

Alternative B (Modified)

At the February 19, 2020 meeting of the Cupertino Bicycle Pedestrian Commission, City staff presented a summary of Alternatives A through E from the Blackberry Farm Entrance Road Improvements Feasibility Study, Final Report, by Underwood & Rosenblum, Inc. At the meeting, the Commission expressed a preference to have an additional Alternative studied. This alternative, to be referred to as “Alternative B Mod”, would maintain the 14-foot width of Alternative B, but would allow for two-way traffic for both bicyclists and pedestrians. The Commission’s desire was to be able to accommodate downhill bicycle traffic, in addition to the uphill bicycle traffic currently included in Alternative B.

A Class I Bikeway would satisfy the Commission’s desire for a two-way bicycle facility. The design of bicycle facilities is regulated by the California Highway Design Manual (HDM) Chapter 1000. HDM Section 1003.1(1)(a), *Class I Bikeways (Bike Paths)*, specifies that, for a Class I Bikeway, “The minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred.” The section goes on to say, “Where heavy bicycle volumes are anticipated and/or significant pedestrian traffic is expected, the paved width of a two-way bike path should be greater than 10 feet, preferably 12 feet or more.” Consequently, the available 14-foot width exceeds the HDM’s recommended width for this facility.

A shoulder is not required, per HDM Section 1003.1(1)(b), as a result of the facility being located on a structure.

Grades are regulated by DIB 82, per HDM Section 1003.1(14). DIB 82 is the California Department of Transportation (Caltrans) accessibility design guidance, “Pedestrian Accessibility Guidelines for Highway Projects”, last updated November 16, 2017 as DIB 82-06. Per DIB 82 Section 4.3.7, this facility would be classified as a “ramp”, meeting the following specifications:

- Slopes that are greater than 1V:20H (5.0%) will be considered ramps and must not exceed a 30-inch rise without landings. [2010 ADA Standards 106.5, 405.6 and Title 24 11B-403.3, 11B-405.6]
- The maximum slope of a ramp shall not exceed 1V:12H (8.3%). [2010 ADA Standards 405.2 and Title 24 11B-405.2]
- The cross slope of ramp surfaces shall be no greater than 2.0%. [2010 ADA Standards 405.3 and Title 24 11B-405.3]

Section 4.3.10 of DIB 82 specifies the requirements for handrails:

- Ramp runs with a rise greater than 6 inches shall have handrails. Handrails shall be provided on both sides of stairs and ramps. [2010 ADA Standards 405.8, 505.2 and Title 24 11B-505.2]

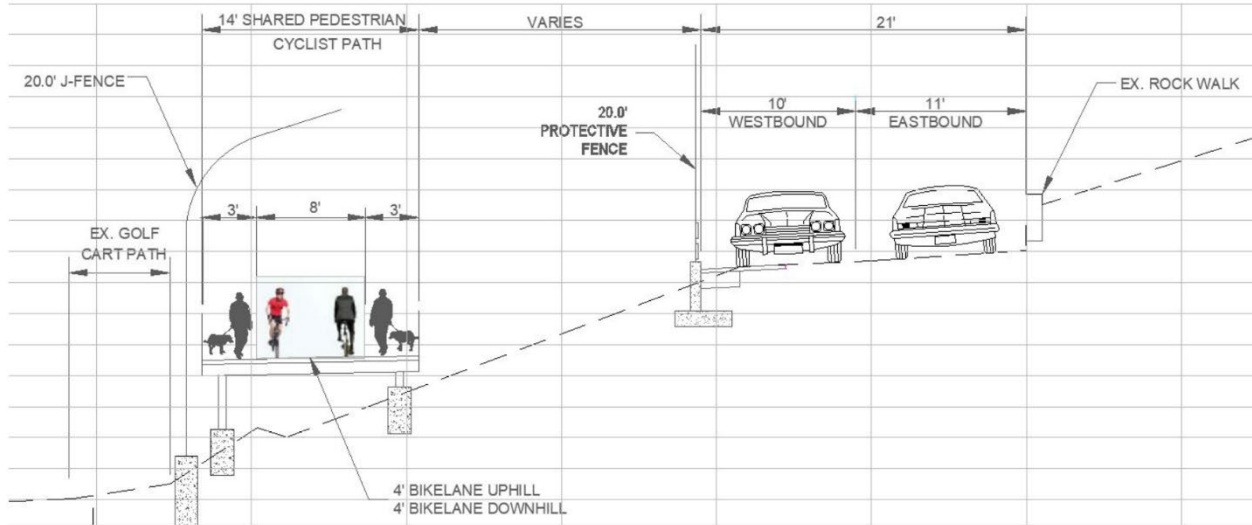
Providing handrails along the outside of the facility, adjacent to the pedestrian walkway areas, satisfies this requirement.

Advantages

This option retains the same advantages as Alternative B, but provides for both uphill and downhill bicycle movements, as requested by the commission.

Disadvantages

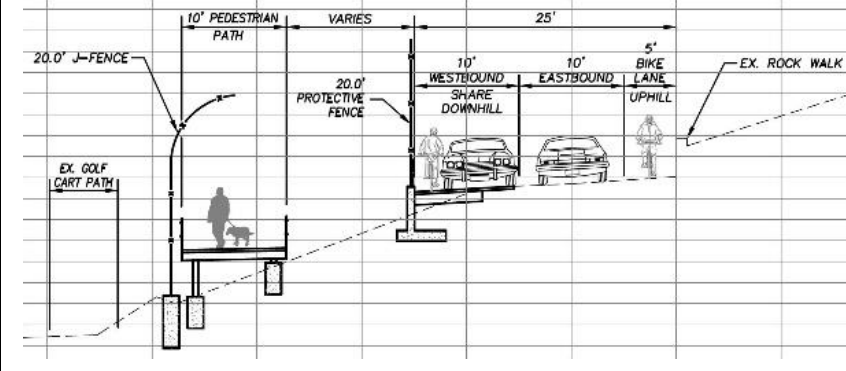
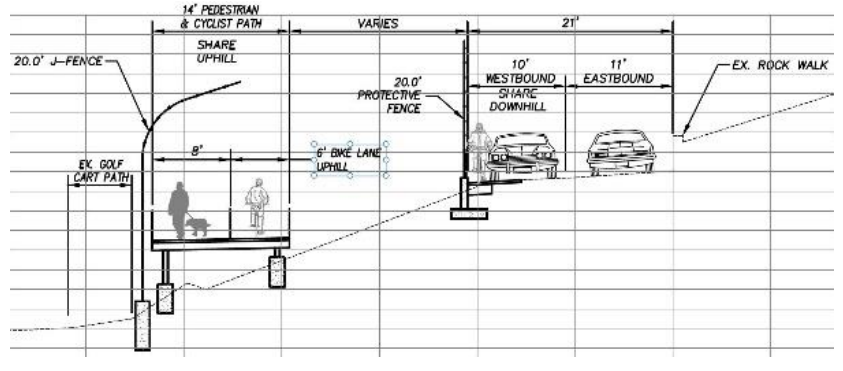
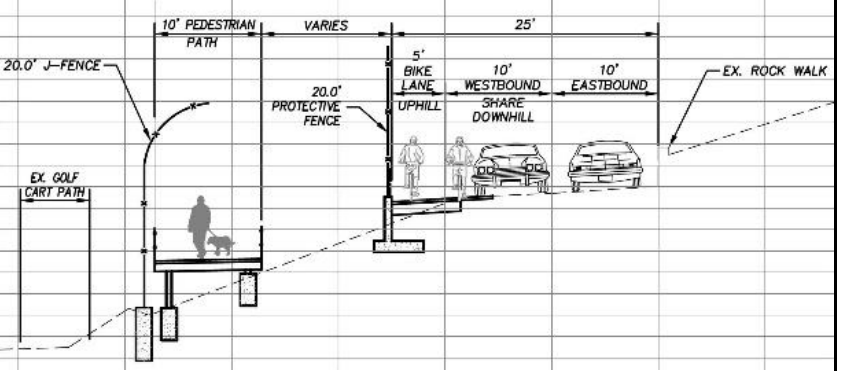
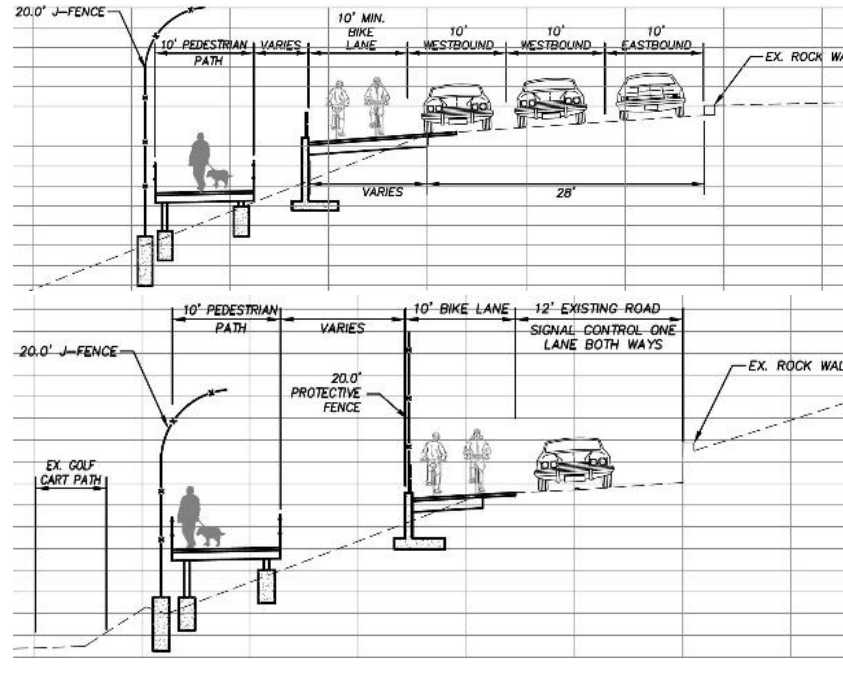
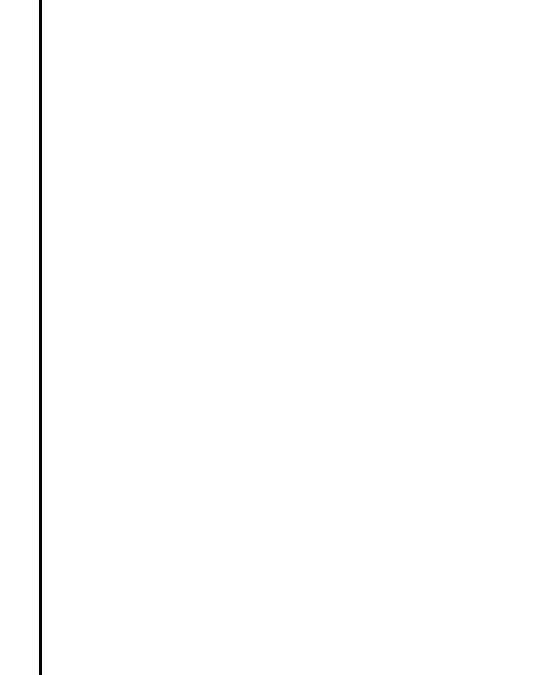
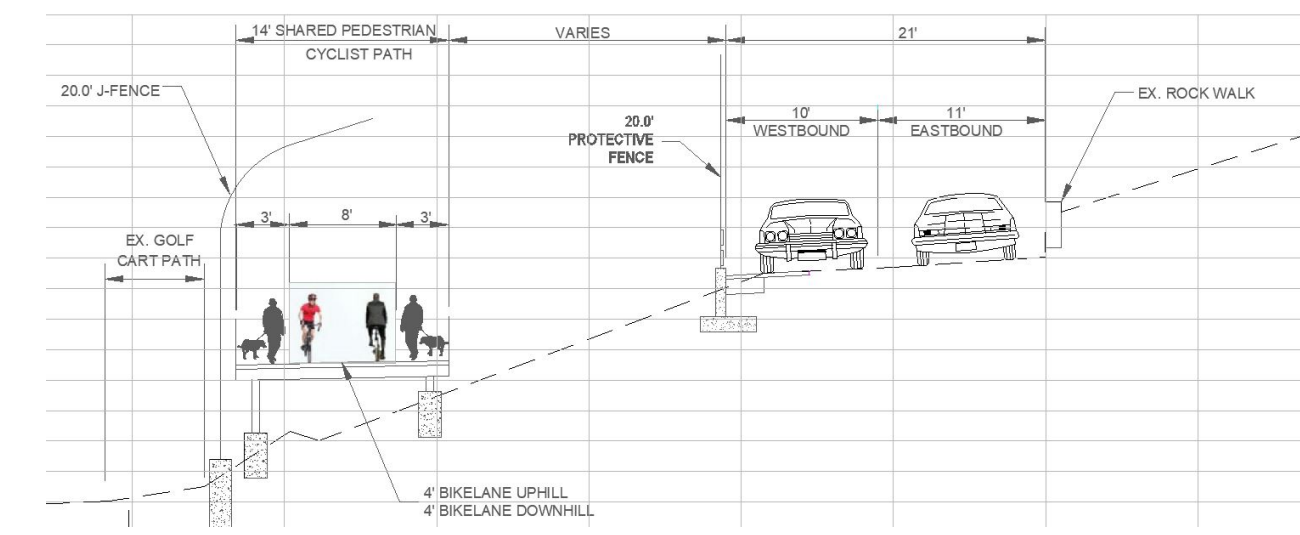
This option retains the same disadvantages as Alternative B. An additional disadvantage is that pedestrians could be in close proximity to downhill bicyclists, who may be travelling at a higher rate of speed relative to the pedestrians. This could potentially be minimized by providing signage regulating downhill bicycle speed. Proposed landings provided along the ramp will also help to regulate downhill speed.



Alternative B "Modified"

Blackberry Farm Access Road Improvement and Feasibility Study
Cupertino, CA

Alternatives Comparison*

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative B (Mod)
Descriptions	A Climbing Bike Lane (5') wide next to the Existing Rock Retaining Wall.	A Climbing Bike Lane (5') next to the ADA Path for a total of 14' wide.	A Climbing Bike Lane (5') next to Descending Auto Lane w/ Traffic Delineator separation.	New Traffic Signals control a Bi-Directional Auto Lane next to the rock wall & a 10' wide 2-way Bike Lane.	2 traffic lanes & two 5' wide sidewalks for a total of 30' wide.	A 14' WIDE SHARED PEDESTRIAN CYCLIST PATH
Cross-Sections						
Factors\Score	High.	High.	Moderate.	Lowest.	Low.	Moderate.
Safety	High.	High.	Moderate.	Moderate.	Low.	Moderate.
Cost	\$3.01M	\$3.12M	\$3.00M	\$3.97M	\$3.58 M	\$3.12M
Road Widening	Moderate.	Lowest.	Moderate.	Highest.	High.	Lowest.
Tree Loss	High (21)	Low (9)	High (21)	Low (9)	High (29)	Low (9)
Traffic Impact	Low.	Low.	Low.	High.	Low.	Low.
Constructability	Moderate.	Easy.	Moderate.	Difficult.	Difficult.	Easy.

City of Cupertino Bicycle Pedestrian Commission

May 19, 2021

Public Works – Transportation Division
David Stillman, Transportation Manager



Item # 3
Blackberry Farm Entrance Road
Feasibility Study

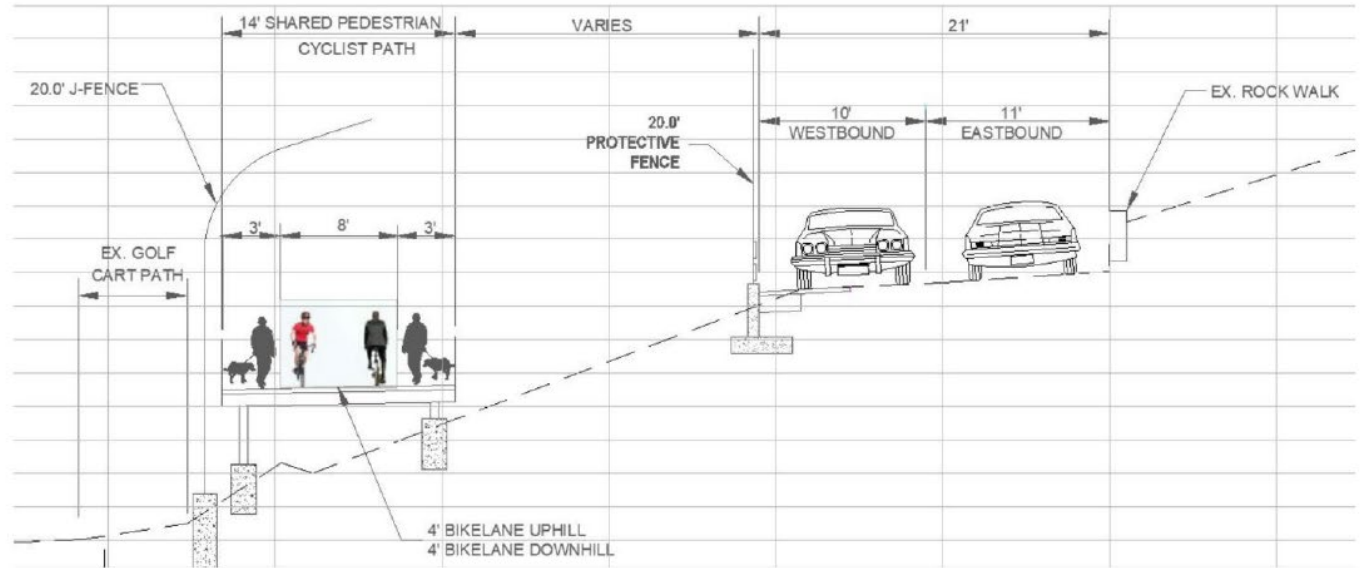
Modified Alternative A



Blackberry Farm Entrance Road Feasibility Study

- *Blackberry Farm entrance road improvements recommended in Bike and Ped Plans*
- *Improvements needed to address safety and ADA*
- *Entrance Road Feasibility Study presented to BPC 2/19/20*
 - *Requested staff evaluate modification to Alternative B, allowing 2-way bike travel*
- *City Council 9/15/20*
 - *Motion endorsing Alternative B, and Alternative B as recommended by BPC*
- *Currently no plans to proceed with design*

Blackberry Farm Entrance Road Feasibility Study



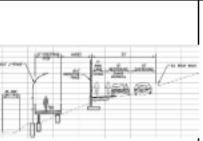
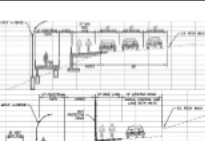




Alternative B "Modified"

Blackberry Farm Entrance Road Feasibility Study

Blackberry Farm Access Road Improvement and Feasibility Study
Cupertino, CA

Alternatives Comparison*

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative B (Mod)
Descriptions	A Climbing Bike Lane (2) wide next to the Existing Rock Retaining Wall.	A Climbing Bike Lane (2) next to the ADA Path for a total of 22' wide.	A Climbing Bike Lane (2) next to Descending Auto Lane w/ Traffic Delimitator separation.	New Traffic Signal control a Bi-Directional Auto Lane next to the rock wall & a 10' wide 2-way Bike Lane.	2 traffic lanes & two 7' wide sidewalks for a total of 30' wide.	A 14' WIDE SHARED PEDESTRIAN CYCLIST PATH
Cross-Sections						
Factors/Score	High.	High.	Moderate.	Lowest.	Low.	Moderate.
Safety	High.	High.	Moderate.	Moderate.	Low.	Moderate.
Cost	\$3.03M	\$3.12M	\$3.00M	\$3.37M	\$3.58 M	\$3.12M
Road Widening	Moderate.	Lowest.	Moderate.	Highest.	High.	Lowest.
Tree Loss	High (21)	Low (9)	High (21)	Low (9)	High (20)	Low (9)
Traffic Impact	Low.	Low.	Low.	High.	Low.	Low.
Constructability	Moderate.	Easy.	Moderate.	Difficult.	Difficult.	Easy.

De Anza Blvd and McClellan Rd / Pacifica Dr Intersection Modifications

McClellan Rd Separated Bikeways Project – Phase 3

Conceptual Improvements - DRAFT



Background

- Phase 3 completes gap in McClellan Road Separated Bikeways Project
 - Phase 1 & 2 completed in 2019 and 2020 respectively
- VERBS Grant received for construction
 - Amount awarded \$1M
- City receives right-of-way dedication from 10490 / 10495 S De Anza Blvd

Commission action

- Staff is seeking feedback on conceptual design elements

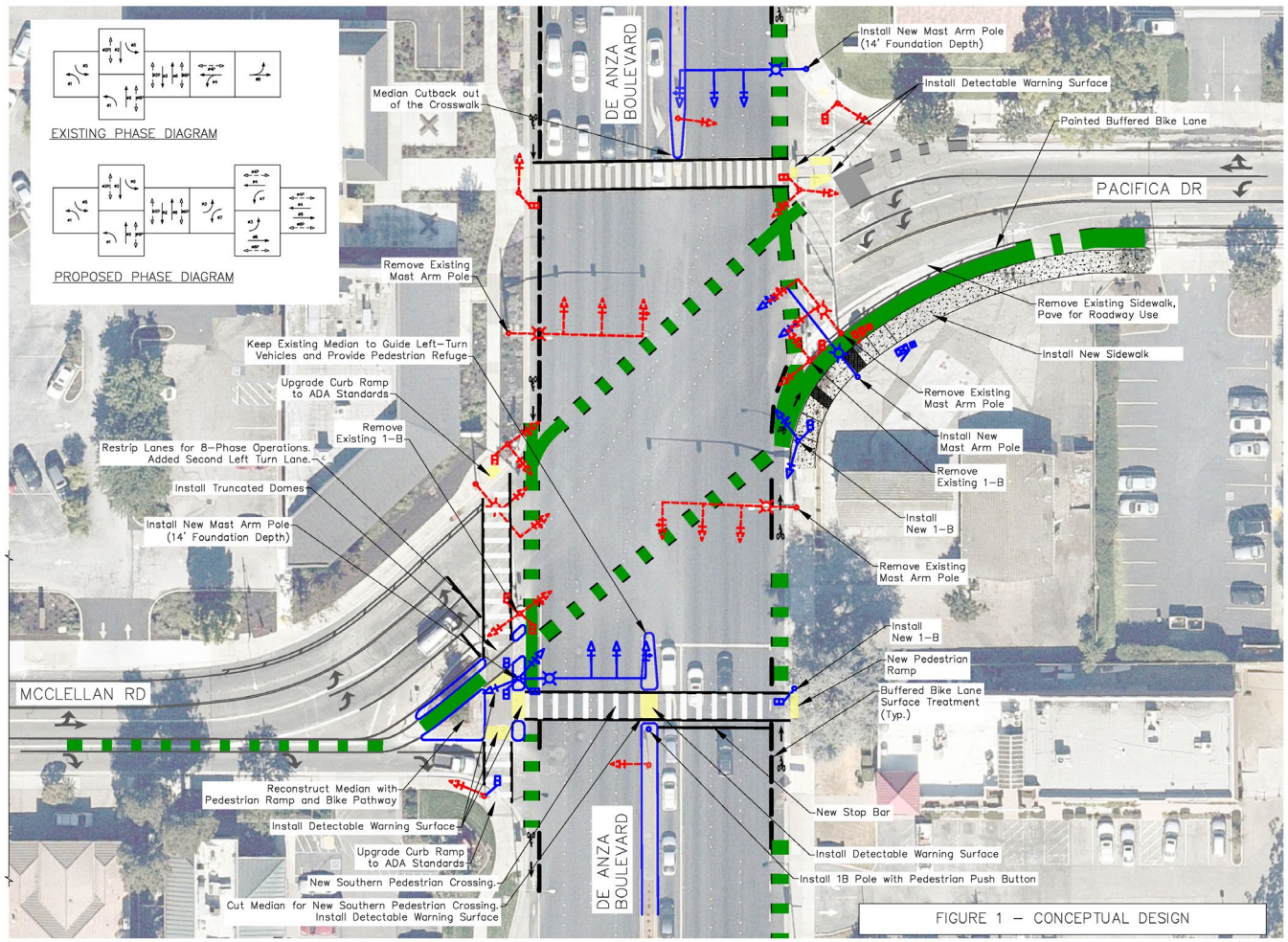
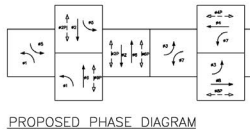
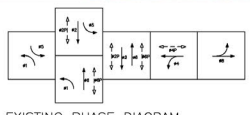


FIGURE 1 – CONCEPTUAL DESIGN

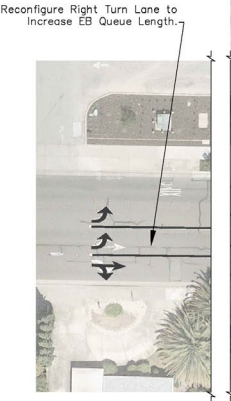
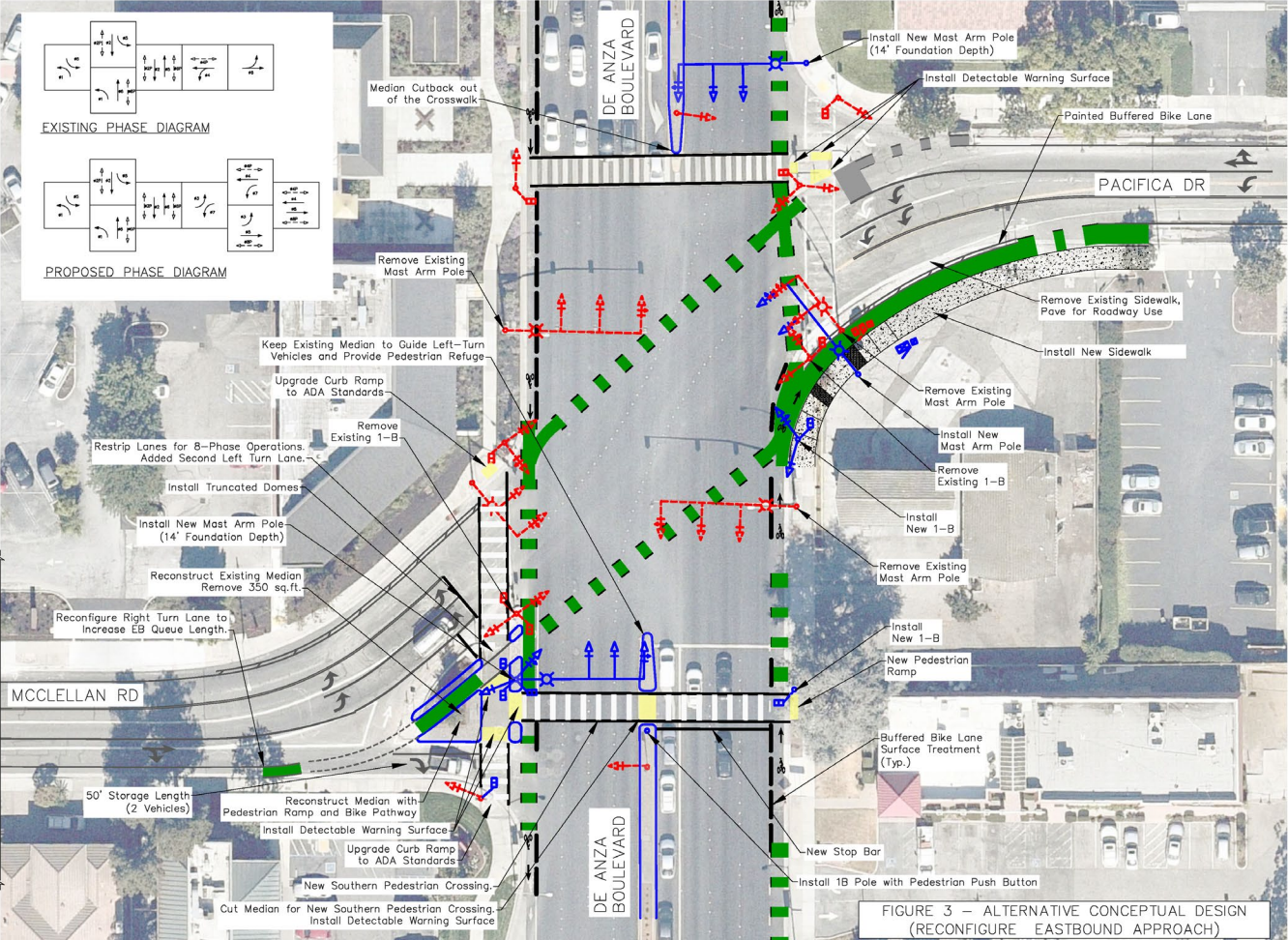


FIGURE 3 – ALTERNATIVE CONCEPTUAL DESIGN (RECONFIGURE EASTBOUND APPROACH)

Item # 5

Stevens Creek Blvd Separated Bikeway Project Traffic Signal Phasing



Protected Bicycle Phasing

- *Recently implemented WB Stevens Creek Blvd/Wolfe Rd*
- *Implementation soon at EB Stevens Creek Blvd/Finch*
- *BPC feedback desired regarding signal operation*
- *Alternatives*
 - *San Francisco – Polk/Geary model*
 - *Other?*

Stevens Creek Blvd/Wolfe Rd

- **Stevens Creek Blvd/Wolfe Road**

- 1) **Phase 1**

- 1) *Bike green*
 - 2) *Ped Don't Walk*
 - 3) *Right-turn vehicle red*



- 2) **Phase 2**

- 1) *Bike red*
 - 2) *Ped Walk*
 - 3) *Right-turn vehicle flashing arrow*



- 3) **Phase 3**

- 1) *Bike red*
 - 2) *Ped Don't Walk*
 - 3) *Right-turn vehicle green*



Stevens Creek Blvd/Wolfe Rd



Stevens Creek Blvd/Wolfe Rd

- **Advantages**
 - *Bikes have priority (beginning of cycle)*
 - *Vehicles allowed to turn right with active ped*
 - *Bikes can be served multiple times per cycle*
- **Disadvantages**
 - *Peds must wait until after bicycle phase*
 - *Bikes and peds can't proceed concurrently*
 - *Flashing arrow not typical*

San Francisco – Polk/Geary

- **Polk/Geary**

- 1) **Phase 1**

- 1) **Bike green**
 - 2) **Ped Green**
 - 3) **Right-turn vehicle red**



- 2) **Phase 2**

- 1) **Bike red**
 - 2) **Ped Don't Walk**
 - 3) **Right-turn vehicle green**



San Francisco – Polk/Geary



San Francisco – Polk/Geary

- **Advantages**
 - ***Bikes and peds can proceed concurrently at beginning of cycle***
 - ***Simpler operation***
- **Disadvantages**
 - ***No right-turn vehicles allowed during ped phase***
 - ***No recurring bike phase***
 - ***For wide street crossings, less practical (more delay) due to need to serve peds and right-turns separately***