used to deter graffiti and to minimize adverse visual impacts. Consultation with the Landscape Architecture Unit should occur with any decisions regarding aesthetics in retaining walls, sound walls or bridge structure or abutments. Adequate access restrictions shall be established to limit the potential for graffiti.

Asset Management

Transportation Asset Management is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively throughout their life cycle. The Project will incorporate ramp metering, ADA curb ramps, and maintenance vehicle pullouts into Caltrans' asset inventory.

Complete-Streets

This project supports complete streets goals of “safe accommodations for all users of the transportation network” by improving automobile operations and adding new bike and

pedestrian infrastructure. See Section 5A: “Nonmotorized and Pedestrian Features” for more information.

Climate Change Considerations

The Project IS/MND provides a detailed discussion and conclusions on Climate Change with respect to the project. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. In addition, construction GHG-reduction measures will be implemented during project construction to reduce GHG emissions and potential climate change impacts from the project.

The project is also outside the coastal zone and not in an area subject to sea level rise. Accordingly, direct impacts on project transportation facilities due to projected sea level rise are not expected. In addition, the proposed project will incorporate stormwater treatment BMPs that preserve the existing hydrology to the maximum extent practical. Runoff from the roadway will be conveyed to pervious swales. Maintenance of the roadside ditches will include debris, litter, and sediment removal. These project components would help protect project infrastructure from the effects of the more intense storm precipitation events anticipated in the future under climate change. Finally, the project itself would not introduce new structures to the area that would increase the risk of wildfire, regardless of long-term climate effects. For additional information regarding Climate Change, refer to Chapter 3, Climate Change, of the IS/MND.

Broadband and Advance Technologies

This project will provide fiber optic (FO) lines for ramp meters; interconnect traffic signals between the Mt. Vernon/Eastbound Ramps intersection and the Mt. Vernon/Westbound ramps/E. Valley Way intersection and can be integrated in the I-10 FO system. Other technologies include vehicle detection systems, closed circuit camera systems for monitoring traffic, and/or drone camera to be utilized during construction. Project website accessible to the public will be provided to disseminate information to the community. This project currently does not include broadband but will not hinder future broadband expansion and other advance technologies. This project will coordinate with utility owners and accommodate wired broadband facilities that benefit the public. Conduits through the bridge structure can also be provided to accommodate future broadband connection.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

It has been determined that this project is eligible for Federal-aid funding. However, the project is currently being locally funded through San Bernardino County Measure I and the City of Colton.

Programming

An amendment to the FTIP (Amendment A 21-04) has been submitted for approval in order to update the FTIP to match the cost estimate for this project. The amendment is anticipated to be approved by mid-June 2021, before completion of PA&ED. The following tables (**Table 8-1 and Table 8-2**) outline the program funding for the project from San Bernardino County Measure I and the City of Colton per the submitted FTIP Amendment A21-04.

Table 8-1: Program Funding from San Bernardino County Measure I

Fund Source	Current Estimate	Escalated Estimate				Total Escalated Estimate
		Prior	20/21	21/22	22/23	
20.XX.800.100						
Component	In Thousands of Dollars (\$1,000)					
PA&ED	2,752	2,752				2,752
PS&E	2,847			2,847		2,847
ROW	1,366			1,423		1,423
Construction	6,510				6,643	6,643
Total Support	13,475	2,752		4,270	6,643	13,665
ROW	3,619			3,619		3,619
Construction	46,437				50,259	50,259
Total Capital	50,056			3,619	50,259	53,878
Grand Total	63,531	2,752		7,889	56,902	67,543

Table 8-2: Program Funding from the City of Colton

Fund Source	Current Estimate	Escalated Estimate				Total Escalated Estimate
20.XX.800.100		Prior	20/21	21/22	22/23	
Component	In Thousands of Dollars (\$1,000)					
PA&ED	148	148				148
PS&E	153			153		153
ROW	73			77		77
Construction	350				357	357
Total Support	724	148		230	357	735
ROW	194			194		194
Construction	2,496				2,701	2,701
Total Capital	2,690			194	2,701	2,895
Grand Total	3,414	148		424	3,058	3,630

Estimate

A cost estimate was prepared and included in **Attachment C**. See Table 5.A-3 for a summary. The support cost ratio is 27%. Significant aspects of the construction estimate include the bridge and pump station.

9. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	12/28/2018	Actual
BEGIN ENVIRONMENTAL	M020	01/22/2020	Actual
PA&ED COMPLETE	M200	04/15/2022	Target
BEGIN STRUCTURE	M215	10/29/2021	Actual
PROJECT PS&E COMPLETE	M380	11/16/2022	Target
RIGHT OF WAY CERTIFICATION	M410	06/22/2023	Target
READY TO LIST	M460	06/22/2023	Target
AWARD	M495	09/19/2023	Target
APPROVE CONTRACT	M500	11/14/2023	Target
CONTRACT ACCEPTANCE	M600	10/01/2028	Target
END PROJECT EXPENDITURES	M800	11/06/2028	Target
FINAL PROJECT CLOSEOUT	M900	12/20/2028	Target

10. RISKS

A risk register was developed for this project and included as **Attachment I**. Low risk items include:

- Utility relocations
- ADL removal
- ROW acquisition at the Colton Truck Stop
- Pump station stage construction
- Impacts to existing detention basin

Medium impacts include:

- Schedule delay due to potential DSDD approval during final design
- Construction staging and impacts to traffic
- Noncompliant ADA facilities during construction

11. EXTERNAL AGENCY COORDINATION

The project requires the following coordination:

Federal Highway Administration

This Project Report has been reviewed by Caltrans' FHWA Liaison, Sergio Avila, on January 18, 2022 and this project is eligible for federal aid funding. Per the current Joint Stewardship and Oversight Agreement (Agreement) between Caltrans and FHWA, dated May 28, 2015, this project is considered to be a Delegated Project. However, should there be any future situation/circumstance that will potentially classify the project for Risk-based Project Involvement (RBPI), Caltrans shall notify FHWA and FHWA will reassess this project to determine if the project would remain for RBPI.

Santa Ana Regional Water Quality Control Board

- Clean Water Act Section 401
- Water Quality Certification

California Department of Fish and Wildlife

- Lake and Stream Bed Alteration Agreement

Local Agency

- Cooperative Agreements with City of Colton and San Bernardino County Transportation Authority
- Cooperative Agreements with Caltrans and San Bernardino County Transportation Authority

12. PROJECT REVIEWS

District Maintenance	Carlos Novelo	Date 12/10/2021
Headquarters Project Delivery Coordinator	Luis Betancourt	Date 04/06/2021
Project Manager	Michael Makary	Date 12/10/2021
District Safety Review	Kevin Chen	Date 12/10/2021
Constructability Review	Ihab Boulos	Date 12/10/2021
District Design Liaison/FHWA/ADA	Sergio Avila	Date 01/18/2022

13. PROJECT PERSONNEL

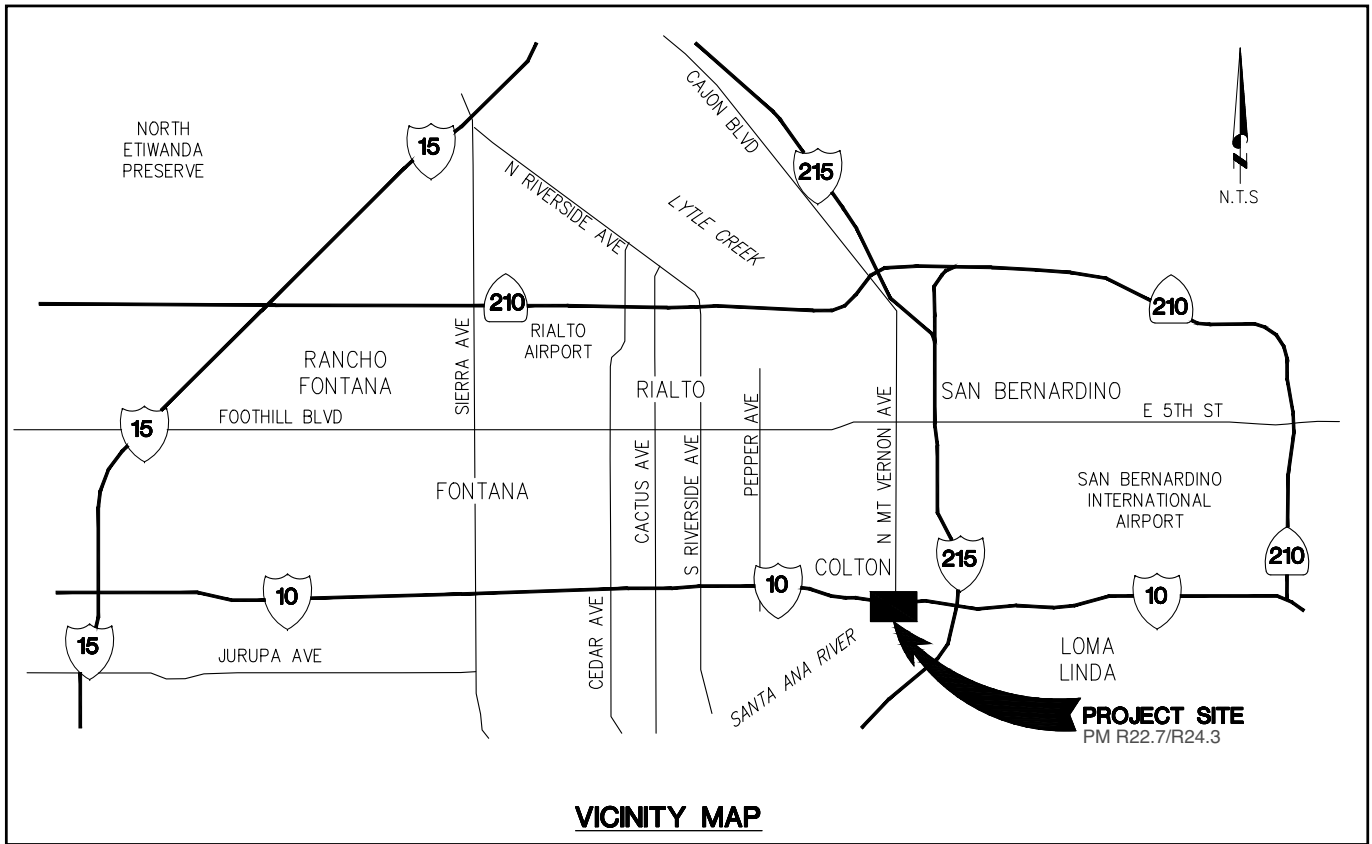
Name	Agency or Firm/Title	Phone / Fax	Email
Sal Chavez	SBCTA – Project Delivery	(909) 884-8276	schavez@gosbcta.com
Juan Lizarde	SBCTA – Project Manager	(909) 884-8276	jlizarde@gosbcta.com
Victor Ortiz	City of Colton – Public Works City Engineer	(909) 514-4210	VOrtiz@coltonca.gov
Michael Makary	Caltrans – Project Manager	(909) 501-1258	Michael.Makary@dot.ca.gov
Justine Niu	Caltrans – Design Oversight	(909) 806-3202	Justine.Niu@dot.ca.gov
Quyen Sy	Caltrans – Design Oversight	(909) 806-3214	Quyen.Sy@dot.ca.gov
Antonia Toledo	Caltrans – Environmental	(909) 501-5741	Antonia.Toledo@dot.ca.gov
Amy Lee	Caltrans – Environmental	(909) 261-3977	Amy. Lee @dot.ca.gov
Mohammad Muqtadir	Caltrans – Structures	(909) 659-6036	mohammad.muqtadir@dot.ca.gov
James Camarillo	Caltrans – Planning	(909)383-4555	James.Camarillo@dot.ca.gov
Jared Anderson	Caltrans – Landscape Architecture	(909) 806-2550	Jared.anderson@dot.ca.gov
Milele Robertson	Caltrans – Right of Way Local Programs	(909) 665-3763	Milele.Robertson@dot.ca.gov

Name	Agency or Firm/Title	Phone / Fax	Email
Rithy Sar	Caltrans – Traffic Operations	(909) 383-6433	Rithy.Sar@dot.ca.gov
Haissam Yahya	Caltrans – Traffic Operations	(909)383-4065	Haissam.Yahya@dot.ca.gov
Yong Kim	Caltrans – Truck Services	(909)383-6309	Yong.Kim@dot.ca.gov
Al Afaneh	Caltrans – TMP/DTM	(909)383-6262	Al.afaneh@dot.ca.gov
Jason Valencia	Kimley-Horn – Project Manager	(619) 744-0131	Jason.Valencia@kimley-horn.com
Caroline Dethlefsen	Kimley-Horn – Project Engineer	(619) 272-7196	Caroline.Dethlefsen@kimley-horn.com
Brian Calvert	ICF – Environmental	(949) 400-3953	Brian.Calvert@icf.com
Vincent Tong	ICF – Environmental	(949) 333-6691	Vincent.Tong@ICF.com
Jason Pack	Fehr & Peers - Traffic	(949) 308-6312	J.Pack@fehrandpeers.com
Spencer Reed	Fehr & Peers - Traffic	(949) 308-6320	S.Reed@fehrandpeers.com

14. ATTACHMENTS (Number of Pages)

- A. Location Map (1)
- B. Roadway Layout, Profiles, and Typical Sections (8)
- C. Preliminary Cost Estimate (10)
- D. Right of Way Data Sheet (6)
- E. Right of Way Map (1)
- F. Utility Conflict Map (1)
- G. Bridge Aesthetics (3)
- H. Stage Construction (4)
- I. Risk Register (2)
- J. Advanced Planning Study (APS) (13)
- K. Environmental Document Cover and Title Sheet (8)
- L. Project Category Determination (1)
- M. Traffic Management Plan (TMP) Data Sheet (5)

Attachment A: Location Map (1)



**Attachment B:
Roadway Layout, Profiles,
and Typical Sections (8)**

CURVE DATA TABLE

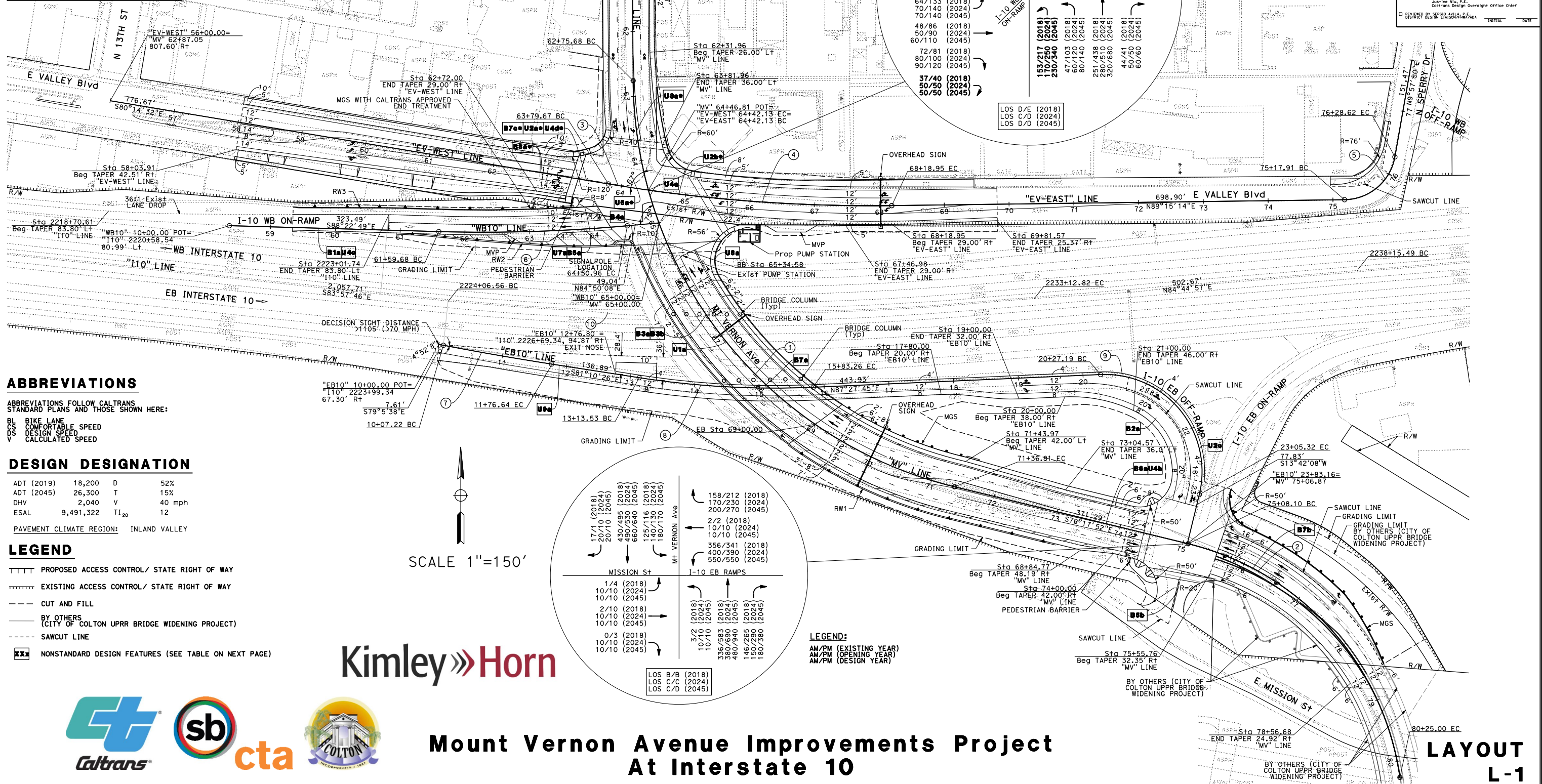
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3	2,460.00'	1°27'17"	31.23'	62.64'
4	2,460.00'	8°46'35"	188.78'	376.82'
5	100.00'	79°17'24"	82.86'	138.39'
6	2,460.00'	6°47'03"	145.81'	291.28'
7	4,667.00'	2°04'48"	84.72'	169.41'
8	1,360.00'	11°21'48"	135.31'	269.73'
9	150.00'	106°14'22"	199.92'	278.13'
10	4,599.98'	11°17'17"	454.60'	906.26'

LEGEND:

AM/PM (EXISTING YEAR)
AM/PM (OPENING YEAR)
AM/PM (DESIGN YEAR)

DIST	COUNTY	ROUTE	POST MILE	SHEET TOTAL
08	SB	10	R22.7/R24.3	NO. SHEETS

CAROLINE DETHLEFSEN
REGISTERED CIVIL ENGINEER
03/23/2021
PLANS APPROVAL DATE
KIMLEY-HORN AND ASSOCIATES, INC.
401 B STREET, SUITE 600
SAN DIEGO, CA 92101
The State of California or its officers or its agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.
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GEOMETRIC APPROVAL DRAWING
PREPARED BY: Jason Valencia, P.E.
KIMLEY-HORN AND ASSOCIATES, INC.
DATE: 03-23-21
SUBMITTED BY: Paula Beauchamp, P.E.
SANTA Director of Project Delivery and Toll Services
DATE: 03-23-21
CONCURRED BY: Holman Yotova, P.E.
Caltrans Traffic Operations
DATE: 03-23-21
APPROVED BY: Justin Niu, P.E.
Caltrans Design Oversight Office Chief
DATE: 03-23-21
DESIGNED BY: CAROLINE DETHLEFSEN
DATE: 03-23-21
CHECKED BY: JASON VALENCIA
DATE: 03-23-21



ABBREVIATIONS

ABBREVIATIONS FOLLOW CALTRANS
STANDARD PLANS AND THOSE SHOWN HERE:

BL BIKE LANE
CS COMFORTABLE SPEED
DS DESIGN SPEED
V CALCULATED SPEED

DESIGN DESIGNATION

ADT (2019)	18,200	D	52%
ADT (2045)	26,300	T	15%
DHV	2,040	V	40 mph
ESAL	9,491,322	TI ₂₀	12

PAVEMENT CLIMATE REGION: INLAND VALLEY

LEGEND

- PROPOSED ACCESS CONTROL/ STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL/ STATE RIGHT OF WAY
- CUT AND FILL
- BY OTHERS (CITY OF COLTON UPRR BRIDGE WIDENING PROJECT)
- SAWCUT LINE
- NONSTANDARD DESIGN FEATURES (SEE TABLE ON NEXT PAGE)

Kimley»Horn

Mount Vernon Avenue Improvements Project At Interstate 10



LAYOUT
L-1

NONSTANDARD DESIGN FEATURES

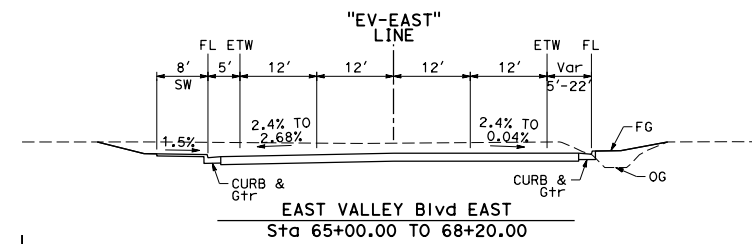
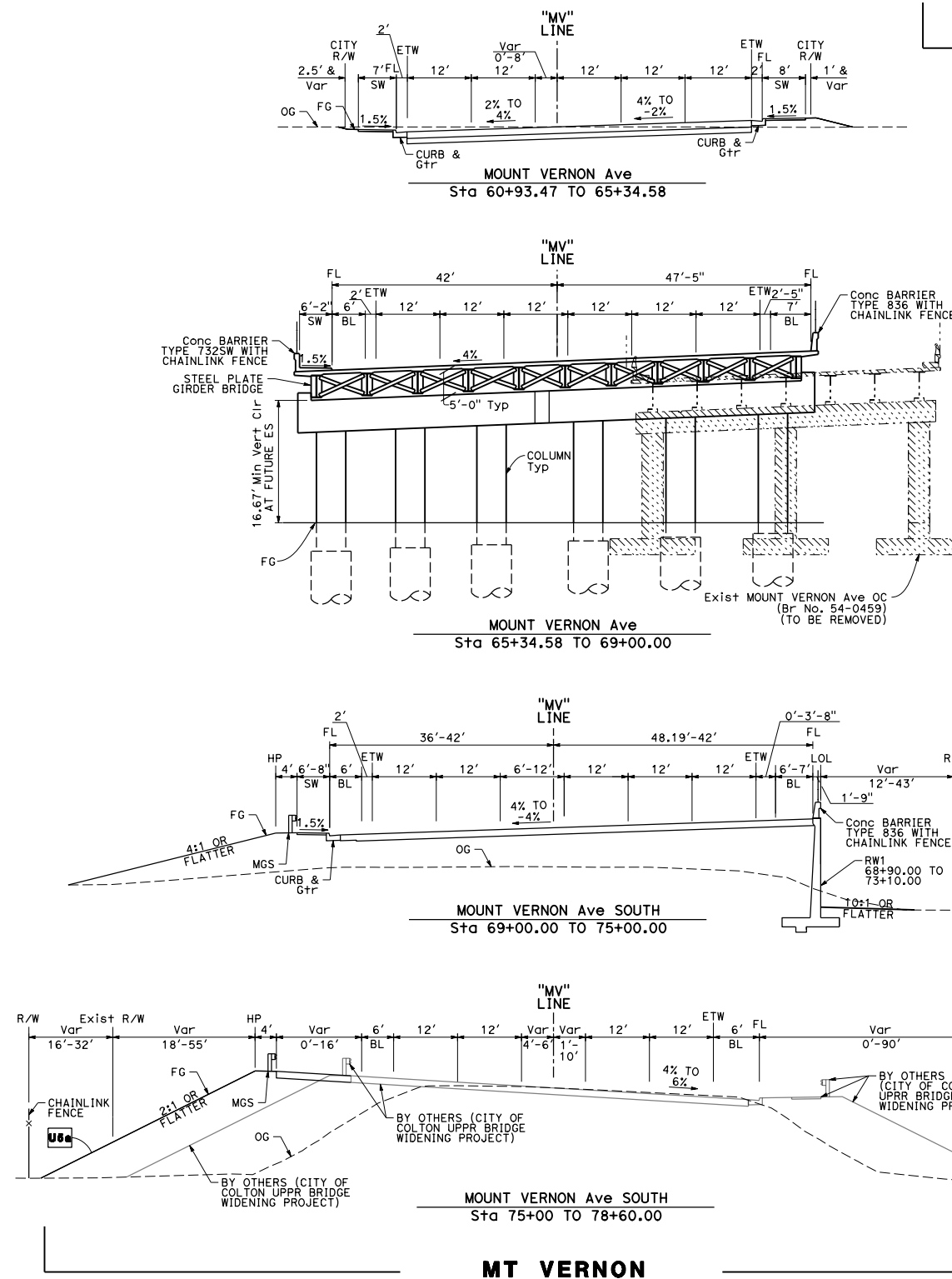
NONSTANDARD FEATURE NO.	DESIGN STANDARD FROM THE HIGHWAY DESIGN MANUAL	STANDARD	EXISTING	PROPOSED	LOCATION
B1a	201.1 STOPPING SIGHT DISTANCE (VERTICAL)	430'	324'	161'	"WB10" 59+34 TO 61+34
B2a	202.2 SUPERELEVATION	>12.00%	12.00%	8.00%	"EB10" 20+97 TO 22+35
B3a	501.3 INTERCHANGE SPACING	2 MILES	1 MILE	1 MILE	MT VERNON AVE TO I-10/I-15 INTERCHANGE
B3b	501.3 INTERCHANGE SPACING	1 MILE	0.5 MILE	0.5 MILE	N 9TH ST TO MT VERNON AVE INTERCHANGE
B4a	504.3(3) LOCATION AND DESIGN OF RAMP INTERSECTIONS	400'	NONE	NONE	E. VALLEY BLVD. TO I-10 WB ON-RAMP
B5a	504.8 ACCESS CONTROL	50'	0'	0'	"MV" 65+00
B5b	504.8 ACCESS CONTROL	OPPOSITE SIDE	0'	0'	"MV" 75+00
B6a	201.1 STOPPING SIGHT DISTANCE (VERTICAL)	300'	399'	176'	"MV" 72+70 TO 74+90
B7a	202.2 SUPERELEVATION	5.80%	4.00%	4.00%	"MV" 62+76 TO 71+37
B7b	202.2 SUPERELEVATION	10.00%	6.00%	6.00%	"MV" 76+18 TO 78+88
B7c	202.2 SUPERELEVATION	2.40%	2.00%	1.99%	"EV-West" 63+80 TO 64+42
B8a	301.1 LANE WIDTH	12'	12'	11'	"EV-West" 58+04 TO 63+22
U1a	101.1(2)(c)(2) HIGHWAY DESIGN SPEED STANDARDS	45 MPH	35 MPH	40 MPH	"MV" 61+00 TO 78+57
U2a	202.5(1) SUPERELEVATION TRANSITION	150'	260'	123'	"EV-West" 61+80 TO 64+42
U2b	202.5(2) SUPERELEVATION TRANSITION	2/3 TANGENT, 1/3 CURVE	2/3 TANGENT, 1/3 CURVE	4/5 TANGENT, 1/5 CURVE	"EV-West" 61+80 TO 64+42
U2c	202.5(1) SUPERELEVATION TRANSITION	150'	190'	100'	"EV-East" 64+42 TO 65+14
U2e	202.5(1) SUPERELEVATION TRANSITION	210'	260'	189'	"EB10" 22+35 TO 23+53
U3a	204.3 STANDARDS FOR GRADES (MINIMUM GRADES)	0.30%	0%-0.30%	0%-0.30%	"MV" 61+75 TO 63+85
U4a	204.4 VERTICAL CURVE LENGTH	400'	100'	200'	"MV" 63+85 TO 65+85
U4b	204.4 VERTICAL CURVE LENGTH	400'	600'	220'	"MV" 72+70 TO 74+90
U4c	204.4 VERTICAL CURVE LENGTH	500'	400'	200'	"WB10" 59+34 TO 61+34
U4d	204.4 VERTICAL CURVE LENGTH	200'	N/A	120'	"EV-West" 62+75 TO 63+95
U5a	304.1 SIDE SLOPES	4:1 SLOPE	2:1 SLOPE	2:1 SLOPE	"MV" 75+50 TO 79+00
U6a	403.3 ANGLE OF INTERSECTION	75°-90°	77°	67°	"MV" 64+47 & "EV WEST" 64+42
U7a	404.4(1)(b) DESIGN VEHICLE	STAA	36' BUS	45' BUS & MOTORHOME	EB E. VALLEY BLVD. TO I-10 WB ON-RAMP
U7b	404.4(2)(b) DESIGN VEHICLE	CALIFORNIA LEGAL	36' BUS	45' BUS & MOTORHOME	EB E. VALLEY BLVD. TO I-10 WB ON-RAMP
U8a	405.1(2)(b) CORNER SIGHT DISTANCE	300'	133'	227'	"MV" 64+67 TO 67+06
U8b	504.2(2) FREIGHT TRAILER - STANDARD DESIGN	Fig 504.2B 23' AT EXIT NOSE	26' AT EXIT NOSE	28.40' AT EXIT NOSE	"EB10" 10+00 TO 13+13

• OUTSIDE OF CALTRANS R/W (CITY OF COLTON CONCURRED WITH THE NONSTANDARD FEATURES WITHIN THE CITY R/W)

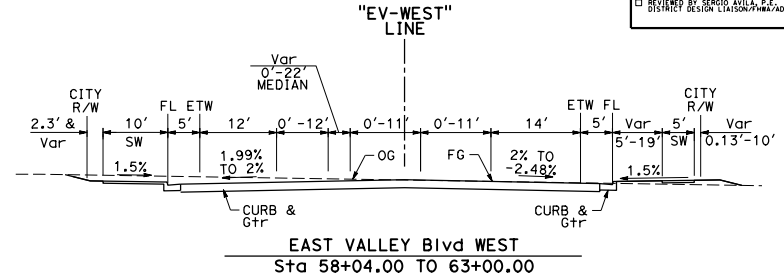
Kimley»Horn



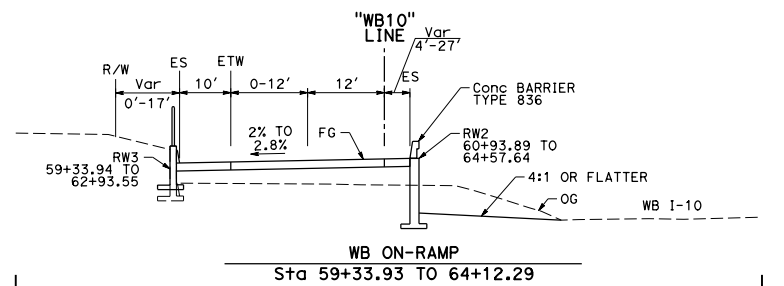
Mount Vernon Avenue Improvements Project At Interstate 10



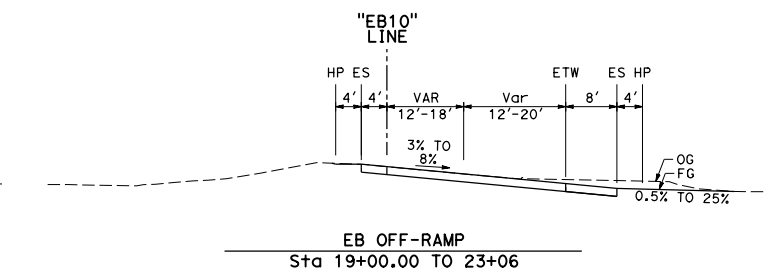
East Valley Blvd East



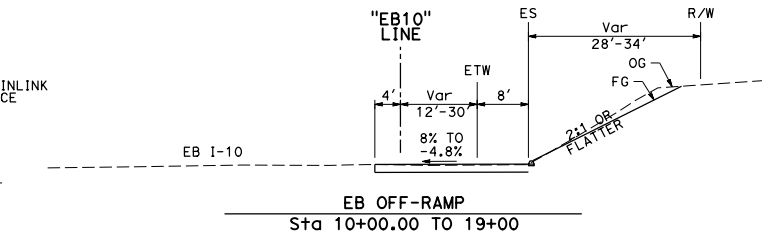
East Valley Blvd West



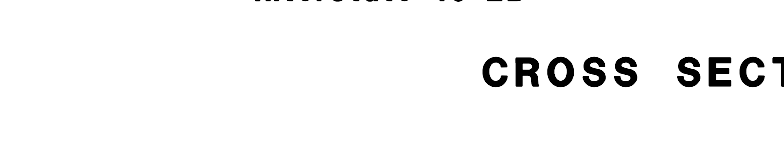
Interstate 10 WB



EB OFF-RAMP



EB OFF-RAMP



Interstate 10 EB

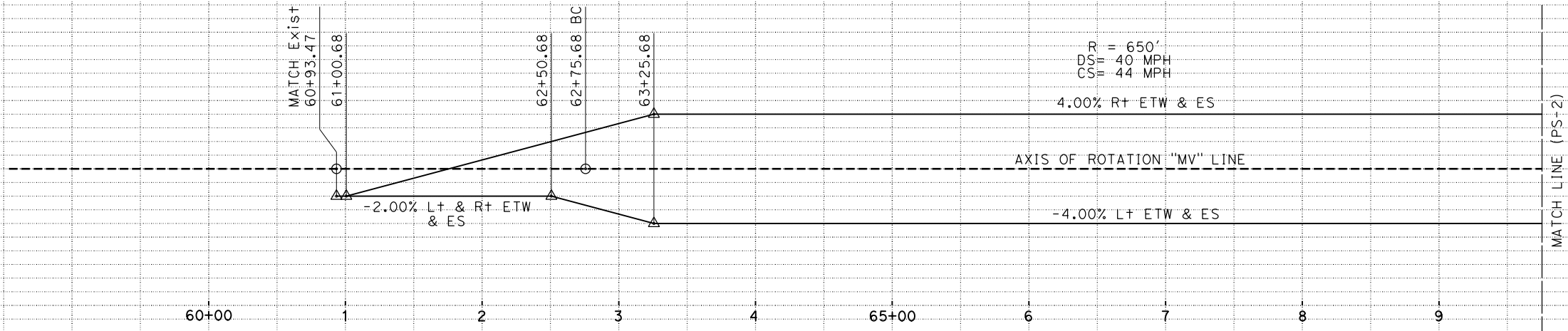
CROSS SECTION X-1

DIST	COUNTY	ROUTE	POST MILE	SHEET TOTAL
08	SB	10	R22.7/R24.3	NO. SHEETS

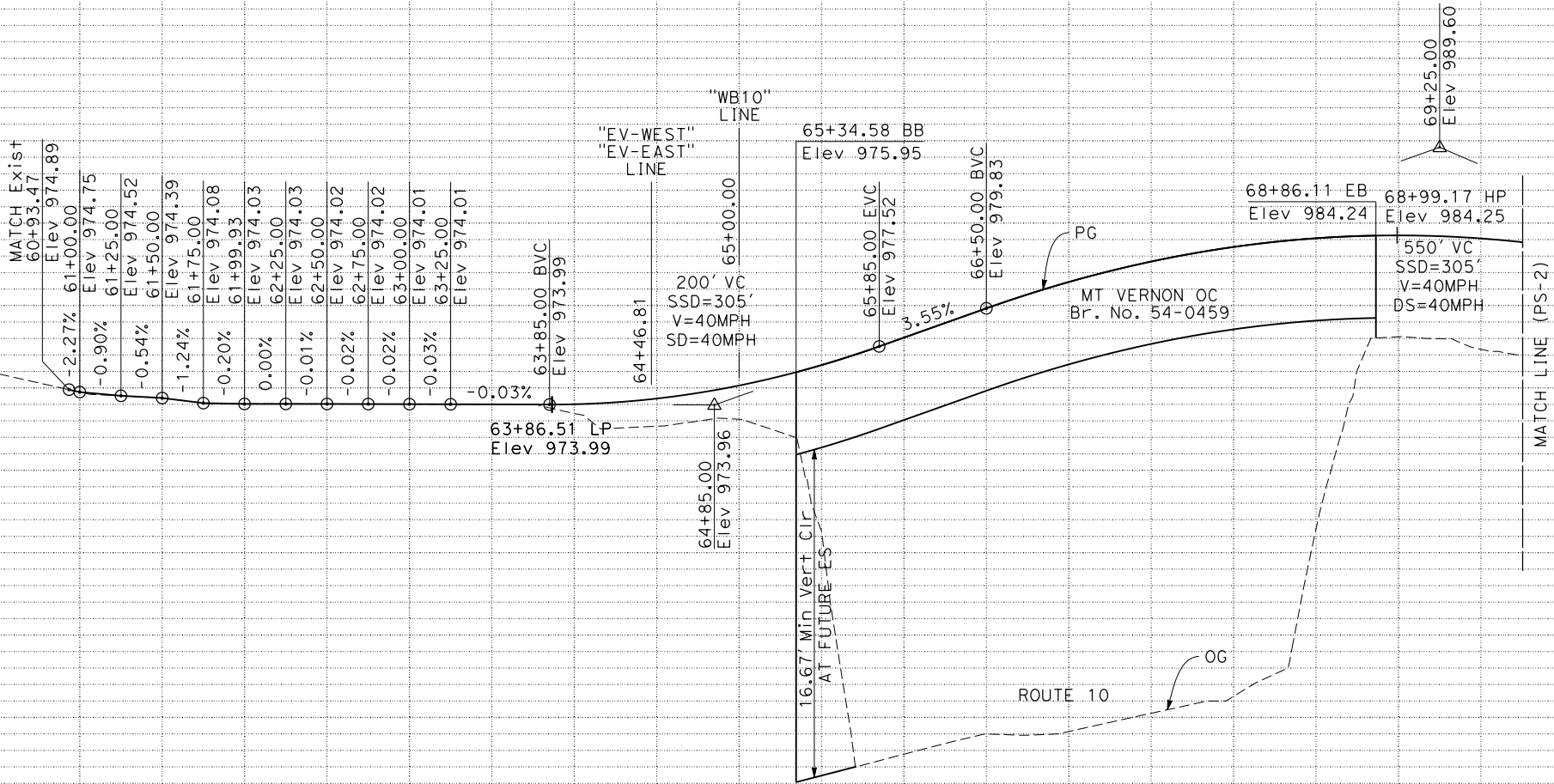
CAROLINE DETHELFSEN
REGISTERED CIVIL ENGINEER
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PLANS APPROVAL DATE
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401 B STREET, SUITE 600
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GEOMETRIC APPROVAL DRAWING

PREPARED BY: Jason Valencia, P.E., Kimley-Horn and Associates, Inc. DATE: _____
SUBMITTED BY: Paula Beauchamp, P.E., SBCTA Director of Project Delivery and Toll Services DATE: _____
CONCURRED BY: Holman Yajima, P.E., Caltrans Traffic Operations DATE: _____
APPROVED BY: Justine Niu, P.E., Caltrans Design Oversight Office Chief DATE: _____
☐ DESIGN BY: JASON VALENCIA, P.E. INITIAL: _____ DATE: _____

[illegible]

SUPERELEVATION DIAGRAM



PROFILE

ROUTE 10

"MV" LINE

PROFILE AND SUPERELEVATION DIAGRAM

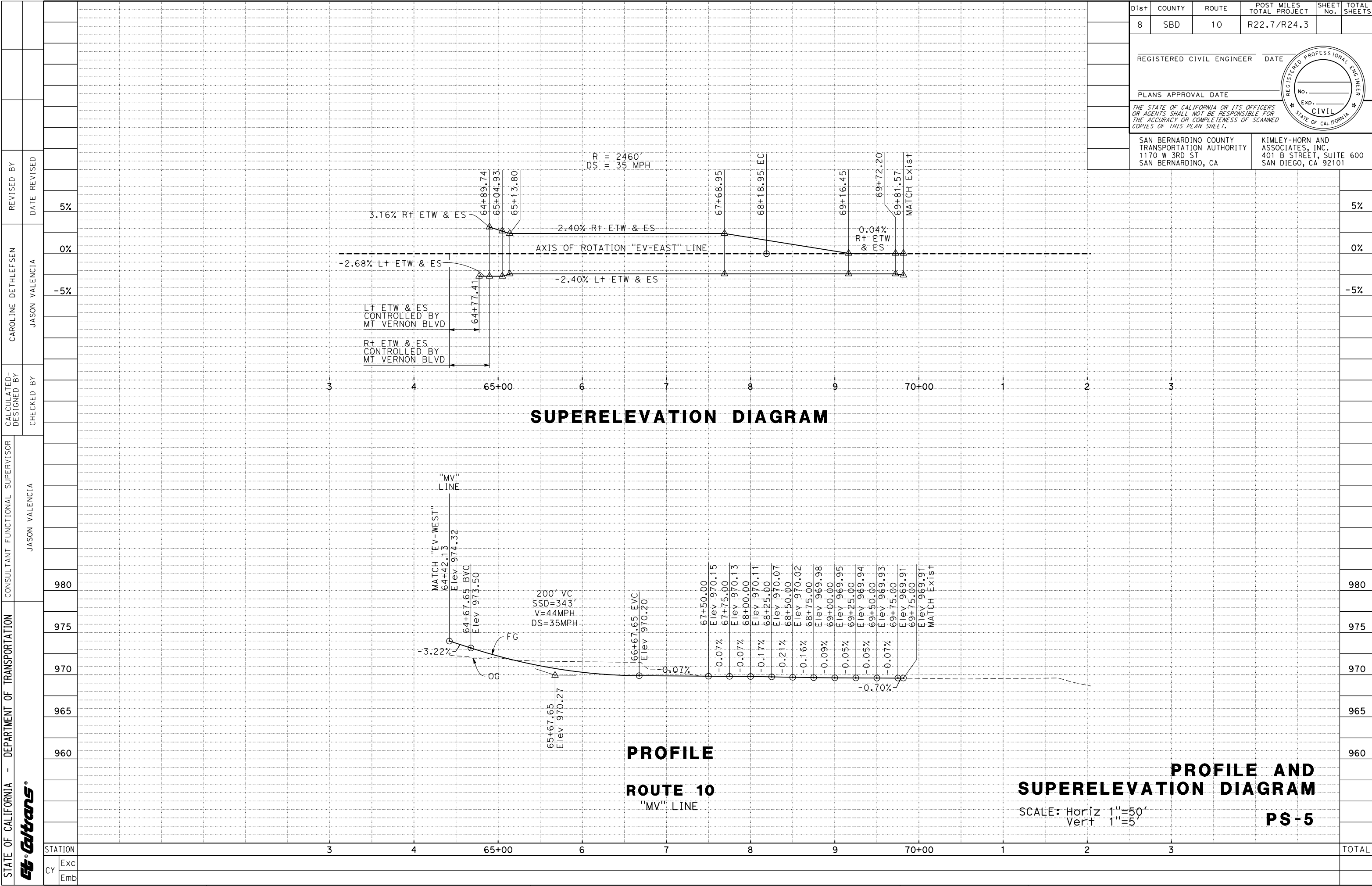
SCALE: Horiz 1"=50'
Vert 1"=5'

PS-1

[illegible]

[illegible]

[illegible]



Attachment C: Preliminary Cost Estimate (10)

COST ESTIMATE

Project ID: 0816000102 EA: 1G800

Type of Estimate : PA&ED Project Report

Program Code : 800.100

Route 10 PM R22.7/R24.3

Description: Mt. Vernon Avenue Improvements Project at Interstate 10

Alternative : Build Alternative

	Current Cost	Escalated Cost
ROADWAY ITEMS	\$ 27,013,200.00	\$ 28,810,000.00
STRUCTURE ITEMS	\$ 22,648,000.00	\$ 24,150,000.00
SUBTOTAL CONSTRUCTION COST	\$ 49,661,200.00	\$ 52,960,000.00
RIGHT OF WAY	\$ 3,813,000.00	\$ 3,813,000.00
TOTAL CAPITAL COST	\$ 53,475,000.00	\$ 56,773,000.00
PA/ED SUPPORT	\$ 2,900,000.00	\$ 2,900,000.00
PS&E SUPPORT	\$ 3,000,000.00	\$ 3,000,000.00
RIGHT OF WAY SUPPORT	\$ 1,438,720.00	\$ 1,500,000.00
CONSTRUCTION SUPPORT	\$ 6,860,000.00	\$ 7,000,000.00
TOTAL SUPPORT COST	\$ 14,198,720.00	\$ 14,400,000.00

TOTAL PROJECT COST	\$ 68,000,000.00	\$ 71,173,000.00
---------------------------	-------------------------	-------------------------

	year
Date (Month/Year) of Estimate	11 / 2021
Estimated Date (Month/Year) of Construction	1 / 2024
Number of Months of Escalation	26
Number of Years of Escalation	2.17
If Project has been programmed enter Programmed Amount	\$ -
Number of Working Days	420
Number of Plant Establishment Days	786

Estimated Project Schedule

PID Approval	December 2018
PA/ED Approval	October 2021 (Target)
PS&E	September 2022 (Target)
RTL	June 2023 (Target)
Begin Construction	January 2024 (Target)

Reviewed by Jason Valencia, PE 5/14/2021 (619) 744-0131

Office Engineer/Cost Estimate Certifier	Date	Phone
--	-------------	--------------

Approved by Project Manager Michael Makary, PE 5/14/2021 (909) 501-1258

Project Manager	Date	Phone
------------------------	-------------	--------------

Escalation rates used in this estimate for Highway Construction Capital Costs are 3.0% compounded annually to Construction year. The decision to use 3.0% for this estimate was as per the Office of Office Engineer. (REV12/13/12)

I. ROADWAY ITEMS

Section		Cost	
1	Earthwork	\$	1,297,400
2	Structural Section	\$	2,775,400
3	Drainage	\$	5,200,000
4	Specialty Items	\$	1,421,500
5	Environmental	\$	1,807,000
	5A Environmental Mitigation	\$	500,000
	5B Landscape and Irrigation	\$	650,000
	5C Erosion Control	\$	100,000
	5D NPDES	\$	557,000
6	Traffic Items	\$	3,430,000
	6A Electrical	\$	1,600,000
	6B Signing and Striping	\$	750,000
	6C Traffic Management Plan	\$	80,000
	6D Traffic Control	\$	1,000,000
7	Detours	\$	-
8	Minor Items	\$	836,600
9	Roadway Mobilization	\$	1,676,800
10	Supplemental Work	\$	437,700
11	Overhead		\$1,970,800
12	State Furnished		\$783,300
13	Contingencies		\$5,376,700
TOTAL ROADWAY ITEMS		\$	27,013,200

Estimate Prepared By :	Caroline Dethlefsen, PE - Project Engineer	5/14/2021	(619) 272-7196
	Name and Title	Date	Phone
Estimate Reviewed By :	Jason Valenica, PE - Project Manager	5/14/2021	(619) 744-0131
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

PRELIMINARY
PROJECT COST ESTIMATE

SECTION 1 EARTHWORK

Item code		Unit	Quantity		Unit Price (\$)		Cost
190101	Roadway Excavation	CY	12836.05	x	40.00	= \$	513,440
19010X	Roadway Excavation (Type X) ADL	CY		x		= \$	-
194001	Ditch Excavation	CY		x		= \$	-
198010	Imported Borrow	CY	10,799.12	x	50.00	= \$	539,950
192037	Structure Excavation (Retaining Wall)	CY		x		= \$	-
193013	Structure Backfill (Retaining Wall)	CY		x		= \$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		= \$	-
16010X	Clearing & Grubbing	ACRE	1.44	x	100,000.00	= \$	144,000
170101	Develop Water Supply	LS	1	x	100,000.00	= \$	100,000
				x		= \$	-
				x		= \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 1,297,400
--------------------------------------	---------------------

Section 2 STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price (\$)		Cost
401050	Jointed Plain Concrete Pavement	CY		x		= \$	-
400050	Continuously Reinforced Concrete Pavement	CY		x		= \$	-
404092	Seal Pavement Joint	LF		x		= \$	-
404093	Seal Isolation Joint	LF		x		= \$	-
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		= \$	-
413118	Seal Pavement Joint (Asphalt Rubber)	LF		x		= \$	-
280010	Rapid Strength Concrete Base	CY		x		= \$	-
410095	Dowel Bar (Drill and Bond)	EA		x		= \$	-
390132	Hot Mix Asphalt (Type A)	TON	13,640	x	100.00	= \$	1,364,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	3,621	x	100.00	= \$	362,100
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		= \$	-
260203	Class 2 Aggregate Base	CY	16,798	x	40.00	= \$	671,920
290201	Asphalt Treated Permeable Base	CY		x		= \$	-
250401	Class 4 Aggregate Subbase	CY		x		= \$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		= \$	-
397005	Tack Coat	TON	64	x	2,000.00	= \$	128,000
377501	Slurry Seal	TON		x		= \$	-
3750XX	Screenings (Type XX)	TON		x		= \$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		= \$	-
370001	Sand Cover (Seal)	TON		x		= \$	-
731504	Minor Concrete (Curb and Gutter)	CY	360	x	320.00	= \$	115,200
731521	Minor Concrete (Sidewalk)	CY	369	x	330.00	= \$	121,770
39407X	Place Hot Mix Asphalt Dike (Type X)	LF		x		= \$	-
150771	Remove Asphalt Concrete Dike	LF		x		= \$	-
420201	Grind Existing Concrete Pavement	SQYD		x		= \$	-
150860	Remove Base and Surfacing	CY		x		= \$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		= \$	-
15312X	Remove Concrete	LF/CY/LS		x		= \$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		= \$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD	564	x	22.00	= \$	12,408
39405X	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		= \$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		= \$	-
420102	Groove Existing Concrete Pavement	SQYD		x		= \$	-
390136	Minor Hot Mix Asphalt	TON		x		= \$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		= \$	-

TOTAL STRUCTURAL SECTION ITEMS	\$ 2,775,400
---------------------------------------	---------------------

PRELIMINARY
PROJECT COST ESTIMATE

SECTION 3 DRAINAGE

Item code		Unit	Quantity	Price	Amount
15080X	Remove Culvert	EA/LF	x	= \$	-
150820	Modify Inlet	EA	x	= \$	-
155232	Sand Backfill	CY	x	= \$	-
15020X	Abandon Culvert	EA/LF	x	= \$	-
152430	Adjust Inlet	LF	x	= \$	-
155003	Cap Inlet	EA	x	= \$	-
510501	Minor Concrete	CY	x	= \$	-
510502	Minor Concrete (Minor Structure)	CY	x	= \$	-
510512	Minor Concrete (Box Culvert)	CY	x	= \$	-
620XXX	XX" Alternative Pipe Culvert (Type X)	LF	x	= \$	-
6411XX	XX" Plastic Pipe	LF	x	= \$	-
65XXXX	XX" Reinforced Concrete Pipe (Type X)	LF	x	= \$	-
6650XX	XX" Corrugated Steel Pipe (0.XXX" Thick)	LF	x	= \$	-
68XXXX	XX" Plastic Pipe (Edge Drain)	LF	x	= \$	-
69011X	XX" Corrugated Steel Pipe Downrain (0.XXX" Thick)	LF	x	= \$	-
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF	x	= \$	-
70XXXX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF	x	= \$	-
7050XX	XX" Steel Flared End Section	EA	x	= \$	-
703233	Grated Line Drain	LF	x	= \$	-
72XXXX	Rock Slope Protection (Type and Method)	CY/TON	x	= \$	-
72901X	Rock Slope Protection Fabric (Class X)	SQYD	x	= \$	-
721420	Concrete (Ditch Lining)	CY	x	= \$	-
721430	Concrete (Channel Lining)	CY	x	= \$	-
750001	Miscellaneous Iron and Steel	LB	x	= \$	-
XXXXXX	Drainage	LS	1	x 1,200,000.00	= \$ 1,200,000
XXXXXX	Pump Station	LS	1	x 4,000,000.00	= \$ 4,000,000

TOTAL DRAINAGE ITEMS	\$ 5,200,000
-----------------------------	---------------------

SECTION 4 SPECIALTY ITEMS

Item code		Unit	Quantity	Unit Price (\$)	Cost
080050	Progress Schedule (Critical Path Method)	LS	x	= \$	-
582001	Sound Wall (Masonry Block)	SQFT	x	= \$	-
510530	Minor Concrete (Wall)	CY	x	= \$	-
15325X	Remove Sound Wall	LF/LS	x	= \$	-
070300	Lead Compliance Plan	LS	x	= \$	-
141120	Treated Wood Waste	LB	14,935	x 0.59	= \$ 8,812
153221	Remove Concrete Barrier	LF	x	= \$	-
150662	Remove Metal Beam Guard Railing	LF	1,178	x 18.00	= \$ 21,204
150668	Remove Flared End Section	EA	x	= \$	-
8000XX	Chain Link Fence (Type XX)	LF	1,007	x 30.00	= \$ 30,210
80XXXX	XX" Chain Link Gate (Type CL-6)	EA	x	= \$	-
832005	Midwest Guardrail System	LF	851	x 50.66	= \$ 43,131
839301	Single Thrie Beam Barrier	LF	x	= \$	-
839310	Double Thrie Beam Barrier	LF	x	= \$	-
839521	Cable Railing	LF	x	= \$	-
8395XX	Terminal System (Type CAT)	EA	x	= \$	-
839585	Alternative Flared Terminal System	EA	x	= \$	-
839584	Alternative In-line Terminal System	EA	2	x 10,000.00	= \$ 20,000
4906XX	CIDH Concrete Piling (Insert Diameter)	LF	x	= \$	-
839XXX	Crash Cushion (Insert Type)	EA	3	x 8,597.16	= \$ 25,791
83XXXX	Concrete Barrier (Insert Type)	LF	952	x 212.00	= \$ 201,856
520103	Bar Reinforced Steel (Retaining Wall)	LB	x	= \$	-
510060	Structural Concrete, Retaining Wall	CY	936	x 883.13	= \$ 826,610
513553	Retaining Wall (Masonry Wall)	SQFT	x	= \$	-
511035	Architectural Treatment	SQFT	x	= \$	-
598001	Anti-Graffiti Coating	SQFT	x	= \$	-
203070	Rock Stain	SQFT	x	= \$	-
5136XX	Reinforced Concrete Crib Wall (Type X)	SQFT	x	= \$	-
83954X	Transition Railing (Type X)	EA	x	= \$	-
597601	Prepare and Stain Concrete	SQFT	x	= \$	-
839561	Rail Tensioning Assembly	EA	x	= \$	-
83958X	End Anchor Assembly (Type X)	EA	x	= \$	-
44466	Pedestrian Railing	LF	801	x 135.82	= \$ 108,792
066105	Resident Engineers Office	LS	1	x 135,000.00	= \$ 135,000

TOTAL SPECIALTY ITEMS	\$ 1,421,500
------------------------------	---------------------

PRELIMINARY
PROJECT COST ESTIMATE

Section 5 ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity	Price	Amount
	Biological Mitigation	LS	1	x 500,000.00	= \$ 500,000
141000	Temporary Fence (Type ESA)	LF		x	= \$ -
<u>Subtotal Environmental</u>					<u>\$ 500,000</u>

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity	Price	Amount
20XXXX	Highway Planting	LS	1	x 200,000.00	= \$ 200,000
20XXXX	Irrigation System	LS	1	x 200,000.00	= \$ 200,000
204099	Plant Establishment Work	LS	1	x 150,000.00	= \$ 150,000
204101	Extend Plant Establishment Work	LS		x	= \$ -
20XXXX	Follow-up Landscape Project	LS		x	= \$ -
150685	Remove Irrigation Facility	LS		x	= \$ -
20XXXX	Maintain Existing (Irrigation or Planted Areas)	LS		x	= \$ -
206400	Check and Test Existing Irrigation Facilities	LS		x	= \$ -
21011X	Imported Topsoil (X)	CY/TON		x	= \$ -
20XXXX	Rock Blanket, Rock Mulch, DG, Gravel Mulch	SQFT/SQYD		x	= \$ -
200122	Weed Germination	SQYD		x	= \$ -
208304	Water Meter	EA		x	= \$ -
2087XX	XX" Conduit (Use for Irrigation x-overs)	LF		x	= \$ -
20890X	Extend X" Conduit (Use for Extension of Irrigation x-overs)	LF		x	= \$ -
XXXXXX	Aesthetic Treatment (hardscape)	LS	1	x 100,000.00	= \$ 100,000
<u>Subtotal Landscape and Irrigation</u>					<u>\$ 650,000</u>

5C - EROSION CONTROL

Item code		Unit	Quantity	Price	Amount
210010	Move In/Move Out (Erosion Control)	EA		x	= \$ -
210350	Fiber Rolls	LF		x	= \$ -
210360	Compost Sock	LF		x	= \$ -
2102XX	Rolled Erosion Control Product (X)	SQFT		x	= \$ -
21025X	Bonded Fiber Matrix	SQFT/ACRE		x	= \$ -
210300	Hydromulch	SQFT		x	= \$ -
210420	Straw	SQFT		x	= \$ -
210430	Hydroseed	SQFT		x	= \$ -
210600	Compost	SQFT		x	= \$ -
210630	Incorporate Materials	SQFT		x	= \$ -
XXXXXX	Erosion Control	LS	1	x 100,000.00	= \$ 100,000
<u>Subtotal Environmental</u>					<u>\$ 100,000</u>

5D - NPDES

Item code		Unit	Quantity	Price	Amount
130300	Prepare SWPPP	LS	1	x 20,000.00	= \$ 20,000
130200	Prepare WPCP	LS		x	= \$ -
130100	Job Site Management	LS	1	x 100,000.00	= \$ 100,000
130330	Storm Water Annual Report	EA	1	x 2,000.00	= \$ 2,000
130310	Rain Event Action Plan (REAP)	EA		x	= \$ -
130320	Storm Water Sampling and Analysis Day	EA		x	= \$ -
130520	Temporary Hydraulic Mulch	LS	1	x 75,000.00	= \$ 75,000
130550	Temporary Hydroseed	LS	1	x 75,000.00	= \$ 75,000
130505	Move-In/Move-Out (Temporary Erosion Control)	EA	4	x 30,000.00	= \$ 120,000
130640	Temporary Fiber Roll	LS	1	x 25,000.00	= \$ 25,000
130900	Temporary Concrete Washout	LS	1	x 30,000.00	= \$ 30,000
130710	Temporary Construction Entrance	EA	4	x 5,000.00	= \$ 20,000
130610	Temporary Check Dam	LS	1	x 40,000.00	= \$ 40,000
130620	Temporary Drainage Inlet Protection	LS	1	x 25,000.00	= \$ 25,000
130730	Street Sweeping	LS		x	= \$ -
	CGP Fees	LS	1	x 25,000.00	= \$ 25,000
Supplemental Work for NPDES					
066595	Water Pollution Control Maintenance Sharing*	LS		x	= \$ -
066596	Additional Water Pollution Control**	LS	1	x 15,000.00	= \$ 15,000
066597	Storm Water Sampling and Analysis***	LS		x	= \$ -
<u>Subtotal NPDES (Without Supplemental Work)</u>					<u>\$ 557,000</u>

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL	\$ 1,807,000
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PRELIMINARY
PROJECT COST ESTIMATE

Section 6 TRAFFIC ITEMS

6A - Traffic Electrical

Item code	Unit	Quantity	Unit Price (\$)	Cost
860460 Lighting and Sign Illumination	LS	1	x 400,000.00	= \$ 400,000
860201 Signal and Lighting	LS	2	x 350,000.00	= \$ 700,000
860990 Closed Circuit Television System	LS		x	= \$ -
86110X Ramp Metering System (Location X)	LS	1	x 90,000.00	= \$ 90,000
86070X Interconnection Conduit and Cable/Modfiy Fiber Optic Syste	LF/LS	1	x 100,000.00	= \$ 100,000
5602XX Furnish Sign Structure (Type X)	LB		x	= \$ -
5602XX Install Sign Structure (Type X)	LB		x	= \$ -
498040 XX" CIDHC Pile (Sign Foundation)	LF		x	= \$ -
86080X Inductive Loop Detectors	EA/LS		x	= \$ -
8609XX Traffic Monitoring Station (Type X) - CCTV	LS	1	x 150,000.00	= \$ 150,000
15075X Remove Sign Structure	EA/LS		x	= \$ -
Modify Ramp Meter System	EA	1	x 60,000.00	= \$ 60,000
152641 Modify Sign Structure	EA		x	= \$ -
860090 Maintain Existing Traffic Management System Elements During Construction	LS	1	x 100,000.00	= \$ 100,000
Subtotal Traffic Electrical				\$ 1,600,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
566011 Roadside Sign - One Post	EA		x	= \$ -
566012 Roadside Sign - Two Post	EA		x	= \$ -
5602XX Furnish Sign	SQFT		x	= \$ -
568016 Install Sign Panel on Existing Frame	SQFT		x	= \$ -
150711 Remove Painted Traffic Stripe	LF		x	= \$ -
141101 Remove Yellow Painted Traffic Stripe (Hazardous Waste)	LF		x	= \$ -
150712 Remove Painted Pavement Marking	SQFT		x	= \$ -
150742 Remove Roadside Sign	EA		x	= \$ -
152320 Reset Roadside Sign	EA		x	= \$ -
152390 Relocate Roadside Sign	EA		x	= \$ -
82010X Delineator (Class X)	EA		x	= \$ -
840502 Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF		x	= \$ -
846012 Thermoplastic Crosswalk and Pavement Marking (Enhanced Wet Night Visibility)	SQFT		x	= \$ -
120090 Construction Area Signs	LS	1	x 50,000.00	= \$ 50,000
XXXXXX Signing and Striping	LS	1	x 700,000.00	= \$ 700,000
Subtotal Traffic Signing and Striping				\$ 750,000

6C - Traffic Management Plan

Item code	Unit	Quantity	Unit Price (\$)	Cost
12865X Portable Changeable Message Signs	EA/LS		x	= \$ -
XXXXXX TMP Items	LS	1	x 80,000.00	= \$ 80,000
Subtotal Traffic Management Plan				\$ 80,000

6D - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120199 Traffic Plastic Drum	EA		x	= \$ -
12016X Channelizer (Type X)	EA		x	= \$ -
120120 Type III Barricade	EA		x	= \$ -
129100 Temporary Crash Cushion Module	EA		x	= \$ -
120100 Traffic Control System	LS		x	= \$ -
129110 Temporary Crash Cushion	EA		x	= \$ -
129000 Temporary Railing (Type K)	LF		x	= \$ -
120149 Temporary Pavement Marking (Paint)	SQFT		x	= \$ -
82010X Delineator (Class X)	EA		x	= \$ -
XXXXXX Stage Construction and Traffic Handling	LS	1	x 1,000,000.00	= \$ 1,000,000
Subtotal Stage Construction and Traffic Handling				\$ 1,000,000

TOTAL TRAFFIC ITEMS	\$ 3,430,000
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PRELIMINARY
PROJECT COST ESTIMATE

Section 7 DETOURS*

Item code	Unit	Quantity	Unit Price (\$)	Cost
190101 Roadway Excavation	CY	x	= \$	-
19801X Imported Borrow	CY/TON	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
26020X Class 2 Aggregate Base	TON/CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
130620 Temporary Drainage Inlet Protection	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
128601 Temporary Signal System	LS	x	= \$	-
120149 Temporary Pavement Marking (Paint)	SQFT	x	= \$	-
80010X Temp Roadway for Stage Construction	EA	x	= \$	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS	\$ -
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SUBTOTAL SECTIONS 1-7 \$ 15,931,300

Section 8 MINOR ITEMS (Use Appropriate percentage between 5%-10%)

Total of Section 1-7	15,931,300	x	5%	= \$	796,565
Bus Stop Relocation	2	x	\$20,000.00	= \$	40,000

TOTAL MINOR ITEMS	\$ 836,600
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Section 9 ROADWAY MOBILIZATION*

Item code					
999990	Total Section 1-8	\$	16,767,900	x	10% = \$ 1,676,790

TOTAL MOBILIZATION	\$ 1,676,800
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* For Project less than 50 Working Days "Mobilization" is not required as a separate contract item, however contract item prices should take into consideration mobilization as part of the price.

Note: If the building portion of the project is greater than 50% of the total project cost, then mobilization is not included.

Section 10 SUPPLEMENTAL WORK

Total Section 1-8 = \$ 16,767,900 1% = \$ 167,679

Item code	Unit	Quantity	Unit Price (\$)	Cost
066670 Payment Adjustments For Price Index	LS	1	x 50,000.00	= \$ 50,000
Fluctuations				
066094 Value Analysis	LS	1	x 15,000.00	= \$ 15,000
066070 Maintain Traffic	LS	1	x 50,000.00	= \$ 50,000
066919 Dispute Resolution Board	LS	1	x 30,000.00	= \$ 30,000
	LS		x	= \$ -
066597 Storm Water Sampling and analysis	LS	1	x 10,000.00	= \$ 10,000
066610 Partnering	LS	1	x 20,000.00	= \$ 20,000
066845 Incentive For Asphalt QAQC	LS	1	x 50,000.00	= \$ 50,000
066222 Locate Existing Crossover	LS	1	x 20,000.00	= \$ 20,000
066861 Maintain Existing Electrical System	LS	1	x 10,000.00	= \$ 10,000

NPDES Supplemental Work specified in Section 5C = \$ 15,000

TOTAL SUPPLEMENTAL WORK	\$ 437,700
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PRELIMINARY
PROJECT COST ESTIMATE

Section 11 OVERHEAD

Item code		Unit	Quantity		Unit Price (\$)		Cost
090100	Time-Related Overhead	WDAY	420	X	\$4,692.38	=	\$1,970,800

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

TOTAL OVERHEAD	\$1,970,800
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Section 12 STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price (\$)		Cost
066063	Traffic Management Plan - Public Information	LS	1	x	350,000.00	=	\$350,000
066901	Water Expenses	LS	1	x	83,000.00	=	\$83,000
8609XX	Traffic Monitoring Station (X)	LS		x		=	\$0
066841	Traffic Controller Assembly	LS	1	x	25,000.00	=	\$25,000
066062	COZEEP Contract	LS	1	x	160,000.00	=	\$160,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	\$0
066065	Tow Truck Service Patrol	LS	1	x	90,288.00	=	\$90,288
066871	Electrical Service Connections	LS	1	x	42,000.00	=	\$42,000
066561	Sign Panels & Hardware	LS	1	x	7,000.00	=	\$7,000
066803	Padlocks	LS	1	x	1,000.00	=	\$1,000
	Annual Construction General Permit Fee	LS	1	x	25,000.00	=	\$25,000

TOTAL STATE FURNISHED	\$783,300
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Section 13 CONTINGENCY

Use appropriate percentage based on the detail of estimate. Anything other than the suggested contingency in the PDPM needs to be *justified. (Pre-PSR 30%-50%, PSR 25%, PR 20%, PAR 15%, After PAR 10%)

Total Section 1-12	\$	21,636,500.00	x	25%	=	\$5,376,671
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TOTAL CONTINGENCY	\$5,376,700
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*Justification:

II. STRUCTURES ITEMS

Bridge 1

DATE OF ESTIMATE	09/10/19			00/00/00
Bridge Name	Mt Vernon			XXXXXXXXXXXXXXXXXXXX
Bridge Number	0459			57-XXX
Structure Type				XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	98.33 LF	var	LF	0.00 LF
Total Bridge Length (Feet)	365.42 LF		LF	0.00 LF
Total Area (Square Feet)	35932.40 SQFT		SQFT	0.00 SQFT
Structure Depth (Feet)	LF		LF	0.00 LF
Footing Type (pile or spread)	Pile		Pile	XXXXXXXXXXXXXXXXXXXX
Subtotal	\$11,769,537.00			
Time Related Overhead	\$1,176,954.00			
Mobilization (10%)	\$1,176,954.00			
Subtotal Bridge Items	\$14,123,445.00			
Contingencies @25%	\$3,530,861.00			
Bridge Subtotal Cost	\$17,654,306.00			
Stage Construction	\$4,413,576.00			
Bridge Total Cost	\$22,067,882.00			
Cost Per Square Foot	\$614.15			\$0.00
Bridge Removal (Contingencies Included)	\$579,400.00			

COST OF EACH STRUCTURE	\$22,648,000.00		\$0.00	\$0.00
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DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF		0.00 LF		0.00 LF
Total Length (Feet)	0.00 LF		0.00 LF		0.00 LF
Total Area (Square Feet)	0.00 SQFT		0.00 SQFT		0.00 SQFT
Structure Depth (Feet)	0.00 LF		0.00 LF		0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0.00		\$0.00		\$0.00

COST OF EACH STRUCTURE	\$0.00		\$0.00	\$0.00
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TOTAL COST OF BRIDGES	\$22,648,000.00
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TOTAL COST OF BUILDINGS	\$0.00
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TOTAL COST OF STRUCTURES¹	\$22,648,000.00
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Estimate Prepared By: Andy Sanford, PE
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

5/20/2020
Date

¹Structure's Estimate includes Overhead and Mobilization.

III. RIGHT OF WAY

A)	Acquisition, including Excess Lands, Fees, Damages, Goodwill, Mitigation, SB-1210, Expert Witness, and Railroad	\$	3,533,303
B)	Utility Relocation (State Share) + Potholing (Design Phase)	\$	269,456
C)	Utility - Advance Engineering Estimate	\$	10,000
D)	RAP and/or Last Resort Housing	\$	0
E)	Cost (Eng. Appraisals, Etc.)* \$59,500Included in Right of Way Support	\$	0
F)	Title and Escrow *Included in cost A	\$	0

G)	TOTAL R/W ESTIMATE:	\$3,812,759.00
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I)	RIGHT OF WAY SUPPORT:	\$1,438,720.00
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Support Cost Estimate Prepared By	Kari Anvick	(951) 329-9666
	Project Coordinator ¹	Phone
Utility Estimate Prepared By	Curtis Bibolet	(951) 801-5402
	Utility Coordinator ²	Phone
R/W Acquisition Estimate Prepared By	Kari Anvick	(951) 329-9666
	Right of Way Estimator ³	Phone

¹ When estimate has Support Costs only

² When estimate has Utility Relocation

³ When R/W Acquisition is required

**Attachment D:
Right of Way Data Sheet (6)**

To: Caltrans District 08
Office of Right of Way and Land Surveys

Date: April 20, 2021

Attention: Branch Chief
Right of Way Local Programs

Co. San Bernardino Rte. I-10 /Mt Vernon I/C
Expense Authorization: 08-1G800

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description: Interstate 10 (I-10)/Mount (Mt.) Vernon Avenue Improvement Project - The proposed project would replace the existing four-lane Mt. Vernon Avenue overcrossing bridge structure with a six-lane bridge replacement structure. The project would also address bicycle and pedestrian modes of travel. Specifically, it would upgrade bicycle access from Class III to Class II by use of a striped bicycle lane on the overcrossing, along with a wider raised sidewalk for pedestrian access. It also would address Americans with Disabilities Act (ADA) access with up-to-date curb ramps. In addition, the project would also improve the intersection at East Valley Boulevard adjacent to the Caltrans right-of-way. The proposed project is located in the City of Colton, Caltrans District 8.

Right of Way necessary for the subject project will be the responsibility of San Bernardino County Transportation Authority (SBCTA).

The information in this data sheet was developed by Epic Land Solutions, Inc.

I. **Right of Way Engineering**

Will Right of Way Engineering be required for this project?

- No
- Yes ✓ Submit a copy of the Right of Way Engineering Surveys and Mapping Services checklist of Locally Funded Projects. This checklist includes, but is not limited to, the following items.)
 - Hard copy (base map) ✓
 - Appraisal map ✓
 - Acquisition Documents ✓
 - Property Transfer Documents ✓
 - R/W Record Map ✓
 - Record of Survey ✓

II. **Engineering Surveys**

1. Is any surveying or photogrammetric mapping required?

No Yes ✓ (Complete the following.)

2. **Datum Requirements**

Yes ✓ Project will adhere to the following criteria:

- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
- Vertical - datum policy is NAVD 88.
- Units - metric is not required.

No Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

Yes ✓

No Provide explanation on additional page.

III. **Parcel Information (Land and Improvements)**

Are there any property rights required within the proposed project limits?

No _____ Yes ☒ (Complete the following.)

	Part Take*	Full Take*	Estimate**
A. Number of Vacant Land Parcels	<u>2</u>	<u>0</u>	<u>\$1,148,950</u>
B. Number of Single Family Residential Units	<u>0</u>	<u>0</u>	<u>\$0</u>
C. Number of Multifamily Residential Units	<u>0</u>	<u>0</u>	<u>\$0</u>
D. Number of Commercial/Industrial Parcels	<u>10</u>	<u>0</u>	<u>\$2,384,353</u>
E. Number of Farm/Agricultural Parcels	<u>0</u>	<u>0</u>	<u>\$0</u>
F. Other Parcels (define in "Remarks" section)	<u>0</u>	<u>0</u>	<u>\$0</u>
G. Title / Escrow	<u>0</u>	<u>0</u>	<u>\$17,500</u>
Total Acquisition Cost	<u>12</u>	<u>0</u>	<u>\$3,550,803</u>
Permit Fees	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	<u>12</u>	<u>0</u>	<u>\$3,550,803</u>

Summary of A through F above, by Type of Interest Required

	Part Take*	Full Take*	Estimate**
A. Permanent or Fee Only	<u>0</u>	<u>0</u>	<u>\$0</u>
B. Permanent/Fee + Temporary Easements	<u>5</u>	<u>0</u>	<u>\$3,016,928</u>
C. Temporary Easements Only	<u>7</u>	<u>0</u>	<u>\$516,375</u>
D. Title / Escrow	<u>12</u>	<u>0</u>	<u>\$17,500</u>
Total Acquisition Cost	<u>12</u>	<u>0</u>	<u>\$3,550,803</u>
Permit Fees	<u>0</u>	<u>0</u>	<u>\$0</u>
TOTAL	<u>12</u>	<u>0</u>	<u>\$3,550,803</u>

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).

The project location consists of commercial property. The commercial properties are impacted by the project with partial acquisitions that will not require any relocation.

**The total number of APN's that will be impacted by this alternative is 12 and there are 7 larger parcels. The total number of larger parcels is typically used to estimate title / escrow fees, appraisal costs and right of way support costs.*

IV. **Dedications**

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No ☒ Yes ☐ (Complete the following.)

V. **Excess Lands / Relinquishments**

Are there property rights which may become excess lands or potential relinquishment areas?

No ☒ Yes ☐ (Provide an explanation on additional page.)

VI. **Relocation Information**

Are relocation displacements anticipated?

No ☒ Yes ☐ (Complete the following.)

	No. of Larger Parcels	Relocation Estimate*
A. Number of Single Family Residential Units Estimated RAP Payments	<u>0</u>	<u>\$0</u>
B. Number of Multifamily Residential Units Estimated RAP Payments	<u>0</u>	<u>\$0</u>
C. Number of Business/Nonprofit Estimated RAP Payments	<u>0</u>	<u>\$0</u>
D. Number of Farms Estimated RAP Payments	<u>0</u>	<u>\$0</u>
E. Other (define in the "Remarks" section) Estimated RAP Payments	<u>0</u>	<u>\$0</u>
TOTALS	<u>0</u>	<u>\$0</u>

VII. Utility Relocation Information

Do you anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes ☒ (Complete the following.)

Refer to the attached Utility Information Sheet for detailed breakdown of facilities.

Type of Facility	Owner	Estimated Relocation Expense		
		State Obligation	Local Obligation (Cost to Project)	Utility Owner Obligation
A. Conflict 9, SCE Pole # A77750085E Project Pole #3 – 1 trans. pole with transformer, guy pole, guy wires	SCE – Transmission		\$50,000	\$50,000
B. Conflict 10, SCE Pole # A77750086E Project Pole #5 – 1 trans. Pole with guys wires.	SCE – Transmission		\$27,000	\$27,000
C. Conflict 11, SCE Pole # 1260851S – Trans. Guy pole and guy wires	SCE – Transmission		\$5,000	\$5,000
D. Conflict 14, SCE Pole #A77750087E Pole #6 – Trans. Pole	SCE – Transmission		\$18,000	\$18,000
E. Conflict 8 – 100’ of UG Electric Cable	SCE – Distribution		\$10,000	
F. Conflict 11, Pole #20 - 2 distribution poles, service cables, guy wires	SCE – Distribution		\$25,000	
G. Pole #4 – 1 Dist. Pole	SCE – Distribution		\$15,000	
H. Conflict 17 – 1 OH cable on SCE pole.	Spectrum			\$15,000
I. Conflict 21 – 100’ of OH Cable	AT&T – Distribution			\$10,000
J. Conflict 22 – 100’ of OH Cable	AT&T – Distribution			\$10,000
K. Conflict 23 – 106’ of UG Cable	AT&T – Distribution			\$15,900
L. Potholing			\$31,500	
Project Subtotal			\$181,500	\$150,900
Subtotal plus Contingency (25%)			\$226,875	\$188,625
Escalation (3%)			\$42,581	\$35,402
Total Relocation Cost			\$269,456	\$224,027
Number of facilities			8	8

VIII. **Rail Information**

Are railroad facilities or railroad rights of way affected?

No ☒ Yes ☐ (Complete the following.)

Owner's Name	Transverse Crossing	Longitudinal Encroachment
None		

IX. **Clearance Information**

Are there improvements that require clearance?

No ☒ Yes ☐ (Complete the following.)

A. Number of Structures to be Demolished

Estimated Cost of Demolition 0 \$ 0

X. **Hazardous Materials/Waste**

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain

hazardous materials? None ☒ Yes ☐ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain

hazardous waste? None ☒ Yes ☐ (Explain in the "Remarks" section.)

XI. **Project Scheduling**

	Proposed lead time*	
Preliminary Engineering, Surveys	<u>12</u> (months)	<u>03/31/2021</u>
R/W Engineering Submittals	<u>12</u> (months)	<u>07/01/2021</u>
R/W Appraisals/Acquisition	<u>18</u> (months)	<u>01/01/2023</u>
Proposed Environmental Clearance		<u>09/13/2021</u>
Proposed R/W Certification		<u>05/05/2023</u>

XII. **Proposed Funding**

	Local	State	Federal
Acquisition	<u>\$3,533,303</u>	<u>\$0</u>	<u>\$0</u>
Utilities	<u>\$269,456</u>	<u>\$0</u>	<u>\$0</u>
Relocation Assistance Program	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
R/W Support	<u>\$1,379,220</u>	<u>\$0</u>	<u>\$0</u>
Cost (Eng. Appraisals, etc.)	<u>\$59,500</u>	<u>\$0</u>	<u>\$0</u>

XIII. **Remarks:**

N/A

Project Sponsor Consultant
Prepared by:

Kari Anvick

Kari Anvick, SR/WA
Epic Land Solutions, Inc

April 21, 2021

Date

Project Sponsor
Reviewed and Approved by:

Paula Beauchamp

Paula Beauchamp
Director of Project Delivery and Toll
Operations
San Bernardino County Transportation
Authority (SBCTA)

April 21, 2021

Date

Caltrans
Reviewed and accepted based on information provided to date:



Signature
Milele Robertson

Name
Senior Right of Way Agent – Local Programs
Title

05/12/2021

Date

Attachment E: Right of Way Map (1)

Attachment F: Utility Conflict Map (1)

caroline.Dethlefsen
13:55
15-OCT-2021
halfair.pen
EXH-Mt Vernon-Utility Conflict Map.dgn

LEGEND

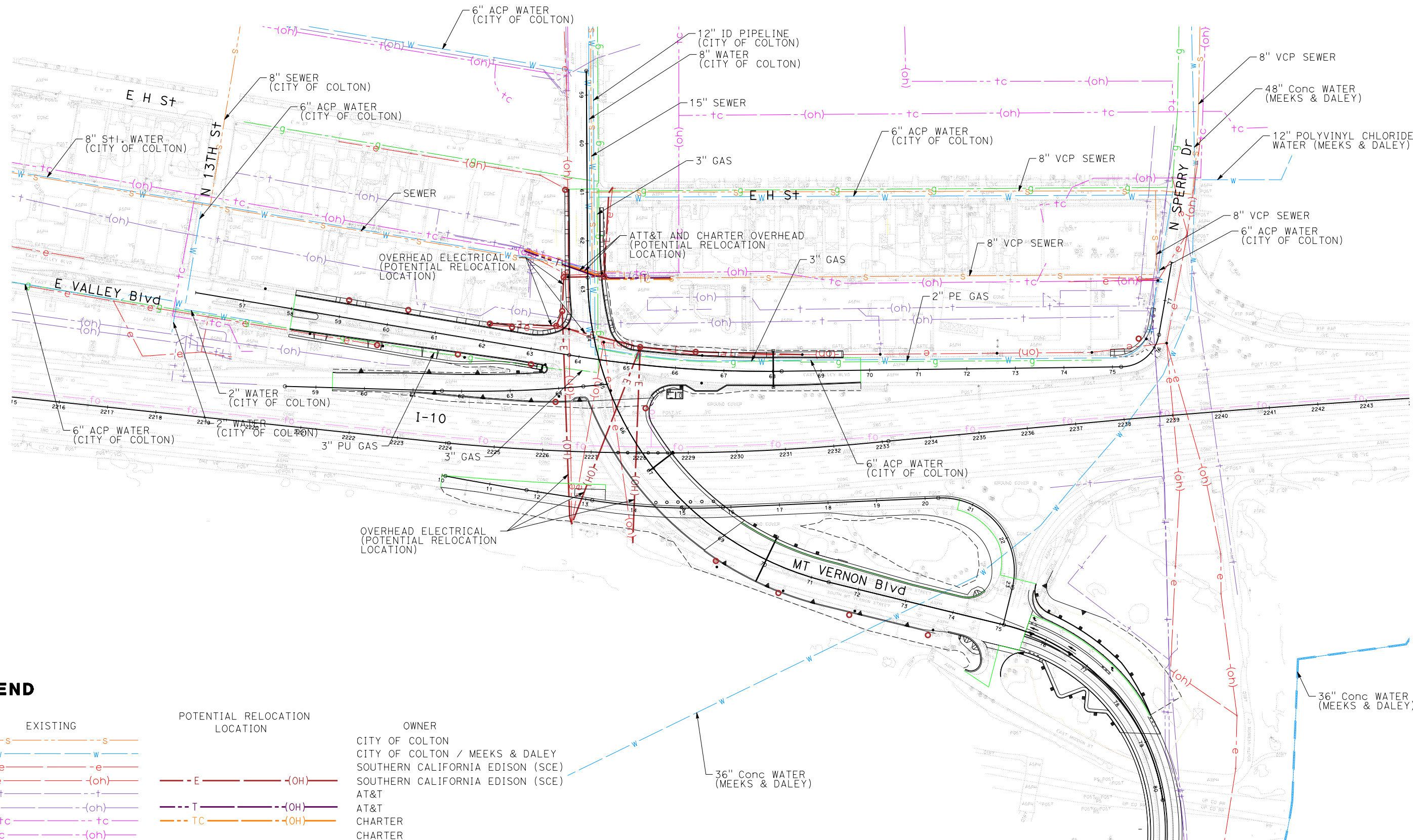
EXISTING
-s- -s-
-w- -w-
-e- -e-
-e- -(oh)
-t- -t-
-t- -(oh)
-tc- -tc-
-tc- -(oh)
-g- -g-
-fo- -fo-

POTENTIAL RELOCATION
LOCATION
-E- -(oh)
-T- -(oh)
-TC- -(oh)

OWNER
CITY OF COLTON
CITY OF COLTON / MEEKS & DALEY
SOUTHERN CALIFORNIA EDISON (SCE)
SOUTHERN CALIFORNIA EDISON (SCE)
AT&T
AT&T
CHARTER
CHARTER
SOUTHERN CALIFORNIA GAS (SCG)
CALTRANS

Kimley»Horn

MOUNT VERNON AVENUE IMPROVEMENTS PROJECT
AT INTERSTATE 10
UTILITY CONFLICT MAP
NOVEMBER 2020



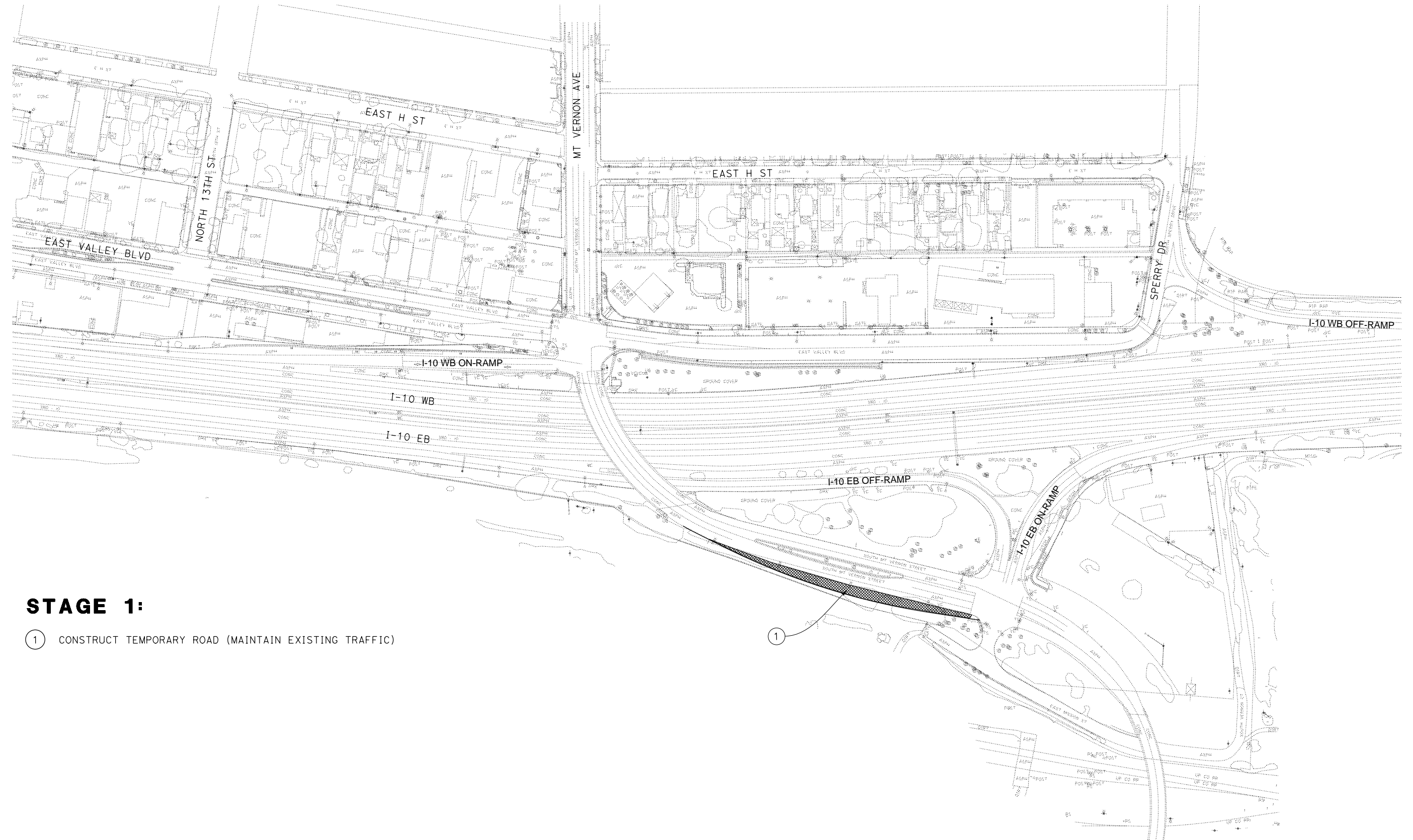
Attachment G: Bridge Aesthetics (3)

EXH-Mt. Vernon-Aesthetic Alternatives.dgn
x
Kimley»Horn
x
12-NOV-2020 14:04
x
Carol Ine.Dethlefsen
x



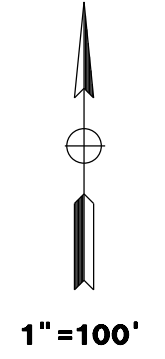
Attachment H: Stage Construction (4)

EXH-Mt Vernon-Stage 1.dgn
hal.fbw.pen
20-NOV-2019 17:24
Carol ine.Dethlefsen



STAGE 1:

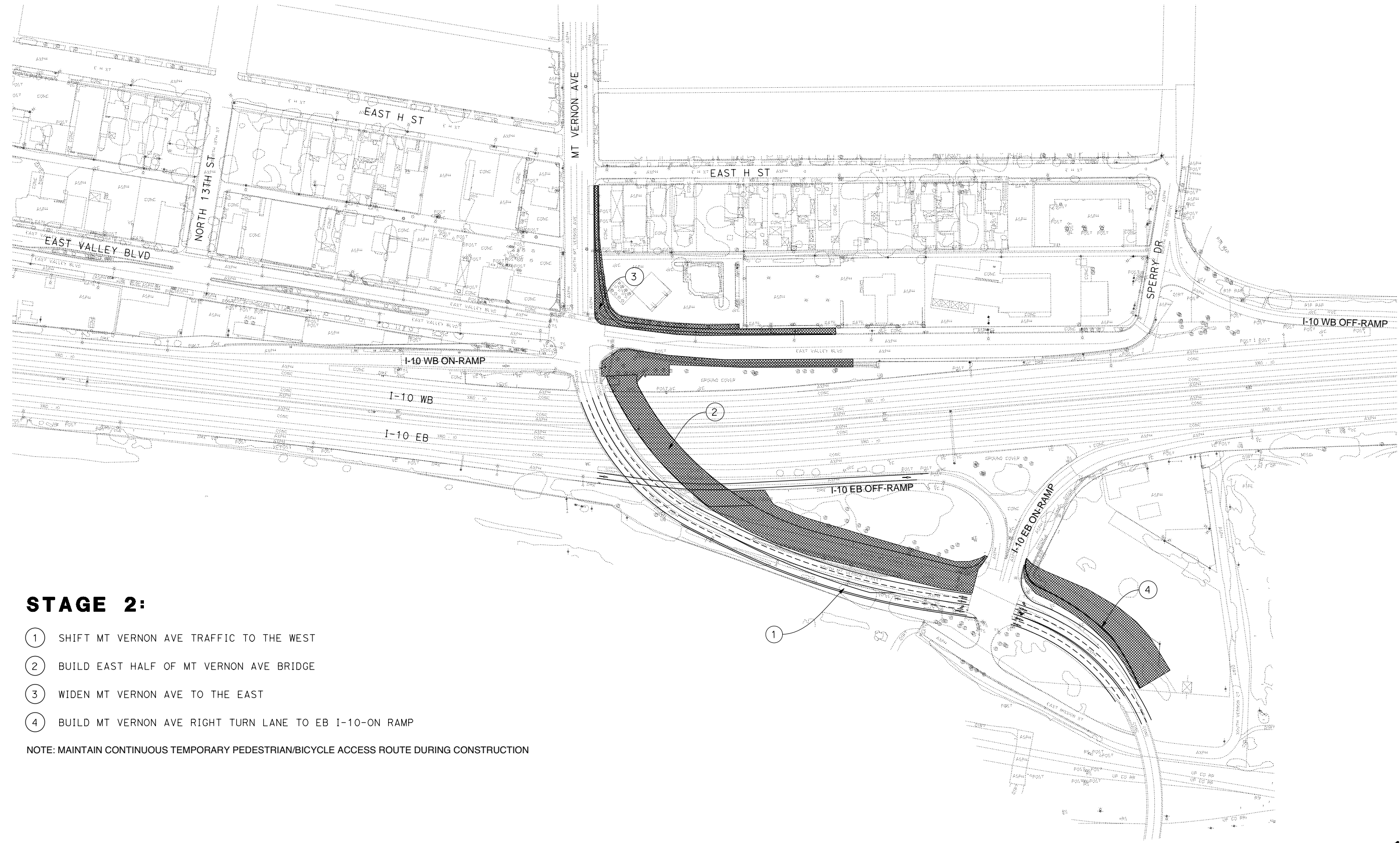
- ① CONSTRUCT TEMPORARY ROAD (MAINTAIN EXISTING TRAFFIC)



MOUNT VERNON AVENUE IMPROVEMENTS PROJECT
AT INTERSTATE 10
PRELIMINARY STAGE CONSTRUCTION CONCEPT
NOVEMBER, 2019



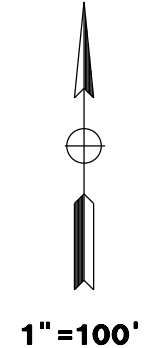
20-NOV-2019 17:24 Carol ine.Dethlefsen hal.fbw.pen EXH-Mt Vernon-Stage 2.dgn



STAGE 2:

- ① SHIFT MT VERNON AVE TRAFFIC TO THE WEST
- ② BUILD EAST HALF OF MT VERNON AVE BRIDGE
- ③ WIDEN MT VERNON AVE TO THE EAST
- ④ BUILD MT VERNON AVE RIGHT TURN LANE TO EB I-10-ON RAMP

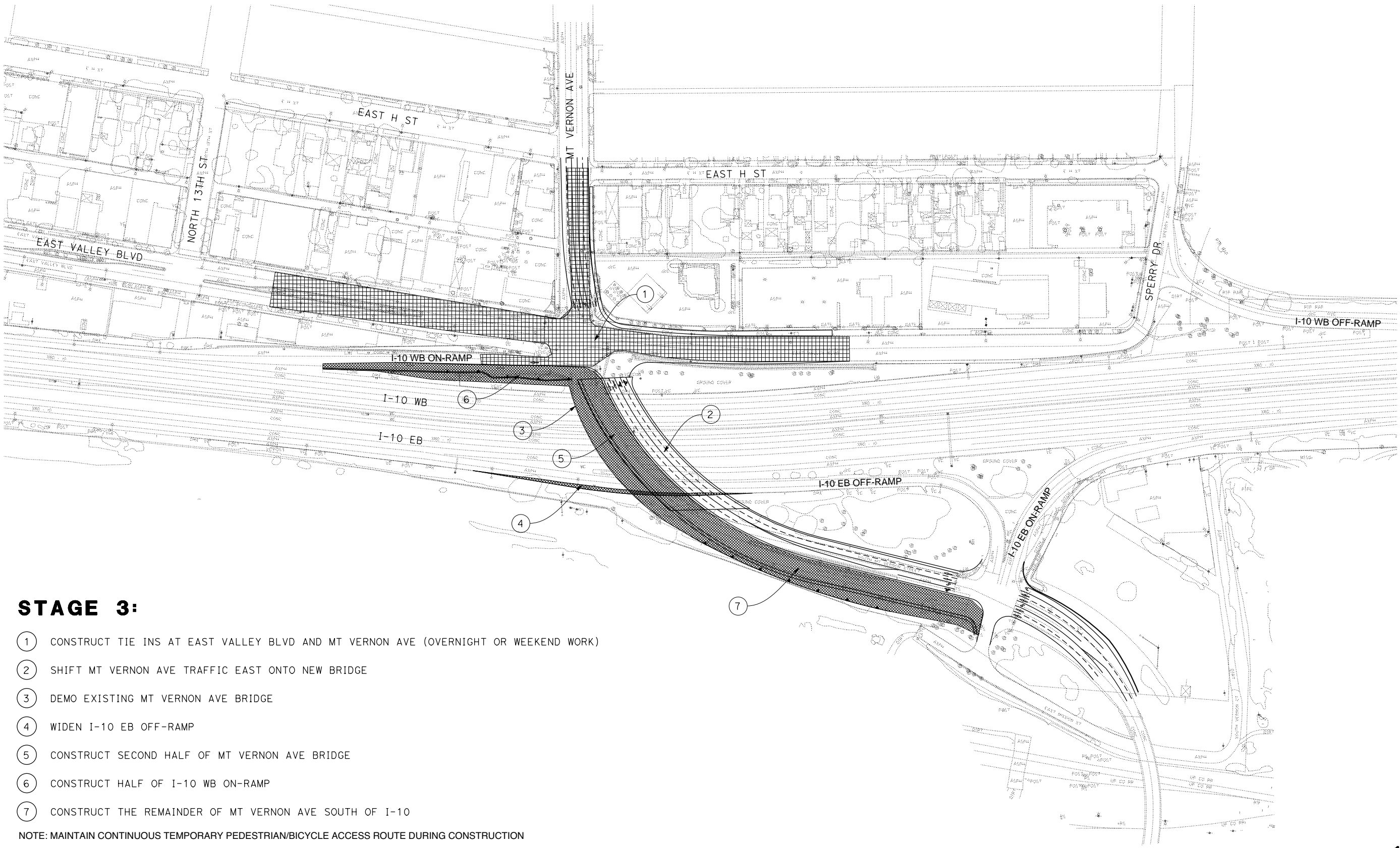
NOTE: MAINTAIN CONTINUOUS TEMPORARY PEDESTRIAN/BICYCLE ACCESS ROUTE DURING CONSTRUCTION



MOUNT VERNON AVENUE IMPROVEMENTS PROJECT
AT INTERSTATE 10
PRELIMINARY STAGE CONSTRUCTION CONCEPT
NOVEMBER, 2019



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STAGE 3:

- ① CONSTRUCT TIE INS AT EAST VALLEY BLVD AND MT VERNON AVE (OVERNIGHT OR WEEKEND WORK)
- ② SHIFT MT VERNON AVE TRAFFIC EAST ONTO NEW BRIDGE
- ③ DEMO EXISTING MT VERNON AVE BRIDGE
- ④ WIDEN I-10 EB OFF-RAMP
- ⑤ CONSTRUCT SECOND HALF OF MT VERNON AVE BRIDGE
- ⑥ CONSTRUCT HALF OF I-10 WB ON-RAMP
- ⑦ CONSTRUCT THE REMAINDER OF MT VERNON AVE SOUTH OF I-10

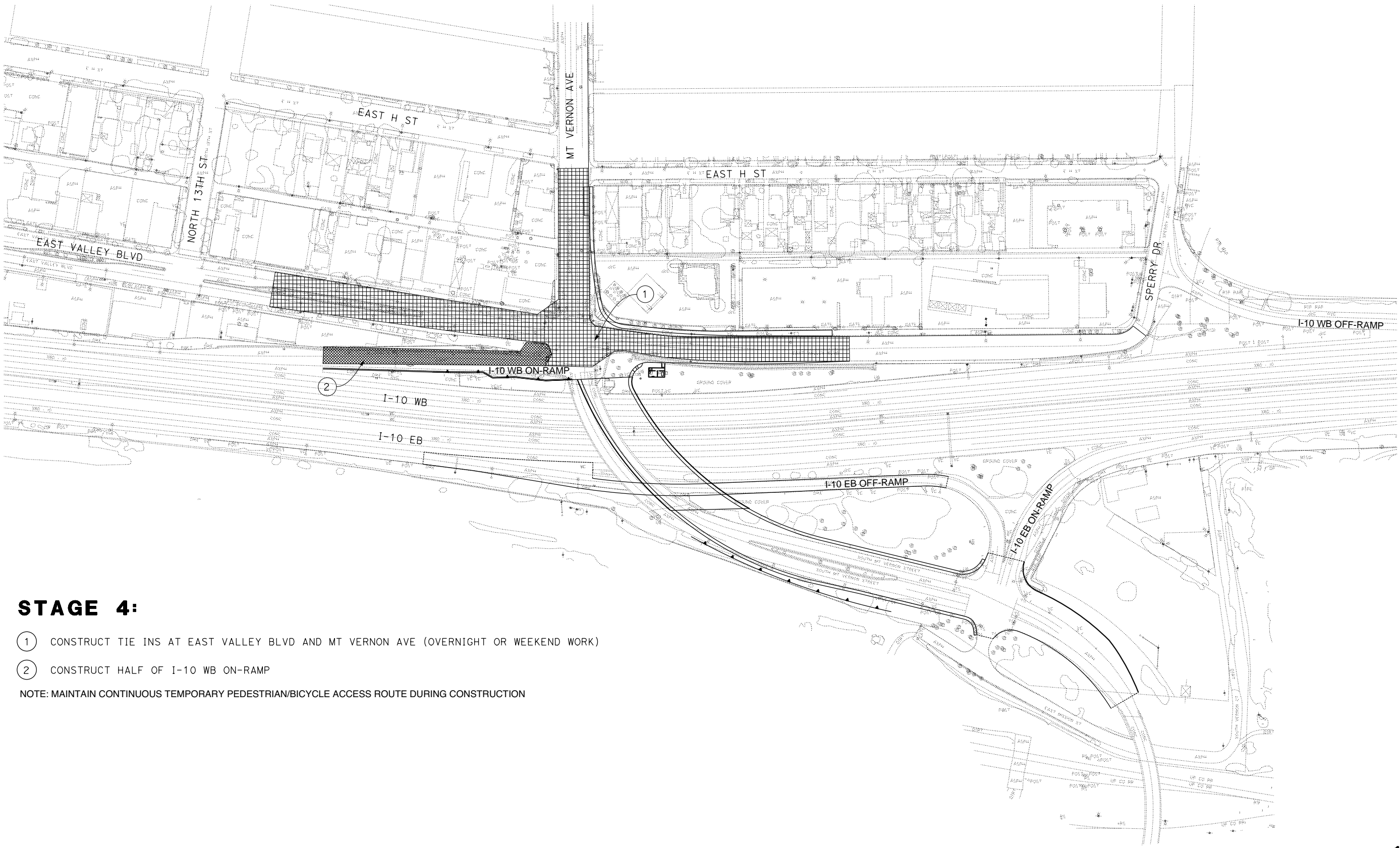
NOTE: MAINTAIN CONTINUOUS TEMPORARY PEDESTRIAN/BICYCLE ACCESS ROUTE DURING CONSTRUCTION



MOUNT VERNON AVENUE IMPROVEMENTS PROJECT
AT INTERSTATE 10
PRELIMINARY STAGE CONSTRUCTION CONCEPT
NOVEMBER, 2019

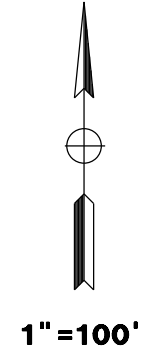


20-NOV-2019 17:25 Carol ine.Dethlefsen hal fbw .pen EXH-Mt Vernon-Stage 4.dgn



STAGE 4:

- ① CONSTRUCT TIE INS AT EAST VALLEY BLVD AND MT VERNON AVE (OVERNIGHT OR WEEKEND WORK)
 - ② CONSTRUCT HALF OF I-10 WB ON-RAMP
- NOTE: MAINTAIN CONTINUOUS TEMPORARY PEDESTRIAN/BICYCLE ACCESS ROUTE DURING CONSTRUCTION



MOUNT VERNON AVENUE IMPROVEMENTS PROJECT
AT INTERSTATE 10
PRELIMINARY STAGE CONSTRUCTION CONCEPT
NOVEMBER, 2019



Attachment I: Risk Register (2)

RISK REGISTER				Project Name: I-10/ Mt. Vernon Improvements			DIST- EA	08-1G8000	Project Manager	Michael Makary	Proj #: 0816000102	
Risk Identification							Risk Rating		Risk Response			
Status	ID #	Type	Category	Title	Risk Statement	Current status/assumptions	Priority Rating	Rationale for Rating	Strategy	Response Actions	Risk Owner	Updated
Closed	1	Threat	Traffic / Environmental	VMT	Caltrans guideline on VMT could change and could result on this project requiring VMT analysis.	Based on the scope of this project and current guidelines VMT, this project would not require VMT analysis	Low	Project is non-capacity increasing	Accept	VMT Analysis Screening Form was prepared and concurred with that the project will not require an induced travel analysis. Signed on July 1, 2020	PDT	7/1/2020
Closed	2	Opportunity	Organizational	Gateway Treatment	As a result of community outreach, consensus on bridge rail/ abutment aesthetics may occur sooner, which would lead to earlier PS&E, RTL and Adv dates.	Aesthetics are already being studied and reviewed by City/Caltrans/SBCTA	Low	Consistency across Cities is typical for aesthetic treatments.		Caltrans/City has approved aesthetic treatment	PDT	10/19/2021
Active	3	Threat	ROW	Unforeseen Utility Interface	As a result of large number of utilities, positive location and relocation plans may be time consuming to put together. This would lead to a greater length of time being needed for Design & RW phases.	Utility data documented in Conceptual RW Cost Estimate.	Low	Utility plans reviewed	Accept	Early action item to coordinate with City of Colton on utility maps in zero phase. Initiate potholing as soon as possible.	Design	8/6/2020
Active	4	Threat	Environmental	ADL	As a result of ADL from the 1930's 60's, soil concentrations may exceed action levels. This could lead to offsite removal of contaminated soils which would increase capital and support costs for the project.	ISA currently being conducted during PAED	Low		Accept	Coordinate Envntl on existing ADL sampling and ISA during PAED	Design	8/6/2020
Active	5	Threat	ROW	Partial Take	As a result of the substantial loss of Goodwill associated with a partial take of the Colton Truck Stop, the business residual may not be viable, which could lead to a full take of the parcel.	Full take will not be necessary. Owner is re-developing the parcel. The re-development plans will need to be modified..	Low	Conceptual RW Cost Estimate documentation	Accept	Early RW Coordination is on-going to avoiding Goodwill deterioration. Caltrans also agreed to use California-Legal truck at this location which has a smaller turn than the STAA truck for movements outside Caltrans ROW. Using the California-Legal truck template minimizes the impact to the property.	PDT	8/6/2020
Closed	6	Threat	Design	DSDD Approval	Delay in approval of the DSDD could impact schedule	DSDD have been approved in the PAED	Low	Design exceptions reviewed with Caltrans	Accept	Continue coordination with Caltrans. Identify potential desgin exception during final design	PDT	10/19/2021
Closed	7	Threat	Design	Design Approval	Delay in Design approval related to current alternative could impact schedule	Project scope is to improve traffic operation on Mt Vernon and not to reconfigure the interchange. Maintain existing 5-leg intersection	Low	Caltrans reviews of engineering documents	Accept	Continue to address Caltrans concerns while maintaining project's agreed upon purpose and need	PDT	10/19/2021

Active	8	Threat	Design	Stage Construction	Construction of the project could have major impact to traffic, specially truck movements, as well as impacts to businesses. Change in elevation at the intersection also presents challenge to staging	Existing traffic movements will be maintained during construction. Short term closure would be required at certain stage.	Medium	Constrained existing condition presents staging challenges	Accept	Revisit stage construction concept early in PSE process. Prepare Traffic Handling plan. Consider truck movement in stage construction	Design PM	10/19/2021
Active	9	Threat	Design	ADA compliance	Non compliant ADA facilities could cause re-work in construction	Caltrans design standards provides minimum requirements for design.	Medium		Accept	Incorporate conservative tolerance in design to minimize construction error . Do not design to minimum standards	Design PM	8/6/2020
Active	10	Threat	Design	Pump Station Relocation	Due to the sag on I-10 profile under the bridge, the pump station should remain operational during construction to avoid potential flooding in the freeway during an unexpected rain event.	Pump Station would need to be relocated to accommodate bridge realignment	Low		Accept	Design to prepare stage construction plan for pump station relocation	Design PM	8/6/2020
Closed	11	Threat	Environmental	RR detention basin	Existing basin receives runoff from Mt. Vernon OC structure	Work will not entail any impacts to the existing basin.	Low	No RR involvement is anticipated	Accept	Review of RR O&M Agreement early	Design PM	10/19/2021

Attachment J:
Advanced Planning Study (APS) (13)

Office of Special Funded Projects

Comment & Response Form

General Project Information	Review Phase	Reviewer Information
Dist: <u>08</u> EA: <u>08-1G8000</u> Project Name: <u>Mt Vernon Ave</u> (Replace) OSFP Liaison: <u>Norbert Gee</u> Phone: <u>916-227-8348</u> e-mail: <u>Norbert_Gee@dot.ca.gov</u>	<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> PSR/PDS (Review No. <u> </u>) <input checked="" type="checkbox"/> APS/PSR (Review No. <u> </u>) <input type="checkbox"/> APS/PR (Review No. <u> </u>) <input type="checkbox"/> Type Selection </div> <div> <input type="checkbox"/> 65% PS&E Unchecked Details <input type="checkbox"/> PS&E (Review No. <u> 1</u>) <input type="checkbox"/> Construction Support <input type="checkbox"/> Other: <u>Feasibility Study</u> </div> </div> <div style="text-align: center; border-top: 1px solid black; padding-top: 5px;"> Structure Information <small>(Use when necessary to document comments by individual structure)</small> Structure Name: <u>Mt Vernon Ave (Replace)</u> Br No: <u>54-0459</u> </div>	Reviewer Name: <u>Brian Hughes</u> Functional Unit: <u> </u> Cost Center: <u> </u> Phone Number: <u>916-227-9578</u> e-mail: <u>Brian_Hughes @dot.ca.gov</u> Date of Review: <u>04/28/20</u>
Consultant Information (to be filled in by Consultant)		
Consultant Structure Lead (First and Last Name) Andrew Sanford	Structure Consultant Firm Kimley-Horn	Phone Number 619-272-7108
		e-mail <u>andy.sanford@kimley-</u> <u>horn.com.</u>
		Response Date 5-20-20

Com ment #	Doc. (See Note 1)	Page, Section, or SSP	Review Comments	Consultant Responses	✓
Plan & Report Comments					
1	GP	1	Be sure to follow MTD 1-8 in formatting your APS/PSR report, specifically page 4. You are currently missing false work and bridge information on the GP. See MTD 1-8 example.	GP updated to include falsework Stamp and Estimate	
2	Report	1	Be sure to take time to explain in detail why your choice of structure is the only choice and why other alternatives cannot work. Your bridge cost is very high at \$630/sf.	A more in-depth explanation of why curved steel girders were selected has been included in Section E. "Structure Type"	
3	Report	2	Please go into detail why the existing bridge has not been considered for rehabilitation and the possibility of raising the current bridge to the desired height? Nowhere in your report has there been a recommendation from Structures Maintenance that the existing structure needed to be replaced, just that in 2005 the existing bridge need to be raised. It would appear that rehab & raise would be the least expensive option.	Description of why bridge is being replaced rather than rehabilitated has been added to Section 4 Constructability: "Rehabilitation" of the Advance Planning Study.	

Note 1: Abbreviations for Typical Documents (if Abbr. is not below, type in the document type)					
P=Structure Plans	SP=Special Provisions	FR=Foundation Rpt	DC=Design Calcs	TS=Type Sel. Report	QCC=Quant. Check Calcs
RP=Road Plans	E=Estimate	H=Hydraulics Rpt	CC=Check Calcs	QC=Quant. Calcs	

✓ = Comment Resolved
(for Reviewer's use)

Consultant Prepared Advance Planning Study (APS) Checklist

Date: 1-7-20	Consultant Firm (for structures): Kimley-Horn Associates		Phone No: (619) 234-9411
Designed by: Andrew Sanford			Phone No: (619) 272-7108
EA:	County: San Bernardino	Route: I-10	KP(PM) 23.7
Project Description: Replace existing Mt. Vernon Overcrossing with a steel plate girder bridge that has a min vertical clearance of 16'8"			
Bridge No(s): 54-0459	Bridge Name(s): Mt. Vernon Bridge		
Total number of bridges in project: 1		APS Alternative Letter or Number (if more than one):	
Purpose of this APS: Initial APS Cost & Feasibility <input checked="" type="checkbox"/> Revised scope <input type="checkbox"/> Update cost <input type="checkbox"/>			

Part A Items to collect and considerations prior to beginning the APS

(Sheet 1 of 2)

All items listed in Part A are to be made available and submitted if requested by the Liaison Engineer.
(Mark **N/A** if not applicable)

- ☒ Preliminary profile grade of proposed structure.
- ☒ Typical section of the proposed structure. (Including barrier type, sidewalks, cross slope %, etc.)
- ☐ Grades or spot elevations of roadway below the structure.
- ☐ Typical section of roadway below the structure. (Including shoulders, gutters, embankment slope.)
- ☐ Site map: including horizontal alignment of new structure and the roadway below, topo, contours, etc.
- ☒ Stage construction or detour plan for traffic on the structure.
(number of lanes to remain open, Temp Railing, etc.)

- ☐ Stage construction or detour plan for the roadway below the structure. **N/A**
(falsework openings for each stage and any restrictions.)
- ☒ "As Built" plans for existing structures.
- ☒ Future widening plans of upper and lower roadway (verify with Route Concept Report).
- ☐ Site aerial photograph (at the proposed structure).
- ☐ Environmental and/or permit requirements (areas of potential impact, construction windows, etc.)
- ☐ Overhead and underground utility plans
- ☐ Any other information that you feel is necessary to complete the study. (Other concerns that may affect the APS: local agency requirements such as aesthetics, improvements in vicinity of structure, airspace usage, other obstructions, etc.)

Consultant Prepared Advance Planning Study (APS) Checklist

(Sheet 2 of 2)

Part B Considerations during the APS design and cost estimate preparation

- | | | | | |
|----|--|----------------------------|---|-----------------------------|
| 1. | Has this project been discussed with: | the OSFP Liaison Engineer? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | the Caltrans District Project Manager? | | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | the roadway consultant? | | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
-
- | | | | |
|----|---|---|-----------------------------|
| 2. | Have the Caltrans Structures Maintenance records been reviewed? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | If the records recommend any work for the structure, is it included in the APS? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
-
- | | | | |
|----|---|---|-----------------------------|
| 3. | Are there special aesthetic considerations? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
|----|---|---|-----------------------------|
-
- | | | |
|----|---|---|
| 4. | (Widenings and Modifications) | |
| | Has this project been reviewed for seismic retrofit requirements? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| | Are seismic retrofit requirements included in the APS? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
-

5. Any special Railroad requirements? Yes ☐ No ☒
Shoofly required? Yes ☐ No ☒
Cost of shoofly included as a separate item in the project cost estimate? Yes ☐ No ☒

6. Any special foundation requirements, including scour critical work, special excavation such as Type A, Type D, and/or hazardous or contaminated material? Yes ☐ No ☒

7. Any special construction requirements, including limited site accessibility or seasonal work? Yes ☐ No ☒

8. Other items to be included in the cost such as slope paving, approach slabs, and/or adjacent retaining walls? Yes ☒ No ☐

9. Remove existing bridge? Yes ☒ No ☐
Total Deck Area: 18540 ft²

10. Any other unusual or special requirements? Yes ☒ No ☐

11. Provide and attach a consultant prepared Design Memo to summarize and document any important assumptions, discussions, decisions, unusual items, local agency requirements such as aesthetics, improvements in vicinity of the structure, airspace usage, other obstructions, or any items noted above. Summary attached? Yes ☒ No ☐

Consultant Prepared (APS) Design Memo

Date: 5-20-20	Consultant Firm (for structures): Kimley-Horn Associates	Phone No: (619) 234-9411
Designed by: Andrew Sanford		Phone No: (619) 234-9411
EA:	County: San Bernardino	Rte.: I-10
		KP(PM) 23.25
Project Description: Replace existing Mt. Vernon Overcrossing with a 3-Span steel plate girder bridge that has a min vertical clearance of 16'-8"		
Bridge No(s): 54-0459	Bridge Name(s): Mt. Vernon Bridge	
Total number of bridges in project: 1		APS Alternative Letter or Number (if more than one):
Purpose of this Initial APS Cost & Feasibility <input checked="" type="checkbox"/> Revised scope <input type="checkbox"/> Update cost <input type="checkbox"/> APS:		

Bridge No. 54-0459

A. SITE DESCRIPTION

Interstate 10 (I-10)

I-10 is a major east-west transcontinental surface transportation route. The design speed for I-10 is 70 miles per hour (mph) and the posted speed limit is 65 mph. All of I-10 in San Bernardino County is included in the State Interregional Road System (IRRS) and the California Freeway and Expressway System. I-10 is also part of the National Highway System, the Department of Defense Priority Network, and the Strategic Highway Corridor Network. A small portion of I-10 is part of the Primary Freight Network (I-405 to I-5 in Los Angeles County), elsewhere I-10 is a major freight corridor. Large volumes of trucks join and leave the route at its junctions with I-15, I-215, I-210 and State Route 60. I-10 is designated as a Surface Transportation Assistance Act (STAA) route, which means that vertical clearance, horizontal clearance, and pavement structural sections are built to accommodate trucks and trucks may operate on the corridor with minimal preclusions or conditions. Within the project limits, I-10 is composed of four mixed flow lanes in each direction plus an auxiliary lane. Also, within the project limits the alignments for eastbound and westbound roadbeds are depressed beneath the Mt. Vernon Ave. Overcrossing. The depressed section rises on the east as it approaches the Santa Ana River channel and the I-215/I-10 interchange, and it rises to the west as it approaches the 9th Street (St.)/La Cadena intersections.

Mt Vernon

Mt. Vernon Ave. is classified as a principal arterial by the City of Colton and serves as an access point to the freeway for the southern and northern portions of the City. Destinations along and near Mt. Vernon Ave. in proximity of I-10 include San Bernardino Valley College, Richardson PREP HI Middle School, Colton Middle School, Colton High School, City Government Office, Centrepointhe Shopping Center, Courtyard Shopping Center, Fiesta Village Family Fun Park, and Colton Plunge Park, as well as large tracts of single and multi-family dwelling units. Omnitrans Route 1 provides transit service along this portion of Mt. Vernon Ave, Mt. Vernon Ave. north and south of East Valley Blvd. is part of the City truck route network. Trucks operating on Mt. Vernon in this vicinity are neither restricted by length nor weight. Existing Mt. Vernon Ave. includes 2 through lanes in each direction, a southbound to eastbound turn pocket, discontinuous sidewalks, incomplete Americans with Disabilities Act (ADA) curb ramps and Class 3 (unmarked/unsigned/shared use) bike lanes. North of the interchange along Mt. Vernon Ave. the posted speed limit is 40 mph. The avenue crosses I-10 on Bridge 54-0459 before touching down at Mission Street to the south of the freeway. The posted speed limit south of the freeway interchange along Mt. Vernon Ave. is 30 mph. Mt. Vernon Ave. is designated as a Class 3 bicycle facility in the City's General Plan north of East Valley Blvd. and a 'bicycle street' south of East Valley Blvd. The Union Pacific Railroad (UPRR) tracks run along the south side of the I-10 freeway south of the interchange. The nearest westbound off-ramp from I-10 accessing Mt. Vernon Ave. is isolated at Sperry Drive approximately 600 feet away from the East Valley Blvd./Mt. Vernon Ave. intersection. The westbound on-ramp to I-10 from Mt. Vernon Ave. creates a 5-legged intersection with East Valley Blvd. and Mt. Vernon Ave., making signal phasing and traffic flow subject to multiple cycles. Land use surrounding the Mt. Vernon Ave./I-10 westbound on-ramp and eastbound on- and off-ramps includes truck stops, convenience stores, restaurants, motels, and single/multi-family residences.

The project vicinity map is shown in figure 1.

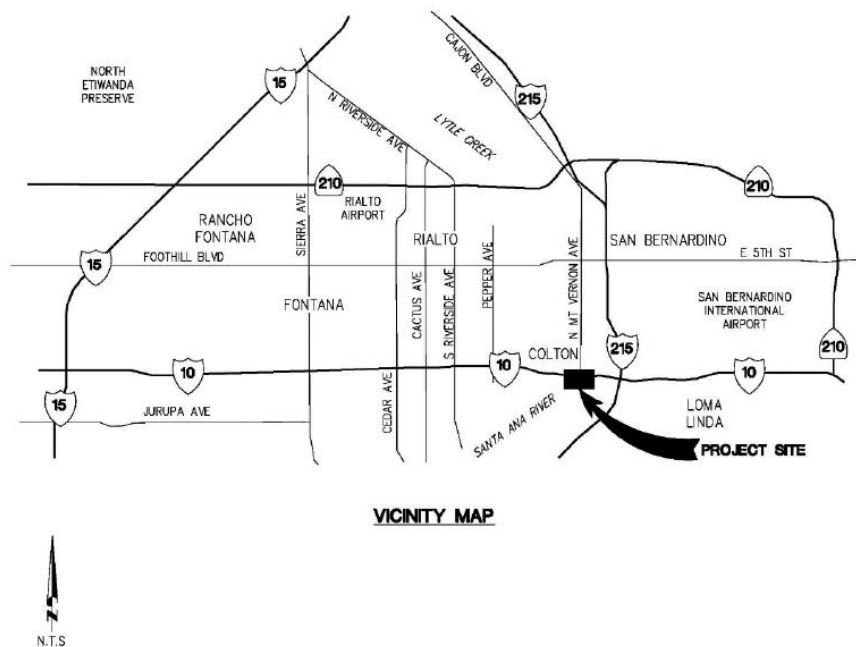


Figure 1: Vicinity Map

The current structure is a three-span, welded steel girder bridge with a cast in place concrete deck, open seat abutments and reinforced concrete 3-column bents. The overpass bridge has a concrete barrier, metal mesh railing, and no sidewalks. Mt. Vernon Bridge was founded in 1967 on spread footings with a total length of 319.67 ft. and out-to-out width of 58 feet.

The existing bridge is shown in figure 2.

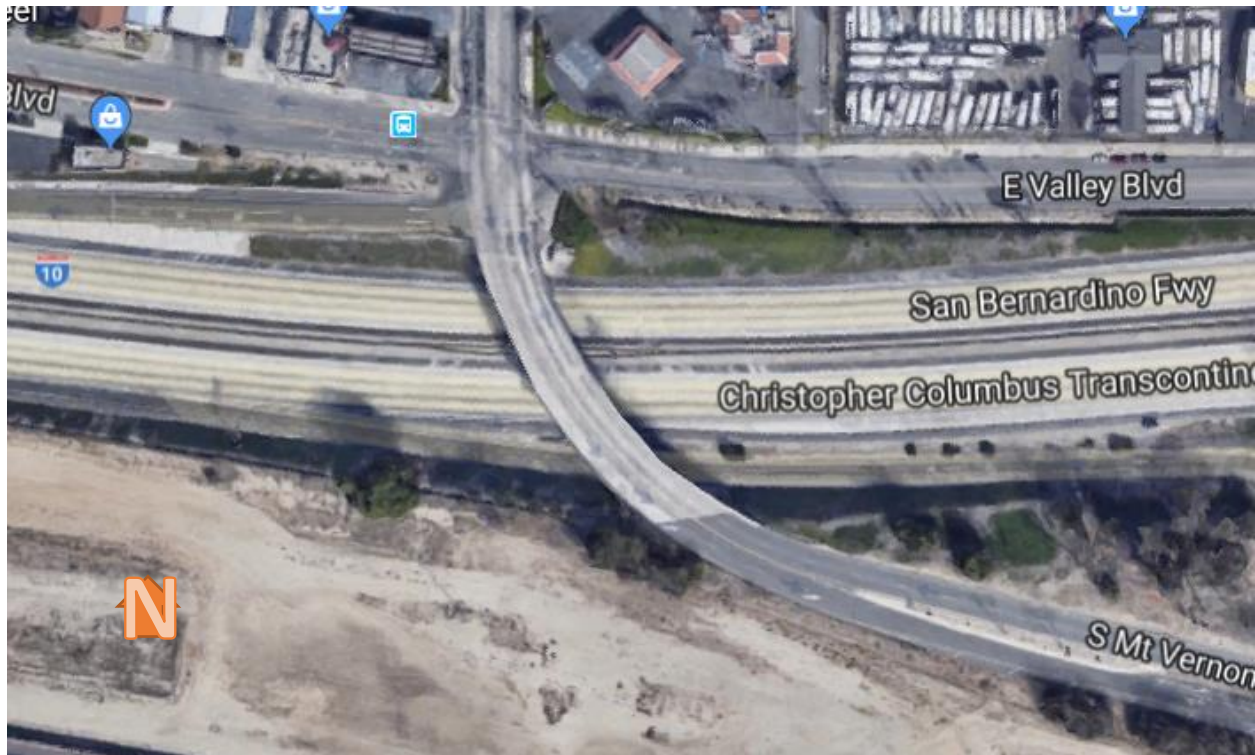


Figure 2: Existing Bridge

According to previous inspection reports, bridge 54-0459 has cracks throughout the deck length; the greatest concentration of cracks was noted in span #3, Bay#1. Numerous minor dents and scrapes are located in span #1 due to high load hits with a major fracture in a stiffener. In addition, incipient freckle rust and efflorescence marks, collision spalls at abutment #1, and vertical cracks in bridge railing were noted. In 2005, raising the bridge was recommended due to the high number of hits and in 2014, the bridge's deck was treated with methacrylate and joint seals were replaced. Steel investigation was also recommended to be performed, as the bridge is considered a fracture critical or fatigue prone due to out-of-plane alignment and the curved girder with staggered X-Frames.

B. SITE CONDITIONS

1. ROW

The project lies entirely within the City of Colton, and crosses Caltrans right of way. The City, San Bernardino County Transportation Authority (SBCTA) and the California Department of Transportation (Caltrans) are direct stakeholders. There are two gas stations at the intersection north of the bridge and BNSF tracks south of the bridge. Bridge construction will not interfere with any of these businesses or the BNSF tracks. However, the project is expected to impact the two gas stations north of the bridge.

2. Utilities

There is a water pump station located on the northeast side of the bridge. The reconstruction of the bridge will require relocation of the water pump station. There are existing overhead utilities (power and fiber optic lines) that are located directly above the bridge, which impose a potential conflict during construction depending on their vertical clearance.

3. Clearances

The vertical clearance under the current bridge is 16.1 feet which does not meet current AASHTO standards of 16.5 feet. Future widening of the I-10 and the bridge are necessary to accommodate the current traffic needs, however, widening the bridge would compromise the current vertical clearance further. Therefore, a replacement of the current bridge with steel girder structure that will have a min vertical clearance of 16'-8" is recommended. A cast-in place concrete structure was investigated but would require falsework resulting in a higher profile to maintain the necessary temporary vertical clearance during construction. This profile would add significant impacts to adjacent properties.

4. Constructability

Rehabilitation

Rehabilitation of the existing bridge was determined not to be a feasible solution for the Mt. Vernon interchange. The ultimate configuration of I-10 at this location discussed in the approved I-10 Corridor Project Report, dated May 2017, identified the addition of 2 express lanes in each direction resulting in a proposed width of 192-feet. This configuration pushes the roadways out and impacts the existing columns located between the eastbound lanes and the eastbound off ramp.

To accommodate future projects planned for the corridor it was determined that replacement of the structure at this time meets the purpose and need of this project and future projects along the I-10 corridor.

Staged Construction

The bridge will be constructed in two stages. During Stage I traffic will be maintained on the existing bridge while a 44'-2" wide bridge is being built east of the existing bridge. During stage II, traffic will be redirected to the newly constructed bridge with temporary K-rail anchored on the right edge of deck. After removal of the existing bridge, the western 50'-2" of the bridge will

be constructed. A 4'-0" closure pour will link the two sections together for a final bridge width of 98'-4". Pedestrian traffic will be prohibited on the bridge until completion of all construction stages. Temporary shoring may be required during stage I to support the approach fill at the abutments of the existing bridge. No known vertical or horizontal clearance constraints are identified at this point.

Bridge Removal

The existing bridge will be removed after the completion of Stage I, and traffic will be redirected to the newly constructed section. The removal of the bridge will result in night closures of I-10 and the salvaging of the steel railings and girders.

5. Slope Paving and Approach Slabs

The current bridge has slope paving at both abutments. The proposed bridge will have a 2:1 grading on the south abutment. level backfill supported by retaining walls on the northside of the bridge. This eliminates the slope paving need unless specified otherwise by client.

The current bridge has no approach slabs; the proposed structure will have type N (30) approach slabs.

C. GEOTECHNICAL RECOMMENDATIONS

A Preliminary Foundation Report (PFR) titled "Interstate 10 Mount Vernon Avenue Overcrossing (Replace) Bridge No. 54-0459 Colton, California" and dated November 11, 2019 was prepared by GEOCON for this project. While there were no existing borings at the site, adjacent borings suggest that the subject site is likely underlain by undocumented fill overlaying thick very young wash deposits, with bedrock expected to be very deep.

Based on Caltrans online fault map and database reports the site is located approximately 0.8 Kilometer (0.5 mile) northeast of the San Jacinto (San Bernardino) fault, approximately 1.7 kilometers (1.1 miles) southwest of the San Jacinto (San Bernardino Valley section) fault, and approximately 12.1 Kilometers (7.5miles) southwest of the San Andreas (San Bernardino South) fault.

Using Caltrans ARS Online Tools (V2.3.09) result in an estimated site peak horizontal ground acceleration of 0.886g.

Liquefaction, lateral spreading, and seismically induced settlement is expected to be low due to the existing subsurface material and ground water elevation. The potential for surface fault rupture at the site is considered very low because the site is not located within an Alquist-Priolo Earthquake Study Zone as established by the State Geologist, and no active faults trace through or nears the site.

Base on the preliminary project information and subsurface data from previous geotechnical investigations near the subject site, the PFR identified that the proposed bents may be supported by a deep foundation system embedded in dense very young wash deposits, and that the proposed bridge abutments may be supported by conventional shallow foundations founded in competent fill or very young wash deposits. The deep foundations system may include large diameter CIDH concrete piles.

Alternate foundations at the abutments could include CIDH piles or driven steel H-piles and /or driven steel pipe piles (open end).

Bridge Name	Recommended Foundation Type	Max. EQ	Soil Profile	Max. ARS
Mount Vernon Ave. Overcrossing	Abutment #1 Spread Footing Bent #2 90" CIDH Concrete Pile Bent #3 90" CIDH Concrete Pile Abutment #4 spread footings	7.2 (+.25)	B	0.886g

Due to the site acceleration Standard plan retaining walls are not suitable for use on this project but special designed Type 1 cantilevered concrete retaining walls are proposed at the outside corners of the bridge to support the existing slopes and reduce the permanent impacts to the vegetation associated with re-grading. it is proposed to re-grade at a 2:1 slope and utilize wing walls or short retaining walls to accommodate the grading requirements.

D. SEISMIC CONSIDERATION

There will be no seismic retrofit on the existing bridge as it is being replaced with a new structure. Seismic design criteria for the new bridge will follow the latest Caltrans Seismic Design Criteria (SDC) V2.0, dated April 2019. The soil profile, Peak Ground Acceleration and design ARS curve identified in the Foundation Report will be used in the seismic design of the structure.

E. STRUCTURE TYPE

The proposed bridge will be designed in accordance with AASHTO LRFD Bridge Design Manual 8th Edition with interims from Caltrans, Caltrans Memo's to Designers, and Caltrans Seismic Design Criteria Version 2.0.

The new structure is proposed to be a three span continuous steel girder bridge with a total length of 365'-5" (measured along the profile grade line of the structure), and a finished width of 98'-4". The span configuration is expected to be 124'-5", 132'-5", and 108'-7". The bridge will have six 12-foot lanes, a type (732SW) concrete barrier with sidewalk on the east side, Type 836 concrete barrier on the west side, and Class II bike lanes on both sides. The superstructure will have a maximum depth of 5 feet, including a composite 8" reinforced concrete deck, supported on 5.5-foot diameter columns and concrete seat type abutments, founded on CIDH piles at the bents and spread footings at the abutments.

The proposed bridge is located on a horizontal curve with radius of 650 feet and a superelevation of 4.0 percent. To minimize the skew at abutment #4, span #3 will have varying girder lengths. In doing this the skew will be reduced from approximately 53 degrees to approximately 35 degrees.

There are no known aesthetics or lighting requirements that will influence the structure type.

A Cast-in-Place, prestressed concrete box girder structure was considered as a possible replacement structure. This structure type is required to be constructed on falsework that will

maintain a temporary vertical clearance of 15-feet under the falsework. The propose geometry of the new structure was developed to allow for the existing bridge to remain open while the first stage of the new structure was constructed. This geometry would require the falsework to span approximately 80-feet on a skew across the eastbound lanes of I-10, resulting in a falsework depth of approximately 3.75 feet. This required falsework depth would raise the final profile of Mt Vernon by 2.75 feet. Tunnel falsework that shortens the required span length is not possible at this location because of the conflict with the existing bridge. The increase in the profile resulted in significant impacts to right-of-way on the north side of I-10. By using continuous curved steel girders falsework is no longer required and a final profile was able to be developed with minimal impacts to the right-of-way on the north side of I-10.

Use of precast prestressed concrete girders were not considered due to the 650-foot radius on the structure.

Typical section, elevation and plan views of the proposed structure are included in the Advance Planning Study General Plan in Appendix A.

F. ENVIRONMENTAL

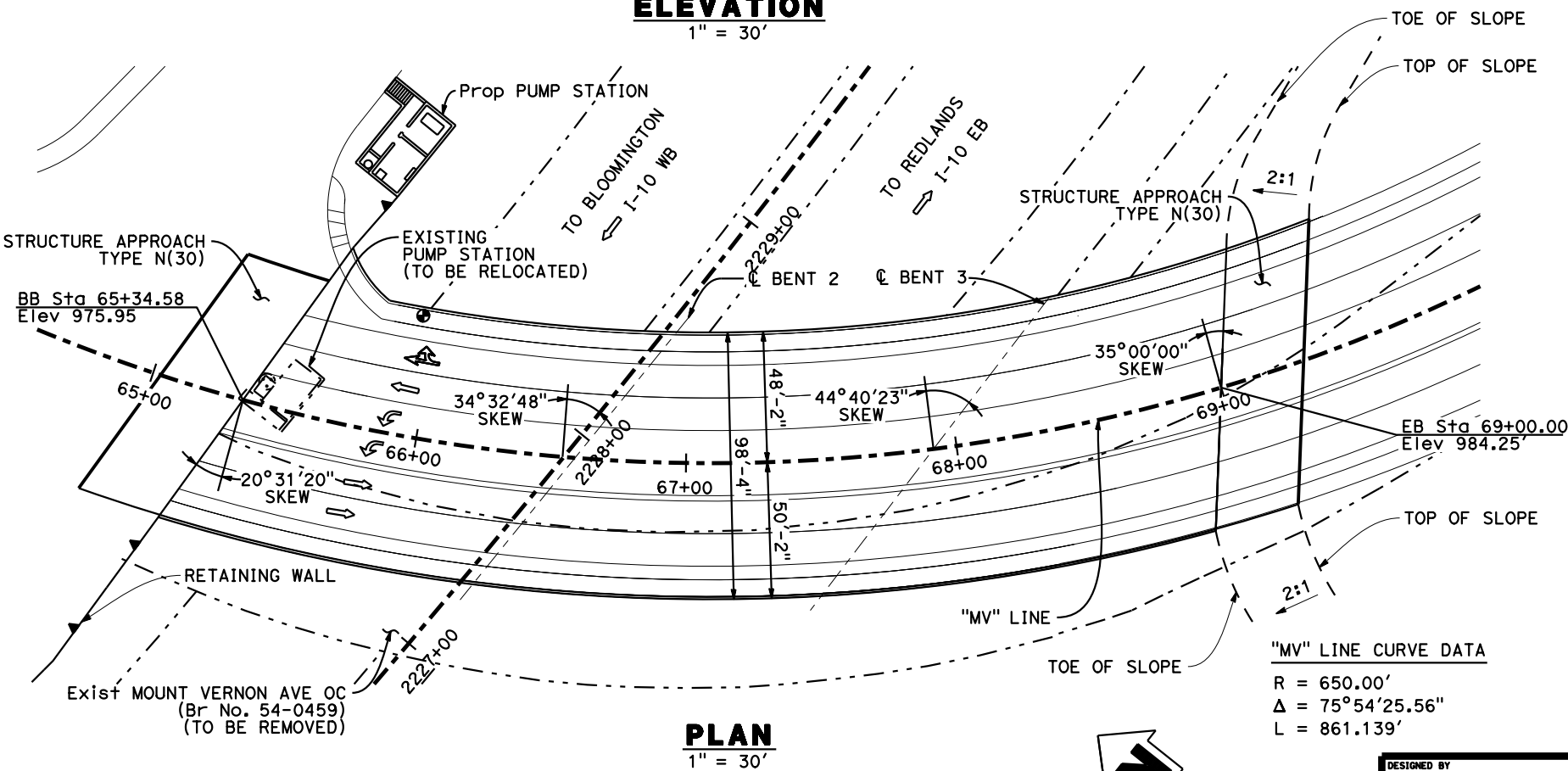
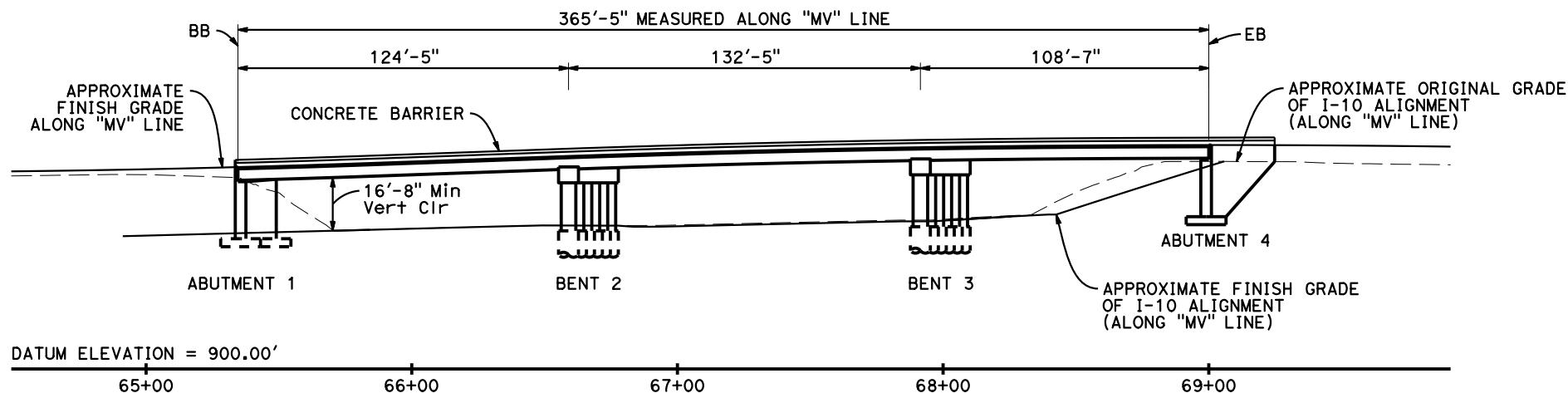
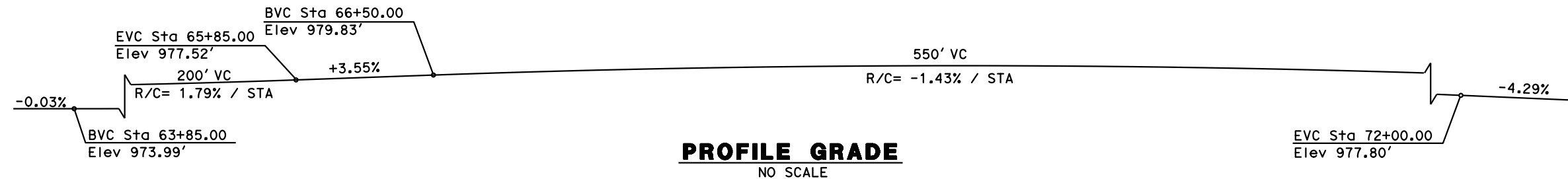
The current bridge will be tested for asbestos and lead base paint. Proper disposing measures, that follow the Caltrans Standard Specifications, will be as necessary. Two gas stations close to the bridge will be tested for contaminated soil under the project site. There are no environmental or regulatory agency permit requirements that will influence the recommended structure type at this point.

G. COST ESTIMATE

The cost for construction of the bridge removal and replacement described above was estimated. A summary of the cost estimate is presented in the table below.

SUBTOTAL	\$ 11,769,537.00
TIME RELATED OVERHEAD	\$ 1,176,954.00
MOBILIZATION (@ 10 %)	\$ 1,176,954.00
SUBTOTAL BRIDGE ITEMS	\$ 14,123,445.00
CONTINGENCIES @ 25%	\$ 3,530,861.00
BRIDGE SUBTOTAL COST	\$ 17,654,306.00
25% CONTINGENCIES DUE TO STAGE CONSTRUCTION	\$ 4,413,576.00
BRIDGE TOTAL COST	\$ 22,067,882.00
COST PER SQ. FT.	\$ 614.15
BRIDGE REMOVAL (CONTINGENCIES INCL.)	\$ 579,400.00
GRAND TOTAL	\$ 22,647,282.00
FOR BUDGET PURPOSES - SAY	\$ 22,648,000.00

Dist	COUNTY	ROUTE	POST MILE
8	SBD	I-10	R23.25
SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY 1170 W 3RD ST, 2ND FLOOR SAN BERNARDINO, CA 92410			
KIMLEY-HORN AND ASSOCIATES, INC. 401 B STREET, SUITE 600 SAN DIEGO, CA 92101			



TRAFFIC NOTES:

- VEHICULAR TRAFFIC:
- ___ New alignment. No traffic at the site.
 - ___ Traffic will be detoured away from the site.
 - ☒ Traffic will be carried on the structure.
Stage construction will be required.
 - ☒ Traffic will pass under the structure on
INTERSTATE 10 (Name of St. or Hwy.)
A. ☒ No falsework allowed over traffic.
B. ___ Falsework opening(s) required:
Temporary Vertical Clearance Width of Traffic Opening
___ Bound ___
___ Bound ___
___ Two-way ___
C. ___ Temporary traffic lane reduction needed
for footing excavation.

LEGEND:

- ⇒ Indicates Direction Of Traffic
● Point Of Minimum Vertical Clearance

X	DESIGN OVERSIGHT
X	SIGN OFF DATE

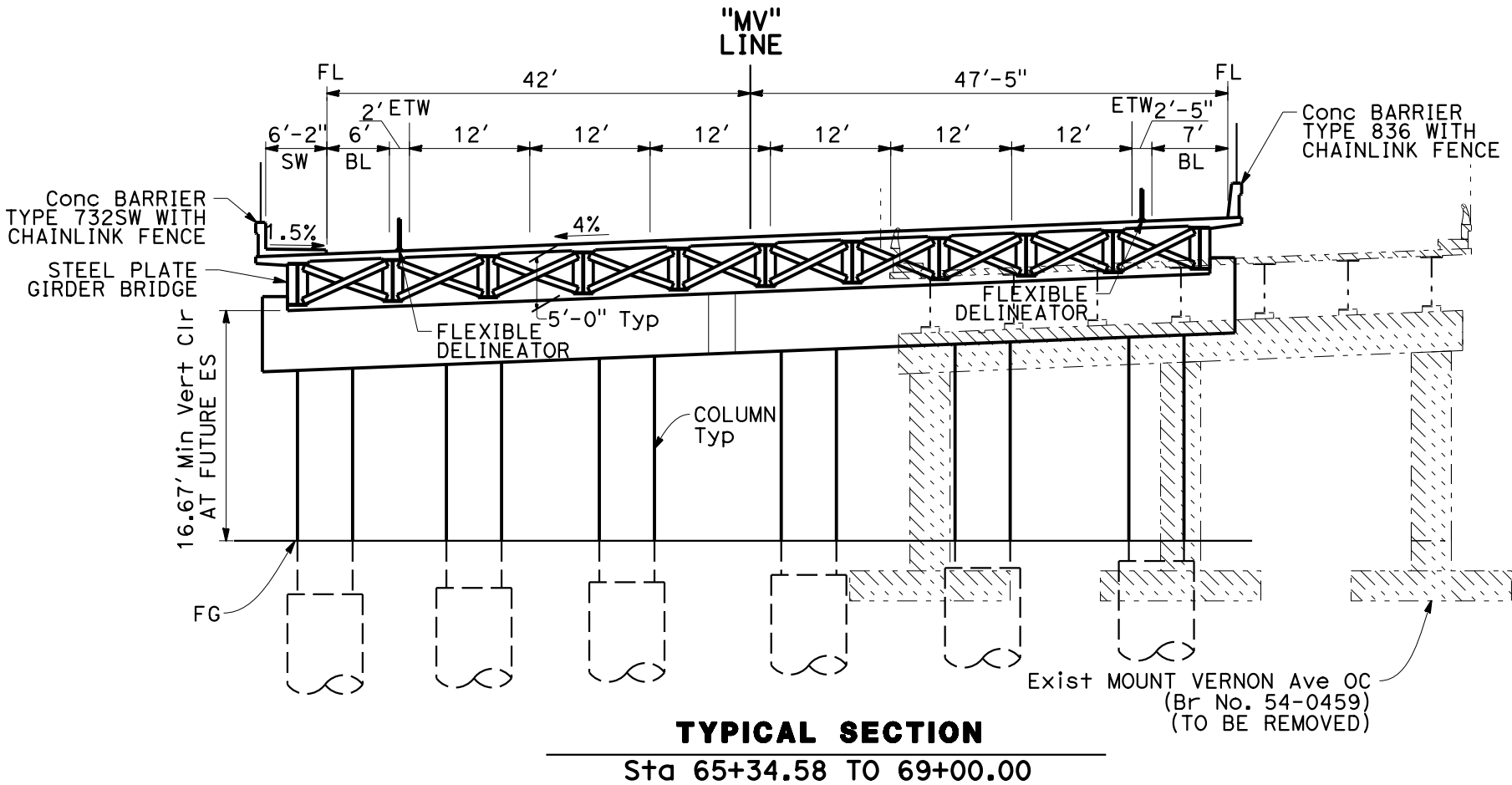
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FILE => 164001wa001.dgn USERNAME => Zach.Ogile

DESIGNED BY SARAH GALO	DATE X
DRAWN BY CARINA JOHNSTON	DATE X
CHECKED BY JOSE RAMIREZ	DATE X
APPROVED X	DATE X

X	PROJECT ENGINEER
---	------------------

PLANNING STUDY (1 of 2)	
MT VERNON OC (REPLACE)	
UNIT: X	BRIDGE No.: 54-0459
CONTRACT No.: X	PROJECT No. & PHASE: X

Dist	COUNTY	ROUTE	POST MILE
8	SBD	I-10	R23.25
SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY 1170 W 3RD ST, 2ND FLOOR SAN BERNARDINO, CA 92410			
KIMLEY-HORN AND ASSOCIATES, INC. 401 B STREET, SUITE 600 SAN DIEGO, CA 92101			



DATE OF ESTIMATE	04-30-2021
BRIDGE REMOVAL	= \$579,400.00
STRUCTURE DEPTH	= 5'-0"
LENGTH	= 365'-5"
WIDTH	= 98'-4"
AREA	= 35,933 SQFT
COST/f+2 INCLUDING 10% MOBILIZATION & 20% CONTINGENCY	= \$614.15
TOTAL COST	= \$22,648,000

LEGEND:

- (A) Concrete Barrier Type 732SW and Chainlink Fence
- (B) Cast-in-place Concrete Bridge Deck (8")
- (C) Cast-in-place Concrete Bent Cap
- (D) Steel Deck Plate Girder Typ
- (E) Temporary Concrete Barrier Type K
- (F) Existing Concrete Barrier Type 2 and Chainlink Fence
- (G) Limits of Bridge Removal

X	DESIGN OVERSIGHT
X	SIGN OFF DATE

DATE PLOTTED => 09-NOV-2021 TIME PLOTTED => 15:53
FILE => 164001wa002.dgn USERNAME => Zach.Ogile

DESIGNED BY	DATE
SARAH GALO	X
DRAWN BY	DATE
CARINA JOHNSTON	X
CHECKED BY	DATE
JOSE RAMIREZ	X
APPROVED	DATE
X	X

X	PROJECT ENGINEER
---	------------------

PLANNING STUDY (2 of 2)	
MT VERNON OC (REPLACE)	
UNIT: X	BRIDGE No.: 54-0459
CONTRACT No.: X	PROJECT No. & PHASE: X

Attachment K:
Draft Environmental Document
Cover and Title Sheet (8)



**CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM (rev. 04/2021)**

Project Information

Project Name (if applicable): Mt. Vernon Avenue Improvements Project at I-10

DIST-CO-RTE: 08-SBD-10

PM/PM: R22.7/R24.3

EA: 08-1G800

Federal-Aid Project Number: 0816000102

Project Description

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans), and the City of Colton, proposes to construct improvements to Mount (Mt.) Vernon Avenue to accommodate four continuous through lanes through the interchange, two additional left turn lanes in the northbound direction, and bike lanes in both directions at Interstate 10 (I-10), from Post Mile (PM) R22.7 to PM R24.3 between 9th Street and Interstate 215 (I-215) interchange in the City of Colton, San Bernardino County.

The Mt. Vernon Avenue overcrossing structure will be reconstructed to accommodate the widening on Mt. Vernon Avenue and to span the future widening of the I-10 freeway to its ultimate configuration. This project will further widen the southern leg of the intersection in order to accommodate a northbound dedicated left turn pocket. North of the bridge, the existing five-leg intersection connecting Mt. Vernon Avenue and East Valley Boulevard to the I-10 westbound on-ramp would be realigned with exclusive turn lanes, signalization, and signage improvements incorporated to improve traffic operations. The existing westbound on-ramp and eastbound off-ramp will be modified in order to accommodate the wider and taller bridge structure.

The project also addresses bicycle and pedestrian modes of travel. Specifically, it will upgrade bicycle access from Class III to a Class II by use of a striped bicycle lane on the overcrossing. For pedestrians, it would add a sidewalk on the northeastern side of the bridge and address Americans with Disabilities Act (ADA) standards with up-to-date curb ramps.

Caltrans CEQA Determination (Check one)

☐ **Not Applicable** – Caltrans is not the CEQA Lead Agency

☒ **Not Applicable** – Caltrans has prepared an IS or EIR under CEQA

Based on an examination of this proposal and supporting information, the project is:

☐ **Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)

☐ **Categorically Exempt. Class** Enter class. (PRC 21084; 14 CCR 15300 et seq.)

☐ No exceptions apply that would bar the use of a categorical exemption (PRC 21084 and 14 CCR 15300.2). See the [SER Chapter 34](#) for exceptions.

☐ **Covered by the Common Sense Exemption.** This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)



**CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM**

Senior Environmental Planner or Environmental Branch Chief

N/A

Print Name

N/A

Signature

N/A

Date

Project Manager

N/A

Print Name

N/A

Signature

N/A

Date



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Caltrans NEPA Determination (Check one)

☐ **Not Applicable**

Caltrans has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). See [SER Chapter 30](#) for unusual circumstances. As such, the project is categorically excluded from the requirements to prepare an EA or EIS under NEPA and is included under the following:

☐ **23 USC 326:** Caltrans has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to 23 USC 326 and the Memorandum of Understanding dated April 18, 2019, executed between FHWA and Caltrans. Caltrans has determined that the project is a Categorical Exclusion under:

☐ **23 CFR 771.117(c): activity (c) (Enter activity number)**

☐ **23 CFR 771.117(d): activity (d)(Enter activity number)**

☐ **Activity Enter activity number listed in Appendix A of the MOU between FHWA and Caltrans**

☒ **23 USC 327:** Based on an examination of this proposal and supporting information, Caltrans has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Senior Environmental Planner or Environmental Branch Chief

Antonia Toledo

Print Name

Signature

3/4/2022

Date

Project Manager/ DLA Engineer

Michael Makary

Print Name

Signature

3/4/2022

Date

Date of Categorical Exclusion Checklist completion (if applicable): February 2022

Date of Environmental Commitment Record or equivalent: February 2022

Briefly list environmental commitments on continuation sheet if needed (i.e., not necessary if included on an attached ECR). Reference additional information, as appropriate (e.g., additional studies and design conditions).

Mt. Vernon Avenue Improvements Project at I-10

SAN BERNARDINO COUNTY, CALIFORNIA

DISTRICT 08-SBD-10-(PM R22.7/R24.3)

EA 08-1G800/PN 0816000102

Initial Study with Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation
in cooperation with the San Bernardino County Transportation Authority
and the City of Colton



March 2022

Reconstruct Mt. Vernon Avenue Overcrossing at the I-10 interchange from Post Mile R22.7 to PM R24.3
in San Bernardino County, California

**INITIAL STUDY
with Mitigated Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

3/9/2022

Date of Approval

Kurt Heidelberg

CW Kurt Heidelberg
Deputy District Director California
Department of Transportation NEPA &
CEQA Lead Agency

The following persons may be contacted for more information about this document:

Antonia Toledo, MS
Senior Environmental Planner
California Department of Transportation, District 8
464 West 4th Street, 6th Floor MS-820
San Bernardino, CA 92401-1400
Phone: (909) 501-5741



MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: 2021070061

DIST-CO-RTE-PM: 08-SBd-10-PM R22.7/R24.3

EA: 1G800

Project Description

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) and the City of Colton, plans to construct improvements to Mount (Mt.) Vernon Avenue to accommodate four continuous through lanes through the interchange, two additional left turn lanes in the northbound direction, and bike lanes in both directions at Interstate 10 (I-10), from Post Mile (PM) R22.7 to PM R24.3 between 9th Street and the Interstate 215 (I-215) interchange in the City of Colton, San Bernardino County (refer to Figures 1 and 2). Along Mt. Vernon Avenue, the study area extends approximately 540 feet north of the existing freeway centerline and approximately 640 feet south of the existing freeway centerline at the Union Pacific Railroad (UPRR) bridge overcrossing.

The existing Mt. Vernon Avenue, through the interchange, has four striped lanes which transition to three striped through lanes, north of the eastbound ramps. The project proposes to construct improvements to Mt. Vernon Avenue at the I-10 interchange to address congestion and improve traffic operations.

The Mt. Vernon Avenue overcrossing structure will be reconstructed to accommodate the widening on Mt. Vernon Avenue and to span the future widening of the I-10 freeway to its ultimate configuration. A City of Colton project (Project ID 200856) will widen Mt. Vernon Avenue from two through lanes to four through lanes from the I-10 eastbound ramps to approximately 300 feet south of the intersection. This project will further widen the southern leg of the intersection in order to accommodate a northbound dedicated left turn pocket.

North of the bridge, the existing five-leg intersection connecting Mt. Vernon Avenue and East Valley Boulevard to the I-10 westbound on-ramp would be realigned with exclusive turn lanes, signalization, and signage improvements incorporated to improve traffic operations. The existing westbound on-ramp and eastbound off-ramp will be modified in order to accommodate the wider and taller bridge structure.

The project also addresses bicycle and pedestrian modes of travel. Specifically, it will upgrade bicycle access from Class III to Class II by use of a striped bicycle lane on the overcrossing. For pedestrians, it would add a sidewalk on the northeastern side of the bridge and address Americans with Disabilities Act (ADA) standards with up-to-date curb ramps.

Determination

Caltrans has prepared this Initial Study (IS) for the project and, following public review, has determined from this study that the project would not have a significant effect on the environment for the following reasons:

- The project would have no impact on agriculture and forest resources, land use and planning, mineral resources, population and housing, public services, recreation, or wildfire.
- The project would have less than significant impacts on aesthetics, air quality, cultural resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, transportation, tribal cultural resources, and utilities and service systems.
- With the following avoidance, minimization, and/or mitigation measures incorporated, the project would have less than significant impacts on geology and soils, and biological resources:

BIO-5: All construction site Best Management Practices (BMPs) from the project's Storm Water Pollution Prevention Plan will be implemented.

BIO-6: All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located so as to prevent runoff from any spills from entering jurisdictional waters.

BIO-7: Project impact areas, staging, and storage areas will be minimized to the greatest extent feasible in and adjacent to any jurisdictional waters by placing highly visible barriers around jurisdictional areas to be preserved in order to establish Environmentally Sensitive Areas (ESAs). No work or equipment will be permitted to enter any ESA.

BIO-8: The project's impacts on aquatic resources will be mitigated and coordinated with RWQCB and CDFW during the permitting process. A minimum ratio of 1:1 is anticipated for permanent and temporary impacts through credit purchase at an approved in-lieu fee program, mitigation bank, or other approved mitigation provider. This is subject to change during agency coordination.

PAL-1: Grading, excavation, and other surface and subsurface excavation in the resource study area have the potential to affect significant nonrenewable fossil resources of Pleistocene age. A Paleontological Mitigation Plan (PMP) shall be

prepared, during final project design, by a qualified paleontologist. The PMP will detail the measures to be implemented in the event of paleontological discoveries. The PMP shall include, at a minimum, the following elements:

- Required 1-hour preconstruction paleontological awareness training for earthmoving personnel, including documentation of training, such as sign-in sheets, and hardhat stickers, to establish communications protocols between construction personnel and the Principal Paleontologist.
- A signed repository agreement with the San Bernardino County Museum will be developed to establish a curation process in the event of sample collection.
- Monitoring, by a Principal Paleontologist, of Quaternary older alluvium of the Pleistocene epoch during excavation.
- Field and laboratory methods that meet the curation requirements of the San Bernardino County Museum will be implemented for monitoring, reporting, collection, and curation of collected specimens. Curation requirements are available for the public review at the San Bernardino County Museum.
- All elements of the PMP will follow the PMP format published in the Caltrans Standard Environmental Reference (Caltrans 2003).
- The PMP will be included in the environmental project file and also submitted to the curation facility. Findings and analysis will be prepared by a Principal Paleontologist upon completion of project earthmoving activities.

Signature

Kurt Heidelberg

Kurt Heidelberg
Deputy District Director Caltrans
Department of Transportation CEQA
Lead Agency

3/9/2022

Date

CW

Attachment L: Project Category Determination (1)

March 24, 2021

To: Jamal Elsaleh
Deputy District Director, Design
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401

Subject: Mt. Vernon Avenue Improvements Project (EA 1G800) – Project Category Determination Request

Dear Mr. Elsaleh:

The San Bernardino County Transportation Authority (SBCTA) requests the approval of the Project Category Determination for the Mount (Mt.) Vernon Avenue Improvements Project at Interstate 10 (I-10). According to Caltrans' Project Development Procedures Manual, Chapter 8, Section 5, Project Development Categories, this project is under Category 4B based on the following items:

1. I-10/Mt. Vernon Avenue overcrossing bridge is an existing facility.
2. Project does not substantially increase traffic capacity.
3. Project does not require substantial new right-of-way.
4. A revised Freeway Agreement is not required.
5. Project does not require a location adoption.

If you have any questions regarding this project, please contact Jason Valencia, the Design Firm Project Manager, at 619-744-0131. Thank you.

Paula Beauchamp
Paula Beauchamp
Director of Project Delivery and Toll Operations
SBCTA

Approved:

Jamal Elsaleh 4/6/2021
Jamal Elsaleh M.A. Date
Deputy District Director, Design
Caltrans District 8

Attachment M:
Traffic Management Plan (TMP) Data Sheet
(5)

[illegible]

TMP Elements	EA #/ID#	08-1G800/0816000102	Date	12/18/2019
Note: A checkmark in the box means you need to include this in the project unless staging, material, or work hour changes eliminate the need for the item. A ? in front means TMP anticipates this - please check into this. A blank box means the item is not needed at this time based on the information received.				

Public Affairs officer's 1st. & last name		Phone number
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1	Public Information/Public Awareness Campaign (PAC). Developer: Remember to obtain the estimate from Public affairs by contacting Terri Kasinga. Procedure is in the file under 3- TMP matters	Estimated Cost
---	--	-----------------------

BEES 066063 (Traffic Management Plan-Public Information). Cost to be reduced by Public Affairs (PA) and Construction Liaison (CL) only. Show under State Furnished as the total of PA+CL.

\$ 350,000

- 1.1 ☒ Include Rideshare information in PA/CL project material to encourage vehicles reduction in work area
- 1.2 ☒ Brochures and Mailers
- 1.3 ☒ Media Releases (& minority media sources)
- 1.4 ☒ Paid Advertising
- 1.5 ☒ Public Meetings/PAC Mtgs./Speakers Bureau (show cost also for room rental)
- 1.6 ☒ Hand deliver notices to vicinity
- 1.7 ☐ Broadcast fax service
- 1.8 ☐ Telephone Hotline OR
- 1.9 ☐ 1-800-COMMUTE (The telephone number is shown on CS-Info signs) -
- 1.10 ☐ Visual Information (videos, slide shows, etc.)
- 1.11 ☐ Local cable TV and News
- 1.12 ☒ Traveler Information System (Internet)
- 1.13 ☒ Internet, E-mail, Social Media
- 1.14 ☒ Notification to targeted groups:
 - ☒ Revised Transit Schedules/maps
 - ☐ Rideshare organizations
 - ☐ schools
 - ☐ organizations representing people with disabilities
 - ☒ bicycle organizations
- 1.15 ☐ Include PA/CL/Consultant resources in WPS
- 1.16 ☐ Commercial traffic reporters/feeds - e.g. brief Traffic Information people (TIP) group
- 1.17 ☐ Insert SSP's

"A representative of the Contractor, at Superintendent level or higher, and authorized to commit the Contractor, shall attend and participate in all Public Awareness Campaign meetings. Time commitment for the meeting(s) varies from two to four hours per month."
- 1.18 ☐ Other

Section 1 Total	\$ 350,000
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2 Motorist Information Strategies

Project team needs to coordinate with Traffic Design!

- 2.1 ☒ Existing Overhead Changeable Message Signs (Stationary)
- ☐ New Installation (Stationary) - BEES 860532 CHANGEABLE MESSAGE SIGN SYSTEM - list locations

- 2.2 ☒ Portable Changeable Message Signs (PCMS) - BEES 066578

This strategy is in addition to Traffic Design's PCMS for regular traffic handling within the project limits and is used for advising motorists to divert at remote advance decision points - outside the usual project limits. This also allows for advanced motorist information - e.g. a week ahead. Their placement may need to be cleared environmentally. Placement should be of sufficient distance prior to decision points as determined by the Resident Engineer.

of PCMS Unit cost/month \$ Months needed \$ 24,000

- 2.3 ☒ Lane Closure System Website
- 2.4 ☒ Caltrans Highway Information Network (CHIN)
- 2.5 ☒ Radar Speed Message Sign (Specter sign) BEES 066064 (approx. EA @ \$30,000) \$ 60,000
- 2.6 ☐ Bicycle and pedestrian information, e.g. Detour maps
- 2.7 ☒ Automated Workzone Information System (AWIS) BEES 120105 \$ 60,000
 - consult with TMP Developer prior to updating SSP 12-3.35A(1) for AWIS
 - refer to Section 12-3.35, page 156 to 158 of the 2015 Standard Spec.

TMP Elements	EA #/ID#	08-1G800/0816000102	Date	12/18/2019
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2.8 ☐ Other

Section 2 Total	\$ 144,000
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3 Incident Management

3.1 CHP's Construction or Maintenance Zone Enhanced Enforcement Program – COZEEP or MAZEEP. BEES 066062 - show under "State or Agency furnished" in the Cost Estimate.

Make sure to consider the LC hours and add CHP driving time to/from their office

Day COZEEP: To protect active closures

hours/day	CHP vehicles	# of officers.	Rate/Hr.
0	0	1	\$ 100

\$

-

Night COZEEP: To protect active closures

# of nights	hours/night	CHP vehicles	# of officers. Nights need 2 per car	Rate/Hr.
100	8	1	2	\$ 100

\$

160,000

3.2 Freeway Service Patrol (FSP) for Construction (CFSP) \$/hr./truck \$55
BEES 066065 - show under "State or Agency furnished" in the Cost Estimate
Short duration or remote area CFSP usually is bid with much higher hourly rates. If enhancement of program FSP feasible, CFSP could tie into the lower long-term FSP rates.

# of trucks	# of days	Hours per day	
A For service within the regular FSP hours	1	200	6
			\$66,000

For service outside the regular FSP hours			
B Extended Peak hour coverage			\$0

C Support during night closures			
	1	20	6
			\$6,600

D Weekend support			
			\$0

Local agency (SAFE) support 8% \$5,808
8% of truck cost

CFSP CHP support 5% \$3,300
5% of truck cost only if within regular FSP and area

Equipment/Supplies 10% \$7,260
% of truck cost unless more detail available

Consult with the Inland Empire division of CHP or the border division in the southern Riverside county to select the method which is acceptable for the B,C,D that are outside the regular FSP hours or area.

Method 1

CFSP/CHP support 20% \$1,320
20% of truck cost or

CFSP Dispatcher @

# of days	# of nights	hours	# of FSP	Rate	# of FSP vehicles	\$
		0		\$ 45.00		-
		0				

CFSP CHP Officers (See Cozeep rate)

# of days	# of nights	hours	# of officers	Rate	# of CHP vehicles	\$
0	0	0	1	\$ 45.00	0	-
0	0	0	2	0	0	-

- ☐ Cooperative Agreement or Task Order with SAFE for \$78,408
- ☐ Task Order with CHP (State-wide Master Agreement for FSP support). for \$4,620
- ☐ Contact District FSP Coordinator for task orders.
- ☐ Service Contract
- ☐ Local Agency will arrange CFSP with SAFE
- ☐ Local Agency will arrange CFSP administration with CHP

TMP Elements	EA #/ID#	08-1G800/0816000102	Date	12/18/2019
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3.3 ☐ Other 3.2 Total \$90,288

Section 3 Total	\$ 250,288
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4 Construction Strategies

Contact DTM, at 909-383-6262, to get Delay Calculations, Lane Requirement Charts (LRC), Table Z and Special events list. Inform DTM of any concerns/commitments regarding special LC days, times, seasons, events; environmental restrictions; if work may be affected by snow and low or high temperatures. E.g. excessive heat may delay HMA operations lane openings which may increase traffic impact when vehicles overheat in the queue; etc. If traffic volumes vary significantly between seasons, consider 2 sets of LRCs to avoid CCOs.

4.1 This TMP presumes that work is planned as below. If different, TMP needs to be revised. The Project Engineer shall ensure all appropriate lane requirement charts are included.

- ☒ Off peak
- ☒ Night
- ☒ Weekend

4.2 Expected facility closures and requirements

- ☐ Flagging
- ☒ Shoulder
- ☒ Lane
- ☒ Street
- ☒ Ramp
- ☐ Connector*
- ☒ Extended Weekend Closures*
- ☐ Total Facility Closures*

*Consult with TMP developer and the DTM regarding COZEPP & other costs. Provide proposed detour and traffic diversion plans for review.

CAUTION: If the Lane Requirement Chart (LRC) for full mainline closures, of one or both directions on a highway or freeway, does not show the maximum number of allowable closures, the PS&E shall not be certified by DTM/TMP.

- 4.3 ☒ Coordinate with adjacent ongoing and planned construction projects - also on detour routes.
- 4.4 ☐ BEES 066008 Incentives
- 4.5 ☒ Strictly enforce construction CPM schedule
- 4.6 ☒ 10-Min. Delay Penalty Contact DTM at 909-838-6262 for 10 Min. Delay Penalty Calculations.
- 4.7 ☐ Other

Section 4 Total	\$ -
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5 Demand Management (DM)

Project team needs to coordinate with RCTC/SANBAG/CVAG

Traffic diversion may increase available work hours.

- 5.1 ☐ A co-op will be executed - mentioned in PSR or PR.
- ☐ Instead of a co-op, 15% is added to the cost of DM elements since the payment to the local agency will be routed through the contractor.

Instead of a co-op, the local agency will make their own arrangements with RCTC/SANBAG/CVAG. PA/CL or local agency need to inform commuters through RCTC/SANBAG. Funds part of PA/CL.

- 5.2 ☐ HOV Lanes/Ramps (New or Convert)
- 5.3 ☐ Park-and-Ride Lots
- 5.4 ☐ Parking Management/Pricing (Coordination with local agency is required)
- 5.5 ☐ BEES 066067 Rideshare Promotion
- 5.6 ☐ Other

Section 5 Total	\$ -
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6 Alternate Route Strategies

Caution - signed detours may require environmental clearance. Traffic diversion may increase available work hours. Please work with Traffic Design. BEES 066060 - ADDITIONAL TRAFFIC CONTROL

- 6.1 ☐ Add Capacity to Freeway connector
- 6.2 ☒ Ramp Closures
- 6.3 ☐ Temporary Highway Lanes or Shoulder Use
- 6.4 ☒ Parking Restrictions
- 6.5 ☐ Street Improvements
 - ☐ State R/W - Signals, Widen, etc.
 - ☐ Local R/W - Signals, Widen, etc. co-op or permit may be needed
- 6.6 ☐ Local Street USE - co-op or Permit may be needed
- 6.7 ☐ Traffic Control Officers (see 3.1 COZEPP)
- 6.8 ☒ Signed detour - using State routes
- 6.9 ☒ Signed detour - using local streets and roads. Coordinate with corresponding local agency.
- 6.10 ☐ Adjust signals
- 6.11 ☐ Temporary bicycle or pedestrian facilities
- 6.12 ☐ Other

\$ -

Section 6 Total	\$ -
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TMP Estimate					
Developed by	William Uribe	EA#/ID#	08-1G800/0816000102	Date	12/18/2019
TMP developer: Amounts under the cost column will automatically be copied from the TMP elements					
TMP Elements			Cost		
1. Public Information			\$350,000		
2. Motorist Information Strategies			\$144,000		
3. Incident Management			\$250,288		
4. Construction Strategies			\$0		
5. Demand Management (DM)			\$0		
6. Alternate Route Strategies			\$0		
Total TMP Estimate			\$ 744,288		