Ontario International Airport Connector Project

ONTCONNECTOR

APPENDIX A
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October 2024

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Ontario International Airport Connector Project

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October 2024

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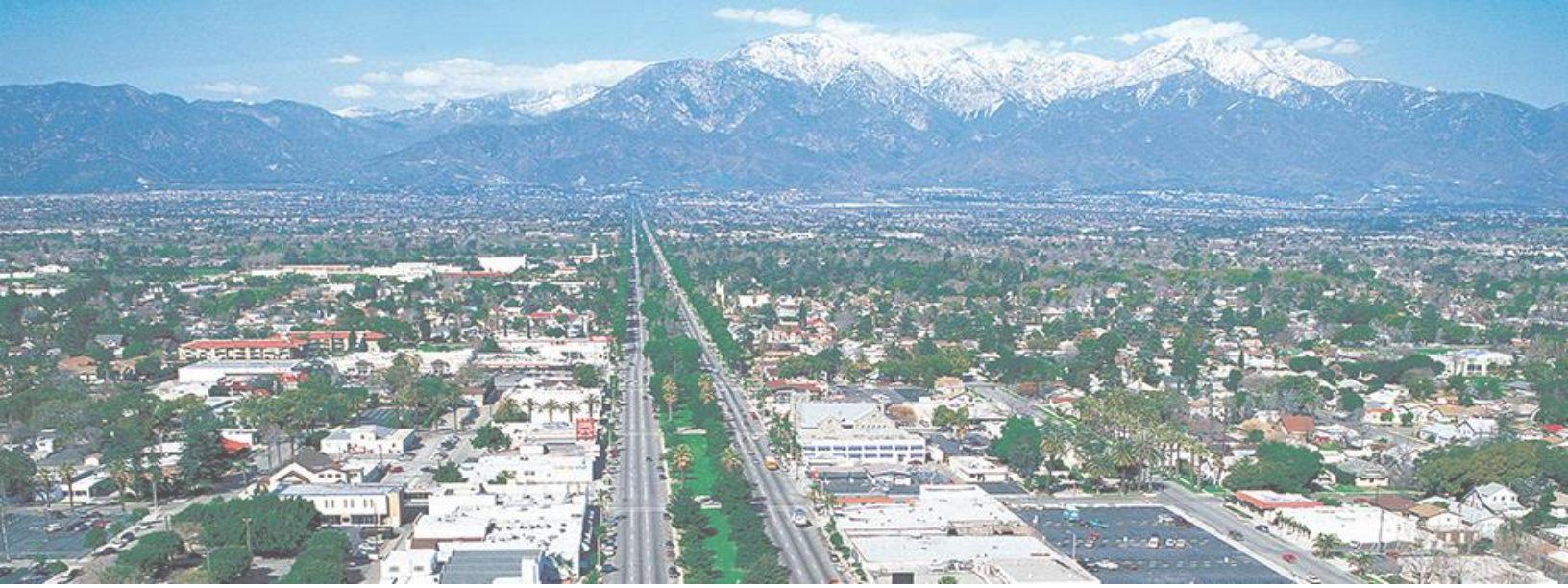
Appendix C: Alternatives Considered



Ontario Connector Project

San Bernardino County Transportation Authority
Contract No. 21-1002452

Draft Alternatives Analysis Report

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February 2024

Table of Contents

Appendices

Figures

Tables

Abbreviations and Acronyms

Abbreviation/Acronym	Description
BRT	Bus rapid transit
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
DMU	Diesel Multiple Unit
FAA	Federal Aviation Administration
FTA	Federal Transit Administration
I-	Interstate
LAX	Los Angeles International Airport
MAP	Million annual passengers
NEPA	National Environmental Policy Act
OMUC	Ontario Municipal Utilities Company
OIAA	Ontario International Airport Authority
ONT	Ontario International Airport
ROM	Rough-order-of-magnitude
ROW	Right-of-way
SBCFCD	San Bernardino County Flood Control District
SBCTA	San Bernardino County Transportation Authority
SCE	Southern California Edison
SCRRA	Southern California Regional Rail Authority
Section 408	33 U.S.C. 408
SNA	John Wayne Airport
TBM	Tunnel Boring Machine
TCE	Temporary construction easement
USACE	United States Army Corps of Engineering
UPRR	Union Pacific Railroad
VMT	Vehicle Miles Travelled
WVC	West Valley Connector
ZEMU	Zero-Emission Multiple Unit

1 Introduction

1.1 Project Background

The San Bernardino County Transportation Authority (SBCTA), in cooperation with Omnitrans, is proposing to provide a direct transit connection from the existing Cucamonga Metrolink Station to the Ontario International Airport (ONT), referred to in this report as the Ontario Connector Project or the proposed Project.

The proposed Project is subject to state and federal environmental review requirements because SBCTA anticipates the use of federal funds administered by the Federal Transit Administration (FTA), which will be the lead agency under the National Environmental Policy Act (NEPA). SBCTA is the lead agency under the California Environmental Quality Act (CEQA). Partner agencies include the Ontario International Airport Authority (OIAA), Omnitrans, and the cities of Ontario and Rancho Cucamonga.

1.2 Purpose of Report

The purpose of this report is to present the findings of the screening evaluation of transit connection alternatives to ONT presented in previous planning studies including the Project Background and History Report (SBCTA, 2023a). In coordination with FTA and SBCTA, four build alternatives were selected for evaluation to determine the reasonableness and feasibility of the alternatives to meet the Purpose and Need. Based on the evaluation presented in this report, the alternative that best aligns with the project's Purpose and Need is recommended to be studied during the environmental analysis phase.

1.3 Study Area

The ONT Connector Project would provide a direct connection between ONT and the Cucamonga Metrolink Station. The proposed Project is regionally located within the cities of Ontario and Rancho Cucamonga in San Bernardino County, California. The Cucamonga Metrolink Station is located at 11208 Azusa Court in Rancho Cucamonga, California and serves the Metrolink San Bernardino Line commuter rail. The Cucamonga Metrolink Station is generally bounded by the Union Pacific Railroad (UPRR) tracks to the north, Milliken Avenue to the east, Azusa Court to the south, and industrial uses to the west.

ONT is located within the City of Ontario, California, approximately 1.2 miles south of the City of Rancho Cucamonga's southern boundary and approximately two miles east of downtown Ontario. ONT is generally bounded by the UPRR Alhambra subdivision to the north and the UPRR Los Angeles subdivision to the south. The ONT property is bounded to the east and west by Haven Avenue and Grove Avenue, respectively. Primary access to ONT is from Interstate 10 (I-10) via Archibald Avenue from the north and California State Route 60 (SR-60) via Haven Avenue from the south.

1.4 Overview of Project Alternatives

Several alternatives to connect to ONT have been evaluated, screened, and refined since 2008 (SBCTA, 2023a). FTA, in coordination with SBCTA, proposed four alternatives for the Ontario Connector Project to be screened as part of this alternatives analysis evaluation. Each alternative would have a station at the Cucamonga Metrolink Station and two stations at ONT Terminals 2 and 4. The general locations of the alternatives are shown on Figure 1-1. Plan and profile sheets illustrating project design are included in Appendix A. The project alternatives include:

- Alternative 1 – Tunnel to ONT via Milliken Avenue and Airport Drive.

- Alternative 2 - Rancho Cucamonga to ONT via Hermosa/Turner Rail Alignment (formerly A-3 in the Rail Access Study (SANBAG, 2014)).
- Alternative 3 - Rancho Cucamonga to ONT via Deer Creek Rail Alignment (formerly A-4 in the Rail Access Study (SANBAG, 2014)).
- Alternative 4 - Rancho Cucamonga to ONT Bus Shuttle (formerly B-2 in the Rail Access Study (SANBAG, 2014)).

Figure 1-1: Project Alternatives Overview

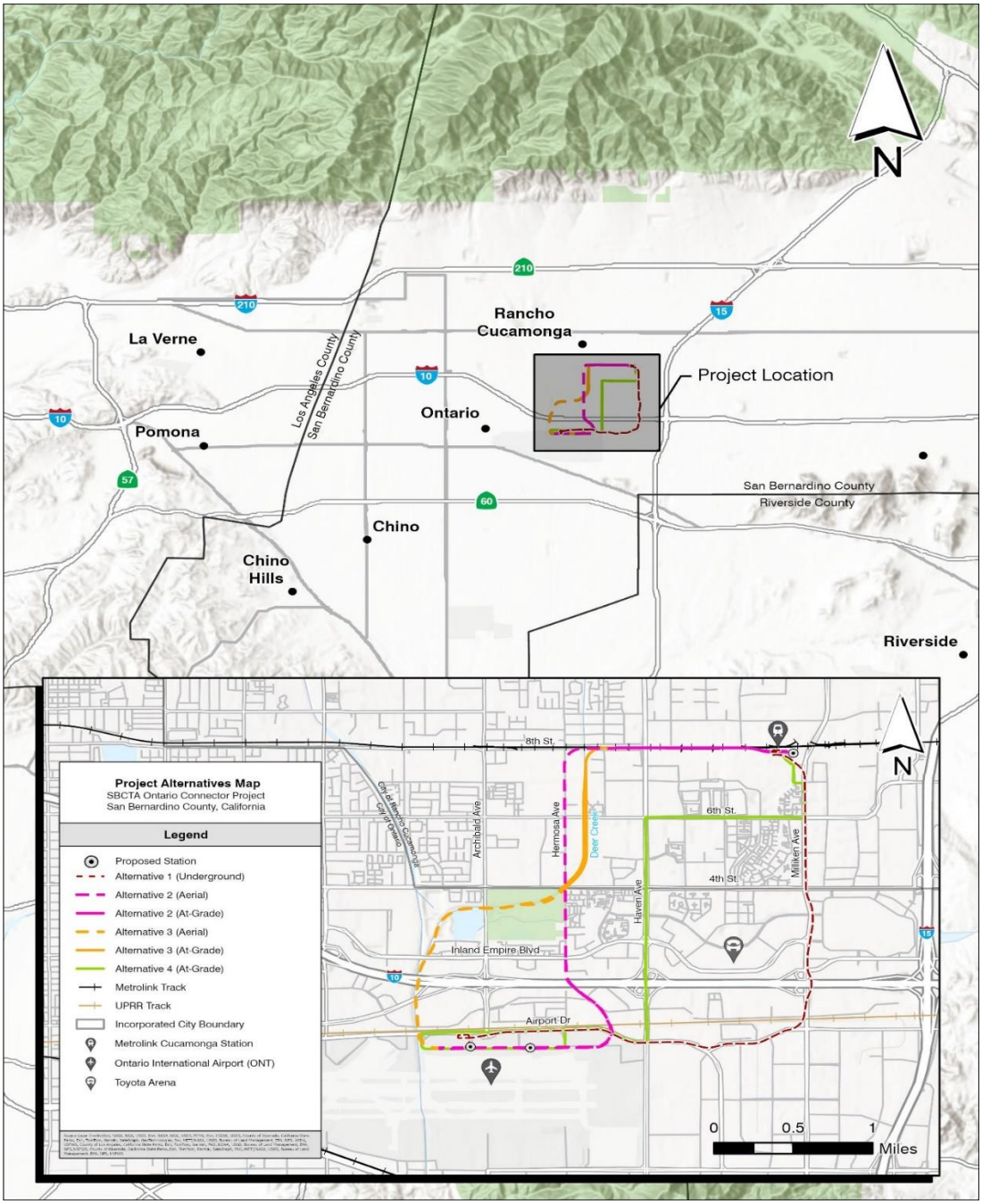


Table 1-1: Summary of Alternatives summarizes general alignment length, number of stations, and travel time for each project alternative. A more detailed description of each alternative is provided in Section 4.

Table 1-1: Summary of Alternatives

Alternative Characteristics	Project Alternatives			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Length	4.6 miles	4.6 miles	4.8 miles	5.7 miles
Number of stations	3	3	3	3
Travel time	5.5 minutes	8 minutes	off-peak hour: 8 minutes peak hour: 10 minutes	16 minutes

1.5 Existing and Planned Transportation Network

ONT is located in the Inland Empire (Riverside and San Bernardino Counties), approximately 35 miles east of Los Angeles and two miles east of downtown Ontario. The airport is considered medium-hub by Federal Aviation Administration (FAA) standards, servicing approximately 25 major cities via 10 commercial carriers (SBCTA, 2022a). It is one of five commercial airports in the Los Angeles metropolitan area, and the only one in the Inland Empire. With an air passenger volume of 5.6 million annual passengers (MAP) in 2019, ONT is the third largest airport by volume in the region behind Los Angeles International Airport (LAX) and John Wayne Airport (SNA). Despite experiencing a 19.5% drop-off in passenger volumes in 2021 to 4.5 MAP as a result of the COVID-19 pandemic (OIAA, 2022), ONT is forecasted to serve 14 MAP by 2045 (OIAA, 2019).

1.6 Existing Roadway Network

Major freeways and arterials provide significant vehicle access to ONT. Interstate 10 I-10 and State Route 60 (SR-60) provide regional east and west access via major interchanges. Interstate 15 (I-15) also provides regional north-south access at the nearby Jurupa Street interchange. A number of arterials serve local traffic to the airport, including Grove Avenue, Vineyard Avenue, Hellman Avenue, Archibald Avenue, Turner Avenue, Haven Avenue, Commerce Parkway, Milliken Avenue, Holt Boulevard, Airport Drive, Jurupa Street, and Mission Boulevard.

1.7 Existing Transit Network

A few local and regional operators offer transit service in the vicinity of ONT. Metrolink, or the Southern California Regional Rail Authority (SCRRA), operates regional commuter rail service along two routes less than five miles from ONT. The Riverside Line to the south of ONT (colored purple in Figure 1-2) provides weekday east-west service between Downtown Los Angeles and Riverside. The San Bernardino Line north of ONT (red in Figure 1-2) provides parallel east-west service between Downtown Los Angeles and San

Bernardino with more frequent headways and service on the weekends. Figure 1-2 shows the Metrolink route map east of Los Angeles near ONT.

Figure 1-2: Metrolink Service near ONT

Source: Metrolink, 2023

The Riverside Line currently operates on UPRR tracks making it challenging for Metrolink to improve the service along the corridor. However, Metrolink operates and maintains the track used by the San Bernardino Line making this corridor the preferred transit connection to ONT. **Error! Reference source not found.** compares service and ridership on the Riverside and San Bernardino Lines for 2018-2019 Q3 (SCRRA, 2019).

Table 1-2 Service and Ridership Comparison between Metrolink Riverside and San Bernardino Lines

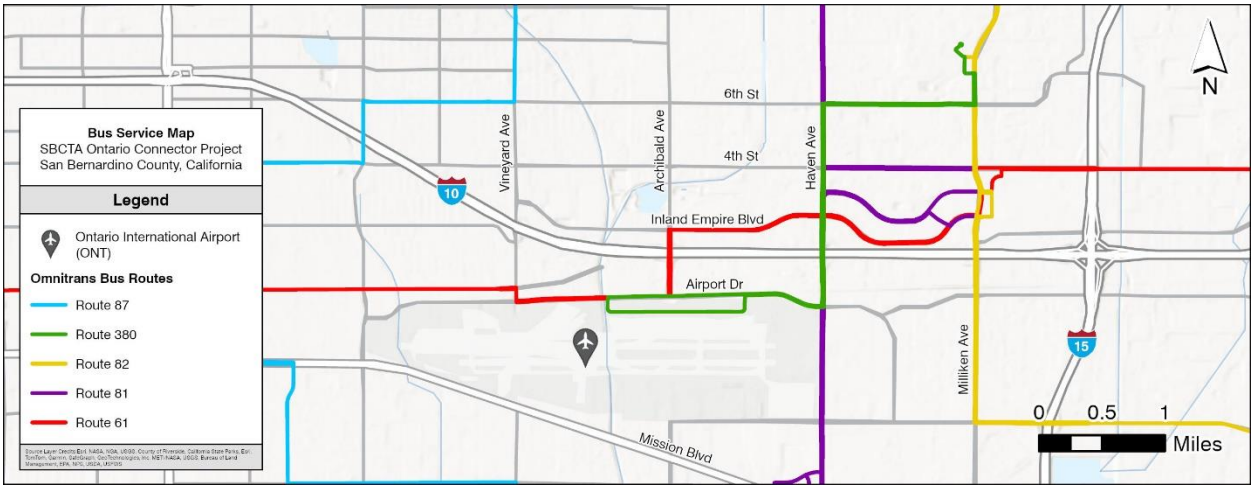
	Riverside Line	San Bernardino Line
Service Parameters		
Route Miles	59.1	58.6
Trains Operated per Weekday	11	36
Trains Operated per Weekend Day	0	16
Ridership		
Average Weekday Riders	1,201	6,162
Average Weekend Day Riders	N/A	2,676

Source: SCRRA, 2024

In addition to rail, Omnitrans is the largest transit operator in San Bernardino County and operates bus service near ONT. In 2022, Omnitrans and OIAA began to provide temporary shuttle service between Cucamonga Station and ONT terminals (Route 380) to increase awareness of the nearby transit connection, but it is not scheduled to coincide with train arrivals, which would facilitate timely service to accommodate Metrolink riders to ONT. Route 81 runs north-south along Haven Avenue adjacent to the airport and directly connects to the East Ontario Metrolink Station but its nearest stop to ONT is at Haven-

Airport—a 0.8 mile walk from the nearest ONT terminal. The route only operates once an hour on weekdays, with no service on weekends. Route 61 runs between the Fontana Metrolink Station and Pomona Transit Center, with a direct stop at the ONT terminal area via Archibald Avenue and Airport Drive. Given connections to distant Metrolink stations and headways of 30-minutes on weekdays and weekends, however, this route is inconvenient for air travelers connecting from regional rail. Figure 1-3 shows bus routes operated by Omnitrans near ONT.

Figure 1-3: Bus Service near ONT



Source: Omnitrans, 2023

1.8 Planned Transit Network

The West Valley Connector (WVC) Project is a planned bus rapid transit (BRT) service connecting the cities of Rancho Cucamonga, Ontario, Pomona, Fontana, and Montclair. Between ONT and the Cucamonga Station, the bus service would travel along Milliken Avenue, Inland Empire Boulevard, and Archibald Avenue. Without an explicit focus on airport travel, such as coinciding with Metrolink and peak flight schedules and lack of attention to air passenger luggage, this service is unlikely to be adopted by airport passengers.

The Brightline West project is a planned high-speed rail system running between Las Vegas, Nevada and Rancho Cucamonga, California. Brightline West would consist of a southern terminus station located adjacent to the existing Cucamonga Metrolink Station. Trains are expected to have 45-minute headways and the travel time is anticipated to be approximately 35 minutes. The location of the Project's Rancho Cucamonga Station near the Brightline West and Cucamonga Metrolink Stations would allow for a seamless transition between multiple multi-modal transportation options connecting to Downtown Los Angeles, the greater Southern California region, and Las Vegas, Nevada.

1.9 ONT Ground Access

1.9.1 Parking

ONT has a plentiful supply of relatively inexpensive parking located near the airport terminals. As reported on the ONT Parking website, the airport currently has five surface parking lots located near the terminals. Lots 2 and 4 across from the terminals total approximately 3,300 spaces and newly renovated Lots 5 and

6 have over 2,200 spots each. With Lot 3 (located between the two terminals), ONT has over 8,500 parking spaces for air passengers.

1.9.2 Bicycle Facilities

The Cities of Ontario and Rancho Cucamonga include a combination of off-road and on-street bicycle facilities in the proximity of ONT. Running east to west, G Street and Inland Empire Boulevard feature painted bike lanes. Further north, portions of Milliken Avenue, 6th Street, 4th Street and Haven Avenue have bicycle lanes within the City of Rancho Cucamonga. A series of public use off-road, multi-purpose trails run along Deer Creek and Cucamonga Creek from 8th Street to 4th Street.

1.9.3 Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals at signalized intersections. Near ONT, pedestrian facilities are well developed along most major roadways. Direct pedestrian access to the airport terminals is provided on the north side of the airport via Terminal Way. Pedestrians can access Terminal Way from the western intersection with Airport Drive. At the Airport Drive and Terminal Way intersection, a crosswalk is only provided along one approach and a sidewalk is only provided along one side of Airport Drive, which eventually continues to one side of Terminal Way. Along Terminal Way there are nine signalized pedestrian crossings, which connect the on-site parking facilities between Airport Drive and Terminal Way to the various airport terminals.

2 Purpose and Need

2.1 Purpose of Project

The purpose of the Project is to expand access options to ONT by providing a direct transportation connection from the Cucamonga Metrolink Station to ONT (SBCTA, 2023b). This new connection would increase mobility and connectivity for transit patrons, improve access to existing transportation services, provide a connection to future Brightline West service to/from ONT, and support the use of clean, emerging technology for transit opportunities between the Cucamonga Metrolink Station and ONT. More specifically, the Project's purpose is as follows:

- Expand access options to ONT by providing a convenient and direct connection between ONT and the Metrolink network, and other transportation services at the Cucamonga Station.
- To reduce roadway congestion by encouraging a mode shift to transit from single-occupancy vehicles and provide reliable trips to and from ONT.
- Support autonomous electric vehicle technology usage for transit projects.

2.2 Need of Project

The proposed Project need includes:

- Lack of direct transit connection coinciding with Metrolink trains and peak airport arrival and departure schedules. The lack of a direct transit connection between the Cucamonga Station and ONT creates mobility challenges for air passengers accessing ONT. In many cases, the lack of a last-mile connection between the Metrolink system and ONT forces airport passengers to use rideshare services or private single-occupancy vehicles, adding congestion to the local roads between the Cucamonga Station and ONT. This congestion results in delays for the public to reach their destination, community services, and facilities.
- Roadway congestion affecting trip reliability and causing traffic delays. ONT travelers using rideshare services or private single-occupancy vehicles adds traffic volumes and increasing congestion on the local roads between the Cucamonga Station and ONT. Increases in future traffic volumes and roadway congestion affects trip reliability for travelers and commuters to and from ONT.
- Increasing Vehicle Miles Travelled (VMT) resulting from ONT travelers and lack of a direct transit connection.
- Increased greenhouse gas emissions within communities surrounding ONT from single-occupancy vehicle travel to-and-from ONT.

2.3 Project Objectives

The following performance objectives have been identified based on the purpose and need established for the project:

- Mobility improvements – the project's travel time shall be competitive with auto travel times and shall provide an alternative to congested freeways and arterials.
- Service reliability – the project shall provide transit service that coincides with airline operating schedules and provides consistent travel time and frequency.

- Maximize mobility capacity – the project shall consist of system capacity that accommodates peak passenger throughput of 300 passengers per hour.
- Minimize environmental impacts – the project shall minimize environmental impacts and right-of-way (ROW) acquisition impacts.
- Project cost – the project shall minimize cost and reduce risk of cost increase.

3 Screening Methodology

The evaluation of each alternative is based on the performance of each alternative against the Project's objectives. The evaluation criteria were developed on the high-level data currently available for the project. More precise data will be generated as the project advances in the environmental process. Table 3-1 presents the evaluation criteria used to screen the project alternatives.

Table 3-1 Evaluation Criteria

Project Objective	Evaluation Criteria
Objective 1: Mobility improvements	Transit travel time (minutes) to/from ONT Effects to transit systems within the study area
Objective 2: Service reliability	Operating schedule and headway
Objective 3: Maximize mobility capacity	# of passengers per hour
Objective 4: Minimize environmental impacts	Minimize environmental impacts and ROW acquisition impacts
Objective 5: Project Cost	Rough-order-of-magnitude (ROM) capital costs Risk of cost increase

The performance of each alternative was assigned a rating of "high", "medium", or "low" based on the alternative's capacity to meet the Project's objectives (see Section 2.3). Table 3-2 presents the rating methodology for each criterion.

Table 3-2 Screening Rating Descriptions

Rating		Description
High	●	A high rating indicates the alternative highly supports and satisfies the criterion or has a low potential for negative impacts.
Medium	◑	A medium rating indicates the alternative moderately supports the criterion or has a moderate potential for negative impacts.
Low	○	A low rating indicates that an alternative does not support or conflicts with the criterion or has a high potential for negative impacts.

No weighting was applied to the results of the screening evaluation as each objective was given equal consideration. The resulting evaluation demonstrates how each project alternative compares to the project objectives with an overall high, medium, or low rating. Results of the screening process are included in Section 5.

4 Project Alternatives

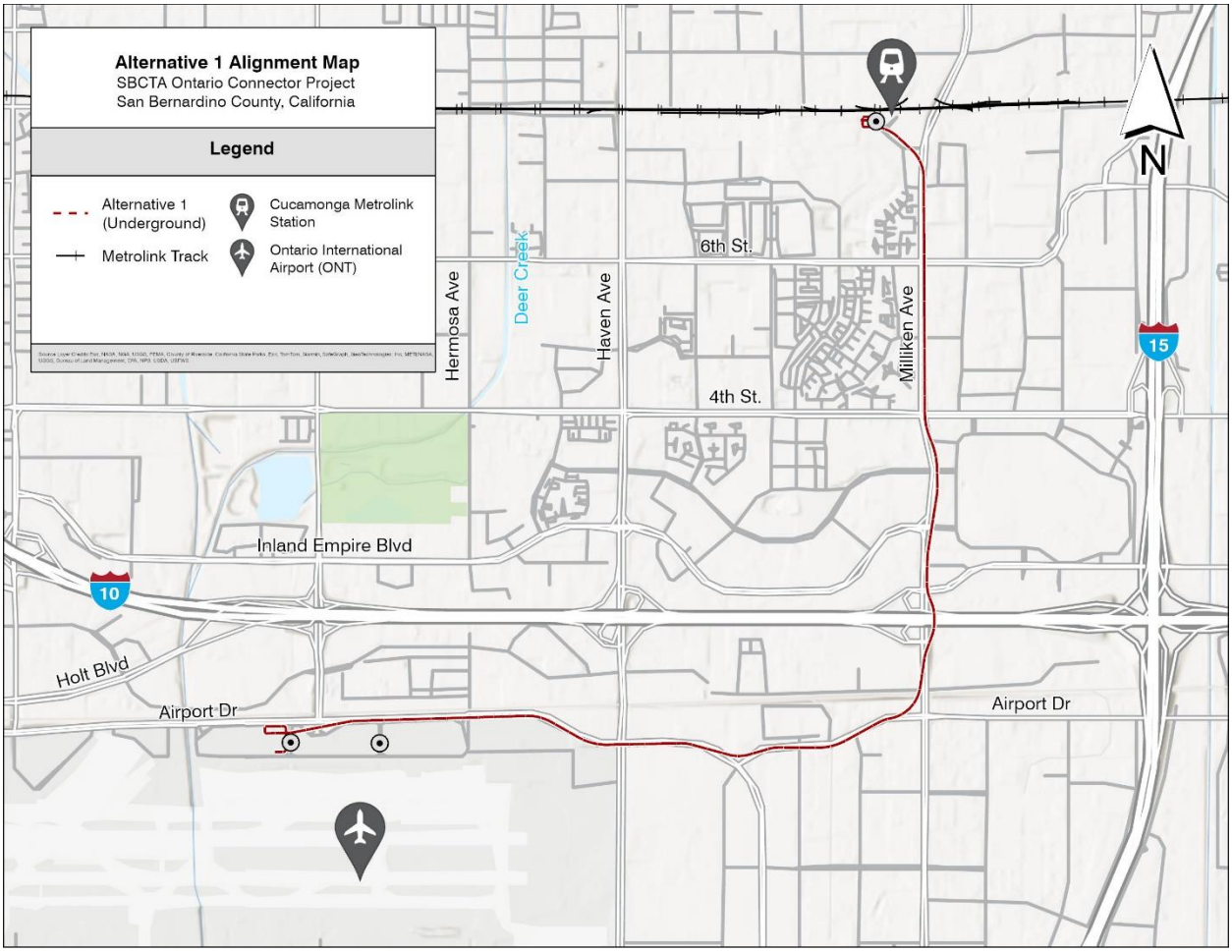
This section provides a description of each of the four project alternatives.

4.1 Alternative 1 - Tunnel

This alternative consists of a tunnel system for autonomous transit network vehicles from the Cucamonga Station to the ONT via Milliken Avenue and Airport Drive (see Figure 4-1). The tunnel alignment includes a 24-foot inner diameter single bore, bi-directional tunnel that begins at the Cucamonga Metrolink Station and travels south along Milliken Avenue and crosses beneath 6th Street and 4th Street, I-10, and the UPRR, before traveling west beneath East Airport Drive to connect Terminals 2 and 4 at ONT. The depth to the crown of the tunnel is estimated to be approximately 53 feet below the ground surface. Tunnel walls would be lined with precast concrete with an asphalt pavement driving surface. The tunnel will include an emergency access and ventilation shaft along the alignment. Utilities within the tunnel would include drainage, electrical, and fire/life safety, including a fire-rated internal separation wall for emergency egress. Electrical power would be sourced through a local substation. Alternative 1 would operate within the cities of Rancho Cucamonga and Ontario.

The proposed tunnel alignment begins at the Cucamonga Metrolink Station adjacent to Milliken Avenue in the City of Rancho Cucamonga. Autonomous electric vehicles would enter the main artery tunnel via a ramp from the Cucamonga Metrolink Station located within the existing Metrolink station parking lot. The tunnel alignment would continue south generally under Milliken Avenue. At Ontario Mills Parkway, the tunnel would bow east, missing the I-10 overcrossing structure, and then bow back under Milliken Avenue, running southwest to clear the Ontario Municipal Utilities Company (OMUC) water tanks in the southeast quadrant of the I-10 interchange. The tunnel would begin curving west at Guasti Road to clear the UPRR overcrossing bridge, connecting to Airport Drive east of Milliken Avenue. The proposed tunnel would then generally run under the eastbound lanes of Airport Drive before terminating at ONT. At the airport, vehicles would emerge via ramps and drive to drop-off points near either Terminal 2 or Terminal 4.

Figure 4-141: Alternative 1 Alignment



4.1.1 Operations

Electric vehicles would be grouped and queued at their origin station and depart toward the destination station once boarded with passengers. After the group of vehicles arrives at the destination station and passengers deboard, new passengers would board, and the group of vehicles would return to its origin station. If no new passengers are present, empty vehicles would be returned to the origin station to pick up new passengers. The proposed Project would provide a peak one-way passenger throughput of up to approximately 300 passengers per hour.

4.1.2 Stations

Three passenger stations are proposed. One station would serve the Cucamonga Metrolink Station, and two stations would serve ONT within the existing parking lots located across from Terminals 2 and 4.

The three proposed stations would include the following elements:

- Stations would be sized to accommodate the projected ridership, headways, and selected vehicles.
- Stations would be naturally ventilated and covered with canopies.

- Passengers would access each station via existing sidewalks or plazas. Stations would be entered via a ticketing area. Ticketing would likely occur via a self-service kiosk.
- Wayfinding and dynamic signage would be provided to facilitate passenger flow through each station and inform passengers of arrival/departure times. A public address system would assist visually impaired passengers.
- Mechanical, electrical, plumbing, fire protection, communications, and security systems would be integrated into the station's architecture to minimize visual clutter.
- Minimum clearances would be provided to allow vehicles to maneuver within each station and enter docking bays. Vehicle charging would occur within the bays.
- Sufficient space would be provided for passenger boarding and alighting. This would include accommodations for passenger luggage and boarding assistance.
- Each station would include ancillary rooms for electrical equipment, communications equipment, and janitorial services. No passenger restrooms are anticipated.
- Stations would include landscaping to prevent unauthorized access to restricted areas, screen station elements, buffer guideways, and fill unprogrammed exterior space. Plantings would be low-maintenance and reflective of the local climate. Lighting and security cameras would be provided at each station.
- Public and non-public space would be differentiated within the station facilities with all non-public spaces access controlled and clearly identified as such.

The proposed stations would be connected to the bored tunnel via a cut-and-cover structure and an at-grade guideway. The guideway would be enclosed by fencing and walls that would be buffered with landscaping. A walkway would be provided abutting the outside of the guideway travel lanes. Crossings for pedestrians and non-system vehicles would be avoided.

Rancho Cucamonga Station

This proposed Rancho Cucamonga Station would be approximately 18,000 square feet in size and located in the northwest corner of the existing Cucamonga Metrolink Station parking lot. The parking lot is owned and maintained by the City of Rancho Cucamonga. An at-grade station plaza would be constructed and would be integrated with an adjacent maintenance facility. Approximately 180 parking spaces would be permanently removed from the Metrolink parking lot to accommodate the proposed Project's station. A conceptual plan of the layout of the proposed station is provided as Figure 4-2 below.

The proposed Rancho Cucamonga Station would include a maintenance facility to store and maintain vehicles. This facility would be approximately 10,000 square feet. The following maintenance activities would occur at this facility: vehicle washing, spare vehicle storage, and vehicle heavy and light maintenance and repairs. In addition, the maintenance facility would accommodate the Operations Control Center to manage the system and include employee amenities (lockers, restrooms, and breakroom). Employee parking for the maintenance facility would be provided at the existing parking lot in the southeast quadrant of the Milliken Avenue/Azusa Court intersection owned by SBCTA.

Ontario International Airport Stations

As discussed above, two stations are proposed at ONT within the existing parking lots located across from Terminals 2 and 4. Both stations would be located at-grade and would connect to their associated tunnel

portals along Terminal Way via an at-grade connection. The proposed stations would be approximately 10,000 square feet and entirely located within ONT right-of-way. Approximately 80 parking spaces would be permanently removed to accommodate the Terminal 2 Station, with approximately 115 spaces permanently removed to accommodate the Terminal 4 Station. A conceptual plan of the layout of the proposed stations is provided as Figure 4-3.

Figure 44-22: Rancho Cucamonga Station Proposed Conceptual Station Plan

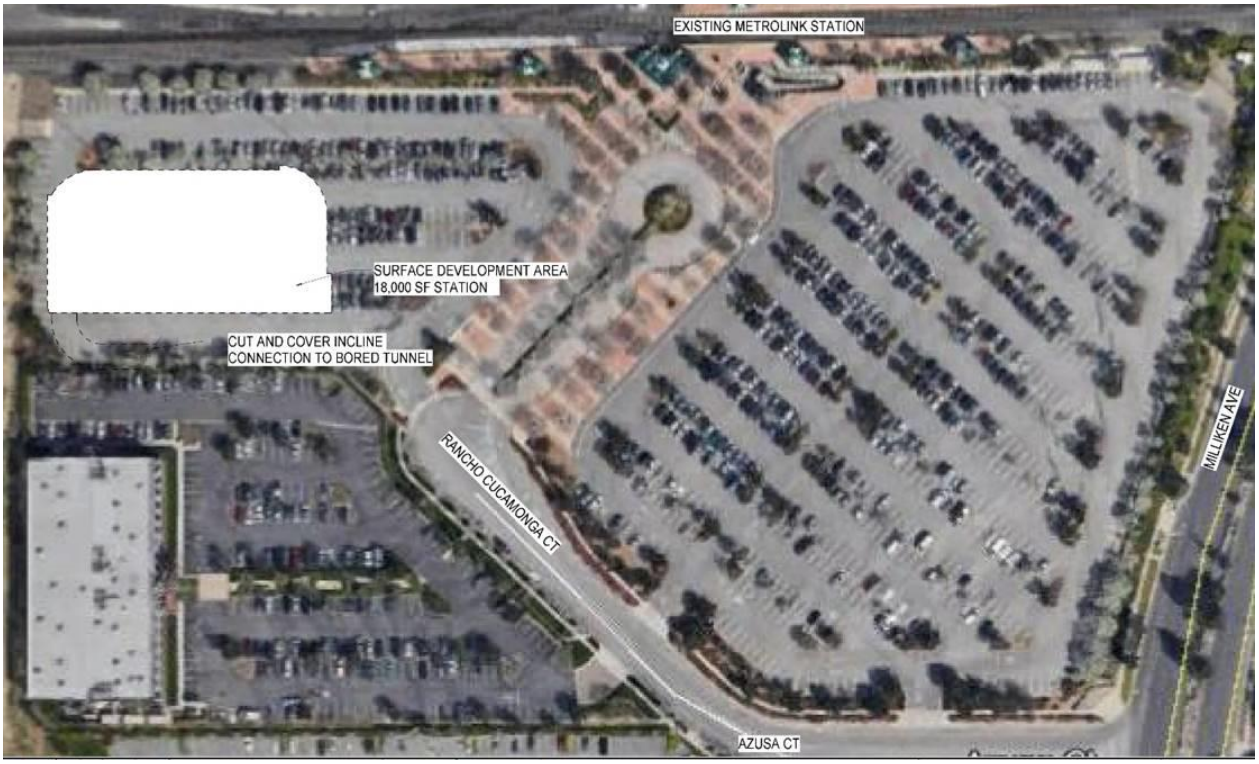


Figure 44-3: ONT Airport Stations Proposed Conceptual Station Plan

4.1.3 Ventilation Shaft

A mid-tunnel ventilation shaft would be located near the OMUC water tanks in the southeast quadrant of the I-10/Milliken Avenue interchange. Work at this location would encroach on both California

Department of Transportation (Caltrans) and city of Ontario right-of-way. Parking stalls for emergency services would be provided at this location. Access to the mid-tunnel ventilation shaft would be through the existing parking lot of a shopping center and the City of Ontario's property located north of Guasti Road. Existing landscaping would be removed.

4.1.4 Design Options

Two design options are being considered at the Milliken Avenue to Airport Drive segment to avoid existing constraints and easements, including structures for UPRR located north of Airport Drive and west of the I-15 (see Figure 4-4). Design Option A would shift the alignment west across Milliken Avenue and travel south to Guasti Road and below the UPRR ROW to connect to Airport Drive. Design Option B would shift the alignment further east of Milliken Avenue near the I-10 interchange and continue travelling south below the UPRR ROW to connect to Airport Drive. Both design options would require permanent or temporary easements for the properties located east and west of Milliken Avenue and along Guasti Road and Airport Drive.

Figure 44-44: Alternative 1 Design Options

4.1.5 Construction

Construction of the tunnel alternative would last approximately 30 months. Construction would not interrupt Metrolink service as construction activities and staging would occur within the existing parking lot. Additional construction details are described below.

4.1.5.1 Stations

A construction staging area would be required at each of the three proposed stations. Staging at the proposed Cucamonga Station and maintenance facility would require approximately 3.2 acres. Approximately 170 parking spaces would be temporarily unavailable for public use at the existing Cucamonga Metrolink Station parking lot. Equipment needs would include the following: a vertical conveyor system, a gantry crane, a crawler crane, excavators, concrete trucks, muck trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan grout plant, segment cars, and flatcars. The staging area would be needed for up to 21 months. Haul trucks would exit the staging area, travel north along Milliken Avenue, and turn right on Foothill Boulevard to access I-15. No road closures are anticipated for staging at the Rancho Cucamonga Station.

Staging at the proposed ONT Terminal 2 Station would require approximately 3.4 acres. Approximately 300 parking spaces would be temporarily unavailable for public use at the ONT parking lot. Equipment needs would include the following: a piling rig, a gantry crane, a crawler crane, excavators, concrete trucks, muck trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan, a grout plant, segment cares, and flatcars. The staging area would be needed for up to 27 months. Haul trucks would exit the staging area, travel east along Terminal Way, and turn left on Haven Avenue to access I-10. No road closures are anticipated for staging at the Terminal 2 Station.

Staging at the proposed ONT Terminal 4 Station would require approximately 3.2 acres. Approximately 300 parking spaces would be temporarily unavailable for public use at the ONT parking lot. Equipment needs would include the following: a piling rig, a crawler crane, concrete trucks, muck trucks, a compressor, a generator, a water treatment plant, a wheel wash, a wheel loader, and excavators. The staging area would be needed for up to 15 months. Haul trucks would exit the staging area, travel east along Terminal Way, and turn left on Haven Avenue to access I-10. No road closures are anticipated for staging at the Terminal 4 Station.

4.1.5.2 Tunnel

A tunnel boring machine (TBM) would be launched from either the existing ONT parking lot near Terminal 2 or the Cucamonga Metrolink Station to construct the tunnel. It would operate six days a week, with maintenance occurring each Sunday. A large crane would be used to deploy and recover the TBM. OIAA height limits at ONT and Rancho Cucamonga, 135 feet and 160 feet, respectively, would restrict crane heights. Construction of the entire tunnel would take approximately 14 months. Both ends of the tunnel would need to be constructed via direct excavation (cut-and-cover) to launch or retrieve the TBM. The limits of excavation needed for the TBM and cut-and-cover construction is approximately 1.84 acres near the Cucamonga Metrolink Station, approximately 1.15 acres near Terminal 4, and approximately 0.51 acres near Terminal 2 at ONT, which total 3.5 acres for all cut-and-cover construction. Vehicle ramps connecting to the tunnel would be constructed via direct excavation, as well. Emergency access shafts will be constructed along the tunnel alignment for access to the tunnel in the event of an emergency.

Equipment at the TBM launch site would include trucks, a crane, excavators, a grout plant, a compressor plant, a tunnel fan, and cooling towers. The launch area would also store tunnel construction materials (rail, pipe, ducts, etc.) and stockpile excavated material. Haul trucks would remove excavated material from the potential launch site at ONT by traveling along Terminal Way to Archibald Avenue, which connects to I-10. Haul trucks would remove excavated material from the potential launch site at ONT by traveling north or south on Milliken Avenue to access I-10 or I-15.

4.1.5.3 Ventilation Shaft

One ventilation shaft measuring 8-feet by 14-feet would be constructed along the tunnel alignment. The shaft could be constructed before or after the construction of the tunnel. Construction of the ventilation shaft would last approximately 6 months. A drill rig would install up to 5 piles deep per day, each 60 feet deep. Piles would be drilled (i.e., no impact driving). The access shaft would then be excavated. The excavation would be supported by an internal bracing system.

The ventilation shaft would require a staging area. Anticipated equipment at the location would include haul trucks, a drill rig, a crane, an excavator, a wheel loader, a compressor, and a ventilation fan. The staging area would include material storage, stockpiles of excavated material, water treatment, a workshop, a construction office, and an employee parking. The staging area would be approximately 27,000 square feet.

As mentioned above, the shaft would be located south of the I-10 freeway near the OMUC water tanks on the east side of Milliken Avenue. No lane closures along Milliken Avenue are anticipated, although work would encroach into Caltrans right-of-way. Tree and vegetation clearing would be required. Haul trucks would access I-10 by traveling south along the access road to Guasti Road, then turning right (north) on Milliken Avenue to access the interstate. The OIAA height limit (121 feet) would restrict crane heights at the access shaft.

Any traffic detours would be covered under a traffic management plan, as identified during the detailed design stage. Bike lanes along Milliken Avenue would be temporarily closed during the construction. Sidewalks would also be temporarily closed. Temporary detours would be provided for these closures.

4.1.5.4 Utilities

Utility relocations are not anticipated for the construction of the proposed tunnel. However, at the proposed maintenance facility at the proposed Rancho Cucamonga Station, overhead Southern California Edison (SCE) lines would need to be relocated underground and horizontally. The remainder of the utility relocations would be associated with the emergency access shaft. A preliminary list of utility relocations anticipated with the proposed Project is provided below.

Multiple utilities would be relocated to allow for the construction of the access shaft including:

- 16-inch cement mortar water line owned and operated by the City of Ontario
- Potential electric underground distribution cables owned and operated by Southern California Edison (SCE)
- Landscape irrigation line owned and operated by the City of Ontario
- Caltrans fiber optic duct bank

4.1.5.5 Right-of-Way and Property Acquisition

The tunnel alignment would require right-of-way acquisition from 27 properties. This includes the need for 26 permanent subsurface easements and one permanent utility easement. There would be five partial fee acquisitions for all three stations totaling approximately 2 acres. In particular, subsurface easements would be required where the tunnel begins curving east at Guasti Road east of the UPRR bridge. It is assumed that emergency access shaft and the mid-tunnel vent shaft would require acquisition and easements from both private and city-owned parcels. This does not include potential right-of-entries, encroachment permits, or other right-of-way interests needed for construction. No relocations of businesses and residences would be required to construct the tunnel.

4.1.6 Capital Cost

The estimated capital cost to construct Alternative 1 is $557 million. This estimate includes the estimated cost of vehicles, tunneling, underground track, three stations with platforms, train control and communications systems, and general construction sitework.

The cost estimates produced during this phase are intended to inform initial decision-making and the alternatives screening process. As design progresses and decisions on project features are refined, the capital cost for this alternative may increase. Cost risks associated with this alternative include:

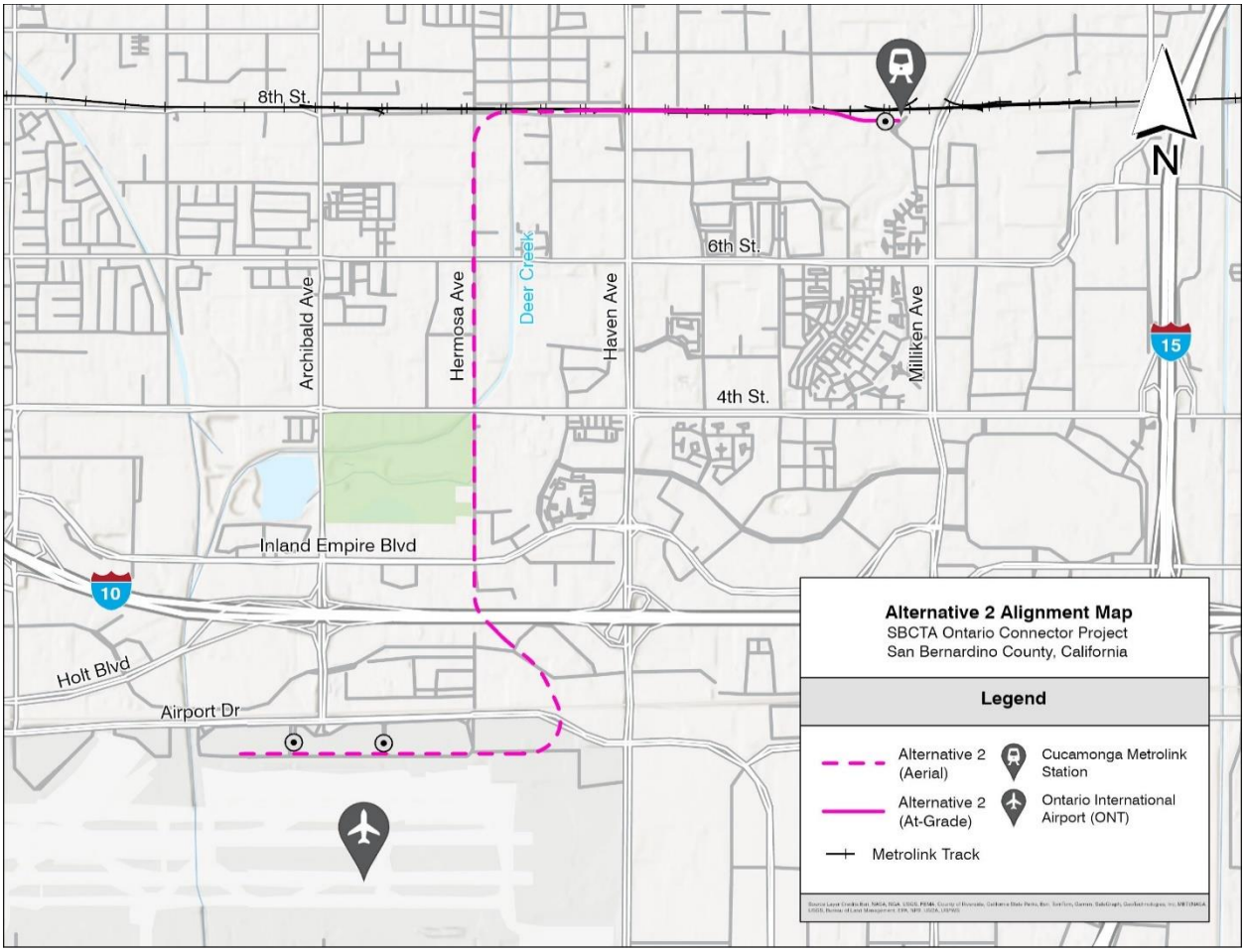
- Construction impacts from Brightline West.
- Coordinating airport access during construction.
- Further design and coordination associated with construction of ventilation shafts.

4.2 Alternative 2- Rancho Cucamonga to ONT via Hermosa/Turner Rail Alignment

This alternative consists of a stand-alone Diesel Multiple Unit (DMU) or Zero-Emission Multiple Unit (ZEMU) vehicle traversing a 4.6-mile rail alignment from the Cucamonga Metrolink Station to ONT via Hermosa Avenue / Turner Avenue. The rail alignment would begin at the Cucamonga Metrolink Station and travel west along the south side of the existing San Gabriel Subdivision (San Bernardino Metrolink Line) before turning south onto Hermosa Avenue/Turner Avenue. Continuing along Hermosa Avenue/Turner Avenue, the alignment would cross over a parking lot for the American Career College and I-10 before turning east to traverse a Best Western hotel parking lot and cross over Guasti Road. The alignment would then turn south through the Airport Corporate Center parking lot, crossing over the UPRR Alhambra subdivision tracks and Airport Drive, and turning west on John Bangs Drive to the ONT terminals along Terminal Way.

The Alternative 2 alignment would operate within the cities of Rancho Cucamonga and Ontario, railroad ROWs controlled by Metrolink and UPRR, and the San Bernardino County Flood Control District (SBCFCD). The alternative alignment is shown in Figure 4-5.

Figure 44-55: Alternative 2 Alignment



4.2.1 Operations

Transit rail DMU or ZEMU vehicles would operate on a fixed schedule between the Cucamonga Metrolink Station and existing terminals at ONT. Service would be provided everyday with hours of operation on weekdays from 4:00 AM to 11:00 PM and 7:00 AM to 11:00 PM on weekends. The trains would operate on 15-minute headways and would provide a peak one-way passenger throughput of up to 368 passengers per hour.

4.2.2 Stations

Like Alternative 1, Alternative 2 would include three passenger stations, including one station at the Cucamonga Metrolink Station, and two stations which would serve ONT (see Figure 4-5). The Cucamonga Station would be constructed within the existing parking area just south of the existing Metrolink Station. Passengers would have access to the at-grade station via the station parking lot. The Cucamonga Station would include side loading platforms. The ONT Stations would be constructed within an existing parking lot adjacent to Terminals 2 and 4. The two stations at ONT would be elevated along Terminal Way across from Terminals 2 and 4 and would include center platforms with tracks on each side of the platform for passenger loading. Passengers would have access to the aerial stations via stairs, escalators, or elevators along Terminal Way and from within the airport terminals.

The proposed stations would include the following elements:

- Stations would be sized to accommodate the projected ridership, headways, and selected vehicles.
- Stations would be naturally ventilated and covered with canopies.
- Passengers would access the stations from existing sidewalks or plazas in front. Stations would be entered via a ticketing area. Ticketing would likely occur via a self-service kiosk.
- Wayfinding and dynamic signage would be provided to facilitate passenger flow through each station and inform passengers of arrival/departure times. A public address system would assist visually impaired passengers.
- Mechanical, electrical, plumbing, fire protection, communications, and security systems would be integrated into the station's architecture to minimize visual clutter.
- Sufficient space would be provided for passenger boarding and alighting. This would include accommodations for passenger luggage and boarding assistance.
- Each station would include ancillary rooms for electrical equipment, communications equipment, and janitorial services. No passenger restrooms are anticipated.
- Stations would include landscaping to prevent unauthorized access to restricted areas, screen station elements, buffer guideways, and fill unprogrammed exterior space. Plantings would be low-maintenance and reflective of the local climate. Lighting and security cameras would be provided at each station.
- Public and non-public space would be differentiated within the station facilities with all non-public spaces access controlled and clearly identified as such.

4.2.3 Construction

Construction of Alternative 2 would last approximately 48 - 60 months and include the stations and both at-grade track and elevated track sections as described below.

Construction activities would likely require closures on numerous streets along the alignment. Depending on the nature of the work and location, select lane closures may be necessary with full closure necessary in some instances. Temporary detours may be necessary to route traffic around closures. Additional coordination with Caltrans and UPRR would be required for work within their rights-of-way. In addition, project construction will require temporary disruption of Metrolink service.

Typical equipment used during construction would include, but not be limited to excavators, loaders, trucks, cranes, pile-rigs, speed swing or loader, grapple trucks, on-track e-clip applicator, rail heater, welding truck, tamper, ballast regulator, and ballast cars.

4.2.3.1 Temporary Construction Staging and Haul Routes

Construction staging areas will be provided at each of the three proposed stations and along the alignment. Construction materials will be hauled away from these staging area and the construction site via designated haul routes. Potential haul routes were considered by reviewing each major east-west and north-south corridor within the vicinity of the alternatives. These corridors were accessed based on their ability to provide direct access to the I-10 and I-15. Additionally, routes were prioritized that do not direct heavy haul traffic within past schools or parks. Proposed haul routes during the construction period

include the following north-south routes: Hermosa Avenue, Haven Avenue and Milliken Avenue between Foothill Boulevard and I-10, and Hermosa Avenue between 8th Street and I-10. The main east-west haul routes include Foothill Boulevard between Vineyard Ave and I-15, and 4th Street between Vineyard Avenue and I-15. A route to the I-10 or I-15 from ONT will be provided via Airport Drive.

4.2.3.2 At-grade Tracks

The at-grade portion of the alignment would extend from the proposed Cucamonga Metrolink Station along the south side of the San Gabriel Subdivision (San Bernardino Metrolink Line) tracks to approximately 1,360 feet west of Haven Avenue. The proposed Cucamonga Station would be located within the existing parking area south of the Metrolink station with new tracks running adjacent the south side of the Metrolink tracks. The tracks would continue west adjacent the Metrolink tracks, requiring bridge widening over Haven Avenue. East of the Deer Creek channel the alignment would begin to elevate and turn south over 8th Street towards Hermosa Avenue. No grade crossing would be required.

4.2.3.3 Elevated Tracks

Beginning in the Metrolink right-of-way the alignment would elevate to cross over 8th Street and turn south to follow Hermosa Avenue. The elevated single track would follow the median of Hermosa Avenue/Turner Avenue across Inland Empire Boulevard at which point it would switch to a double track. The elevated alignment would continue over the American Career College parking lot, turning slightly east, and cross I-10, Guasti Road, UPRR tracks, East Airport Drive, and John Bangs Drive, before turning west on Terminal Way to connect with two elevated stations at ONT.

The elevated structure will vary in height with a low of approximately 26 feet above the ground surface near Terminal Way to a high of approximately 38 feet near John Bangs Drive.

4.2.4 Utilities

Potential utility conflicts for the construction of the Alternative 2 include the following:

- SCE lines along 8th Street and 4th Street
- City of Ontario overhead traffic signals
- Underground water and sewer
- Underground electrical and telecommunications

4.2.5 Right-of-Way and Property Acquisition

Alternative 2 would require right-of-way acquisition from 36 properties. This includes the need for five temporary construction easements (TCE). The project would require the full acquisition of six properties totaling 1.3 acres and the partial acquisition of 24 partial acquisitions totaling 11.4 acres. This does not include potential right-of-entries, encroachment permits, or other right-of-way interests needed for construction. Construction of the project would require the relocation of two residences and one partial business relocation.

4.2.6 Capital Cost

The estimated capital cost to construct Alternative 2 would range between $976 million and $1.2 billion. This estimate includes the estimated cost of six vehicles, the at-grade track and subgrade, the aerial guideway, three stations with platforms, land acquisitions, train control and communications systems, and general construction sitework. The cost estimates produced during this phase are intended to inform

initial decision-making and the alternatives screening process. As design progresses and decisions on project features are refined, the capital cost for this alternative may increase. Cost risks associated with this alternative include:

- Coordination with Metrolink and impacts to service operations.
- Impacts to SCE transmission corridor at Cucamonga Station. Transmission line would need to be placed underground.
- Impacts to Cucamonga Station requiring additional parking to be provided.
- Impacts to residential development adjacent to Cucamonga station requiring mitigation.
- Impacts to industry service track and businesses for a period of 12 months.
- Construction impacts from Brightline West.
- Close proximity to SCE substation requiring costly improvements to move poles and protection during construction.
- Bridge widening over Deer Creek.
- Impacts to Haven Avenue Bridge where Haven Avenue would require lane improvements.
- Separate power feeds.
- Requires approximately 4,000-foot noise barrier along Haven Avenue in vicinity of housing.
- Approximately 300-foot span length of over the I-10 requiring special construction sequencing.
- Coordinating airport access during construction.
- Crossing over UPRR special approvals and agreements.
- Access to staging areas are constrained due to temporary traffic diversions and road closures.
- No maintenance facility next to corridor could require special provisions at the stations for light maintenance requiring costly infrastructure for maintenance.

4.3 Alternative 3 - Rancho Cucamonga to ONT via Deer Creek Rail Alignment

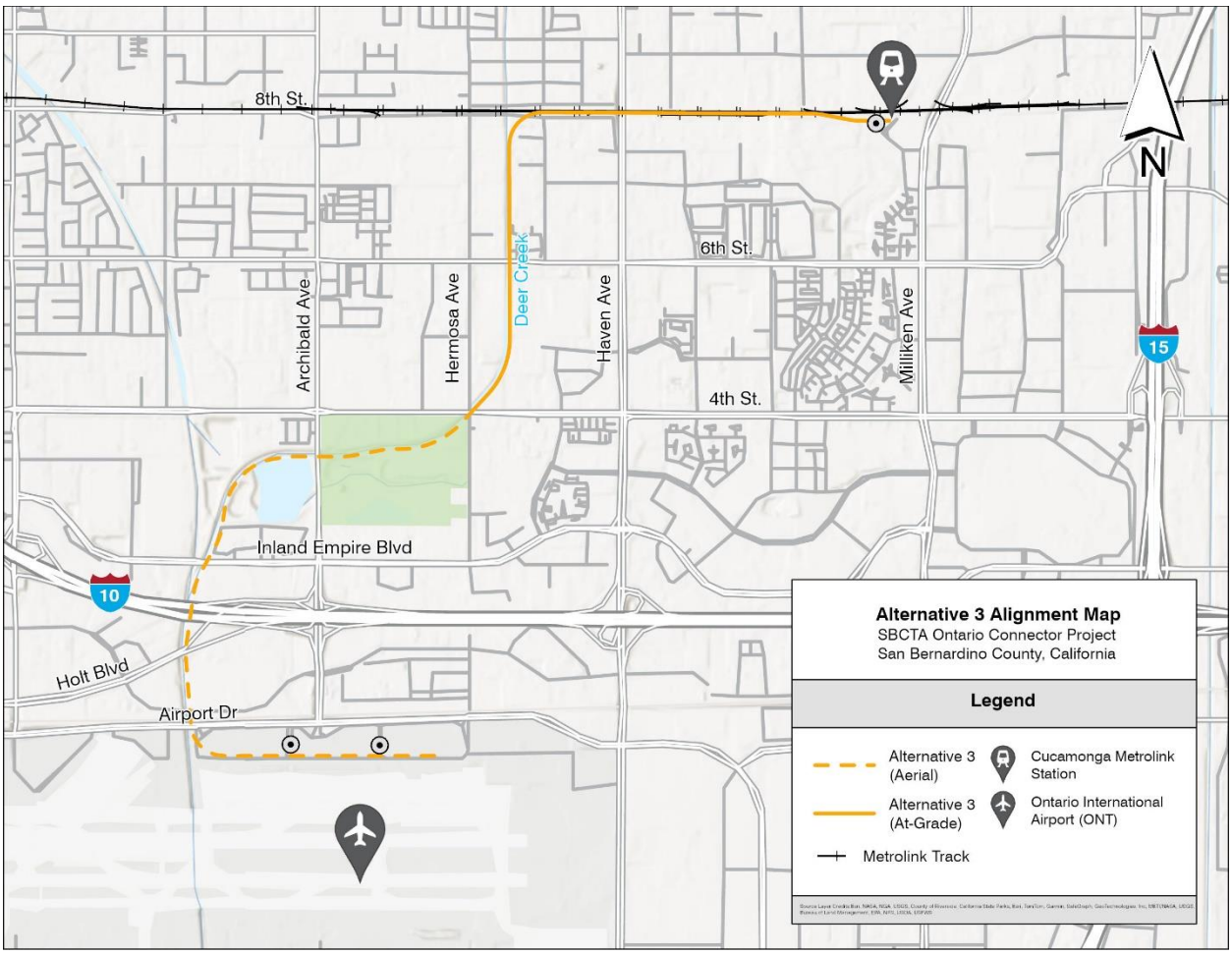
This alternative consists of a stand-alone DMU or ZEMU service from the Cucamonga Metrolink Station to ONT via Deer Creek and Cucamonga Creek. The alternative follows a 4.8-mile rail alignment that begins at the Cucamonga Metrolink Station and travels west along the south side of the San Gabriel Subdivision (San Bernardino Metrolink Line), turning south to run along the SBCFCD Deer Creek channel. After reaching the Deer Creek corridor, the two tracks would separate from a double track configuration immediately south of the Metrolink corridor to allow each track to run in a single track configuration on opposite sides of Deer Creek. One track would run along the east side of Deer Creek and the other track would cross to the west side of Deer Creek via a proposed bridge. The tracks would continue running along opposite sides of Deer Creek until approximately 1,000 feet east of Archibald Avenue at which point the two tracks would meet to operate side-by-side. The alignment would continue along the southeast side to the channel crossing over Archibald Avenue, Inland Empire Boulevard, I-10, Holt Boulevard, Gausti Road, the UPRR tracks, and Airport Drive before turning east to serve the airport terminals along Terminal Way.

The alignment would include grade separations over the following facilities: 4th Street/Hermosa Avenue intersection, Archibald Avenue, Inland Empire Boulevard, I-10, Holt Boulevard, Guasti Road, UPRR tracks, East Airport Drive, and Terminal Way. At-grade crossings would be at 8th Street and 6th Street.

The existing bike path located along the westside of the Deer Creek channel between 8th Street and 6th Street and eastside of the channel between 6th Street and 4th Street would be removed to accommodate the new at-grade rail along both sides of the channel.

The Alternative 3 alignment would operate within the cities of Rancho Cucamonga and Ontario, railroad ROWs controlled by Metrolink and UPRR, and the SBCFCD facility. The alternative alignment is shown in Figure 4-6.

Figure 44-66: Alternative 3 Alignment



4.3.1 Operations

Transit rail DMU or ZEMU vehicles would operate on a fixed schedule between the Cucamonga Metrolink Station and existing terminals at ONT. Service would be provided everyday with hours of operation on weekdays from 4:00 AM to 11:00 PM and 7:00 AM to 11:00 PM on weekends. The trains would operate on 15-minute headways and would provide a peak one-way passenger throughput of up to approximately 368 passengers per hour.

4.3.2 Stations

Alternative 3 would include the same three passenger stations as described with Alternative 2.

4.3.3 Construction

Construction of Alternative 3 would last approximately 48 – 60 months and include the stations and both at-grade track and elevated track sections as described below.

Construction activities would likely require closures on numerous streets along the alignment. Depending on the nature of the work and location, select lane closures may be necessary with full closure necessary in some instances. Temporary detours may be necessary to route traffic around closures. Additional coordination with Caltrans and UPRR would be required for work within their rights-of-way. In addition, project construction will require temporary disruption of Metrolink service.

Typical equipment used during construction would include, but not be limited to excavators, loaders, trucks, cranes, pile-rigs, speed swing or loader, grapple trucks, on-track e-clip applicator, rail heater, welding truck, tamper, ballast regulator, and ballast cars.

4.3.3.1 Temporary Construction Staging and Haul Routes

Construction staging areas will be provided at each of the three proposed stations and at designation locations along the alignment between stations. Construction materials will be hauled off-site from these construction sites via designated haul routes. Potential haul routes were considered by reviewing each major east-west and north-south corridor within the vicinity of the alternatives. These corridors were accessed based on their ability to provide direct access to the I-10 and I-15. Additionally, routes were prioritized that do not direct heavy haul traffic within past schools or parks. Proposed haul routes during the construction period include the following north-south routes: Hermosa Avenue, Haven Avenue and Milliken Avenue between Foothill Boulevard and I-10, and Hermosa Avenue between 8th Street and I-10. The main east-west haul routes include Foothill Boulevard between Vineyard Ave and I-15, and 4th Street between Vineyard Avenue and I-15. A route to the I-10 or I-15 from ONT will be provided via Airport Drive.

4.3.3.2 At-grade Tracks

The northern half of the alignment would be constructed at-grade. From the Cucamonga Metrolink Station the new track would be constructed along the south side of the San Gabriel Subdivision (San Bernardino Metrolink Line) from the new Cucamonga station before turning south onto the SBCFCD maintenance road along the east side of the Deer Creek channel for approximately 400 feet before splitting with one set of tracks crossing the channel to operate along the west side with another set continuing along the east side of the channel. New rail track would be installed at-grade along the Deer Creek channel until it transitions to an elevated structure approximately 950 feet east of 4th Street.

At-grade rail crossings would be required at 8th and 6th Streets and include the installation of necessary crossing signal equipment, including lights, signals, gates, and signage.

4.3.3.3 Elevated Tracks

Crossing over 4th Street, the alignment would be elevated and continue along the maintenance road adjacent Deer Creek channel to the merge with the Cucamonga Creek channel. The alignment would continue south along the channel maintenance road crossing over Inland Empire Boulevard, I-10, Guasti Road, UPRR tracks, East Airport Drive, and turning east along Terminal Way to connect with the two ONT stations.

4.3.4 Utilities

Potential utility conflicts for the construction of the Alternative 3 include the following:

- SCE lines along 8th Street and 4th Street
- City of Ontario overhead traffic signals
- Underground water and sewer
- Underground electrical and telecommunications

4.3.5 Right-of-Way and Property Acquisition

Alternative 3 would require right-of-way acquisition from 67 properties. This includes the need for 12 temporary construction easements. The project would require the full acquisition of 11 properties totaling 10.8 acres and the partial acquisition of 45 partial acquisitions totaling 20.4 acres. This does not include potential right-of-entries, encroachment permits, or other right-of-way interests needed for construction. Construction of the project would require the relocation of four businesses but would not the result in the relocation of any single-family residences.

4.3.6 Regulatory Requirements

In general, the double track portion of the alignment would straddle Deer Creek starting immediately south of the Metrolink corridor and ending at ONT. Additionally, bridge crossings would be constructed to convey the track on both sides of the channel. The Deer Creek corridor was constructed as a flood control channel and maintained by SBCFCD. Construction of flood control channel received funding from the United States Army Corps of Engineering (USACE) under the USACE Civil Works Program. Thus, the Project's impacts are subject to USACE review and approval as defined by 33 U.S.C. 408 (Section 408). In addition, a series of public use off-road, multi-purpose trails run along Deer Creek 8th Street to 4th Street within the SBCFCD right-of-way. Alternative 3 would require the full acquisition of 7.6 acres and the partial acquisition of 11.5 acres of SBCFCD property along Deer Creek. This alternative would require approval through the USACE Section 408 Program prior to construction.

4.3.7 Capital Cost

The estimated capital cost to construct Alternative 3 would range between $989 million and $1.2 billion. This estimate includes the estimated cost of six vehicles, the at-grade track and subgrade, the aerial guideway, three stations with platforms, land acquisitions, train control and communications systems, and general construction sitework.

The cost estimates produced during this phase are intended to inform initial decision-making and the alternatives screening process. As design progresses and decisions on project features are refined, the capital cost for this alternative may increase. Cost risks associated with this alternative include:

- Coordination with Metrolink and impacts to service operations.
- Impacts to SCE transmission corridor at Cucamonga Station. Transmission line would need to be placed underground.
- Impacts to Cucamonga Station requiring additional parking to be provided.
- Impacts to residential development adjacent to Cucamonga Station requiring mitigation.
- Impacts to industry service track and businesses for a period of 12 months.

- Construction impacts from Brightline West.
- Close proximity to SCE substation requiring costly improvements to move poles and protection during construction.
- Alignment goes over Deer Creek for considerable length. Coordination with SBCFCD and USACE
- Impacts to Deer Creek detention ponds required costly improvements to hydrology.
- Approximately 300-foot span length of over the I-10 requiring special construction sequencing.
- Coordinating airport access during construction
- Crossing over UPRR special approvals and agreements
- Access to staging areas are constrained due to temporary traffic diversions and road closures.
- No maintenance facility next to corridor could require special provisions at the stations for light maintenance requiring costly infrastructure for maintenance.

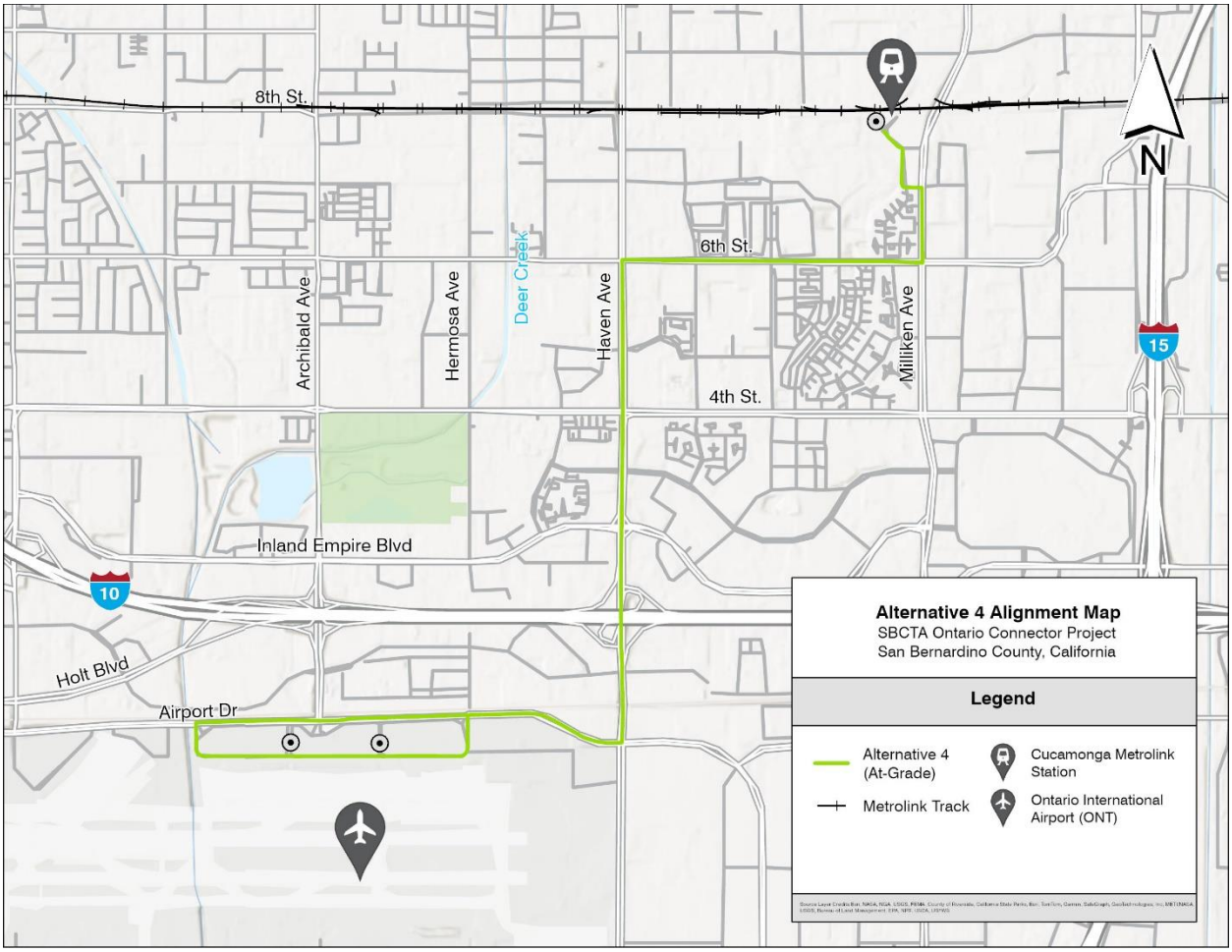
4.4 Alternative 4 - Rancho Cucamonga to ONT Bus Shuttle

Alternative 4 consists of a bus shuttle using 40-foot electric buses which would run from the Cucamonga Metrolink Station to ONT via 6th Street and Haven Avenue for approximately 5.7 miles. The bus route would begin at the Cucamonga Metrolink Station and would travel south along Milliken Avenue, west on 6th Street, and south on Haven Avenue to Airport Drive. The bus would continue past Archibald Avenue and loop around Terminal Way to serve the ONT terminals before returning to the Cucamonga Metrolink Station. The alignment would operate within the Cities of Rancho Cucamonga and Ontario, and ONT ROW as shown in Figure 4-7.

The shuttle would operate on 15-minute headways in each direction to coincide with arriving trains at Rancho Cucamonga. There are no stations for this alternative, instead there are dedicated pick-up and drop-off areas for passengers to access the buses. Pick-up and drop-off locations would include the Cucamonga Metrolink Station and bus stop locations for the existing ONT Connect Shuttle (Omnitrans 380) near each of the ONT terminals. This alternative would provide a peak one-way passenger throughput of up to approximately 168 passengers per hour.

The buses would operate along existing roads and there would be no construction and no temporary or permanent easements would be required. When not in service, buses would be stored at the Omnitrans West Valley Facility.

Figure 44-77: Alternative 4 Alignment



4.4.1 Operations

Under Alternative 4, the shuttle would operate on a fixed schedule between the Cucamonga Metrolink Station and existing terminals at ONT. Buses would operate on a fixed schedule between the Cucamonga Metrolink Station and existing terminals at ONT. Service would be provided everyday with hours of operation on weekdays from 4:00 AM to 11:00 PM and 7:00 AM to 11:00 PM on weekends. Buses would operate on 15-minute headways and would provide a peak one-way passenger throughput of up to approximately 168 passengers per hour.

4.4.2 Capital Cost

The estimated capital cost to construct Alternative 4 is $6.1 million. This estimate includes the estimated costs of five electric buses, five depot chargers to be installed at the maintenance facility, and two on-route chargers at each end of the route.

The cost estimates produced during this phase are intended to inform initial decision-making and the alternatives screening process. As design progresses and decisions on project features are refined, the capital cost for this alternative may increase. Cost risks associated with this alternative include coordination with Omnitrans for competing or duplicate service.

5 Performance of Alternatives

This section presents the performance evaluation for the project alternatives. The evaluation followed the methodology described in Section 3.

5.1 Objective 1 – Mobility Improvements Performance

The evaluation and rating of the alternatives is presented in Table 5-1. The mobility improvement goal was assessed using the following criteria:

- Transit travel time – travel times around ONT have become longer and unreliable, especially during peak hour. Truck traffic is prevalent due to the warehouses in the study area. For these reasons, the at-grade segments of Alternative 3 would be impacted by roadway congestion, especially during peak hours. Alternative 4 would be the most affected by roadway congestion, hence impacting the travel time reliability.
- Effects to transit systems within the study area – the project may result in interruption of transit service during the alignment and/or station construction. Alternatives 2 and 3 will require interruption of Metrolink service during construction.

Table 5-1: Objective 1 - Mobility Improvements Rating

Project Objective	Evaluation Criteria	Project Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Objective 1: Mobility improvements	Transit travel time (minutes) to/from ONT	5.5 minutes	8 minutes	off-peak hour: 8 minutes peak hour: 10 minutes	16 minutes
	Effects to transit systems within the study area	-	Will require interruption of Metrolink service during construction	Will require interruption of Metrolink service during construction	-
Rating		● HIGH	◑ MEDIUM	◑ MEDIUM	○ LOW

5.2 Objective 2 – Service Reliability Performance

The evaluation and rating of the alternatives is presented in Table 5-2. The service reliability goal was assessed using the operating schedule and headway criteria. As described in Section 4, Alternative 1 will have 10 to 12-minute headway during ONT service times. All other alternatives will have a 15-minute headway and run from 4:00 AM, or 7:00 AM on weekends, until 11:00 PM on weekends. As mentioned in Section 5.1, there is potential for roadway congestion to impact travel times for Alternative 3 and 4.

Table 5-2: Objective 2 – Service Reliability Rating

Project Objective	Evaluation Criteria	Project Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Objective 2: Service Reliability	Headway	10 to 12 min headways	15-min headways		
	Operating schedule	ONT operating hours: 4:00 AM to 11:00 PM on weekdays 7:00 AM to 11:00 PM on weekends			
Rating		● HIGH	● HIGH	◑ MEDIUM	○ LOW

5.3 Objective 3 – Maximize Mobility Capacity Performance

The evaluation and rating of the alternatives is presented in Table 5-3. The goal to maximize mobility capacity was assessed by using the number of passengers per hour.

Table 5-3: Objective 3 – Maximize Capacity Rating

Project Objective	Evaluation Criteria	Project Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Objective 3: Maximize mobility capacity	# of passengers per hour	300	368	368	168
Rating		◑ MEDIUM	● HIGH	● HIGH	○ LOW

5.4 Objective 4 – Minimize Environmental Impacts Performance

The potential environmental impacts were assessed for each of the proposed alternatives. The assessment of is based on the preliminary design plans prepared for each alternative and identifies the potential impacts associated with implementation of each alternative. Table 5-4 provides a summary of the potential environmental impacts for each alternative.

Table 5-4: Environmental and Community Resource Impact Summary

Resource	Project Alternatives			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Land Use	Will require conversion of both private and city owned land to transportation use	Will require conversion of both private and city owned land to transportation use	Will require conversion of both private and city owned land to transportation use	No impact
Acquisitions and Displacements	No commercial or residential acquisitions or displacements	Will require commercial and residential acquisitions and displacements	Will require commercial acquisitions and displacements	No commercial or residential acquisitions or displacements
Growth	No impact	No impact	No impact	No impact
Farmland	No impact	No impact	No impact	No impact
Community Impacts	No impact	New transportation facility placed within an established community	New transportation facility placed within an established community and impacts to existing recreational bicycle/pedestrian path along Deer Creek channel	No impact
Traffic/Transportation	No impact	Placement of bridge columns within the center of Hermosa Avenue/Turner Avenue may alter traffic operations on these streets. Impacts to local streets, I-10 and Metrolink service during construction	Impacts to local streets, I-10 and Metrolink service during construction	No impact
Visual	New stations introduced to the visual environment	New at-grade and elevated rail features and stations introduced to visual environment	New at-grade and elevated rail features and stations introduced to visual environment	No impact
Cultural	Potential discovery of unknown cultural resources during ground disturbance	Potential discovery of unknown cultural resources during ground disturbance	Potential discovery of unknown cultural resources during ground disturbance	No impact

Hydrology and Floodplain	No impact	No impact	New rail facility would be located within the 100-year flood zone	No impact
Water Quality and Storm Water Runoff	Increase in impervious surface associated with stations and maintenance facility	Increase in impervious surface associated with stations	Increase in impervious surface and track adjacent the channel	No impact
Geology, Soils. Seismic	New structures susceptible to seismic activity	New structures susceptible to seismic activity	New structures susceptible to seismic activity	No impact
Paleontology	Potential discovery of paleontological resources during excavation	Potential discovery of paleontological resources during excavation	Potential discovery of paleontological resources during excavation	No impact
Hazardous Materials	No impact	No impact	No impact	No impact
Air Quality	No impact	Increased emissions associated with DMU vehicles but not with ZEMU	Increased emissions associated with DMU vehicles but not with ZEMU	No impact
Noise and Vibration	No impact	Increase noise and vibration associated with new rail facility located adjacent residential units	Increase noise and vibration associated with new rail facility located adjacent residential units	No impact
Energy and Climate Change	No impact	No impact	No impact	No impact
Section 4(f)	No impact	No impact	Impact to bicycle path adjacent the Deer Creek channel	No impact
Biological Resources	N/A	Potential impact to special status species	Potential impact to special status species	No impact
Permits	No impact	Section 401, 404, 1602	Section 401, 404, 1602, 408	No impact

Each alternative was evaluated against objective 4, which seeks to minimize environmental impacts and ROW acquisition impacts in the surrounding communities. This evaluation is presented in Table 5-5.

Table 5-5: Objective 4 – Minimize Environmental Impacts Rating

Project Objective	Evaluation Criteria	Project Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Objective 4: Minimize environment-tal impacts	Minimize environmental impacts and ROW acquisition impacts	See Table 5.4 for a Summary of Environmental and Community Impacts			
Rating		◑ MEDIUM	○ LOW	○ LOW	● HIGH

5.5 Objective 5 – Project Cost Performance

The evaluation and rating of the alternatives is presented in Table 5-6. The cost effectiveness goal was assessed using the following criteria:

- ROM capital costs
- Risk of cost increase.

Table 5-6: Objective 5 – Cost Effectiveness Rating

Project Objective	Evaluation Criteria	Project Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Objective 5: Project Cost	ROM capital costs	$557 million	$976 million to $1.2 billion	$989 million to $1.2 billion	$6.1 million
	Risk of cost increase	Moderate risk	High risk	High risk	Low risk
Rating		◑ MEDIUM	○ LOW	○ LOW	● HIGH

6 Screening Results

The screening process evaluated the project alternatives based on their capacity to achieve the project objectives. The evaluation is based on the performance of each alternative against the Project's objectives. No weighting was applied to the results of the screening evaluation as each objective was given equal consideration. The resulting evaluation, summarized in Table 6-1, demonstrates how each project alternative compares to the project objectives with an overall high, medium, or low rating, as defined in Section 3.

Table 6-1: Screening Results

Objective	Project Alternatives			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Objective 1: Mobility improvements	● HIGH	◑ MEDIUM	◑ MEDIUM	○ LOW
Objective 2: Service reliability	● HIGH	● HIGH	◑ MEDIUM	○ LOW
Objective 3: Maximize capacity	◑ MEDIUM	● HIGH	● HIGH	○ LOW
Objective 4: Minimize environmental impacts	◑ MEDIUM	○ LOW	○ LOW	● HIGH
Objective 5: Project Costs	◑ MEDIUM	○ LOW	○ LOW	● HIGH
Overall Rating	● HIGH	◑ MEDIUM	◑ MEDIUM	○ LOW

Based on the findings of the performance of alternatives presented in Section 5, Alternative 1 consisting of a tunnel system best aligns with the project's purpose, needs, and goals as it would provide the highest benefits. It is recommended for Alternative 1 to be studied as part of the environmental analysis phase.

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Ontario International Airport Corridor Project

APPENDIX D
Project Footprint Map

October 2024

Prepared by:

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San Bernardino, California 92410-1715

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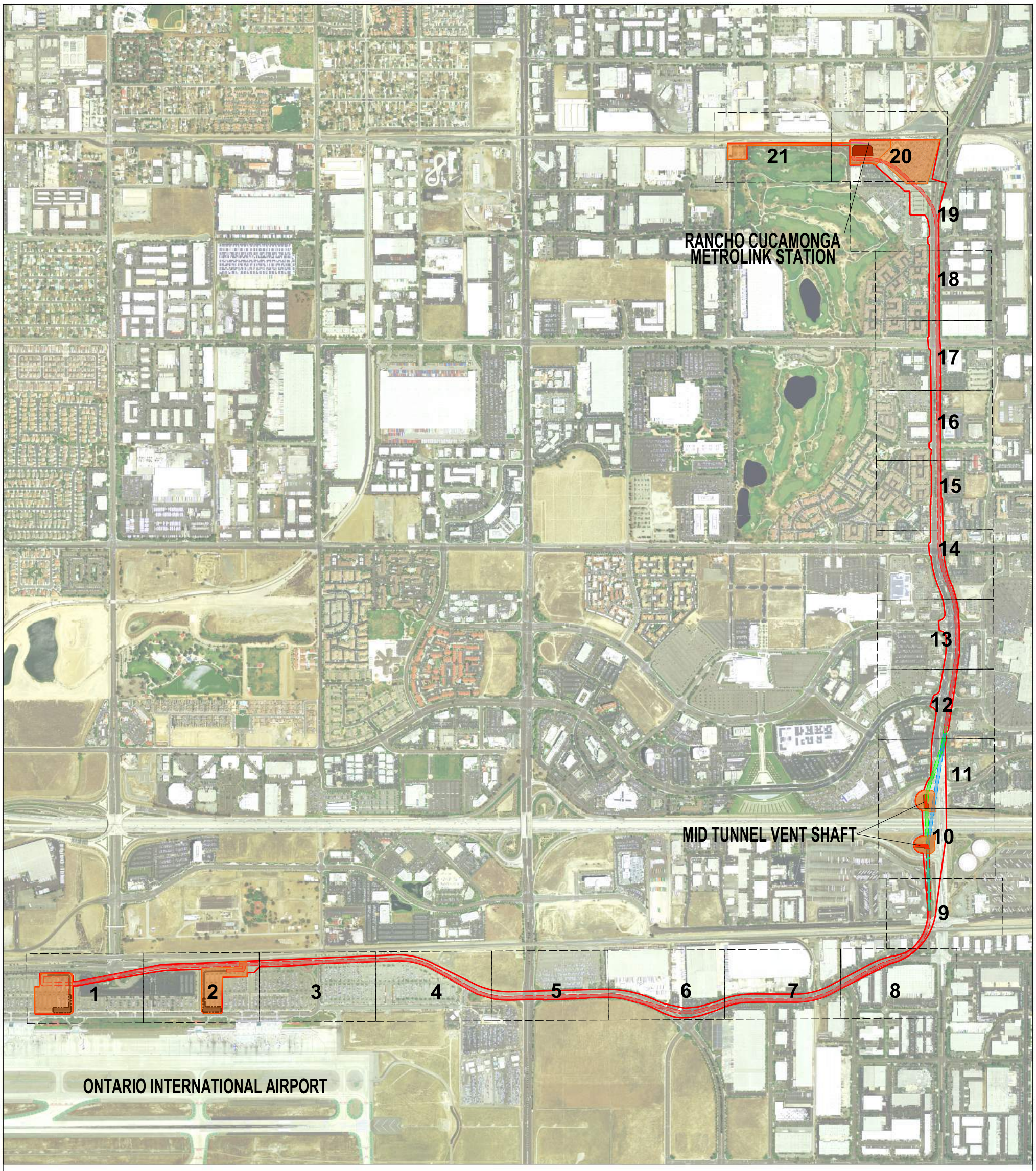

PROJECT FOOTPRINT

ONTARIO AIRPORT LOOP
CITIES OF RANCHO CUCAMONGA AND ONTARIO

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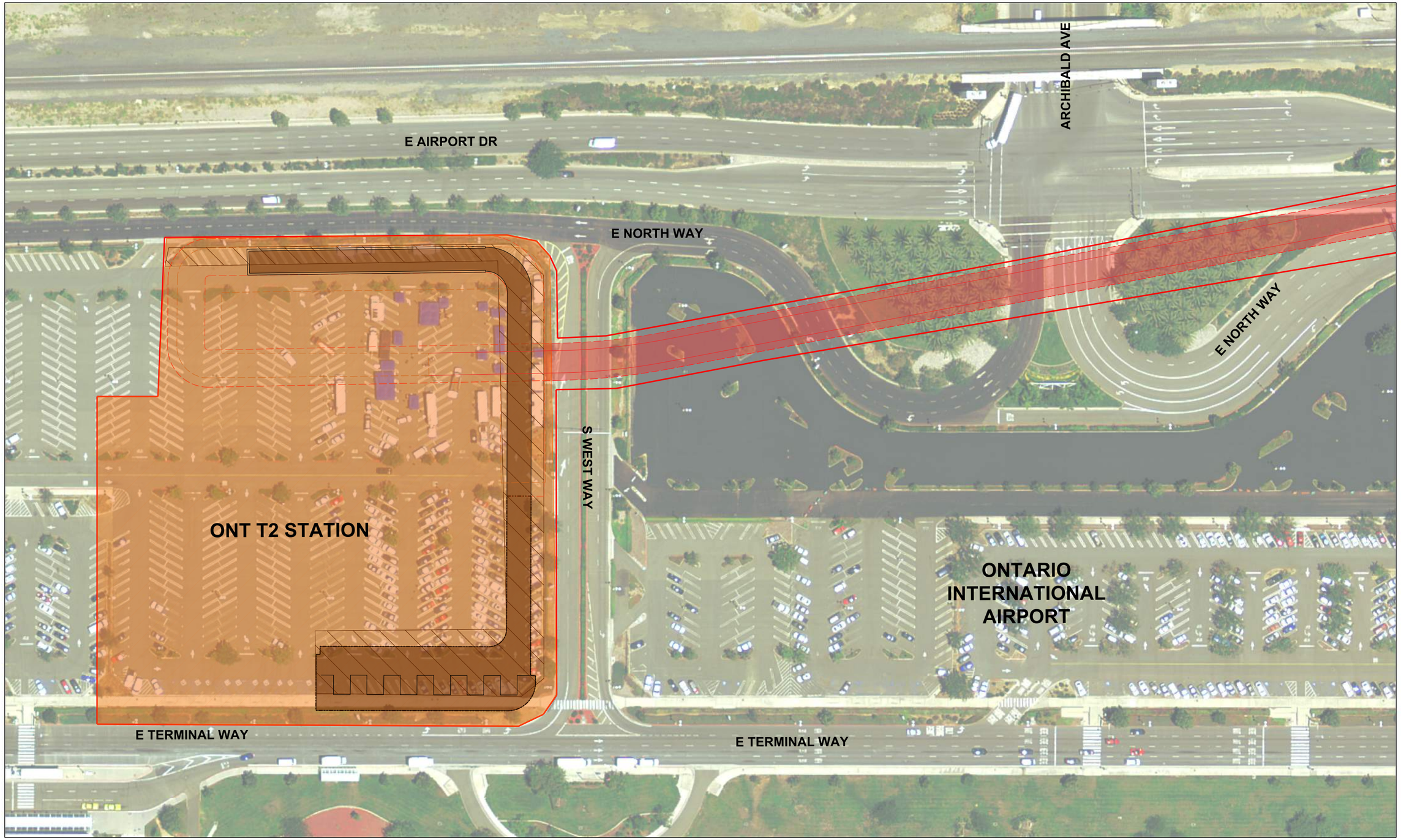
SCALE: 1"=0.25 MILES

PROJECT FOOTPRINT

VENT SHAFT DESIGN OPTION 2

VENT SHAFT DESIGN OPTION 4



PROJECT FOOTPRINT

TEMPORARY IMPACTS
- TEMPORARY EASEMENT/ CONSTRUCTION STAGING AREA

PERMANENT IMPACTS
- TUNNEL BASE (UNDERGROUND)
- CUT AND COVER (ABOVEGROUND)
- STATION FOOTPRINT (ABOVEGROUND)
- PARKING IMPACT (ABOVEGROUND)

PROJECT MAP FEATURES
MAP 1 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO CUCAMONGA AND ONTARIO

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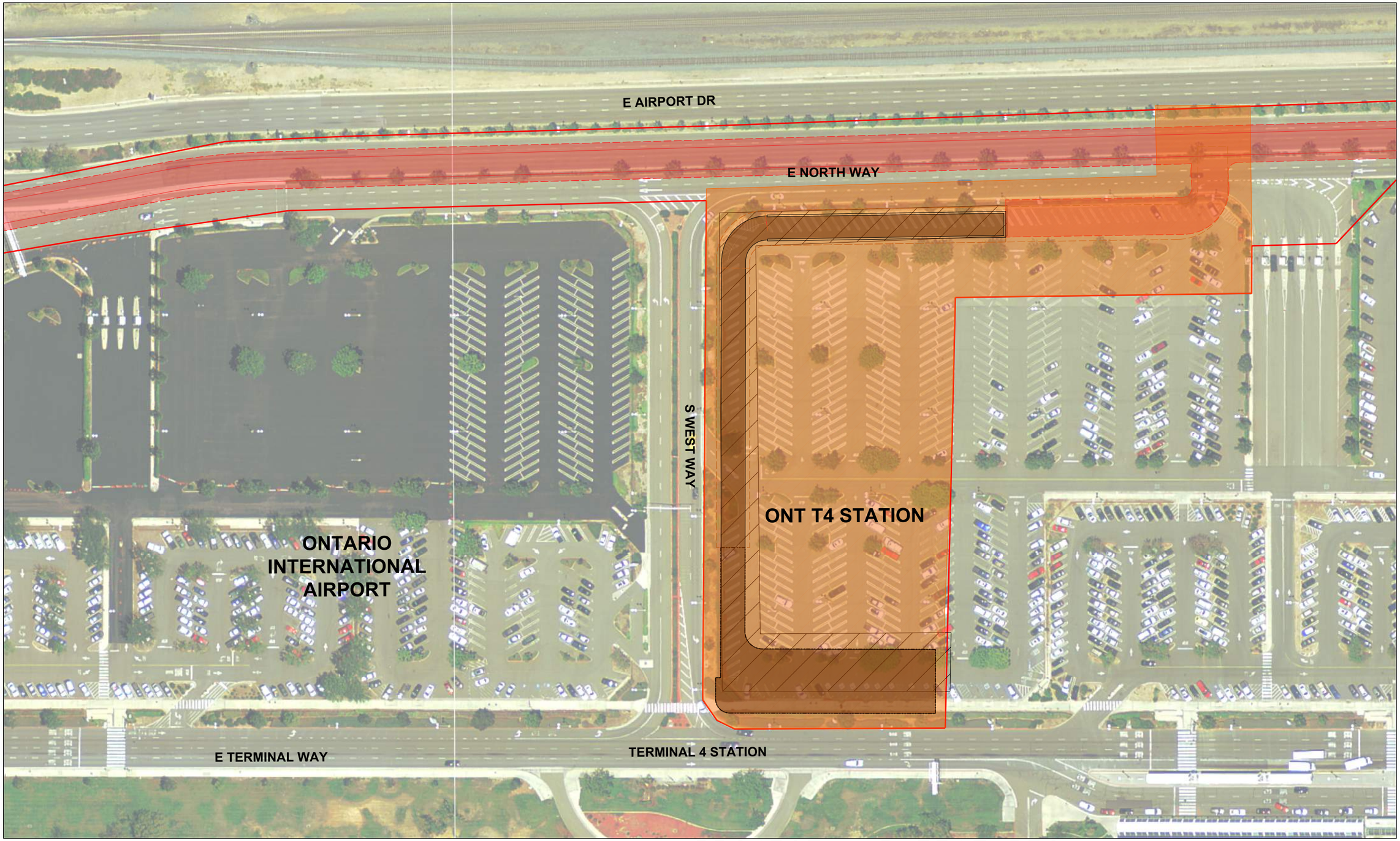

PROJECT FOOTPRINT

TEMPORARY IMPACTS
- TEMPORARY EASEMENT/ CONSTRUCTION STAGING AREA

PERMANENT IMPACTS
- TUNNEL BASE (UNDERGROUND)
- CUT AND COVER (ABOVEGROUND)
- STATION FOOTPRINT (ABOVEGROUND)
- PARKING IMPACT (ABOVEGROUND)

PROJECT MAP FEATURES
MAP 2 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 3 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES

MAP 4 OF 21

ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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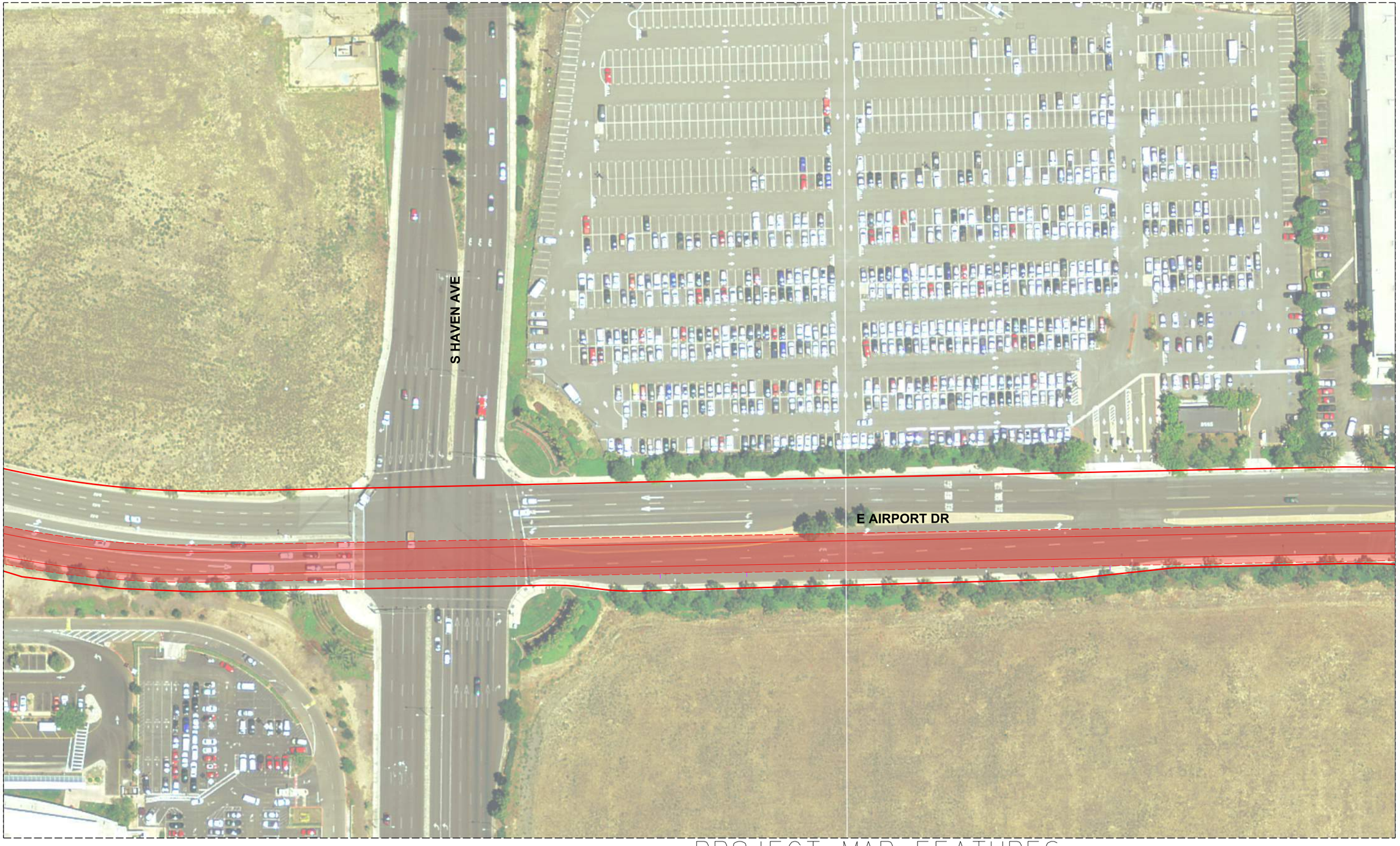

PROJECT FOOTPRINT

PERM. ENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 5 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 6 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

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PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 7 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 8 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 9 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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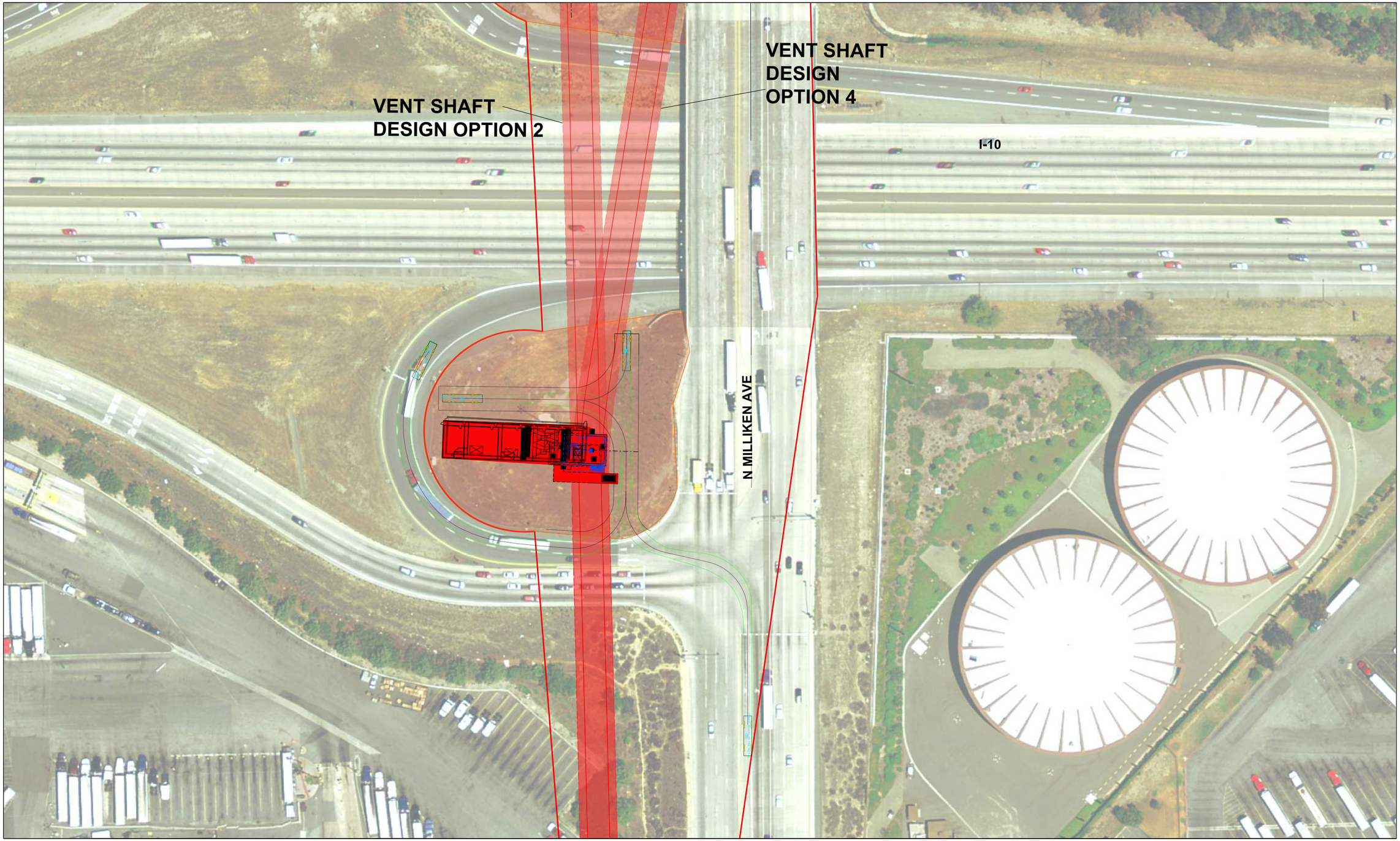

PROJECT FOOTPRINT

TEMPORARY IMPACTS

TEMPORARY EASEMENT/ CONSTRUCTION STAGING AREA

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

ACCESS ROAD (ABOVEGROUND)

TUNNEL EGRESS SHAFT (ABOVEGROUND)

PROJECT MAP FEATURES
MAP 10 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

TEMPORARY IMPACTS

TEMPORARY EASEMENT/ CONSTRUCTION STAGING AREA

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

ACCESS ROAD (ABOVEGROUND)

TUNNEL EGRESS SHAFT (ABOVEGROUND)

PROJECT MAP FEATURES
MAP 11 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 12 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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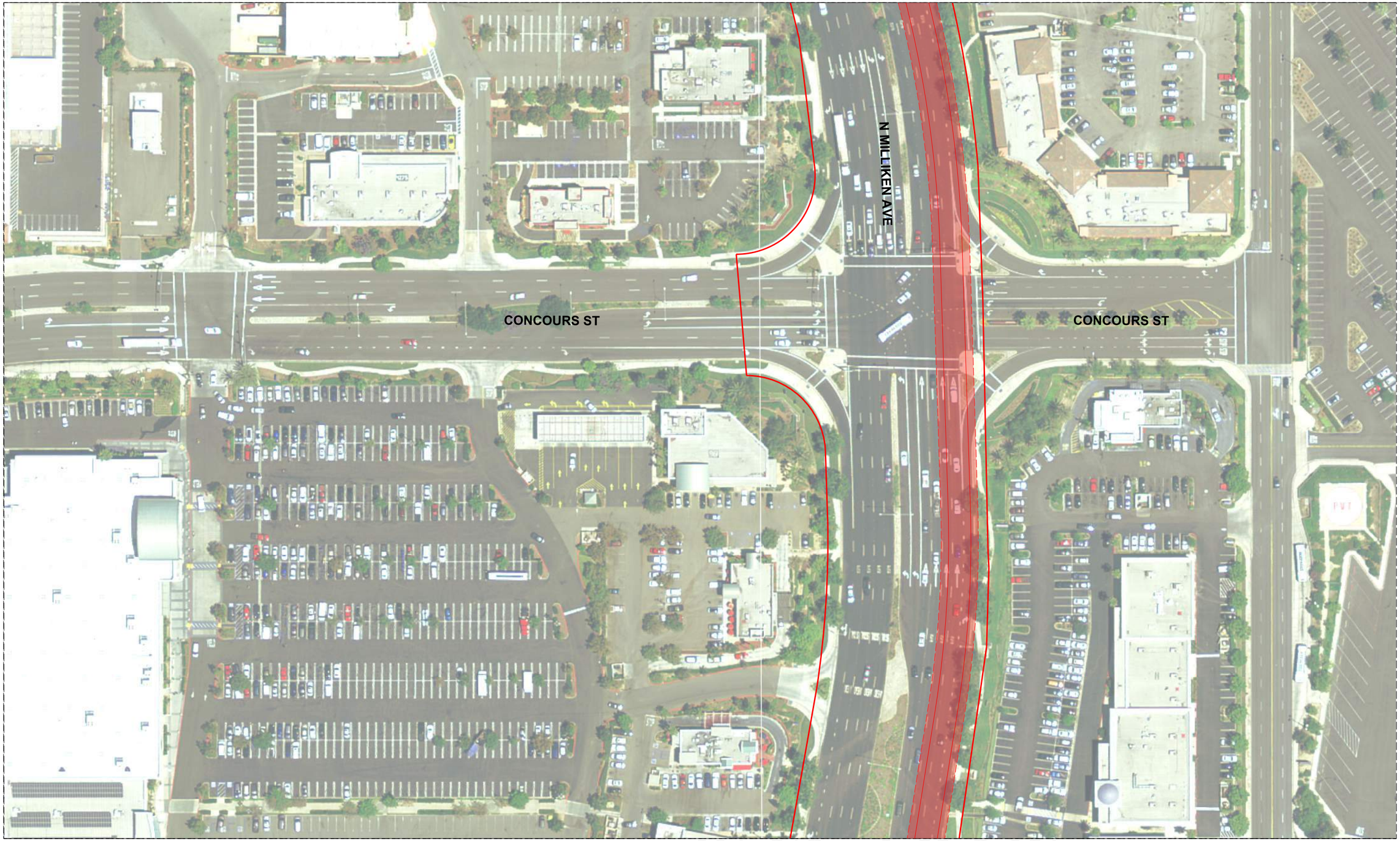

PROJECT FOOTPRINT

PERMANENT IMPACTS

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PROJECT MAP FEATURES
MAP 13 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 14 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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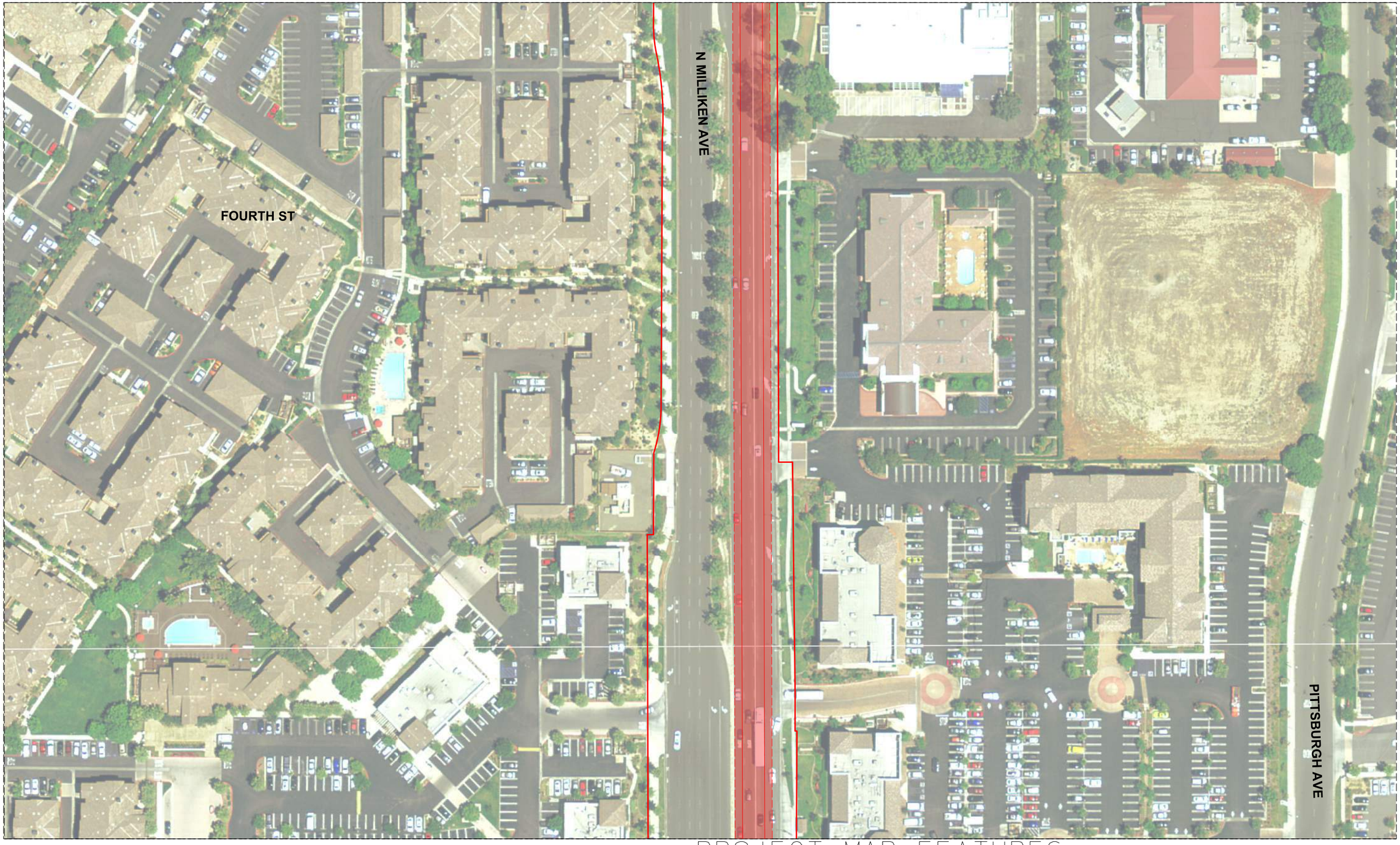

PROJECT FOOTPRINT

PERMANENT IMPACTS

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PROJECT MAP FEATURES
MAP 15 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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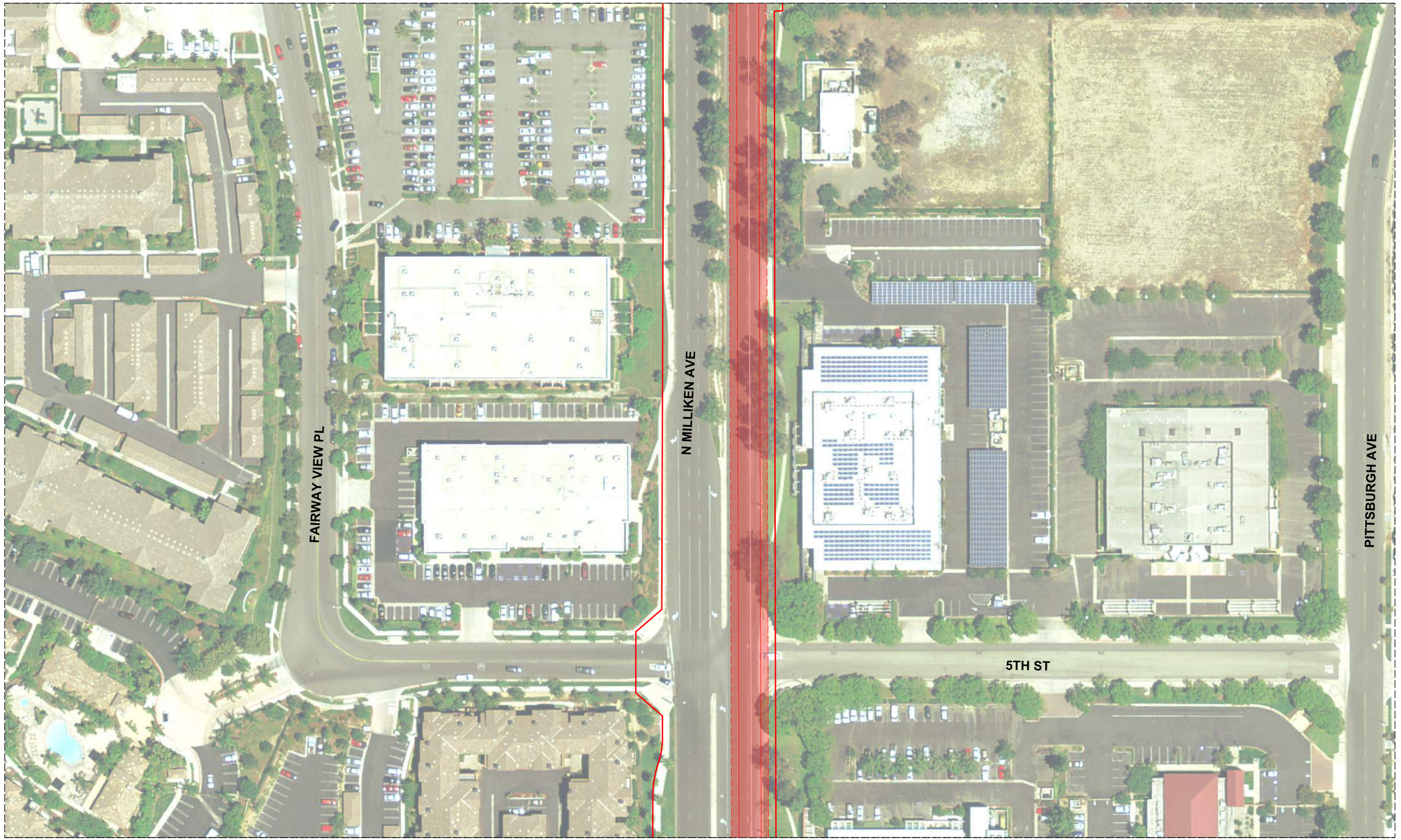

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

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MAP 16 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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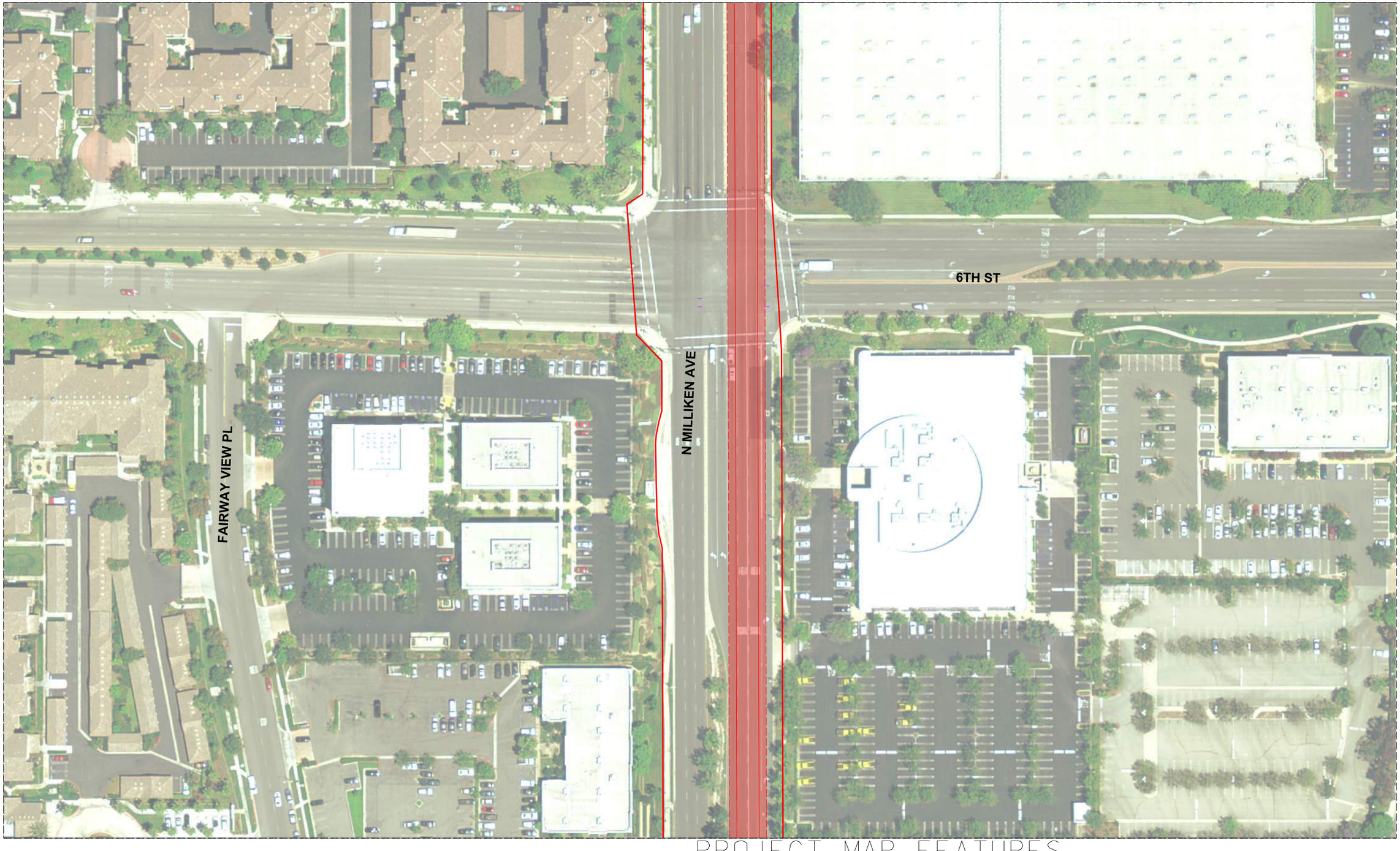

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 17 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

PERMANENT IMPACTS

TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 18 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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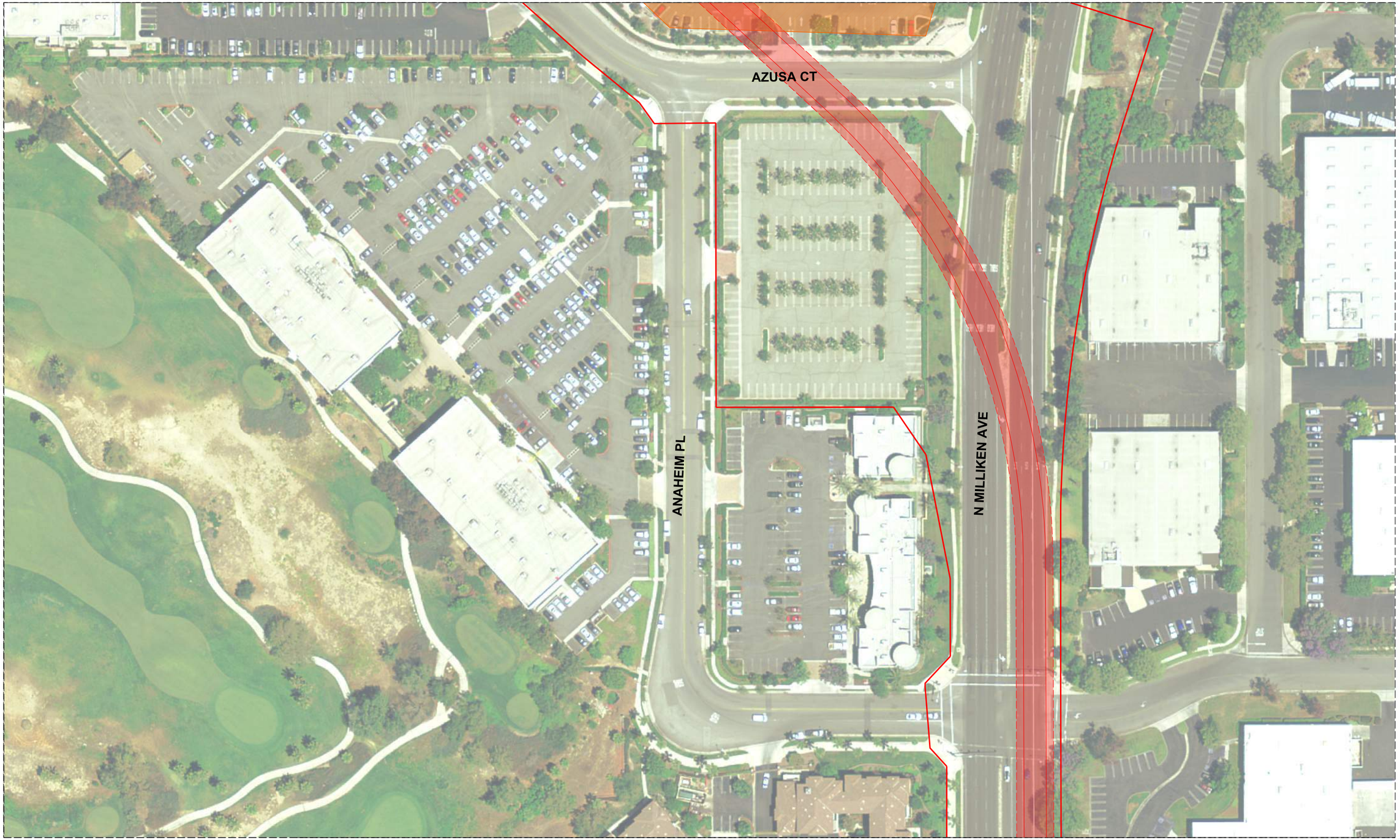

PROJECT FOOTPRINT

TEMPORARY IMPACTS
TEMPORARY EASEMENT/ CONSTRUCTION STAGING AREA

PERMANENT IMPACTS
TUNNEL BASE (UNDERGROUND)

PROJECT MAP FEATURES
MAP 19 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO CUCAMONGA AND ONTARIO

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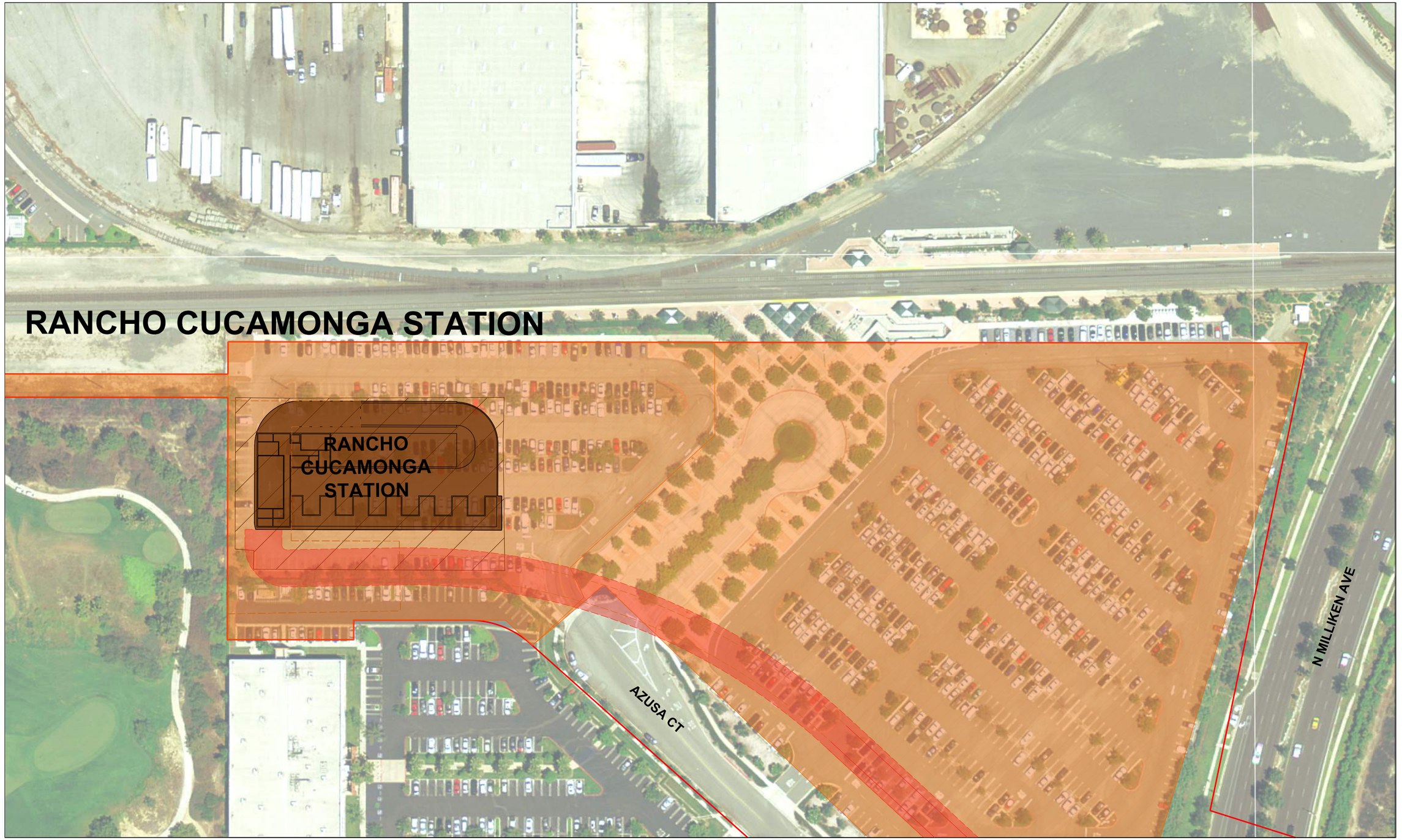

PROJECT FOOTPRINT

TEMPORARY IMPACTS
TEMPORARY EASEMENT/ CONSTRUCTION STAGING AREA

PERMANENT IMPACTS
TUNNEL BASE (UNDERGROUND)
CUT AND COVER (ABOVEGROUND)
STATION FOOTPRINT (ABOVEGROUND)
PARKING IMPACT (ABOVEGROUND)

PROJECT MAP FEATURES
MAP 20 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

PROJECT FOOTPRINT

TEMPORARY IMPACTS

TEMPORARY EASEMENT/
CONSTRUCTION STAGING
AREA

PROJECT MAP FEATURES
MAP 21 OF 21
ONTARIO AIRPORT LOOP
CITIES OF RANCHO
CUCAMONGA AND ONTARIO

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SCALE: 1"=100'

Ontario International Airport Connector Project

ONTCONNECTOR

APPENDIX E
CONSTRUCTION METHODS

October 2024

Prepared by:

sbcta

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TABLE OF CONTENTS

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
EPB	Earth Pressure Balance
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
I-10	Interstate 10
I-15	Interstate 15
MSF	Maintenance and Storage Facility
MWD	Metropolitan Water District of Southern California
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
OIAA	Ontario International Airport Authority
ONT	Ontario International Airport
Project	Ontario International Airport (ONT) Connector Project
ROW	right-of-way
SBCTA	San Bernardino County Transportation Authority
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
TBM	tunnel boring machine
UPRR	Union Pacific Railroad
USEPA	United States Environmental Protection Agency

1 INTRODUCTION

The purpose of this appendix is to describe the construction methods for the proposed San Bernardino County Transportation Authority (SBCTA) Ontario International Airport (ONT) Connector Project (Project). It presents the anticipated means and methods for the construction activities.

Construction of the Build Alternative would include a tunneling component, vent shaft, maintenance and storage facility (MSF), three stations and associated activities. In addition to adhering to regulatory requirements, development of the Build Alternative would employ conventional construction methods, techniques, and equipment. All work for development of the system would conform to accepted industry specifications and standards, including best management practices (BMPs). The Build Alternative engineering and construction would, at minimum, be completed in conformance with the regulations, guidelines, and criteria listed in the following section.

1.1 FEDERAL REGULATIONS:

- United States Department of Labor, Occupational Safety and Health Administration, 29 Code of Federal Regulations (CFR) 1926 Safety and Health Regulation for Construction;
- Clean Water Act Section 402, National Pollutant Discharge Elimination System (United States Environmental Protection Agency [USEPA] 2021);
- National Fire Protection Association (NFPA) Code 130 Means of Egress (NFPA 2024);
- NFPA 502, Standard for Road Tunnels, Bridges and Other Limited Access Highways (NFPA 2024);
- National Electrical Code (NFPA Code 70) (NFPA 2024);
- Federal Aviation Administration 7460 Obstruction Analysis/Air Space Analysis form;
- Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA 2018);
- Federal Highway Administration (FHWA) NHI-09-010, Technical Manual for Design and Construction of Roads Tunnels-Civil Element (FHWA 2009); and
- National Historic Preservation Act (NHPA), as amended (54 United States Code Section 300101 et seq.), and its implementing regulations (36 CFR Part 800).

1.2 STATE REQUIREMENTS:

- California Division of Occupational Safety and Health (Cal/OSHA), Title 8, Division 1. Department of Industrial Relations, Chapter 4. Division of Industrial Safety (Section 01 35 23, Worksite Safety);
- California Building Code (California Building Standards Commission 2021);

- California Fire Code (California Building Standards Commission 2019);
- California Department of Transportation (Caltrans) Highway Design Manual;
- Caltrans Standard Plans (Caltrans 2018a); and
- Caltrans Standard Specifications (Caltrans 2018b).

1.3 REGIONAL AND LOCAL REQUIREMENTS:

- Metrolink (SCRRA Design) Criteria Manual 2024 (SCRRA 2024);
- ONT Ground Transportation Rules and Regulations (ONT 2018);
- San Bernardino County Department of Public Works, General Permit Conditions and Trench Specifications (San Bernardino County Department of Public Works 2019);
- San Bernardino County Department of Public Works, Standard Plans (San Bernardino County Department of Public Works 2022);
- San Bernardino County Department of Public Works Technical Guidance Document for Water Quality Management Plans (San Bernardino County Department of Public Works 2013);
- Union Pacific Railroad (UPRR) Plan Submittal Guidelines (UPRR 2019); and
- Metropolitan Water District of Southern California (MWD), Guidelines for Improvements and Construction Projects Proposed in the Area of Metropolitan's Facilities and Rights-of-Way (MWD 2018).

Construction Industry Standard Practices. All construction activities would conform to accepted industry specifications and standards, including BMPs. Construction housekeeping practices are methods that encourage the tidiness of construction sites and reduce construction related nuisances from affecting the general public. Construction Industry Standard Practices are methods considered as components of the Project based on the individual choices of the contractor. Typical Construction Industry Standard Practices may include but are not limited to the following:

- Air Quality and Dust Control
    - Dust Control - Control fugitive dust as required by South Coast Air Quality Management District (SCAQMD). District Rule 403 (SCAQMD 2005);
    - Watering of construction staging sites;
    - Heavy-duty, steel, track-out grates (i.e., rumble plates) would be staged at the entrance of the construction staging areas to capture dirt and soil debris from the wheels of trucks and construction equipment.

- Water Quality
    - Stormwater Pollution Prevention Plan is a site-specific, written document developed to identify potential sources of stormwater pollution at a construction site.
    - A BMP is a method used to prevent or control stormwater runoff and the discharge of pollutants, including sediment, into local waterbodies. Typical Water Quality BMPs include the use of:
        - Covering of stockpiles of earth and other construction related materials to prevent wind or water from transporting site material offsite.
        - Use of swaddles and drain inlet covers to prevent sediments and pollutants from conveying into storm drain systems.
- Traffic Control
    - Notifications of traffic control.
    - Coordination of closures with agencies having jurisdiction.
- Noise
    - Noise blankets to lessen noise between sensitive receptors and construction activities above noise thresholds specified by municipal codes or ordinances.

2 CONSTRUCTION SCENARIO

The Build Alternative would be delivered through a Progressive Design-Build contract in which a contractor is engaged early in the process to develop precise construction means and methods which are coordinated with the final design efforts. In a Progressive Design-Build contract, the contract for design and construction is separated into two distinct phases. The selection of the design-build firm is based primarily on their qualifications and design proposal. Because the design and budget has yet to be determined, construction cost and schedule is not part of the bidding or procurement process. As such, precise details of construction means/methods, and sequencing are not yet fully developed at the Project's current environmental phase. This section describes typical methods and sequencing which are representative of what would be developed in detail by the Design-Builder.

2.1 CONSTRUCTION SEQUENCING

Construction of the Build Alternative is projected to start in 2025 and end in 2031, for approximately 56 months. The preconstruction work contract would include geotechnical and hazardous material field surveys to identify potential hazards and constraints related to the design and construction activities. Construction would commence with site preparation for the construction staging areas and the tunnel boring machine (TBM) launching and receiving pits. After demolition and site clearing, conflicting utilities would be relocated or protected-in-place. Construction would then proceed with temporary roadway reconfiguration or restriping for mass excavation activities related to the proposed cut-and-cover Project elements.

The TBM would be launched from the Cucamonga Metrolink Station to construct the tunnel. Cut-and-cover of excavation, including temporary shoring, and mass excavation would be applied to construct the TBM launching and receiving pits. Generally, stations would be built simultaneously with or following guideway construction. However, construction of the Cucamonga Station may need to occur after the completion of all excavation and in-tunnel work. The sequence of construction activities will be confirmed in a future design phase prior to construction. Mechanical, electrical, plumbing, fire protection, communications, and security systems would be installed after tunnel construction. Ancillary facilities, final roadway reconstruction, and landscaping would typically follow guideway construction.

Most construction activities would occur during daytime hours between 7:00 a.m. and 5:00 p.m. For some specialized construction tasks, including during the TBM excavation, it would be necessary to work continually for 24 hours per day. Depending on the choices of the individual contractor, the following sites are anticipated to be constructed simultaneously: Terminal 2 Station, Terminal 4 Station, Cucamonga Station and the MSF, and the vent shaft. Up to 200 employees composed of construction and engineering staff are anticipated on site during the construction phase.

Mass excavation for cut-and-cover construction at each station and the vent shaft would involve up to 100 haul trucks per day. TBM excavation would involve up to 250 trucks per day to haul spoils (i.e., excavated materials from tunneling). Up to 10 concrete trucks per day are anticipated to construct the permanent access ramps between the tunnel and the at-grade stations. Additionally, up to one truck every 2 hours may be needed for ancillary delivery work. Haul routes would potentially include I-10, North Archibald Avenue, Milliken Avenue, East Airport Drive, Terminal Way, and Guasti Road. The haul route supporting construction at Cucamonga Station would include Milliken Avenue, Azusa Court, and Foothill Boulevard to access I-15. The haul routes supporting the mass excavation and construction of the proposed stations and tunnel are described in further detail in Table 1.

Table 1: Haul Routes for Mass Excavation and Tunneling

Excavation Staging Area	ROW Owner	Location	Haul Route
Terminal 2 Station	Ontario International Airport Authority (OIAA) right-of-way (ROW)	South of East Airport Drive and west of North Archibald Avenue	Interstate 10 (I-10), southbound on North Archibald Avenue, westbound on Terminal Way, northbound on East Terminal Way, eastbound on Airport Drive, northbound on Archibald Avenue, and I-10
Terminal 4 Station	OIAA ROW	South of East Airport Drive and east of North Archibald Avenue	I-10, southbound on Archibald Avenue, eastbound on East Airport Drive, southbound on East Terminal Way, eastbound on Terminal Way, northbound on Archibald Avenue, and I-10
Cucamonga Station	Metrolink ROW	East of Milliken Avenue and north of Azusa Court	Interstate 15 (I-15), westbound on Foothill Boulevard, southbound on Milliken Avenue, westbound on Azusa Court, eastbound on Azusa Court, northbound on Milliken Avenue, eastbound on Foothill Boulevard, and I-15 Alternative Route: I-10, Northbound Milliken Avenue, Westbound 7th Street, Northbound Anaheim Place, Northbound Azusa Court, Southbound Azusa Court, Southbound Anaheim Place, Eastbound 7th Street, Southbound Milliken Avenue, I-10.
Vent Shaft Design Option 2	Caltrans ROW	West of Milliken Avenue on westbound off-ramp	I-10, southbound on Milliken Avenue, eastbound on Guasti Road, Caltrans ROW, westbound on Guasti Road, and I-10
Vent Shaft Design Option 4	Caltrans ROW	West of Milliken Avenue on eastbound on-ramp	I-10, southbound on Milliken Avenue, eastbound on Guasti Road, Caltrans ROW, westbound on Guasti Road, and I-10

Source: AECOM 2022; OIAA 2019; OIAA 2022

2.2 UNDERGROUND GUIDEWAY CONSTRUCTION

2.2.1 Cut-and-Cover Construction

Cut-and-cover activities involve the excavation of a shallow underground guideway from the existing street surface (reference Figure 1). Four cut-and-cover sites would occur at each proposed station and at the vent shaft site. During the construction phase, the cut-and-cover sites at Cucamonga Metrolink Station and Terminal 2 at ONT would be used as the TBM launching and receiving pits. Ultimately, the station cut-and-cover sites would serve as the vehicle ramps for operations where the underground guideway would transition to at-grade. Cut-and-cover activities would include the following:

- Utility relocation or protection in-place and hanging where cut-and-cover method would be used;
- Soldier pile installation involving shoring on both sides of the excavation footprint to support the excavation and roadways;
- Initial excavation from the surface using large excavators. Installation of temporary support of excavation composed of struts and lagging;
- Stockpiling of excavated material that is deemed suitable for reuse as backfill material;
- Excavation of launching and receiving pits;
- Construction of the permanent structures;
- Backfilling of and restoring the surface once the facilities are completed; and
- Install imported fill supported by soldier pile and lagging with permanent retaining walls constructed where the guideway transitions from at-grade to underground.

The limits of excavation at Cucamonga Metrolink Station are approximately 400 feet within the existing Cucamonga Metrolink Station parking lot. The excavation limits for Terminal 2 at ONT would occur west of Southwest Way, in a U-shape configuration for over 500-feet. Excavation limits at Terminal 4 at ONT would occur parallel to Southeast Way for approximately 450-feet.

2.2.2 Tunnel

TBMs are large-diameter horizontal drills that continuously excavate circular tunnel sections (Figure 2 and Figure 3). Two types of pressurized-face TBMs—Earth Pressure Balance (EPB) and slurry TBM—are commonly used in the Los Angeles region depending on geologic conditions. Both EPB and slurry TBMs apply a balancing pressure to the excavation face to stabilize the ground and balance the groundwater.

Figure 1: Example of Construction via Cut-and-Cover

Source: AECOM, 2022

Figure 2: Tunnel Boring Machine

Source: AECOM 2022

Figure 3: Example of Bored Tunnel Constructed

Source: AECOM 2022

At the TBM launching site, the staging area would also be used for storage of precast concrete segments, temporary spoil storage, ventilation lines, shaft support (air, water, electricity, spoil hoisting). Tunneling with a slurry TBM would require workshops, mixing and processing slurry for excavation support or tunnel excavation, and post-excavation slurry treatment (separation), which would include filters, centrifuges, and vibrator equipment. During tunneling with an EPB machine, excavated material (spoils) is moved to the rear of the TBM by a screw conveyor and deposited on a conveyor belt. The conveyor belt then transfers the spoils to the launching area or drops the spoils on rail-mounted muck cars hauled by a locomotive operating on temporary rail tracks in the tunnel. At the shaft, the muck cars are lifted out by a crane or hoist, and the material is loaded into trucks or temporarily stockpiled for off-site reuse or disposal. Temporary easements, typically a portion of the sidewalk, traffic lanes, and parking areas, may be required at various locations for staging.

Equipment at the TBM launch site would include trucks, a crane(s), excavators, a grout plant, a compressor plant, a tunnel fan, and cooling towers. The launch area would also store tunnel construction materials (e.g., lining segments, steel, rail, pipe, ducts) and stockpile excavated material. Flat-bed delivery trucks would enter the construction staging sites to deliver construction materials (e.g. lining segments, lumber for formwork or temporary engineering, rebar, etc.). Haul trucks would remove excavated material from the launch site at ONT. Main activities for the bored tunnel construction would consist of the following:

- The design-builder would perform a mass excavation as described in Section 2.2.1 to excavate the launching site for the TBM.
- For each tunnel lining installed, the TBM would be advanced a small distance (4 to 5 feet) using hydraulic jacks, which pushes against the previously installed tunnel lining ring while excavating the material ahead of the TBM; the jacks would be retracted, and another tunnel lining ring would be erected.
- The TBM would be advanced, and the process would be repeated until the entire length of the tunnel has been excavated.
- Excavated material (i.e., spoils or muck) would be removed from the launching pit.
- The TBM would be extracted at the end of the tunnel segment at an extraction pit.
- Transition from at-grade to underground would require temporary support of excavation to build the permanent reinforced concrete retaining wall and structures.
- After a permanent structural facility is built, mechanical, electrical, plumbing, fire protection, communications, and security systems would be installed.

2.3 VENTILATION SHAFT

The vent shaft would consist of both underground and at-grade components. The ventilation shaft measuring approximately 2,000-square feet in size and up to approximately 70-feet in depth would be constructed to provide a means of emergency passenger egress and first responder access.

The underground ventilation shaft would extend to the tunnel level and the surface structures would consist of a one (1) story structure above ground. The ventilation shaft would be installed using a similar construction methodology to that of the tunnel and take approximately 6 months to complete. A drill rig would install up to five piles per day, each 70-feet deep. Piles would be drilled (i.e., no impact driving) as an excavation pre-support. The access shaft would then be excavated and temporarily supported with an internal bracing system that includes the installed piles.

The access shaft would require a staging area. Anticipated equipment at the location would include haul trucks, a drill rig, a crane, an excavator, a wheel loader, a compressor, and a ventilation fan. The staging area would include material storage, stockpiles of excavated material, water treatment, a workshop, a construction office, and employee parking. The staging area would be approximately 27,000-square feet and would be within existing Caltrans ROW.

2.4 OTHER FACILITIES AND CONSTRUCTION ACTIVITIES

2.4.1 Utility Relocation and Installation

Utility relocation work would be required for some Build Alternative elements. Impacted utilities may include storm drains, sanitary sewers, waterlines, overhead power lines, electrical duct banks, lighting, irrigation conduits, fiber optic lines, telephone, and other communication lines. To the extent possible, the guideway has been located to avoid conflicts with the space occupied by major utilities. Nevertheless, in certain instances, the positioning of the guideway, stations, and other facilities would require that conflicting utilities be relocated, modified, or protected-in-place.

Ongoing third-party utility coordination would occur with MWD regarding their 158-inch, reinforced-concrete pipe water line during construction of the tunnel with the TBM. Preliminary utility relocations have been identified at this stage of design and are associated with the vent shaft. A preliminary list includes: Southern California Edison (SCE) power duct bank; Caltrans fiber optic duct bank; and City of Ontario landscape irrigation conduits.

2.4.2 Stations

The stations include the Cucamonga Station, ONT Terminal 2 Station, and ONT Terminal 4 Station. As described in Section 2.2, during the construction phase, the Cucamonga Metrolink Station and Terminal 2 at ONT would be used as the TBM launching and receiving pits. As noted in Section 2.1, generally stations

would be built simultaneously with or following guideway construction. However, construction of the Cucamonga Station may need to occur after the completion of all excavation and in-tunnel work. The exact sequence of construction activities will be confirmed in a future design phase prior to construction.

Construction would commence with site preparation for the staging areas and TBM launching and receiving pits. Equipment needs for all three stations would include the following: excavators, backhoes, a vertical conveyor system, a gantry crane, a crawler crane, concrete trucks, haul trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan grout plant, segment cars, and flatcars. Station concrete construction and architectural finish work would occur after tunnel construction is completed. The time of construction would vary depending on the length and design configuration for each structure. Following the mass excavation and grading, the stations would require the installation of the waterproof membrane around the station box. The construction sequence for the station structures would typically commence with construction of the foundation base slab, followed by installation of exterior walls any interior column elements, and pouring of the station roof. Once station structure work is complete, the station excavation would be backfilled, and the permanent roadway would be constructed. Decking removal and surface restoration would then occur. Stations are proposed to be 1 to 2 stories, up to approximately 40-feet in height.

Equipment needs for station construction would include the following: excavators, backhoes, a vertical conveyor system, a gantry crane, a crawler crane, concrete trucks, haul trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan grout plant, segment cars, and flatcars.

2.4.3 Transition Structures

Vehicles arriving or departing the stations would traverse along a transition structure that allows the descent from the surface level to the underground guideway within the bored tunnel. These transition structures consist of U-shaped cast in-place reinforced concrete retaining walls to create a ramp for the guideway to the tunnel level. These trenches would be excavated by a cut-and-cover methodology as described in Section 2.2.1. The design-builder would form the retaining walls cast in structures, install steel reinforcing bars, pour concrete, and strip the forms.

2.4.4 Construction Staging Areas

Construction staging areas would be used to store building materials and construction equipment, assemble the TBM, temporarily store excavated materials, and serve as temporary field offices for the contractor. Heavy-duty, steel, track-out grates (i.e., rumble plates) would be staged at the entrance of the construction staging areas to capture dirt and soil debris from the wheels of trucks and construction equipment. BMPs would minimize a public nuisance that can result from soil and mud tracks on the public roadway. For security purposes, construction staging areas would be equipped with fences, lighting,

security cameras, and guards to prevent vandalism and theft. Each of the three proposed stations and the access shaft would require a construction staging area as described as follows:

- Staging at the proposed Cucamonga Station and MSF would require approximately 3.2 acres.
- Staging at the proposed ONT Terminal 2 Station would require approximately 3.4 acres.
- Staging at the proposed ONT Terminal 4 Station would require approximately 3.2 acres.
- Staging at the access shaft would require approximately 0.62 acres. Work would encroach into the Caltrans ROW.

Staging areas supporting the underground segment would require additional space to accommodate activities including, but not limited to, tunneling, assembling, launching, and extraction of the TBM. Anticipated equipment at each location would include haul trucks, a drill rig, a crane, an excavator, a wheel loader, a compressor, and a ventilation fan. Each staging area would include material storage, stockpiles of excavated material, water treatment, a workshop, a construction office, and employee parking. No road closures would be needed at construction staging locations. However, construction activities and movement of equipment and materials may temporarily affect driveways and drive lane aisles at the Cucamonga Metrolink Station, and ONT parking lots.

2.4.5 Maintenance and Storage Facility

The proposed Cucamonga Station includes a MSF to store and maintain vehicles. The MSF would be approximately 18,000 square feet in size and. would be constructed adjacent to the Cucamonga Station. Construction of the MSF would involve construction of trackwork, a building, and fences. Initially, demolition, site preparation, and grading would be conducted, followed by utility installation and building construction as trackwork progresses. MSF construction would be finished by the addition of fencing, paving, and landscaping. Equipment needs for pre-construction, site preparation, track and building construction and operating systems installation would include the following: haul trucks, concrete trucks, dozers, excavators, cranes, drill rigs, and flatbed trucks, as well as worker vehicles. Construction at this location would require approximately 3.2 acres, and approximately 170 parking spaces would be temporarily unavailable at the Cucamonga Metrolink Station parking lot. Construction activities would occur for up to 37 months. No road closures are anticipated for MSF construction staging. However, construction activities and movement of equipment and materials may temporarily affect driveways and drive lane aisles at the Cucamonga Metrolink Station parking lot.

2.4.6 Roadway Reconstruction

Where applicable, existing curbs, gutters, sidewalks, landscaping, and structures would need to be demolished, and utilities would need to be relocated. As noted, in Section 2.4.1, discussion of utility relocation is ongoing with utility service providers. Further, the exact existing street elements such as

curbs, gutters, sidewalks and landscaping will be confirmed in a future design phase prior to construction. Equipment typically involved in demolition includes crawler cranes, crawler dozers/loaders, pavement breakers, rubber-tired loader/bob cats, trucks, excavator, backhoes, generator/compressors, and water trucks for dust control.

Additionally, as applicable, construction of new curb and gutter, sidewalks, roadway re-pavement would then proceed followed by the installation of lighting, signage, striping, and landscaping as necessary. Equipment used for construction would include excavators, small bulldozers, compactors, graders, transit mix concrete trucks, concrete pumping equipment, pavers, and rollers.

3 REFERENCES

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Ontario International Airport Connector Project

APPENDIX F: CORRESPONDENCE

October 2024

Prepared for:

San Bernardino County Transportation Authority
1170 West Third Street, Second Floor
San Bernardino, California 92410-1715

NAHC response

NATIVE AMERICAN HERITAGE COMMISSION

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NAHC.ca.gov

June 27, 2022

Kerrie Collison
LSA

Via Email to: kerrie.collison@lsa.net

Re: SBCTA Ontario Tunnel Project, San Bernardino County

Dear Ms. Collison:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
6/27/2022

Agua Caliente Band of Cahuilla Indians
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Agua Caliente Band of Cahuilla Indians
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed SBCTA Ontario Tunnel Project, San Bernardino County.

Native American Heritage Commission
Native American Contact List
San Bernardino County
6/27/2022

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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed SBCTA Ontario Tunnel Project, San Bernardino County.

Consultation Assistance Record

SECTION 106 NATIVE AMERICAN CONSULTATION ASSISTANCE RECORD
ONTARIO INTERNATIONAL AIRPORT CONNECTOR PROJECT (AEM2201)

Date LSA Requested Sacred Lands File Search: May 24, 2022
Date Native American Heritage Commission Replied: June 27, 2022
Results of Sacred Lands File Search: Negative
Date designated groups/individuals were contacted: 5/29/24 via certified mail, those marked with an asterisk were sent an email in addition to certified letter

Groups Contacted	Date LSA contacted Tribes	Date of follow-ups	Date and Results of Responses
Mr. Reid Milanovich Chairperson Agua Caliente Band of Cahuilla Indians 5401 Dinah Shore Drive Palm Springs, CA 92264	5/29/24*	N/A	**5/30/24:** Response received via email from Luz Salazar, Cultural Resource Analysis stating the following: A records check of the Tribal Historic Preservation Office's cultural registry revealed that this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts. ***Please see attached email PDF.***
Ms. Patricia Garcia-Plotkin, Director Agua Caliente Band of Cahuilla Indians 5401 Dinah Shore Drive Palm Springs, CA 92264	5/29/24*	N/A	
Mr. Andrew Salas Chairperson Gabrieleno Band of Mission Indians - Kizh Nation P.O. Box 393 Covina, CA 91723	5/29/24*	N/A	**5/30/24:** Response received via emailed letter from Chairman Andrew Salas stating the following: Thank you for your letter dated May 29, 2024 regarding Section 106 consultation. The above proposed project location is within our Ancestral Tribal Territory; therefore, our Tribal Government requests to schedule a consultation with you as the lead agency, to discuss the project and the surrounding area in further detail. Please contact us at your earliest convenience to schedule a consultation. ***Please see attached letter PDF.*** **10/01/2024:** Consultation meeting occurred with the Tribe, FTA, SBCTA, and consultant staff. Discussed in depth project overview and construction/excavation timeline. The Tribe expressed interested in locations the project alignment passed through Holocene deposits as they may have unknown tribal cultural/archaeological resources. Chairman Salas questioned if the Sacred Lands File was negative because his monitors have been involved in recent activities in the region where historic bottles were found. Matt Teutimez (Tribe) discussed the hydrology and hydrogeology of the region and discussed the potential for resources to be discovered in the project area. KC Kelly (FTA) thanked Chairman Salas and Mr. Teutimez for their input. KC asked that given the probability of resources occurring in the project area, does the tribe have a specific request? Mr. Teutimez indicated they will provide language by the end of the week. ***Please see attached meeting minutes.***
Mr. Anthony Morales Chairperson Gabrieleno/Tongva San Gabriel Band of Mission Indians P.O. Box 693 San Gabriel, CA 91778	5/29/24*	6/12/24	

Mr. Charles Alvarez Tribal Chairman Gabrielino-Tongva Tribe 23454 Vanowen Street West Hills, CA 91307	5/29/24*	6/12/24; 6/26/24	
Ms. Sandonne Goad Chairperson Gabrielino /Tongva Nation 106 1/2 Judge John Aiso St., #231 Los Angeles, CA 90012	5/29/24*	6/12/24; 6/26/24	
Mr. Robert Dorame Chairperson Gabrielino Tongva Indians of California Tribal Council P.O. Box 490 Bellflower, CA 90707	5/29/24*	N/A	**5/29/24:** Response received via email from Christina Conley, Tribal Consultant and Administrator, stating the following: We have no comment. ***Please see attached email PDF.***
Ms. Christina Conley Tribal Consultant and Administrator Gabrielino Tongva Indians of California Tribal Council P.O. Box 941078 Simi Valley, CA 93094	5/29/24*	N/A	
Mr. Robert Martin Chairperson Morongo Band of Mission Indians 12700 Pumarra Road Banning, CA 92220	5/29/24*	6/12/24; 6/26/24	
Ms. Ann Brierty Tribal Historic Preservation Officer Morongo Band of Mission Indians 12700 Pumarra Road Banning, CA 92220	5/29/24*	6/12/24; 6/26/24	
Mr. Manfred Scott Acting Chairman Quechan Tribe of the Fort Yuma Reservation P.O. Box 1899 Yuma, AZ 85366	5/29/24*	6/12/24; 6/26/24	
Ms. Jill McCormick Historic Preservation Officer Quechan Tribe of the Fort Yuma Reservation P.O. Box 1899 Yuma, AZ 85366	5/29/24*	6/12/24; 6/26/24	
Ms. Jessica Mauck Director of Cultural Resources San Manuel Band of Mission Indians 26569 Community Center Drive Highland, CA 92346	5/29/24*	6/12/24	**6/13/24:** Response received via email from Kristen Tuosto, Tribal Archaeologist stating the following: Due to the nature and location of the proposed project, YSMN respectfully requests the following for review upon availability: · Cultural report · Geotechnical report (if required for the project) · Project plans showing the depth of proposed disturbance ***Please see attached email PDF.*** **9/06/24:** Consultation meeting occurred with the Tribe, FTA, SBCTA, and consultant staff. Discussed in depth project overview and construction/excavation timeline. The Tribe expressed interested in locations the project alignment passed through Holocene deposits as they may have unknown tribal cultural/archaeological resources. The Tribe requested to review the Cultural Report, Geotech report, and project plans. The requested materials were provided to the tribe on September 26, 2024, and the Tribe responded with a request to incorporate specific processes related to discovery of human remains and/or pre-contact cultural resources be incorporated into the project conditions. The requested language has been incorporated into

			Section 6 Conclusions and Recommendations. ***Please see attached meeting minutes.***
Ms. Lovina Redner Tribal Chair Santa Rosa Band of Cahuilla Indians P.O. Box 391820 Anza, CA 92539	5/29/24*	6/12/24; 6/26/24	
Mr. Mark Cochrane Co-Chairperson Serrano Nation of Mission Indians P. O. Box 343 Patton, CA 92369	5/29/24*	6/12/24; 6/26/24	
Mr. Wayne Walker Co-Chairperson Serrano Nation of Mission Indians P. O. Box 343 Patton, CA 92369	5/29/24*	6/12/24; 6/26/24	
Mr. Isaiah Vivanco Chairperson Soboba Band of Luiseno Indians P. O. Box 487 San Jacinto, CA 92581	5/29/24*	6/12/24; 6/26/24	
Mr. Joseph Ontiveros Cultural Resource Department Soboba Band of Luiseno Indians P. O. Box 487 San Jacinto, CA 92581	5/29/24*	6/12/24; 6/26/24	

Distribution_List

	Bureau of Indian Affairs Mr. Bryan Newland Acting Assistant Secretary 1849 C Street NW Washington, DC 20240	Bureau of Land Management Mr. Gordon Toevs California State Director 2800 Cottage Way W1623 Sacramento, CA 95825
Bureau of Land Management Ms. Shelly Lynch District Manager, California Desert District Office 1201 Bird Center Drive Palm Springs, CA 92262	Federal Emergency Management Agency Ms. Deanne Criswell FEMA Administrator P.O. Box 10055 Hyattsville, MD 20782	Federal Emergency Management Agency Mr. Erik Hooks Deputy Administrator P.O. Box 10055 Hyattsville, MD 20782
Natural Resources Conservation Service Mr. Louis Aspey Associate Chief 14th and Independence Avenue #6101-A Washington, DC 20250	Natural Resources Conservation Service Mr. Terry Cosby Chief 14th and Independence Avenue #6101-A Washington, DC 20250	Office of Environmental Policy and Compliance Mr. Stephen G. Tryon Director 1849 C Street, NW MS 2462 Washington, DC 20240
Region 9 Environmental Protection Agency Ms. Susan Sturges Regional Sample Control Coordinator 1337 South 46th Street Richmond, California CA 94804	U.S. Army Corps. of Engineers, Los Angeles District Mr. David Castanon Chief, Regulatory Division 915 Wilshire Boulevard Los Angeles, CA 90017	U.S. Environmental Protection Agency Mr. Andrew Wheeler Director 1200 Pennsylvania Avenue NW Mail Code 2251A Washington, DC 20460
U.S. Fish & Wildlife Service Mr. Paul Souza Regional Director, Pacific Southwest Region 2800 Cottage Way Sacramento, CA 95825	United States Department of the Interior Ms. Janet Whitlock Regional Environmental Officer Office of Environmental Policy and Compliance, Sacramento, Region IX 2800 Cottage Way, Room E-1712 Sacramento, CA 95825	Federal Transit Administration Office of Planning and Environment Ms. Megan Blum Environmental Protection Specialist 1200 New Jersey Avenue Washington, DC 20590

State Agencies		
California Air Resources Board Ms. Liane M. Randolph Chair 1001 I Street Sacramento, CA 95814	California Department of Fish and Wildlife, Inland Deserts Region Ms. Heidi Calvert Regional Manager 715 P Street Sacramento, CA 95814	California Department of Park and Recreation Ms. Kathleen Amann Deputy Director, Park Operations 715 P Street Sacramento, CA 95814
California Department of Resources Recycling and Recovery Mr. Mark de Bie Deputy Director, Waste Permitting, Compliance, and Mitigation P.O. Box 4025 Sacramento, CA 95812-4025	California Department of Resources Recycling and Recovery Ms. Mindy McIntyre Chief Deputy Director P.O. Box 4025 Sacramento, CA 95812-4025	Caltrans, District 8 Mr. Catalino A. Pining III Director 464 West 4th Street 6th Floor San Bernardino, CA 92401
California Department of Water Resources Ms. Karla Nemeth Director P.O. Box 942836 Sacramento, CA 94236-0001	California Highway Patrol Mr. Warren Stanley Commissioner P.O. Box 942898 Sacramento, CA 94298-0001	California Native American Heritage Commission Mr. Reginald Pagaling Chairperson 1550 Harbor Blvd, Suite 100 West Sacramento, CA 95691
California Natural Resources Agency Mr. Wade Crowfoot Secretary for Natural Resources 715 P Street, 20th Floor Sacramento, CA 95814	California Office of Historic Preservation Ms. Julianne Polanco State Historic Preservation Officer 1725 23rd Street #100 Sacramento, CA 95816	California Public Utilities Commission Ms. Alice Busching Renyolds President 320 West 4th Street, Suite 500 Los Angeles, CA 90013
Department of Toxic Substances Control Ms. Meredith Williams Director P.O. Box 806 Sacramento, CA 95812-0806	State Water Resource Control Board, Division of Drinking Water, District 13 Mr. Wei Chang 1001 I St, 24th Flood Sacramento CA, 95814	

Regional Agencies		
San Bernardino County Executive Office Mr. Luther Snoke Chief Executive Officer 385 N. Arrowhead Avenue San Bernardino, CA 92415	San Bernardino County Executive Office Mr. David Wert Public Information Officer 385 N. Arrowhead Avenue San Bernardino, CA 92415	San Bernardino County, Planning Commission Mr. Matthew Slowik Planning Commissioner, Second District 385 N. Arrowhead Avenue San Bernardino, CA 92415
San Bernardino County, Planning Commission Mr. Suket Dayal Planning Commissioner, Fourth District 385 N. Arrowhead Avenue San Bernardino, CA 92415	San Bernardino County Economic Development Agency Ms. Ana Ambriz Executive Secretary II 290 North D Street, Suite 600 San Bernardino, CA 92415-0047	San Bernardino County Economic Development Agency Mr. Derek Armstrong Director 290 North D Street, Suite 600 San Bernardino, CA 92415-0047
San Bernardino County Fire Protection District Mr. Martin Serna Deputy Chief of Operations 157 W. 5th Street, 2nd Floor San Bernardino, CA 92415-0451	San Bernardino County Fire Protection District Mr. Dan Munsey Fire Chief/Fire Warden 157 W. 5th Street, 2nd Floor San Bernardino, CA 92415-0451	San Bernardino County Department of Public Works, Solid Waste Management Division Mr. Darren J. Meeka Deputy Director 825 East Third Street San Bernardino, CA 92415
San Bernardino County Solid Waste Management Division, Department of Public Works Mr. Grant Mann Deputy Director-Project Planning 825 East Third Street San Bernardino, CA 92415	Southern California Association of Governments Ms. Ivette Macias Government & Public Affairs – Regional Services 1170 W. Third St, Suite 140 San Bernardino, CA 92410	Metropolitan Water District (MWD) Ms. Dee Zinke Assistant General Manager, Chief External Affairs Office P.O. Box 54153 Los Angeles, CA 90054
San Bernardino County Department of Public Works, Flood Control Mr. Michael Fam Chief 825 East Third Street San Bernardino, CA 92415	Santa Ana Regional Water Quality Control Board, Region 8 Ms. Jayne Joy Executive Officer 3737 Main Street #500 Riverside, CA 92501-3348	Santa Ana Watershed Project Authority (SAWPA) Mr. Jeff Mosher General Manager 11615 Sterling Avenue Riverside, CA 92503
South Coast Air Quality Management District Mr. Ian McMillan Assistant Deputy Executive Officer, Planning, Rule Development and Implementation 21865 Copley Drive Diamond Bar, CA 91765	South Coast Air Quality Management District Mr. Wayne Nastri Executive Officer 21865 Copley Drive Diamond Bar, CA 91765	

Local Agencies		
City of Rancho Cucamonga Mr. John R. Gillison City Manager 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Rancho Cucamonga Community Services Department CSDInfo@CityofRC.us 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Rancho Cucamonga Environmental Programs Engineering-Info@CityofRC.us 10500 Civic Center Dr Rancho Cucamonga, CA 91730
City of Rancho Cucamonga Planning and Economic Development Department Planning@CityofRC.us 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Rancho Cucamonga Public Works Services Department 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Ontario Mr. Scott Murphy Executive Director, Community Development 303 East B Street Ontario, CA 91764
City of Ontario Mr. Rudy Zeledon Community Development Assistant Director 303 East B Street Ontario, CA 91764	City of Ontario Ms. Darlene Sanchez Assistant City Manager 303 East B Street Ontario, CA 91764	City of Ontario Mr. Tito Haes Executive Director of Public Works 303 East B Street Ontario, CA 91764
City of Ontario Mr. Jennifer McLain Hiramoto Executive Director, Economic Development Agency 303 East B Street Ontario, CA 91764	City of Ontario Mr. Khoi Do City Engineer 303 East B Street Ontario, CA 91764	City of Ontario Mr. Scott Ochoa City Manager 303 East B Street Ontario, CA 91764
City of Ontario Mr. Scott Burton Utilities General Manager 303 East B Street Ontario, CA 91764		

Elected Officials – Commissioners		
City of Chino Hills Honorable Ray Marquez Councilmember 14000 City Center Drive Chino Hills, CA 91709	City of Adelanto Honorable Daniel Ramos Mayor Pro Tem 1160 Air Expressway Adelanto, CA 92301	Town of Apple Valley Honorable Art Bishop Mayor Pro Tem 14955 Dale Evans Pkwy Apple Valley, CA 92307
City of Barstow Honorable Carmen Hernandez Councilmember 220 East Mountain View St, Suite A Barstow, CA 92311	City of Big Bear Lake Honorable Rick Herrick Councilmember 39707 Big Bear Boulevard Big Bear Lake, CA 92315	City of Chino Honorable Eunice Ulloa Mayor 13220 Central Avenue Chino, CA 91710
City of Colton Honorable Frank Navarro Mayor 650 N La Cadena Drive Colton, CA 92324	City of Fontana Honorable Acquanetta Warren Mayor 8353 Sierra Avenue Fontana, CA 92335	City of Grand Terrace Honorable Bill Hussey Mayor 22795 Barton Rd, Grand Terrace, CA 92313
City of Hesperia Honorable Rebekah Swanson Mayor Pro Tem 9700 Seventh Avenue Hesperia, CA 92345	City of Highland Honorable Larry McCallon Mayor Pro Tem 27215 Base Line Highland, CA 92346	City of Loma Linda Honorable Jindal Bhavin Councilmember 25541 Barton Road Loma Linda, CA 92354
City of Montclair Honorable John Dutrey Mayor 5111 Benito Street Montclair, CA 91763	City of Needles Honorable Janet Jernigan Mayor 817 3rd Street Needles, CA 92363	City of Redlands Honorable Paul Barich Mayor Pro Tem PO Box 3005 Redlands, CA 92373
City of Rialto Honorable Deborah Robertson Mayor 150 S. Palm Avenue Rialto, CA 92376	City of San Bernardino Honorable Helen Tran Mayor 290 North D St San Bernardino, CA 92401	City of Twentynine Palms Honorable Joel Klink Mayor Pro Tem 6136 Adobe Road Twentynine Palms, CA 92277
City of Upland Honorable Rudy Zuniga Councilmember 460 N. Euclid Avenue Upland, CA 91786	City of Victorville Honorable Debra Jones Councilmember 14343 Civic Dr P.O. Box 5001 Victorville, CA 92393	City of Yucaipa Honorable Bobby Duncan Councilmember 34272 Yucaipa Blvd. Yucaipa, CA 92399
Town of Yucca Valley Honorable Rick Denison Councilmember 57090 Twentynine Palms Highway Yucca Valley, CA 92284		

Elected Officials – Federal		
U.S. House of Representatives District 35 Honorable Norma Torres Congressmember 320 Inland Empire Blvd, Suite 200B Ontario, CA 91764	United States Senate Honorable Alex Padilla Senator 255 E. Temple St, Suite 1860 Los Angeles, CA 90012	United States Senate Honorable Laphonza Butler Junior Senator 1111 Santa Monica Blvd, Suite 915 Los Angeles, CA 90025

Elected Officials – State		
California State Assembly, District 53 Honorable Freddie Rodriguez Assemblymember 13160 7th Street Chino, CA 91710	California State Assembly, District 50 Honorable Eloise Gomez Reyes Assemblymember 301 East Vanderbilt Way, Suite 400 San Bernardino, CA 92408	California State Senate, District 22 Honorable Susan Rubio State Senator 1520 North Mountain Ave, Building E, Suite 201 Ontario, CA 91762

Elected Officials – Regional		
County of San Bernardino, District 2 Honorable Jesse Armendarez County Supervisor 385 N. Arrowhead Avenue San Bernardino, CA 92415	County of San Bernardino, District 4 Honorable Curt Hagman County Supervisor 385 N. Arrowhead Avenue San Bernardino, CA 92415	

Elected Officials – Local		
City of Rancho Cucamonga City Council Honorable L. Dennis Michael Mayor 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Rancho Cucamonga City Council Honorable Lynne B. Kennedy Mayor Pro Tem, District 4 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Rancho Cucamonga City Council Honorable Ryan A. Hutchison Councilmember, District 3 10500 Civic Center Dr Rancho Cucamonga, CA 91730
City of Rancho Cucamonga City Council Honorable Kristine D. Scott Councilmember, District 2 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Rancho Cucamonga City Council Honorable Ashley N. Stickler Councilmember, District 1 10500 Civic Center Dr Rancho Cucamonga, CA 91730	City of Ontario City Council Honorable Paul S. Leon Mayor 303 E. B Street Ontario, CA 91764
City of Ontario City Council Honorable Debra Porada Mayor pro Tem 303 E. B Street Ontario, CA 91764	City of Ontario City Council Honorable Alan D. Wapner Councilmember 303 E. B Street Ontario, CA 91764	City of Ontario City Council Honorable Jim W. Bowman Councilmember 303 E. B Street Ontario, CA 91764
City of Ontario City Council Honorable Ruben Valencia Councilmember 303 E. B Street Ontario, CA 91764		

Elected Officials Staff –Regional		
Office of County Supervisor Curt Hagman, District 4 Ms. Katherine Kolcheva Chief of Staff 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043	Office of County Supervisor Curt Hagman, District 4 Mr. Peter Rogers Deputy Chief of Staff 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043	Office of County Supervisor Curt Hagman, District 4 Mr. Michael Miller Director of Special Projects 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043
Office of County Supervisor Curt Hagman, District 4 Ms. Rebecca Boydston Policy Advisor 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043	Office of County Supervisor Curt Hagman, District 4 Ms. Andie Castaneda Social Media Manager 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043	Office of County Supervisor Curt Hagman, District 4 Ms. Jodi James Executive Assistant/Scheduler 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043
Office of County Supervisor Curt Hagman, District 4 Ms. Melissa Compani Senior Field Representative 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043	Office of County Supervisor Curt Hagman, District 4 Ms. Suzette Dang Senior Field Representative 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043	Office of County Supervisor Curt Hagman, District 4 Ms. Karen Haughey Senior Field Representative 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043
Office of County Supervisor Curt Hagman, District 4 Ms. Ruby Long Senior Field Representative 385 North Arrowhead Ave., 5th Floor San Bernardino, CA 92415-0043		

Academic Institutions		
Cucamonga School District Mr. Michael Chaix Superintendent 8776 Archibald Avenue Rancho Cucamonga, CA 91730	Cucamonga School District Ms. Claudia Meza Executive Assistant to the Superintendent 8776 Archibald Avenue Rancho Cucamonga, CA 91730	Ontario-Montclair School District Mr. James Q. Hammond Superintendent 950 West D Street Ontario, CA 91762
Ontario-Montclair School District Ms. Irma Sanchez Executive Assistant to the Superintendent 950 West D Street Ontario, CA 91762	Ontario-Montclair School District Ms. Alondra Sandoval-Velazquez Executive Assistant 950 West D Street Ontario, CA 91762	Chaffey Joint Union High School Mr. Mathew Holton Superintendent 211 West 5th Street Ontario, CA 91762
Chaffey Joint Union High School Mr. Joey Collisson Administrative Assistant 211 West 5th Street Ontario, CA 91762	San Bernardino Unified School District Mr. Mauricio Arellano Superintendent 777 North F Street San Bernardino, CA 92410	San Bernardino Unified School District Ms. Katrin Balintag Executive Assistant to the Superintendent 777 North F Street San Bernardino, CA 92410
San Bernardino Unified School District Mr. Tom Pace Director, Facilities, Planning & Development 777 North F Street San Bernardino, CA 92410	San Bernardino Unified School District Ms. Nicole Post Administrative Assistant 777 North F Street San Bernardino, CA 92410	

Business Associations		
San Bernardino Chamber of Commerce Mr. Jim Wheeler Chairman of the Board 546 W. 6th Street San Bernardino, CA 92410	San Bernardino Chamber of Commerce Ms. Maryann Quiggle Vice Chair, Ambassadors 546 W. 6th Street San Bernardino, CA 92410	San Bernardino Chamber of Commerce Mr. Larry Quiel Vice Chair, Business Support Division 546 W. 6th Street San Bernardino, CA 92410
San Bernardino Chamber of Commerce Mr. Jack Avakian Vice Chair, Community Affairs Division 546 W. 6th Street San Bernardino, CA 92410		

Emergency Responders/Health Organizations		
San Bernardino County Sheriff's Department Mr. Michael Smith Captain 10510 Civic Center Drive Rancho Cucamonga, CA 91730	City of Ontario Police Department Mr. Mike Lorenz Chief 2500 S. Archibald Ave Ontario, CA 91761	City of Ontario Fire Department Mr. Michael Gerken Chief 303 E. B Street Ontario, California 91764
City of Rancho Cucamonga Fire Protection District RCFire@CityofRC.us 10500 Civic Center Drive City Hall Lower Level Rancho Cucamonga, CA 91730	Kindred Hospital Rancho 10841 White Oak Avenue Rancho Cucamonga, CA 91730	

Transportation Agencies		
UPRR Mr. Jim Vena CEO 1400 Douglas Street MS910 Omaha, NE 68179-0910	UPRR Mr. Eric Gehringer Executive Vice President Operations 1400 Douglas Street MS910 Omaha, NE 68179-0910	UPRR Mr. Michael Villa-Real Manager, Environmental Operations Southern California and Mojave Desert 1400 Douglas Street MS910 Omaha, NE 68179-0910
UPRR Mr. Paul Marcinko Economic and Industrial Development 1400 Douglas Street MS910 Omaha, NE 68179-0910	Metrolink Mr. Roderick Diaz Director of Planning and Development 900 Wilshire Boulevard #1500 Los Angeles, CA 90017	Metrolink Mr. Darren Kettle CEO 900 Wilshire Boulevard #1500 Los Angeles, CA 90017
Metrolink Mr. Justin Fornelli Chief of Program Delivery 900 Wilshire Boulevard #1500 Los Angeles, CA 90017	Metrolink Ms. Lisa Bahr Chief of Customer Experience 900 Wilshire Boulevard #1500 Los Angeles, CA 90017	Metrolink Ms. Sylvia Novoa Public Affairs Manager 900 Wilshire Boulevard #1500 Los Angeles, CA 90017
ONT Mr. Jim W. Bowman Secretary 1923 East Avion Street Ontario, CA 91761	ONT Ms. Julia Gouw Commissioner 1923 East Avion Street Ontario, CA 91761	ONT Mr. Ronald O. Loveridge Vice President 1923 East Avion Street Ontario, CA 91761
Caltrans, District 8 Mr. Catalino A. Pining III Director 464 West 4th Street 6th Floor San Bernardino, CA 92401	OmniTrans Ms. Erin Rogers CEO and General Manager 1700 W. Fifth Street San Bernardino, CA 92411	OmniTrans Mr. Dietter Aragon Director of Operations 1700 W. Fifth Street San Bernardino, CA 92411
OmniTrans Mr. Jeremiah Bryant Chief Strategy and Planning Officer 1700 W. Fifth Street San Bernardino, CA 92411		

Utilities		
AT&T South Ms. Susan Blackburn 1452 Edinger Ave, 3rd Floor Tustin CA, 92780	City of Ontario Mr. Jimmy Chang 303 East B St Ontario, CA 91764	City of Ontario Mr. Scott Burton Utilities General Manager 1425 South Bon View Ave Ontario, CA 91761
Crown Castle Mr. Jeff Foutz 1500 Corporate Dr Canonsburg, PA 15317	Cucamonga Valley Water District Mr. Ted Munson 10440 Ashford St Rancho Cucamonga, CA 91729	HP Communications Mr. Mauricio Bahena 8440 Cottonwood Ave Fontana, CA 92335
Inland Empire Utilities Agency Mr. Matthew Poeske 6075 Kimball Ave Chino, CA 91708	Kinder Morgan Energy Partners Ms. Nicole Rodriguez 2319 S Riverside Ave Bloomington, CA 92316	Level 3 Communications Mr. Renoy Thomas 1025 Eldorado Blvd Broomfield, CO 80021
MCI Mr. Efrain Rodriguez 1300 I St NW, Suite 400w Washington, DC 20005	Metropolitan Water District of Southern California - La Verne Mr. Jesse Franco Operations Control Center 700 Moreno Ave La Verne, CA 91750	Southern California Edison Ms. Kim Gurule 2885 W Foothill Blvd San Bernardino, CA 92410
Southern California Edison Mr. Sunil Vishwanauth 2885 W Foothill Blvd San Bernardino, CA 92410	Spectrum – Riverside Mr. David Anderson 7337 Central Ave Riverside, CA 92504	Airtouch Cellular Mr. John Crosse 15505 Sand Canyon Ave Irvine, CA 92618
Utilitiquest for City of Rancho Cucamonga Mr. Ernest Ruiz 8794 Lion St Rancho Cucamonga, CA 91729	Frontier Mr. Jerry Serrano 32477 Haun Rd Menifee, CA 92584	Zenith Energy West Coast Terminals Ms. Becky Sitton 5900 Cherry Ave Long Beach, CA 90805
Ultimate Internet Access Mr. John Burke-Zuber 3633 Inland Empire Blvd, Suite 890 Ontario, CA 91764		

Interested Parties		
Ontario Heritage Ms. Petrina Delman President Ontario, CA 91762, USA prdelman@ontarioheritage.org	Casa de Rancho Cucamonga Historical Society Mr. Bruch McCarthy 8810 Hemlock Street Rancho Cucamonga, CA 91730	Etiwanda Historical Society Ms. Marsha Banks Curator P.O. Box 363 Etiwanda, CA 91739
Historical Preservation Association of Rancho Cucamonga Ms. Luana Hernandez President P.O. Box 9543 Rancho Cucamonga, CA 91701-8473	Cooper Regional History Museum Mr. Bob Warren President 217 East "A" Street Upland, CA 91786	San Bernardino Historical & Pioneer Society P.O. Box 875 San Bernardino, CA 92402
Southern Pacific Historical & Technical Society Mr. David Coscia President 1525 Howard Access Road, Suite E Upland, CA 91786	Southern Pacific Railroad History Center Mr. Scott Inman President and Director 1475 Purson Lane Lafayette, CA 94549	

Native American Tribal Representatives		
Agua Caliente Band of Cahuilla Indians Patricia Garcia-Plotkin, Director 5401 Dinah Shore Drive Palm Springs, CA, 92264	Agua Caliente Band of Cahuilla Indians Reid Milanovich, Chairperson 5401 Dinah Shore Drive Palm Springs, CA, 92264	Gabrieleno Band of Mission Indians - Kizh Nation Andrew Salas, Chairperson P.O. Box 393 Covina, CA, 91723
Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales, Chairperson P.O. Box 693 San Gabriel, CA, 91778	Gabrielino /Tongva Nation Sandonne Goad, Chairperson 106 1/2 Judge John Aiso Street, #231 Los Angeles, CA, 90012	Gabrielino Tongva Indians of California Tribal Council Robert Dorame, Chairperson P.O. Box 490 Bellflower, CA, 90707
Gabrielino-Tongva Indians of California Tribal Council Christina Conley, Tribal Consultant and Administrator P.O. Box 941078 Simi Valley, CA 93094	Gabrielino-Tongva Tribe Charles Alvarez 23454 Vanowen Street West Hills, CA, 91307	Morongo Band of Mission Indians Robert Martin, Chairperson 12700 Pumarra Road Banning, CA, 92220
Morongo Band of Mission Indians Ann Brierty, THPO 12700 Pumarra Road Banning, CA, 92220	Quechan Tribe of the Fort Yuma Reservation Jill McCormick, Historic Preservation Officer P.O. Box 1899 Yuma, AZ 85366	San Manuel Band of Mission Indians Jessica Mauck, Director of Cultural Resources 26569 Community Center Drive Highland, CA, 92346
Santa Rosa Band of Cahuilla Indians Lovina Redner, Tribal Chair P.O. Box 391820 Anza, CA, 92539	Serrano Nation of Mission Indians Wayne Walker, Co-Chairperson P. O. Box 343 Patton, CA, 92369	Serrano Nation of Mission Indians Mark Cochrane, Co-Chairperson P. O. Box 343 Patton, CA, 92369

Soboba Band of Luiseno Indians Isaiah Vivanco, Chairperson P.O. Box 487 San Jacinto, CA, 92581	Soboba Band of Luiseno Indians Joseph Ontiveros, Cultural Resource Department P.O. Box 487 San Jacinto, CA, 92581	

Agua Caliente Chair Milanovich

U.S. Department of Transportation
Federal Transit Administration

REGION IX
Arizona, California,
Hawaii, Nevada, Guam,
American Samoa,
Northern Mariana Islands

888 South Figueroa Street
Suite 440
Los Angeles, CA 90017-5467
213-202-3950

May 29, 2024

Mr. Reid Milanovich
Chairperson
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive
Palm Springs, CA 92264

RE: Section 106 Tribal Consultation for the Ontario International Airport Connector Project

Dear Mr. Milanovich,

The Federal Transit Administration (FTA), in coordination with the San Bernardino County Transportation Authority (SBCTA), is initiating consultation under Section 106 of the National Historic Preservation Act (NHPA) for the proposed Ontario International Airport (ONT) Connector Project (Project) located in the cities of Rancho Cucamonga and Ontario in San Bernardino County as shown in Enclosure #1 (Regional Location Map). The Project is a federal undertaking. The FTA is the lead federal agency. Pursuant to 36 FTA Part 800.2 (c)(4) and (c)(5), we are contacting both Native American tribes and interested parties to help identify precontact sites, sacred sites, and/or traditional cultural properties within the Project Area. You have been identified as a Native American tribe or interested party with interest or knowledge of the Project Area.

Overview of the Proposed Project

The proposed Project would include the construction of a 4.2-mile-long tunnel connecting the Cucamonga Metrolink Station and ONT. The Project includes the construction of three passenger stations, a maintenance facility, and one access and ventilation shaft. The underground tunnel (24-foot inner diameter bi-directional tunnel) would begin at the Cucamonga Metrolink Station and travel south under Milliken Avenue, crossing beneath 6th Street, 4th Street, Interstate 10 (I-10), and the Union Pacific Railroad, before traveling west beneath East Airport Drive. It would connect to Terminals 2 and 4 at ONT, as illustrated in Enclosure #2 (Project Location Map). Tunnel boring would occur up to approximately 70 feet below the ground surface. Passenger stations would be constructed at a height of approximately 40 feet. Although partial property acquisitions and easements are required, no business or residential relocations are anticipated.

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Request for Information

If you have any information or concern regarding potential impacts on precontact sites, sacred sites, and/or traditional cultural properties that would be relevant to this Project, please contact us. If you are not the designated representative for such consultation, please let us know.

If you have any questions or need additional information, feel free to call or email Ms. Kathleen Kelly, Environmental Protection Specialist, at (415) 734-9469 or kathleen.kelly@dot.gov.

Sincerely,

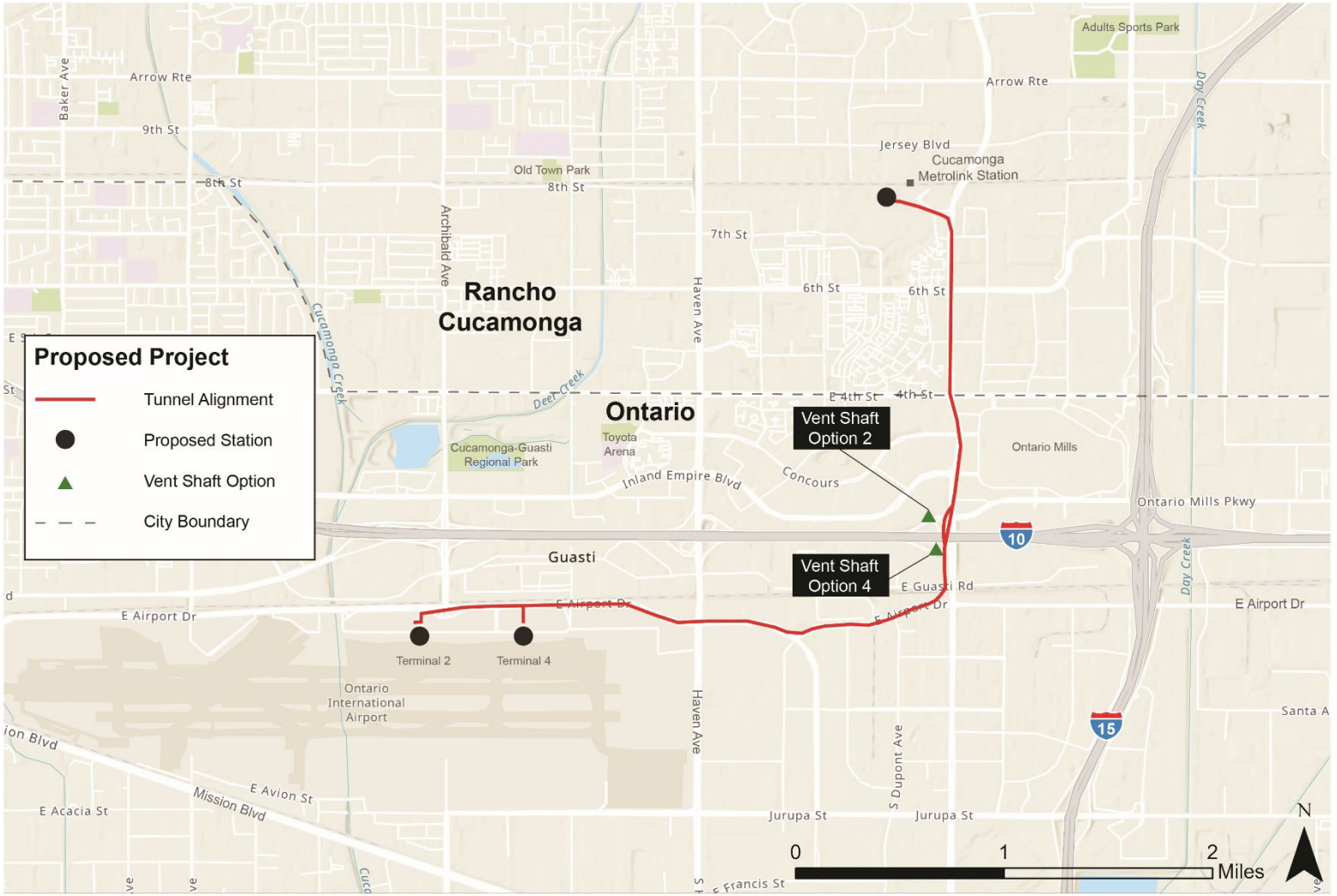
CHARLENE LEE LORENZO
Digitally signed by CHARLENE LEE LORENZO
Date: 2024.05.23 09:31:05 -07'00'

For Ray Tellis
Regional Administrator

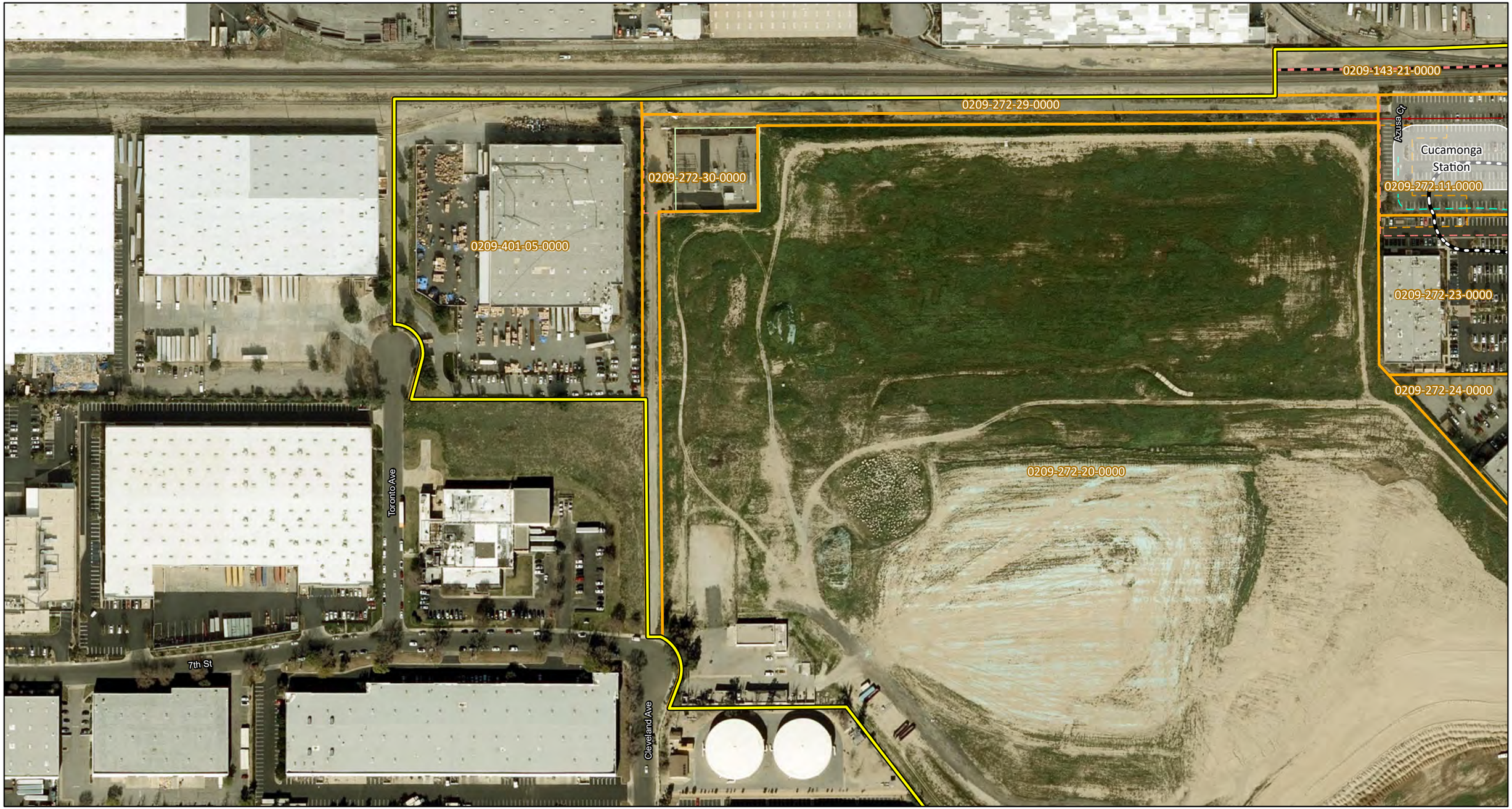
Enclosures:
1. Regional Location Map
2. Project Location Map
3. Proposed Area of Potential Effects (APE) Map

Enclosure 1: Regional Location Map

Enclosure 2: Project Location Map



Source: AECOM 2024; HNTB 2024; San Bernardino County, Maxar, Microsoft, City of Rancho Cucamonga, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, County of Los Angeles, California State Parks, Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS.



Area of Potential Effects (APE)

80-ft Vibration Zone

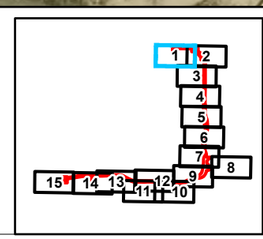
Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

1 - 36-006847

0 100 200
FEET



Sheet 1 of 15

SOURCE: Maxar Imagery (2023); AECOM (2024)

I:\AEM2201\GIS\Pro\Emerging Technology Tunnel to Ontario International Airport\ONT Connector Project.aprx (4/11/2024)

Area of Potential Effects (APE)
80-ft Vibration Zone
Proposed Plans
Tunnel Outline
Existing Right of Way
Parcel within APE
Properties Evaluated for Historical Significance
1 - 36-006847

N

0 100 200
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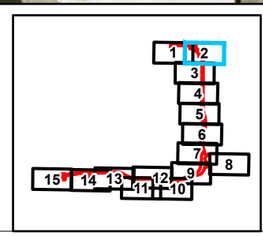

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Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
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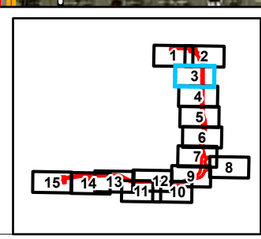

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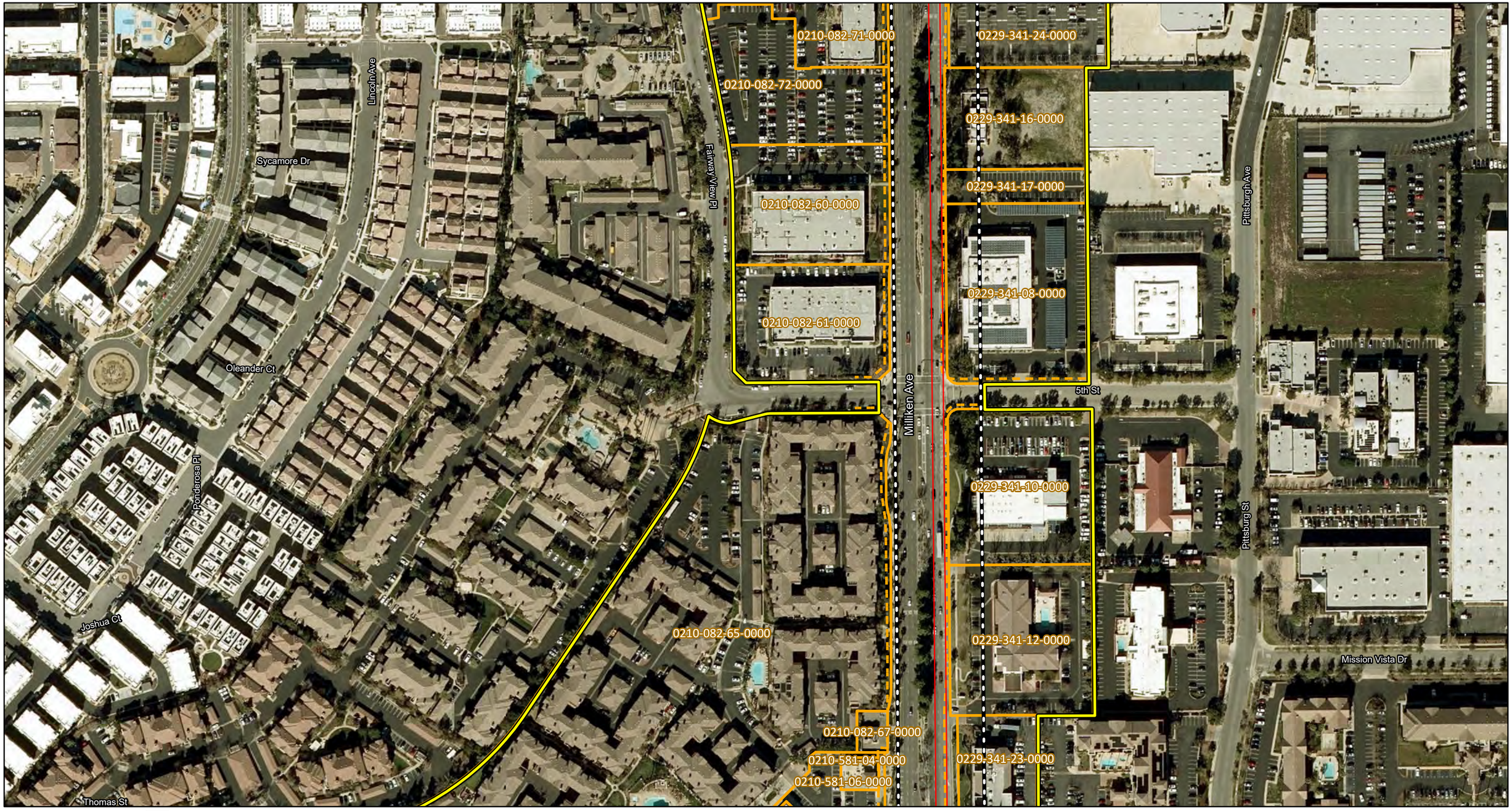


Area of Potential Effects (APE)

80-ft Vibration Zone

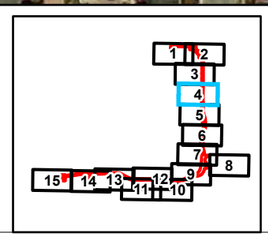
Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
FEET



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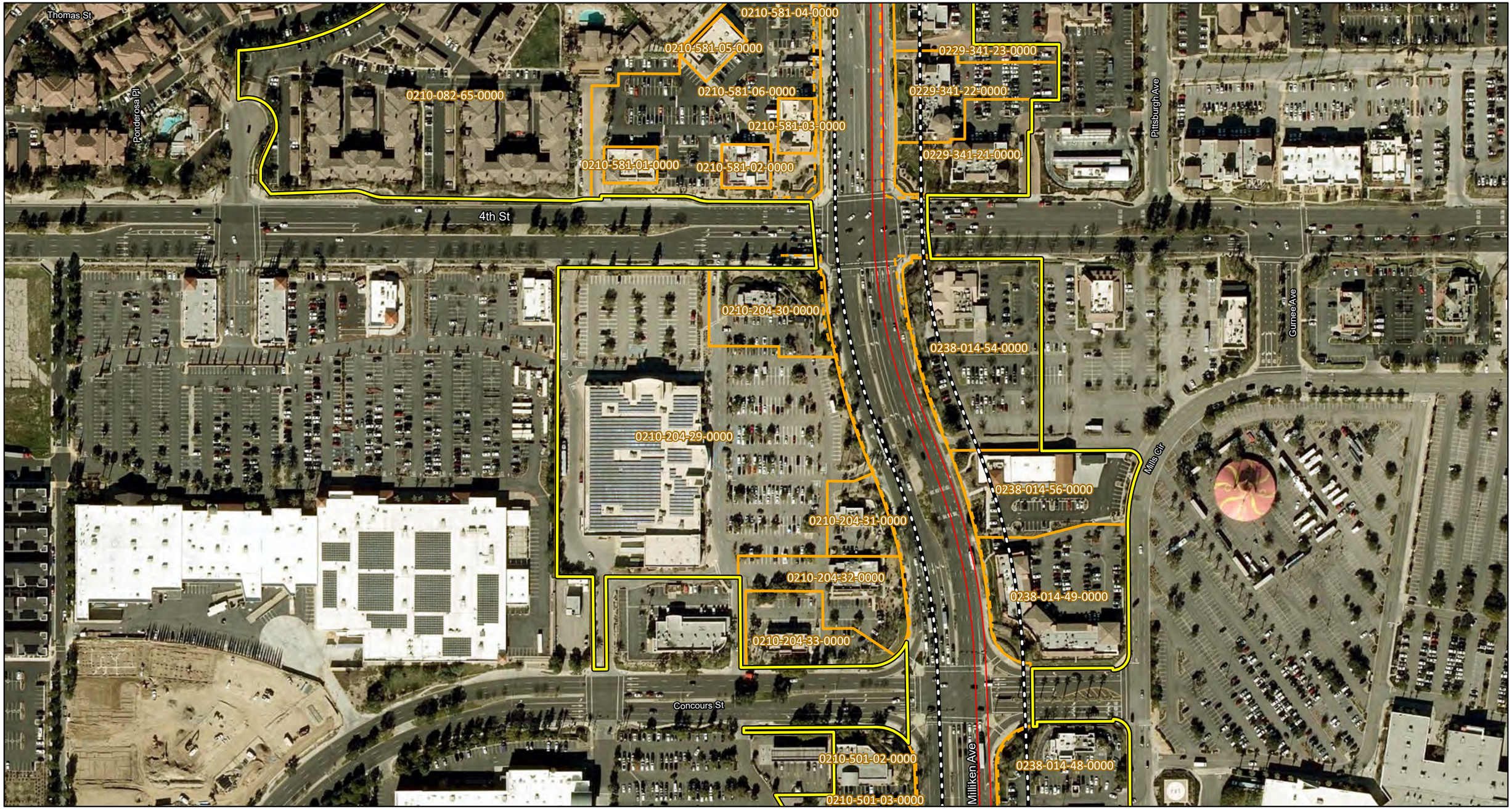

Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
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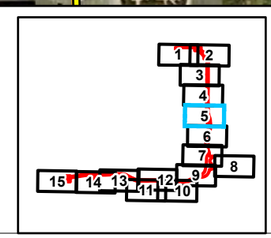

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Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Tunnel Outline (Vent Shaft Design Option 2 Alignment)

Tunnel Outline (Vent Shaft Design Option 4 Alignment)

Existing Right of Way

Parcel within APE

0 100 200
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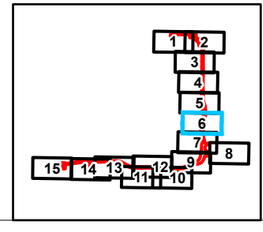

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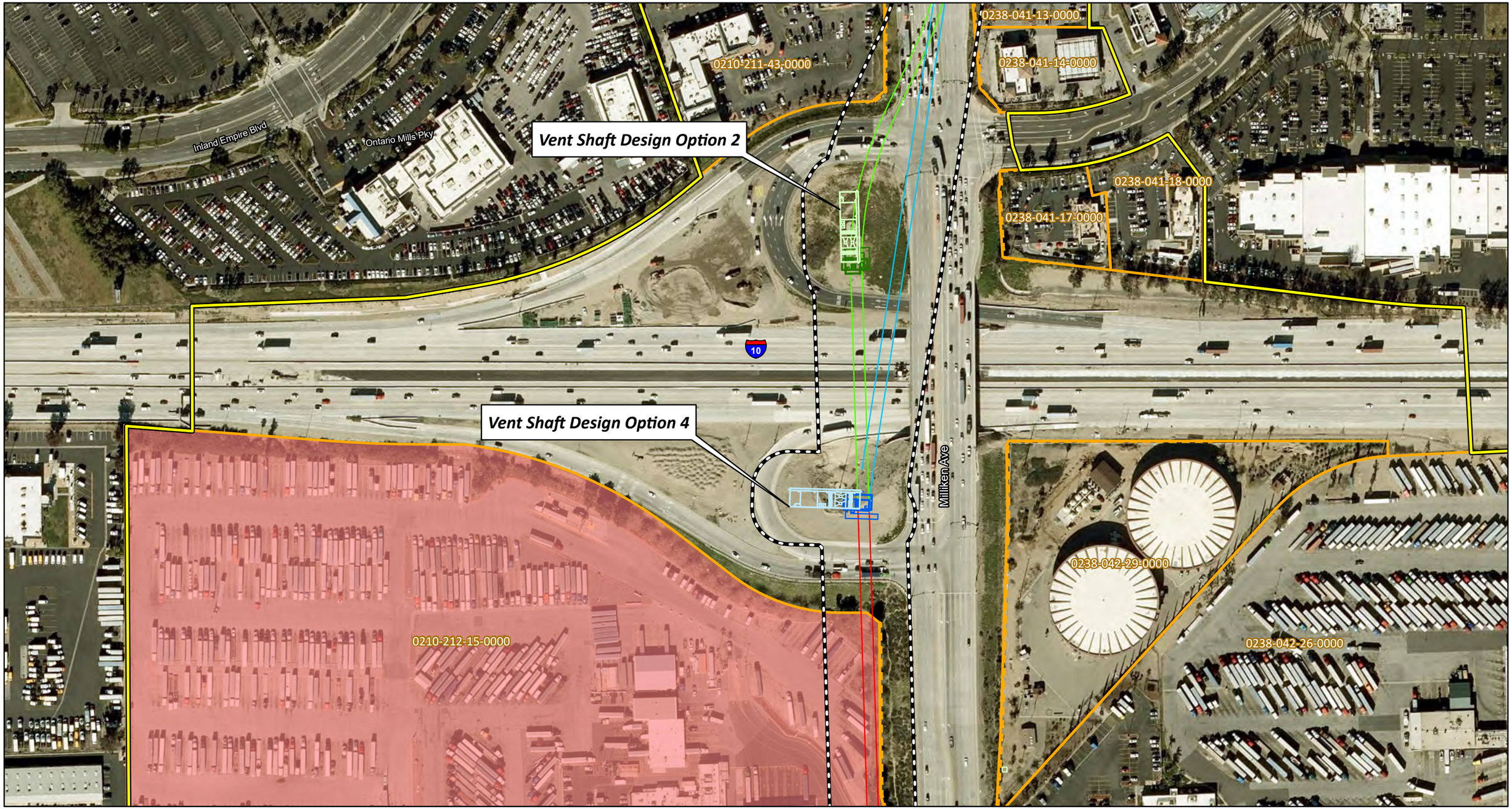

Area of Potential Effects (APE)
80-ft Vibration Zone

Proposed Plans
- Tunnel Outline
- Tunnel Outline (Vent Shaft Design Option 2 Alignment)
- Tunnel Outline (Vent Shaft Design Option 4 Alignment)
- Egress Vent Shaft (Option 2)
- Egress Vent Shaft (Option 4)
- Headhouse Building (Option 2)
- Headhouse Building (Option 4)
- Existing Right of Way
- Parcel within APE

Properties Evaluated for Historical Significance
- 2 - 4265 East Guasti Road

0 100 200
FEET

SOURCE: Maxar Imagery (2023); AECOM (2024)

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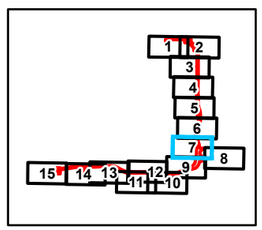

Area of Potential Effects (APE)

80-ft Vibration Zone

Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

3 - 36-010330

0 100 200
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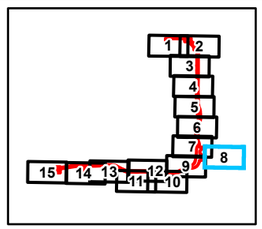

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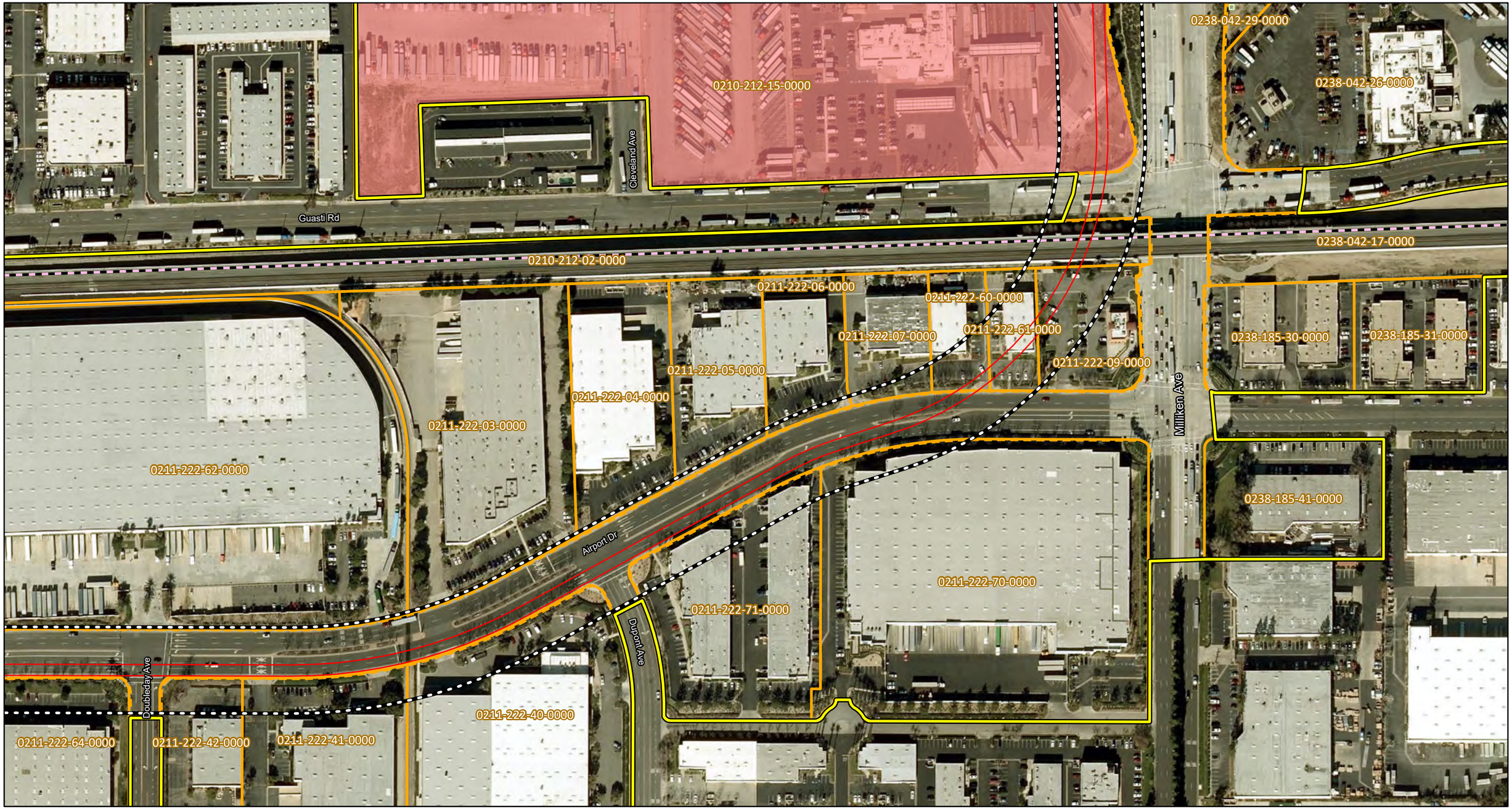

Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

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Properties Evaluated for Historical Significance

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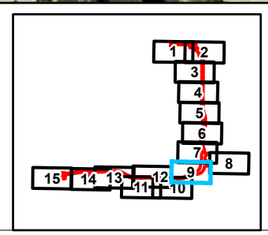

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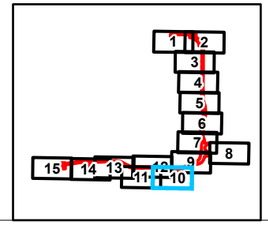

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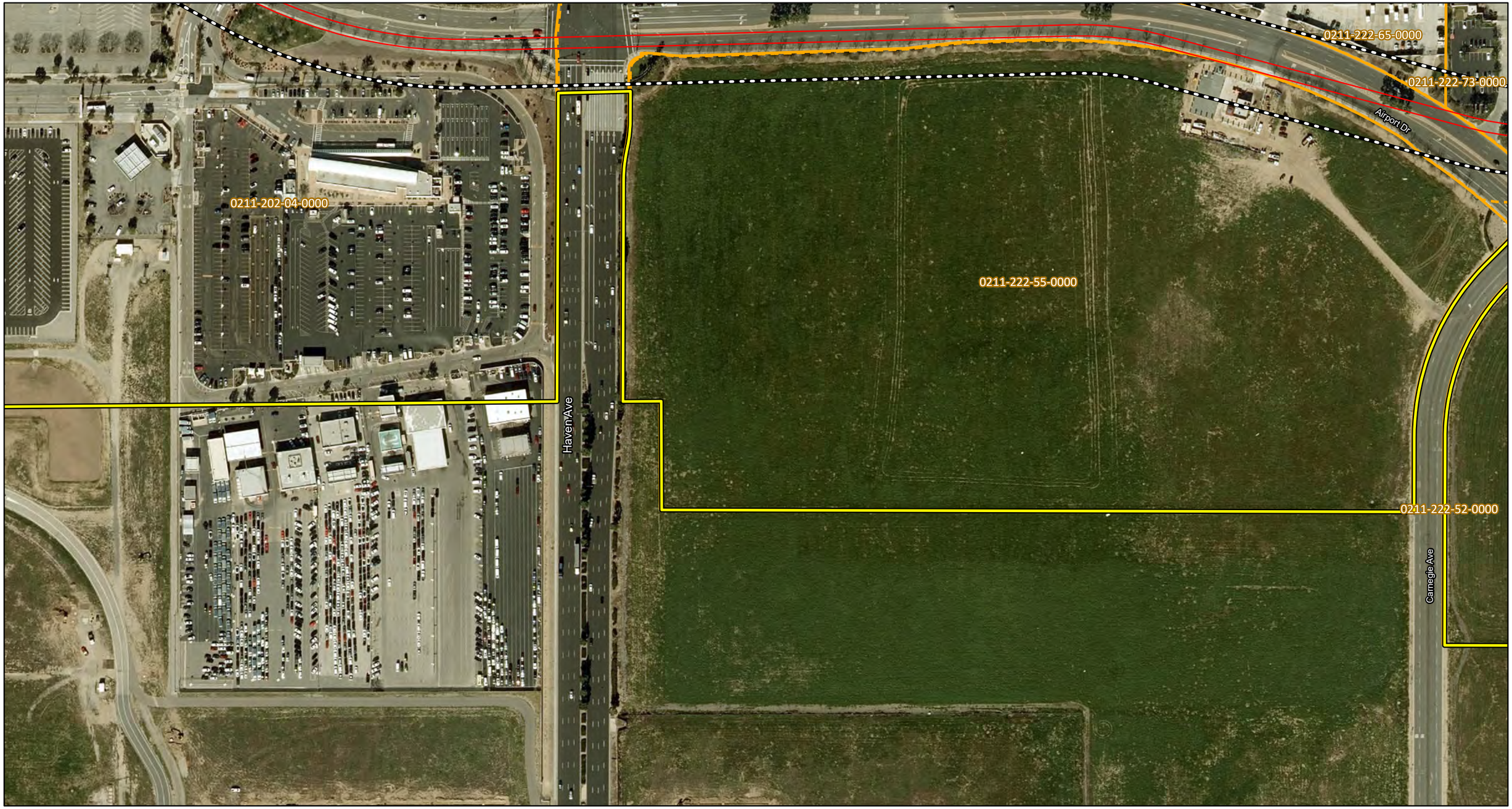

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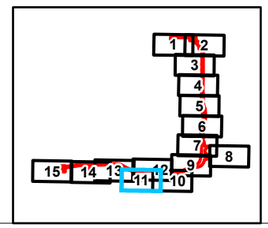

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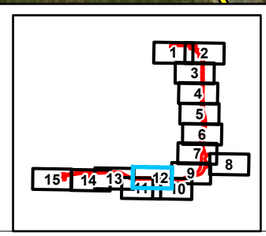

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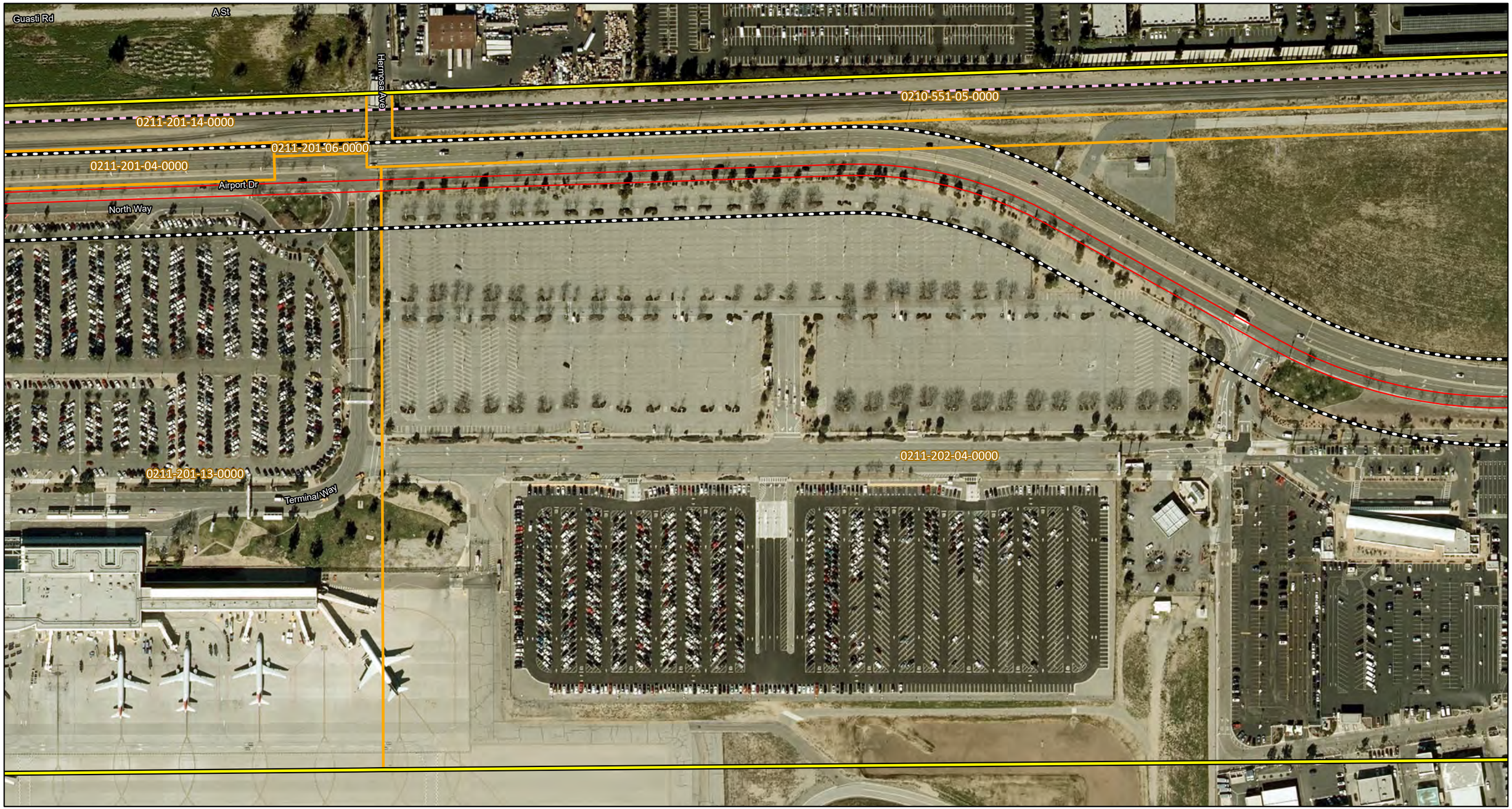

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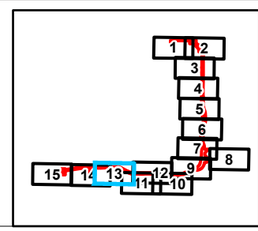

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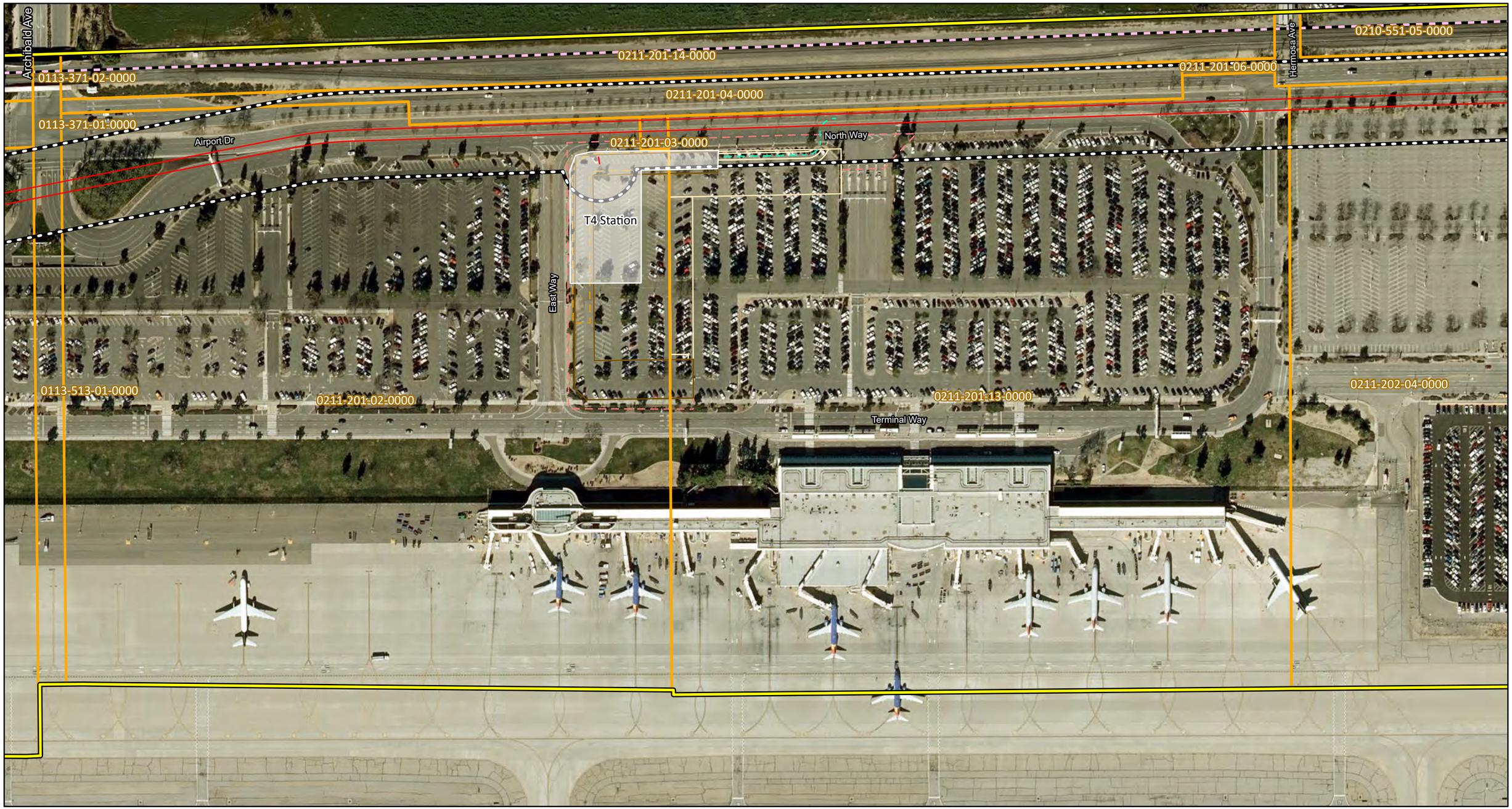

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Tunnel Outline

Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

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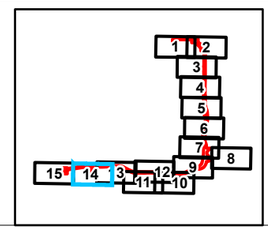

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Existing Right of Way
Parcel within APE

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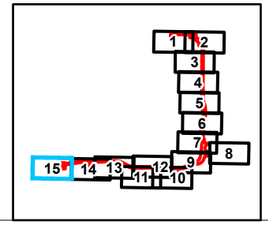
3 - 36-010330



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Casa de Rancho Historic Mercado

U.S. Department of Transportation
Federal Transit Administration

REGION IX
Arizona, California,
Hawaii, Nevada, Guam,
American Samoa,
Northern Mariana Islands

888 South Figueroa Street
Suite 440
Los Angeles, CA 90017-5467
213-202-3950

May 29, 2024

Ms. Sara Mercado
Historic Sites
Casa de Rancho Cucamonga Historical Society, San Bernardino County Museum
2024 Orange Tree Lane
Redlands, CA 92374

RE: Section 106 Tribal Consultation for the Ontario International Airport Connector Project

Dear Ms. Mercado,

The Federal Transit Administration (FTA), in coordination with the San Bernardino County Transportation Authority (SBCTA), is initiating consultation under Section 106 of the National Historic Preservation Act (NHPA) for the proposed Ontario International Airport (ONT) Connector Project (Project) located in the cities of Rancho Cucamonga and Ontario in San Bernardino County as shown in Enclosure #1 (Regional Location Map). The Project is a federal undertaking. The FTA is the lead federal agency. Pursuant to 36 FTA Part 800.2 (c)(4) and (c)(5), we are contacting both Native American tribes and interested parties to help identify precontact sites, sacred sites, and/or traditional cultural properties within the Project Area. You have been identified as a Native American tribe or interested party with interest or knowledge of the Project Area.

Overview of the Proposed Project

The proposed Project would include the construction of a 4.2-mile-long tunnel connecting the Cucamonga Metrolink Station and ONT. The Project includes the construction of three passenger stations, a maintenance facility, and one access and ventilation shaft. The underground tunnel (24-foot inner diameter bi-directional tunnel) would begin at the Cucamonga Metrolink Station and travel south under Milliken Avenue, crossing beneath 6th Street, 4th Street, Interstate 10 (I-10), and the Union Pacific Railroad, before traveling west beneath East Airport Drive. It would connect to Terminals 2 and 4 at ONT, as illustrated in Enclosure #2 (Project Location Map). Tunnel boring would occur up to approximately 70 feet below the ground surface. Passenger stations would be constructed at a height of approximately 40 feet. Although partial property acquisitions and easements are required, no business or residential relocations are anticipated.

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Sincerely,

CHARLENE LEE LORENZO
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Date: 2024.05.23 09:31:05 -07'00'

For Ray Tellis
Regional Administrator

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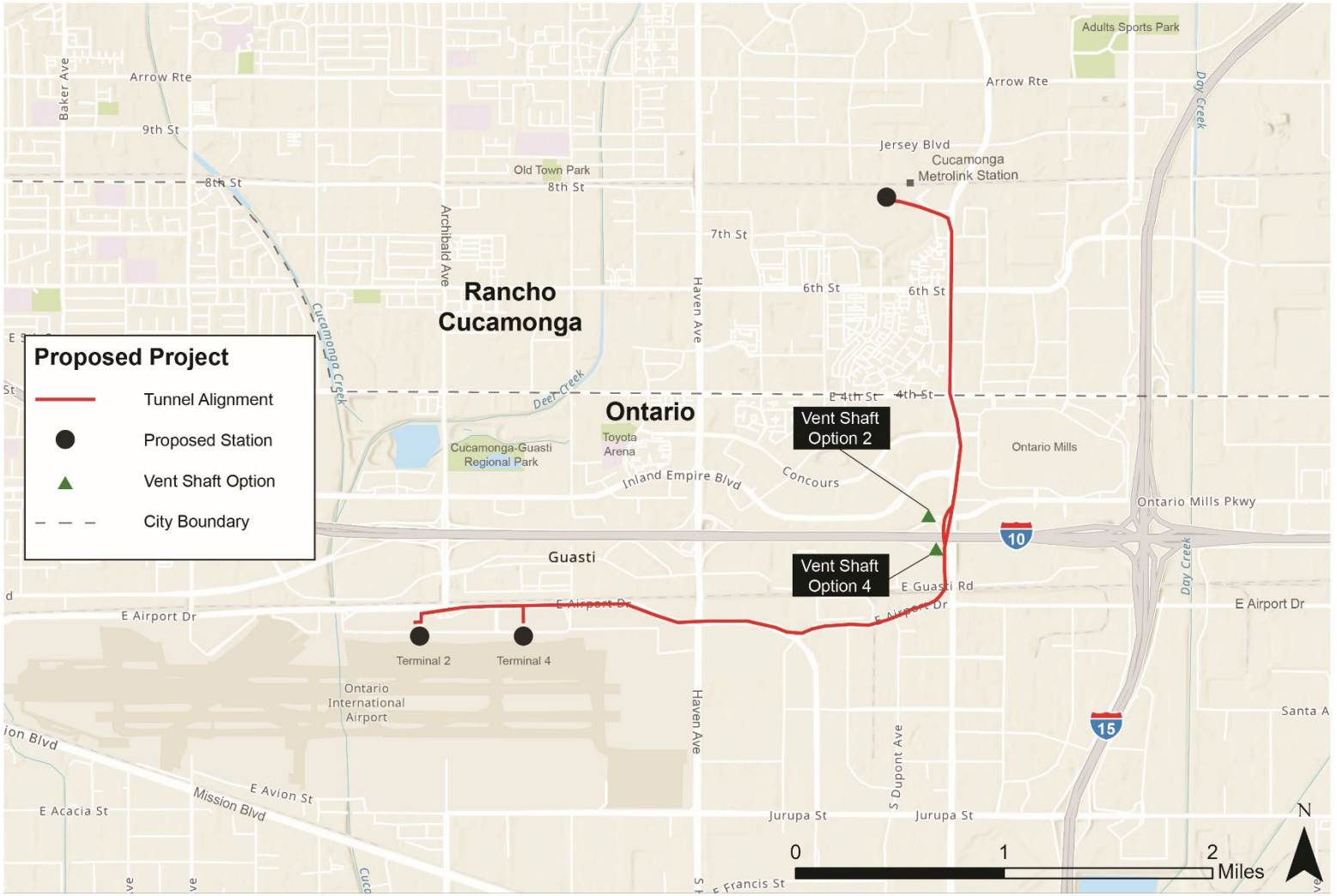

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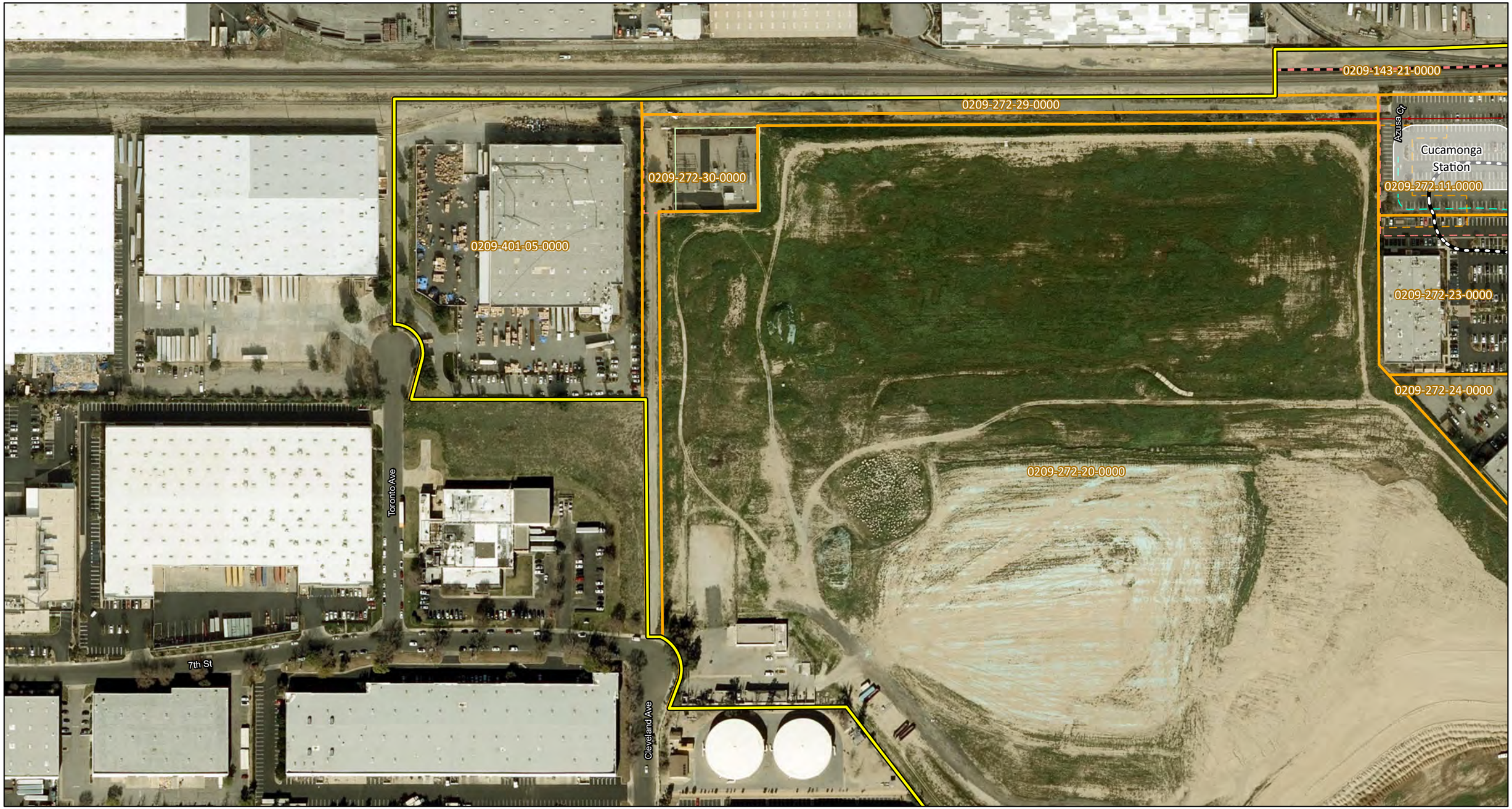


Area of Potential Effects (APE)

80-ft Vibration Zone

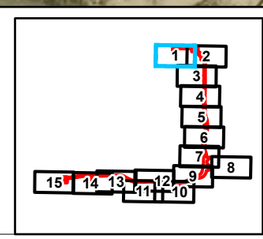
Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

1 - 36-006847

0 100 200
FEET



Sheet 1 of 15

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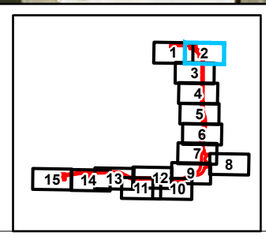
Area of Potential Effects (APE)
80-ft Vibration Zone
Proposed Plans
Tunnel Outline
Existing Right of Way
Parcel within APE
Properties Evaluated for Historical Significance
1 - 36-006847

0 100 200
FEET



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Area of Potential Effects (APE)

80-ft Vibration Zone

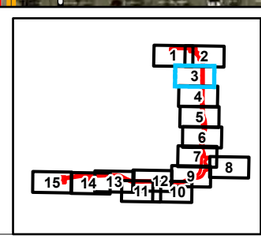
Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
FEET



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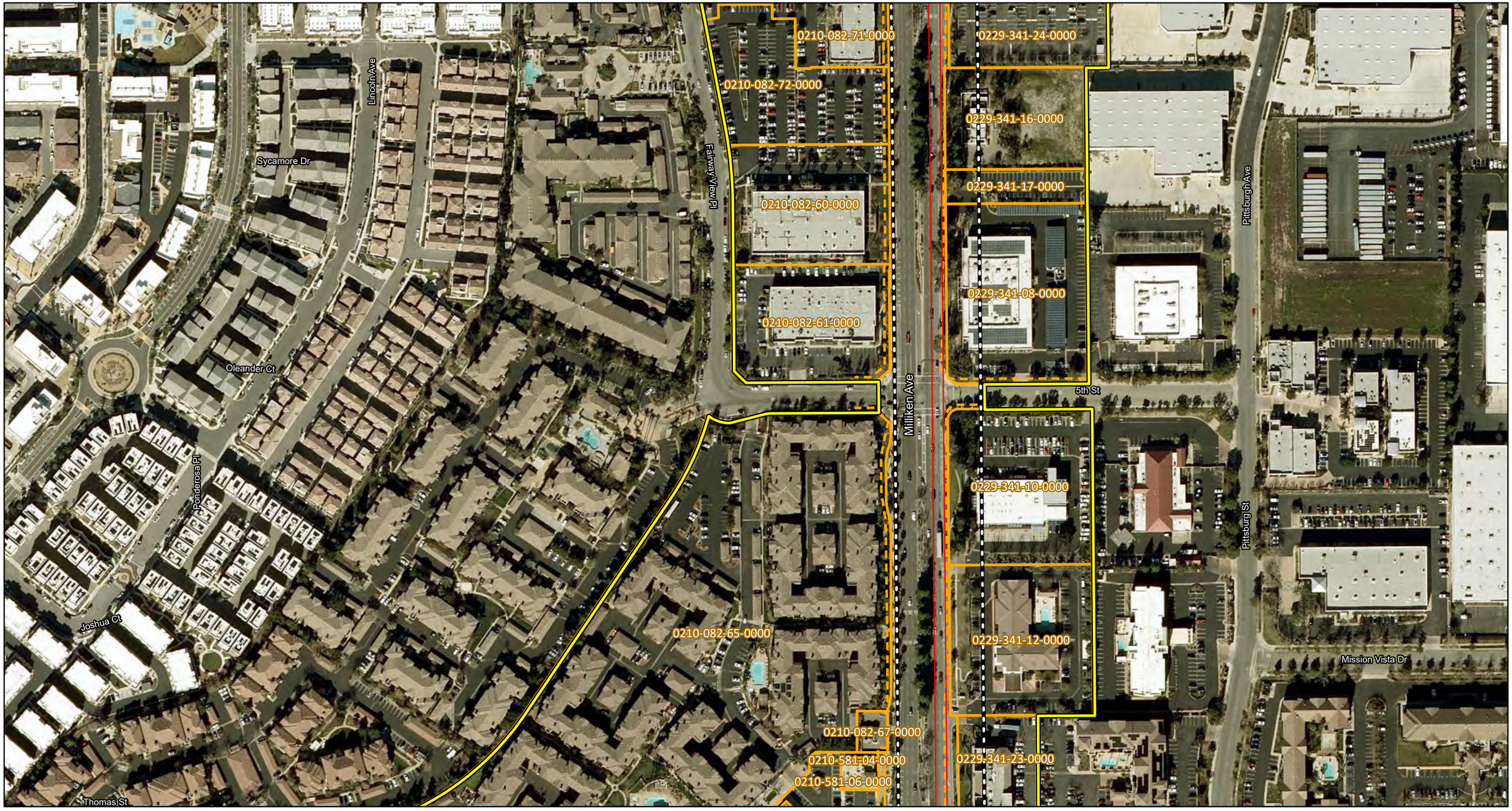


Area of Potential Effects (APE)

80-ft Vibration Zone

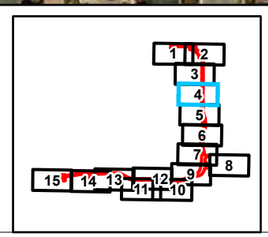
Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
FEET



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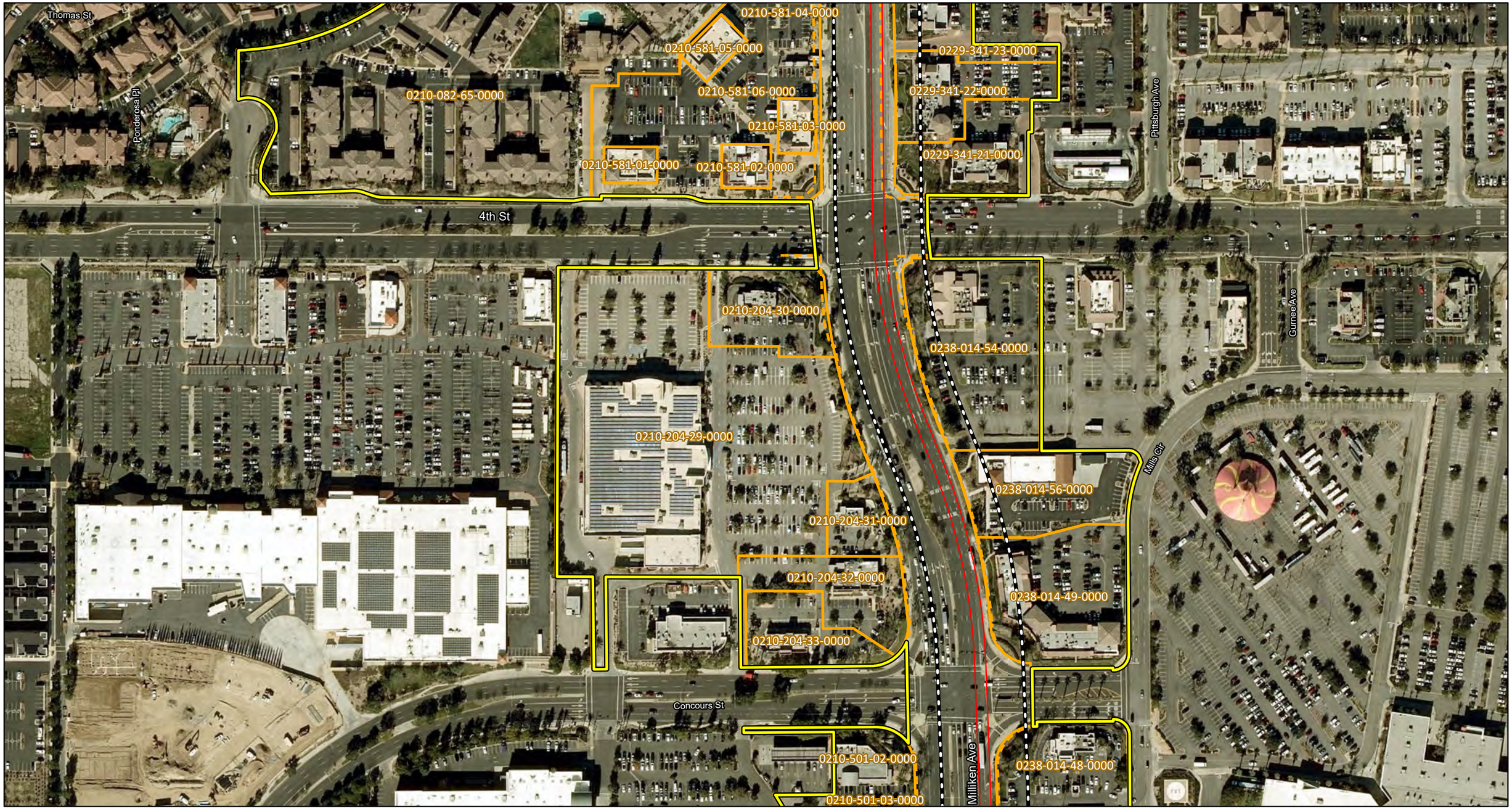


Area of Potential Effects (APE)

80-ft Vibration Zone

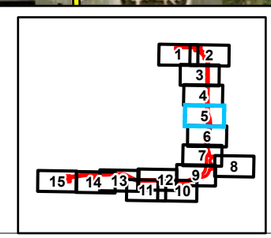
Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
FEET



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Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

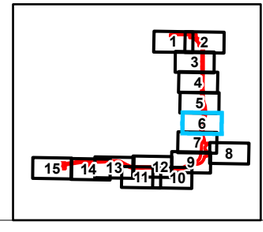
Tunnel Outline (Vent Shaft Design Option 2 Alignment)

Tunnel Outline (Vent Shaft Design Option 4 Alignment)

Existing Right of Way

Parcel within APE

0 100 200
FEET



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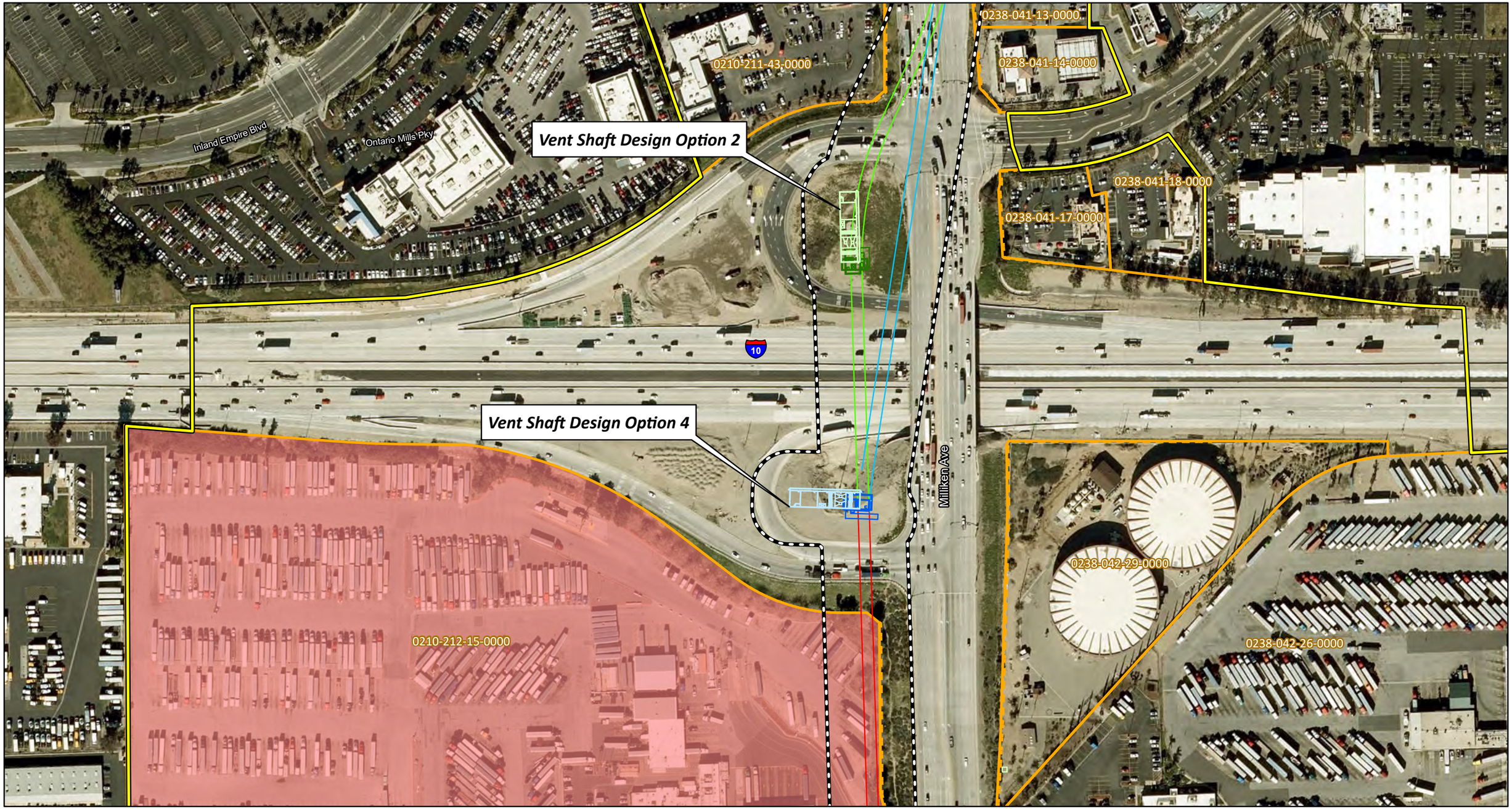


Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Tunnel Outline (Vent Shaft Design Option 2 Alignment)

Tunnel Outline (Vent Shaft Design Option 4 Alignment)

Egress Vent Shaft (Option 2)

Egress Vent Shaft (Option 4)

Headhouse Building (Option 2)

Headhouse Building (Option 4)

Existing Right of Way

Parcel within APE

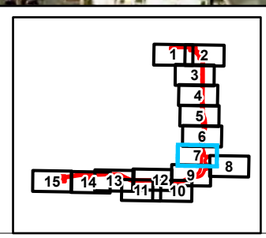
Properties Evaluated for Historical Significance

2 - 4265 East Guasti Road

N

0 100 200

FEET



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Area of Potential Effects (APE)

80-ft Vibration Zone

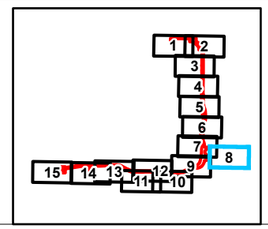
Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

3 - 36-010330

0 100 200
FEET



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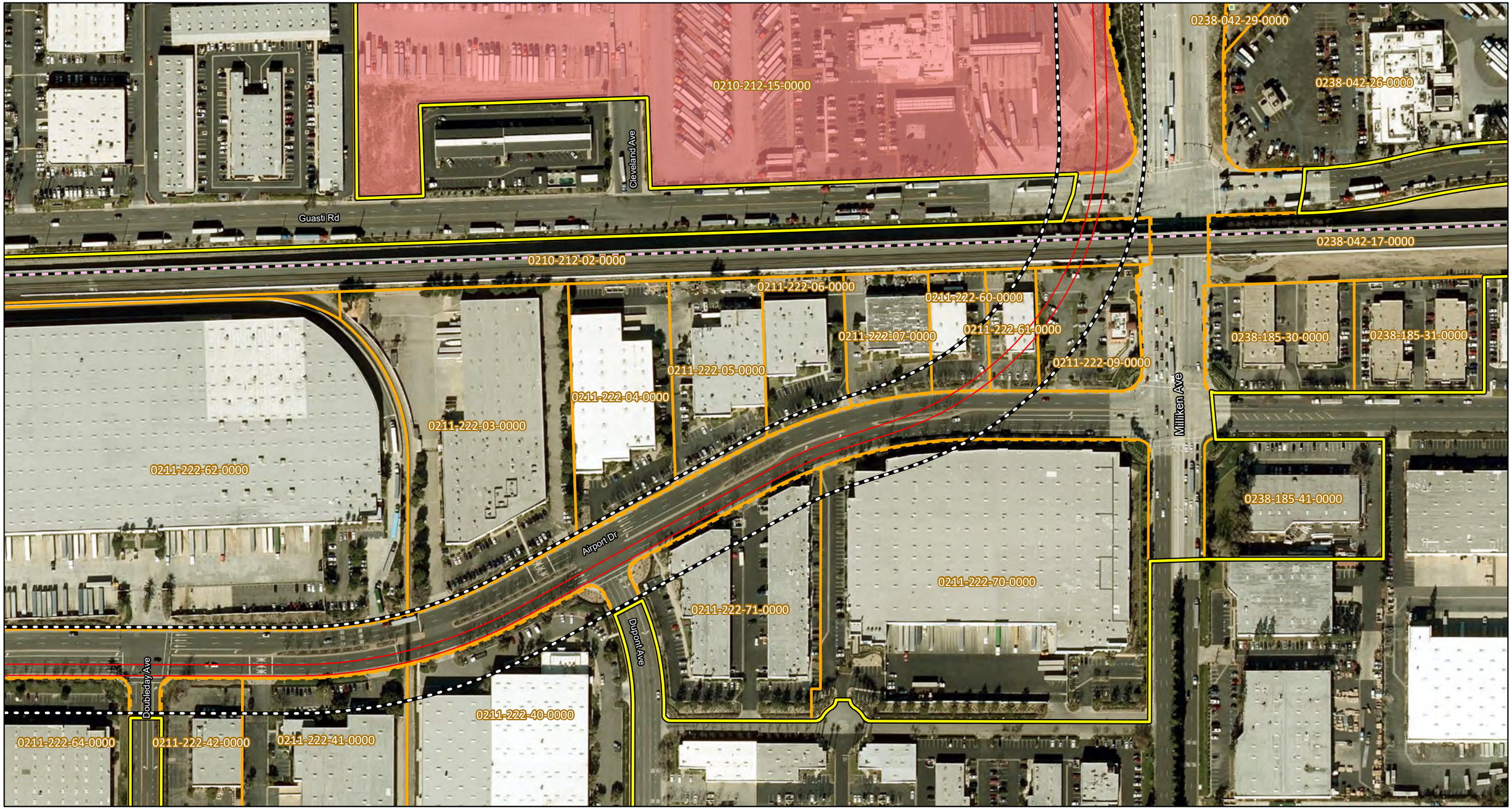

Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

3 - 36-010330

Properties Evaluated for Historical Significance

2 - 4265 East Guasti Road

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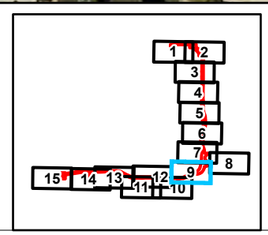

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Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

N

0 100 200

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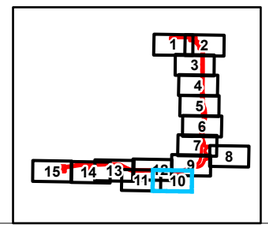

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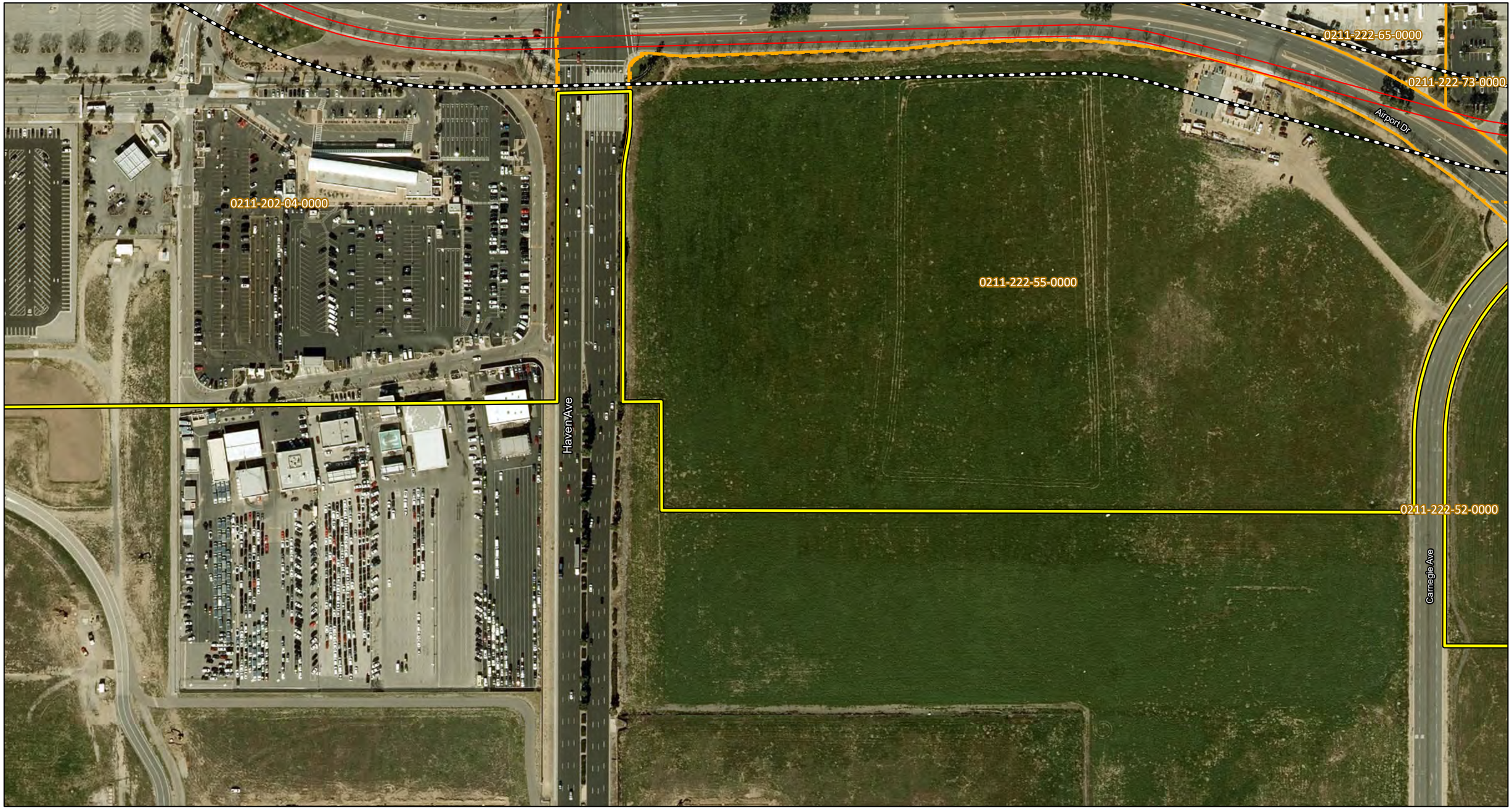


Area of Potential Effects (APE)

80-ft Vibration Zone

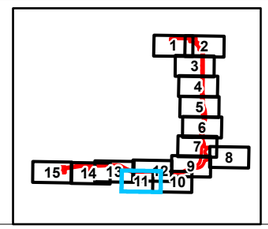
Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

0 100 200
FEET



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Area of Potential Effects (APE)
80-ft Vibration Zone
Proposed Plans
Tunnel Outline
Existing Right of Way
Parcel within APE
Properties Evaluated for Historical Significance
3 - 36-010330

N

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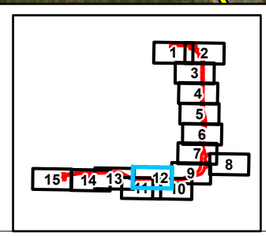

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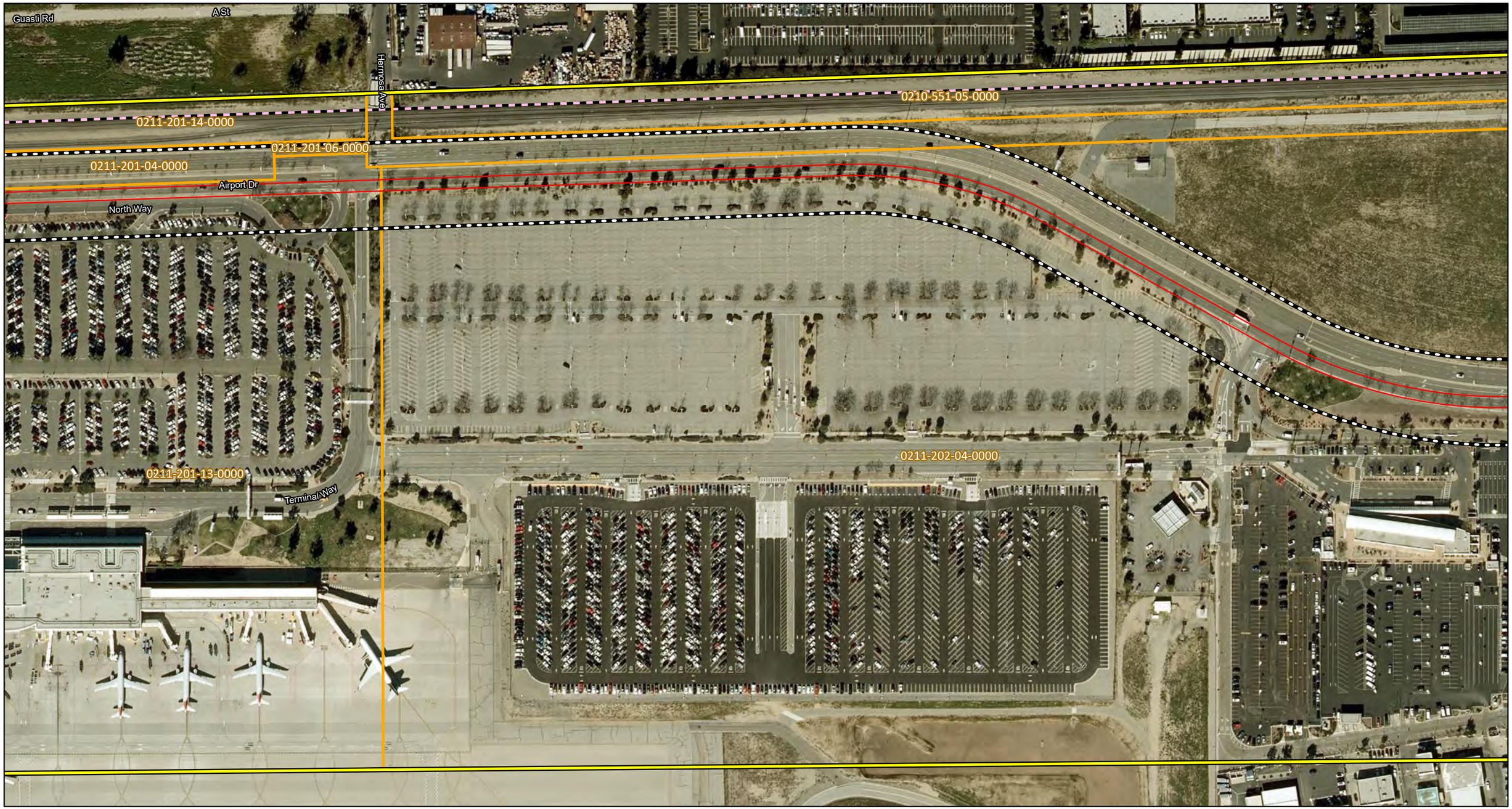

Area of Potential Effects (APE)
80-ft Vibration Zone

Proposed Plans
Tunnel Outline

Existing Right of Way
Parcel within APE

Properties Evaluated for Historical Significance
3 - 36-010330

N

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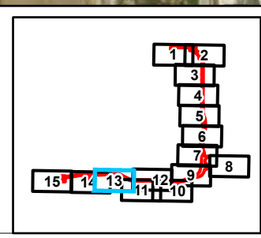

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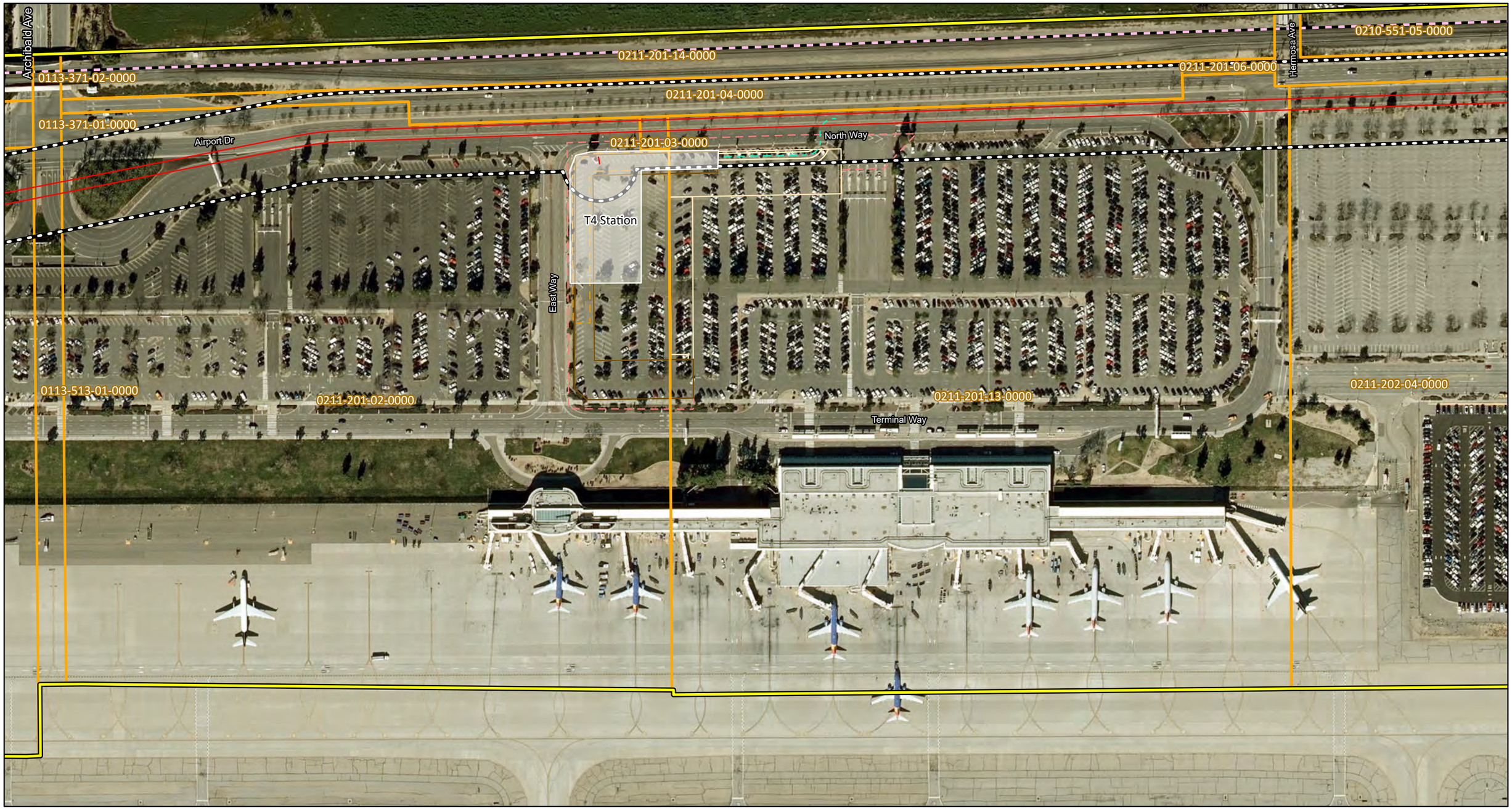

Area of Potential Effects (APE)

80-ft Vibration Zone

Proposed Plans

Tunnel Outline

Existing Right of Way

Parcel within APE

Properties Evaluated for Historical Significance

3 - 36-010330

N

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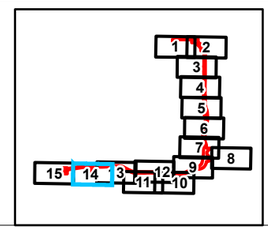
FEET



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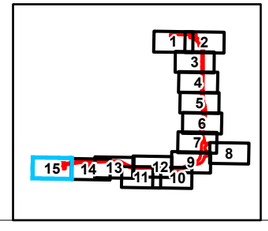
Area of Potential Effects (APE)
80-ft Vibration Zone

Proposed Plans
Tunnel Outline

Existing Right of Way
Parcel within APE

Properties Evaluated for Historical Significance
3 - 36-010330



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Ontario International Airport Connector Project

ONTCONNECTOR

APPENDIX G
ENVIRONMENTAL COMMITMENTS RECORD

October 2024

Prepared by:

sbcta

San Bernardino County Transportation Authority
1170 West Third Street, Second Floor
San Bernardino, California 92410-1715

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
Air Quality	**MM-AQ-1**: **Implement Basic Construction Emission Control Practices.** The following construction measures to limit and reduce air emissions from the construction sites will be implemented: A. Control fugitive dust as required by District Rule 403 and enforced by District staff. B. Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads. C. All haul trucks transporting soil, sand, or other loose material off site shall be covered. D. Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. E. Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. F. Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). G. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading, unless seeding or soil binders are used. H. Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations).	Construction	SBCTA, Contractor	Implement Pollution Reduction Measures

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	Provide clear signage that posts this requirement for workers at the entrances to the site. I. Provide current certificate(s) of compliance for California Air Resources Board (CARB)'s In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, Sections 2449 and 2449.1]. J. Maintained all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition prior to operation.			
Community and Socioeconomic Resources	None.			
Cultural Resources	**MM-CUL-1: Discovery of Archaeological Materials.** In the event that archaeological materials are encountered during construction, all construction work shall be halted within a 60-foot buffer and a qualified archaeologist consulted to determine the appropriate treatment of the discovery (CCR Title 14, Chapter 3, Section 15064.5(f)). Section 106 requires FTA to notify SHPO and the consulting parties within 48 hours, and the requirements of 36 CFR 800.13 will be followed.	Construction	FTA, SBCTA, Contractor	Consult with a qualified archaeologist to determine the appropriate treatment of the discovery. Notify SHPO and the consulting parties. Follow 36 CFR 800.13.
	MM-CUL-2: **Discovery of Human Remains.** In the event human remains/funerary objects are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur within a 100-foot buffer until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately. San Bernardino County Transportation Authority will notify the Federal Transit Administration on the same day of the	Construction	FTA, SBCTA, Contractor	Contact the County Coroner or "Most Likely Descendant" if human remains are discovered and determined to be of Native American origin).

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	discovery. The Federal Transit Administration will notify the State Office of Historic Preservation, Advisory Council on Historic Preservation, and Native American Tribe(s) within two working days of discovery to provide notification of potential human remains being observed during the implementation of the undertaking. If the remains are determined to be Native American, the County Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD will have the opportunity to offer recommendations for the disposition of the remains.			
	MM-CUL-3: Discovery of Tribal Cultural Resources: Areas found during construction to contain significant tribal cultural resources shall be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation. If evidence of potential tribal cultural resources is observed, construction near the resources shall cease, the appropriate Native American tribal groups shall be consulted, and, in coordination with the appropriate Native American tribal groups, a qualified archaeologist or historian shall determine whether the resource uncovered during construction is a tribal cultural resource as defined under Public Resources Code Section 21074. The appropriate Native American tribal groups shall be contacted in the event of any pre-contact and/or historic-era cultural resources discovered during project implementation; and will be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey	During construction	FTA, SBCTA, Contractor	Contract with Native American Monitor(s) and contact Native American tribal groups if evidence of potential tribal cultural resource is observed.

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	reports, testing reports, etc.) shall be supplied to San Bernardino County Transportation Authority and the Federal Transit Administration for dissemination to the appropriate Native American tribal groups. San Bernardino County Transportation Authority and the Federal Transit Administration shall, in good faith, consult with the appropriate Native American tribal groups. **Monitoring Procedures** The archaeological monitor(s) and Native American monitor(s) will be onsite to conduct cultural resources monitoring during all ground-disturbing activities within the Archaeological Monitoring Area (AMA) throughout the construction phase of the project and must abide by the Cultural Resources Monitoring and Treatment Plan (CRMTP). The AMA is defined as follows: all earth-disturbing activities except for those in disturbed developed areas or where bedrock is encountered or in deeply buried areas that exceed the depth of expected cultural deposits. Prior to ground-disturbing activities, SBCTA will provide the construction contractors, Resident Engineer, supervisory personnel, as well as the Principal Investigator, Native American monitor(s), and archaeological monitor(s) with a copy of the mapped AMA areas. No construction activities will occur within the designated AMAs absent an archaeological and Native American monitor, as required by the CRMTP. In addition, a Native American monitor(s) will be present during all earthmoving activities except for those involving disturbed developed areas within the project boundary.			

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	During monitoring, the archaeological monitor(s) and Native American monitor(s) will examine sediments disturbed during earthmoving activities. If determined necessary by the monitors, sediments will be screened for potential cultural resources, and, if necessary, construction may be temporarily halted during excavation to examine sidewalls. The archaeological monitor(s) will document field activity on daily monitoring logs. The Principal Investigator may submit a detailed letter to SBCTA during construction requesting a modification to the monitoring program when, in coordination with the Native American monitor, field conditions are determined to consist of modern disturbances post-dating the previous grading/trenching activities, contain the presence of fossil formations, or when native soils are encountered that nullify the potential for cultural resources to be present.			
Economic and Fiscal Resources	None.			
Environmental Justice and Equity	Measures identified for other resources, such as air quality, cultural resources, geology, hazards, and water quality, would help minimize potential environmental justice community impacts.			
Geology, Soils, Seismicity, and Paleontological Resources	**MM-GEO-1: Demonstrate Seismic Resistant Design Compliance.** San Bernardino County Transportation Authority shall demonstrate to the City of Rancho Cucamonga and the City of Ontario that the design of the Project complies with all applicable provisions of the CBC with respect to seismic design for Zone 4. Compliance would include the following: • The use of CBC Seismic Zone 4 Standards as the minimum seismic-resistant design for all proposed facilities. • Additional seismic-resistant earthwork and construction design criteria (i.e., for the construction of the tunnel	Final Design	SBCTA, Contractor	Follow Design Guidelines

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	approximately up to 70 feet underground and etc.), based on the site-specific recommendations of a California Certified Engineering Geologist in cooperation with the Project's California-registered geotechnical and structural engineers. • An engineering analysis that demonstrates satisfactory performance of alluvium or fill where either forms part or all of the support. • An analysis of soil conditions and appropriate remediation (compaction, removal/replacement, etc.) prior to using any expansive soils for foundation support.			
	MM-GEO-2: **Ensure Stability of Temporary Slopes.** Where excavations are made for the construction of the 4.2-mile tunnel approximately up to 70 feet underground, the construction contractor shall either shore excavation walls, with shoring designed to withstand additional loads, or flatten or "lay back" the excavation walls to a shallower gradient. Excavation spoils shall not be placed immediately adjacent to excavation walls unless the excavation is shored to support the added load.	Construction	SBCTA, Contractor	Follow Design Guidelines
	MM-GEO-3: Prepare Soils and Geotechnical Analysis. A California-licensed Civil Engineer (Geotechnical) shall prepare and submit to the SBCTA a detailed soils and geotechnical analysis. This evaluation may require subsurface exploration. A registered soil professional shall submit to and have approval by the SBCTA a site-specific evaluation of unstable soil conditions, including recommendations for ground preparation and earthwork activities specific to the site and in conformance to City of Rancho Cucamonga and City of Ontario Building Codes.	Pre-construction Pre-construction	SBCTA, Contractor SBCTA, Contractor	Prepare and submit geotechnical analysis for approval Prepare and submit site-specific soil analysis for approval

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	The proposed Project shall comply with the recommendations of the final soils and geotechnical report. These recommendations shall be implemented in the design of the project, including but not limited to measures associated with site preparation, fill placement, temporary shoring and permanent dewatering, groundwater seismic design features, excavation stability, foundations, soil stabilization, establishment of deep foundations, concrete slabs and pavements, surface drainage, cement type and corrosion measures, erosion control, shoring and internal bracing, and plan review.	Pre-construction	SBCTA, Contractor	Implement Soil and Geotechnical Report Recommendations

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	MM-PAL-1: Engage a Qualified Paleontological Resources Specialist. Prior to construction (any ground-disturbing activities), the contractor shall designate a qualified Paleontological Resources Specialist for the Project (approved by San Bernardino County Transportation Authority). The Paleontological Resources Specialist will be responsible for developing a detailed Paleontological Resources Impact Mitigation Plan as well as implementing the Paleontological Resources Impact Mitigation Plan, including development and delivery of Worker Environmental Awareness Program training, evaluation and treatment of finds, if any, and preparation of a final paleontological mitigation report, per the Paleontological Resources Impact Mitigation Plan. Paleontological Resources Monitors will be selected by the Paleontological Resources Specialist based on their qualifications, and the scope and nature of their monitoring will be determined and directed by the Paleontological Resources Specialist based on the Paleontological Resources Impact Mitigation Plan. The Paleontological Resources Specialist will document, evaluate, and assess any discoveries, as needed.	Pre-construction	SBCTA, Contractor	Prepare and Implement PRIMP
	MM-PAL-2: Prepare and Implement a Paleontological Resources Impact Mitigation Plan. The Paleontological Resources Impact Mitigation Plan would be consistent with the Society of Vertebrate Paleontology. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, the Society of Vertebrate Paleontology Conditions of Receivership for Paleontological Salvage Collections, and relevant guidance from Chapter 8 of the current California Department of Transportation (Caltrans) Standard Environmental Reference. As such, the Paleontological Resources Impact Mitigation Plan would provide for at least the following:	Pre-construction and construction	SBCTA, Contractor	Prepare and Implement PRIMP

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply

	• Implementation of the Paleontological Resources Impact Mitigation Plan by qualified personnel, including the following positions:
	  ○ Paleontological Resources Specialist – The paleontological resources specialist will be required to meet or exceed Principal Paleontologist qualifications per Chapter 8 of the current Caltrans Standard Environmental Reference.
	  ○ Paleontological Resources Monitors – The Paleontological Resources Monitors would be required to meet or exceed Paleontological Monitor qualifications per Chapter 8 of the current Caltrans Standard Environmental Reference.
	• Requirements for paleontological monitoring by qualified Paleontological Resources Monitors of all ground-disturbing activities known to affect, or potentially affect, paleontologically sensitive geologic units. Based on more detailed information on the methods, equipment, and procedures involved in ground disturbance, including the Tunnel Boring Machine, available at the time of preparation, the Paleontological Resources Monitors would provide details of the corresponding levels of paleontological monitoring. The Paleontological Resources Monitors would allow for monitoring frequency in any given location to be increased or decreased as appropriate based on the Paleontological Resources Specialist's professional judgment in consideration of actual site conditions, geologic units encountered, and fossil discoveries made.
	• Provisions for the content development and delivery of paleontological resources Worker Environmental Awareness Program training.			

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	• Provisions for in-progress documentation of monitoring (and, if applicable, salvage/recovery operations) via "daily logs" or a similar approved means. • Provisions for a "stop work, evaluate, and treat appropriately" response in the event of a known or potential paleontological discovery, including finds in highly sensitive geologic units as well as finds, if any, in geologic units identified as less sensitive, or non-sensitive, for paleontological resources. • Provisions for sampling and recovery of unearthed fossils consistent with Society of Vertebrate Paleontology Standard Procedures and the Society of Vertebrate Paleontology Conditions of Receivership. Recovery procedures would provide for recovery of both macrofossils and microfossils. • Provisions for acquiring a repository agreement from an approved regional repository for curation, care, and storage of recovered materials, consistent with the Society of Vertebrate Paleontology Conditions of Receivership. If more than one repository institution is designated, separate repository agreements must be provided. • Provisions for preparation of a final monitoring and mitigation report that meets the requirements of the Caltrans Standard Environmental Reference Chapter 8 provisions for the Paleontological Monitoring Report and Paleontological Stewardship Summary. • Provisions for the preparation, identification, analysis, and curation of fossil specimens and data recovered, consistent with the Society of Vertebrate Paleontology Conditions of Receivership and any specific requirements of the designated repository institution(s).			

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	MM-PAL-3: Provide Worker Environmental Awareness Program Training for Paleontological Resources. Prior to groundbreaking within the Project, the contractor would provide paleontological resources Worker Environmental Awareness Program training delivered by the Paleontological Resources Specialist. All management and supervisory personnel and construction workers involved with ground-disturbing activities would be required to take this training before beginning work on the Project. Refresher training would also be made available to management and supervisory personnel and workers as needed, based on the judgment of the Paleontological Resources Specialist. At a minimum, paleontological resources Worker Environmental Awareness Program training would include information on: • The coordination between construction staff and paleontological staff; • The construction and paleontological staff roles and responsibilities in implementing the Paleontological Resources Impact Mitigation Plan; • The possibility of encountering fossils during construction; • The types of fossils that may be seen and how to recognize them; and • The proper procedures in the event fossils are encountered, including the requirement to halt work in the vicinity of the find and procedures for notifying responsible parties in the event of a find. Training materials and formats may include, but are not necessarily limited to, in-person training, prerecorded videos, posters, and informational brochures that provide contacts and summarize procedures in the event paleontological resources are encountered. Worker Environmental Awareness Program training contents would	Pre-construction	SBCTA, Contractor	Implement Paleontological Resources Sensitivity Training

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	be subject to review and approval by San Bernardino County Transportation Authority. Paleontological resources Worker Environmental Awareness Program training may be provided concurrently with cultural resources Worker Environmental Awareness Program training. Upon completion of any Worker Environmental Awareness Program training, the contractor would require workers to sign a form stating that they attended the training and understand and would comply with the information presented. Verification of paleontological resources Worker Environmental Awareness Program training will be provided to San Bernardino County Transportation Authority by the contractor.			
	MM-PAL-4: Halt Construction if Paleontological Resources are Found. Requires to halt construction, evaluate, and treat if Paleontological Resources are found. Consistent with the Paleontological Resources Impact Mitigation Plan, if fossil materials are discovered during construction, regardless of the individual making the discovery, all activity within 50 feet of the discovery would halt and the find would be protected from further disturbance. If the discovery is made by someone other than the Paleontological Resources Specialist or Paleontological Resources Monitors, the person who made the discovery would immediately notify construction supervisory personnel, who would in turn notify the Paleontological Resources Specialist. Notification to the paleontological resources specialist would take place promptly (prior to the close of work the same day as the find), and the paleontological resources specialist would evaluate the find and prescribe appropriate treatment as soon as feasible. Work may continue on other portions of the Project while evaluation (and, if needed, treatment) takes place, as long as the find can be adequately protected in the judgment of the paleontological resources specialist.	Construction	SBCTA, Contractor	Follow Guidelines for Discovery of Paleontological Resources

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	If the Paleontological Resources Specialist determines that treatment (i.e., recovery and documentation of unearthed fossil[s]) is warranted, such treatment, and any required reporting, would proceed consistent with the Paleontological Resources Impact Mitigation Plan. The contractor would be responsible for ensuring prompt and accurate implementation, subject to verification by San Bernardino County Transportation Authority. The stop work requirement does not apply to drilling or boring since these operations typically cannot be suspended in mid-course. However, if finds are made during drilling or boring, the same notification and other follow-up requirements would apply. The paleontological resources specialist would coordinate with construction supervisory and drilling/boring staff regarding the handling of recovered fossils. The requirements of this mitigation measure would be detailed in the Paleontological Resources Impact Mitigation Plan and presented as part of the paleontological resources Worker Environmental Awareness Program training.			
Hazards and Hazardous Materials	**MM-HAZ-1: Prepare a Risk Management Plan, if Necessary.** In the event that previously unknown or unidentified soil and/or groundwater contamination that could present a threat to human health or the environment is encountered during construction in the proposed Project area, construction activities in the immediate vicinity of the contamination shall cease immediately. If contamination is encountered, a Risk Management Plan shall be prepared and implemented that (1) identifies the contaminants of concern and the potential risk each contaminant would pose to human health and the environment during construction and	Construction	SBCTA, Contractor	Prepare and Implement Risk Management Plan

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	postdevelopment and (2) describes measures to be taken to protect workers and the public from exposure to potential site hazards. Such measures could include a range of options including, but not limited to, physical site controls during construction, remediation, long-term monitoring, post-development maintenance or access limitations, or some combination thereof. Depending on the nature of contamination, if any, appropriate agencies shall be notified (e.g., City of Ontario Fire Department, City of Rancho Cucamonga Fire Department). If needed, a Site Health and Safety Plan that meets Occupational Safety and Health Administration requirements shall be prepared and in place prior to commencement of work in any contaminated area.			
	MM-HAZ-2: Locate and Avoid Underground Pipelines in Areas Where Development is Proposed and Prepare a Response Plan to be Implemented if Accidental Rupture Occurs. San Bernardino County Transportation Authority shall implement the following measures before construction begins to avoid and minimize potential damage to underground pipelines that could have hazardous materials incidents. Prior to the start of earthmoving activities in the vicinity of the pipelines, the San Bernardino County Transportation Authority shall coordinate with Kinder Morgan and Zenith Energy to identify and clearly mark the exact locations of the pipelines. All construction personnel shall be informed of the location of the pipelines during safety briefings throughout the period when construction is occurring. The locations of the pipelines shall be clearly identified on construction drawings and posted in the construction superintendent's trailer.	Pre-construction	SBCTA, Contractor	Follow Design Guidelines
Noise and Vibration	None.			
Transportation and Traffic	**MM TRA-1: Ensure Adequate Access to Transit, Roadway, Parking, Bicycle, and Pedestrian Facilities During**	Pre-construction	SBCTA, Contractor	Prepare and Implement a

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	Construction. San Bernardino County Transportation Authority and the contractor shall prepare a Transportation Management Plan as needed to facilitate the flow of traffic and transit service in and around construction zones. The Transportation Management Plan shall include, at minimum, the following measures: • Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during off-peak hours, and, where feasible, maintain two-way traffic circulation along affected roadways during peak hours. Avoid the closure of two major adjacent streets where feasible. • Designated routes for project haul trucks primarily utilize the I-10 corridor. These routes shall be consistent with land use and mobility plans and situated to minimize noise, vibration, and other possible impacts. • Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through-traffic in adjacent residential areas. • Develop and implement an outreach program and public awareness campaign in coordination with Caltrans, the City of Rancho Cucamonga, the City of Ontario and the San Bernardino County to inform the general public about the construction process and planned roadway closures, potential impacts, and mitigation measures. • Provide wayfinding signage, lighting, and access to specify pedestrian safety amenities (such as handrails, fences, and alternative walkways) during construction. • Where construction encroaches on sidewalks, walkways and crosswalks, special pedestrian safety measures shall be used, such as detour routes and temporary pedestrian barricades.	and construction		Transportation Management Plan

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	• Coordinate with first responders and emergency service providers to minimize impacts on emergency response. • Maintain customer and delivery access to all operating businesses near construction work areas. • The Project contractor shall encourage construction workers to participate in vanpool and carpool opportunities to reduce congestion and VMT on the regional transportation network. • The Project contractor shall be encouraged to hire local construction workers who would have lower commute distance to the construction site.			
Water Quality, Water Resources, and Floodplain	**MM-HWQ-1: Temporary Construction Dewatering.** If temporary construction dewatering on the project site is required, San Bernardino County Transportation Authority shall obtain a dewatering permit prior to the issuance of a grading permit. Ponded water in excavations shall be tested prior to discharge to the storm drain system. If installation of foundation piles has the potential to intercept groundwater and the water would be discharged to the excavation floor, groundwater testing to a minimum depth of 50 feet, or as otherwise determined by the City of Ontario or City of Rancho Cucamonga, shall be conducted to the satisfaction of the Water Resources Protection Program staff. If contaminated groundwater is determined to be present, treatment and discharge of the contaminated groundwater shall be conducted in compliance with applicable regulatory requirements including the Santa Ana Regional Water Quality Control Board standards	Pre-construction	SBCTA, Contractor	Obtain and Implement Dewatering Permit

Environmental Resource	Avoidance, Minimization, and Mitigation Measures	Timing	Responsible Party	Action to Comply
	MM-HWQ-2: Floodplain Plan Approval. San Bernardino County Transportation Authority shall submit the Project design plans to the City of Ontario Building Department and the San Bernardino County Building Department to obtain approval that the design, construction, and operation meets all safety standards for the portion of the Project within the Federal Emergency Management Agency designated 100-year floodplain.	Pre-construction	SBCTA, Contractor	Follow Design Guidelines
	MM-HWQ-3: Emergency Operations Plan. San Bernardino County Transportation Authority shall prepare an Emergency Operations Plan. The Emergency Operations Plan shall include provisions for an evacuation action plan to respond to a notification of San Antonio Dam failure. The evacuation plan in the Emergency Operations Plan shall include action plans to evacuate all the people within the Project area during a San Antonio Dam failure.	Pre-construction	SBCTA, Contractor	Prepare and Implement an Emergency Operations Plan
Section 4(f)	None.			
Cumulative	None.			