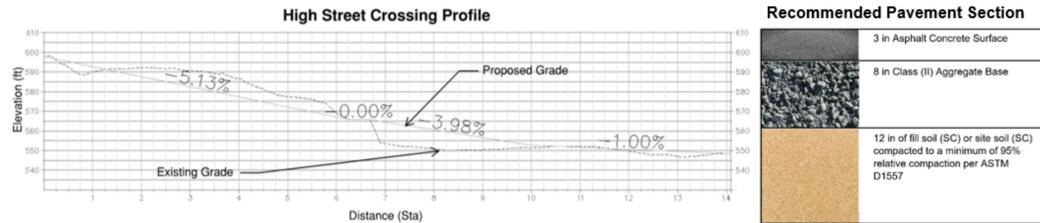


# High Street Crossing Design

## In the Vicinity of La Mesa

### GEOTECHNICAL



### OVERVIEW OF PROJECT AREA



### HYDROLOGY

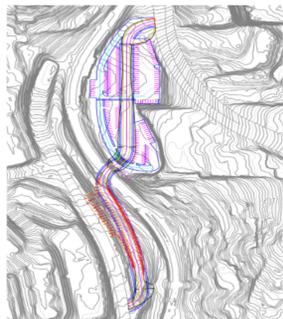
#### Hydrology - Existing Conditions



#### Proposed Stormwater Improvements



### TRANSPORTATION & TRAFFIC IMPACT



#### Two-Way/Minor Collector

##### Geometrics

- Elevation Start: 598.00'
- Elevation End: 549.00'
- Grade Variations: -5.08%, 0%, -7.62%
- Stationing: 0+00 to 14+09
- Curves
  - Horizontal: 5
  - Vertical: 3

##### Analysis

- Average Daily Trips - SANDAG's TFIC 2020
- Design Hour Volumes
- Level of Service
- Stopping Sight Distance
- Future Traffic Volumes

#### Future Growth Development/Emergency Response Times Evaluation

##### Future Growth

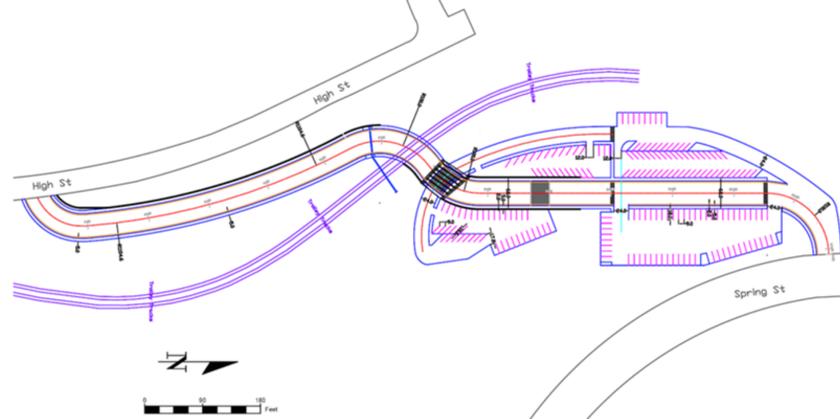
- Analysis of existing MGRA populations and ADTs High St Community
- Ratio of ADT per MGRA SF
  - High Street Community
  - Open Land
- Potential Distribution of Future ADTs
  - Case 1
  - Case 2
  - Case 3
- Worst Case- Spring Street
  - Increase in Traffic Volume
  - LOS Change

##### Emergency Response Times

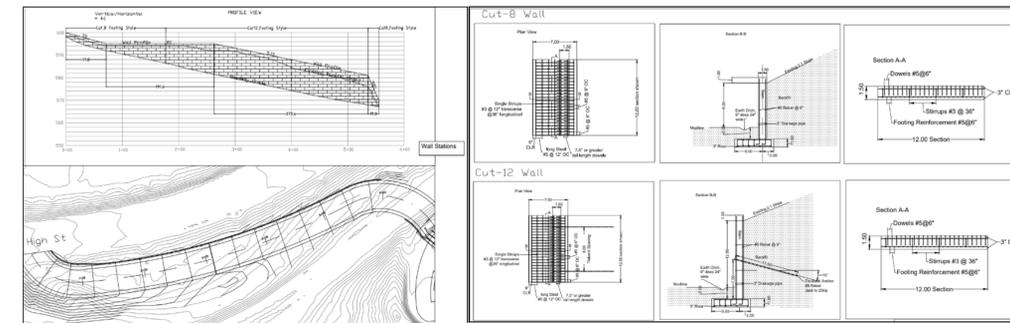
- City of La Mesa vs. City of Lemon Grove
  - Police & Fire Departments
- Existing Methods of Travel
  - Total Time Traveled
  - Total Distance Traveled
- Crossing Implementation
  - Time reduction: 4.4 minutes
  - Distance reduction: 1.8 miles
- Ideal Conditions w/ Crossing
  - Time: 3.6 minutes
  - Distance: 1.1 miles

The purpose of the project is to design a cost-effective alternative for a new roadway crossing to connect High Street to Spring Street. A major component of this project is integrating Smart Growth principles into the design which will provide access to commercial areas, reduce auto trips, and decrease greenhouse emissions. The crossing will thus shorten emergency response times for the military house complex on the west of the station and promote usage of the transit station in the area.

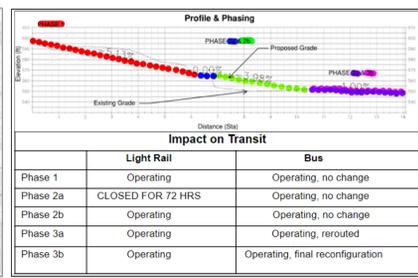
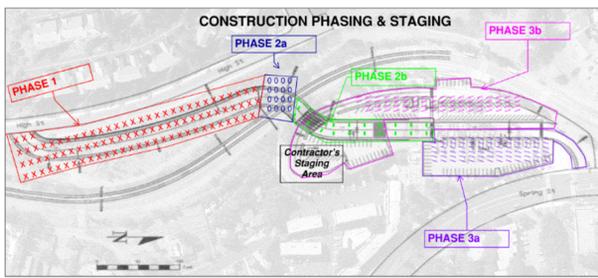
### PROPOSED DESIGN



### STRUCTURAL



### CONSTRUCTION



Phase	Work Period	Predecessor	Successor	Remarks/Main Activities
1	Day Work	Phase 0	Phase 2a	Grading, Retaining Walls, Pavement
2a	Day & Night Work	Phase 1	Phase 2b	Concrete Pavement at Trolley-X
2b	Day Work	Phase 2a	Phase 3a	Grading, Overpass, Retaining Walls
3a	Day Work	Phase 2b	Phase 3b	AC Pavement, Traffic, Striping
3b	Day Work	Phase 3a	None	AC Pavement, Traffic, Striping

Phase	Duration (Work Days)
Phase 0 - Mobilization	3
Phase 1 - Roadway Construction Sta 0+00 to 6+00	60
Phase 2a - Construction of at-grade trolley crossing Sta 6+00 to 7+00	3 (72-hour permit)
Phase 2b - Roadway Construction Sta 7+00 to 10+00 with overpass	50
Phase 3a - N-Bound At-Grade Road Construction (Sta 10+00 to 14+09.13) & NE Parking Redevelopment	40
Phase 3b - S-Bound At-Grade Road Construction (Sta 10+00 to 14+09.13) & SW Parking Redevelopment	40
<b>Total</b>	<b>196 (274 Calendar Days)</b>

Item Category	Item Description	Quantity/Unit	Unit Price	Total	Subtotal	Price Source
Pavement	HMA	4086.1 TON	90.00	\$ 367,749.00	\$ 367,749.00	SDSU 482 highway engineering course reader
	AB	870 CY	60.67	\$ 52,782.90	\$ 420,531.90	SDSU 482 highway engineering course reader
	Concrete	317 CY	216.62	\$ 68,688.54	\$ 489,200.44	Caltrans Average 2019
Parking Lot Improvements	Curb/Outlet	1709 LF	28.80	\$ 48,877.40	\$ 48,877.40	
	Landscaping	5000 SF	1.09	\$ 5,468.00	\$ 54,344.20	SDUPL 2009, Assumed 1 = 3%
	Remove Striping	10000 LF	3.92	\$ 39,200.00	\$ 104,363.40	SDUPL 2009, Assumed 1 = 3%
	Striping	20000 LF	0.84	\$ 16,800.00	\$ 121,468.20	SDUPL 2009, Assumed 1 = 3%
	Lights	25 EA	300.00	\$ 7,500.00	\$ 128,968.20	Estimate from various projects
Drainage	Stop Sign	3 EA	500.00	\$ 1,500.00	\$ 130,468.20	Estimate from various projects
	Branch	4 EA	500.00	\$ 2,000.00	\$ 132,468.20	Estimate from various projects
	18" RCP	107 LF	170.92	\$ 18,288.87	\$ 150,757.07	SDUPL 2009, assumed 1 = 3%
Grading	Curb Inlet	2 EA	8529.44	\$ 17,058.88	\$ 167,815.95	SDUPL 2009, assumed 1 = 3%
	Pipe Junction	2 EA	5538	\$ 11,076.00	\$ 178,891.95	SDUPL 2009, assumed 1 = 3%
Clearing/Grubbing	Cut	5077.9 CY	25.00	\$ 126,947.50	\$ 305,839.45	Estimate from various projects
	Fill	4738.3 CY	25.00	\$ 118,457.50	\$ 424,296.95	Estimate from various projects
Total				\$ 932,837.78	\$ 932,837.78	

### MEET THE TEAM



Melissa Hamendi  
Project Manager/  
Site Development/  
Geotechnical Engineer



Brendon Anderson  
Transportation  
Engineer



Emilio Jappelli  
Structural  
Engineer



Phillip Niver  
Water/Stormwater  
Engineer



Jack Wagner  
Environmental/  
Stormwater Engineer



Christina Mansoor  
Construction  
Engineer

### OTHER DESIGNS CONSIDERED

