

DATE: March 29, 2023

TO: Bicycle/Pedestrian Advisory Committee

FROM: Hoa Nguyen, Associate Civil Engineer
Robert Gonzales, Principal Civil Engineer
Edward Arango, Assistant Public Works Director

VIA: Dawn S. Cameron, Public Works Director

SUBJECT: California Street Complete Street Improvements, Pilot, Project 21-40

RECOMMENDATION

Receive an update on the design for the pilot phase of California Street Complete Street Improvements, Project 21-40, between Showers Drive and Shoreline Boulevard.

BACKGROUND

In 2015, the California Street/Escuela Avenue/Shoreline Boulevard Complete Streets Feasibility Study (Study) was prepared to identify potential solutions to create safe, comfortable, and convenient conditions for all travel modes. The Study, which was generally supported by the City Council at the [October 2015 Study Session](#), recommended a three-phased approach for implementing complete streets along California Street, between Showers Drive and Bryant Street (see Figure 1).

The first phase identified a pilot phase from Showers Avenue to Ortega Avenue, including: a lane reduction (four lanes to three lanes) through pavement markings, temporary bulb-outs, protected intersections, a midblock crossing, and a two-way left-turn center lane. The lane reduction will allow for parking-protected bike lanes with painted buffers, pylons, and shorter intersection crossing distances for pedestrians.

The second and third phases recommended conversion of the temporary bulb-outs to permanent bulb-outs, add green street landscaping features at intersections and midblock crossing locations, and lane reductions will be advanced further (four lanes to two lanes) with limited gaps for left-turn access and landscaped median islands.

On [June 28, 2022](#), Council directed staff to expand the pilot Phase 1 limits to include Showers Drive to Shoreline Boulevard as part of the Capital Improvement Program review and adoption.

On December 7, 2021, Council authorized a professional services agreement for project design, and, on September 27, 2022, Council authorized an amendment to this agreement to accommodate the expanded pilot phase scope.

This project will implement the first phase identified in the Study from Showers Drive to Shoreline Boulevard as directed by Council. The segment of California Street between Shoreline Boulevard and Bryant Street was recently improved with Class II green bike lane infrastructure.

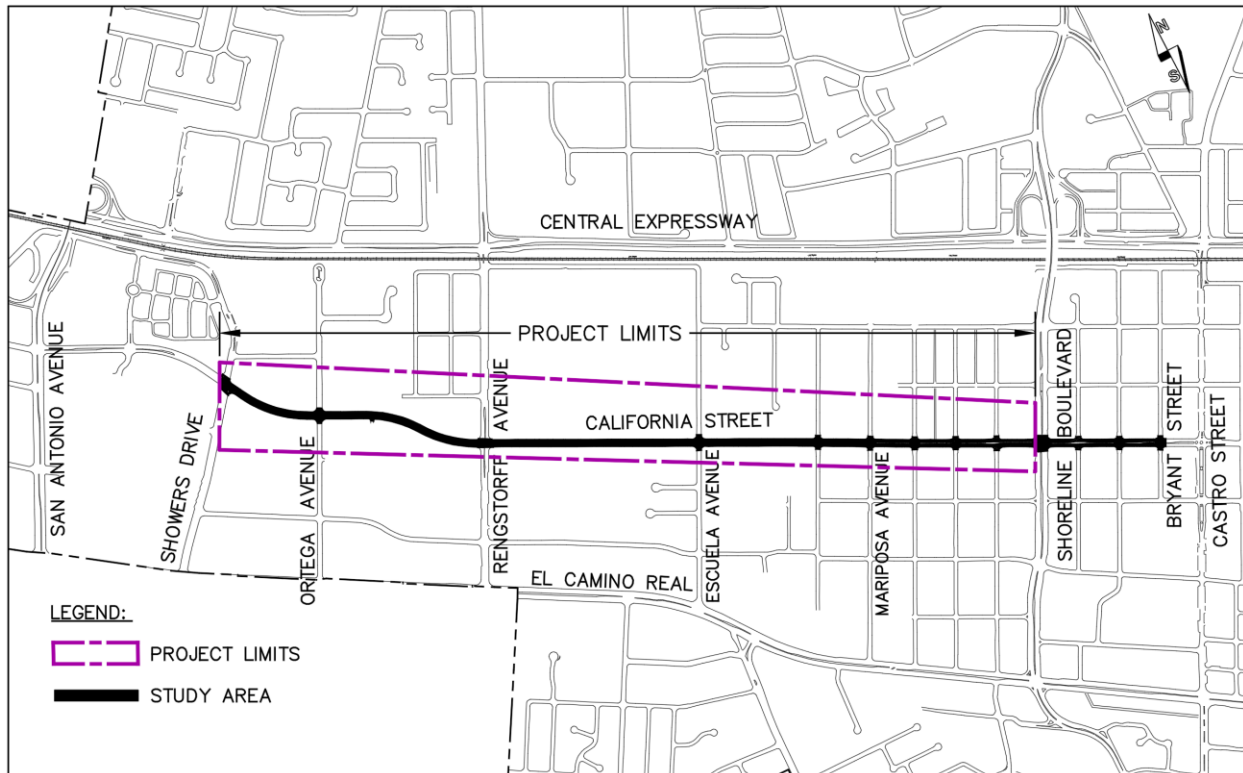


Figure 1: Project Location Map

ANALYSIS

The City has retained BKF Engineers (BKF) to design the California Street Complete Street Pilot Improvements that will include the following design elements:

- Pilot four-lane-to-three-lane road diet with two-way center left-turn lane (Showers Drive to Mariposa Avenue);
- Parking-protected bike lanes;
- High-visibility crosswalks through the corridor;

- Protected intersection improvements; and
- High-visibility midblock crossings with bulb-outs, refuge island, and enhanced lighting.

While Attachment 1 identifies the full layout of the corridor improvements, the corridor consists of two distinct segments, with the following providing a discussion of each segment of the pilot phase.

Segment 1: Showers Drive to Mariposa Avenue



Figure 2: Location Map—Showers Drive to Mariposa Avenue

This segment generally has four travel lanes, dedicated left-turn pockets, on-street parking on both sides, and bike lanes between the parking and travel lanes. The improvements include a four-lane-to-three-lane road diet with a new two-way center left-turn lane and parking-protected bike lanes, where dedicated left-turn pockets at intersections and bus stops will be preserved (see Figure 3).

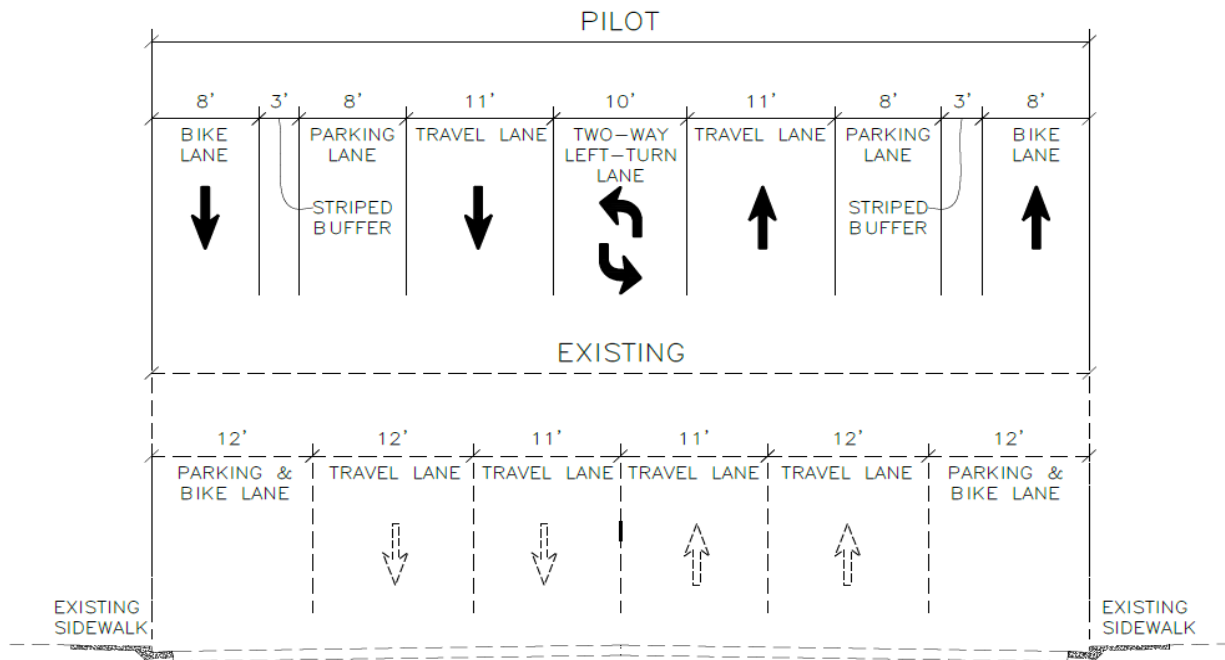


Figure 3: Typical Cross Section—Showers Drive to Mariposa Avenue

Protected intersection improvements will be implemented at Ortega Avenue, Rengstorff Avenue, and Escuela Avenue. Due to the existing roadway geometry, a partially protected intersection is proposed at Showers Drive for this pilot phase. The existing slip-lane configuration at Showers Drive would need to be eliminated to implement a complete protected intersection at Showers Drive, and staff will evaluate this change for Showers Drive as part of the final phase.

Figure 4 shows a typical protected intersection for this segment, including corner rubber curb bulb-outs, high-visibility crosswalks, and advanced stop bars. Standard truck turning templates are used to confirm the accessibility for Recology and Fire vehicles.

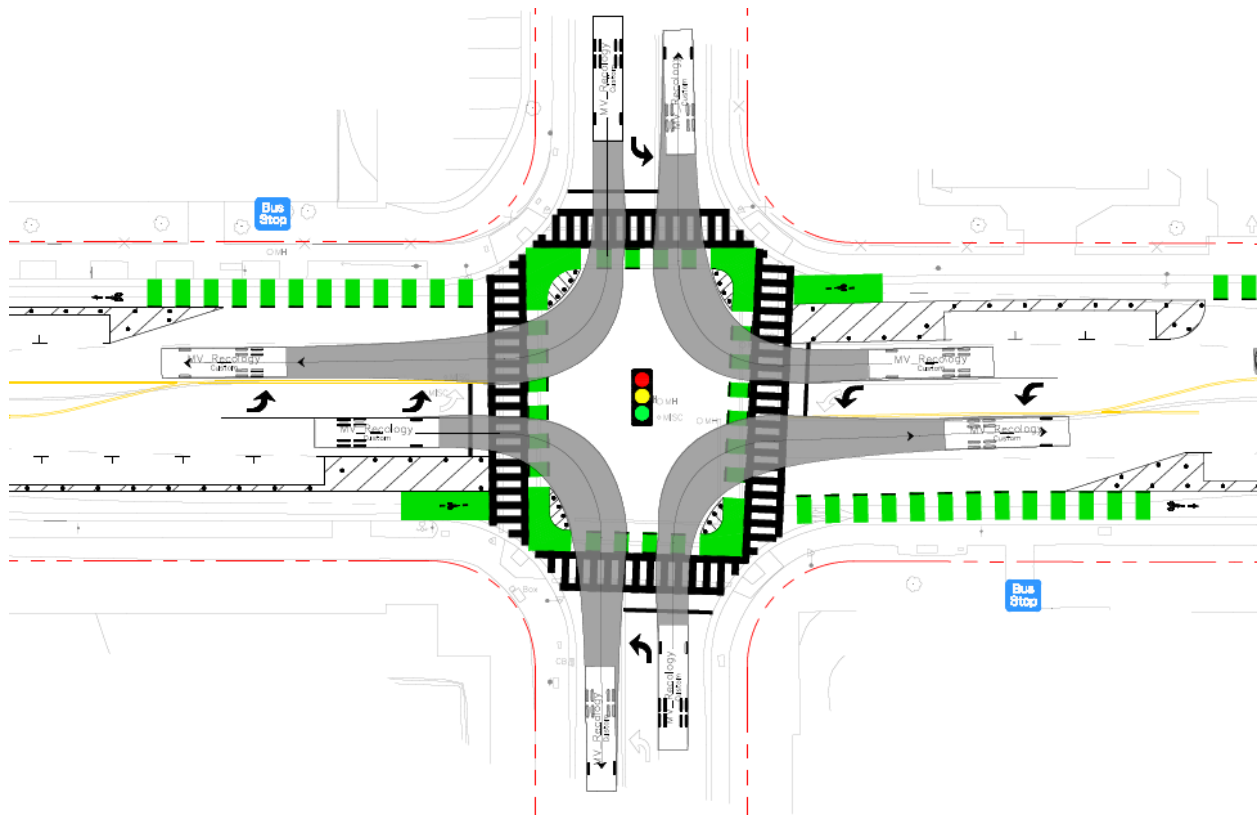


Figure 4: Typical Protected Intersection

One midblock crossing is proposed between Showers Drive and Ortega Avenue and one between Rengstorff Avenue and Escuela Avenue (see Figure 5). Midblock crossing improvements include the rectangular rapid flashing beacon (RRFB) with lighting to improve visibility, corner rubber curb bulb-outs, rubber median refuge island, high-visibility crosswalk striping, and two new curb ramps to accommodate improved local access to shopping areas. Additional crossings will be evaluated along the corridor in the final phase.

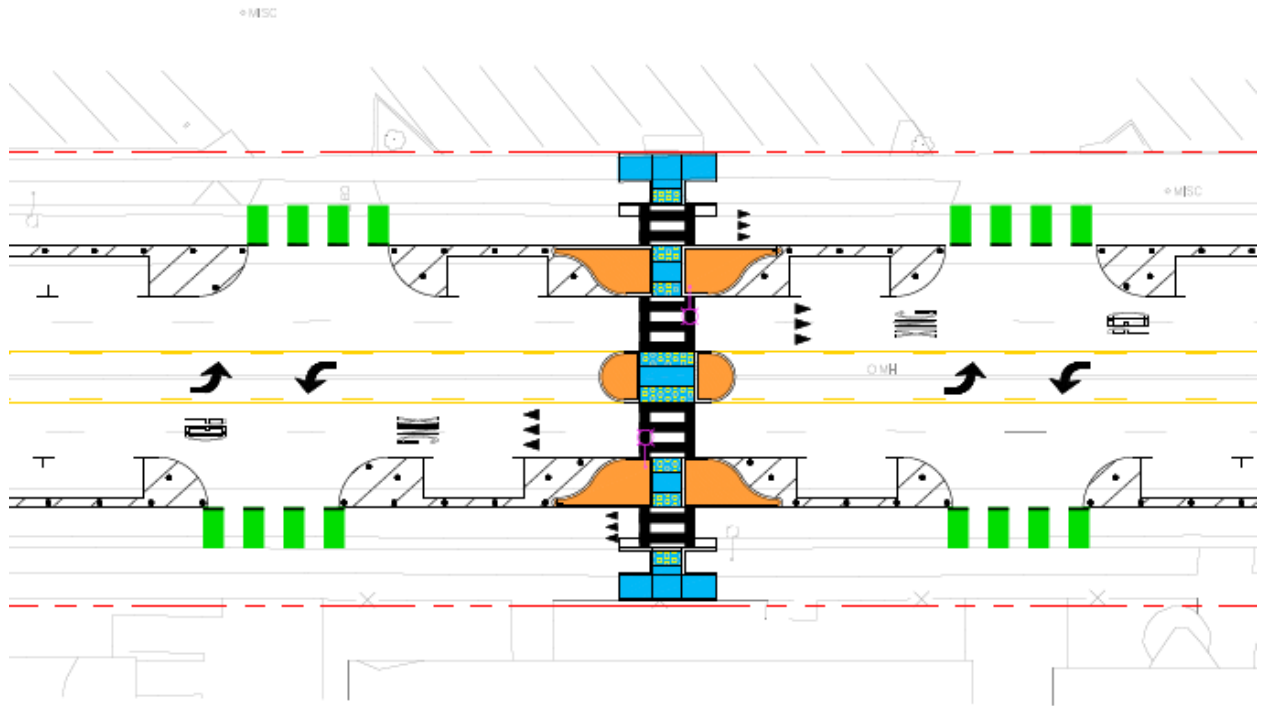
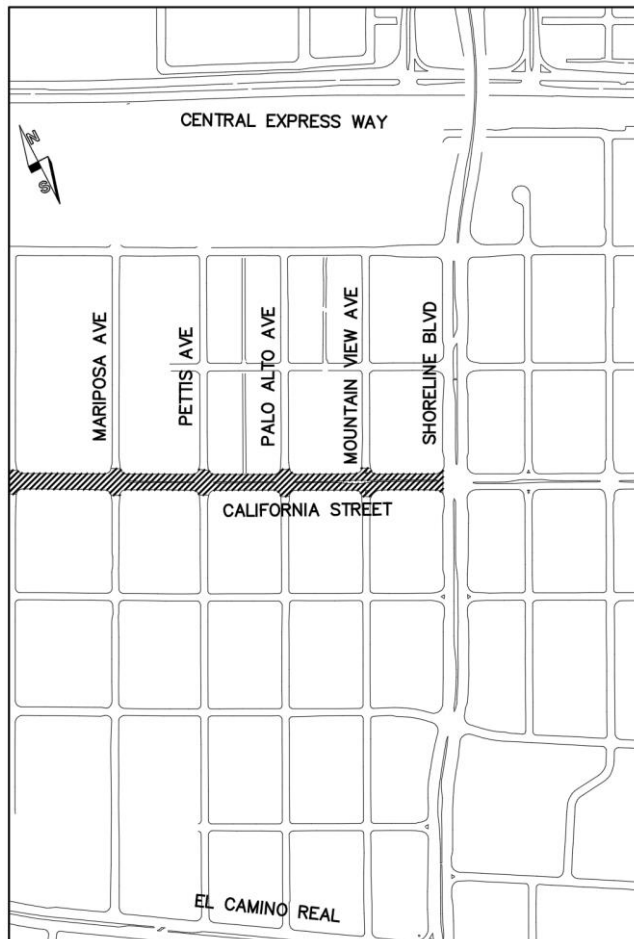


Figure 5: Typical Midblock Crossing

Segment 2: Mariposa Avenue to Shoreline Boulevard**Figure 6: Location Map—Mariposa Avenue to Shoreline Boulevard**

This segment has existing landscaped center median islands, four travel lanes, bike lanes, on-street parking on both sides (except for Mountain View Avenue to Shoreline Boulevard), and no dedicated left-turn pockets at the intersections. Improvements include a four-lane-to-two-lane road diet, on-street parking, parking-protected bike lanes, and high-visibility striping improvements at the intersections (see Figures 7 and 8). The segment contains narrower side streets, limiting the ability to easily implement protected intersection improvements. Midblock crossings are not included for this segment due to the constraints of the existing median islands and having relatively short blocks. This project will not implement protected intersection improvements at Shoreline Boulevard as it has existing cornered bulb-outs and would require one lane reduction in each direction, which could create a choke point and impact traffic movements on Shoreline Boulevard.

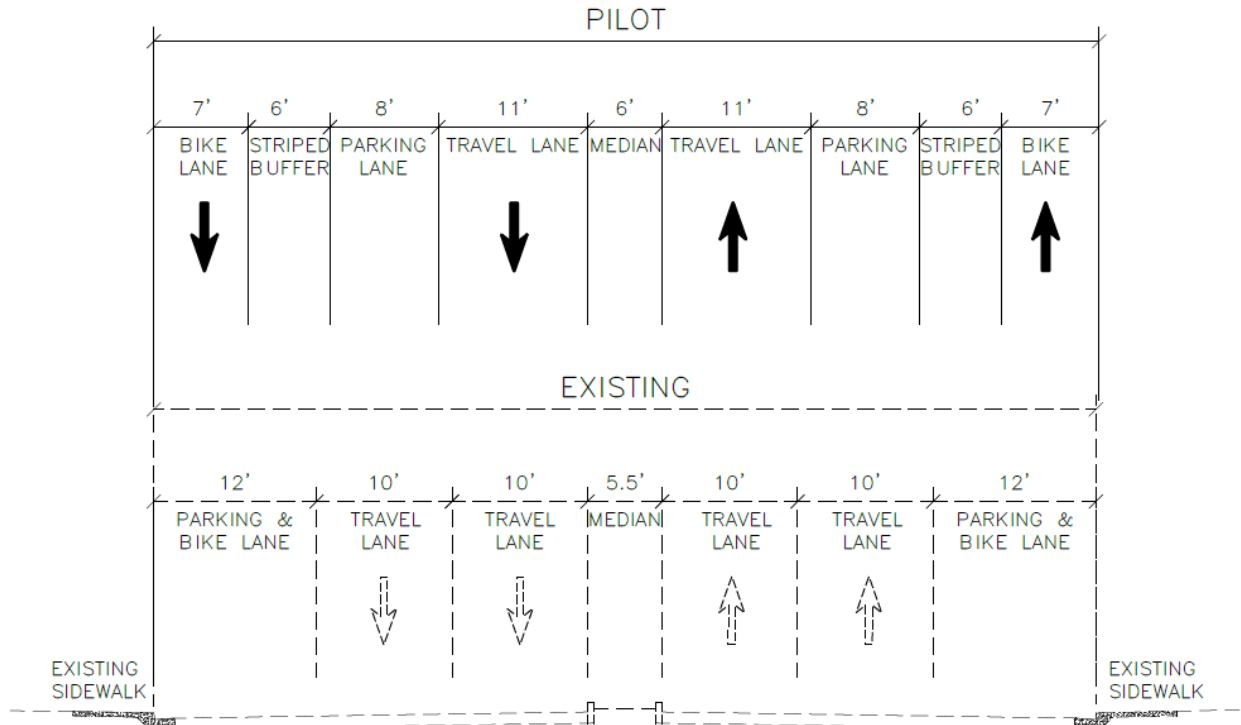


Figure 7: Typical Cross Section—Mariposa Avenue to Shoreline Boulevard

Figure 8 shows improvements at a typical intersection along this segment, including high-visibility crosswalks and advanced stop bars. However, at Mountain View Avenue, the intersection has an existing median island with trees, and high-visibility crosswalks across California Street will not be implemented.

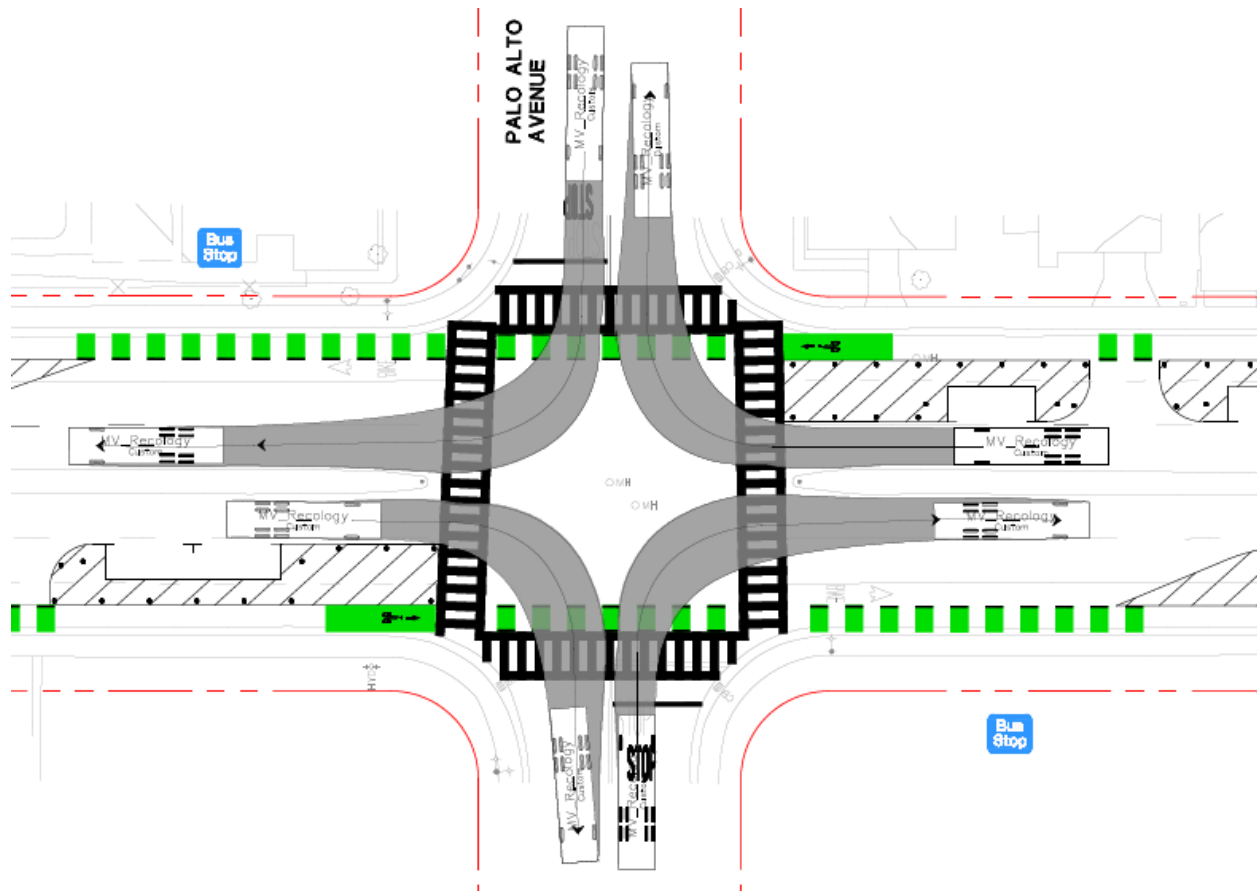


Figure 8: Typical Intersection Improvements

CONCLUSION

This Phase 1 pilot from Showers Avenue to Shoreline Boulevard is part of a three-phase approach for implementing complete street elements along California Street from Showers Drive to Bryant Street. The improvements generally include a road diet, on-street parking, parking-protected bike lanes, high-visibility crosswalks, protected intersection improvements, and midblock crossings. The input from the Bicycle/Pedestrian Advisory Committee will inform the design development of the project.

NEXT STEPS

Staff anticipates design completion by end of 2023 and construction starting in spring 2024. Following construction, staff will observe traffic operations and the effectiveness of the improvements, then convert the temporary improvements into permanent installations with a public art element to enhance the bicycle and pedestrian experience along the California Street corridor per Council direction.

PUBLIC NOTICING

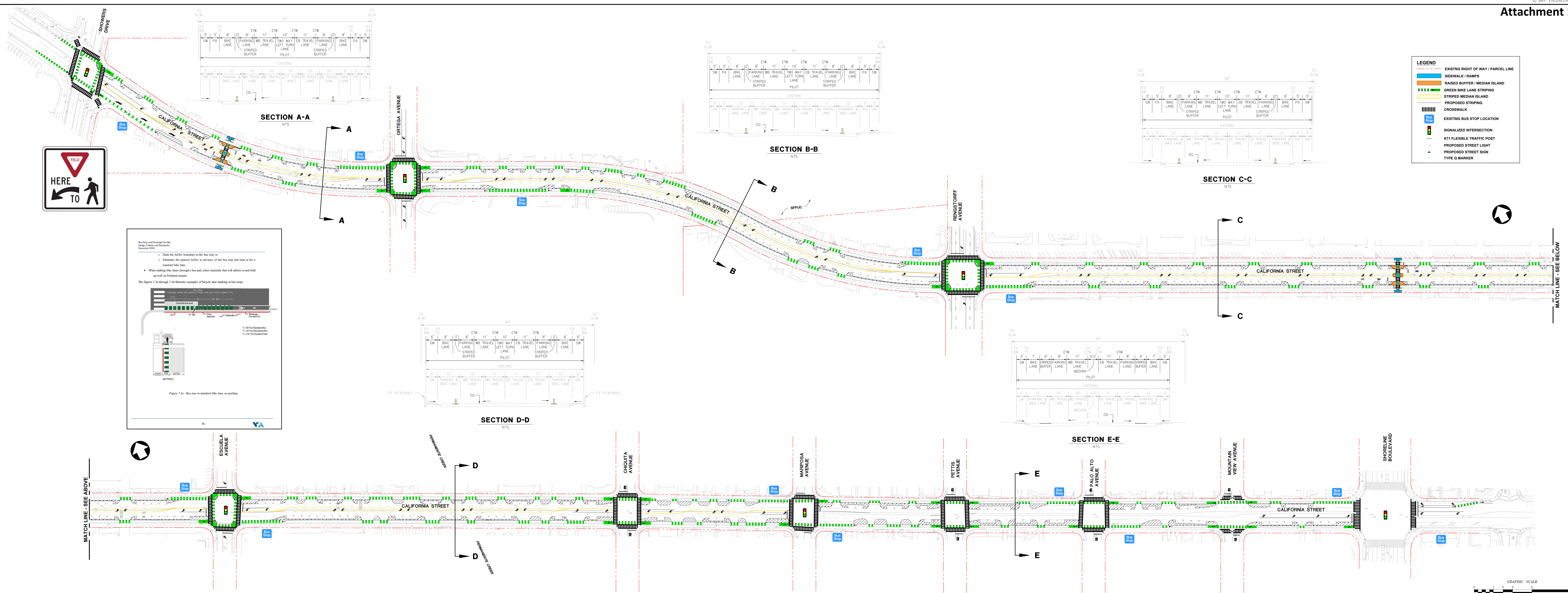
In addition to the standard agenda posting, notices were mailed to property owners and residents within 750' of the project site.

HN-CO-RG-EA/2/PWK

934-03-29-23M

Attachment: 1. California Street Plan Line Study—Pilot Study

cc: APWD—Arango, File (21-40)



LEGEND

- EXISTING RIGHT OF WAY / PARCEL LINE
- SIDEWALK / RAMPS
- RAISED BUFFER / MEDIAN ISLAND
- GREEN BIKE LANE STRIPING
- STRIPED MEDIAN ISLAND
- CROSSED STRIPING
- PROPOSED STREET SIGN
- EXISTING BUS STOP LOCATION
- SIGNALIZED INTERSECTION
- K71 FLEXIBLE TRAFFIC POST
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN
- TYPE O MARKER

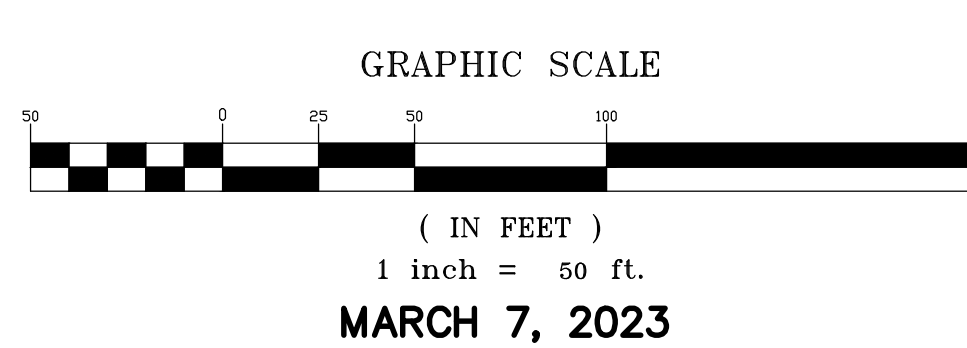
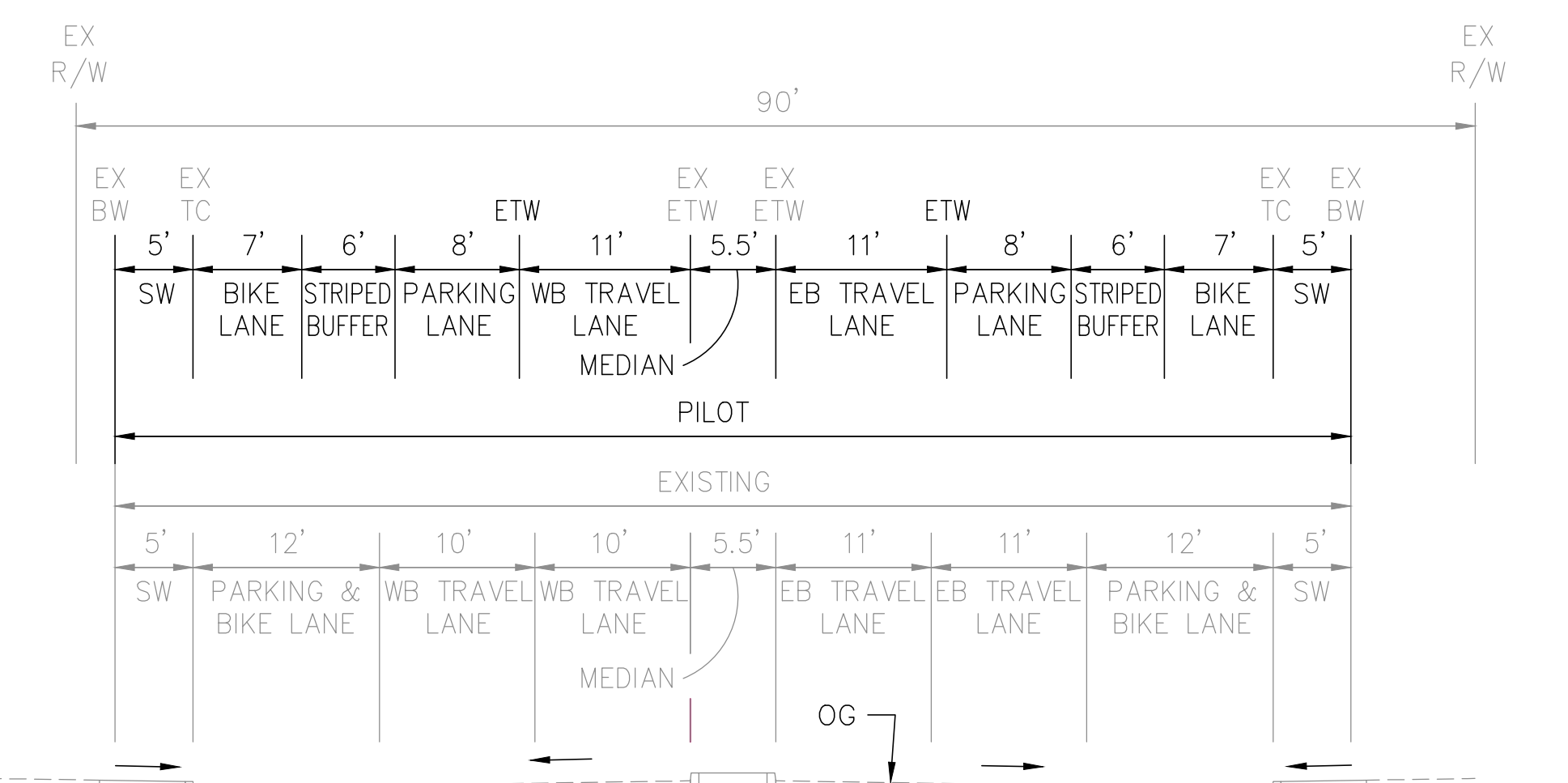
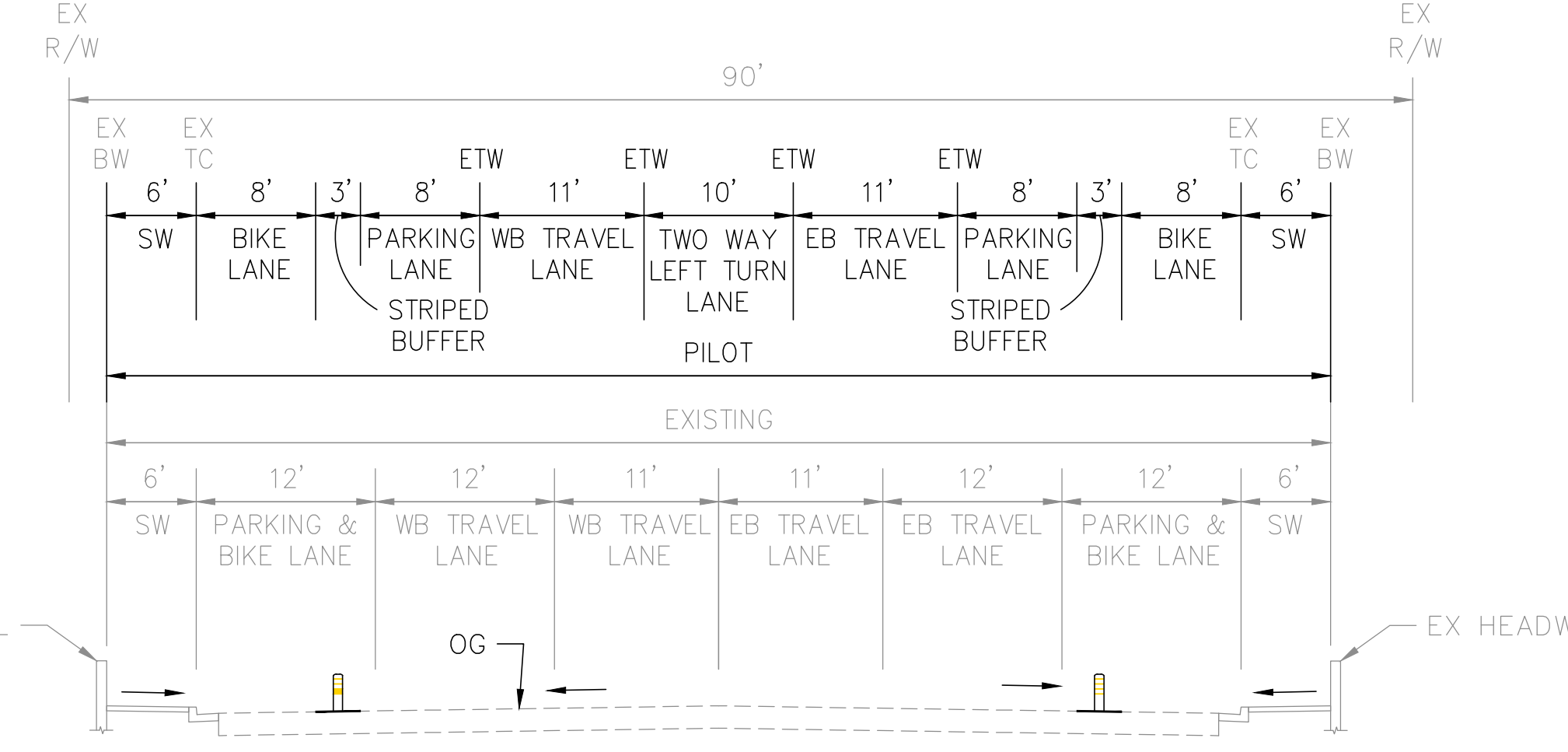
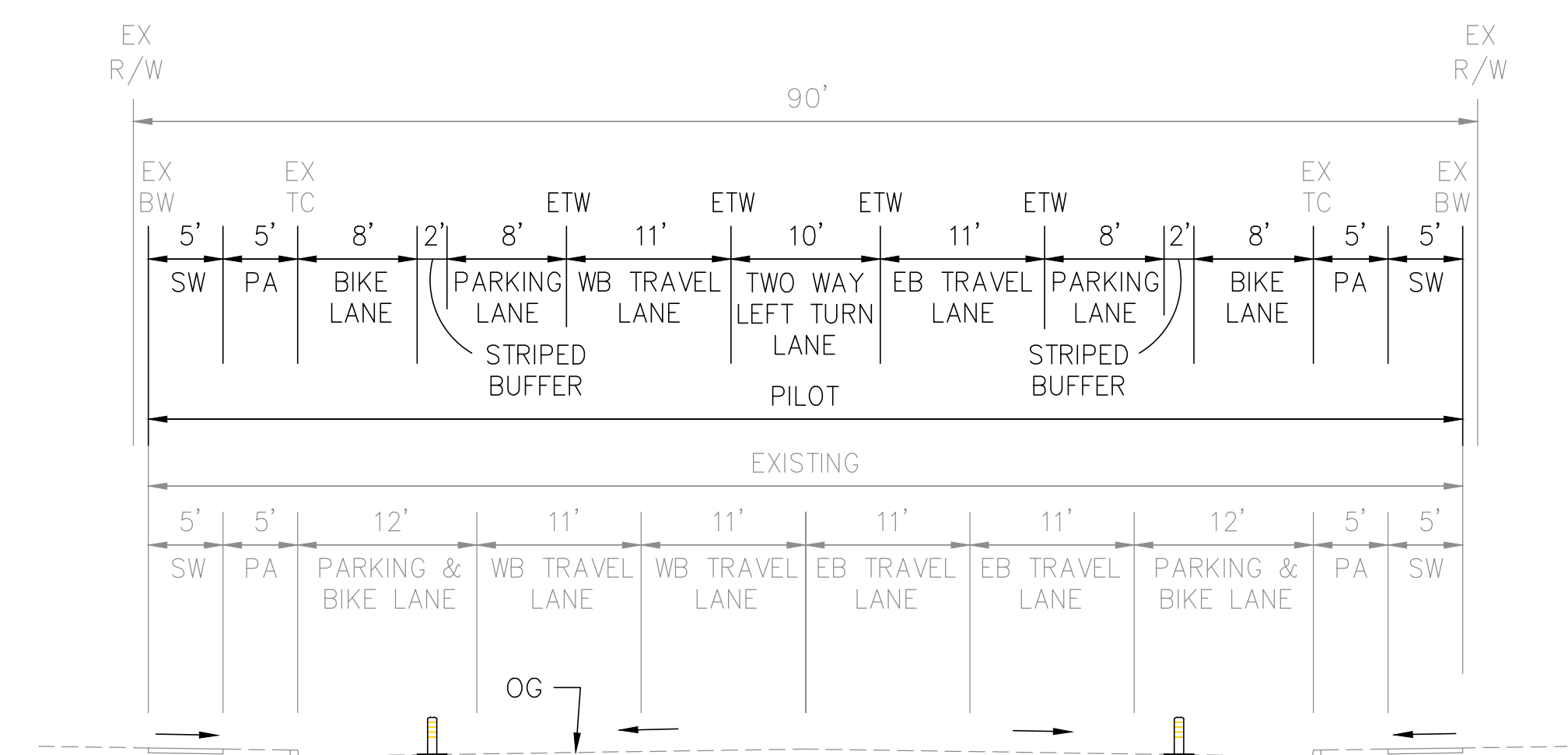
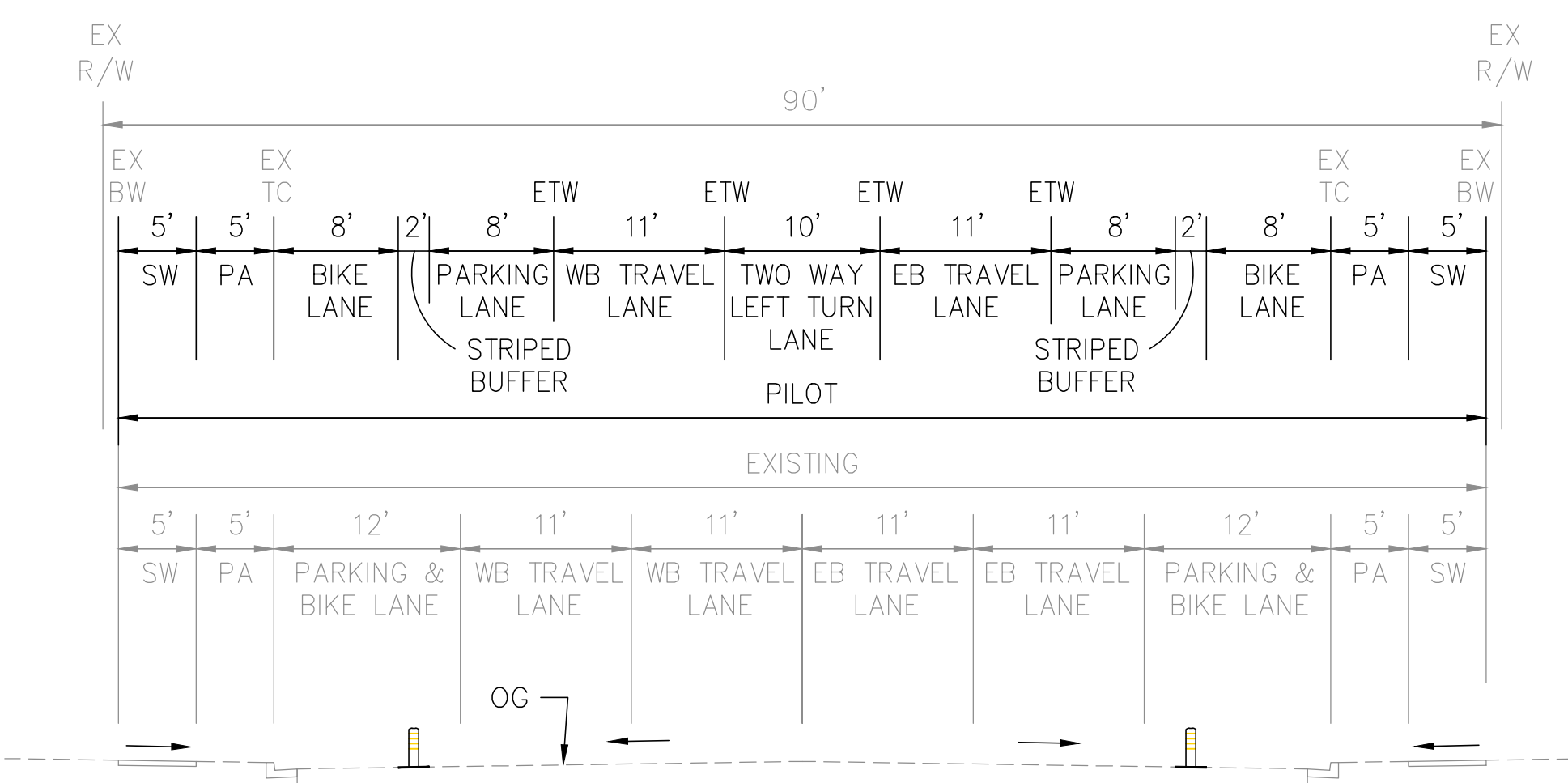
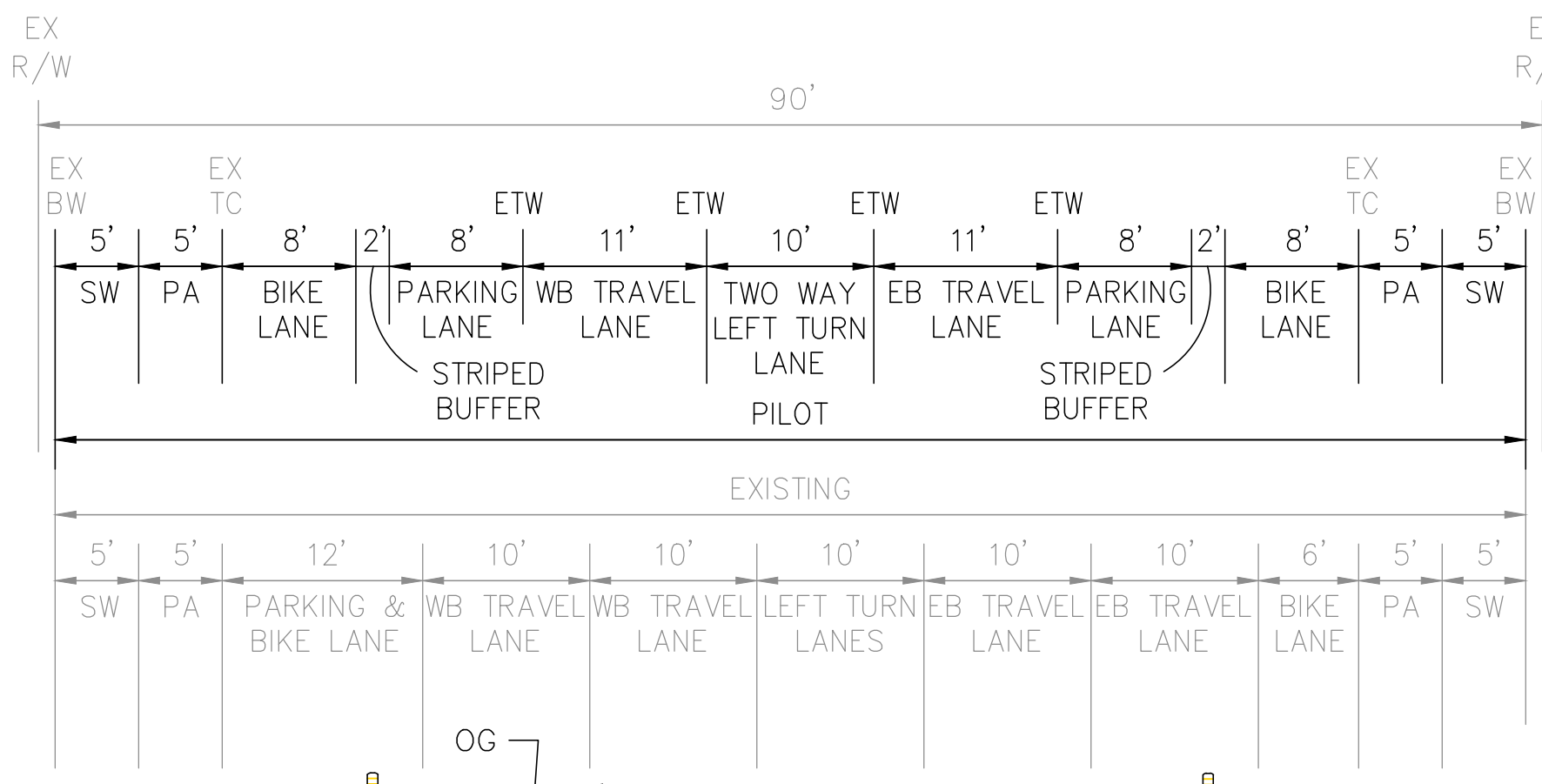


Bus Stop and Passenger Facility Design Criteria and Standards

- Dashed buffer boundary at the bus stop
- Eliminate the pointed buffer in advance of the bus stop and treat as for a standard bike lane
- When making bike lanes through a bus pad, select materials that will adhere to and hold up well on Portland cement

The Figures 7.3a through 7.3d illustrate examples of bicycle lane marking at bus stops.

Figure 7.3a - Bus stop in standard bike lane, no parking



IN PROGRESS - FOR DISCUSSION ONLY



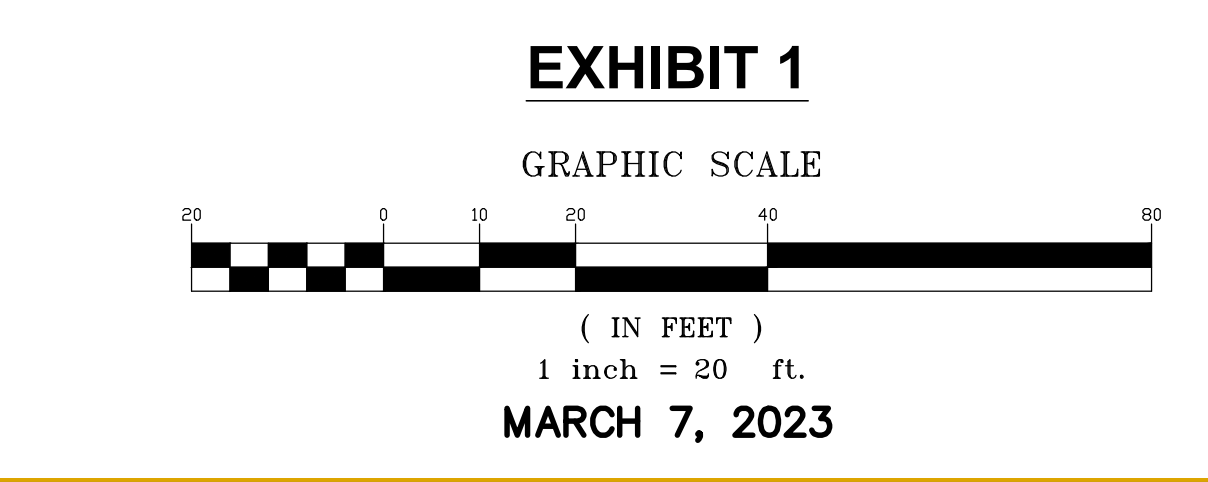
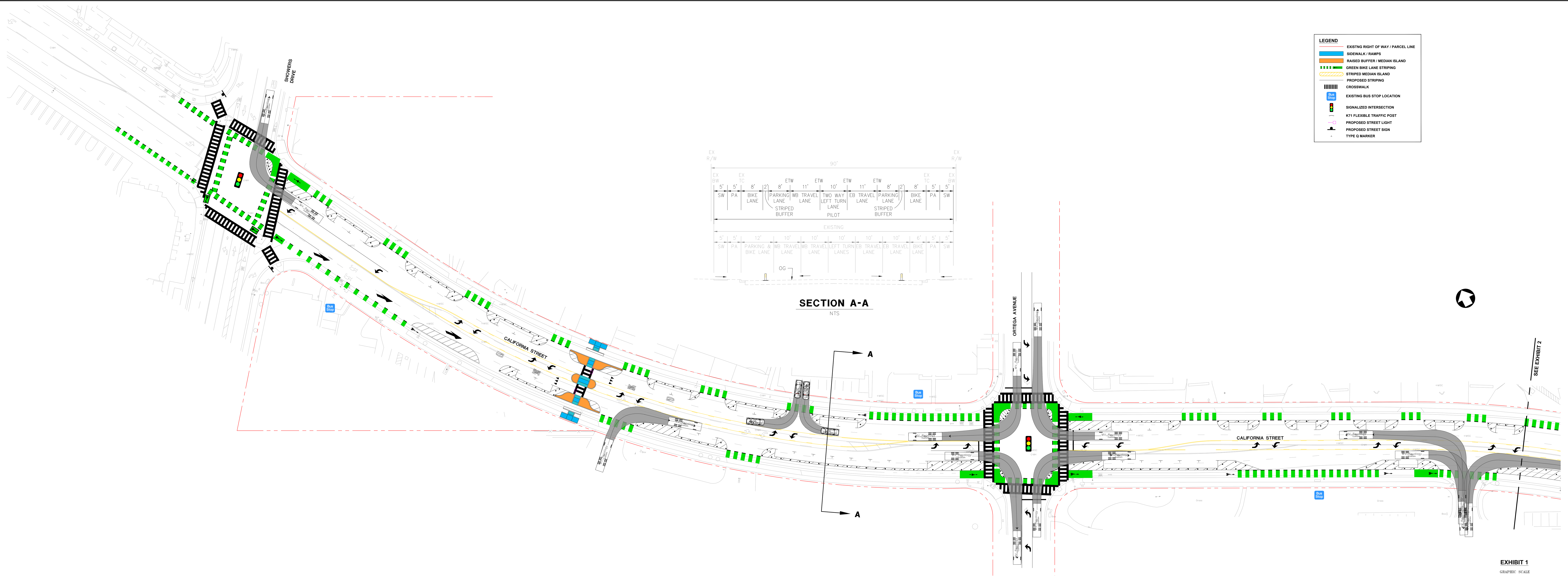
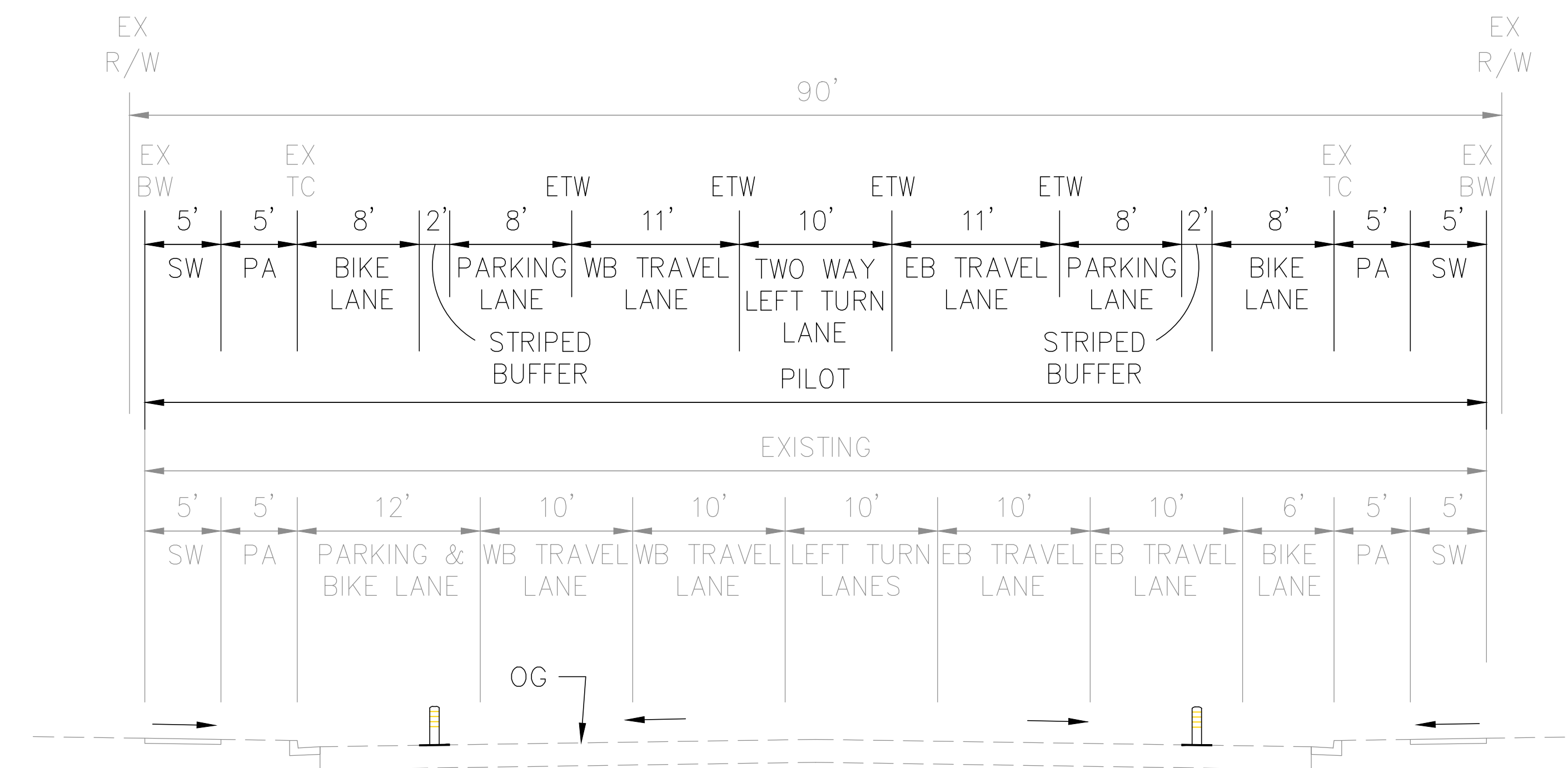
CITY OF MOUNTAIN VIEW
CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY



DRAWING NAME: CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY
 PROJECT NUMBER: 2023-001
 DATE: 03/07/23
 SHEET: 01 OF 01
 PROJECT LOCATION: 10000 CALIFORNIA STREET, MOUNTAIN VIEW, CA 94031
 CLIENT: CITY OF MOUNTAIN VIEW
 DESIGNER: BKF ENGINEERS
 CHECKER: [Name]
 APPROVER: [Name]

LEGEND

- EXISTING RIGHT OF WAY / PARCEL LINE
- SIDEWALK / RAMPS
- RAISED BUFFER / MEDIAN ISLAND
- GREEN BIKE LANE STRIPING
- STRIPED MEDIAN ISLAND
- PROPOSED STRIPING
- CROSSWALK
- EXISTING BUS STOP LOCATION
- SIGNALIZED INTERSECTION
- K71 FLEXIBLE TRAFFIC POST
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN
- TYPE Q MARKER



IN PROGRESS - FOR DISCUSSION ONLY

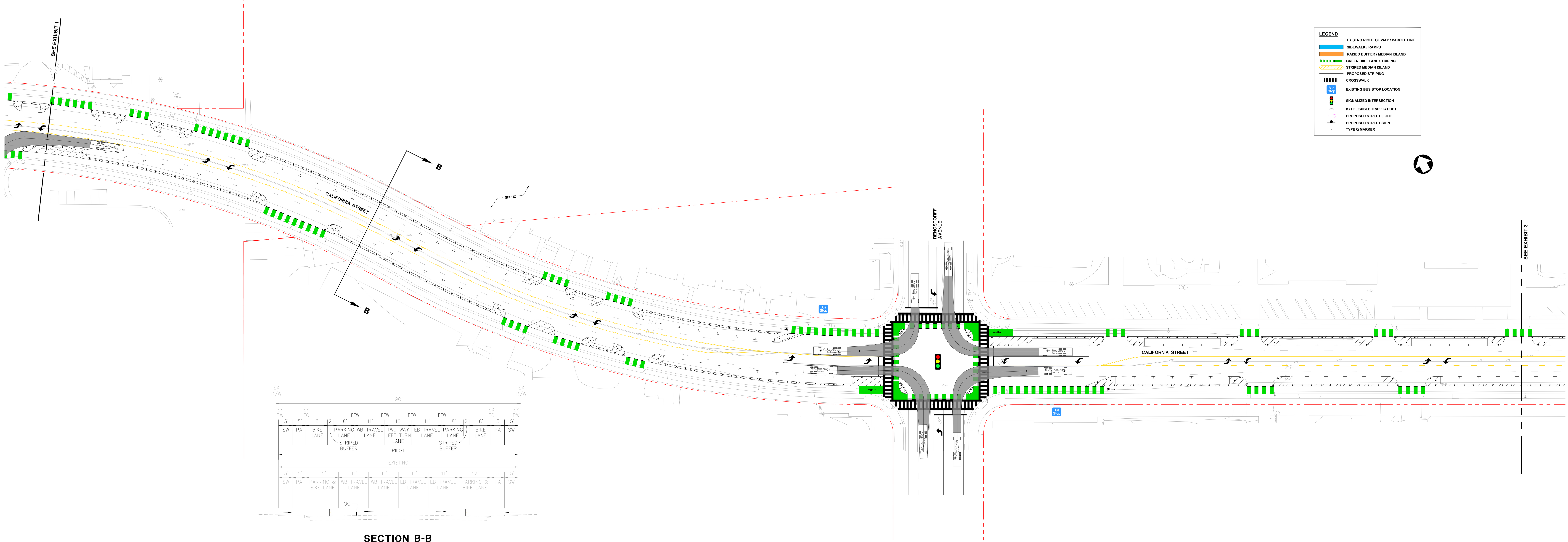
DRAWING NAME: CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY - EXHIBIT 1.dwg



CITY OF MOUNTAIN VIEW

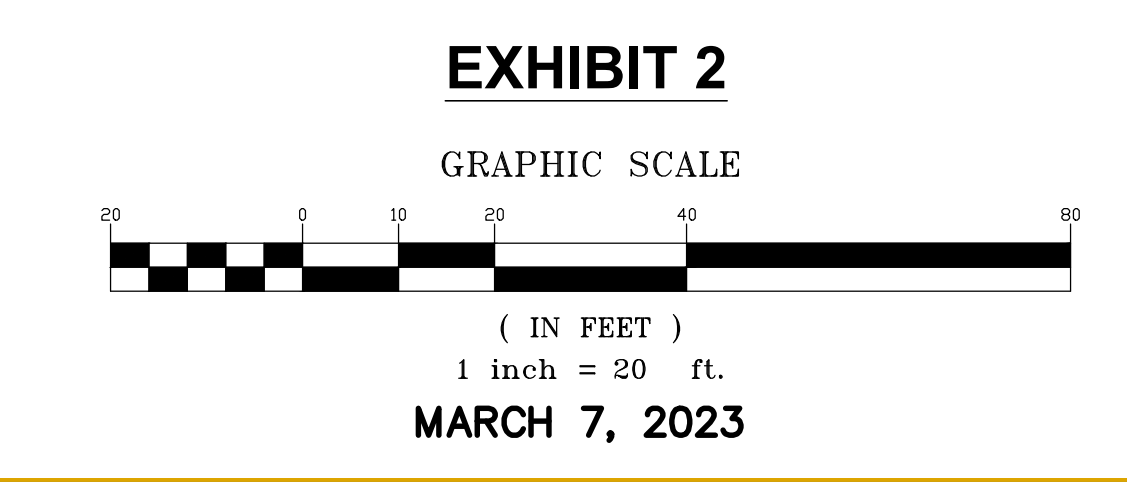
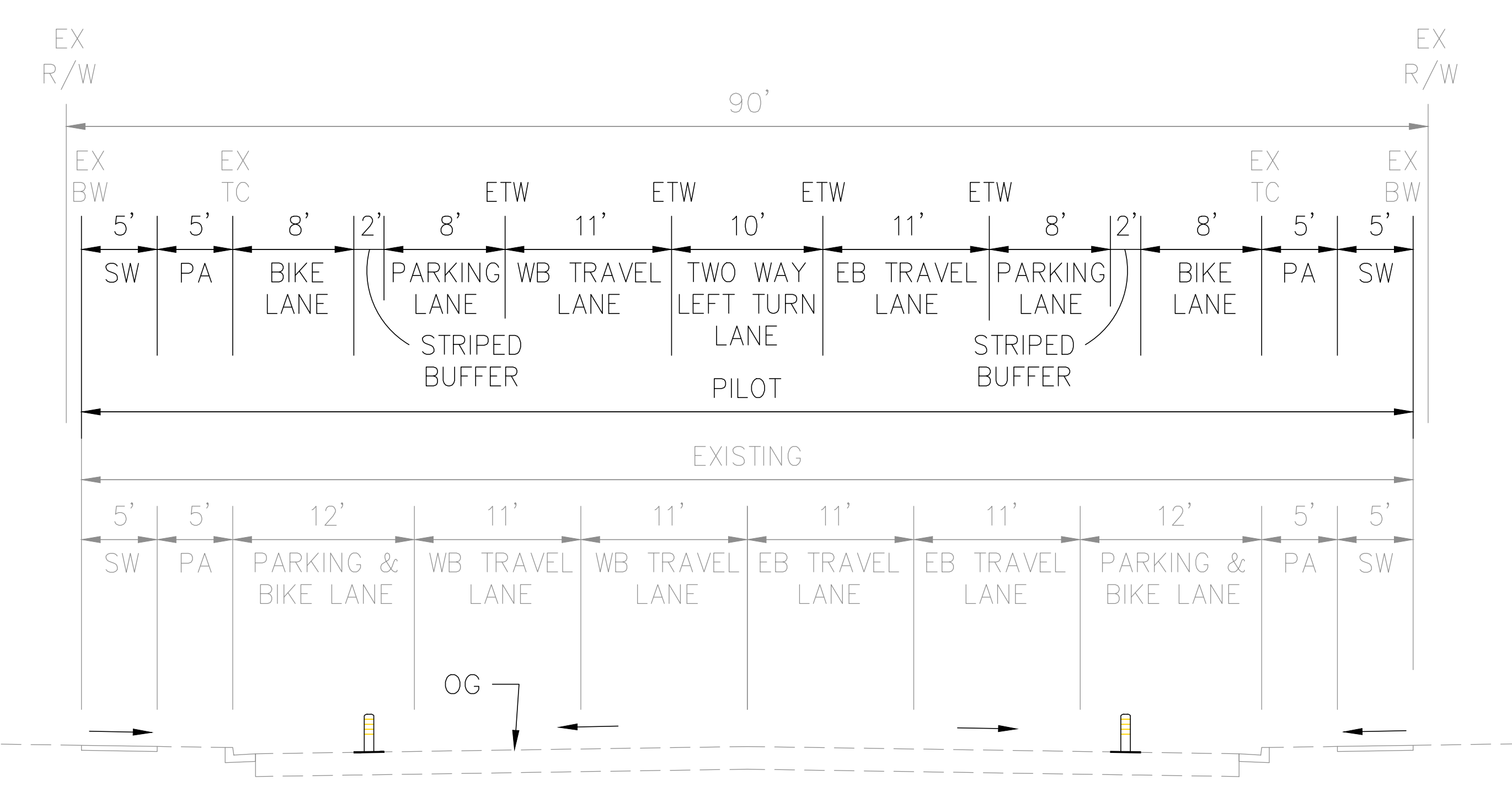
CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY





LEGEND

- EXISTING RIGHT OF WAY / PARCEL LINE
- ▬ SIDEWALK / RAMPS
- ▬ RAISED BUFFER / MEDIAN ISLAND
- ▬ GREEN BIKE LANE STRIPING
- ▬ STRIPED MEDIAN ISLAND
- ▬ PROPOSED STRIPING
- ▬ CROSSWALK
- Bus Stop EXISTING BUS STOP LOCATION
- ⬇ SIGNALIZED INTERSECTION
- ⋯ K71 FLEXIBLE TRAFFIC POST
- ⬆ PROPOSED STREET LIGHT
- ⬆ PROPOSED STREET SIGN
- TYPE Q MARKER



IN PROGRESS - FOR DISCUSSION ONLY



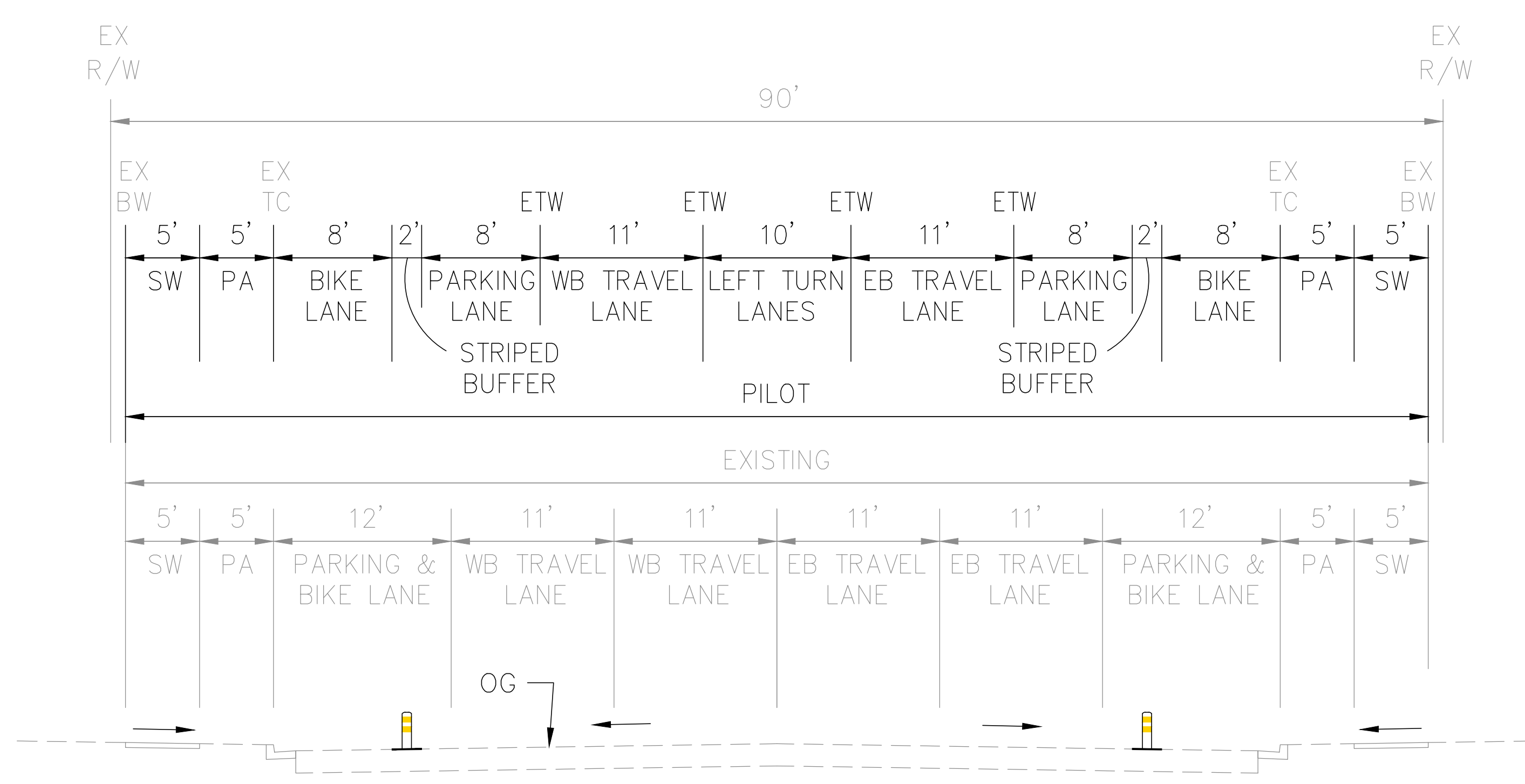
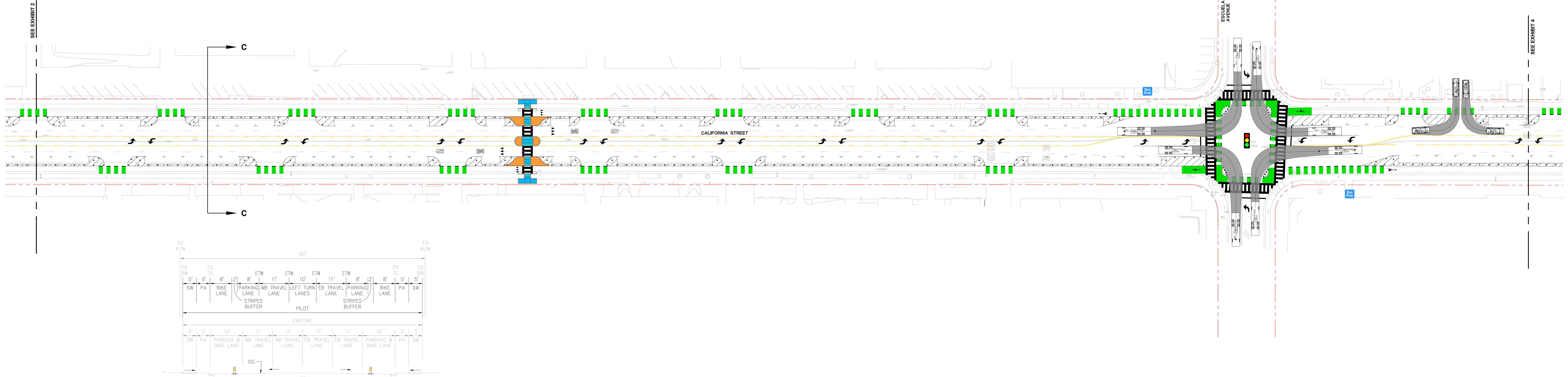
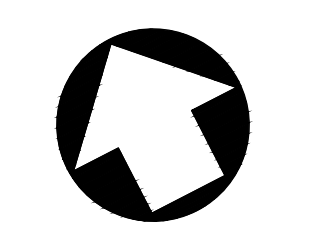
CITY OF MOUNTAIN VIEW
CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY



DRAWING NAME: CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY
 PROJECT NUMBER: 2023-001
 DATE: MARCH 7, 2023
 SHEET NUMBER: 02 OF 23

LEGEND

- EXISTING RIGHT OF WAY / PARCEL LINE
- SIDEWALK / RAMPS
- RAISED BUFFER / MEDIAN ISLAND
- GREEN BIKE LANE STRIPING
- STRIPED MEDIAN ISLAND
- STRIPED STRIPING
- CROSSWALK
- EXISTING BUS STOP LOCATION
- SIGNALIZED INTERSECTION
- K71 FLEXIBLE TRAFFIC POST
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN
- TYPE Q MARKER



SECTION C-C
NTS

EXHIBIT 3
GRAPHIC SCALE

1" = 30' ft.
MARCH 7, 2023

IN PROGRESS - FOR DISCUSSION ONLY



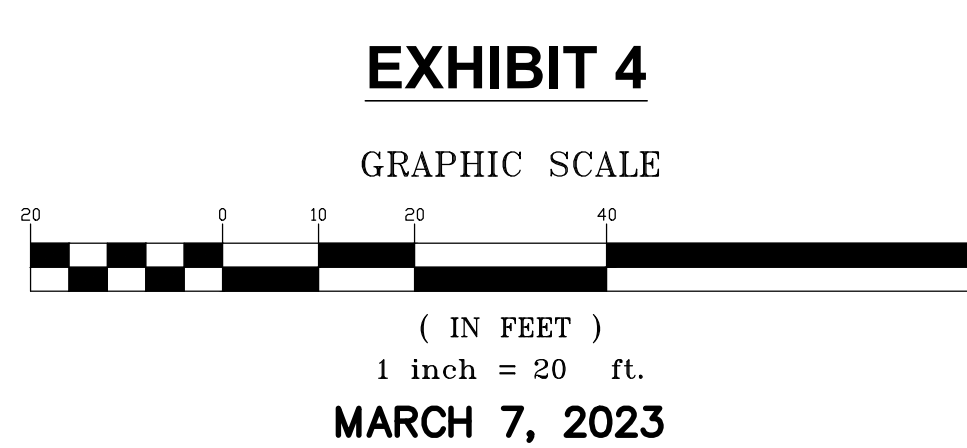
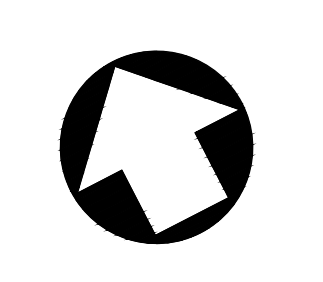
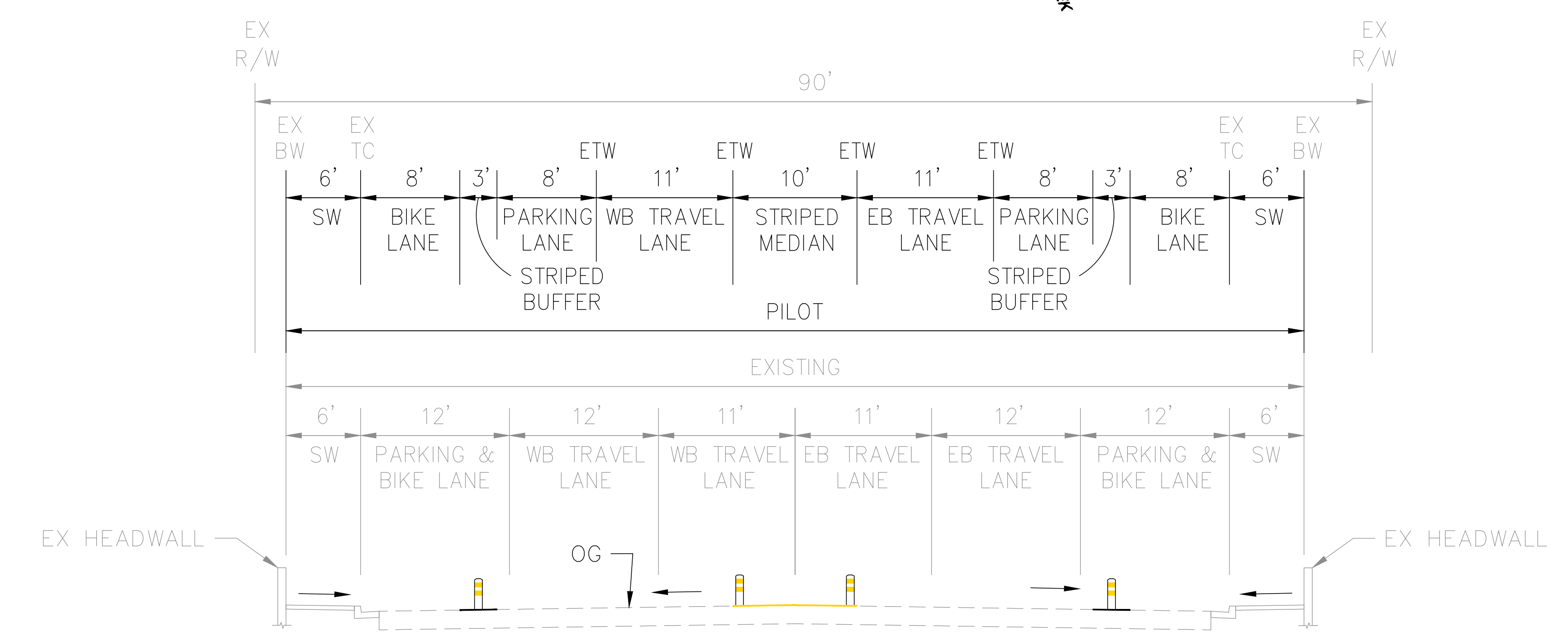
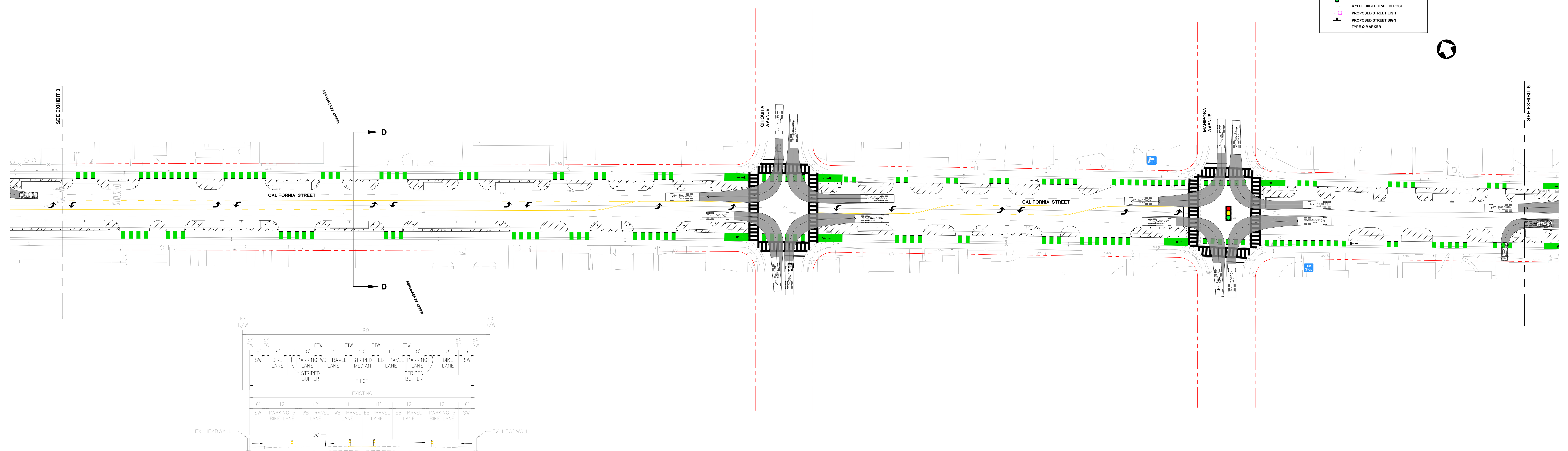
CITY OF MOUNTAIN VIEW
CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY



DRAWING NAME: CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY
 PLOT FILE: C:\Users\jgarcia\OneDrive\Documents\Projects\2023\03\California Street Plan Line Study - Pilot Study\Drawings\Exhibit 3.dwg
 DATE: 3/7/2023
 TIME: 10:00 AM

LEGEND

- EXISTING RIGHT OF WAY / PARCEL LINE
- SIDEWALK / RAMPS
- RAISED BUFFER / MEDIAN ISLAND
- GREEN BIKE LANE STRIPING
- STRIPED MEDIAN ISLAND
- PROPOSED STRIPING
- CROSSWALK
- EXISTING BUS STOP LOCATION
- SIGNALIZED INTERSECTION
- K71 FLEXIBLE TRAFFIC POST
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN
- TYPE Q MARKER



IN PROGRESS - FOR DISCUSSION ONLY



CITY OF MOUNTAIN VIEW
CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY



DRAWING NAME: 02-09-23
 PLOT FILE: \\BKF-S\Vol4\2021\211896_Collon\A-Street-Complete-Street-Plan-Line-Study-Exhibit-4.dwg
 PLOT FILE: \\BKF-S\Vol4\2021\211896_Collon\A-Street-Complete-Street-Plan-Line-Study-Exhibit-4.dwg

LEGEND

- EXISTING RIGHT OF WAY / PARCEL LINE
- SIDEWALK / RAMPS
- RAISED BUFFER / MEDIAN ISLAND
- GREEN BIKE LANE STRIPING
- STRIPED MEDIAN ISLAND
- PROPOSED STRIPING
- CROSSWALK
- EXISTING BUS STOP LOCATION
- SIGNALIZED INTERSECTION
- K71 FLEXIBLE TRAFFIC POST
- PROPOSED STREET LIGHT
- PROPOSED STREET SIGN
- TYPE Q MARKER

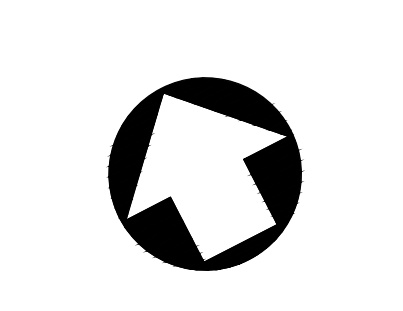
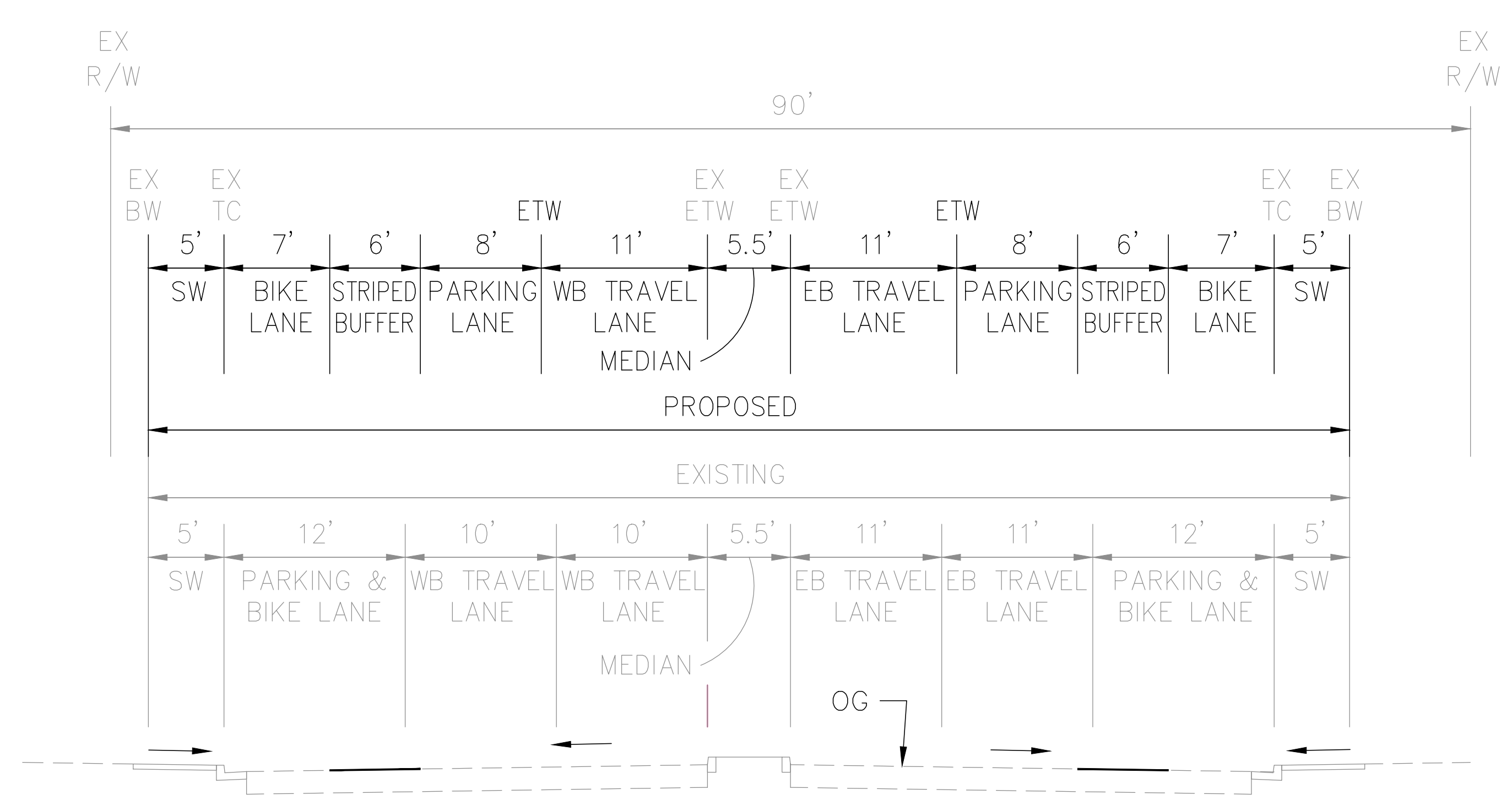
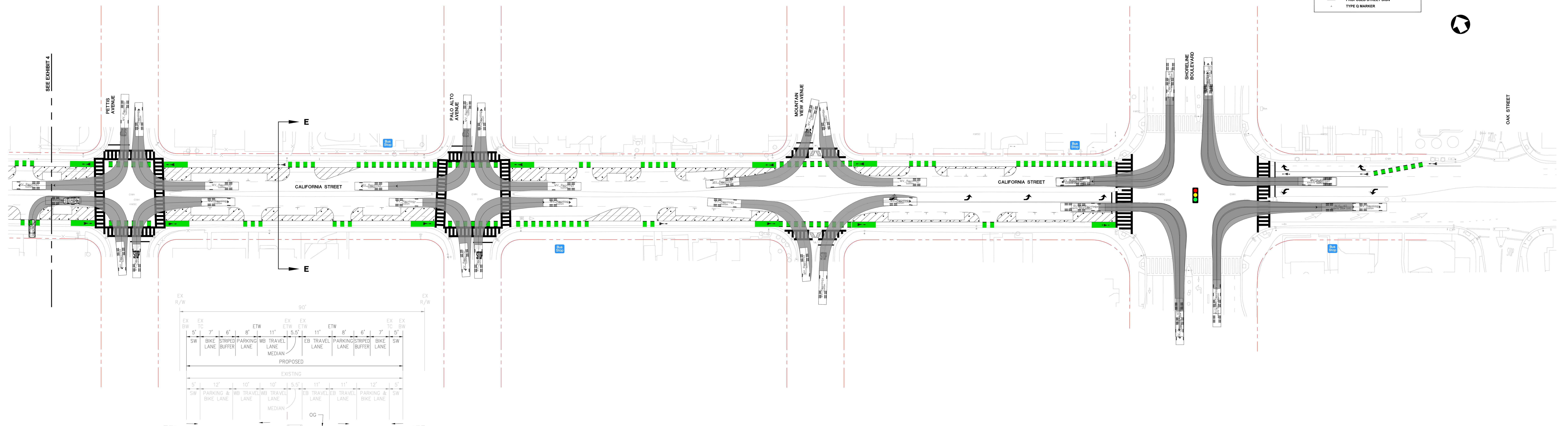


EXHIBIT 5
GRAPHIC SCALE
1 inch = 30' ft.
MARCH 7, 2023

IN PROGRESS - FOR DISCUSSION ONLY

SEE EXHIBIT 4

DRAWING NAME: 02-09-23
 PLOT FILE: \\BKF-S\vol4\2021\211896_California_Street_Collaborative_Study\Complete_Street\Exhibits\Exhibit 5 - Streets_Exhibit 5.dwg
 DATE: 02-09-23



CITY OF MOUNTAIN VIEW
CALIFORNIA STREET PLAN LINE STUDY - PILOT STUDY

