

3 Project Description (January 2023)

3.1 Project Location

The MST SURF! Busway and Bus Rapid Transit Project (project) would be located between MST's Marina Transit Exchange at Reservation Road and De Forest Road (northern terminus), and Contra Costa Street and Orange Avenue in Sand City/Seaside (ultimate southern terminus). The project consists of approximately 6 linear miles of roadway surface and related improvements to provide dedicated express busway and bus rapid transit service between these points.

The majority of the alignment of the busway would be within the Transportation Agency for Monterey County (TAMC) Monterey Branch Line rail corridor right-of-way, an approximately 100-foot wide corridor generally located between Beach Range Road and the Monterey Peninsula Recreation Trail on the ocean side of Highway 1. Other portions of the project would be within MST's right-of-way. Given the length of the proposed busway and its physical location, the project would be located in and/or adjacent to the cities of Marina, Seaside, and Sand City, extending parallel to Highway 1 and Fort Ord Dunes State Park.

The project's regional location is shown in [Figure 3-1](#). The entirety of the project alignment is shown in [Figure 3-2](#). Additional location details are provided within the description of project segments later in this chapter.

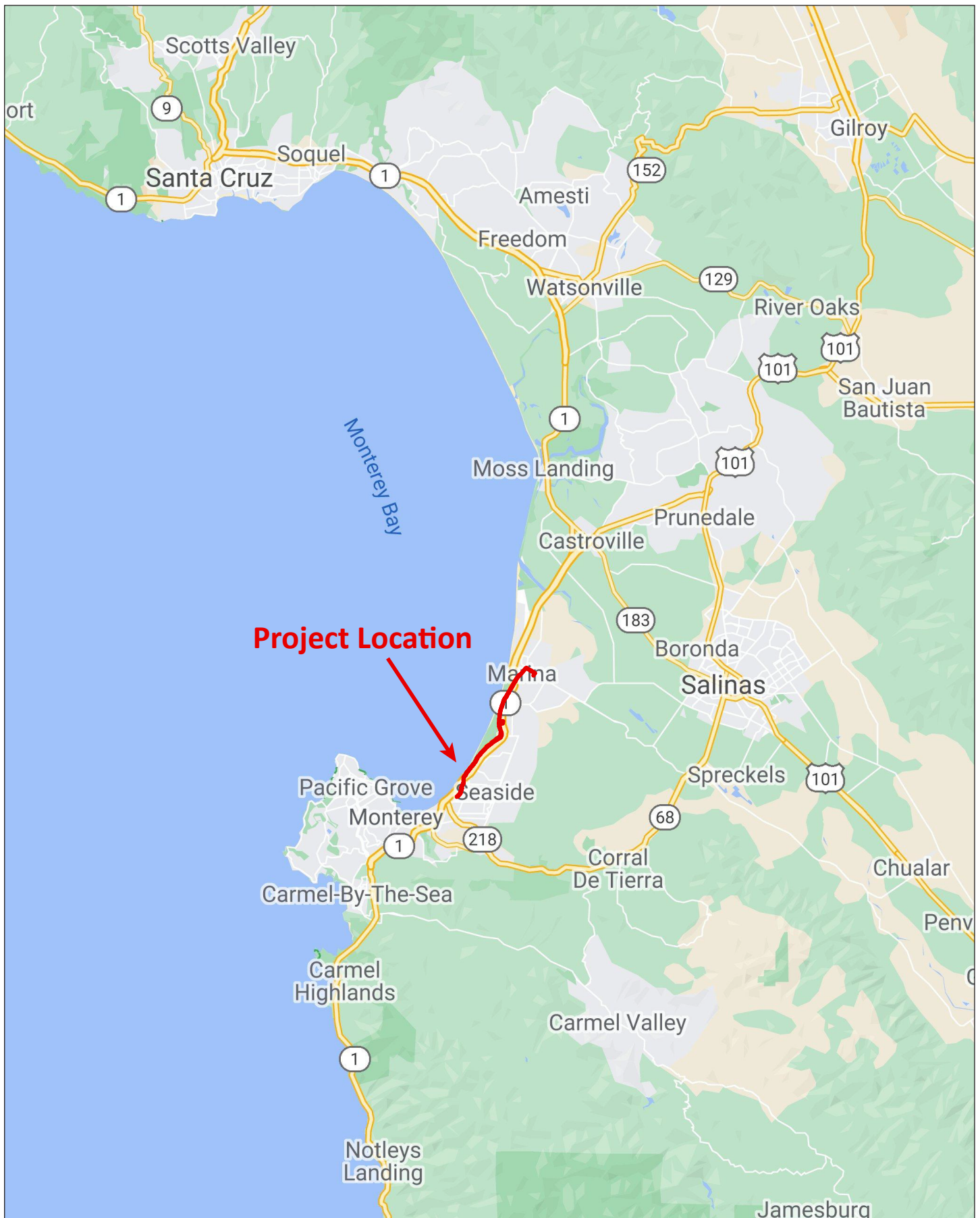
3.2 Project Background and Prior Studies

Constructed by Southern Pacific Railroad Company (SPRR) in 1879, the Monterey Branch Line originally extended 19.6 miles from Castroville to Lake Majella in Pacific Grove. Rail service on this standard-gauge line began in 1880, following eight years of narrow-gauge service operated by the Monterey and Salinas Valley Rail Road Company. Southern Pacific operated both freight and passenger rail service on the Del Monte Express between the Monterey Peninsula and San Francisco from 1881 to 1971. Over time, traffic on the line diminished and it fell into disrepair, and the remaining freight service on the branch line was discontinued south of Seaside in 1978.

In 1982, using State Senate Bill 620 funds the cities of Seaside and Monterey purchased the SPRR right-of-way between Contra Costa Street in Seaside and downtown Monterey. A highly popular pedestrian/bicycle multi-purpose trail (Monterey Bay Coastal Recreation Trail) has been constructed within this section of the right-of-way extending south from Canyon del Rey Boulevard along the coast into Pacific Grove. North of Contra Costa Street, SPRR continued operation of freight rail service through the 1990s. TAMC purchased this portion of the line from the Union Pacific Railroad¹ in September 2003 using State Proposition 116 funds.

With the corridor in local control and tiering off of several passenger rail feasibility studies beginning in the 1990s, TAMC pursued and began environmental review on the 15.2-mile Monterey Peninsula Light Rail Project between Castroville and the City of Monterey. Due to financial uncertainties, this project was put on hold while TAMC pursued the extension of passenger service on the coast mainline tracks between Salinas and the San Francisco Bay Area.

¹ Union Pacific Railroad took over SPRR in 1995.



Source: Google Maps, 2020

Figure 3-1: Regional Location
MST SURF! Busway and Bus Rapid Transit Project



Source: Kimley Horn, 2020

Figure 3-2: General Project Location
 MST SURF! Busway and Bus Rapid Transit Project

In response to continuing and increasing congestion on Highway 1, MST, in partnership with TAMC, the Association of Monterey Bay Area Governments (AMBAG), Caltrans, Santa Cruz METRO, California Highway Patrol and the Santa Cruz County Regional Transportation Commission (SCCRTC) conducted a study to explore the potential for improving bus operations in the Highway 1 corridor, including a bus-on-shoulder concept. The *Final Project Report Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line* (“Bus Study”) considered eight alternatives on or parallel to State Route 1, including the possibility of using the Monterey Branch Line rail corridor for bus rapid transit operations. The final study ultimately concluded that operating MST buses along the Monterey Branch Line would be the most cost-effective solution to improving on-time performance in this critical corridor. This feasibility study was completed in 2018, and the “bus within branch line” concept analyzed is very similar to the project evaluated in this Initial Study.

3.3 Existing Environmental Conditions within the Project Corridor

3.3.1 Physical Conditions

The Monterey Branch Line corridor currently contains idle rail lines from the former Southern Pacific Railroad, including the railroad bed surface (ballast) and aging facilities and utilities. Additional infrastructure associated with the former Fort Ord are located along the corridor, including concrete platforms, rail spurs, and access tunnels and bridges. The corridor is heavily disturbed by the rail lines, limited maintenance and regular practice of weed control; however, it is also wide enough to support native and non-native plant communities. Located in close proximity to Highway 1, there is a high level of ambient roadway noise. The northern and southern ends of the busway alignment utilize public roadways within an existing urban environment.

3.3.2 Land Use, Zoning and Jurisdictional Boundaries

While the rail corridor is owned by TAMC, the underlying land is within the boundaries of the City of Marina, City of Seaside, City of Sand City, and Monterey County.

In the City of Marina, the TAMC rail corridor constitutes the western city limit line from the point where the busway crosses under SR 1 (just south of Palm Avenue), to the City’s southern limits (just north of Divarty/1st Street). Within this section the project is within Marina’s coastal zone. The City’s zoning map shows this strip of land as “Open Space District” in recognition of the recreation trail.

From Divarty/1st Street south to Sand City, the TAMC rail corridor is adjacent to the City of Seaside city limits, within a narrow strip of land sandwiched between Seaside and California State Park lands (Fort Ord Dunes State Park). The narrow strip of coastal zone is former Fort Ord land that is outside of State Parks and Seaside’s jurisdiction, and therefore falls into the permit jurisdiction of the California Coastal Commission. The project boundaries include Seaside at the California Avenue/La Playa Avenue intersection, and along Del Monte Boulevard.

The busway enters mixed-flow traffic at the north end of Sand City just before the California/Fremont/Del Monte interchange, near the entrance to the approved Monterey Bay Shores development project. City zoning districts within the project’s footprint include CZ-R2 (Coastal Residential – Medium Density); CZ-VS-R2 (Coastal Visitor Serving Residential Medium Density); CZ-VSC-D (Coastal Visitor Serving Commercial); CZ-C4 (Coastal Regional Commercial); CZ-M (Coastal

Manufacturing); and CZ-MU-P (Coastal Planned Mixed Use). Most of these designations are within the urbanized/developed portions of the City along California Avenue or within the rail corridor.

The project area consists of the following parcels:

- Portions of V69-1 (former Southern Pacific Railroad Monterey Branch Line owned by TAMC)²
- 031-221-005 (5th Street Station Parcel owned by MST)³
- 031-221-001 (5th Street underpass/busway extension road owned by TAMC and Caltrans)

Figures 3-3A through 3-3C illustrate local land use and coastal zone boundaries.

3.4 Project Objectives

3.4.1 Statement of Project Objectives

The following objectives have been identified for the proposed project:

1. Reduce congestion on Highway 1 from local and inter-regional commuter traffic by providing an accessible transit alternative.
2. Improve overall mobility for residents and visitors traveling to and from the Monterey Peninsula.
3. Provide a safe, reliable and affordable transit connection to employment, education, and health care centers along the corridor for visitors and residents.
4. Provide strategic connections to the region's existing and planned recreational trail facilities such as Fort Ord Dunes State Park, Fort Ord Regional Trail and Greenway, and the Monterey Bay Coastal Recreation Trail.
5. Implement associated traffic, bicycle and pedestrian circulation improvements along the local network in conjunction with the dedicated busway.
6. Engage, serve and connect several disadvantaged, low income and veterans' communities in the cities of Marina, Seaside and Sand City to key employment, commercial, health care and educational centers within the region.
7. Improve on-time transit performance of the MST system along Highway 1 and increase transit ridership as an alternative to the automobile.
8. Improve air quality within the North Central Coast Air Basin by relieving congestion and reducing mobile source pollutants and greenhouse gas emissions.

² Quitclaim Deed, recorded Monterey County Recorder, September 2003.

³ Quitclaim Deed, recorded Monterey County Recorder, April 10, 2003.

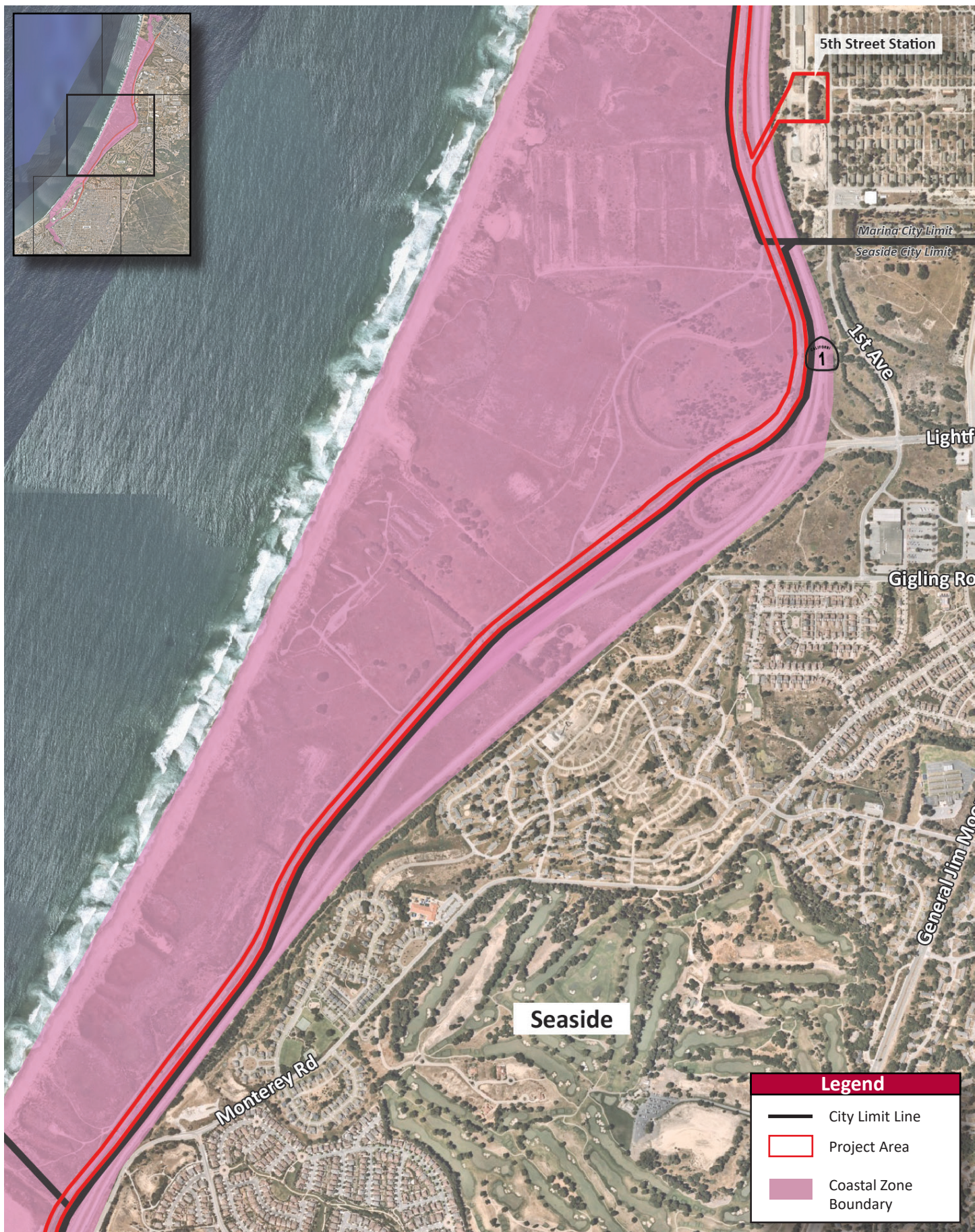


Source: Nearmap, 2020

Figure 3-3A: Land Use and Coastal Zone Boundaries
MST SURF! Busway and Bus Rapid Transit Project



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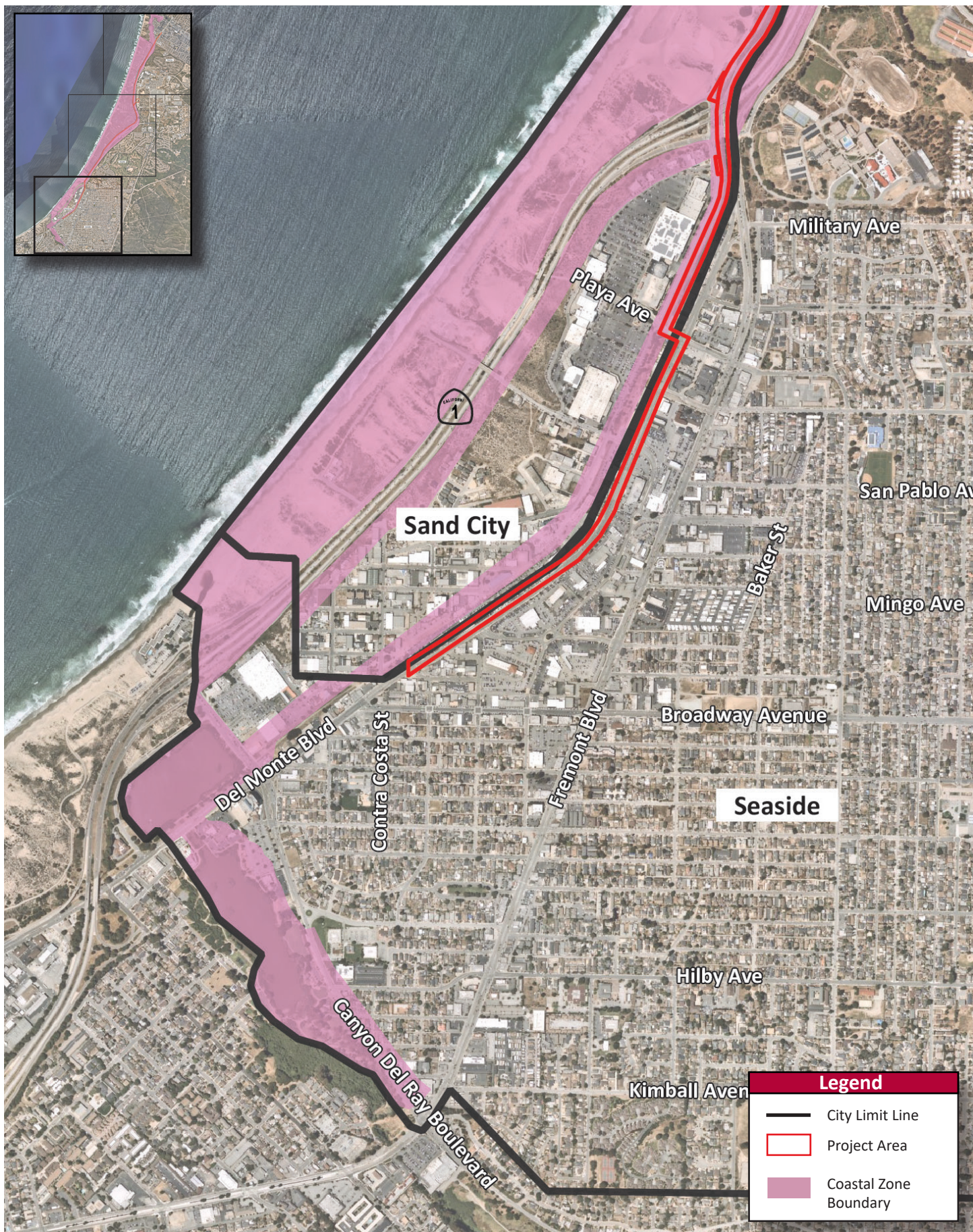


Source: Nearmap, 2020

Figure 3-3B: Land Use and Coastal Zone Boundaries
MST SURF! Busway and Bus Rapid Transit Project



Not to scale



Source: Nearmap, 2020

Figure 3-3C: Land Use and Coastal Zone Boundaries
MST SURF! Busway and Bus Rapid Transit Project



Not to scale

9. Achieve higher and better near-term use of the inactive Monterey Branch Line corridor.
10. Expand the existing bus rapid transit network on the Monterey Peninsula and develop a terminus for the future Marina-Salinas Multimodal Corridor.
11. Preserve long term planning options for future light rail within the corridor by retaining the rail lines and designing a project that does not preclude future rail and bus operations.
12. Engage federal, State and local agencies as active partners and stakeholders in the project to ensure its success and meet mutual funding and operational objectives.
13. Design the project to accommodate 100% zero emission vehicles.
14. Construct a transit project with greater environmental benefits than impacts.

3.5 Project Segments and Route Alignment

As mentioned above, the entirety of the project is approximately six miles in length. However, the area of potential affect, or APE, is 4.9 miles long. This is the portion of the project located within the TAMC right-of-way where most physical construction would occur. The APE is shown on [Figures 3-4A and 3-4B](#).

3.5.1 Segment 1 – Marina Transit Exchange to Palm Avenue Corridor Entry and Platform

The northern terminus for the SURF! will be MST's existing Marina Transit Exchange facility located on Reservation Road at DeForest Road in the City of Marina. Buses will exit the Transit Exchange, turn left on to Reservation Road, and left onto Del Monte Boulevard (southbound) to Palm Avenue. There is no construction proposed at the Marina Transit Exchange location.

At Palm Avenue buses will turn right, then left (southbound) onto Marina Drive. Approximately 200 feet south of the Palm Avenue/Marina Drive intersection, SURF! buses will enter the TAMC right-of-way at an access-controlled entrance point. Once inside the TAMC right-of-way, vehicles will stop at a new bus platform.

Physical roadway and infrastructure improvements needed to support this segment include transit signal priority along Reservation Road and Del Monte Boulevard, a relocated bus stop on Del Monte Boulevard adjacent to the new platform (to facilitate transfers and system connectivity), a new Class I bicycle path within the TAMC corridor along Marina Drive from Palm Avenue connecting to the Beach Range Road Class I bicycle path to the south, curb ramps and ADA compliance, signage and striping at the Palm Avenue/Del Monte Boulevard intersection, and turning/traffic controls at the Marina Drive/Palm Avenue intersection. The new Class I pedestrian and bicycle facility will improve safety, access, and mobility within the TAMC-owned public right-of-way. The project does not add physical infrastructure or striping to highways or roadways within the existing right of way except for minor modifications needed for the efficient and safe movement of transit vehicles, bicycles, and pedestrians.

All improvements would be designed to accommodate a future roundabout at Palm Avenue/Del Monte Boulevard. The roundabout is a potential future City of Marina project and not a part of the SURF! Project, and is not necessary for the operation of the SURF! Project. See [Figure 3-5](#) for segment details at Palm Avenue.

3.5.2 Segment 2 – Palm Avenue Corridor Entry to 5th Street Station

After leaving the platform south of Palm Avenue, the route and alignment of the busway—consisting of two lanes of dedicated roadway surface (one lane each direction) continues southward on the east (inland) side of the railroad tracks within the TAMC right-of-way. A new bicycle and pedestrian crossing from the Class I bike lane extension of Beach Range Road across the busway would be constructed to align with the Reindollar pedestrian crossing. The Reindollar pedestrian crossing would be upgraded to meet Americans with Disabilities (ADA) standards. This pedestrian and bicycle connection will improve safety, access, and mobility within the public right-of-way. See [Figure 3-6](#) for details at this location.

The busway would continue southbound and cross under the 8th Street bridge. At a point approximately 1,000 feet north of the 8th Street bridge, the alignment begins to shift to the west (ocean) side of the existing rails to provide adequate clearance and avoid existing bridge supports. Due to topographic constraints and to minimize the use of retaining walls, the alignment south of 8th Street shifts back to the east until its connection with the 5th Street underpass. Where it is necessary for the busway to be constructed over the existing rails for these shifts, the road surface will be built up on top of the rails, leaving them in place below.

At the 5th Street underpass (the former Fort Ord facility that crosses under SR 1), buses will make a left turn at a newly constructed junction and transition to a single lane, crossing under SR 1 along a modified undercrossing to access a new bus station and parking area (5th Street Station). This access road into the 5th Street Station (SURF Busway Extension Road) creates a loop road approximately 2,000 feet long off of the main busway corridor.

Physical improvements necessary for this junction and extension road include bus active blank out signage, realignment of the existing two-way bike path under the highway to maintain bicycle and pedestrian connectivity, bike crossing safeguards across the Busway Extension road, access controls, signage and striping. Buses within the two lane section would avoid conflicts with access controls/signals, and through full line of sight visibility.

The 5th Street Station itself would include six bus bays, public parking stalls with an estimated six ADA stalls, bus charging stations for electric vehicles, pick-up/drop off area, and real-time bus arrival informational signage. The parcel for the proposed station is outside of the TAMC right-of-way, on public property/public right-of-way owned by MST. At this time water is not available to the parcel, and any future uses that may require a water connection (such as bathrooms or irrigation) would require coordination with the City of Marina. The project does not add physical infrastructure or striping to highways or roadways within the existing right of way except for minor modifications needed for the efficient and safe movement of transit vehicles, bicycles, and pedestrians.

Public, personal vehicle, and non-BRT bus vehicle access will be via 1st Avenue. Bike lane improvements would include a crossing of the recreation trail at the bus extension road, as well as a Class I bike path running parallel to the extension road providing access to the station and a mobility hub for bicycle repairs, bicycle parking and shared mobility options. These components improve customer information and wayfinding for transit riders, bicyclists, and pedestrians within the public right-of-way. These pedestrian and bicycle facilities improve safety, access, and mobility at these new facilities and are within the public right-of-way. See [Figure 3-7](#) for details of this segment.



- Project Area
- City Limits



Figure 3-4A: Project Limits/Area of Effect
MST SURF! Busway and Bus Rapid Transit Project



Source: Kimley Horn, 2020

- Project Area
- City Limits

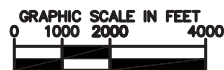
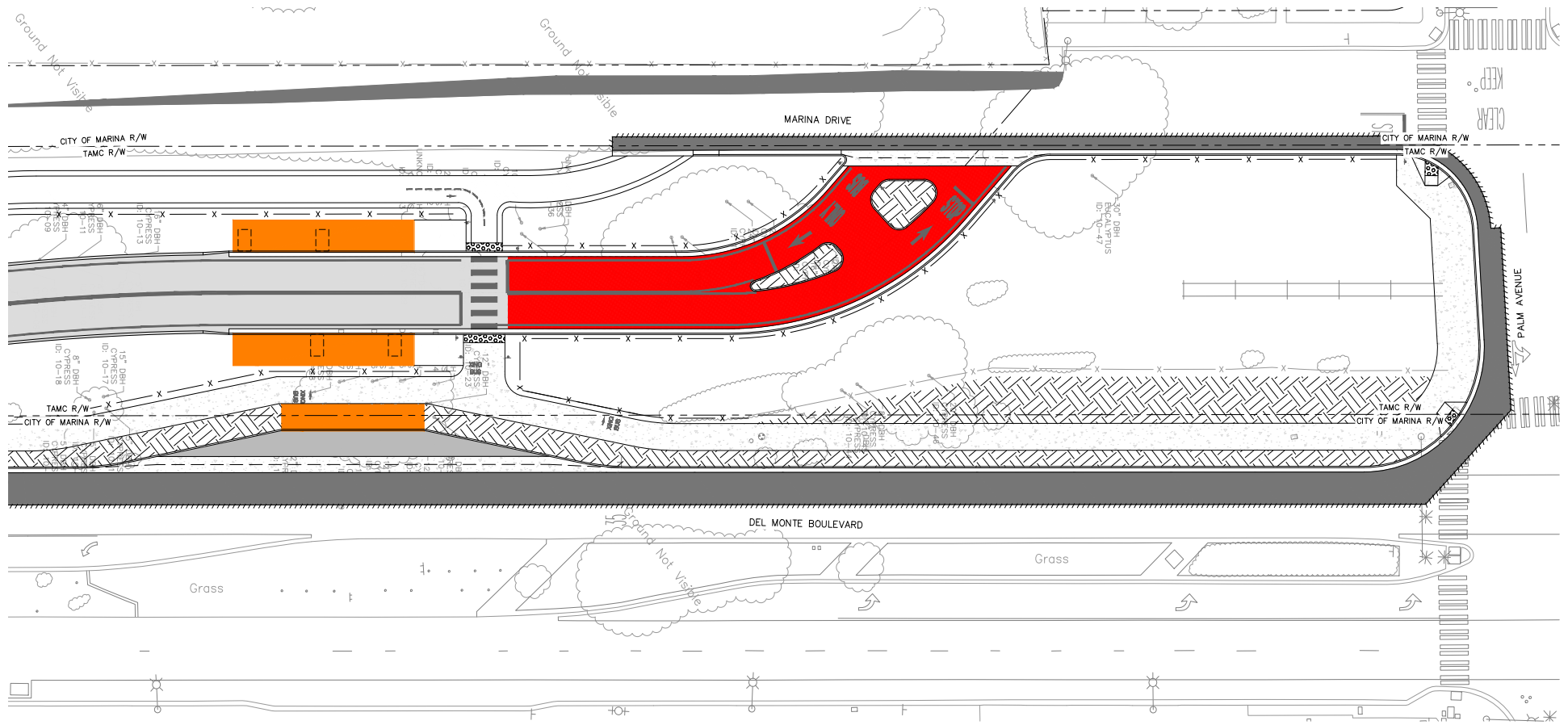


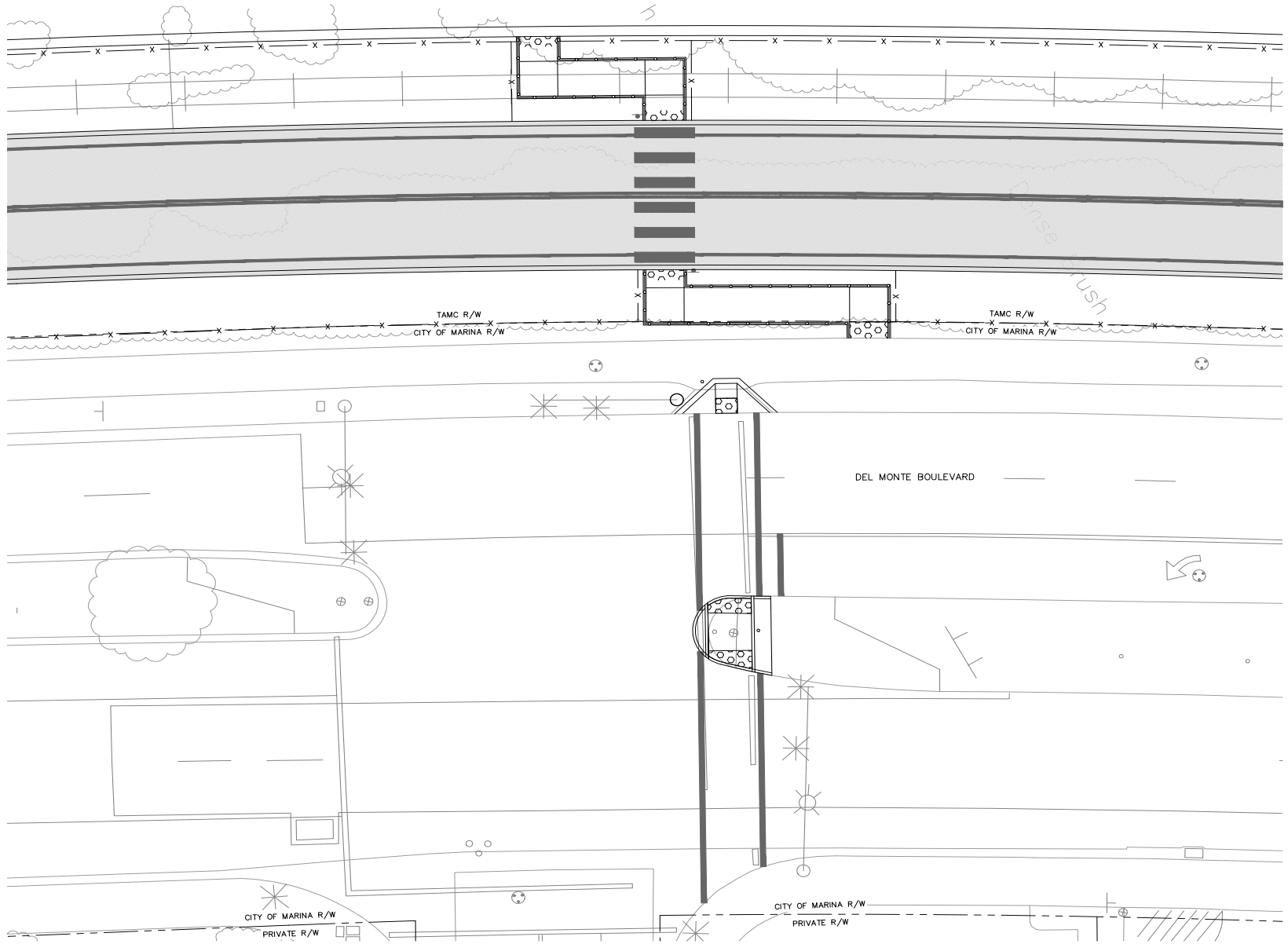
Figure 3-4B: Project Limits/Area of Effect
MST SURF! Busway and Bus Rapid Transit Project



Source: Kimley Horn, 2022

Figure 3-5: Palm Avenue Segment Details
MST SURF! Busway and Bus Rapid Transit Project

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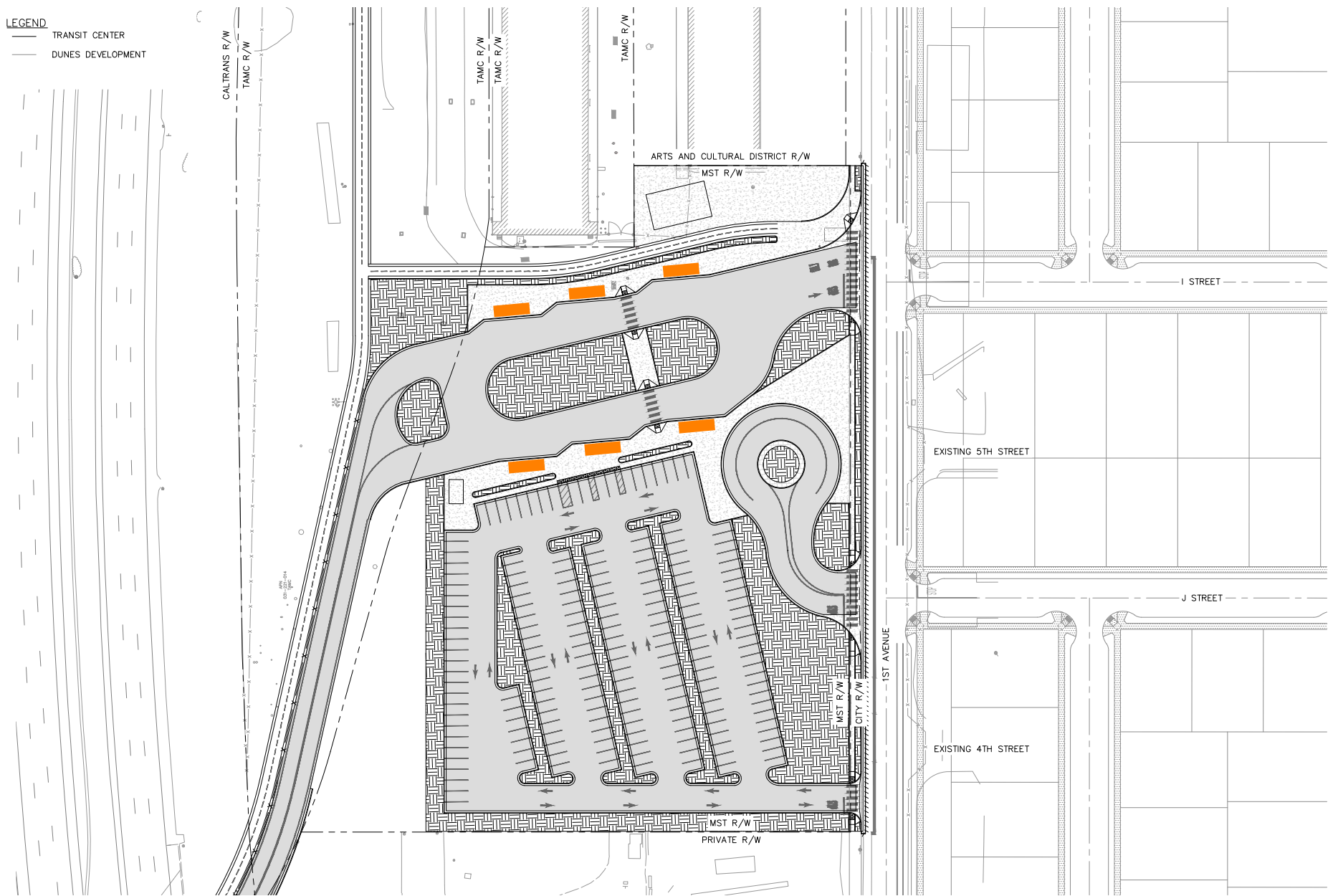


Source: Kimley Horn, 2022

Figure 3-6: Pedestrian Crossing at Reindollar Avenue
MST SURF! Busway and Bus Rapid Transit Project



Not to scale



Source: Kimley Horn, 2022

Figure 3-7: 5th Street Station Details
MST SURF! Busway and Bus Rapid Transit Project

 Not to scale

Kimley»Horn
TAMC
TRANSPORTATION AGENCY FOR MONTEREY COUNTY

MST
MONTEREY-SALINAS TRANSIT

3.5.3 Segment 3 – 5th Street Station to California/Fremont/Monterey/SR 1 Interchange (California Avenue Connection)

Buses departing the 5th Street Station and continuing the route southbound will return via the one-way bus extension road and turn left back onto the main busway road within the TAMC corridor right-of-way. This segment will continue south for approximately 3 miles, passing 1st Street and Lightfighter Drive, extending parallel to and staying east (inland) of the railroad tracks. This segment of the busway consistently hugs the eastern portion of the TAMC corridor as it approaches the site of the approved Monterey Bay Shores Resort.

After passing the future Monterey Bay Shores development project entrance location, the busway alignment will meet California Avenue at the SR 1 southbound on-ramp. Buses will re-enter the public right-of-way via a new roundabout at the junction of California Avenue, the SR 1 southbound on-ramp, and the Monterey Bay Shores access road. The roundabout would be sufficiently sized and designed to allow for safe movement of buses, trucks and private vehicles. The entrance/exit point for the busway would include controls to prevent access by private vehicles.

Buses would navigate the roundabout, proceed through the existing signalized intersection, and continue on California Avenue toward Playa Avenue.

The Beach Range Road recreation trail in this segment would be extended to the roundabout and connect to the existing recreational trail on the ocean side of Highway 1. The existing crossing where Beach Range Road ends would be eliminated and replaced with the extension. This Class I pedestrian and bicycle facility extension improve safety, access, and mobility within the TAMC-owned public right-of-way. The roundabout and these related improvements are shown in [Figure 3-8](#). The trail relocation would be programmed so that there would be no interruption of use of the trail during construction.

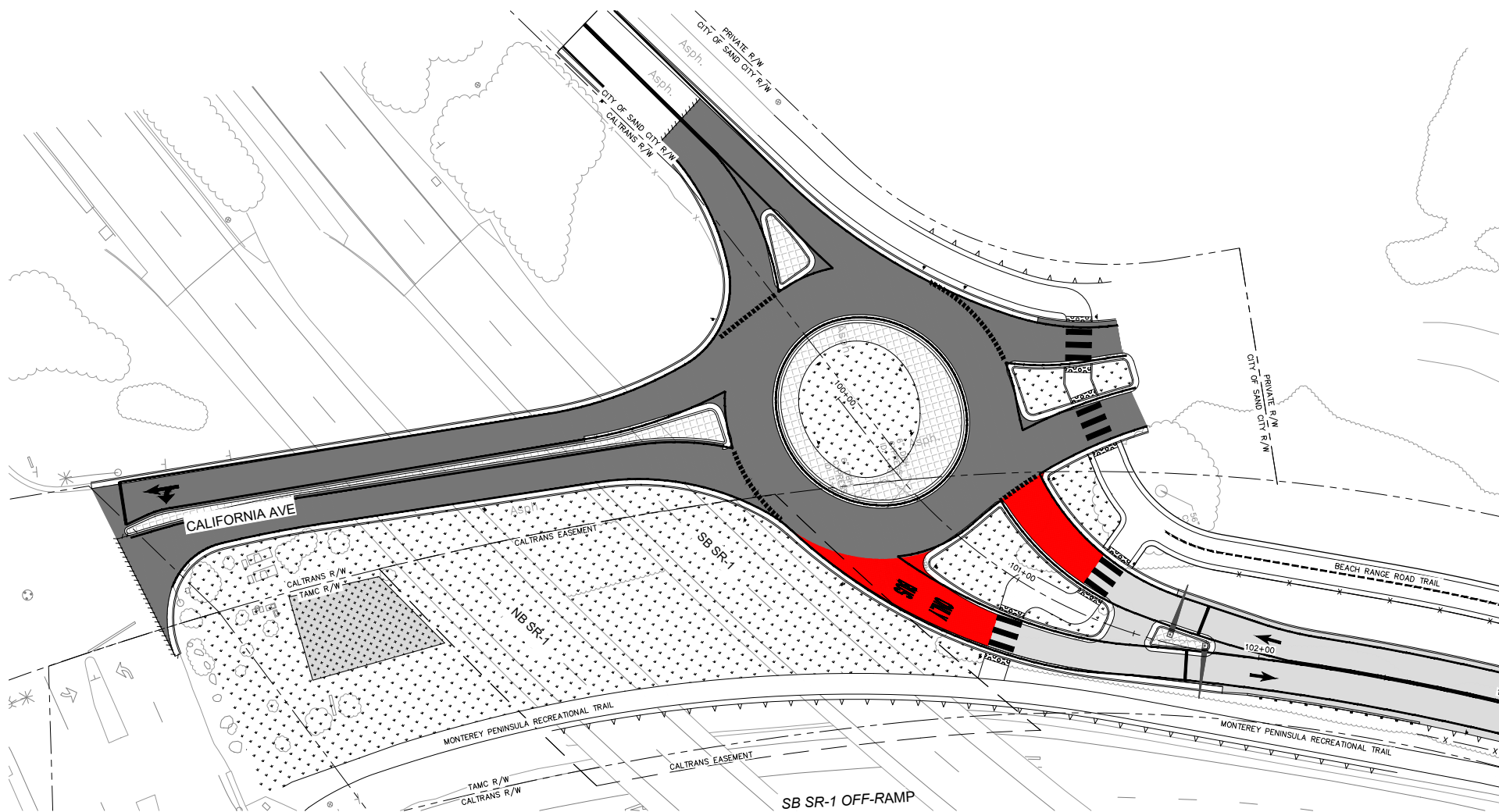
3.5.4 Segment 4 - California/Fremont/Monterey/SR 1 Interchange to Playa Avenue

After navigating the Segment 3 roundabout, southbound buses would proceed through the signalized intersection, and continue down California Avenue. Once on California Avenue, the project design has considered two options. Option 1 would use California Avenue, with buses simply turning right onto Playa Avenue to utilize the existing MST bus stop locations near the shopping center at Sand City Station.

In Option 2, instead of using California Avenue all the way down to Playa Avenue, buses would make a left turn back into the TAMC corridor just south of the California/Fremont/Del Monte/Monterey intersection. Once back within the corridor, buses would travel on dedicated lanes down to Playa Avenue to a new bus stop and platforms within the TAMC right-of-way. Following this stop, buses would turn left on Playa Avenue and then right back on to Del Monte Boulevard. This option is illustrated in [Figure 3-9](#).

To improve traffic operations at the Del Monte Boulevard/Playa Avenue (signalized) and Playa Avenue/California Avenue (stop controlled) intersections, which are very close together, a new signal is proposed at Playa Avenue/California Avenue, with a single controller and geometric design improvements for both intersections to allow for synchronized cycles. Intersection signalization is

proposed regardless of the options described above. Transit signal priority equipment will be included for the busway lanes and buses. Intersection improvements would also include removal of a short section of track, removal of antiquated railroad crossing apparatus, and limited grading at the Playa intersection to smooth out the slope and grade. This intersection concept is illustrated in [Figure 3-10](#).



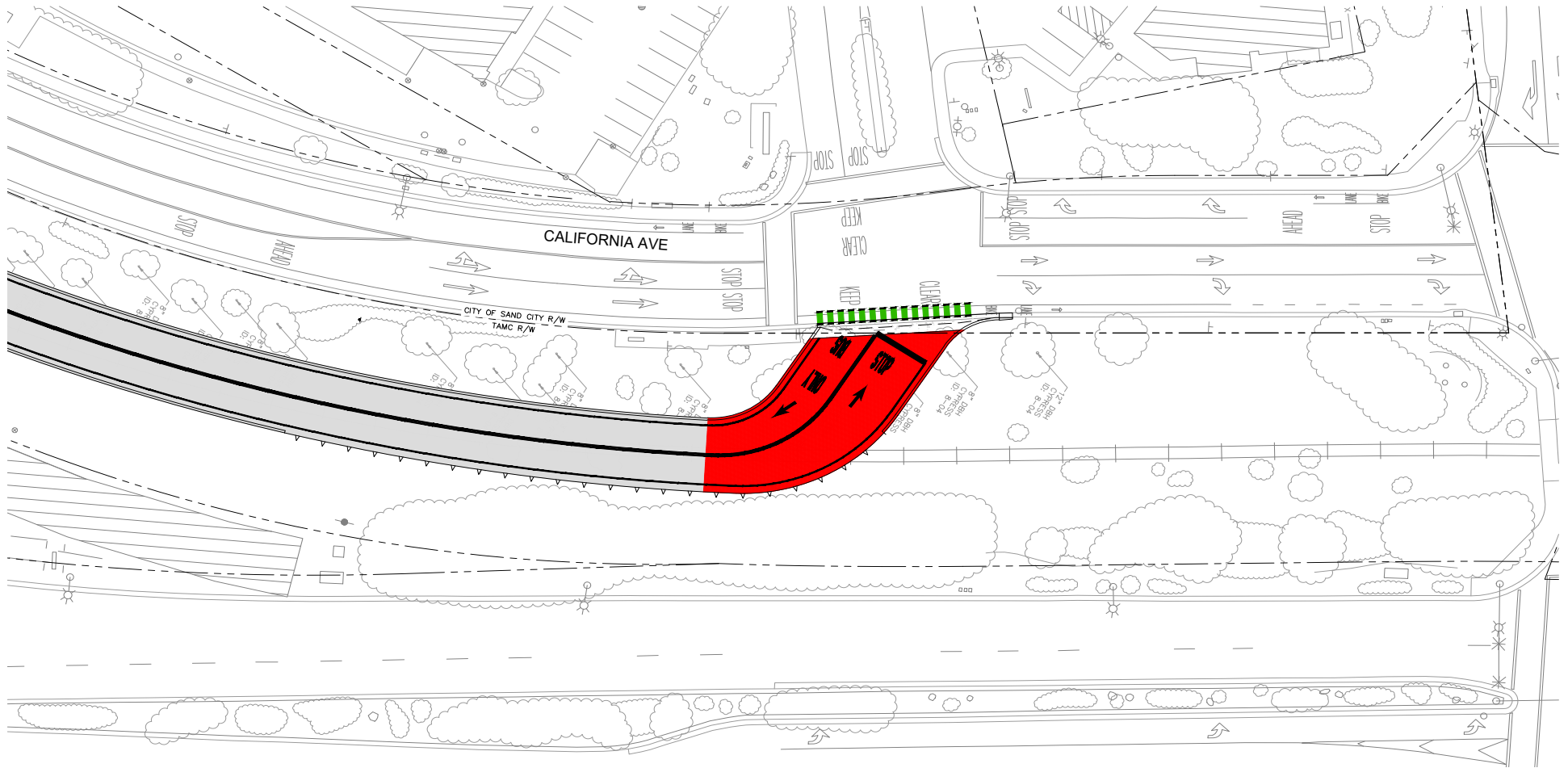
Source: Kimley Horn, 2022

Figure 3-8: California Avenue Roundabout
MST SURF! Busway and Bus Rapid Transit Project



Not to scale





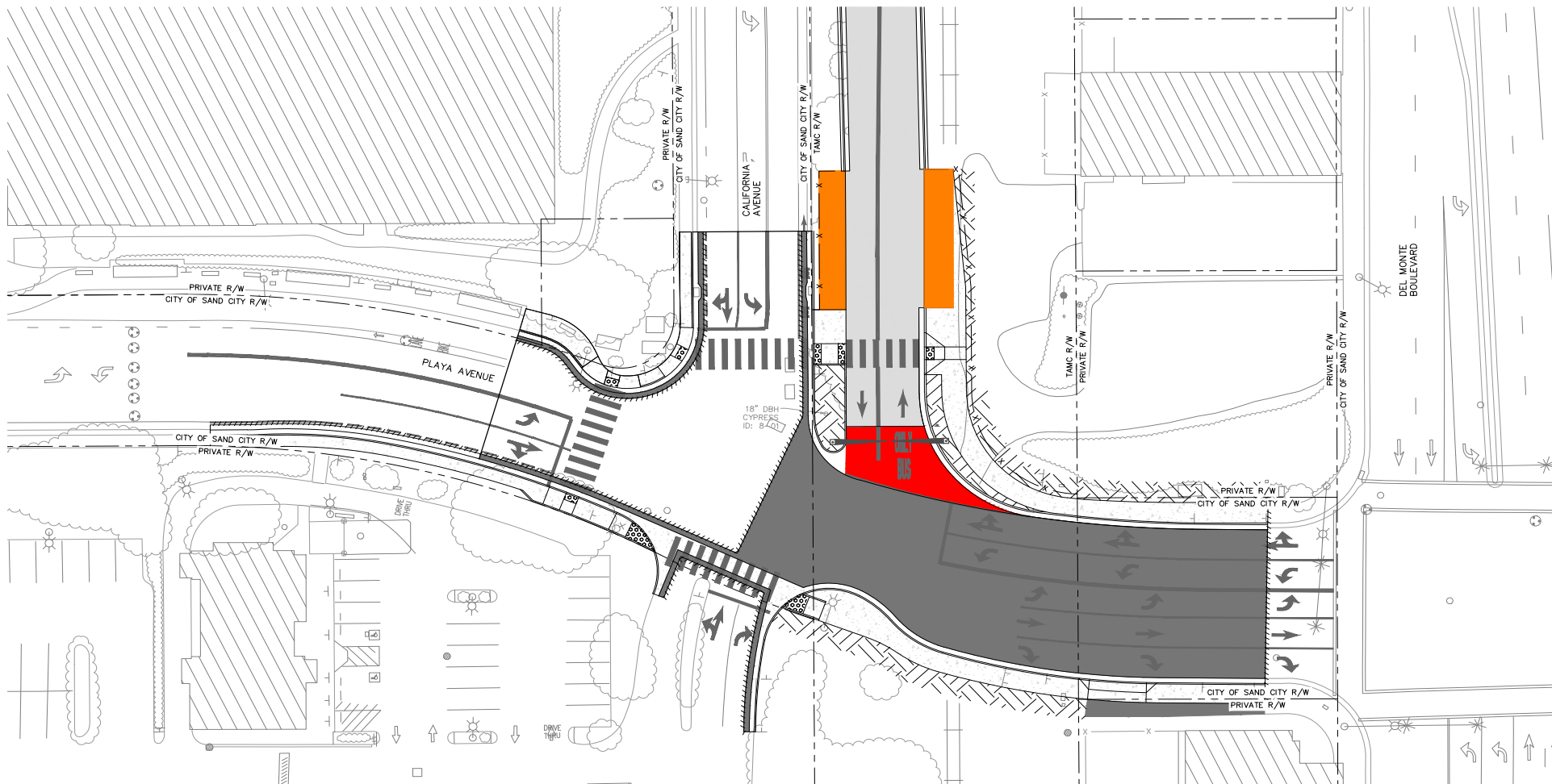
Source: Kimley Horn, 2022

Figure 3-9: TAMC Corridor Reentry on California Avenue
MST SURF! Busway and Bus Rapid Transit Project



Not to scale





Source: Kimley Horn, 2022

Figure 3-10: Playa/California/Del Monte Intersection Concept
MST SURF! Busway and Bus Rapid Transit Project



Not to scale

3.5.5 Segment 5 – Playa Avenue to Contra Costa Avenue

For this final segment, SURF! line buses would leave the stop at California Avenue and Playa Avenue, turn left at Playa Avenue through the new signal controls, turn right onto Del Monte Boulevard, and continue on the public roadway southbound toward Sand City, Seaside and Monterey. Existing stops at Tioga Street and ultimately Contra Costa Street would be utilized. Contra Costa would define the southern terminus of the project; however, SURF! buses would continue on public roadways from this point to service other routes within the MST system. SURF! would not operate as a “closed loop” with vehicles returning immediately northbound.

Future Segment 5 Bus Lanes within the TAMC Corridor

In the future, TAMC and MST could seek to extend the busway lanes southward, across Playa Avenue and continuing within the TAMC right of way all the way to Contra Costa Street. However, similar to the future projects noted in Segment 4, this future extension is discussed for informational and disclosure purposes only, and is not currently being designed, funded or included in any related resource permitting. Any such future project may require subsequent environmental review and/or re-initiation or reevaluation of approvals and permits.

If this future extension is pursued, buses would exit a new Playa Avenue transit stop (near the existing Costco/McDonalds parking lot), and the final leg of the SURF! busway alignment would continue southbound to Contra Costa Street within the TAMC rail corridor.

To clear the right-of-way within the Segment 5 corridor in the future, TAMC would need to cancel existing leases to local businesses that are currently using portions of the right-of-way. However, this extension is not anticipated at this time, and is not necessary for the proposed SURF! project operations.

3.6 Vehicles, Operations and Maintenance

3.6.1 Busway Vehicles

The majority of MST’s existing coach fleet consists of 35 and 40-foot Gillig diesel buses. MST also contracts for the operation of about 70 smaller (22-foot) gasoline powered “cutaway” buses to operate specific fixed route and paratransit services.

Under the California’s Innovative Clean Transit (ICT) Rule and MST’s Rollout Plan of December 2021⁴, MST is required to incorporate zero emission buses as part of its regular procurement schedule and transition to a 100% zero emission fleet by 2040. MST currently operates four (4) electric buses (two BYD Electric powered by K7M motors and two additional 40-foot electric Gillig buses). The 40-foot electric Gillig buses accommodate 38 seated passengers and weigh approximately 19 tons. MST’s 5-year Capital Improvement Program includes secure funding of \$5.5M for replacing and expanding MST’s fleet with ZEVs. As of November 1, 2022, MST had a surplus of over \$50 M. MST is also actively seeking state (Transit and Intercity Rail Capital Program) and federal (LoNo Program) grants to purchase additional ZEV buses to support the SURF! project as well as its transition to a zero emission fleet.

⁴ Monterey-Salinas Transit District Innovative Clean Transit Rollout Plan, December 2021

The SURF! line is estimated to require eight (8) additional buses over existing conditions.⁵ On day one of operations, the SURF! fleet will be required and conditioned to utilize 100% percent zero emission, near-zero-emission, low oxide of nitrogen engine, compressed natural gas fuel, fuel cell, or hybrid powertrain buses, on existing public rights-of-way or existing highway rights-of-way, whether or not the right-of-way is in use for public mass transit.

3.6.2 Dedicated Busway Lanes, Transportation Controls and Technology

The physical composition of the dedicated, bi-directional bus lanes will consist of two 12-foot asphalt lanes. Busway lanes will be separated from existing rail lines by 9 to 12 feet (from center of rail line), except when the busway must cross the rail line to avoid constraints.

With busway operation, traffic signals at crossing locations can be activated by on-board technology in the buses (Traffic Signal Prioritization (TSP)), limiting the impact to traffic operations at intersections on the route.

Although not proposed at this time, autonomous buses may be an option in the future. The development of these buses is advancing at a rapid rate and have been implemented in a number of locations. A controlled environment such as a busway would be ideal for autonomous bus operation.

All SURF! line buses are anticipated to incorporate internet access, and while no specific programming has been identified, local wi-fi could provide interpretive information about the area's natural resources, Fort Ord Dunes State Park, the former Fort Ord, local activities and other facts and points of interests.

Additionally, MST has installed contactless fare payment devices on buses to help decrease boarding times at stations and increase efficiency. Contactless devices allow passengers to use a contactless credit/debit card or mobile wallet to tap on for fare payment. MST sells daily, weekly, and monthly GoPasses to help speed boarding at the farebox. In December 2022, MST also simplified and reduced its fare structure to help speed boarding and promote efficiency. When the SURF! project begins operations, all door boarding will also be implemented with contactless fare payment devices on all buses with rear doors.

An illustration of the proposed busway in post-project conditions are shown in [Figure 3-11](#). Additional images and simulations are included in the project's analysis of Aesthetics.

3.6.3 Potential Ridership, Headways and Travel Times

Buses would operate to maximize ridership. Bus headways are planned for 15-minute frequencies weekdays between 6:00 AM and 10:00 PM and 30-minute frequencies weekends between 7:30 AM and 8:30 PM. These frequencies overlap with peak congestion/commute periods analyzed in the 2018 Final Project Report Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line⁶.

⁵ Final Project Report, Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line, CDM Smith, June 2018.

⁶ Final Project Report, Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line, CDM Smith, June 2018. <https://mst.org/wp-content/media/Final-Bus-on-Shoulder-Branch-Line-Feasibility-Report-062718.pdf>

MST and TAMC estimate that by the year 2025 (or upon operation), the busway could attract a ridership of over 2,300 passengers per day, with an annual ridership of over 600,000. This translates to a reduction of approximately 2.7 million vehicle miles travelled annually that otherwise would have been on the highway and roadway network from private automobiles⁷.

The year 2025 transit travel time during peak congestion along the route is expected to be reduced by approximately one half, including time for the single stop at the 5th Street Station mid-way.

3.6.4 Maintenance and Security

The additional vehicles required for the SURF! line would be integrated into MST's fleet service and maintenance schedules. MST's main facility for larger buses operating on the Monterey Peninsula is located at 1 Ryan Ranch Road in Monterey. Other large buses that serve both Monterey and Salinas are stored at MST's yard on Victor Way in Salinas. The smaller cutaway buses are stored and maintained at MST's facility on Joe Lloyd Way in Marina.

In terms of security, buses and the new 5th Street Station would be equipped with surveillance cameras, and MST's security mobile patrols would be extended to monitor the busway after operational hours. MST will coordinate with local law enforcement agencies and State Parks regarding corridor access and recognition of existing mutual aid agreements that cover the geographic limits of the busway.

Graffiti-resistant materials and surfaces are proposed for structures and retaining walls, dependent on the materials and methods available at the time of construction. Due to occasional blowing sand from nearby sand dunes, particularly in the southern portion of the busway, regular sweeping and sand removal may be required.

⁷ Transportation Impact Analysis for the MST SURF! Busway and Bus Rapid Transit Project. Kimley-Horn and Associates. March 2021.



Source: Kimley Horn, 2020

Figure 3-11: Proposed Busway (Post Project Conditions)
MST SURF! Busway and Bus Rapid Transit Project

3.7 Project Engineering and Design

3.7.1 Grading, Demolition and Paving

The TAMC right-of-way is essentially clear of physical structures, resulting in minimal demolition activity. Earthwork would include clearing and grubbing of approximately 23 acres, removal of some existing concrete and fencing, and overall, material will be balanced on site, requiring no import or export. At the proposed 5th Street Station on the MST publicly-owned parcel, existing structures have been removed.

To accommodate the busway lanes while avoiding and preserving the existing railway to the extent feasible, the busway alignment will necessitate grading and preparation of the roadbed. The busway lanes would require approximately 22 acres of various types of concrete and asphalt paving for busway lanes, bike paths, and parking.

3.7.2 Retaining Walls

To allow for acceptable grades for the busway lanes and in order to minimize impacts to the existing railway, retaining walls will be used in specific locations within the corridor. Approximately 37,000 square feet of retaining wall of heights between 2 and 6 feet would be required, with a total length of 7,782 linear feet.

Walls would be constructed of masonry block (keystone) and/or poured concrete. Wall forms, where used, may be surfaced with decorative relief, colorized, and/or coated to blend into the landscape, deter graffiti, and assist in cleaning.

3.7.3 Stormwater Management

The 22 acres of bus lanes and related improvements represents new sources of impervious surface. The project will include a Stormwater Pollution Prevention Plan (SWPPP) and a series of detention areas adjacent to the busway to collect, treat and percolate runoff. The project will be required to conform with all State and local permit requirement regulating the collection, treatment and flow of stormwater.

3.7.4 Water, Wastewater, Solid Waste and Dry Utilities

In the near term, the SURF! busway project will not require the extension or installation of traditional wet utility systems (water and wastewater) as those services are not essential to busway operations. Should restrooms be required for the 5th Street Station in the future, MST would seek water and wastewater connections from the City of Marina. The project will, however, require street/busway/pedestrian safety lighting (primarily at the Palm/Del Monte bus stop, 5th Street Station and California Avenue Roundabout). Communications conduit, CCTV systems and EV charging infrastructure (at 5th Street) are also programmed into the project. No existing utility systems or major infrastructure will require relocation to construct the project.

3.7.5 Landscaping, Signage, Site Furnishings, Tree Removal and Plant Mitigation

Many of the project's detailed design elements and finishes have not been decided or selected; however, MST's vision for the project includes wayfinding signage along the network of bicycle/pedestrian trails, monument signage, bicycle storage, transit center furniture (benches, trash receptacles, bike racks, planters, etc.), bus shelters, and aesthetically attractive fencing.

To reduce water demand, limit maintenance requirements, and avoid introduction of non-native plants, the busway within the majority of the TAMC corridor would have no formal landscape plantings. Native plant restoration and monitoring efforts would occur within the TAMC corridor to the extent feasible as part of the overall rare plant mitigation strategy.

Outside of the corridor, landscape and irrigation improvements are planned near the Palm/Del Monte bus stop, 5th Street Station, and California Avenue roundabout. Any landscaping in urban areas would be consistent with the zoning and development standards of the local land use agency. Along the coast, landscape plantings (as may be desired for visual enhancement or screening at key locations) will respect the natural plant communities (such as coastal strand and dune habitat) that are present along the corridor. Any such plantings would be consistent with the guidance of the Fort Ord Recreation Trail and Greenway (FORTAG) Conceptual Design Report and other adopted local plans and policies.

Several trees will require removal for project construction, including ornamental, non-native, eucalyptus and native Monterey cypress. The specific number of regulated trees necessary for removal has not been fully quantified at this time, pending final design and alignment. However, based on the biological resource surveys conducted it is conservatively estimated for planning purposes that 60 to 90 regulated trees may require removal along the alignment if they cannot be avoided through design.

3.8 Project Phasing, Construction and Staging

3.8.1 Phasing of Improvements

With limited conflicts within the TAMC corridor and ample staging area, MST anticipates that the major components of the project would be constructed simultaneously, with sections of busway progressing in increments based on the flow and availability of construction materials. The primary phases of construction would include:

- Site grubbing and clearing
- Palm Avenue/Del Monte Boulevard bus and roadway improvements
- California Avenue Roundabout
- Linear roadbed construction within the TAMC corridor between Palm Avenue and Playa Avenue
- 5th Street Station improvements
- Habitat restoration efforts
- Final finishes, fencing, signage and landscaping

The overall construction timeline is expected to take 18-24 months to complete, with varying levels of activity in that timeframe. To minimize temporary visual effects from project construction, materials and equipment will be staged primarily at the 5th Street Station site and moved into the busway corridor as needed. Construction parking will also take place at this location. Some construction staging would also be needed within the TAMC right-of-way at the north end of the alignment (near the Palm/Del Monte intersection) and south end (under Highway 1 near the California Avenue interchange). Construction is proposed to take place during daylight hours on weekdays only, unless necessary for emergency or unusual circumstances.

3.9 Required Entitlements, Permits and Easements

3.9.1 Federal

Prior to federal funding, the project will need to be approved by the Federal Transportation Administration (FTA) as the federal lead agency and successfully complete environmental clearance under the National Environmental Policy Act (NEPA). If specific natural resources permits are required (such as take or other permits issued by the United States Fish and Wildlife Services [USFWS]), such permits must be authorized and obtained prior to construction. At this time MST anticipates that formal consultation and permitting under Section 7 of the federal Fish and Wildlife Code would be required.

3.9.2 State

As the project is in the Coastal Zone of California and crosses multiple land use jurisdictions, the project will require a Coastal Development Permit issued by the California Coastal Commission, and multiple Coastal Development Permits issued by individual coastal communities.

No permits or approvals are required from California State Parks.

Due to the proximity of portions of the project relative to Caltrans right of way at the California Avenue roundabout location and other locations, the project is also subject to some level of Caltrans review for encroachment. At this time MST and TAMC anticipates working with Caltrans to complete a Design Engineering Evaluation Report (DEER) application. For eligible projects and actions, the DEER can be used in lieu of the PSR-PDS, PSR-PR and Project Report process and provides an opportunity to streamline Caltrans review.

3.9.3 Local

Coordination with local land use agencies (cities of Marina, Seaside and Sand City and County of Monterey) will be necessary for the planning and implementation of specific roadway and intersection improvements within the public right-of-way within their respective jurisdictions. Each jurisdiction with a locally certified Local Coastal Program (LCP) may also need to provide MST with a determination and findings that the project is consistent with local land use, transportation and coastal objectives, goals and policies. Approval by TAMC as a responsible agency is also required. TAMC Board authorizations would include a use agreement between MST and TAMC and any additional funding commitments toward final design or construction.

3.10 Estimated Project Costs

Total project costs include preconstruction as well as construction costs and funded with federal, state, and local dollars. Total project costs in year of expenditure dollars are \$66,039,000.

3.11 References

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