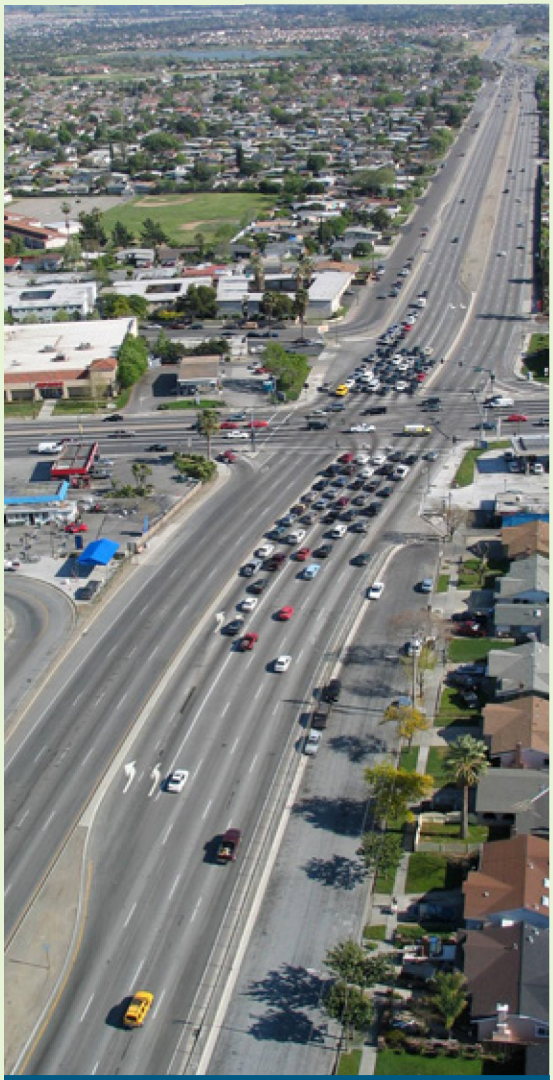
Eastridge to BART Regional Connector

Draft Second Supplemental Environmental Impact Report Volume I: Text



Existing Story Road

Proposed Story Station

October 2018

Santa Clara Valley Transportation Authority

Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project

Draft Second Supplemental Environmental Impact Report Volume I of III: Text

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Table of Contents

The Draft Second Supplemental EIR is divided into the following three volumes:

- **Volume I:** Draft SEIR-2 as well as Attachment A (Notice of Preparation and Public Scoping with Comments Received), Attachment B (Detailed Description of the Proposed Changes), and Attachment C (Detailed Plans for the Proposed Changes)
- **Volume II:** Draft SEIR-2 technical materials including Attachment D (Supplemental Transportation Analysis), Attachment E (Noise and Vibration Assessment), and Attachment F (Air Quality Modeling Assumptions)
- **Volume III:** Attachment G (Second Subsequent IS and all attachments)

List of Tables

List of Figures

Chapter 1
Executive Summary

Section 1.1 Prior Environmental Documentation

The federal and state environmental process for the approved project was initiated in September 2001 with the publication of a Notice of Intent to prepare an Environmental Impact Statement (EIS) in the federal register and the filing of the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) with the State Clearinghouse. A Draft EIS/EIR was circulated in April 2004, but only a Final EIR was completed as a result of limited opportunities for securing federal funds.

In May 2005, the VTA Board of Directors certified the Final EIR (hereafter referred to as the "2005 Final EIR") and approved the Light Rail Alternative. As a result of preliminary engineering, the Light Rail Alternative was modified to address agency comments, improve operations, minimize right-of-way acquisition, and lower costs. To address these modifications, the VTA Board of Directors prepared and certified a Final Supplemental EIR (Final SEIR) and approved the modifications in August 2007 (hereafter referred to as the "2007 Final SEIR").

Due to unprecedented declines in revenues beginning in 2008, the implementation plan for the Light Rail Alternative was modified to construct the project in phases. An Addendum to the Final SEIR was approved in June 2010 that included the installation of pedestrian and bus improvements as Phase 1 and the extension of light rail along Capitol Expressway as Phase 2.

In addition to the state environmental process, VTA reinitiated the federal environmental process on September 9, 2009, with a Notice of Intent to prepare a Supplemental Draft EIS. The Supplemental Draft EIS was circulated on May 18, 2012, for 45 days with comments due on July 3, 2012. The federal environmental process under the National Environmental Policy Act (NEPA) was suspended in 2017 as a result of limited opportunities for securing federal funds.

A Subsequent Initial Study (IS)/Mitigated Negative Declaration (MND) was approved in March 2014 (hereafter referred to as the "2014 Subsequent IS/MND") that eliminated the

Ocala Station, eliminated sidewalk widening and sound wall relocation north of Ocala Avenue, and expanded the Eastridge Park-and-Ride lot.

This Second Supplemental EIR (SEIR-2) and the Second Subsequent IS (included in Attachment G of the SEIR-2 and discussed in Section 1.4, *Explanation for a Subsequent Initial Study and Second Supplemental EIR*) address changes to the project as well as incorporate changed circumstances and new information.

Section 1.2 Explanation for a Second Subsequent IS and Second Supplemental EIR

The California Environmental Quality Act (CEQA) recognizes that between the date projects are approved and the date they are constructed one or more of the following changes may occur: 1) the scope of the project may change, 2) the environmental setting in which the project is located may change, 3) certain environmental laws, regulations, or policies may change, and 4) previously unknown information can come to light. CEQA requires that lead agencies evaluate these changes to determine whether they are significant.

The mechanism for assessing the significance of these changes is found in CEQA Guidelines Sections 15162 to 15164. If the changes involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects, further environmental review (in the form of a Subsequent or Supplemental EIR or IS/MND) would be warranted per CEQA Guidelines Section 15162 and 15163. If the changes do not meet these criteria, then an Addendum is prepared to document a decision that no subsequent or supplemental review is required.

The proposed changes to the approved project would result in new or more significant environmental impacts compared to what was disclosed in the 2005 Final EIR, the 2007 Final SEIR, and the 2014 Subsequent IS/MND. Thus, it has been determined through the analysis in the Second Subsequent IS that a SEIR-2 should be prepared for the proposed changes to the approved project.

The Second Subsequent IS serves to focus the analysis in the SEIR-2 on changes to the environmental impacts identified in the prior environmental documentation that would result from the proposed changes to the approved project. As such, the potential transportation, environmental justice, noise and vibration, air quality and climate change, and construction impacts associated with the proposed changes to the approved project require analysis in the SEIR-2. Other environmental resource areas, where there are no impacts or where impacts can be mitigated to a less than significant level, are analyzed in the Second Subsequent IS. These resource areas analyzed in the Second Subsequent IS include Biological Resources, Community Services, Cultural Resources, Electromagnetic Fields, Energy, Geology/Soils/Seismicity, Hazardous Materials, Hydrology & Water Quality, Land Use, Safety & Security, Socioeconomics, Utilities, and Visual Quality. Thus, the SEIR-2 is focused on the potential for new significant impacts or a substantial increase in the severity of previously identified significant effects related to transportation, environmental justice, noise and vibration, air quality, and construction.

Section 1.3 Approved Project

The approved project would consist of the extension of light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center, a distance of approximately 2.4 miles. Light rail would operate primarily in the median of Capitol Expressway within exclusive and semi-exclusive rights-of-way. To provide the additional right-of-way to accommodate light rail, high-occupancy vehicle lanes would be removed between Capitol Avenue and Tully Road. The alignment would include an elevated section that would extend north of Capitol Avenue to south of Story Road, and an elevated crossing of Tully Road. The approved project would include new light rail stations at Story Road (aerial) and Eastridge Transit Center (at-grade). At Eastridge Mall, the Park-and-Ride lot would be expanded to accommodate the project. The approved project would also include traction power substations at Ocala Avenue and Eastridge Transit Center. Five 115-kilovolt electrical transmission towers and two tubular steel poles would require relocation from the median of Capitol Expressway to the east side of Capitol Expressway in order to accommodate the approved project.

Section 1.4 Proposed Changes to the Approved Project

As discussed in more detail in Chapter 3, *Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information*, VTA is proposing changes to certain elements of the approved project, including the:

- Extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections
- Revisions to Capitol Expressway roadway lane configurations (including the conversion of the existing high-occupancy vehicle lanes to general purpose traffic lanes and maintaining eight lanes between Story Road and Capitol Avenue);
- Modifications to Eastridge Station platforms and track;
- Reduction in parking spaces at Eastridge Park-and-Ride lot;
- Minor shift in the location and straightening of the Story Station pedestrian overcrossing;
- Modification to Story Station pedestrian access;
- Relocation of a construction staging area;
- Relocation of Pacific Gas and Electric (PG&E) electrical transmission facilities; and
- Extension of construction duration and modification to the construction scenario.

Section 1.5 Project Ridership, Travel Time, Capital Costs and Funding, and Construction Schedule

The approved project with the proposed changes is anticipated to have 2,980 boardings in 2023 and 4,534 boardings in 2043. Travel time for the Light Rail Alternative between Alum Rock Station and Eastridge Transit Center is estimated to be 4.3 minutes. The capital cost of the approved project with the proposed changes is projected to be $453

million and will be funded by the 2000 Measure A, Regional Measure 3, and the Senate Bill 1 funds. Construction would begin in 2019 with utility relocation and end in 2024 or 2025 (depending on the construction methodology) with the beginning of revenue service.

Section 1.6 Summary of Environmental Impacts

Table 1-1 includes a summary of the significant environmental impacts resulting from the proposed changes to the approved project as compared to the 2005 Final EIR, 2007 Final SEIR, and 2014 Subsequent IS/MND. Table 1-1 also includes the mitigation measures to reduce the impacts and the level of significance if mitigation is reasonable and feasible.

Section 1.7 New and More Severe Significant and Unavoidable Impacts

In this SEIR-2, the following new significant and unavoidable impacts associated with the proposed changes to the approved project were identified:

Air Quality and Climate Change (Construction)

- **Cumulative air quality impacts during construction.** Cumulative PM2.5 concentrations would be elevated at the receptors located near the corners of Ocala Avenue and Capitol Expressway and Cunningham Avenue and Capitol Expressway due to substantial sources of pollutant concentrations that currently exist in the area where the approved project plus the proposed changes to the approved project would occur. Even without the contribution of emissions from construction, existing PM2.5 concentrations near these sensitive receptors are at or exceed the BAAQMD's threshold because Capitol Expressway and its cross streets are heavily traveled roadways, with residences located in close proximity to the roadway edge. The approved project plus the proposed changes to the approved project would cause further exceedances of existing pollutant concentrations, worsening the cumulative exposure of sensitive receptors to toxic air contaminant concentrations. Although the contribution of the approved project plus the proposed changes to the approved project to existing concentrations would not be substantial (approximately 6% at the locations where concentrations are at or exceed 0.8 µg/m^3), there would nevertheless be a worsening of an already cumulatively significant impact. The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable."

Environmental Justice

- The proposed changes to the approved project would result in new disproportionate and adverse impacts or a substantial increase in the severity of previously identified disproportionate and adverse impacts related to environmental justice. Thus, this impact would be "Significant and Unavoidable."

In this SEIR-2, the following significant and unavoidable impacts with increased severity associated with the proposed changes were identified:

Transportation (Operation and Construction)

- **Capitol Expressway and Story Road intersection.** The proposed changes to the approved project would result in a significant impact under existing (2017), year 2023, and year 2043 conditions, caused by the removal of the high-occupancy vehicle (HOV) lanes and the addition of HOV lane traffic into the remaining mixed flow lanes. No feasible mitigation was identified for these impacts.

- **Capitol Expressway and Ocala Avenue intersection.** The proposed changes to the approved project would result in a significant impact at this intersection under existing (2017), year 2023, and year 2043 conditions, caused by the removal of the HOV lanes, the removal of a northbound left-turn lane on Capitol Expressway, and the addition of HOV lane traffic into the remaining mixed flow lanes. No feasible mitigation was identified for these impacts.

- **Transportation impacts during construction.** The proposed changes to the approved project would require lane reductions on Capitol Expressway during construction, which may cause study intersections to temporarily operate at LOS F, impacting passenger vehicles, buses, and trucks. The proposed changes to the approved project may also result in the temporary closures of bikeways, bus stops, and sidewalks in the corridor during construction. The duration, times, and locations of temporary closures during construction cannot be predicted with certainty.

Noise and Vibration (Operation and Construction)

- **Nighttime exceedance (10:00 pm to 7:00 am) of the FTA vibration levels from light rail operations at homes within 100 feet of the proposed aerial guideway.** The proposed aerial guideway (direct fixation fasteners) and ballasted track on embankment sections would cause an exceedance of the nighttime impact criteria at 73 sensitive receiver locations during light rail operations. VTA identified tire derived aggregate (TDA), 5-Hertz floating slab track (FST) or bridge bearing vibration isolation system, and speed reductions from 55 mph to 35 mph as potential mitigation measures. VTA is recommending to include TDA

on embankment sections to mitigate one impact. However, VTA is not recommending to include FST, bridge bearing vibration isolation, or implement nighttime speed restrictions to eliminate the other 72 impacts.

VTA is not recommending to include FST or bridge bearing isolation systems as mitigation for several reasons. Future vibration levels, which include a +3 VdB safety factor, are at or slightly above the nighttime vibration impact criteria at many impacted locations, and may not actually exceed the threshold in operation. Many impacted locations are up to 100 feet from the aerial guideway, which is much farther than the typical distance at which nighttime vibration impacts are experienced. Most of the impacts are anticipated to occur between 6:00 am and 7:00 am when VTA would be operating at peak service levels.

In addition, it is VTA's understanding that FST has not been installed on any aerial guideways in the United States and bridge bearing isolations have only been recently installed on one aerial structure in the United States. VTA is only aware of one example of FST installed on an aerial guideway: Hong Kong's KCRC West Rail and of one example of a bridge bearing vibration isolation system installed on an aerial structure at Miami Central Station, on the All Aboard Florida-Brightline network. Thus, additional analysis of the effectiveness of FST and bridge bearing isolation systems on aerial structures would be needed to confirm the level of vibration reduction that would be achieved.

VTA is not recommending to reduce train speeds from 55 mph to 35 mph between 10:00 pm and 7:00 am because it would negatively affect travel time and operations during these time periods.

By not including FST, bridge bearing vibration isolation systems, or speed reductions as mitigation measures, this impact would be "Significant and Unavoidable."

- **Daytime exceedance of the Federal Transit Administration (FTA) noise levels from pile driving activity at unobstructed homes and businesses that are within 300 feet of pile driving activity.** The noise impacts would have a duration of 8 to 15 days per sensitive receiver. Pile driving would exceed the construction noise impact criteria of 80 Leq at residences and 85 Leq at commercial properties at 156 sensitive receiver locations. With inclusion of impact cushions, pile driving would exceed the construction noise impact criteria at 135 sensitive receiver locations. With inclusion of impact cushions and pre-drilling, pile driving would exceed the construction noise impact criteria at 80 sensitive receiver locations. With inclusion of impact cushions and noise shields around the pile equipment, pile driving would exceed the construction noise impact criteria at 2 sensitive receiver locations. VTA is recommending to mitigate this impact with noise cushions and temporary noise barriers. Thus, even with inclusion of mitigation

measures, this impact would be "Significant and Unavoidable" at two sensitive receiver locations.

- **Homes within 100 feet of impact piling activity may exceed FTA construction vibration criteria.** There are 64 predicted unmitigated construction vibration impacts, and 0 impacts with the use of non-impact piling methods. However, VTA is not recommending the use of non-impact piling methods at any locations for a couple of reasons. Most locations are only slightly above the FTA Damage Criteria, and therefore may not experience any actual impacts due to the +3 VdB safety factor included to estimate construction vibration levels. At the locations with the highest construction vibration levels, structural damage is not anticipated to occur. Non-impact piling methods are not recommended at any locations. Thus, this impact would be "Significant and Unavoidable."

Section 1.8 New or Revised Mitigation Measures

In this SEIR-2 and the Second Supplemental IS, the following new or revised mitigation measures were identified:

The new or revised mitigation measures for Biological Resources can be found in Section 3.3 of the Second Subsequent IS, which is located in Volume III.

Mitigation Measure BIO-7: Conduct Preconstruction Surveys for Nesting and Wintering Western Burrowing Owls and Implement Measures to Avoid or Minimize Adverse Effects if Owls are Present

Preconstruction surveys for Western burrowing owls shall be conducted by a qualified ornithologist before any development within the habitat identified in Figure 3.3-1. These surveys, which shall include any potentially suitable habitat within 250 feet of construction areas, shall be conducted no more than 30 days before the start of site grading, regardless of the time of year in which grading occurs. If breeding owls are located on or immediately adjacent to the site, a construction-free buffer zone (typically 250 feet) around the active burrow must be established as determined by the ornithologist in consultation with CDFW. No activities, including grading or other construction work or relocation of owls, would proceed that may disturb breeding owls. If owls are resident within 250 feet of the Project Area during the nonbreeding season a qualified ornithologist, in consultation with CDFW, shall passively relocate (evict) the owls to avoid the loss of any individuals if the owls are close enough that they or their burrows could potentially be harmed by associated activities.

Mitigation Measure BIO-12: Conduct Preconstruction Surveys for Western Pond Turtles and Implement Measures to Avoid or Minimize Adverse Effects if Turtles are Present

Preconstruction surveys for western pond turtles shall be conducted by a qualified biologist just prior to (i.e., the day of) initiation of any construction in non-developed habitat that occurs within 100 feet of Thompson Creek. If any individual western pond turtles are detected within the project's impact areas, the individuals will be moved to suitable habitat within the nearest creek, at least 300 feet outside the project area.

Mitigation Measure BIO-14a: Conduct a Preconstruction Survey for Nesting Raptors and BIO -14b: Avoid Active Raptor Nests during the Nesting Season

Preconstruction surveys for nesting raptors will be conducted by a qualified ornithologist to ensure that no raptor nests will be disturbed during implementation of the light rail alternative. This survey shall be conducted within 48 hours of construction activity regardless of the timing of the breeding season. During this survey, the ornithologist would inspect all trees and suitable grassland habitat in and immediately adjacent to the affected areas for raptor nests. If the survey does not identify any nesting special-status raptor species in the area potentially affected by the proposed activity, no further mitigation is required.

Mitigation Measure BIO-15: Conduct Preconstruction Surveys for Nesting Migratory Birds

If construction activities are scheduled to occur during the migratory bird breeding season (February 1-August 31), a preconstruction survey for nesting migratory birds shall be conducted prior to commencement of construction activities. If an active nest is identified within the study area, construction activities will stop (only where a nest is located) until the young fledge or the nest is removed in accordance with CDFW approval.

The revised mitigation measures for Air Quality can be found in Section 5.4, Air Quality and Climate Change, and Section 5.5, Construction, of this SEIR-2, which is located in Volume I.

Mitigation Measure AQ (CON)-1

In accordance with the BAAQMD's current CEQA guidelines (2017), the project applicant shall implement the following BAAQMD-recommended basic control measures to reduce particulate matter emissions from construction activities. Additional control measures (including watering, washing, and other control measures) as detailed in the 2017 BAAQMD CEQA guidelines (see Additional Construction Mitigation Measures), would further reduce particulate matter emissions and should be implemented when feasible.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ (CON)-2

The project applicant will implement, to the extent feasible, the BAAQMD's BMPs to reduce GHG emissions from construction equipment. These BMPs are outlined in their 2010 CEQA Guidelines.

- Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet;
- Local building materials of at least 10 percent; and
- Recycle at least 50 percent of construction waste or demolition materials.

The new or revised mitigation measures for Noise and Vibration can be found in Section 5.3, Noise and Vibration, and Chapter 5.5, Construction, of this SEIR-2, which is located in Volume I.

Mitigation Measure NV (CON)-2

A combination of the following measures should be considered if reasonable and feasible to reduce noise and vibration impacts from pile driving:

1. Noise Shield: A pile driving noise shield could be effective at reducing the pile driving noise by a minimum 5 dBA, depending on the size of the shield

and how well it surrounds the pile and hammer. A portable shield/barrier could be implemented to provide a nominal 10 dBA noise reduction.

2. Pre-Drilling Piles: Pre-drilling a portion of the hole may provide a means to reduce the duration of impact pile driving, and should be explored. Reducing the total impact time to an aggregate duration of no more than 2 hours per day will reduce the equivalent noise level by 6 dBA to a range of 80 to 90 dBA (L_{eq}) at a distance of 100ft.
3. Non-Impact Piles or Cast in Drilled Hole (CIDH) piles: Using the Soil-Mix or CIDH method would reduce the vibration below the FTA Criteria. This method is recommended for homes which would be within 75 ft of pile driving.
4. Reduced Impact Pile Driving Time: Limiting the hours per day of impact pile driving would reduce the equivalent noise level and would reduce potential work interference.
5. Excessive Vibration: If pile driving amplitudes exceed the building threshold criteria, cosmetic repair work may be required at nearby buildings. A detailed preconstruction crack survey will be conducted at homes and businesses where these criteria are expected to be exceeded. Vibration monitoring, crack monitors and photo documentation will be employed at these locations during pile driving activity.
6. Relocating Items on Shelves: Since items on shelves and walls may move during pile driving activity, nearby residents will be advised through the community outreach process that they should move fragile and precious items off of shelves and walls for the duration of the impact pile driving. Achievement of standards for building damage would not eliminate annoyance, since the vibration would still be quite perceptible.
7. Advance Notification (Work Interference): The impact pile driving vibration may cause interference with persons working at home or the office on their computers. Nearby residents and businesses will be advised in advance of times when piles would be driven, particularly piles within 160 ft of any occupied building, so that they may plan accordingly, if possible.
8. Notification of Pile Driving Schedule: Nearby residents and businesses will be notified of the expected pile driving schedule. In particular, these notifications should be made with home-bound residents, homes where there is day-time occupancy (e.g., work at home, stay-at-home parents) and offices/commercial businesses where extensive computer/video monitor work is conducted.
9. Hotel Accommodations: Residents at 660 South Capitol Avenue will be provided with hotel accommodations while pile driving activities occur adjacent to the residence.

Contractor Controls

In addition to the above list of specific noise and vibration control measures, the following are recommended for inclusion in the Contractor specifications for the Indicator and Production pile driving programs if reasonable and feasible:

- Comply with the equivalent noise levels (L_{eq}) limits specified on page 12-8 of FTA 2006 and a maximum noise level limits of 90 dBA (slow) or 125 dBC (fast) for residential buildings,
- Comply with the maximum vibration limits specified in Table 12-3 of FTA 2006,
- Perform a detailed survey and photo documentation prior to construction of all potentially affected wood-frame buildings within 135 ft of the piling activity,
- Coordinate and perform noise and vibration monitoring at a representative sampling of potentially affected buildings along the Project corridor,
- Install crack monitors where appropriate and provide photo documentation at all potentially affected buildings during pile driving activity and through construction,
- Community Notification and Involvement:
  - provide a minimum four-week advance notice of the start of piling operations to all affected receptors (e.g., internet, phone and fax), and regular, up-to-date communications. This includes education of the public on the expected noise and vibration,
  - provide a knowledgeable Community Liaison to respond to questions and complaints regarding pile driving noise and vibration, and
  - provide assistance as needed to nearby residents or offices who may require help relocating valuable items off shelves.

Mitigation Measure NV (CON)-1h: Use Impact Cushions

A suitable pile cap cushion could be effective at reducing the pile driving noise by up to 5 dB. The construction crew will initially use only burlap bags to reduce noise and then will also use the wood block when pile driving becomes more difficult**.**

Section 1.9 Areas of Controversy

VTA issued a NOP for the Draft SEIR-2 on May 29, 2018 and held a scoping meeting on June 14, 2018. Pursuant to CEQA Guidelines 15123, this SEIR-2 acknowledges the areas of controversy that are known to VTA and/or were raised during the scoping process for the SEIR-2. The six comment letters received on the scope and content of SEIR-2 are included in Attachment A of the SEIR-2.

Comments regarding environmental impacts focused on the following areas:

- Planned construction scope.
- Disruption to nearby schools.
- Contribution to traffic.
- Commission rules and regulations in regards to rail safety.
- Consultation with California Native American tribes.
- Driveways, parking, bicycle parking.
- Motor vehicle, bicycle, and pedestrian transportation design and circulation.
- Bicycle lane design and improvement.
- Bus stop improvements.
- Emergency access.
- Travel time analysis.
- Complete street design for the roadway.
- Coordination with the Tully Road Vision Zero Safety Improvement Project.
- Right-of-way.
- Access to stations for pedestrians, and bicycles.
- Providing closed-circuit televisions.

Table 1-1 Summary of Significant Environmental Impacts and Mitigation Measures

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
Transportation (SEIR-2)					
Impact TRN-2a (Traffic Impact at Capitol Expressway/ Story Road in 2018 (now 2023))	No mitigation is feasible	**Significant and Unavoidable**	**Significant and Unavoidable**	Less than Significant with Mitigation	**Significant and Unavoidable**
Impact TRN-2b (Traffic Impact at Capitol Expressway/Ocala Avenue in 2018 (now 2023))	No mitigation is feasible	**Significant and Unavoidable**	**Significant and Unavoidable**	**Significant and Unavoidable**	**Significant and Unavoidable**
Impact TRN-2c (Traffic Impact at Capitol Expressway/ Tully Road in 2018 (now 2023))	Mitigation Measure TRN-2c (Maintain eight lanes on Capitol Expressway at Tully Road Intersection	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	Not evaluated
Impact TRN-8b (Traffic Impact at Capitol Expressway/ Story road in 2025 (now 2043))	No mitigation is feasible	**Significant and Unavoidable**	**Significant and Unavoidable**	N/A	**Significant and Unavoidable**
Impact TRN-8c (Traffic Impact at Capitol Expressway/ Ocala Avenue in 2025 (now 2043))	No mitigation is feasible	**Significant and Unavoidable**	**Significant and Unavoidable**	**Significant and Unavoidable**	**Significant and Unavoidable**

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	**2007 SEIR**	**2014 Subsequent IS/MND**	**SEIR-2 or Second Subsequent IS**
Impact TRN-8d (Traffic Impact at Capitol Expressway/Tully Road in 2025 (now 2043))	Mitigation Measure TRN-2c (Maintain eight lanes on Capitol Expressway at Tully Road Intersection)	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	Not evaluated
Impact TRN (CON) -1 (Long-Term Street or Lane Closure)	Mitigation Measures TRN (CON)-2a (Prepare Traffic Management Plan), TRN (CON)-2b (Inform Public of Traffic Detours), and TRN (CON)-2c (Inform Public of Transit Service Changes)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	**Significant and Unavoidable**
Impact TRN (CON)-2 (Long-Term Loss of Parking or Access Essential for Business Operations)	Mitigation Measures TRN (CON)-2a (Prepare Traffic Management Plan), TRN (CON)-2b (Inform Public of Traffic Detours), and TRN (CON)-2c (Inform Public of Transit Service Changes)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Air Quality and Climate Change (SEIR-2)					
Impact AQ (CON)-1 (Temporary Increase in Construction-Related Emissions during Grading and Construction Activities)	Mitigation Measures AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment).	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Cumulative PM2.5 Concentrations During Construction	Mitigation Measures CON-1 (AQ) (BAAQMD's BMPs to reduce particulate matter	Not evaluated	Not evaluated	Not evaluated	Significant and Unavoidable

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
	emissions from construction activities) and CON-2 (AQ) (BAAQMD's BMPs to reduce GHG emissions from construction equipment)				
Biological Resources (Second Subsequent IS)					
Impact BIO-7 (Permanent Loss of Habitat and Disturbance to Species)	Mitigation Measure BIO-7 (Conduct Preconstruction Surveys for Western Burrowing Owls and Implement Measures to Avoid or Minimize Adverse Effects if Owls are Present)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact BIO-8 (Temporary Disturbance of Riparian Forest)	Mitigation Measures BIO-8a Conduct Preconstruction Surveys to Identify Environmentally Sensitive habitat areas) and BIO-8b (Compensate for Disturbed Riparian Forest)	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	N/A
Impact BIO-10 (Temporary Degradation of Water Quality)	Mitigation Measure BIO-10 (Implement Water Quality Measures)	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	N/A
Impact BIO-11 (Loss or Disturbance of California Red-Legged Frog Habitat)	Mitigation Measures BIO-11a (Avoid and Minimize Effects to California Red- Legged Frog) and BIO-11b (Compensate for Loss of Aquatic Habitat for California Red-Legged Frog)	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	N/A
Impact BIO-12 (Permanent Loss of Aquatic Habitat,	Mitigation Measure BIO-12 (Conduct Preconstruction Surveys for and Implement	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	Less than Significant with Mitigation

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
Temporary Disturbance of Riparian Habitat, and Temporary Disturbance of Southwestern Pond Turtle)	Measures to Avoid or Minimize Adverse Effects to Southwestern Pond Turtles if Present)				
Impact BIO-14 (Temporary Disturbance of Nesting Raptors)	Mitigation Measures BIO-14a (Conduct a Preconstruction Survey for Nesting Raptors) and BIO-14b (Avoid Active Raptor Nests)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact BIO-15 (Temporary Disturbance to Nesting Habitat for Migratory Birds)	Mitigation Measure BIO-15 (Conduct Preconstruction Surveys for Nesting Migratory Birds and Stop Construction until the Young have Fledged or the Nest is Removed in Accordance with CDFG)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact BIO-18 (Loss of Trees)	Mitigation Measure BIO-18a (Conduct a Tree Survey) and BIO-18b (Replace Trees)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Cultural Resources (Second Subsequent IS)					
Impact CR-5 (Direct or Indirect Impacts to an Archaeological Resource)	Mitigation Measure CR-5a (Develop and Implement a Historic Properties Treatment Plan Prior to Construction Activities)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact (with inclusion of standard practice procedures)
Energy (Second Subsequent IS)					
Impact E (CON)-1 (Consumption of Nonrenewable Energy	Mitigation Measure E (CON)-1 (Adopt Energy Conservation Measures)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
Resources in a Wasteful, Inefficient, and/or Unnecessary Manner from Project Construction)					
Environmental Justice (SEIR-2)					
Impact EJ-1 (Environmental Justice)	No mitigation is feasible	No Impact	Significant and Unavoidable	N/A	**Significant and Unavoidable**
Geology, Soils, and Seismicity (Second Subsequent IS)					
Impact GEO-4 (Risk Caused by Strong Seismic Ground Shaking)	Mitigation Measure GEO-4 (Incorporate Caltrans Seismic Design Criteria)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact GEO-5 (Risk Caused by Seismic-Related Ground Failure, Including Liquefaction)	Mitigation Measure GEO-5 (Incorporate Liquefaction Minimization Methods	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact GEO-6 (Risks from Lateral Spreading, Subsidence, and Collapse)	Mitigation Measure GEO-6 (Minimize Risk of Lateral Spreading, Subsidence, and Collapse)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact GEO-7 (Risk Caused by Expansive Soil)	Mitigation Measure GEO-7 (Minimize Risk of Soil Expansivity)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Hazardous Materials (Second Subsequent IS)					
Impact HAZ-9 (Hazard to the Public or Environment through Reasonable	Mitigation Measures HAZ-9a (Conduct Subsurface Investigations in Areas of the Corridor That May Be Underlain	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
Foreseeable Upset and Accident Conditions Caused by the Release of Hazardous Materials)	by Contaminated Soil or Groundwater) and HAZ-9b (Control Contamination Resulting from Previously Unidentified Hazardous Waste Materials)				
Impact HAZ (CON)-1 (Release of Hazardous materials into the Environment)	Mitigation Measures HAZ (CON)-1a (Conduct subsurface Investigations), HAZ (CON)-1b (Control Contamination), and HAZ (CON)-1c (Conduct Lead and Asbestos Surveys Prior to Building Demolition or Renovation),	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Hydrology and Water Quality (Second Subsequent IS)					
Impact HYD-11 (Violation of Water Quality Standards or Waste Discharge Requirements)	Mitigation Measure HYD-11 (Comply with Water Quality Control Regulations and Permit Programs)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A
Impact HYD-12 (Creation of Additional Runoff)	Mitigation Measure HYD-12 (Maintain Operational Water Quality)	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	Less than Significant with Mitigation
Impact HYD-13 (Alterations in Existing Drainage Patterns)	Mitigation Measures HYD-11 (Comply with All Applicable Regulations and Subsequent Permit Programs Related to Water Quality Control) and HYD-14 (Construct Facilities to Minimize Flood Impacts)	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A	Less than Significant with Mitigation

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
Impact HYD-14 (Exposure to Flood Hazards)	Mitigation Measure HYD-14 (Minimize Flood Impacts)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A
Impact HYD (CON)-1 (Impair Water Quality)	Mitigation Measure HYD (CON)-1 (Implement Water Quality Control Measures)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact HYD (CON)-2 (Depletion of Groundwater Supplies)	Mitigation Measure HYD (CON)-2 (Use Non-Potable Water)	N/A	N/A	Less than Significant with Mitigation	Less than Significant with Mitigation
Noise and Vibration (SEIR-2)					
Impact NV-1 (Noise Levels from Transit Operations That Would Be Considered a Severe Impact by Federal Transit Administration Criteria)	Mitigation Measures NV-1a (Construct Soundwalls) and NV-1c (Provide Quiet Pavement)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact NV-4 (Vibration Levels in Buildings from Transit Operations That Exceed Federal Transit Administration Criteria)	No mitigation is recommended	Less than Significant with Mitigation	**Significant and Unavoidable**	Less than Significant with Mitigation	**Significant and Unavoidable**
Impact NV (CON)-1: (Generation of Noise or Vibration That Substantially Affects Nearby Sensitive Receptors) (Noise)	Mitigation Measures NV (CON)-1a (Notify Residents of Construction Activities), NV (CON)-1b (Construct Temporary Noise Barriers During Construction), NV (CON)-1c (Restrict Pile Driving), NV	Less than Significant with Mitigation	**Significant and Unavoidable**	**Significant and Unavoidable**	**Significant and Unavoidable**

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
	(CON)-1d (Use Noise Suppression Devices), NV (CON)-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors), NV (CON)-1f (Reroute Construction-Related Truck Traffic), and NV (CON)-1g (Develop Construction Noise Mitigation Plan), NV (CON)-2, and NV (CON)-1h (Use Impact Cushions)				
Impact NV (CON)-1: (Generation of Noise or Vibration That Substantially Affects Nearby Sensitive Receptors) (Vibration)	Mitigation Measures NV (CON)-1a (Notify Residents of Construction Activities), NV (CON)-1c (Restrict Pile Driving), NV (CON)-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors), and NV (CON)-2	Less than Significant with Mitigation	**Significant and Unavoidable**	**Significant and Unavoidable**	**Significant and Unavoidable**
Safety and Security (Second Subsequent IS)					
Impact SS-3 (Pedestrian and/or Bicycle Safety Risks at Gated Crossings)	Mitigation Measure SS-3 (Incorporate Pedestrian Friendly Features)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	N/A
Impact SS-4 (Inadequate Lighting or Visual Obstructions at Park-and-Ride Lots)	Mitigation Measures SS-4a (Implement Measures to Deter Crime), SS-4b (Use Lighting, Cameras, and Security Patrols to Enhance Safety), and SS-4c (Define Fire and Life Safety	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	2007 SEIR	2014 Subsequent IS/MND	SEIR-2 or Second Subsequent IS
	Procedures and Develop Evacuation Plans)				
Impact SS (CON)-1 (Potential for Safety Risks during Construction)	Mitigation Measure SS (CON)-1 (Implement Construction BMPs to Protect Workers and the Public)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Socioeconomics (Second Subsequent IS)					
Impact SOC-16 (Displacement of Existing Businesses or Housing)	Mitigation Measures SOC-16a (Comply with Legislation for Acquisition and Relocation) and SOC-16b (Inform Residents and Businesses of Project Status)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Utilities (Second Subsequent IS)					
Impact UTL-3 (Require Construction of New Stormwater Drainage Facilities or Expansion of Existing Facilities)	Mitigation Measure HYD-14 (Maintain Operational Water Quality)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact UTL (CON)-1 (Disrupt a Utility Service for a Period of 24 Hours or More)	Mitigation Measure UTL (CON)-1 (Coordinate with Utility Service Providers Prior to Construction of Light Rail Facilities)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Visual Quality (Second Subsequent IS)					
Impact VQ (CON)-1 (Creation of a New Source of Substantial Light or Glare	Mitigation Measure VQ (CON)-1 (Direct Lighting toward Construction Areas)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation

Significant Impact[1]	Mitigation Measures	Level of Significance[2]			
		2005 Final EIR	**2007 SEIR**	**2014 Subsequent IS/MND**	**SEIR-2 or Second Subsequent IS**
Impact VQ-1 (Creation of Substantial Light or Glare)	Mitigation Measure VQ-1 (Minimize Light and Glare)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact VQ-3 (Degradation of Existing Visual Quality)	Mitigation Measures VQ-3 (Involve Public in Station Design) and VQ-4 (Incorporate Landscaping)	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation
Construction (SEIR-2)					
See construction-related impacts in the resource areas identified above.					
Cumulative Effects (SEIR-2)					
See Transportation, Air Quality and Climate Change, Environmental Justice, and Noise and Vibration.					
Impact E-Cum-9 (Increase Demand on Electricity Transmission Infrastructure)	No mitigation is feasible	No Impact	**Significant and Unavoidable**	N/A	N/A
Impacts NV-Cum-2 (Generate Noise from Pile Driving) and NV-Cum-3 (Generate Vibration from Pile Driving)	Mitigation Measures NV-Cum-2 and NV-Cum-3 (Coordinate activities with other construction projects where feasible and reasonable)	No Impact	Less than Significant with Mitigation	N/A	N/A

Notes:

[1] If an impact is not listed in this table, the approved project and the proposed changes to the approved project would result in no impact or a less-than-significant impact.

[2] Not Applicable = N/A. The mitigation measure is either not applicable (i.e., not required because there were no significant impacts identified for the approved project for the topic in the relevant environmental document) or the potential impact of the approved project was not analyzed in the relevant environmental document.

Source: ICF 2018.

Chapter 2
Introduction

Section 2.1 Overview of Proposed Changes to the Approved Project

The Santa Clara Valley Transportation Authority's (VTA's) Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project (approved project) is located in the City of San Jose. The approved project would be implemented in two distinct phases. The first phase consists of pedestrian and bus improvements, including sidewalk, landscaping, and lighting along Capitol Expressway; bus stop improvements at Story Road and Ocala Avenue; and the replacement of Eastridge Transit Center. Construction of the pedestrian and bus improvements was completed in 2012 and the replacement of Eastridge Transit Center was completed in 2015. The second phase consists of the extension of light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center, a distance of approximately 2.4 miles.

As discussed in more detail in Chapter 3, *Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information*, VTA is proposing changes to certain elements of the approved project, including the:

- Extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections;
- Revisions to Capitol Expressway roadway lane configurations (including the conversion of the existing high-occupancy vehicle lanes to general purpose traffic lanes and maintaining eight lanes between Story Road and Capitol Avenue);
- Modifications to Eastridge Station platforms and track;
- Reduction in parking spaces at Eastridge Park-and-Ride lot;
- Minor shift in the location and straightening of the Story Station pedestrian overcrossing;
- Modification to Story Station pedestrian access;
- Relocation of a construction staging area;
- Relocation of Pacific Gas and Electric (PG&E) electrical transmission facilities; and
- Extension of construction duration and modification to the construction scenario.

The location and overall elements of the proposed changes to the project are shown in Figure 2-1.

The approved project with the proposed changes is anticipated to have 2,980 boardings in 2023 and 4,534 boardings in 2043. Travel time for the Light Rail Alternative between Alum Rock Station and Eastridge Transit Center is estimated to be 4.3 minutes. The capital cost of the approved project with the proposed changes is projected to be $453 million and will be funded by the 2000 Measure A, Regional Measure 3, and the Senate Bill 1 funds. Construction would begin in 2019 with utility relocation and end in 2024 or 2025 (depending on the construction methodology) with the beginning of revenue service.

Section 2.2 Prior Environmental Documentation

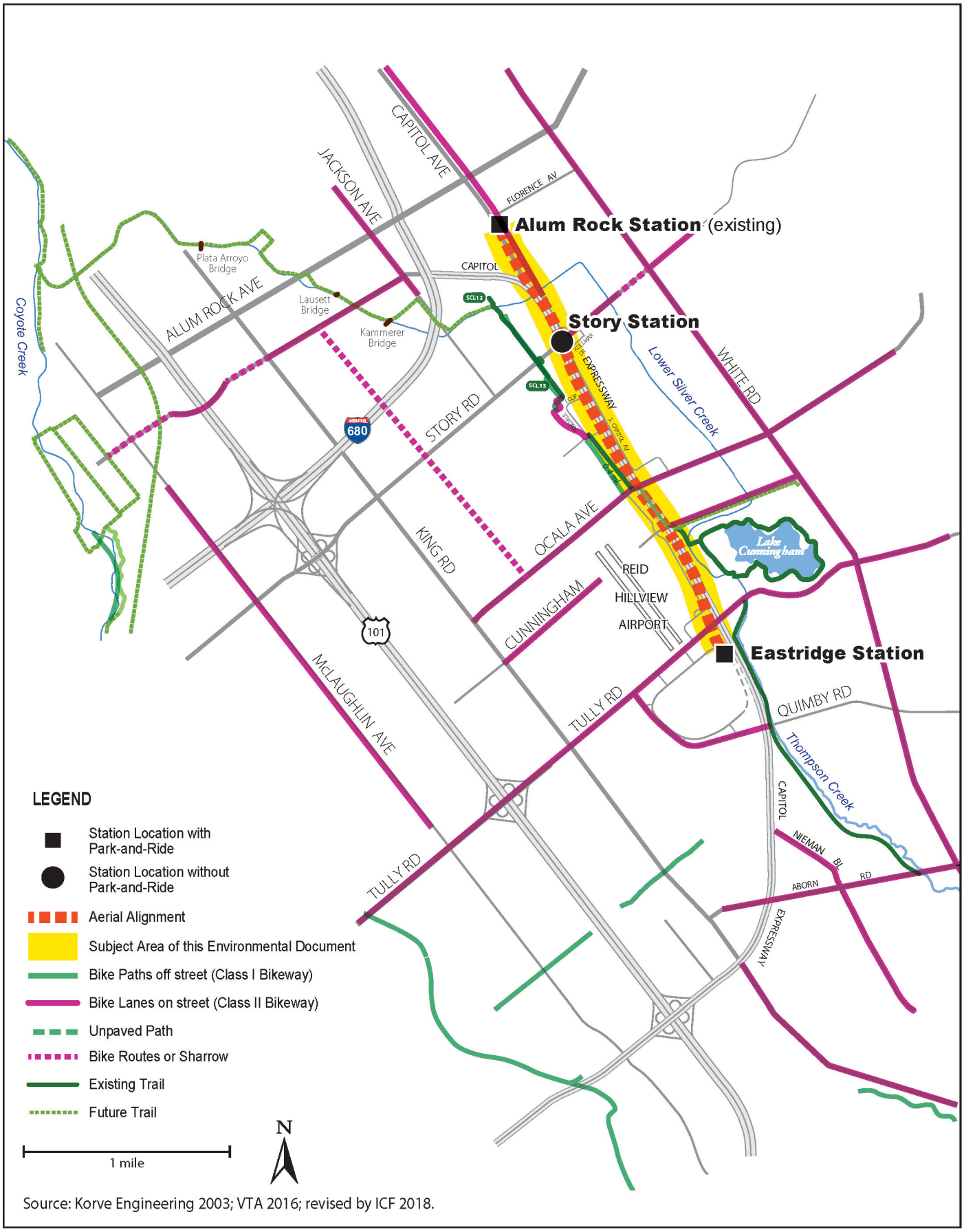
The federal and state environmental process for the approved project was initiated in September 2001 with the publication of a Notice of Intent to prepare an Environmental Impact Statement (EIS) in the federal register and the filing of the Notice of Preparation of an Environmental Impact Report (EIR) with the State Clearinghouse. A Draft EIS/EIR was circulated in April 2004, but only a Final EIR was completed as a result of limited opportunities for securing federal funds.

In May 2005, the VTA Board of Directors certified the Final EIR (hereafter referred to as the "2005 Final EIR") and approved the Light Rail Alternative. As a result of preliminary engineering, the Light Rail Alternative was modified to address agency comments, improve operations, minimize right-of-way acquisition, and lower costs. To address these modifications, the VTA Board of Directors prepared and certified a Final Supplemental EIR (Final SEIR) and approved the modifications in August 2007 (hereafter referred to as the "2007 Final SEIR").

Due to unprecedented declines in revenues beginning in 2008, the implementation plan for the Light Rail Alternative was modified to construct the project in phases. An Addendum to the Final SEIR was approved in June 2010 that included the installation of pedestrian and bus improvements as Phase 1 and the extension of light rail along Capitol Expressway as Phase 2.

In addition to the state environmental process, VTA reinitiated the federal environmental process on September 9, 2009, with a Notice of Intent to prepare a Supplemental Draft EIS. The Supplemental Draft EIS was circulated on May 18, 2012, for 45 days with comments due on July 3, 2012. The federal environmental process under the National Environmental Policy Act (NEPA) was suspended in 2017 as a result of limited opportunities for securing federal funds.

A Subsequent Initial Study (IS)/Mitigated Negative Declaration (MND) was approved in March 2014 (hereafter referred to as the "2014 Subsequent IS/MND") that eliminated the Ocala Station, eliminated sidewalk widening and sound wall relocation north of Ocala Avenue, and expanded the Eastridge Park-and-Ride lot.



Source: Korve Engineering 2003; VTA 2016; revised by ICF 2018.

Graphics ... 00011.18 (8/27/18)

Figure 2-1
Proposed Changes to Capitol Expressway Light Rail Project

This Second Supplemental EIR (SEIR-2) and the Second Subsequent IS (included in Attachment G of the SEIR-2) will address minor changes to the project as well as incorporate changed circumstances and new information.

Section 2.3 Scope of the SEIR-2

According to California Environmental Quality Act (CEQA) Guidelines 15163(b), the SEIR-2 need contain only the information necessary to make the previous EIR adequate for the proposed changes to the approved project. The SEIR-2 augments the previously certified EIR to the extent necessary to address the changed conditions and to examine environmental effects, mitigation measures, and design options accordingly. In preparing the SEIR-2, VTA referenced the 2005 Final EIR, 2007 Final SEIR, and 2014 Subsequent IS/MND and made use of those documents and their supporting administrative record as necessary and appropriate. As a result, the SEIR-2 is focused on providing new information on the environmental effects of the proposed changes to the approved project that is not included in the 2005 Final EIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND. Where the information or analysis from the 2005 Final EIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND applies, the SEIR-2 incorporates by reference the appropriate sections of those documents. In addition, the impact analysis in the SEIR-2 is focused on the potential transportation, environmental justice, noise and vibration, air quality and climate change, and construction impacts associated with the proposed changes to the approved project. All other environmental resource areas are scoped out from requiring further analysis in the Second Subsequent IS.

Section 2.4 Public Participation in the Environmental Review

As part of the environmental process, there will be several opportunities for the public and agencies to comment on the environmental document.

Notice of Preparation. VTA issued a NOP for the Draft SEIR-2 on May 29, 2018 and held a scoping meeting on June 14, 2018. The NOP was sent to over 100 agencies, community organizations, residents, and businesses. In addition, flyers were mailed to approximately 9,000 properties located within 1/2 mile of the corridor. Other outreach included a meeting announcement and reminder on Next Door; door-to-door deliveries of flyers to businesses; a blog post; a webpage announcement; advertisements in the Mercury News, El Observador, Viet Nam Daily, Philippines Today, and Sing Tao; notices at community centers and libraries; email to 751 stakeholder list; listings on Facebook, Twitter, and LinkedIn; and email to 50 organizations on the Title VI list. The six comment letters received on the scope and content of SEIR-2 are included in Attachment A of the SEIR-2.

Comments regarding environmental impacts focused on the following areas:

- Planned construction scope.
- Disruption to nearby schools.

- Contribution to traffic.
- Commission rules and regulations in regards to rail safety.
- Consultation with California Native American tribes.
- Motor vehicle, bicycle, and pedestrian transportation design and circulation.
- Bus stop improvements.
- Emergency access.
- Travel time and mode shift analysis.
- Access to stations for pedestrians, and bicycles.
- Providing closed-circuit televisions.

Draft SEIR-2. VTA requests comments from the public and agencies on the adequacy of the environmental analysis in the Draft SEIR-2. A public meeting and open house will also be held to discuss the project with the public and receive written comments. Details regarding the public review dates, and the public meeting and open house information will be discussed in the Notice of Availability (NOA) for the project. VTA will respond to all comments in the Final SEIR-2.

Final SEIR-2. Prior to consideration by the VTA Board of Directors, all commenting agencies and individuals will receive a copy of the Final SEIR-2 with VTA's response to their comments. Any additional comments on the SEIR-2 can be provided in writing or in person at the VTA Board of Directors' meeting.

Section 2.5 Uses of the SEIR-2

It is anticipated that this SEIR-2 will be relied upon in issuing appropriate project-specific discretionary approvals necessary to implement the proposed changes to the approved project. These actions include the following approvals by the agencies indicated.

- **San Francisco Bay Regional Water Quality Control Board:** National Pollutant Discharge Elimination System General Industrial/General Construction Storm Water Discharge Permits.
- **California Department of Fish and Game:** Migratory Bird Treaty Act and Burrowing Owl issues.
- **California Public Utilities Commission:** Construction and alteration of rail crossings and relocation of electrical transmission towers.
- **California Transportation Commission:** Allocation of funding.
- **Santa Clara County:** Encroachment Permit for use of Capitol Expressway right-of-way.
- **City of San Jose:** Encroachment Permit for use within the City right-of-way.
- **Santa Clara Valley Water District:** Encroachment Permit for use of District right-of-way and Construction Permit.

Section 2.6 Organization of the SEIR-2

The organization of the SEIR-2 and the Second Subsequent IS generally follow the organization of the 2005 Final EIR, 2007 Final SEIR, and 2014 Subsequent IS/MND, especially for the environmental analysis. The SEIR-2 and the Second Subsequent IS should be considered together with the prior documentation because, for the most part, the SEIR-2 and the Second Subsequent IS do not repeat information included in the prior environmental documentation that has not changed.

The Draft SEIR-2 includes the following sections.

- **Chapter 1: Executive Summary.** Briefly discusses the reasons for preparing the SEIR-2, generally describes the approved project, and summarizes the proposed changes to the approved project. This section identifies the impacts, mitigations, and the level of significance of the impacts after mitigation in table format.
- **Chapter 2: Introduction.** Describes the scope of the SEIR-2, public participation, the uses of the SEIR-2, the organization of the SEIR-2, and the certification process for the SEIR-2.
- **Chapter 3: Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information.** Describes the approved project and the proposed changes to the approved project. Details the proposed changes to the approved project. Also discusses changes in circumstances and introduces new information since the approval of environmental documentation prepared for the project.
- **Chapter 4: Alternatives Considered.** States that no additional alternatives were considered in this SEIR-2.
- **Chapter 5: Environmental Setting, Impacts, and Mitigation.** Presents new information regarding the environmental setting, describes the effect of the project changes on the environment, identifies new significant impacts or an increase in severity of previously identified impacts, and recommends mitigation measures to reduce impacts so they are no longer significant. The impact analysis in the SEIR-2 is focused on the potential transportation, environmental justice, noise and vibration, air quality and climate change, and construction impacts associated with the proposed changes to the approved project. As discussed in the Second Subsequent IS, all other environmental resource areas are scoped out from requiring further analysis in the SEIR-2.
- **Chapter 6: Other CEQA Considerations.** Discusses other environmental issues of importance to CEQA, including significant and irreversible environmental changes, cumulative impacts, and growth-inducing impacts.
- **Chapter 7: References.** Lists sources referenced in the SEIR-2.
- **Chapter 8: List of Preparers.** Lists key VTA staff and consultants who contributed to the preparation of the SEIR-2 and the Subsequent IS.

Section 2.7 Certification of the SEIR-2

The Draft SEIR-2, together with responses to comments on the Draft SEIR-2 and any modifications or corrections to the Draft SEIR-2, will constitute the Final SEIR-2. The VTA Board of Directors will review the Final SEIR-2 (including the Second Subsequent IS included as Attachment G of the SEIR-2), the 2005 Final EIR, the 2007 Final SEIR, and the 2014 Subsequent IS/MND, and any public testimony or comments. Based on that information and all other substantial evidence, the VTA Board of Directors will decide whether to certify the Final SEIR-2 and approve the proposed changes to the approved project. As CEQA Guideline Section 15163(e) requires, the VTA Board of Directors will make a finding for each potentially significant impact identified in the 2005 Final EIR as revised, as well as the Final SEIR-2.

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Chapter 3
Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information

This section describes the approved project and discusses the Santa Clara Valley Transportation Authority's (VTA's) proposed changes to that project. In addition, this section discusses changes in circumstances and introduces new information since the approval of environmental documentation prepared for the project (i.e., the 2005 Final Environmental Impact Report, the 2007 Final Supplemental Environmental Impact Report, and the 2014 Subsequent Initial Study [IS]/Mitigated Negative Declaration [MND]).

Section 3.1 Approved Project

The approved project would consist of the extension of light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center, a distance of approximately 2.4 miles. Light rail would operate primarily in the median of Capitol Expressway within exclusive and semi-exclusive rights-of-way. To provide the additional right-of-way to accommodate light rail, high-occupancy vehicle (carpool) lanes would be removed between Capitol Avenue and Tully Road. The alignment would include an elevated section that would extend north of Capitol Avenue to south of Story Road, and an elevated crossing of Tully Road. The approved project would include new light rail stations at Story Road (aerial) and Eastridge Transit Center (at-grade). At Eastridge Mall, the Park-and-Ride lot would be expanded to accommodate the project. The approved project would also include traction power substations at Ocala Avenue and Eastridge Transit Center. Five 115-kilovolt electrical transmission towers and two tubular steel poles would require relocation from the median of Capitol Expressway to the east side of Capitol Expressway in order to accommodate the approved project. Table 3-1 shows the rail crossings included in the approved project and the proposed changes to the approved project.

Figure 3-1 shows the general location of the approved project described in the 2014 Subsequent IS/MND.

Section 3.2 Changes to the Approved Project

VTA is proposing changes to certain elements of the approved project, which are discussed in detail in this section. The general location and overall elements of the proposed changes to the project are shown generally in Figure 1-1 in Chapter 1, Introduction, of the Second Subsequent IS. A detailed description of the proposed changes to the approved project is included in Attachment B of the SEIR-2.

Extension of the Aerial Guideway to Grade- Separate the Ocala Avenue and Cunningham Avenue Intersections. The proposed change to the project would replace the at-grade track alignment with approximately 1.25 miles of aerial guideway from south of Story Road to north of Tully Road. The aerial guideway would include concrete columns supported on pile foundations. The aerial guideway would also include aerial sound walls. The aerial guideway would typically be 20 to 35 feet at the top-of-rail with a maximum height of approximately 60 feet with the overhead catenary system and poles. Visual simulations of the aerial guideway are provided in Section 3.16, *Visual Quality*, of the Second Subsequent IS.

As a result of an additional left turn pocket (as discussed in detail under Revisions to Capitol Expressway Roadway Lane Configurations) on Capitol Expressway at Story Road, the alignment of the aerial guideway between Story Road and Foxdale Drive would be shifted slightly west by 3 feet.

Table 3-1 shows the rail crossings included in the approved project and the proposed changes to the approved project. As discussed in detail under Section 2.4, *Introduction of New Information*, Senate Bill (SB 215) affected how the California Public Utilities Commission (CPUC) processed formal crossing applications.

Source: Korve Engineering 2003; VTA 2016; revised by ICF 2018.

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Figure 3-1
Previously Approved Capitol Expressway Light Rail Project

Table 3-1 Rail Crossings for the Approved Project and the Proposed Changes to the Approved Project

Cross Street	Track Stationing	Number of Tracks	Pedestrians	Automobiles	Safety Risks	Proposed Crossing Type	Proposed Safety Devices (At Grade Crossings)
Wilbur Avenue/Nuestra Castillo Court	+965+00	2	1 Crosswalk	2 Lanes	VTA buses, Left turns from Wilbur to southbound Capitol Avenue	At-grade (existing crossing with t-signals)	T-signals, Traffic signals
Northbound Capitol Avenue	+974+00	2	2 Sidewalks	2 Lanes	High roadway traffic volumes	Grade separated, Aerial	n/a
Northbound Capitol Expressway	+978+00	2	1 Sidewalk	4 Lanes	High roadway traffic volumes	Grade separated, Aerial	n/a
Story Road	+995+00	2	2 Crosswalks	6 Through lanes, 4 turn lanes	High auto and pedestrian traffic volumes. Left turn movements	Grade separated, Aerial	n/a
Ocala Avenue	+1037+00	2	2 Crosswalks	4 Through lanes, 2 Turn lanes	School children, School buses, Heavy volume of LT movements	Grade separated, Aerial	n/a
Cunningham Avenue	+1050+00	2	2 Crosswalks	2 Lanes	Light traffic volumes, low risk	Grade separated, Aerial	n/a
SB Capitol Expressway	+1067+00	2	1 Sidewalk	3 Lanes	Heavy roadway traffic volumes	Grade separated, Aerial	n/a

Cross Street	Track Stationing	Number of Tracks	Pedestrians	Automobiles	Safety Risks	Proposed Crossing Type	Proposed Safety Devices (At Grade Crossings)
Swift Lane	+1073+00	2	2 Sidewalks	2 Lanes	Light traffic volumes, low risk	Grade separated, Aerial	n/a
Tully Road	+1078+00	2	2 Sidewalks	6 Lanes, 4 Turn lanes	Heavy roadway traffic volumes	Grade separated, Aerial	n/a
Northern Pedestrian Crossing to Platform	+1086+00	1	1 Crossing of SB track	None	Incoming and departing trains	At-grade	Crossing gates, Flashing Lights, and Bells
Southern Pedestrian Crossing to Platform	+1089+80	1	1 Crossing of SB track	None	Train movements in and out of tail track	At-grade	Crossing gates, Flashing Lights, and Bells

Notes:
Shaded rows indicate proposed rail crossing changes to the approved project.
Source: VTA, 2018.

Revisions to Capitol Expressway Roadway Lane Configurations. The Proposed change to the project would revise the roadway lane configurations along Capitol Expressway. In addition, the proposed change would include resurfacing Capitol Expressway with open-graded asphalt concrete (OGAC).[1] A center median between Story Road and Capitol Avenue would separate traffic. Detailed track plans and profiles showing the proposed geometric design changes for the proposed changes to the approved project are included in Attachment C of the SEIR-2. The proposed roadway lane configuration changes include the following.

- *Four traffic lanes in each direction north of Story Road.* Both of the existing high-occupancy vehicle lanes (one northbound and one southbound) would be converted to general purpose traffic lanes, resulting in a total of four general purpose lanes in each direction between Story Road and Capitol Avenue. One southbound inner general purpose lane would end at the introduction of the left turn pockets at Story Road. This proposed change would be accomplished by the widening of Capitol Expressway, a reduction of the median, the removal of landscaping, and the relocation of streetlights. In addition, this would be accomplished by the narrowing of South Capitol Avenue north of Story Road where there would be additional right-of-way requirements.

- *Right turn lanes.* Exclusive right turn lanes on Capitol Expressway would be added at Story Road, Cunningham Avenue, and Tully Road intersections.

- *Bicycle Slot.* At the locations where exclusive right turn lanes are added or maintained on Capitol Expressway, bicycle slots would be included to the left of the right turn lanes. Figure 3-2 includes pictures of a typical bicycle slot with bicycle detector.

- *Left turn lanes.* Longer left turn lanes on Capitol Expressway would be added at the following intersections: northbound and southbound at Story Road, northbound at Ocala Avenue, and southbound at Tully Road. At Ocala Avenue, one northbound left turn lane would be removed.

- *Left turn pocket.* A second left turn pocket would be maintained on northbound Capitol Expressway at Story Road.

[1] Recent studies by Caltrans indicate that OGAC produces noticeably less vehicle noise than other pavement types (i.e., concrete and conventional asphalt).

a. View of an example bike slot facing west at Lawrence Expressway and Cabrillo Avenue in the City of Santa Clara.

b. View of a bike detector embedded in a bike slot. The purpose of a bike detector is to detect a bicyclist approaching an intersection and communicate with the traffic signal cabinet to provide enough time for cyclists to safely cross an intersection.

Source: VTA and ICF 2018.

Figure 3-2
Typical Bike Slot

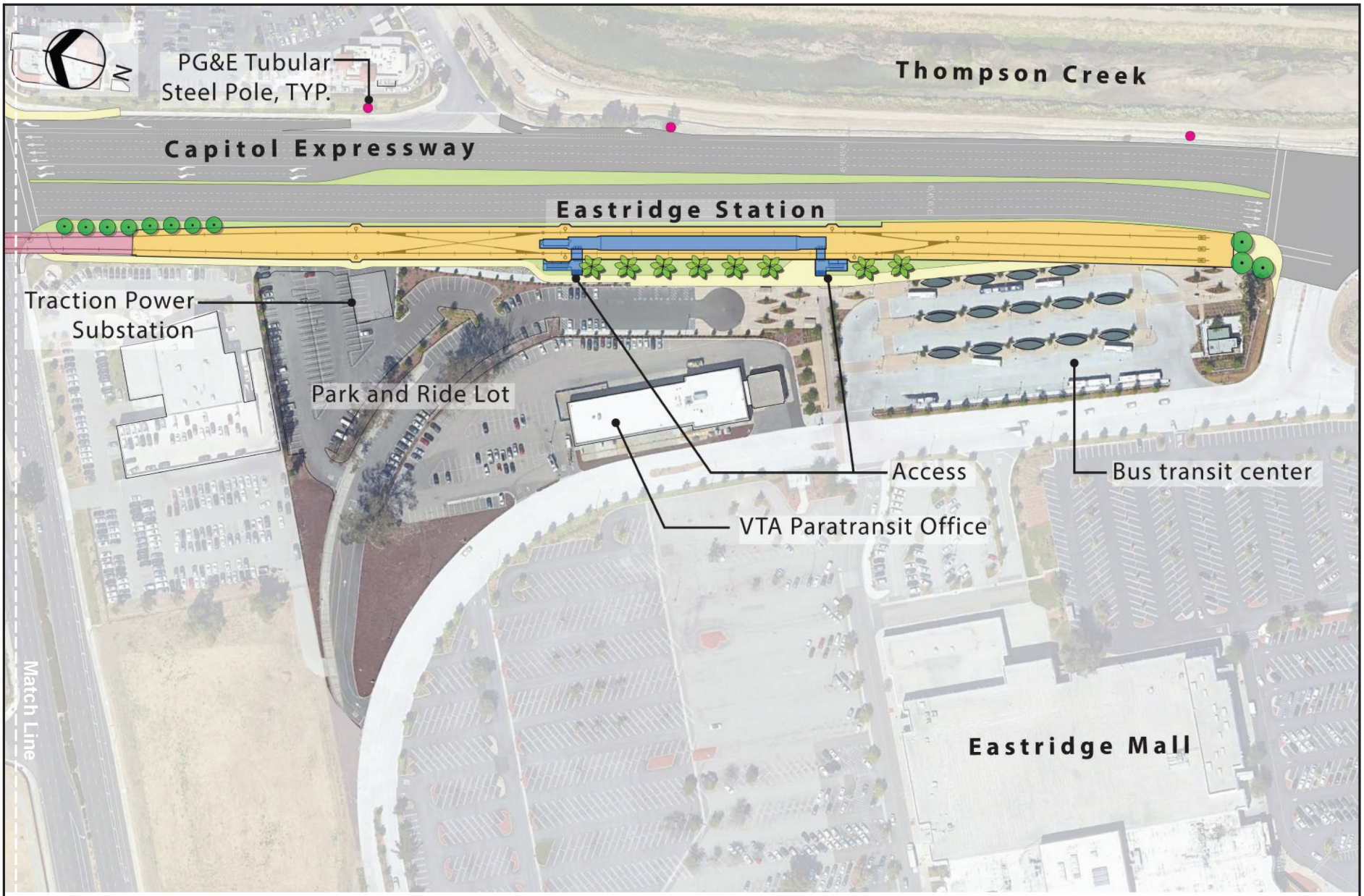
Modifications to Eastridge Station Platforms and Tracks. The approved project includes two platforms, additional tail tracks, and one traction power substation at the Eastridge Station. The proposed changes to the project include only one center platform at Eastridge Station, which would be adequate for the anticipated patronage.

Additional changes to the Eastridge Station include the following.

- Removal of the siding track.
- Reconfiguration of tail tracks, including the addition of a pocket track.
- Diamond crossover shifted from structure to ballast.
- Addition of passenger access at north end of station (adjacent to the Park-and-Ride Lot).
- Platform shifted north, which would eliminate reconstruction of Eastridge Loop/Capitol Expressway intersection.
- Platform raised on retained fill.
- Tully Road bridge crossing lowered.

Figure 3-3 shows the proposed changes to the Eastridge Station.

Reduction in Parking Spaces at Eastridge Park-and-Ride Lot. The Eastridge Park-and-Ride Lot currently includes approximately 180 parking spaces. The approved project increases the parking to 445 spaces at Eastridge Station to partially address the increased demand of 481 spaces from the project. As part of the proposed changes to the approved project, VTA is proposing to reduce the parking to approximately 200 spaces due to the relocation of VTA Paratransit staff and vehicles to a remodeled building at this location in September 2017. The relocation of VTA Paratransit staff and vehicles to this location has reduced the availability of parking at the Eastridge Park-and-Ride lot. See Section 2.3, *Changes in Circumstances*, for a discussion of the changes to the existing VTA Paratransit Offices at the Eastridge Park-and-Ride Lot. As shown in Table 3-2, based on updated VTA forecasts, the proposed changes to the approved project would increase existing (2017) parking demand to 114 parking spaces. In years 2023 and 2043, the proposed changes to the approved project would increase parking demand to 293 vehicles and 374 vehicles, respectively.



Source: BKF Engineers 2018.

ICF Graphics 00011.18 (8/27/18)

Figure 3-3
Proposed Changes to the Eastridge Station

Table 3-2 Eastridge Park-and-Ride Lot Anticipated Parking Demand for the Approved Project and the Proposed Changes (Existing [2017] Year, Year 2023, Year 2035, and Year 2043)

	Existing (2009 or 2017)[1]	Year 2023[2]	Year 2035[3]	Year 2043[2]
Approved Project				
Demand	16	--	481	--
Supply	115	--	445	--
Proposed Changes to the Approved Project				
Demand	114	293	--	374
Supply	180	200	--	200

Notes:

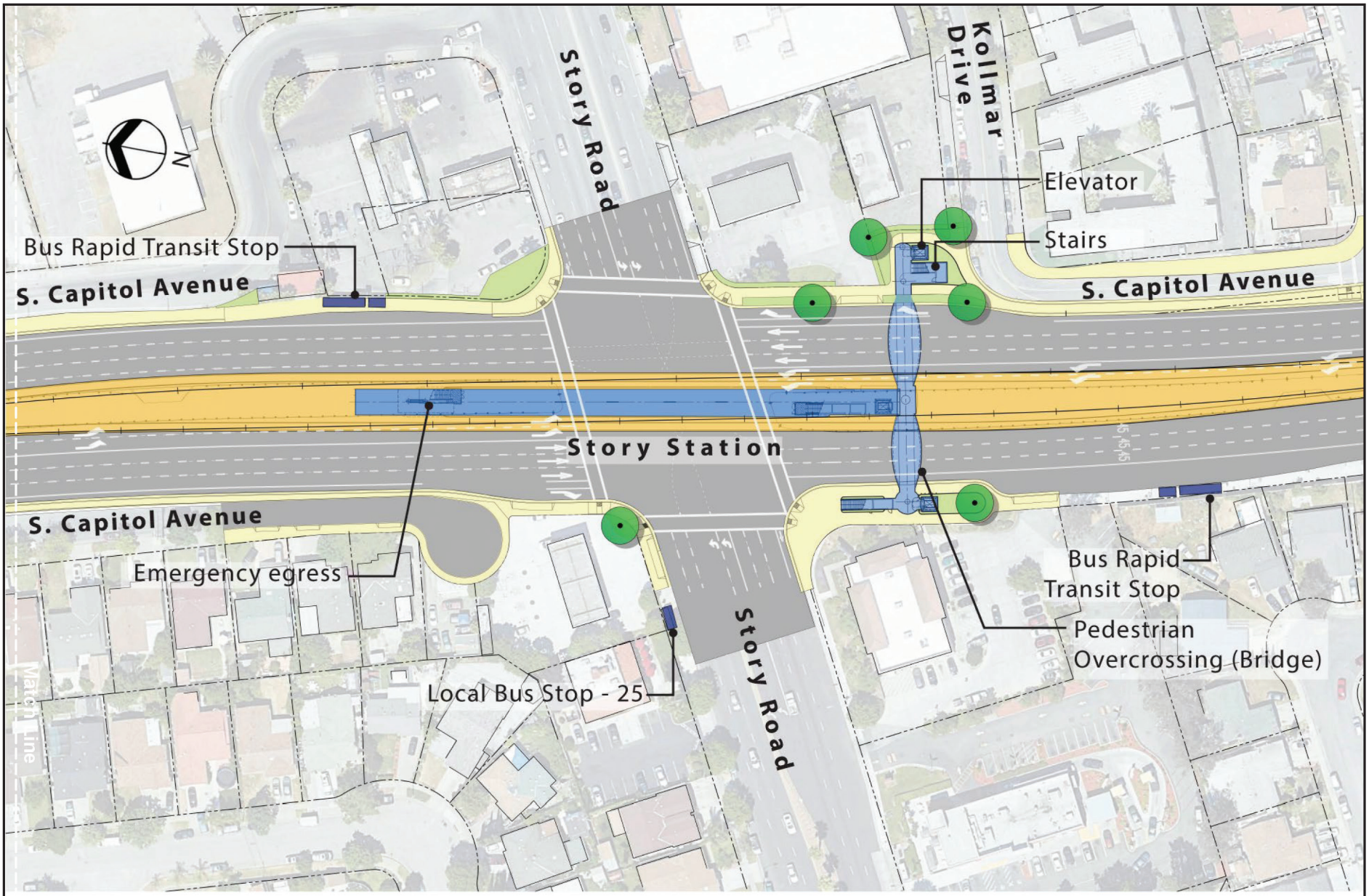
[1] Existing parking counts provided by VTA Operations on December 20, 2017.

[2] Future Parking estimates provided by VTA Modelling on May 31, 2018.

[3] Only parking forecasts for 2035 were provided in the 2014 Subsequent IS/MND. Updated parking forecasts were not provided for 2035 due to changes in the opening year and future year.

Source: Hexagon 2018.

Minor Shift in the Location and Straightening of the Story Station Pedestrian Overcrossing. The approved project includes a pedestrian overcrossing at the Story Station. The proposed change to the project would adjust the location of the eastern and western landings of the pedestrian overcrossing. On the east, this change would maintain an existing driveway along Capitol Expressway into the gas station located south of Story Road. On the west, this change provides for improved clearances at the bottom of the access stairs and the crosswalk ramps and waiting areas at the intersection. Figure 3-4 shows the proposed changes to the Story Station. The proposed change to the project would also straighten out the Story Station Pedestrian Overcrossing, which is currently designed to be curvilinear.



Source: BKF Engineers 2018.

ICF Graphics 00011.18 (8/27/18)

Figure 3-4
Proposed Changes to the Story Station

Modification to Story Station Pedestrian Access. The approved project also includes a pedestrian access point to Story Station at the median. The proposed change to the project would restrict pedestrian access to the Story Station at the median to emergency purposes only.

Relocation of a Construction Staging Area. The approved project includes a construction staging area at Capitol Expressway/Tully Road. The proposed change to the project would eliminate this construction staging area. Thus, the project will require additional areas for staging construction material and equipment. The actual locations and associated access remain to be identified, and it is expected that the laydown areas will be adjacent to the roadway in areas that are either vacant or available for use.

Relocation of Pacific Gas and Electric (PG&E) Electrical Transmission Facilities. As a result of the change in the vertical profile of the light rail from an at-grade alignment to the proposed aerial guideway, subsequent land use development, and revisions to design standards, Pacific Gas and Electric (PG&E) updated its design to relocate approximately 1.4 miles of its double-circuit Milpitas-Swift and McKee-Piercy 115 kilovolt (kV) power line electrical facilities (lines). There are currently six steel lattice towers and two tubular steel poles (TSPs) located along the Capitol Expressway between Ocala Avenue and Quimby Road in the City of San Jose. These eight structures would be replaced with a total of 10 TSPs as part of the proposed changes compared to the 8 TSPs that were included in the approved project. The relocation would start at an existing structure near the southwest intersection of Silverstone Place and Sunny Glen Drive. Progressing southbound, the lines would shift slightly along west side of Capitol Expressway, then south of Cunningham Avenue, the lines would shift from the median in Capitol Expressway to the east side of the road and continue southerly to the final existing structure located near the southeast intersection of Quimby Road and Capitol Expressway. The TSPs were proposed to be up to 105 feet in height under the approved project and it is now anticipated that the height of at least one TSP would need to be increased to up to approximately 121 feet in height to clear the proposed aerial guideway. As a result of the increase in height and relocation of the TSPs in the proximity to Reid-Hillview Airport, PG&E may need to install Federal Aviation Administration (FAA) obstruction lighting on some or all of the new poles in accordance with FAA requirements. These lights would be powered by either solar panels or local distribution electric lines. The two additional TSPs are a result of the replacement of No. 49 lattice tower with a TSP and the insertion of a new TSP (No. 53A) between Tully Road and Quimby Road. There would also be minor shifts in the location of the replacement TSPs. One of the TSPs (No. 54) may require new right-of-way from the Santa Clara Water District for placing the TSP and its foundation. The new TSPs would be mounted on a concrete foundation. Construction of the foundation for TSP No. 53A, TSP No. 54, and TSP No. 55 may require temporary closure of the Thompson Creek Trail for safety during drilling, and foundation installation. See Section 2.3, *Changes in Circumstances*, for a discussion of the Thompson Creek Trail. Figure 2-5 shows the proposed changes to the electrical transmission facilities.

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Figure 3-5
Proposed Changes to Electrical Transmission Facilities (sheet 1 of 2)

Figure 3-5

Proposed Changes to Electrical Transmission Facilities (sheet 2 of 2)

Extension of Construction Duration and Modification to the Construction Scenario. Under the approved project, construction activities were anticipated to periodically reduce the capacity of Capitol Expressway from three lanes to two in each direction during the mid-day off peak periods. However, during the peak of the construction phase, the proposed changes to the approved project may require reducing capacity of Capitol Expressway to two lanes in the northbound direction, and one lane in the southbound direction, periodically, during non-peak hours of travel . Three travel lanes in each direction are expected to stay open during peak hours of travel. One left turn lane in each travel direction may be closed at intersections temporarily during various construction events. Lane closures would be contingent on the requirements and restrictions from the County of Santa Clara and City of San Jose. If lane closures for construction activities are further restricted, an increase of approximately one year would be anticipated for the duration of project construction, moving the construction completion from 2024 to 2025 with the proposed changes.

In addition, the proposed changes to the approved project may cause construction work to be necessary during night and early morning periods and weekend periods to minimize traffic disruption. Construction activities at night would involve partial or complete intersection closures along Capitol Expressway at Capitol Avenue, Story Road, Ocala Avenue, Cunningham Avenue, Swift Lane and Tully Road. Complete roadway closures may occur in each travel direction (northbound and southbound) of Capitol Expressway for work on the proposed pedestrian overcrossing.

Section 3.3 Changes in Circumstances

There have been a number of changes in circumstances since the approval of prior environmental documentation. These changes pertain to changes to related projects.

VTA Paratransit Offices at the Eastridge Park-and-Ride Lot. In September 2017, VTA completed improvements to the vacant building located at the Eastridge Transit Center and moved its VTA Access Paratransit staff to the Eastridge Park-and-Ride Lot. At the VTA Access Paratransit Offices, VTA has a call center and performs minor maintenance on Paratransit vehicles. Approximately 124 parking spaces are designated for use by VTA Access Paratransit staff and visitors.

Thompson Creek Trail. Construction of the City of San Jose's Thompson Creek Trail began in 2016 and was completed in 2017. The 2.25-mile trail is a Class I facility that runs between Lake Cunningham Park and Abom Park and generally follows Thompson Creek (San Jose Trails 2018). Figure 3-6 provides views of Thompson Creek Trail near Capitol Expressway and Tully Road.

a. View of trail facing north toward the intersection of Capitol Expressway and Tully Road.

b. View of trail facing south toward the intersection of Capitol Expressway and Capitol Expressway Connector Road at Eastridge Mall.

Source: ICF 2018.

Graphics ... 00011.18 (8/27/18)

Figure 3-6
Thompson Creek Trail

Lower Silver Creek Flood Protection Project. Construction of the Santa Clara Valley Water District's Lower Silver Creek Flood Protection Project began in 2003. All flood protection components of the project are complete and the remaining work, which consists of plantings, is anticipated to be completed in 2019. The main benefits of the 5-mile flood protection project are protection from flood damage and reduction in channel bank failures along Lower Silver Creek from Cunningham Reservoir to Interstate 680.

Section 3.4 Introduction of New Information

This document includes the following new information and new technical reports prepared for the proposed changes to the approved project.

- Updates to the California National Diversity Database (see Section 3.3, *Biological Resources,* of the Second Subsequent IS).
- March 28, 2017, *Capitol Expressway Corridor Project – Biological Resources Update prepared by H.T. Harvey & Associates* (see Section 3.3, *Biological Resources,* of the Second Subsequent IS).
- 2016 American Community Service demographic data (see Section 3.14, *Socioeconomics,* of the Second Subsequent IS and Section 5.2, *Environmental Justice,* of the SEIR-2).
- February 2018 *Capitol Expressway Light Rail - Environmental Data Resources (EDR) Radius Map Report with GeoCheck (*see Section 3.9, *Hazardous Materials,* of the Second Subsequent IS).
- Department of Parks and Recreation 523A (Primary Record) and 523B (Building, Structure, Object) forms prepared for 1091–1093 S. Capitol Avenue and 1148 S. Capitol Avenue (see Section 3.5, *Cultural Resources,* of the Second Subsequent IS).
- May 16, 2018, *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Final Cultural Resources Memorandum* (see Section 3.5, *Cultural Resources,* of the Second Subsequent IS).
- August 23, 2018, *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* (see Section 5.1, *Transportation,* of the SEIR-2).
- September 21, 2018, *EBRC- CELR Noise and Vibration Assessment* (see Section 5.3, *Noise and Vibration,* of the SEIR-2).

No other new technical reports specific to the changes to the approved project have been prepared since the 2014 Subsequent IS/MND.

Regulations that have gone into effect since the 2014 Subsequent IS/MND, and to which the proposed changes to the project are subject, include Assembly Bill (AB) 52, various stormwater regulations, case law regarding how existing environmental conditions will impact a project's future users or residents, various air quality regulations, the *2017 Clean Air Plan,* and Senate Bill (SB) 215.

Assembly Bill 52. Effective July 1, 2015, AB 52 formally established new requirements under the California Environmental Quality Act (CEQA) to protect tribal cultural resources. Specifically, the bill requires a lead agency to begin consultation with a California Native American tribe, if requested, and be informed of projects in the geographic area prior to determining if environmental documentation is required. Compliance with AB 52 is discussed in Section 3.5, *Cultural Resources,* of the Second Subsequent IS.

Stormwater Regulations. VTA was newly regulated as a Non-traditional MS4 under the Phase II General Permit for Stormwater Discharge from Small Municipal Separate Storm Sewer Systems (MS4), Order No. 2013-0001-DWQ, effective July 30, 2013. The stormwater treatment regulations under the MS4 permit require new road projects (including sidewalks and bicycle lanes) that create 5,000 square feet or more of newly constructed or replaced and contiguous impervious surface to comply with post-construction stormwater treatment requirements. These types of treatment measures, including avoiding impervious surfaces, providing site controls to manage pollutant sources, and Low Impact Development features such as bioretention basins and vegetated swales will comply with the United States Environmental Protection Agency's (EPA) Greenstreets guidelines (EPA's *Managing Wet Weather with Green Infrastructure Municipal Handbook Green Streets*) (Lukes & Kloss 2008).

Section 303(d) of the Clean Water Act establishes total maximum daily loads to guide the application of state water quality standards. The Clean Water Act requires each state to satisfy its 303(d) and 305(b) reporting obligations every 2 years, a requirement that the State Water Board fulfills by preparing the *California Integrated Report*. The 2002 *California Integrated Report* with 303(d) listings was most recently revised in 2017. For the current listing cycles, the State Water Board has combined its 303(d) List and the 305(b) Report into the 2014 and 2016 *California Integrated Report.*

The 1995 Basin Plan for the San Francisco Bay Basin (Basin Plan) was the master water quality control planning document for the approved project. The Basin Plan, which designates beneficial uses and water quality objectives for waters of the state and includes programs of implementation to achieve water quality objectives, is updated and reviewed every 3 years. The Basin Plan has been updated to reflect amendments adopted through May 4, 2017. Thus, beneficial uses for all water body segments and water quality objectives have been updated in the Basin Plan.

Effective June 30, 2015, VTA's *Stormwater and Landscaping Design Criteria Manual* was developed to assist engineers with incorporating post-construction stormwater treatment into VTA project designs. All roadway projects that create 5,000 square feet or more of newly constructed or replaced and contiguous impervious surface must comply with the post-construction stormwater requirements in the manual. The current State Water Board's Phase II Small MS4 Permit (Order No. 2013-0001-DWQ) was amended (Water Quality Orders 2015-0133-EXEC and 2016-0069-EXEC) to reflect changes to or removal of regulated small MS4 designations. Currently, the State Water Board is considering amending the Small MS4 Permit to incorporate new or revised total maximum daily load implementation language.

In November 2015, the Regional Water Board adopted a renewed San Francisco Bay Region Municipal Regional Stormwater Permit (MRP) (Order No. R2-2015-0049) overseen by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). The permit regulates Waste Discharge Requirements and the National Pollutant Discharge Elimination System for the discharge of stormwater runoff from MS4s from a number of jurisdictions and entities, including SCVURPPP, and applies to City of San Jose– or Santa Clara County–owned areas that may be impacted by the changes to the project.

The approved project includes both roadway and light rail improvements, and does not require stormwater treatment. The proposed changes to the project would add impervious and rework areas,[2] which would require stormwater treatment. The proposed stormwater treatment measures within VTA's operational limits would comply with the stormwater guidelines presented in VTA's *Stormwater and Landscaping Design Criteria Manual*, and the proposed stormwater treatment measures for roadway improvements situated outside of VTA's operational limits would comply with the SCVURRPP. Compliance with the stormwater regulations summarized above is discussed in Section 3.10, *Hydrology and Water Quality*, of the Second Subsequent IS.

***California Building Industry Assoc. v. Bay Area Air Quality Management District* Case Law.** In December 2015, the California Supreme Court found that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents" unless the project "could exacerbate hazards that are already present." The Supreme Court identified several exceptions to this general rule in which CEQA could apply to impacts of the environment on the project, all of which are statutory provisions in CEQA that specifically require consideration of impacts of the environment, such as consideration of projects near airports, school construction projects, and statutory exemptions for housing and transit priority projects. None of these exceptions apply to the proposed changes to the approved project. (*California Building Industry Assoc. v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369).

Air Quality Regulations. Senate Bill (SB) 350 (Clean Energy and Pollution Reduction Act of 2015) was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a renewables portfolio standard of 50 percent and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the California Public Utilities Commission and California Energy Commission.

SB 32 requires the California Air Resources Board (ARB) to ensure that statewide greenhouse gas (GHG) emissions are reduced to at least 40 percent below 1990 levels by 2030. The companion bill, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires the ARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions

[2] Rework area is an area that is currently impervious and would undergo a change in use as a result of the proposed changes to the project. The size of the rework area, even if currently impervious, is included in the calculation of the changes to the project's total treatment area due to the change in usage.

beyond the 2020 statewide limit, requires ARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of ARB, and adds two legislators as non-voting members of ARB. Pursuant to SB 32, ARB updated the prior AB 32 Scoping Plan to address implementation of GHG reduction strategies to meet the 2030 reduction target. The Final Plan was approved in December 2017. The 2017 plan continues the discussion from the original scoping plan and 2014 update of identifying scientifically backed policies to reduce GHGs within six of the state's economic sectors. The updated Scoping Plan includes various elements, including doubling energy efficiency savings, increasing the low carbon fuel standard from 10 to 18 percent, adding 4.2 million zero-emission vehicles on the road, implementing the Sustainable Freight Strategy, implementing a post-2020 Cap-and-Trade Program, creating walkable communities with expanded mass transit and other alternatives to traveling by car, and developing an Integrated Natural and Working Lands Action Plan to protect land-based carbon sinks. Compliance with the air quality regulations summarized above is discussed in Section 5.4, *Air Quality*, of the SEIR-2.

Bay Area Air Quality Management District 2017 CEQA Guidelines. In May 2017, the Bay Area Air Quality Management District updated their California Environmental Quality Act (CEQA) Guidelines (Bay Area Air Quality Management District 2017a). While the 2014 Subsequent IS/MND used the BAAQMD's 2010 CEQA guidelines to determine significance, the current, 2017 CEQA Guidelines are discussed in Section 5.4, *Air Quality*, and Section 5.5, *Construction*, of the SEIR-2. There have been no substantial changes to any significance thresholds between the 2010 and 2017 guidelines, however.

Bay Area Air Quality Management District/2017 Clean Air Plan. On April 19, 2017, the Bay Area Air Quality Management District Board of Directors adopted an update to the *2010 Clean Air Plan* called the *2017 Clean Air Plan* (Bay Area Air Quality Management District 2017b). Both the *2010 Clean Air Plan* and *2017 Clean Air Plan* focus on protecting public health and protecting the climate, and contain control measures aimed at reducing air pollution in the region. Additionally, many of the control measures included in the *2010 Clean Air Plan* were carried forward into the *2017 Clean Air Plan*. Consistency with the *2017 Clean Air Plan* is discussed in Section 5.4, *Air Quality*, of the SEIR-2.

Senate Bill 215. Effective January 1, 2017, SB 215 amended the Public Utilities Code to change how the California Public Utilities Commission (CPUC) governs, particularly in regards to ex parte communication. Among other changes, SB 215 affected how the CPUC processes formal crossing applications by requiring a commissioner or administrative law judge to oversee each rail crossing application. Compliance with SB 215 is discussed in Section 3.13, *Safety and Security*, of the Second Subsequent IS.

Chapter 4
Alternatives Considered

The 2005 Final EIR evaluated a range of alternatives to the approved project. No additional alignment alternatives are considered in the SEIR-2.

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Chapter 5
Environmental Setting, Impacts, and Mitigation

Together, this chapter and the Second Subsequent IS (included in Attachment G) describe substantial changes in the environmental setting, impacts, and mitigation measures for each of the environmental resource areas that were evaluated in the 2005 Final EIR, the 2007 Final SEIR, and the 2014 Subsequent IS/MND. Within each environmental resource area, only the proposed changes to the approved project that have the potential to result in an environmental effect or a change in adopted mitigation measures are discussed. For a detailed discussion of the existing setting at the time each prior environmental document was prepared, impacts (including the thresholds of significance), and mitigation measures, refer to Chapter 4 of the 2005 Final EIR, Chapter 5 of the 2007 Final SEIR, and Chapter 3 of the 2014 Subsequent IS/MND.

The SEIR-2 is focused on the potential for new significant impacts or a substantial increase in the severity of previously identified significant effects related to transportation, environmental justice, noise and vibration, air quality and climate change, and construction. Other environmental resource areas, where there are no impacts or where impacts can be mitigated to a less than significant level, are analyzed in the Second Subsequent IS. These resource areas analyzed in the Second Subsequent IS include Biological Resources, Community Services, Cultural Resources, Electromagnetic Fields, Energy, Geology/Soils/Seismicity, Hazardous Materials, Hydrology & Water Quality, Land Use, Safety & Security, Socioeconomics, Utilities, and Visual Quality.

The 2005 Final EIR evaluated three alternatives: No-Project, Baseline, and Light Rail Alternative. In the case of the Light Rail Alternative, numerous design options were reviewed for their environmental effects. Based on the project approved by the VTA Board of Directors in May 2005, the modifications to the project approved by the VTA Board of Directors in August 2007, and the modifications to the project approved by the VTA Board of Directors in March 2014, some of the environmental effects and mitigation measures described in the 2005 Final EIR, 2007 Final SEIR, and 2014 Subsequent IS/MND no longer apply to the proposed changes to the approved project. The 2005 Final EIR identified no adverse effects at Kollmar Drive, which would have been “cul-de-saced” and would have no longer connected to Capitol Avenue. Under the

proposed changes to the approved project, Kollmar Drive would not be "cul-de-saced" and would continue to be a two-way street, eliminating all adverse effects associated with the approved project. The impact and mitigation summary included for each section identifies the impacts and mitigation measures that are still relevant. Table 1-1 in Chapter 1, *Executive Summary*, lists the environmental impacts that apply to the approved project and the proposed changes to the approved project.

Section 5.1 Transportation

This section describes the potential transportation impacts associated with the proposed changes to the approved project. This section supplements Section 4.2 of the 2005 Final EIR, Section 5.1 of the 2007 Final SEIR, and Section 3.1 of the 2014 Subsequent IS/MND. This analysis is based on and supported by the August 23, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* prepared by Hexagon Transportation Consultants, Inc. (included in Attachment D).

Environmental Setting

The following discussion describes the changes to the existing roadway operations; existing bicycle, pedestrian, and bus counts at Ocala Avenue; and existing parking demand at the Eastridge Park-and-Ride Lot since the preparation of the transportation analysis in the 2007 Final SEIR and the September 2012 *Capitol Expressway Light Rail Transportation Study for the EIS.* The September 2012 Transportation Study is based on 2009 traffic counts.

The applicable transportation regulations remain unchanged since the 2014 Subsequent IS/MND.

EXISTING TRAFFIC VOLUMES

Traffic counts were conducted at the following four study intersections in November 2017:

- Capitol Expressway and Capitol Avenue;
- Capitol Expressway and Story Road;
- Capitol Expressway and Ocala Avenue; and
- Capitol Expressway and Cunningham Avenue.

Other intersections in the project corridor were not included because the proposed changes were not expected to change future operations. Peak hour traffic counts at the study intersections may fluctuate up to 10 percent due to both random variation and changes in the upstream/downstream conditions. Table 5.1-1 shows the AM peak hour comparison where the 2017 traffic volumes are more than 10 percent different than the 2009 traffic volumes and where the individual movements have changes greater than or equal to 100 vehicles. As shown, differences in the AM peak hour were only within 10

percent of 6,078 total intersection volume for the Capitol Expressway and Capitol Avenue intersection. Table 5.1-2 shows the PM peak hour comparison where the 2016/2017 traffic volumes are more than 10 percent different than the 2009 traffic volumes and where the individual movements have changes greater than or equal to 100 vehicles. As shown, differences in the PM peak hour were within 10 percent for total intersection volume for all four intersections. Year 2016 PM peak hour traffic counts were used at Capitol Expressway's intersections with Capitol Avenue and Story Road because of minor construction near these locations during the 2017 counts.

Table 5.1-1 AM Peak Hour Historical Traffic Volume Count Comparisons (2009 and 2017)

Intersection	Individual Movement Volume (% Difference)[1]		Total 2009 Intersection Volume	Total 2017 Intersection Volume	Total Intersection Volume (% Difference)
Capitol Expressway & Capitol Avenue	Northbound through Northbound right: Southbound left: Westbound right:	- 21.6 + 308.6 + 53.4 + 55.8	6,077	6,078	0
Capitol Expressway & Story Road	Northbound right: Southbound through: Eastbound through: Eastbound right: Westbound left: Westbound right:	+ 105.6 + 30.1 + 34.6 + 368.9 + 87.9 - 15.3	6,770	7,878	+ 16
Capitol Expressway & Ocala Avenue	Northbound left: Southbound through:	+ 63.2 + 56.8	5,464	6,064	+ 11
Capitol Expressway & Cunningham Avenue	Northbound right: Southbound through:	+ 98.1 + 31.2	3,983	4,747	+ 19

Notes:

[1] Individual movement volumes are the total number of vehicles during the AM peak hour for all lanes of that movement. Only individual movements with changes greater than or equal to 100 vehicles and 10% difference in volume between 2009 and 2017 are shown in this table.

Source: Hexagon 2018.

Table 5.1-2 PM Peak Hour Historical Traffic Volume Count Comparisons (2009 and 2016/2017)

Intersection	Individual Movement Volume (% Difference)[1]		Total 2009 Intersection Volume	Total 2012 Intersection Volume	Total 2014 Intersection Volume	Total 2016 or 2017 Intersection Volume	Total Intersection Volume (% Difference)
Capitol Expressway & Capitol Avenue[2]	Westbound left:	+ 24.5	6,100	6,395	6,447	6,373	+ 4
Capitol Expressway & Story Road[2]	Southbound left: Eastbound through: Eastbound right:	- 26.6 + 50.8 + 49.1	7,333	8,025	7,524	7,848	+ 7
Capitol Expressway & Ocala Avenue	Northbound through: Eastbound right:	+ 24.5 - 38.4	5,662	N/A	N/A	5,758	+ 2
Capitol Expressway & Cunningham Avenue	Northbound through:	+ 26.0	4,147	N/A	N/A	4,496	+ 8

Notes:

N/A = Not Applicable

[1] Individual movement volumes are the total number of vehicles during the PM peak period for all lanes of that movement. Only individual movements with changes greater than or equal to 100 vehicles and 10 percent difference in volume between 2009 and 2016/2017 are shown in this table.

[2] 2016 counts were used at these intersections due to minor construction activities occurring in 2017.

Source: Hexagon 2018.

EXISTING HIGH-OCCUPANCY VEHICLE UTILIZATION

Generally, high-occupancy vehicle (HOV) volumes currently comprise between 9 and 25 percent of the total traffic volume on northbound and southbound Capitol Expressway.

EXISTING QUEUING OBSERVATIONS

Westbound left-turn queues from Ocala Avenue to southbound Capitol Expressway are not currently accommodated in the storage provided during the AM (7:00 am to 9:00 am), school PM (2:00 pm to 4:00 pm), or commute PM (4:00 pm to 6:00 pm) peak periods. For all other left-turn movements at the Capitol Expressway and Ocala Avenue intersection, the 95th percentile queues are accommodated during the AM, school PM, and commute PM peak periods.

EXISTING INTERSECTION LEVELS OF SERVICE

Table 5.1-3 shows the intersection LOS under existing conditions. The results of the intersection level of service analysis show that the intersection of Capitol Expressway and Story Road operates at LOS F. All other study intersections currently operate at acceptable levels of service (LOS E or better).

Table 5.1-3 Existing Intersection Level of Service

Intersection	Peak Hour	Average Delay (second/vehicle)	Level of Service
Capitol Expressway & Capitol Avenue[1]	AM	41.4	D
	PM	47.6	D
Capitol Expressway & Story Road[1]	AM	**82.5**	**F**
	PM	**111.2**	**F**
Capitol Expressway & Ocala Avenue	AM	62.2	E
	PM	74.0	E
Capitol Expressway & Cunningham Avenue	AM	22.6	C
	PM	12.6	B

Notes:
N/A = Not Applicable
[1] Denotes CMP intersection.
Bold indicates substandard Level of Service.
Source: Hexagon 2018.

EXISTING AUTOMOBILE TRAVEL TIME AND AVERAGE SPEED

Table 5.1-4 shows the average travel time and average speed of automobiles on Capitol Expressway between Interstate 680 and Tully Road. On October 25 and 26, 2017, it took between 4.5 minutes and 10 minutes to travel on Capitol Expressway between Interstate 680 and Tully Road during commute hours depending on direction, peak hour, and

whether an HOV lane was utilized. Average travel speeds ranged between 23 and 34 miles per hour. Generally, traffic in the HOV lanes experienced a slightly lower average automobile travel time and slightly higher automobile average travel speed.

Table 5.1-4 Existing Travel Time and Average Speed on Capitol Expressway, Interstate 680 to Tully Road

Vehicle Type	Direction	Peak Hour	Travel Time (min:sec)		Speed (miles per hour)	
			Average	Range	Average	Range
Mixed Flow	NB	AM	9:48	3:30-17:28	23	10-39
HOV	NB	AM	9:04	3:43-16:59	24	13-38
Mixed Flow	NB	PM	6:02	4:31-7:44	29	20-35
HOV	NB	PM	6:40	5:31-8:08	27	21-30
Mixed Flow	SB	AM	5:08	3:25-7:04	31	16-43
HOV	SB	AM	4:29	3:08-5:51	34	26-44
Mixed Flow	SB	PM	5:53	4:01-7:24	30	20-38
HOV	SB	PM	5:41	4:15-7:06	30	23-36

Notes:
Travel time data from October 25 and 26, 2017, approximately 16 runs per peak hour.
HOV = high-occupancy vehicle; NB = northbound; SB = southbound
Source: Hexagon 2018.

EXISTING BICYCLE, PEDESTRIAN, AND BUS COUNTS AT OCALA AVENUE

Much of the pedestrian and bicycle traffic in the vicinity of the Capitol Expressway corridor currently occurs around Ocala Avenue due to the presence of Ocala Middle School, which is located approximately 1,000 feet east of Capitol Expressway on Ocala Avenue. Of particular concern are bicycle and pedestrian crossings of Capitol Expressway by children. On November 1, 2017, counts of after-school bicycle and pedestrian trips crossing the Capitol Expressway and Ocala Avenue intersection during the school PM (2:00 pm to 4:00 pm) peak period show that most bicycle and pedestrian crossings were children (131 of 162 crossings were children) and mostly occurred across Capitol Expressway (as opposed to Ocala Avenue).

In addition, school bus trips were counted at the Capitol Expressway and Ocala Avenue intersection during the AM (7:00 am to 9:00 am), school PM (2:00 pm to 4:00 pm), and commute PM (4:00 pm to 6:00 pm) peak periods on November 1, 2017. During the AM peak period, there were 50 total buses (18 of which crossed Capitol Expressway). During the school PM peak period, there were 44 total buses (14 of which crossed Capitol Expressway). There were only two buses during the commute PM peak period (both crossed Capitol Expressway).

EXISTING EASTRIDGE PARK-AND-RIDE LOT PARKING DEMAND

The Eastridge Park-and-Ride Lot and Transit Center are located at Eastridge Mall. This station provides access to VTA bus routes 12, 22, 26, 31, 39, 70, 71, 77, 103, 180, and 522. Historical parking demand at the Eastridge Park-and-Ride Lot indicates that parking demand has grown between 2011 and 2017 (from as low as 21 parked vehicles in January 2011 to as high as 148 parked vehicles in October 2017). The existing parking supply of 180 currently exceeds parking demand.

EXISTING STATION RIDERSHIP

Estimates of daily transit boardings by station were provided by VTA from the countywide travel demand forecasting model. The existing 2017 daily transit boardings by station, with and without the proposed changes to the approved project, are provided in Table 5.1-5. Daily transit boardings without the proposed changes to the approved project are highest at the Alum Rock Station and lowest at the Eastridge Station.

Table 5.1-5 Existing (2017) Station Boarding Estimates

Daily Boardings	Eastridge Station	Story Station	Alum Rock Station	Total
Light Rail Transit	0	0	781	781
Bus	209	263	359	831
Total	209	263	1,140	1,612

Source: Hexagon 2018.

The existing mode split data for all trips in east San Jose and Milpitas are shown in Table 5.1-6. These data show that "drive alone" and "carpool" mode share are the highest mode shares.

Table 5.1-6 Existing (2017) East San Jose/ Milpitas Trip Mode Split

Mode	Existing 2017
Drive Alone	54.21%
Carpool	35.71%
Transit	2.53%
Bike	1.17%
Walk	6.39%

Source: Hexagon 2018.

VEHICLE MILES TRAVELED

In 2013, the State of California passed Senate Bill (SB) 743, which calls for a shift away from measures based on automobile delay. This is commonly measured by LOS in transportation analysis under CEQA. Since 2013, the State has issued several rounds of guidelines to assist Lead Agencies in implementing SB 743. These guidelines generally recommend the use of a broader measure called vehicle miles traveled (VMT), which measures the total amount of driving over a given area.

In January 2018, the California Natural Resources Agency began a rule-making period for the official changes to the State CEQA Guidelines to implement SB 743. In the Natural Resources Agency's Proposed Regulatory Text, new Section 15064.3(b)2 states that "Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact." The proposed changes to the approved project would likely reduce VMT because it would create an enhanced transit service that connects to the regional BART system, which is anticipated to shift some automobile trips to transit. The proposed changes would also reduce roadway capacity for a portion of the corridor by eliminating the HOV lanes on Capitol Expressway between Story Road and Tully Road. According to the Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA dated April 2018, "reducing roadway capacity (for example, by removing or repurposing motor vehicle travel lanes) will generally reduce VMT and therefore is presumed to cause a less-than-significant impact on transportation." Generally, no transportation analysis is needed for such projects. Considering all of these factors, it is likely that the proposed changes to the approved project, similar to the approved project, would reduce VMT compared with the no project conditions.

Environmental Impacts and Mitigation

The impact discussion in this section primarily focuses on the proposed changes to the approved project that could result in new or more significant transportation impacts compared to the impacts previously identified and analyzed for the approved project. This discussion describes the near-term traffic conditions with the proposed changes to the approved project, including existing-plus-project conditions, year 2023 (opening year), and year 2043 (long-term) conditions. Future year (2023 and 2043) traffic conditions include existing traffic as well as expected growth between 2018 and the forecast year.

The majority of the proposed changes to the approved project (including the extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections; modifications to the Eastridge Station platforms and tracks; reduction in parking spaces at the Eastridge Park-and-Ride lot; minor shift in the location and straightening of the Story Station pedestrian overcrossing and access modification to Story Station pedestrian access; relocation of a construction staging area; and relocation of PG&E electrical transmission facilities) would not result in changes to the transportation impacts previously identified and analyzed for the approved project.

One of the proposed changes to the approved project (revision to Capitol Expressway roadway lane configurations) would affect intersection LOS. This proposed change to the approved project could result in new or more significant transportation impacts compared to the impacts previously identified for the approved project.

IMPACTS ON INTERSECTIONS

At the study intersections, the minimum acceptable LOS was defined as LOS E, and project impacts at signalized intersections occur when:

- The LOS at an intersection drops below its LOS standard when project traffic is added; or
- An intersection that is operating worse than its LOS standard under no project conditions has an increase in critical delay of four or more seconds AND the demand-to-capacity ratio (V/C) is increased by more than 0.01 when project traffic is added.

The exception to these criteria is when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e. the change in average stopped delay for critical movements is negative). In this case, the criteria is when the project increases the critical V/C value by 0.01 or more. These criteria have changed subsequent to the certification of the 2014 Subsequent IS/MND.

LOS results at the four study intersections under existing (2017), year 2023, and year 2043 conditions with and without the proposed changes to the approved project are shown in Tables 5.1-7, 5.1-8, and 5.1-9, respectively.

Table 5.1-7 Existing (2017) Intersection Level of Service

Intersection	Year 2017					
	No Project			With Proposed Changes to the Approved Project		
	Peak Hour	Avg. Delay (sec/veh)	Level of Service	Avg. Delay (sec/veh)	Level of Service	Increase in Crit. Delay (sec)
Capitol Expressway & Capitol Avenue	AM	41.4	D	44.8	D	-1.0
	PM	47.6	D	47.7	D	-1.5
Capitol Expressway & Story Road	AM	**82.5**	**F**	**119.2**	**F**	71.6
	PM	**111.2**	**F**	**137.2**	**F**	9.5
Capitol Expressway & Ocala Avenue	AM	62.2	E	**91.2**	**F**	24.9
	PM	74.0	E	73.2	E	10.8
Capitol Expressway & Cunningham Avenue	AM	22.6	C	22.4	C	0.3
	PM	12.6	B	12.4	B	0.2

Notes:
Bold indicates substandard Level of Service.
Shaded rows indicate significant project impact.
Source: Hexagon 2018.

Table 5.1-8 Year 2023 Intersection Level of Service

Intersection	Year 2023					
	No Project			With Proposed Changes to the Approved Project		
	Peak Hour	Avg. Delay (sec/veh)	Level of Service	Avg. Delay (sec/veh)	Level of Service	Increase in Crit. Delay (sec)
Capitol Expressway & Capitol Avenue	AM	42.5	D	49.6	D	3.7
	PM	48.3	D	48.9	D	-1.1
Capitol Expressway & Story Road	AM[1]	**94.4**	**F**	**128.9**	**F**	66.5
	PM[2]	**123.0**	**F**	**159.0**	**F**	22.9
Capitol Expressway & Ocala Avenue	AM	75.6	E	**108.5**	**F**	28.6
	PM[3]	**80.3**	**F**	**85.2**	**F**	-51.2
Capitol Expressway & Cunningham Avenue	AM	33.0	C	29.8	C	-3.5
	PM	13.3	B	13.2	B	0.2

Notes:
Bold indicates substandard Level of Service.
Shaded rows indicate significant project impact.
[1] Change in demand-to-capacity ratio from no project to project conditions is + 0.279.
[2] Change in demand-to-capacity ratio from no project to project conditions is + 0.095.
[3] Change in demand-to-capacity ratio from no project to project conditions is +0.158.
Source: Hexagon 2018.

Table 5.1-9 Year 2043 Intersection Level of Service

Intersection	Year 2043					
	No Project			With Proposed Changes to the Approved Project		
	Peak Hour	Avg. Delay (sec/veh)	Level of Service	Avg. Delay (sec/veh)	Level of Service	Increase in Crit. Delay (sec)
Capitol Expressway & Capitol Avenue	AM	55.9	E	67.0	E	6.3
	PM	55.5	E	69.4	E	19.1
Capitol Expressway & Story Road	AM[1]	**113.9**	**F**	**144.5**	**F**	60.2
	PM[2]	**187.1**	**F**	**251.4**	**F**	75.2
Capitol Expressway & Ocala Avenue	AM[3]	**101.5**	**F**	**132.7**	**F**	24.5
	PM[4]	**101.7**	**F**	**142.8**	**F**	-35.9
Capitol Expressway & Cunningham Avenue	AM	41.9	D	36.5	D	-6.5
	PM	14.7	B	14.8	B	0.1

Notes:
Bold indicates substandard Level of Service.
Shaded rows indicate significant project impact.
[1] Change in demand-to-capacity ratio from no project to project conditions is +0.318.
[2] Change in demand-to-capacity ratio from no project to project conditions is +0.124.
[3] Change in demand-to-capacity ratio from no project to project conditions is +0.041.
[4] Change in demand-to-capacity ratio from no project to project conditions is +0.198.
Source: Hexagon 2018.

Impact: The August 23, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* indicates that the proposed changes to the approved project would result in a significant impact related to LOS at the Capitol Expressway and Story Road intersection under existing (2017), year 2023, and year 2043 conditions. This impact is due to the proposed removal of the HOV lanes and the addition of HOV lane traffic into the remaining mixed-flow lanes.

The following impacts from the 2005 Final EIR would still apply to the proposed changes to the approved project: TRN-2a (Traffic Impact at Capitol Expressway/Story Road in 2018 (now 2023)) and TRN-8b (Traffic Impact at Capitol Expressway/Story Road in 2025 (now 2043)).

Mitigation: In the 2005 Final EIR, no feasible mitigation was identified for impacts TRN-2a and TRN-8b. These significant and unavoidable impacts were included in a Statement of Overriding Considerations that was adopted by the VTA Board of Directors in May 2005.

The proposed changes to the approved project would need to include the restoration of the HOV lanes on Capitol Expressway in the northbound and southbound directions to reduce this impact to a less-than-significant level. However, there is currently insufficient right-of-way to restore the HOV lanes and additional right-of-way would require the removal of existing buildings and sidewalks along Capitol Expressway, which is infeasible. There is no feasible mitigation for this impact; thus, this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to LOS.

Significant and unavoidable impact. No feasible mitigation.

Impact: The August 23, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* indicates that the proposed changes to the approved project would result in a significant impact related to LOS at the Capitol Expressway and Ocala Avenue intersection under existing (2017) year, year 2023, and year 2043 conditions. This impact is due to the proposed removal of the HOV lanes, the removal of a northbound left-turn lane on Capitol Expressway, and the addition of HOV lane traffic into the remaining mixed-flow lanes.

The following impacts from the 2005 Final EIR would still apply to the proposed changes to the approved project: TRN-2b (Traffic Impact

at Capitol Expressway/Ocala Avenue in 2018 (now 2023)) and TRN-8c (Traffic Impact at Capitol Expressway/Ocala Avenue in 2025 (now 2043)).

Mitigation: In the 2005 Final EIR, no feasible mitigation was identified for Impact TRN-8c. These significant and unavoidable impacts were included in a Statement of Overriding Considerations that was adopted by the VTA Board of Directors in May 2005.

The proposed changes to the approved project would need to include the restoration of the HOV lanes on Capitol Expressway in the northbound and southbound directions to reduce this impact to a less-than-significant level. There is currently insufficient right-of-way to replace the HOV lanes and additional right-of-way would require the removal of existing buildings and sidewalks along Capitol Expressway, which is infeasible. There is no feasible mitigation for this impact and this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to LOS.

Significant and unavoidable impact. No feasible mitigation.

IMPACTS ON PARKING AT EASTRIDGE PARK-AND-RIDE LOT

The Eastridge Park-and-Ride Lot currently includes 180 parking spaces provided by VTA. The approved project increases the parking to 445 spaces at Eastridge Station to partially address the anticipated increased demand of 481 spaces from the project. As part of the proposed changes to the approved project, VTA is proposing to reduce the number of parking spots added at the Eastridge Park-and-Ride Lot to approximately 200 spaces due to the relocation of VTA Paratransit staff and vehicles to a remodeled building at this location in September 2017, which has reduced the availability of parking there. See Section 3.3, *Changes in Circumstances*, in Chapter 3 for a discussion of the changes to the existing VTA Paratransit Offices at the Eastridge Park-and-Ride Lot. Table 5.1-10 shows the peak park and ride demand with the proposed changes to the approved project at the Eastridge Park-and-Ride Lot under existing (2017), year 2023, and year 2043 conditions. Based on VTA's revised forecasts, the proposed changes to the approved project would continue to increase parking demand at the Eastridge Park-and-Ride Lot. VTA recognizes that there may be a shortfall in parking supply as a result of the proposed reduction in the additional parking spaces provided. VTA will monitor the demand and will increase parking as necessary, if possible. If increasing the parking supply is not possible, VTA will evaluate measures to promote non-vehicular access to the station and will coordinate with VTA Paratransit to reduce their demand for parking. As a result of these measures to increase supply or reduce demand, no indirect traffic or air quality impacts would be caused by cars circling and looking for parking at this station.

Table 5.1-10 Eastridge Park-and-Ride Lot Anticipated Parking Demand and Supply (Existing [2017] Year, Year 2023, and Year 2043)

Existing (2017)[1]		Year 2023[2]		Year 2043[2]	
Scenario	**Parked Vehicles**	**Scenario**	**Parked Vehicles**	**Scenario**	**Parked Vehicles**
Demand	114	Demand	293	Demand	374
Supply	180	Supply	200	Supply	200

Notes:
[1] Existing parking counts provided by VTA Operations on December 20, 2017.
[2] Future parking estimates provided by VTA Modeling on May 31, 2018.
Source: Hexagon 2018.

IMPACTS ON STATION RIDERSHIP

The 2023 and 2043 daily transit boardings by station, with and without the proposed changes to the approved project, are provided in Table 5.1-11. With the proposed changes, total transit boardings at the Alum Rock Station would decrease, while the number of boardings at the Story Station and the Eastridge Station would increase in both 2023 and 2043. This is expected given that Alum Rock is currently an end of the line station and the addition of more stations would allow patrons to select the most convenient location. With the proposed changes to the approved project, the highest percentage of light rail transit boardings at the Eastridge Transit Center would arrive by way of bus transfer, while the highest percentage of boardings at the Story and Alum Rock Stations would arrive by walking.

Table 5.1-11 Station Boarding Estimates (Year 2023 and Year 2043)

	Eastridge Station		Story Station		Alum Rock Station		Total	
Daily Boardings	**No Project**	**With Project**	**No Project**	**With Project**	**No Project**	**With Project**	**No Project**	**With Project**
Year 2023								
Light Rail Transit	0	1,224	0	777	1,745	979	1,745	2,980
Bus	896	918	379	418	862	506	2,137	1,842
Total	896	2,142	379	1,195	2,607	1,485	3,882	4,822
Year 2043								
Light Rail Transit	0	2,287	0	1,040	2,322	1,207	2,322	4,534
Bus	966	518	472	401	1,036	659	2,474	1,578
Total	966	2,805	472	1,441	3,358	1,866	4,796	6,112

Source: Hexagon 2018.

The mode split data for all trips in east San Jose and Milpitas are shown in Table 5.1-12. These data show that, with the proposed changes to the approved project, there would be a small decrease in "drive alone" and "carpool" mode share and a small increase in transit mode share in both 2023 and 2043 compared to 2017 (shown in Table 5.1-6).

Table 5.1-12 East San Jose/ Milpitas Trip Mode Split (Year 2023 and Year 2043)

	Year 2023		Year 2043	
Mode	**No Project**	**With Project**	**No Project**	**With Project**
Drive Alone	53.85%	53.82%	50.77%	50.73%
Carpool	35.53%	35.52%	34.05%	34.03%
Transit	3.17%	3.21%	5.84%	5.91%
Bike	1.21%	1.21%	1.59%	1.59%
Walk	6.25%	6.25%	7.74%	7.74%

Source: Hexagon 2018.

IMPACTS ON PEDESTRIANS AND BICYCLISTS, TRAVEL TIME, AND VEHICLE MILES TRAVELED

An overview of the potential impacts of the proposed changes to the approved project on pedestrians, bicyclists, travel time, and VMT is provided below.

- The proposed aerial guideway would result in fewer conflicts between light rail vehicles and school buses, bicyclists, and pedestrians.
- The proposed removal of the existing HOV lanes would result in higher average automobile delays and higher automobile travel times on Capitol Expressway.
- The proposed changes would not materially change the approved project's construction impacts relative to the approved at-grade alignment. Long delays for traffic on Capitol Expressway would occur during construction. However, VTA would seek to minimize these delays to the greatest extent feasible and provide viable detour routes when appropriate.
- As with the approved project, it is anticipated that the proposed changes would reduce VMT by creating an enhanced transit service that would connect to the Bay Area Rapid Transit (BART) system. It is anticipated that the enhanced transit service would shift some automobile trips to transit. In addition, it is anticipated that the proposed reduction in roadway capacity on Capitol Expressway due to the removal of travel lanes would decrease automobile trips. Both of these effects of the proposed changes would generally reduce VMT.

IMPACTS DURING CONSTRUCTION

Construction-related traffic and equipment would be controlled by flagmen and subject to the procedures contained in a traffic management plan (TMP) prepared for the proposed changes to the approved project. Traffic that may attempt to use neighborhood streets to avoid construction areas would be confined by two characteristics of the existing roadway network adjacent to Capitol Expressway:

- First, there are no efficient, directly parallel detours around Capitol Expressway. However, some nearby arterials are capable of handling traffic diverted from Capitol Expressway: White Road, King Road, and US 101. Portable electronic variable message signs and other static signs would be strategically positioned at approaches of individual construction zones to warn motorists in advance of the construction and to direct traffic to use these alternative routes where feasible. Flagmen would be present at all major construction points to assist in the control of traffic and encourage the use of these roads as a detour.
- Second, there are very few paths of travel through neighborhood streets that offer parallel routes to Capitol Expressway. Therefore, neighborhood streets would be mostly protected from being used as cut-through streets by motorists.

Transit service on-time performance would be expected to drop during the construction period. Alternative bus stops would be located temporarily whenever existing bus stops are disrupted by construction.

Currently, bicyclists are able to use the shoulders of the project corridor. During construction of the proposed changes to the approved project, the shoulders of the project corridor would not be maintained to allow bicyclists to continue effective use of the corridor. Detour signs would be posted directing bicyclists to use alternative corridors during construction, where appropriate.

Several residential properties along the corridor would be affected by construction activities. During short periods of time, access may be restricted, and parking eliminated. VTA would coordinate the construction activities with the homeowners and tenants. Any adjustments to the construction schedule would be conveyed to the residents upon determination of the need to adjust the schedule. The construction duration and disruptions to residents would be kept to a minimum.

Several businesses along the corridor would be temporarily affected by construction. During short periods of time, access may be altered. However, overall access to the businesses would be maintained. Property owners and businesses would be notified in advance of construction and provided with a detailed construction schedule if their access would be restricted. Changes to the construction schedule would be conveyed as soon as possible. Construction duration would be kept to a minimum. Signs would be provided along Capitol Expressway indicating that the business is open during construction and that overall access is available.

Impact: The August 23, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* indicates that the proposed lane reductions on Capitol Expressway during construction may cause study intersections to temporarily operate at LOS F, impacting passenger vehicles, buses, and trucks. The proposed changes to the approved project may also result in the temporary closures of bikeways, bus stops, and sidewalks in the corridor during construction. The duration, times, and locations of temporary closures during construction cannot be predicted with certainty.

The following impacts from the 2005 Final EIR would apply to the proposed changes to the approved project: TRN (CON)-1 (Long-Term Street or Lane Closure) and TRN (CON)-2 (Long-Term Loss of Parking or Access Essential for Business Operations).

Mitigation: The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: TRN (CON)-2a (Prepare Traffic Management Plan), TRN (CON)-2b (Inform Public of Traffic Detours), and TRN (CON)-2c (Inform Public of Transit Service Changes).

During construction, VTA will prepare traffic handling plans, employ traffic flaggers, and endeavor to minimize peak hour delays to all users. However, such measures cannot guarantee that construction activities would not cause temporary significant impacts to passenger vehicles, buses, trucks, bikes, and pedestrians. There is no feasible mitigation for this impact and this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant transportation impacts during construction. With inclusion of these mitigation measures, the proposed changes to the approved project would result "Less than Significant" impacts related to parking during construction.

Significant and unavoidable impact. No feasible mitigation.

Section 5.2 Environmental Justice

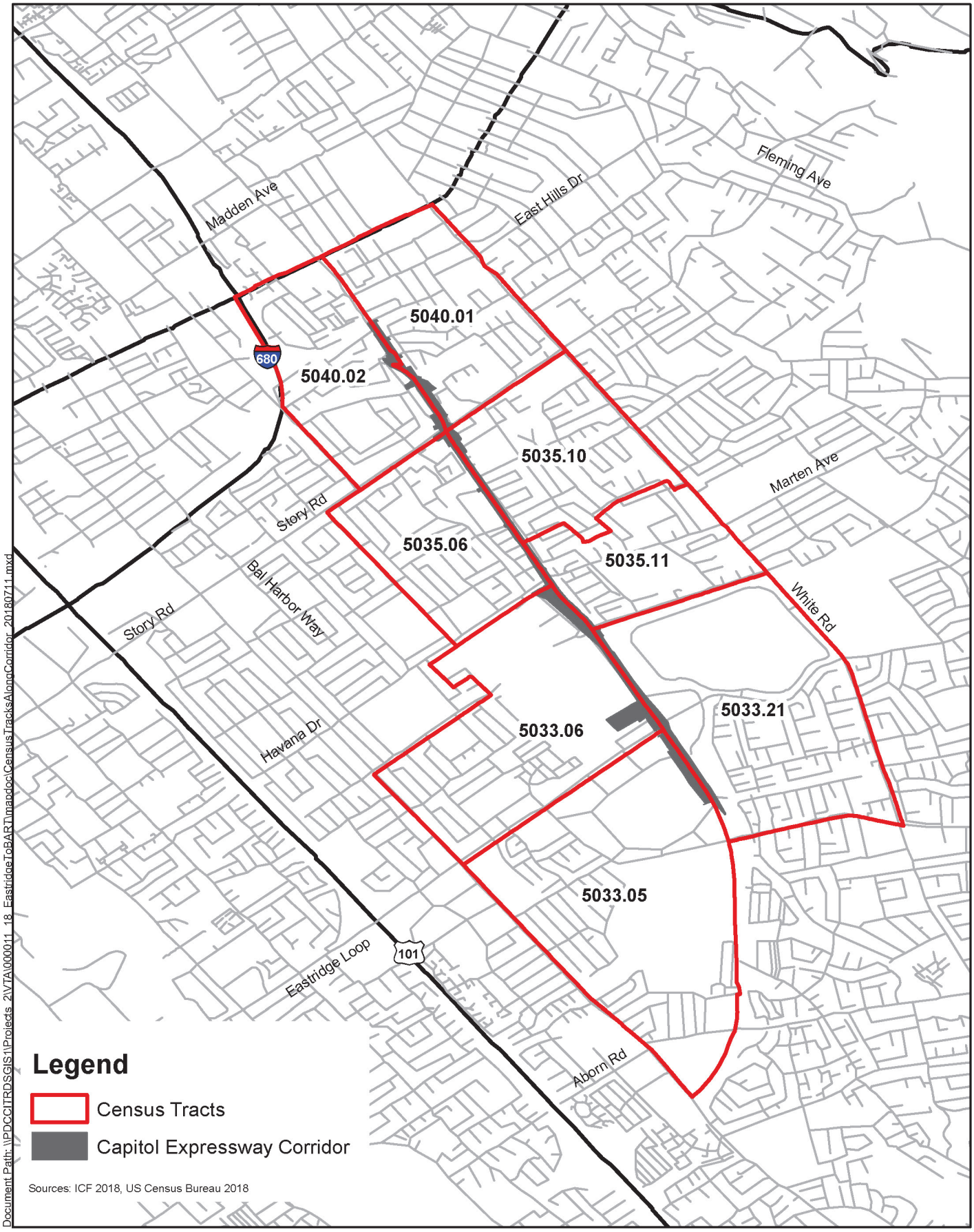
This section describes the potential of the proposed changes to the approved project to result in disproportionately high and adverse health or environmental effects on minority and low-income populations.

Environmental Setting

The following data was updated subsequent to the certification of the 2014 Subsequent IS/MND. The study area for the purposes of the environmental justice analysis includes the census tracts located adjacent to the Capitol Expressway corridor within the project limits (5033.05, 5033.06, 5033.21, 5035.06, 5035.10, 5035.11, 5040.01, and 5040.02), also shown in Figure 5.2-1 (US Census Bureau 2018). Information from the 2000 U.S. Census was used in the 2005 Final EIR to describe poverty, income, and demographic characteristics of the study area for the approved project and the City. For this section, 2016 American Community Survey data are used to describe existing (2017) poverty, income, and demographic characteristics of the study area for the proposed changes to the approved project and the City.

According to the 2005 Final EIR, the average income per capita of the City was $26,697, while the study area for the approved project averaged $19,912. Table 5.2-1 shows the existing (2017) poverty and income status and Table 5.2-2 shows the existing minority characteristics of the study area for the proposed changes to the approved project and of the City. The 2018 poverty guideline for a household of four is $25,100 annual income (U.S. Department of Health and Human Services 2018). As shown in Table 5.2-1, the study area has an existing median household income of $72,646, which is higher than the U.S. Census-defined poverty level for a household of four. However, the median household income in the City, $90,303, is higher than in the study area. In addition, the percentage of individuals living below the poverty threshold is higher in the study area (14%) than in the City as a whole (11%). There are four census tracts that meet the low income criteria for environmental justice.

According to the 2005 Final EIR, minorities represented approximately 63% of the total population of the City and approximately 82% of the study area for the approved project. As shown in Table 5.2-2, 2017 demographic data indicate that the existing proportion of the population composed of minority populations in the study area (Hispanic or Latino, Black or African American, Native American, Asian, or Native Hawaiian/ Pacific Islander) is substantially larger than for the City as a whole (94% and 70%, respectively) (Table 5.2-2). Because the percentage of minority populations in all the census tracts in the study area is greater than 50%, and is substantially greater than in the City, all the census tracts in the study area for the proposed changes to the approved project meets the minority criteria for environmental justice.



N

0 0.425 0.85 Miles

Figure 5.2-1
Census Tracts Along the Capitol Expressway Corridor

Transit dependency is characterized by the population under 18 and over 65 years of age (who are unlikely to drive their own vehicles and therefore more likely to be transit dependent), the number of workers using public transportation, and the number of persons below the poverty line. According to the 2005 Final EIR, the percentages of people under 18 and over 65 are similar in the study area for the approved project (29% and 7%, respectively) and the City (26% and 8%, respectively), although the study area had a slightly higher percentage of persons under 18 and a slightly lower percentage of persons over 65. Workers who use public transportation are also considered a transit-dependent group. The study area for the approved project and the City had the same percentage of workers that use public transportation (4%). Automobile ownership rates in the study area for the approved project were below the county average, according to the 2005 Final EIR.

Table 3.14-2 in Section 3.14, *Socioeconomics*, of the Second Subsequent IS shows the transit dependency characteristics of the City and the study area. The study area has similar percentages of the population that is under 18 (25%) or over 65 (10%) when compared to the City (23% and 11%, respectively). The percentage of the population that uses public transportation to get to work is the same in the study area as in the City (4%). The individual census tracts have varying percentages of workers that use public transportation, varying from 2 to 7%. The percentage of workers with no access to a vehicle is higher in the study area (2%) than in the City as a whole (1%).

Table 5.2-1 Existing (2017) Poverty and Income Status for the City of San Jose and the Study Area

Location/Census Tract	Total Population for Whom Poverty Status Determined	Percent Below Poverty Level	Median Household Income
City of San Jose	998,828	11%	$90,303
Study Area	**44,347**	**14%**	**$72,646**
5033.05	6,347	10%	$73,819
5033.06	4,253	11%	$63,636
5033.21	4,936	8%	$105,000
5035.06	6,124	19%	$60,733
5035.10	6,070	23%	$56,051
5035.11	3,810	9%	$97,862
5040.01	6,279	13%	$66,875
5040.02	6,528	16%	$57,188

Note: Shading indicates census tracts that meet the low income criteria.

Source: U.S. Census Bureau 2017b, 2017c.

Table 5.2-2 Existing (2017) Minority Status for the City of San Jose and the Study Area

Location/ Census Tract	Total Population	Percent White	Percent Black or African American	Percent American Indian and Alaska Native	Percent Asian	Percent Native Hawaiian and Other Pacific Islander	Percent Some Other Race	Percent Two or More Races	Percent Hispanic or Latino	Percent Minority
City of San Jose	1,009,363	27%	3%	<1%	34%	<1%	<1%	3%	33%	70%
Study Area	**44,505**	**5%**	**2%**	**<1%**	**35%**	**<1%**	**<1%**	**1%**	**56%**	**94%**
5033.05	6,378	3%	2%	0%	46%	<1%	0%	1%	47%	96%
5033.06	4,276	4%	3%	<1%	32%	0%	0%	0%	61%	96%
5033.21	4,942	4%	3%	0%	76%	0%	<1%	2%	15%	94%
5035.06	6,190	3%	1%	<1%	31%	0%	0%	3%	61%	94%
5035.10	6,079	7%	3%	0%	16%	<1%	<1%	2%	71%	90%
5035.11	3,810	9%	3%	<1%	42%	<1%	0%	0%	42%	91%
5040.01	6,302	5%	2%	0%	19%	0%	<1%	1%	75%	95%
5040.02	6,528	4%	2%	<1%	25%	<1%	<1%	1%	65%	94%

Note: Minority populations include Hispanic or Latino, Black or African American, Native American, Asian, or Native Hawaiian/Pacific Islander. In addition, shading indicates census tracts that meet the minority criteria.

Source: U.S. Census Bureau 2017a.

Environmental Impacts and Mitigation

This impact discussion primarily focuses on the proposed changes to the approved project that could result in new or more significant disproportionate and adverse environmental justice impacts compared to the impacts previously identified and analyzed for the approved project.

As discussed in Section 5.1, *Transportation*; Section 5.3, *Noise and Vibration*; and Section 5.4, *Air Quality and Climate Change;* in the SEIR-2, the proposed changes to the approved project would result in the following new significant and unavoidable impacts that could have a disproportionate and adverse impact on environmental justice populations.

Transportation (Operation and Construction)

- **Capitol Expressway and Story Road intersection.** The proposed changes to the approved project would result in a significant impact under existing (2017), year 2023, and year 2043 conditions, caused by the removal of the high-occupancy vehicle (HOV) lanes and the addition of HOV lane traffic into the remaining mixed flow lanes. No feasible mitigation was identified for these impacts.
- **Capitol Expressway and Ocala Avenue intersection.** The proposed changes to the approved project would result in a significant impact at this intersection under existing (2017), year 2023, and year 2043 conditions, caused by the removal of the HOV lanes, the removal of a northbound left-turn lane on Capitol Expressway, and the addition of HOV lane traffic into the remaining mixed flow lanes. No feasible mitigation was identified for these impacts.
- **Transportation impacts during construction.** The proposed changes to the approved project would require lane reductions on Capitol Expressway during construction, which may cause study intersections to temporarily operate at LOS F, impacting passenger vehicles, buses, and trucks. The proposed changes to the approved project may also result in the temporary closures of bikeways, bus stops, and sidewalks in the corridor during construction. The duration, times, and locations of temporary closures during construction cannot be predicted with certainty.

Noise and Vibration (Operation and Construction)

- **Nighttime exceedance (10:00 pm to 7:00 am) of the FTA vibration levels from light rail operations at homes within 100 feet of the proposed aerial guideway.** Most of the vibration impacts are anticipated to occur between 6:00 am and 7:00 am when VTA would be operating at peak service levels. The proposed aerial guideway (direct fixation fasteners) and ballasted track on embankment sections would cause an exceedance of the nighttime impact criteria at 73 sensitive receiver locations during light rail operations. VTA identified tire derived aggregate (TDA), 5-Hertz floating slab track (FST) or a bridge bearing

vibration isolation system, and speed reductions from 55 mph to 35 mph as potential mitigation measures. VTA is recommending to include TDA on embankment sections to mitigate one impact. However, VTA is not recommending to include FST, bridge bearing vibration isolation, or implement nighttime speed restrictions to eliminate the other 72 impacts.

VTA is not recommending to include FST or a bridge bearing isolation system as mitigation for several reasons. Future vibration levels, which include a +3 VdB safety factor, are at or slightly above the nighttime vibration impact criteria at many impacted locations, and may not actually exceed the threshold in operation. Many impacted locations are up to 100 feet from the aerial guideway, which is much farther than the typical distance at which nighttime vibration impacts are experienced. In addition, it is VTA's understanding that FST has not been installed on any aerial guideways in the United States and a bridge bearing isolation system has only been recently installed on one aerial structure in the United States. VTA is only aware of one example of FST installed on an aerial guideway on Hong Kong's KCRC West Rail and of one example of a bridge bearing vibration isolation system installed on an aerial structure at Miami Central Station, on the All Aboard Florida-Brightline network. Thus, there is limited information on the effectiveness of FST and bridge bearing isolation systems on aerial structures.

VTA is also not proposing to include speed reduction as mitigation because it would negatively affect travel time and operations between 10:00 pm and 7:00 am.

By not including FST; a bridge bearing vibration isolation system; or implementing speed reductions as mitigation, and because TDA is the only feasible mitigation option to reduce vibration levels from operation, this impact would be "Significant and Unavoidable."

- **Daytime exceedance of the Federal Transit Administration (FTA) noise levels from pile driving activity at unobstructed homes and businesses that are within 300 feet of pile driving activity.** The noise impacts would have a duration of 8 to 15 days per sensitive receiver. Pile driving would exceed the construction noise impact criteria of 80 Leq at residences and 85 Leq at commercial properties at 156 sensitive receiver locations. Even with inclusion of mitigation measures, this impact would be "Significant and Unavoidable" at two sensitive receiver locations.

- **Homes within 100 feet of impact piling activity may exceed FTA construction vibration criteria.** There are 64 predicted unmitigated construction vibration impacts, and 0 impacts with the use of non-impact piling methods. However, VTA is not recommending the use of non-impact piling methods at any locations for a couple of reasons. Most locations are only slightly above the FTA Damage Criteria, and therefore may not experience any actual impacts due to the +3 VdB safety factor included to estimate construction vibration levels. At the locations with the highest construction vibration levels, structural damage is not anticipated

to occur. As a result, VTA is not recommending non-impact piling methods at any locations. Thus, this impact would be "Significant and Unavoidable."

Air Quality and Climate Change (Construction)

- **Cumulative air quality impacts during construction.** Cumulative PM2.5 concentrations would be elevated at the receptors located near the corners of Ocala Avenue and Capitol Expressway and Cunningham Avenue and Capitol Expressway due to substantial sources of pollutant concentrations that currently exist in the area where the approved project plus the proposed changes to the approved project would occur. Even without the contribution of emissions from construction, existing PM2.5 concentrations near these sensitive receptors are at or exceed the BAAQMD's threshold because Capitol Expressway and its cross streets are heavily traveled roadways, with residences located in close proximity to the roadway edge. The approved project plus the proposed changes to the approved project would cause further exceedances of existing pollutant concentrations, worsening the cumulative exposure of sensitive receptors to toxic air contaminant concentrations. Although the contribution of the approved project plus the proposed changes to the approved project to existing concentrations would not be substantial (approximately 6% at the locations where concentrations are at or exceed 0.8 $\mu g/m^3$), there would nevertheless be a worsening of an already cumulatively significant impact. The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable."

Environmental Justice

The significant and unavoidable impacts identified in this section would occur only within the Capitol Expressway corridor, where the study area population has a higher percentage of minorities than the City as a whole, and where four census tracts have a higher percentage of people below the poverty level than the City as a whole. Thus, the proposed changes to the approved project could result in a disproportionate and adverse impact on environmental justice populations, further discussed below.

The significant and unavoidable transportation impacts would occur only within the study area. However, users of the corridor within the study area would include both populations that reside within the study area (environmental justice populations), and populations that reside outside the study area (non-environmental justice populations) who are passing through the area, visiting the area, or using the corridor as a regional transportation route. Because the significant and unavoidable transportation impacts would affect both environmental justice populations and non-environmental justice populations, these transportation impacts would not cause a disproportionate and adverse impact on environmental justice communities.

The significant and unavoidable noise and vibration impacts would also only occur within the study area, but would predominately affect environmental justice populations. This is because the impacts would only occur at residences within the study area, which are primarily environmental justice populations. Therefore, noise and vibration impacts would cause a disproportionate and adverse impact on environmental justice communities.

Similarly, the significant and unavoidable cumulative air quality impacts during construction would also only occur within the study area, and would predominately affect environmental justice populations. This is because the impacts would only occur at the receptors located near the corners of Ocala Avenue and Capitol Expressway and Cunningham Avenue and Capitol Expressway, which are primarily environmental justice populations. Therefore, cumulative air quality impacts during construction would cause a disproportionate and adverse impact on environmental justice communities.

Impact: The proposed changes to the approved project would result in new or more severe significant and unavoidable impacts to environmental justice populations related to transportation, noise and vibration, and cumulative air quality impacts during construction. However, disproportionate and adverse environmental effects to environmental justice populations would only result from noise and vibration, and cumulative air quality impacts during construction.

The following impact from the 2007 Final SEIR would still apply to the proposed changes to the approved project: EJ-1 (Environmental Justice).

Mitigation: Transportation (Operation and Construction). There are no feasible mitigation measures to reduce the transportation impacts associated with the proposed changes to the approved project. The project would need to restore the HOV lanes on Capitol Expressway in the northbound and southbound directions that would be removed by the project to provide space for the light rail tracks. However, there is currently insufficient right-of-way to replace the HOV lanes and additional right-of-way would require the removal of existing buildings and sidewalks along Capitol Expressway, which is infeasible. Therefore, the LOS impacts identified at the Capitol Expressway and Story Road intersection and at the Capitol Expressway and Ocala Avenue intersection would be "Significant and Unavoidable." Additionally, during construction, VTA will prepare traffic handling plans, employ traffic flaggers, and endeavor to minimize peak hour delays to all users**.** However, such measures cannot guarantee that construction activities would not cause temporary significant impacts to passenger vehicles, buses, trucks, bikes, and pedestrians. Therefore, this impact is considered "Significant and Unavoidable." However, for the reasons described

above, these transportation impacts would not cause a disproportionate and adverse impact on environmental justice populations.

Noise and Vibration (Operation and Construction). Regarding nighttime exceedance of operational FTA vibration levels at homes within 100 feet of the proposed aerial guideway, VTA identified tire derived aggregate (TDA), 5-Hertz floating slab track (FST) or bridge bearing vibration isolation system, and speed reduction as potential mitigation measures. By not including FST; a bridge bearing vibration isolation system; or implementing speed reductions as mitigation, and because TDA is the only feasible mitigation option to reduce vibration levels from operation, this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts related to vibration levels from transit operation. With inclusion of TDA, vibration impacts are expected to occur at 72 sensitive receivers under the proposed changes to the approved project. This is an increase of 20 sensitive receivers compared to the 2005 Final EIR, which concluded 52 sensitive receivers would be potentially exposed to vibration impacts during operation. Therefore, this impact is considered "Significant and Unavoidable" and would result in a disproportionate and adverse impact on environmental justice populations.

Regarding daytime exceedance of FTA noise levels from pile driving activity, the following mitigation measures identified in the 2005 Final EIR and the 2007 Final SEIR would still apply to the proposed changes to the approved project: NV (CON)-1a (Notify Residents of Construction Activities), NV (CON)-1b (Construct Temporary Noise Barriers During Construction), NV (CON)-1c (Restrict Pile Driving)[1], NV (CON)-1d (Use Noise Suppression Devices), NV (CON)-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors), NV (CON)-1f (Reroute Construction-Related Truck Traffic), NV (CON)-1g (Develop Construction Noise Mitigation Plan), NV (CON)– 2, which has been modified (see Section 5.3 for a full description), and NV (CON)-1h (Use Impact Cushions). With inclusion of impact cushions, pile driving would exceed the construction noise impact criteria at 135 sensitive receiver locations. With inclusion of impact cushions and pre-drilling, pile driving would exceed the construction noise impact criteria at 80 sensitive receiver locations. With inclusion of impact cushions and noise shields around the pile equipment, pile driving would exceed the construction noise impact criteria at 2 sensitive receiver locations. VTA is recommending to mitigate this impact with noise cushions and temporary noise barriers. Even with inclusion of these mitigation measures, this impact

[1] In the 2005 Final EIR, this measure restricts pile driving to the hours of 8:00 am to 5:00 pm. To be consistent with the San Jose municipal code, these hours are revised to 7:00 am to 7:00 pm, Monday through Friday.

would be "Significant and Unavoidable" and would result in a disproportionate and adverse impact on environmental justice populations.

Regarding exceedance of FTA construction vibration criteria at homes within 100 feet of the proposed piling activity, VTA is not recommending the use of non-impact piling methods at any locations for a couple of reasons. Most locations are only slightly above the FTA Damage Criteria, and therefore may not experience any actual impacts due to the +3 VdB safety factor included to estimate construction vibration levels. At the locations with the highest construction vibration levels, structural damage is not anticipated to occur. As a result, VTA is not recommending non-impact piling methods at any locations. Thus, this impact would be "Significant and Unavoidable" and would result in a disproportionate and adverse impact on environmental justice populations.

Air Quality and Climate Change (Construction). With respect to cumulative air quality impacts during construction, the following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable", and would result in a disproportionate and adverse impact on environmental justice populations.

Based on the analysis above, the proposed changes to the approved project would result in new disproportionate and adverse impacts or a substantial increase in the severity of previously identified disproportionate and adverse impacts related to environmental justice.

Significant and unavoidable impact, even with mitigation.

Section 5.3 Noise and Vibration

This section describes the potential noise and vibration impacts associated with the proposed changes to the approved project. This section supplements Section 4.14 of the 2005 Final EIR, Section 5.13 of the 2007 Final SEIR, and Section 3.12 of the 2014 Subsequent IS/MND. This analysis is based on and supported by the September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* prepared by ATS Consulting (included in Attachment E). Mitigation measures are identified for impacts that exceed the significance thresholds included in the 2005 Final EIR.

Environmental Setting

The existing noise environment along the Capitol Expressway corridor is dominated by traffic. Capitol Expressway is an eight-lane facility with six mixed-flow lanes and two carpool lanes. The ambient noise environment within the corridor was measured at four locations in December 2017 to supplement previous noise surveys prepared for the approved project in 2001, 2006, and 2010. A Federal Highway Administration Traffic Noise Model was developed to accurately compare previous and current noise measurements and to estimate the noise at each sensitive receptor due to traffic noise along Capitol Expressway. The existing (2017) noise exposure level ranges from 66.3 to 74.1 L_{dn}, compared to a range of 65 to 73 L_{dn} in 2010, when the most recent noise survey was prepared for the approved project.

The applicable noise and vibration regulations remain unchanged since the 2014 Subsequent IS/MND.

Environmental Impacts and Mitigation

The impact discussion in this section primarily focuses on the proposed changes to the approved project that could result in new or more significant noise and vibration impacts compared to the impacts previously identified and analyzed for the approved project.

The majority of the proposed changes to the approved project (including the modifications to the Eastridge Station platforms and tracks; reduction in parking spaces at the Eastridge Park-and-Ride lot; minor shift in the location and straightening of the Story Station pedestrian overcrossing and access; modification to Story Station pedestrian access; relocation of a construction staging area; and relocation of PG&E electrical transmission facilities) would not result in changes to noise and vibration compared to the impacts previously identified and analyzed for the approved project.

Two proposed changes to the approved project (the extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections and revisions to Capitol Expressway roadway lane configurations) would affect noise and vibration levels at sensitive receivers (e.g., residences) located adjacent to the proposed changes to the approved project. As with the approved project, the proposed changes would involve the operation of light rail primarily within the median of Capitol Expressway. However, the

proposed change would replace the at-grade track alignment with approximately 1.25 miles of aerial guideway from south of Story Road to north of Tully Road. The aerial guideway would include concrete columns supported on pile foundations and aerial guideway sound walls. The proposed changes to the approved project would also include resurfacing Capitol Expressway with open-graded asphalt concrete (OGAC).[1] Both of the existing high-occupancy vehicle lanes (one northbound and one southbound) would be converted to general purpose traffic lanes, resulting in a total of four general purpose lanes in each direction between Story Road and Capitol Avenue as a result of the proposed revisions to Capitol Expressway roadway lane configurations. These proposed changes to the approved project could result in new or more significant noise and vibration impacts compared to the impacts previously identified for the approved project.

NOISE LEVELS FROM TRANSIT OPERATION

Table 5.3-1 summarizes the anticipated operational transit noise impacts generated by the proposed changes to the approved project in 2017 and 2043. The table indicates the number of impacts for both years under the following conditions:

- Without the proposed aerial guideway sound walls and without the proposed OGAC;
- With only the proposed aerial guideway sound walls; and
- With both the proposed aerial guideway sound walls and the proposed OGAC.

A more detailed list of anticipated pile driving vibration impacts can be found in Table 9 of the September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* (included in Attachment E).

Impact: The September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* indicates that the proposed changes to the approved project would result in 78 moderate and 23 severe noise impacts in 2017 without the proposed aerial guideway sound walls and without the proposed OGAC. The proposed changes would result in 96 moderate and 59 severe noise impacts in 2043 without the proposed aerial guideway sound walls and without the proposed OGAC. The location of receivers where pile driving vibration impacts are predicted are as follows:

- Twenty-three properties located east and west of the alignment between Wilbur Avenue and Mervyns Way would experience one severe and twenty-two moderate noise impacts.
- Twenty-five properties located west of the alignment between Excalibur Drive and Story Road would experience moderate noise impacts.

[1] Recent studies by Caltrans indicate that OGAC produces noticeably less vehicle noise than other pavement types (i.e., concrete and conventional asphalt).

- Two commercial properties located west of the alignment near the intersection of Story Road and Expressway would experience moderate noise impacts.
- Forty-one properties located east of the alignment between Story Road and Ocala Avenue would experience thirty-eight moderate and three severe noise impacts.
- Seventeen properties located west of the alignment between Story Road and Foxdale Loop would experience four moderate and thirteen severe noise impacts.
- One commercial property located west of the alignment near the intersection of Foxdale Loop and Capitol Expressway would experience a moderate noise impact.
- Twenty-seven properties located east of the alignment between Ocala Avenue and Cunningham Avenue would experience severe noise impacts.
- Nineteen properties located west of the alignment between Foxdale Drive and Ocala Avenue would experience four moderate and fifteen severe noise impacts.

With only the proposed aerial sound walls, the proposed changes would result in 45 moderate and 0 severe noise impacts in 2017 as well as 116 moderate and 0 severe noise impacts in 2043. With both the proposed aerial guideway sound walls and the proposed OGAC, all moderate and severe impacts would be eliminated in 2017 and 2043. For sensitive receivers where a moderate impact is anticipated, VTA does not require mitigation measures under CEQA.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: NV-1 (Noise Levels from Transit Operations That Would Be Considered a Severe Impact by Federal Transit Administration Criteria).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and the 2007 Final SEIR would still apply to the proposed changes to the approved project: NV-1a (Construct Soundwalls) and NV-1c (Provide Quiet Pavement). Mitigation Measure NV-1b is no longer needed as a rest of project changes.

Inclusion of these mitigation measures would reduce these impacts to "Less than Significant."

Less-than-significant impact with mitigation.

Table 5.3-1 Summary of Existing (2017) and Year 2043 Operational Transit Noise Impacts Associated with the Proposed Changes to the Approved Project

Segment of Capitol Expressway	Number – Type of Receivers[1]	Existing (2017) Noise (Ldn)[2]	Without Aerial Guideway Sound Wall & OGAC[3] Year 2043 (Year 2017)[4]		With Aerial Guideway Sound Wall Year 2043 (Year 2017)[4]		With Aerial Guideway Sound Wall & OGAC[3] Year 2043 (Year 2017)[4]	
			Moderate	Severe	Moderate	Severe	Moderate	Severe
NB 964+50 to 981+20 Wilbur Ave. to Mervyns Way	22 - SFR	70-78	18 (12)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)
NB 986+70 to 995+50 Mervyns Way to Story Road	5 – INST/COM	72-73	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
NB 998+50 to 1035+90 Story Road to Ocala Avenue	41 - SFR	68-75	38 (5)	3 (0)	28 (3)	0 (0)	0 (0)	0 (0)
NB 1037+60 to 1049+50 Ocala Avenue to Cunningham Avenue	27 - SFR	65-67	0 (6)	27 (21)	27 (27)	0 (0)	0 (0)	0 (0)
SB 967+50 to 970+50 S Capitol Avenue	5 - SFR	67-73	4 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)
SB 971+30 to 973+00 S Capitol Avenue	2 - COM	71-74	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
SB 978+00 to 992+70 Excalibur Drive to Story Road	25 - SFR	72-75	25 (21)	0 (0)	23 (14)	0 (0)	0 (0)	0 (0)
SB 993+10 to 996+50 Story Road	3 - COM	73-74	2 (0)	0 (0)	2 (0)	0 (0)	0 (0)	0 (0)

Segment of Capitol Expressway	Number – Type of Receivers[1]	Existing (2017) Noise (Ldn)[2]	Without Aerial Guideway Sound Wall & OGAC[3] Year 2043 (Year 2017)[4]		With Aerial Guideway Sound Wall Year 2043 (Year 2017)[4]		With Aerial Guideway Sound Wall & OGAC[3] Year 2043 (Year 2017)[4]	
			Moderate	Severe	Moderate	Severe	Moderate	Severe
SB 998+80 to 1007+20 Story Road to Foxdale Loop	17 - SFR	65-73	4 (16)	13 (1)	16 (0)	0 (0)	0 (0)	0 (0)
SB 1009+00 E. Capitol Expressway	1 - COM	74	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)
SB 1012+00 to 1018+00 Foxdale Loop	3 - MFR	69	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
SB 1021+00 to 1035+80 Foxdale Drive to Ocala Avenue	19 - SFR	65-67	4 (18)	15 (1)	18 (1)	0 (0)	0 (0)	0 (0)
Number of Impacts:			**96 (78)**	**59 (23)**	**116 (45)**	**0 (0)**	**0 (0)**	**0 (0)**

Notes:

[1] Receiver types include: Single-Family Residence (SFR), Multi-Family Residence (MFR), Commercial/Office Space (COM), and Institutional (INST).

[2] Day-Night Sound Level (Ldn) is the most common measure of total community noise over a 24-hour period and is used by the FTA to evaluate residential noise impacts from proposed transit projects.

[3] Open-graded asphalt concrete (OGAC) is a noise-reducing pavement surface.

[4] Moderate and severe impacts were determined according to FTA *Noise and Vibration Impact Assessment Guidance Manual* (2006).

Source: ATS Consulting, 2018.

VIBRATION LEVELS FROM TRANSIT OPERATION

Table 5.3-2 summarizes the anticipated operational transit vibration impacts generated by the proposed changes to the approved project. There is no distinction between the number of impacts anticipated in 2017 and 2043 because vibration criteria are not based on cumulative increases in vibration levels (as is the case with noise). The table indicates the number of impacts under the following conditions:

- Without any mitigation; and
- With inclusion of mitigation consisting of only tire derived aggregate (TDA).

Table 5.3-2 Summary of Operational Transit Vibration Impacts Associated with the Proposed Changes to the Approved Project

Direction/Segment of Capitol Expressway	Number – Type of Receivers[1]	Impact Criteria (VdB)[2]	Unmitigated[4]	With TDA[4,5]
NB 964+50 to 981+20 Wilbur Avenue to Mervyns Way	22 – SFR	72 - 78	14	14
NB 986+70 to 995+50 Mervyns Way to Story Road	5 – INST/COM	78-84[3]	0	0
NB 998+50 to 1035+90 Story Road to Ocala Avenue	41 – SFR	72 - 78	4	4
NB 1037+60 to 1049+50 Ocala Avenue to Cunningham Avenue	27 – SFR	72 - 78	21	21
SB 967+50 to 970+50 S. Capitol Avenue	5 – SFR	72 - 78	3	2
SB 971+30 to 973+00 S. Capitol Avenue	2 – COM	84[3]	0	0
SB 978+00 to 992+70 Excalibur Drive to Story Road	25 – SFR	72 - 78	2	2
SB 993+10 to 996+50 Story Road	3 – COM	84[3]	0	0
SB 998+80 to 1007+20 Story Road to Foxdale Loop	17 – SFR	72 - 78	15	15
SB 1009+00 E. Capitol Expressway	1 – COM	84[3]	0	0
SB 1012+00 to 1018+00 Foxdale Loop	3 – MFR	72 - 78	0	0
SB 1021+00 to 1035+80 Foxdale Drive to Ocala Avenue	19 – SFR	72 - 78	14	14
		Number of Impacts:	**73**	**72**

Notes:

[1] Receiver types include: Single-Family Residence (SFR), Multi-Family Residence (MFR), Commercial/Office Space (COM), and Institutional (INST).

[2] FTA nighttime impact criteria of 72 vibration decibels (VdB) and daytime of 78 VdB.

[3] Impact threshold for offices and non-sensitive areas.

[4] Impacts were determined according to FTA *Noise and Vibration Impact Assessment Guidance Manual* (2006).

[5] Tire derived aggregate (TDA) is a resilient underlayment for ballasted track that would only be located at the at-grade and embankment sections.

Source: ATS Consulting, 2018.

Impact: The September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* indicates that the proposed changes to the approved project would result in exceedances of the Federal Transit Administration (FTA) nighttime (10:00 pm to 7:00 am) vibration impact criteria at sensitive receivers located within 100 feet of the proposed aerial guideway. Most of the impacts are anticipated to occur between 6:00 am and 7:00 am when VTA would be operating at peak service levels. The proposed aerial guideway (direct fixation fasteners) and ballasted track on embankment sections would cause an exceedance of the nighttime impact criteria at 73 sensitive receiver locations. The location of receivers where operational vibration impacts are predicted are as follows:

- Seventeen properties located east and west of the alignment, between Wilbur Avenue and Mervyns Way would experience operational vibration impacts. One home is within 33 feet of the closest support column.
- Two properties located west of the alignment on Capitol Expressway near Story Road would experience operational vibration impacts.
- Fifteen properties located west of the alignment along Brenford Drive would experience operational vibration impacts.
- Fourteen properties located west of the alignment between Foxdale Drive and Ocala Avenue would experience operational vibration impacts.
- Four properties located east of the alignment between South Capitol Avenue and Ocala Avenue would experience operational vibration impacts.
- Twenty-one properties located east of the alignment between Ocala Avenue and Cunningham Avenue would experience operational vibration impacts.

No daytime vibration impacts are anticipated under current train parameters, schedules, headways, and speeds.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: NV-4 (Vibration Levels in Buildings from Transit Operations That Exceed Federal Transit Administration Criteria).

Mitigation: The following mitigation measure identified in the 2005 Final EIR and 2007 Final SEIR would still apply to the proposed changes to the approved project: NV-4b (Use Vibration-Dampening Track Construction Materials). With inclusion of TDA, vibration would exceed the nighttime impact criteria at 72 sensitive receiver locations at the at-grade and embankment sections of the alignment.

If a 5-Hertz floating slab track (FST) or a bridge bearing vibration isolation system[2] is included as mitigation, the nighttime impact criteria would not be exceeded at any sensitive receptor locations. In addition, reducing train speed typically results in lower groundborne vibration levels. Specifically, if speeds are reduced from 55 mph to 35 mph between 10:00 pm and 7:00 am, the nighttime impact criteria would not be exceeded at any sensitive receptor locations.

VTA is not recommending to include FST or a bridge bearing isolation system as mitigation for several reasons. Future vibration levels, which include a +3 VdB safety factor, are at or slightly above the nighttime vibration impact criteria at many impacted locations, and may not actually exceed the threshold in operation. Many impacted locations are up to 100 feet from the aerial guideway, which is much farther than the typical distance at which nighttime vibration impacts are experienced. In addition, it is VTA's understanding that FST has not been installed on any aerial guideways in the United States and a bridge bearing isolation system has only been recently installed on one aerial structure in the United States. VTA is only aware of one example of FST installed on an aerial guideway on Hong Kong's KCRC West Rail and of one example of a bridge bearing vibration isolation system installed on an aerial structure at Miami Central Station, on the All Aboard Florida-Brightline network. Thus, there is limited information on the effectiveness of FST and bridge bearing isolation systems on aerial structures.

VTA is also not proposing to include speed reduction as mitigation because it would negatively affect travel time and operations between 10:00 pm and 7:00 am.

By not including FST; a bridge bearing vibration isolation system; or implementing speed reductions as mitigation, and because TDA is the only feasible mitigation option to reduce vibration levels from

[2] A bridge bearing vibration isolation system is a system in which resilient bridge bearings are designed and function like the springs or rubber pads that support floating slab track.

operation, this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts related to vibration levels from transit operation. With inclusion of TDA, vibration impacts are expected to occur at 72 sensitive receivers under the proposed changes to the approved project. This is an increase of 20 sensitive receivers compared to the 2005 Final EIR, which concluded 52 sensitive receivers would be potentially exposed to vibration impacts during operation.

Significant and unavoidable impact, even with mitigation.

PILE DRIVING NOISE IMPACTS DURING CONSTRUCTION

During construction, pile driving would be conducted to install foundation piles for the proposed aerial guideway. Table 5.3-3 summarizes the anticipated pile driving noise impacts generated by the proposed changes to the approved project during construction. The table indicates the number of impacts under the following conditions:

- Without any mitigation;
- With inclusion of mitigation consisting of impact cushions, which involves initially using burlap bags and then adding wood block when pile driving becomes more difficult;
- With inclusion of mitigation consisting of both impact cushions and pre-drilling, which involves pre-drilling 1/3 of a pile to reduce the total duration of impact time; and
- With inclusion of mitigation consisting of both impact cushions and noise shields around the pile equipment, which consists of a frame that secures acoustic blankets or paneling.

A more detailed list of anticipated pile driving noise impacts can be found in Table 14 of the September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* (included in Attachment E).

Table 5.3-3 Summary of Construction Pile Driving Noise Impacts Associated with the Proposed Changes to the Approved Project

Direction/Segment of Capitol Expressway	Number – Type of Receivers[1]	Federal Transit Administration Impact Criteria Leq (8-hr) dBA[2]	Unmitigated[3]	With Impact Cushions[3]	With Impact Cushions & Pre-Drilling[3,5]	With Impact Cushions[3] & Noise Shields[3,6]
NB 964+50 to 981+20 Wilbur Avenue to Mervyns Way	22 – SFR	80	15	11	9	2
NB 986+70 to 995+50 Mervyns Way to Story Road	5 – INST/COM	80/85	5	3	2	0
NB 998+50 to 1035+90 Story Road to Ocala Avenue	41 – SFR	80	41	40	25	0
NB 1037+60 to 1049+50 Ocala Avenue to Cunningham Avenue	27 – SFR	80	27	22	9	0
SB 967+50 to 970+50 S. Capitol Avenue	5 – SFR	80	2	0	0	0
SB 971+30 to 973+00 S. Capitol Avenue	2 – COM	85	2	2	1	0
SB 978+00 to 992+70 Excalibur Drive to Story Road	25 – SFR	80	21	21	21	0
SB 993+10 to 996+50 Story Road	3 – COM	85	3	1	0	0
SB 998+80 to 1007+20 Story Road to Foxdale Loop	17 – SFR	80	17	12	2	0
SB 1009+00 E. Capitol Expressway	1 – COM	85	1	1	0	0

Direction/Segment of Capitol Expressway	Number – Type of Receivers[1]	Federal Transit Administration Impact Criteria Leq (8-hr) dBA[2]	Unmitigated[3]	With Impact Cushions[3]	With Impact Cushions & Pre-Drilling[3,5]	With Impact Cushions[3] & Noise Shields[3,6]
SB 1012+00 to 1018+00 Foxdale Loop	3 – MFR	80	3	3	0	0
SB 1021+00 to 1035+80 Foxdale Drive to Ocala Avenue	19 – SFR	80	19	19	11	0
		Number of Impacts:	**156**	135	80	2

Notes:

[1] Receiver types include: Single-Family Residence (SFR), Multi-Family Residence (MFR), Commercial/Office Space (COM), and Institutional (INST).

[2] Day-Night Sound Level (Ldn) is the most common measure of total community noise over a 24-hour period and is used by the Federal Transit Administration (FTA) to evaluate residential noise impacts from proposed transit projects.

[3] Impacts were determined according to FTA's *Noise and Vibration Impact Assessment Guidance Manual* (2006).

[4] An impact cushion is a type of mitigation that involves initially using burlap bags and then adding wood block when pile driving becomes more difficult.

[5] Pre-drilling is a type of mitigation that consists of pre-drilling 1/3 of a pile to reduce the total duration of impact time.

[6] A noise shield is a type of mitigation that consists of a frame that secures acoustic blankets or paneling.

Source: ATS Consulting, 2018.

Impact: The September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* indicates that the proposed changes to the approved project would result in exceedances of the FTA construction noise impact criteria at unobstructed homes and businesses (i.e., homes and businesses not shielded by other structures or sound walls) within 300 feet of pile driving activity. The noise impacts would have a duration of 8 to 15 days per sensitive receiver. Pile driving would exceed the construction noise impact criteria of 80 Leq at residences and 85 Leq at commercial properties at 156 sensitive receiver locations. The location of receivers where pile driving noise impacts are predicted are as follows:

- Fifteen residential properties located east of the alignment between Wilbur Avenue and Mervyns Way would experience construction noise impacts. One home is within 25 feet of the closest pile.
- Five institutional/commercial properties located east of the alignment between Mervyns Way and Story Road would experience construction noise impacts.
- Forty-one residential properties located east of the alignment between Story Road and Ocala Avenue would experience construction noise impacts.
- Twenty-seven residential properties located east of the alignment between Ocala Avenue and Cunningham Avenue would experience construction noise impacts.
- Two residential properties located west of the alignment along South Capitol Avenue would experience construction noise impacts.
- Two commercial properties located west of the alignment along South Capitol Avenue would experience construction noise impacts.
- Twenty-one residential properties located west of the alignment between Excalibur Drive and Story Road would experience construction noise impacts.
- Three commercial properties located west of the alignment near the intersection of Capitol Expressway and Story Road would experience construction noise impacts.
- Seventeen residential properties located west of the alignment between Story Road and Foxdale Loop would experience construction noise impacts.
- One commercial property located west of the alignment near the intersection of Capitol Expressway and Foxdale Loop would experience a construction noise impact.

- Three residential properties located west of the alignment along Foxdale Loop would experience construction noise impacts.
- Nineteen residential properties located west of the alignment between Foxdale Drive and Ocala Avenue would experience construction noise impacts.

The proposed changes to the approved project would result in an increase in the number of construction noise impacts compared to the 2007 Final SEIR due to an increase in the number of foundation piles associated with changing the at-grade track under the approved project to an aerial guideway under the proposed changes.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: NV (CON)-1: (Generation of Noise or Vibration That Substantially Affects Nearby Sensitive Receptors).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and the 2007 Final SEIR would still apply to the proposed changes to the approved project: NV (CON)-1a (Notify Residents of Construction Activities), NV (CON)-1b (Construct Temporary Noise Barriers During Construction), NV (CON)-1c (Restrict Pile Driving)[3], NV (CON)-1d (Use Noise Suppression Devices), NV (CON)-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors), NV (CON)-1f (Reroute Construction-Related Truck Traffic), NV (CON)-1g (Develop Construction Noise Mitigation Plan) and NV (CON)–2.

Mitigation Measure NV (CON)-2 has been modified.

Mitigation Measure NV (CON)-2

A combination of the following measures should be considered if reasonable and feasible to reduce noise and vibration impacts from pile driving:

1. Noise Shield: A pile driving noise shield could be effective at reducing the pile driving noise by a minimum 5 dBA, depending on the size of the shield and how well it surrounds the pile and hammer. A portable shield/barrier could be implemented to provide a nominal 10 dBA noise reduction.
2. Pre-Drilling Piles: Pre-drilling a portion of the hole may provide a means to reduce the duration of impact pile driving, and should be explored. Reducing the total impact time to an aggregate duration

[3] In the 2005 Final EIR, this measure restricts pile driving to the hours of 8:00 am to 5:00 pm. To be consistent with the San Jose municipal code, these hours are revised to 7:00 am to 7:00 pm, Monday through Friday.

of no more than 2 hours per day will reduce the equivalent noise level by 6 dBA to a range of 80 to 90 dBA (L_{eq}) at a distance of 100ft.

3. Non-Impact Piles or Cast in Drilled Hole (CIDH) piles: Using the Soil-Mix or CIDH method would reduce the vibration below the FTA Criteria. This method is recommended for homes which would be within 75 ft of pile driving.
4. Reduced Impact Pile Driving Time: Limiting the hours per day of impact pile driving would reduce the equivalent noise level and would reduce potential work interference.
5. Excessive Vibration: If pile driving amplitudes exceed the building threshold criteria, cosmetic repair work may be required at nearby buildings. A detailed preconstruction crack survey will be conducted at homes and businesses where these criteria are expected to be exceeded. Vibration monitoring, crack monitors and photo documentation will be employed at these locations during pile driving activity.
6. Relocating Items on Shelves: Since items on shelves and walls may move during pile driving activity, nearby residents will be advised through the community outreach process that they should move fragile and precious items off of shelves and walls for the duration of the impact pile driving. Achievement of standards for building damage would not eliminate annoyance, since the vibration would still be quite perceptible.
7. Advance Notification (Work Interference): The impact pile driving vibration may cause interference with persons working at home or the office on their computers. Nearby residents and businesses will be advised in advance of times when piles would be driven, particularly piles within 160 ft of any occupied building, so that they may plan accordingly, if possible.
8. Notification of Pile Driving Schedule: Nearby residents and businesses will be notified of the expected pile driving schedule. In particular, these notifications should be made with home-bound residents, homes where there is day-time occupancy (e.g., work at home, stay-at-home parents) and offices/commercial businesses where extensive computer/video monitor work is conducted.
9. Hotel Accommodations: Residents at 660 South Capitol Avenue will be provided with hotel accommodations while pile driving activities occur adjacent to the residence.

Contractor Controls

In addition to the above list of specific noise and vibration control measures, the following are recommended for inclusion in the Contractor specifications for the Indicator and Production pile driving programs if reasonable and feasible:

- Comply with the equivalent noise levels (L_{eq}) limits specified on page 12-8 of FTA 2006 and a maximum noise level limits of 90 dBA (slow) or 125 dBC (fast) for residential buildings,
- Comply with the maximum vibration limits specified in Table 12-3 of FTA 2006,
- Perform a detailed survey and photo documentation prior to construction of all potentially affected wood-frame buildings within 135 ft of the piling activity,
- Coordinate and perform noise and vibration monitoring at a representative sampling of potentially affected buildings along the Project corridor,
- Install crack monitors where appropriate and provide photo documentation at all potentially affected buildings during pile driving activity and through construction,
- Community Notification and Involvement:
  - provide a minimum four-week advance notice of the start of piling operations to all affected receptors (e.g., internet, phone and fax), and regular, up-to-date communications. This includes education of the public on the expected noise and vibration,
  - provide a knowledgeable Community Liaison to respond to questions and complaints regarding pile driving noise and vibration, and
  - provide assistance as needed to nearby residents or offices who may require help relocating valuable items off shelves.

Mitigation Measure NV (CON)-1h: Use Impact Cushions

A suitable pile cap cushion could be effective at reducing the pile driving noise by up to 5 dB. The construction crew will initially use only burlap bags to reduce noise and then will also use the wood block when pile driving becomes more difficult.

This new mitigation measure shall be implemented in addition to the measures identified in the Mitigation Monitoring and Reporting Plan (MMRP) prepared for the approved project.

With inclusion of impact cushions, pile driving would exceed the construction noise impact criteria at 135 sensitive receiver locations. With inclusion of impact cushions and pre-drilling, pile driving would exceed the construction noise impact criteria at 80 sensitive receiver locations. With inclusion of impact cushions and noise shields around the pile equipment, pile driving would exceed the construction noise impact criteria at 2 sensitive receiver locations. VTA is recommending to mitigate this impact with noise cushions and temporary noise barriers. Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts related to pile driving noise impacts during construction.

Significant and unavoidable impact, even with mitigation.

PILE DRIVING VIBRATION IMPACTS DURING CONSTRUCTION

As discussed above, pile driving would be conducted to install foundation piles for the proposed aerial guideway. Table 5.3-4 summarizes the anticipated pile driving vibration impacts generated by the proposed changes to the approved project during construction. The table indicates the number of impacts under the following conditions:

- Without any mitigation; and
- With inclusion of mitigation consisting of non-impact piling (e.g., vibratory piling or cast-in-drilled-hole piling).

A more detailed list of anticipated pile driving vibration impacts can be found in Table 14 of the September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* (included in Attachment E).

Table 5.3-4 Summary of Impact Pile Driving Vibration Impacts Associated with the Proposed Changes to the Approved Project

Direction/Segment of Capitol Expressway	Number – Type of Receivers[1]	Annoy. Criteria PPV[2, 3] (in/s)	Federal Transit Administration Damage Criteria PPV[2,4] (in/s)	Number of Anticipated Federal Transit Administration Impacts (Based on Damage Criteria)	
				Unmitigated	With CIDH Piling[5,6]
NB 964+50 to 981+20 Wilbur Avenue to Mervyns Way	22 - SFR	0.03	0.2	9	0

Direction/Segment of Capitol Expressway	Number – Type of Receivers[1]	Annoy. Criteria PPV[2, 3] (in/s)	Federal Transit Administration Damage Criteria PPV[2,4] (in/s)	Number of Anticipated Federal Transit Administration Impacts (Based on Damage Criteria)	
				Unmitigated	With CIDH Piling[5,6]
NB 986+70 to 995+50 Mervyns Way to Story Road	5 – INST/COM	0.06	0.5	0	0
NB 998+50 to 1035+90 Story Road to Ocala Avenue	41 - SFR	0.03	0.2	5	0
NB 1037+60 to 1049+50 Ocala Avenue to Cunningham Avenue	27 - SFR	0.03	0.2	21	0
SB 967+50 to 970+50 S. Capitol Avenue	5 - SFR	0.03	0.2	0	0
SB 971+30 to 973+00 S. Capitol Avenue	2 - COM	0.06	0.5	0	0
SB 978+00 to 992+70 Excalibur Drive to Story Road	25 - SFR	0.03	0.2	0	0
SB 993+10 to 996+50 Story Road	3 - COM	0.06	0.5	0	0
SB 998+80 to 1007+20 Story Road to Foxdale Loop	17 - SFR	0.03	0.2	15	0
SB 1009+00 E. Capitol Expressway	1 - COM	0.03	0.5	0	0
SB 1012+00 to 1018+00 Foxdale Loop	3 - MFR	0.03	0.2	0	0
SB 1021+00 to 1035+80 Foxdale Drive to Ocala Avenue	19 - SFR	0.03	0.2	14	0
			Number of Impacts:	**64**	**0**

Notes:

[1] Receiver types include: Single-Family Residence (SFR), Multi-Family Residence (MFR), Commercial/Office Space (COM), and Institutional (INST).

[2] Annoyance criteria based on an equivalent PPV to RMS value of 78 VdB for SFR/MFR and 84 VdB for COM, assuming a crest factor of 4.

[3] Peak particle velocity (PPV).

[4] Damage criteria based on FTA *Noise and Vibration Impact Assessment Guidance Manual* (2006).

[5] Cast in drilled hole piles (CIDH). If vibratory driven piles are used, one impact would remain at NB 977+70 (660 S. Capitol Ave.)

[6] The use of CIDH pile driving would theoretically reduce the total number of impacts to zero if used throughout construction; however, CIDH pile driving may not be feasible in all cases.

Source: ATS Consulting, 2018.

Impact: The September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* indicates that the proposed changes to the approved project would result in exceedances of the FTA nighttime construction vibration of 0.2 PPV impact criteria at homes within 100 feet of pile driving activity. Pile driving would exceed the construction vibration impact criteria at 64 sensitive receiver locations. The location of receivers where pile driving vibration impacts are predicted are as follows:

- Nine properties located east of the alignment between Wilbur Avenue and Mervyns Way would experience construction vibration impacts. One home is within 25 feet of the closest pile.
- Five properties located east of the alignment between Story Road and Ocala Avenue would experience construction vibration impacts.
- Twenty-one properties located east of the alignment between Ocala Avenue and Cunningham Avenue would experience construction vibration impacts.
- Fifteen properties located west of the alignment between Story Road and Foxdale Loop would experience construction vibration impacts.
- Fourteen properties located west of alignment between Foxdale Drive and Ocala Avenue would experience construction vibration impacts.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: NV (CON)-1: (Generation of Noise or Vibration That Substantially Affects Nearby Sensitive Receptors).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and the 2007 Final SEIR would still apply to the proposed changes to the approved project: NV (CON)-1a (Notify Residents of Construction Activities), NV (CON)-1c (Restrict Pile Driving), NV (CON)-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors) and NV (CON)-2.

VTA is not recommending the use of non-impact piling methods at any locations for a couple of reasons. Most locations are only slightly above the FTA Damage Criteria, and therefore may not experience any actual impacts due to the +3 VdB safety factor included to estimate construction vibration levels. At the locations with the highest construction vibration levels, structural damage is not anticipated to occur. As a result, VTA is not recommending to use non-impact piling

methods at any locations. Thus, this impact would be "Significant and Unavoidable."

No mitigation proposed. Significant and unavoidable impact.

Section 5.4 Air Quality and Climate Change

This section describes the potential air quality and climate change impacts associated with the proposed changes to the approved project. This section supplements Section 4.3 of the 2005 Final EIR, Section 5.2 of the 2007 Final SEIR, and Section 3.2 of the 2014 Subsequent IS/MND. This analysis is based on and supported by new information and updated data from the California Air Resources Board (CARB), the U.S. Environmental Protection Agency, and the operational assumptions from VTA.

Environmental Setting

The following discussion describes the changes to the existing regional and local air quality and climate change conditions since the preparation of the air quality and climate change analysis in the 2005 Final EIR, 2007 Final SEIR, and 2014 Subsequent IS/MND. The basic environmental setting of the project area, in terms of climate and topography, existing pollutant concentrations in the Capitol Expressway corridor, and sensitive receptors, is unchanged from the 2005 Final EIR. Regional attainment status in the project area has changed, as discussed below.

Table 5.4-1 provides the most recent available data (2015–2017 time period). The nearest air quality monitoring station to the project corridor is the San Jose-Knox Avenue Station. However, this station does not measure all pollutants, and supplemental data from the next closest station, San Jose-Jackson Street station, are included for ozone and particulate matter less than or equal to 10 microns (PM10). As indicated in Table 5.4-1, the San Jose-Knox Avenue and San Jose-Jackson Street stations experienced violations of 8-hour ozone, PM10, and particulate matter less than or equal to 2.5 microns (PM2.5) standards between 2015 and 2017.

Table 5.4-1 Ambient Criteria Air Pollutant Monitoring Data (2015-2017)

Pollutant Standards	2015	2016	2017
Ozone (O_3) (San Jose – Jackson Street)			
Maximum 1-hour concentration (ppm)	0.094	0.087	0.121
Maximum 8-hour concentration (ppm)	0.081	0.066	0.098
Number of days standard exceeded[1]			
CAAQS 1-hour (>0.09 ppm)	0	0	3
CAAQS 8-hour (>0.070 ppm)	2	0	4
NAAQS 8-hour 2008 Standard (>0.075 ppm)	2	0	3
NAAQS 8-hour 2015 Standard (>0.070 ppm)	2	0	4
Carbon Monoxide (CO) (San Jose – Knox Avenue)			
Maximum 8-hour concentration (ppm)	2.0	1.4	2.6
Maximum 1-hour concentration (ppm)	2.7	1.9	1.8

Pollutant Standards	**2015**	**2016**	**2017**
***Number of days standard exceeded:*[1]**			
NAAQS 8-hour (≥9 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) (San Jose – Knox Avenue)			
State maximum 1-hour concentration (ppb)	61	52	76
State second-highest 1-hour concentration (ppb)	58	51	71
Annual average concentration (ppb)	17	15	17
Number of days standard exceeded:			
CAAQS 1-hour (180 ppb)	0	0	0
Particulate Matter (PM10)[2] (San Jose – Jackson Street)			
National[3] maximum 24-hour concentration (g/m^3)	58.8	40.0	69.4
National[3] second-highest 24-hour concentration (g/m^3)	47.2	35.2	67.3
State[4] maximum 24-hour concentration (g/m^3)	58.0	41.0	69.8
State[4] second-highest 24-hour concentration (g/m^3)	49.3	37.5	67.6
National annual average concentration (g/m^3)	21.3	17.5	20.7
State annual average concentration (g/m^3)[5]	21.9	18.3	21.3
***Number of days standard exceeded:*[1]**			
NAAQS 24-hour (>150 g/m^3)[6]	0	0	0
CAAQS 24-hour (>50 g/m^3)[6]	1	0	6
Particulate Matter (PM2.5) (San Jose – Knox Avenue)			
National[3] maximum 24-hour concentration (g/m^3)	46.9	26.5	48.4
National[3] second-highest 24-hour concentration (g/m^3)	31.6	24.4	47.4
State[4] maximum 24-hour concentration (g/m^3)	46.9	26.5	48.4
State[4] second-highest 24-hour concentration (g/m^3)	31.6	24.4	47.4
National annual average concentration (g/m^3)	8.4	9.1	10.7
State annual average concentration (g/m^3)[5]	8.4	9.1	10.8
***Number of days standard exceeded:*[1,6]**			
NAAQS 24-hour (>35 g/m^3)	1	0	8

Notes:
ppm = parts per million
NAAQS = National Ambient Air Quality Standards
CAAQS = California Ambient Air Quality Standards
g/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
- = data not available

Pollutant Standards	2015	2016	2017

[1] An exceedance is not necessarily a violation.
[2] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.
[3] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California approved samplers.
[4] Measurements usually are collected every 6 days.
[5] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
[6] Mathematical estimate of how many days' concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

Source: California Air Resources Board 2018a; U.S. Environmental Protection Agency 2018a.

Local monitoring data (Table 5.4-1) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The most recent attainment status for Santa Clara County, which is current as of 2018, is shown in Table 5.4-2 for each applicable pollutant.

Table 5.4-2 Federal and State Attainment Status for Santa Clara County (2018)

Criteria Pollutant	Federal Designation	State Designation
O_3 (8-hour)	Marginal Nonattainment	Nonattainment
CO	Maintenance	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified
Visibility Reducing Particles	(No Federal Standard)	Unclassified

Notes:
O_3 = ozone
CO = carbon monoxide
PM10 = particulate matter less than or equal to 10 microns
PM2.5 = particulate matter less than or equal to 2.5 microns
NO_2 = nitrogen dioxide
SO_2 = sulfur dioxide

Source: California Air Resources Board 2017; U.S. Environmental Protection Agency 2018b.

As discussed in Chapter 2, *Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information*, Senate Bill 350 was signed by Governor Brown in October 2015 and its key provisions establish benchmarks for renewable energy that electric utilities must meet. In addition, SB 32 requires CARB to ensure that statewide greenhouse gas (GHG) emissions are reduced to at least 40% below 1990 levels by 2030. Pursuant to SB 32, CARB updated the prior AB 32 Scoping Plan to address

implementation of GHG reduction strategies to meet the 2030 reduction target. The Final Plan was approved in December 2017. Furthermore, on April 19, 2017, the BAAQMD Board of Directors adopted an update to the 2010 Clean Air Plan, the *2017 Clean Air Plan*.

Environmental Impacts and Mitigation

The impact discussion in this section primarily focuses on the proposed changes to the approved project that could result in new or more significant air quality impacts compared to the impacts previously identified and analyzed for the approved project.

IMPACTS ON AIR QUALITY EMISSIONS DURING OPERATION

Many of the proposed changes to the approved project (including the revision to Capitol Expressway roadway lane configurations; modifications to the Eastridge Station platforms and tracks; reduction in parking spaces at the Eastridge Park-and-Ride lot; minor shift in the location and straightening of the Story Station pedestrian overcrossing and access; modification to Story Station pedestrian access; relocation of a construction staging area; and relocation of PG&E electrical transmission facilities) would not result in any exceedances of the federal or state ambient air quality standards related to the generation of emissions of reactive organic gases, oxides of nitrogen, and particulate matter from the light rail or on-road vehicles during operation. Thus, these proposed changes to the approved project would not result in changes to the conclusions of the air quality impacts previously identified and analyzed for the approved project.

For this analysis, long-term air quality impacts are those associated with motor vehicles operating on the roadway network, predominantly those operating in the project area on Capitol Expressway and the cross streets along the project corridor. One of the proposed changes to the approved project (the extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections) could result in changes to air quality during operation. The rate of emissions of reactive organic gases (ROG), nitrogen dioxide (NO_X), carbon monoxide (CO), PM10, PM2.5, and GHGs from motor vehicles could be increased or decreased based on changes to vehicle miles traveled (VMT) and vehicle speeds that would result from the proposed changes to the approved project. Criteria pollutant emissions associated with the proposed changes to the approved project were quantified using emission factors from the CARB's EMFAC2017 emission factor database and VMT data prepared for the proposed changes by VTA (Santa Clara Valley Transportation Authority 2018). Changes in VMT at the regional level (i.e., the nine-county Bay Area region) that would result from implementation of the proposed changes to the approved project were modeled for an existing conditions scenario in 2017, a project scenario relative to a no project scenario in 2023, and a project scenario relative to a no project scenario in 2043. Emission factors from EMFAC2017 were selected for each analysis year and for the MTC region[1] for an accurate representation of the profile of vehicles that would be affected by the proposed changes to the approved project (i.e., the

[1] MTC refers to the Metropolitan Transportation Commission, which is the regional transportation planning agency for the nine-county Bay Area region.

percentage of vehicles in the MTC region that are light duty, heavy duty, etc.). The VMT data and emission factor assumptions used for the analysis are included in Attachment F.

Under the existing plus project scenario, the proposed changes to the approved project would result in fewer VMT and better intersection performance as compared to the approved project (Black pers. comm.). The proposed changes include an aerial guideway rather than the at-grade alignment included in the approved project. Thus, light rail vehicles could travel at increased speeds as a result of the proposed changes. The aerial guideway would remove the possibility of traffic signal delay that could occur for the approved project's at-grade alignment, and speeds for light rail vehicles could be increased. The increased speeds would likely result in better system performance and could result in increased ridership, which would lead to lower VMT than with the approved project. Emissions associated with the existing plus project scenario for the proposed changes to the approved project are shown in Table 5.4-3.

Table 5.4-3 Operational Criteria Pollutant Emissions Increases (Existing [2017] Year, Year 2023, and Year 2043)

Daily/Annual Emissions	ROG	NO_X	CO	PM10	PM2.5
Project Scenario Relative to Existing Conditions in 2017					
Maximum Daily Emissions (lbs/day)	-0.1	-0.6	-2.1	-0.01	-0.01
Annual Emissions (tons/year) [1]	-0.02	-0.11	0.37	> -0.01	> -0.01
Project Scenario Relative to No Project in 2023					
Maximum Daily Emissions (lbs/day)	1.9	12.5	52.3	0.18	0.16
Annual Emissions (tons/year) [1]	0.3	2.2	9.1	0.03	0.03
Project Scenario Relative to No Project in 2043					
Maximum Daily Emissions (lbs/day)	-11.0	-87.6	-311.3	-1.0	-1.0
Annual Emissions (tons/year) [1]	-1.9	-15.2	-54.0	-0.2	-0.2
BAAQMD Daily Thresholds[2] (lbs/day)	**54**	**54**	***CAAQS***	**82**	**54**
BAAQMD Annual Thresholds[2] (tons/year)	**10**	**10**	***CAAQS***	**15**	**10**

Notes:

CAAQS = violation of a CAAQS (see impact Carbon Monoxide Hot Spot discussion)

[1] Daily emissions were converted into annual emissions by multiplying by a standard factor of 347 days per year, to account for reduced volumes on weekends.

[2] Bay Area Air Quality Management District 2017a.

Sources: Vehicle miles traveled data from VTA (2018). Emission factors from EMFAC2017 (California Air Resources Board 2018b) are included in Attachment F.

Existing (2017) Conditions. As shown in Table 5.4-3, criteria pollutant emissions during operation of the proposed changes to the approved project would decrease emissions relative to existing conditions, resulting in a net benefit to regional air quality. With net negative reductions relative to the existing conditions, emissions would not increase as a result of the proposed changes, and there would be no exceedances of the BAAQMD's thresholds of significance for any pollutant. For carbon monoxide (CO), there is no mass emissions threshold, and localized CO concentrations are evaluated with respect to the

CAAQS. Localized CO concentrations are evaluated in a separate impact discussion below.

2023 Conditions. The proposed changes to the approved project would result in a slight increase in net VMT relative to the no project conditions in 2023. Although light rail ridership would likely increase for the reasons discussed above, there could be an offset effect from drivers seeking alternative routes, resulting in slightly greater travel distances. This effect is anticipated to be minor but would result in increases of criteria pollutant emissions, as shown in Table 5.4-3. The increases in emissions for all pollutants would be below the BAAQMD's thresholds of significance by a substantial margin. The largest increase in a pollutant relative to no project conditions in 2023 would occur for NO_X, but emissions would be approximately 12.5 pounds per day, which is approximately 41.5 pounds per day less than the BAAMQD's NO_X threshold of 54 pounds per day.

2043 Conditions. The effect of alternative travel routes that would cause VMT and emissions increases in 2023 would be relatively minor; VMT reductions would be experienced by 2043 from increasing light rail ridership, decreasing on-road vehicle travel, and a cleaner, lower-emitting region-wide vehicle fleet in 2043. As shown in Table 5.4-3, criteria pollutant emissions from implementation of the proposed changes to the approved project would decrease emissions of all pollutants relative to no project conditions in 2043, resulting in a net benefit to air quality.

The 2005 Final EIR determined that the approved project would result in decreases to regional criteria pollutants (i.e., a net benefit to air quality) because there would be a decrease in single-occupant vehicle use. The 2014 Subsequent IS/MND determined that the No Ocala Station option could increase VMT slightly (i.e., by less than 0.1%) relative to the Light Rail Alternative with the median Ocala Station, but this minor increase would not be expected to result in exceedances of the federal or state ambient air quality standards. The analysis for the proposed changes to the approved project has determined that, while criteria pollutant emissions would slightly increase in one of the analysis years (2023), the increase would be below the BAAQMD thresholds and there would be a net benefit to air quality in the existing conditions scenario and a long-term, on-going benefit to air quality by 2043 for the proposed changes to the approved project. Thus, the proposed changes to the approved project would not result in any criteria pollutant emissions exceedances nor would the proposed changes result in any exceedances of the federal or state ambient air quality standards beyond the impacts previously identified and analyzed for the approved project.

Impact: The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ-6 (Potential Net Increase in Emissions of Reactive Organic Gases, Oxides of Nitrogen, and PM10).

Mitigation: None required. This impact is "Less than Significant."

Less-than-significant impact. No mitigation required.

IMPACTS ON CARBON MONOXIDE HOT SPOTS

With respect to localized CO impacts at intersections along the Capitol Expressway corridor, the proposed changes to the approved project would result in improved intersection performance compared to the approved project. CO dispersion modeling was conducted in the 2005 Final EIR for the existing year (2001), 2010, and 2025, and no exceedances of the CAAQS were identified. Dispersion modeling was not conducted in the 2007 Final SEIR or the 2014 Subsequent IS/MND. Because the proposed changes to the approved project would result in changes to intersection volumes at four intersections relative to the approved project and no project conditions in 2017, 2023, and 2043, which are years not previously analyzed with respect to CO hot spots, the potential for the proposed changes to the approved project to affect CO hot spots is evaluated in this analysis. Intersection volumes at all four intersections are well below the screening volumes established by the BAAQMD to determine whether a project could result in exceedances of the CAAQS (i.e., generate CO hot spots).[2] However, because two intersections, Capitol Expressway/Capitol Avenue and Capitol Expressway/Story Road, are considered to be Congestion Management Program intersections, further scrutiny is warranted at these intersections. As concluded in Section 5.1, *Transportation*, the proposed changes to the approved project would result in a significant impact with respect to level of service and delay at the Capitol Expressway/Story Road intersection for the existing plus project scenario, 2023 plus project scenario, and 2043 plus project scenario. No significant level of service or delay impacts are identified at the Capitol Expressway/Capitol Avenue intersection in Section 5.1, *Transportation*.

Because the Capitol Expressway/Story Road intersection is considered a Congestion Management Program intersection and would have a significant impact, the BAAQMD screening methodology for CO hot spots is not used. As such, CO dispersion modeling at this intersection was conducted for the proposed changes to the approved project in the existing (2017), 2023, and 2043 scenarios using peak hour traffic volumes from the August 23, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* prepared by Hexagon Transportation Consultants, Inc. The Capitol Expressway/Story Road intersection analysis is a worst-case analysis because it has the highest volumes among the four intersections that would be modified by the proposed changes to the approved project. In addition, the higher of

[2] Heavy traffic congestion can contribute to high levels of CO, and individuals exposed to such hot spots may have a greater likelihood of developing adverse health effects. BAAQMD has adopted screening criteria that provide a conservative indication of whether project-generated traffic would cause a potential CO hot spot. The BAAQMD's CO screening criteria require that (1) the project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; (2) the project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway); and (3) the project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.

the AM or PM peak hour volumes for each year were used for the dispersion modeling to further represent a worst-case analysis.

The results of the CO hot spot analysis for the Capitol Expressway/Story Road intersection are provided in Table 5.4-4. As shown in Table 5.4-4, the proposed changes to the approved project would result in lower CO concentrations for all years at the Capitol Expressway/Story Road intersection than the concentrations modeled in the 2005 Final EIR for the intersection. In addition, there would be no exceedances of the CAAQS at the worst-case intersection of Capitol Expressway/Story Road intersection, and the proposed changes to the approved project would not result in any CO hot spots at any of the intersections modified by the proposed changes. Thus, the proposed changes to the approved project would not result in CO hot spot impacts beyond the impacts previously identified and analyzed for the approved project.

Table 5.4-4 CO Modeling Concentration Results at Capitol Expressway and Story Road (Existing [2016] Year, Year 2023, and Year 2043)

	Worst Case Concentrations (parts per million)	
	Capitol Expressway and Story Road	
Year	**1-hr CO[1]**	**8-hr CO[2]**
Existing (2016[3]) + Project	4.9	3.4
With Project (2023)	5.0	3.5
With Project (2043)	3.7	2.6
CAAQS Threshold[4]	20.0	9.0
NAAQS Threshold	35.0	9.0

Notes:

[1] Average 1-hour background concentration between 2015 and 2017 was 2.6 ppm at the Knox Avenue Station in San Jose (U.S. Environmental Protection Agency 2018).

[2] Average 8-hour background concentration between 2015 and 2017 was 1.8 ppm at the Knox Avenue Station in San Jose (U.S. Environmental Protection Agency 2018).

[3] At the Capitol Expressway & Story Road intersection, 2016 volumes were used instead of 2017 volumes, because minor construction activities were occurring in 2017. Thus, the existing year at this intersection is 2016.

[4] The BAAQMD's threshold of significance for CO impacts is the CAAQS.

Sources: Hourly Roadway segment volumes are included in Attachment F; emission factors from EMFAC2017 (California Air Resources Board 2018b) are included in Attachment F; and dispersion modeling conducted with CALRoads View (Lakes Environmental 2016).

Impact: The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ-5 (Violation of State Carbon Monoxide Standards as Determined by Modeling of Carbon Monoxide Emissions).

Mitigation: None required. This impact is "Less than Significant."

Less-than-significant impact. No mitigation required.

CONSISTENCY WITH THE APPLICABLE AIR QUALITY PLAN

Impacts of the approved project related to consistency with the applicable air quality plan were not previously analyzed in the 2005 Final EIR, the 2007 Final SEIR, or the 2014 Subsequent IS/MND. The most recent air quality plan applicable to the proposed changes to the approved project is the BAAQMD's *2017 Clean Air Plan*, which provides an integrated strategy to control ozone, PM, TACs, and GHG emissions (Bay Area Air Quality Management District 2017b). The primary goals of the *2017 Clean Air Plan* are to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate.

A project is generally considered to be inconsistent with an air quality plan if the project would result in population and/or employment growth that exceeds the estimates used to develop the plan. The proposed changes to the approved project are not considered a land use development project and would not directly result in any population or employment increases in the region.

Furthermore, because the proposed changes to the approved project would increase the efficiency of light rail by changing the at-grade alignment of the approved project to an elevated guideway, the proposed changes to the approved project would be consistent with the overall goals of the *2017 Clean Air Plan*. Specifically, the proposed changes to the approved project would be consistent with Transportation Control Measure TR-4 of the *2017 Clean Air Plan*, Local and Regional Rail Service. As previously discussed, the proposed changes to the approved project would likely result in increased light rail ridership relative to the approved project due to the improvements in vehicle speed. Thus, the proposed changes to the approved project would complement, not conflict with, the BAAQMD's *2017 Clean Air Plan* and this impact would be less than significant.

IMPACTS ON SUBSTANTIAL POLLUTANT CONCENTRATIONS

The potential pollutant concentration impacts of the approved project were not previously analyzed in the 2005 Final EIR, the 2007 Final SEIR, or the 2014 Subsequent IS/MND. Based on the results of the daily traffic volume analysis, the operational phase of the proposed changes to the approved project would not result in any major sources of toxic air contaminants that could adversely affect sensitive receptors (e.g., a gas station, or a project that would add a substantial amount of diesel truck or bus traffic). The proposed changes to the approved project would involve light rail vehicles traveling on the proposed aerial guideway and changes to on-road vehicle volumes on Capitol Expressway and the cross streets. The light rail vehicles would be electrically powered and would not directly generate any exhaust emissions. Because the vast majority of onroad vehicles are gasoline-powered, on-road vehicles are not considered to be appreciable sources of diesel particulate matter. Other toxic air contaminants (e.g., benzene and 1,3-Butadiene) are present in gasoline exhaust emissions and can pose health risks to sensitive receptors.

Table 5.4-5 shows the changes in on-road vehicle traffic volumes that are expected on roadways in the immediate vicinity of the Capitol Expressway corridor as a result of the

proposed changes to the project. On nearly all roadways in the vicinity of the corridor, the proposed changes to the approved project would result in a net decrease in traffic volumes in the existing year (2017), 2023, and 2043. On these roadways, the proposed changes to the approved project would result in decreases in pollutant concentrations that are currently affecting sensitive receptors because there would likely be higher light rail ridership and fewer on-road vehicles. Thus, on nearly all roadways, the proposed changes to the approved project would not contribute to existing pollutant concentrations and would not worsen exposure of sensitive receptors to those pollutants concentrations. However, in 2043 on Ocala Avenue, vehicle volumes would increase by approximately 5,109 vehicles per day west of Capitol Expressway and by approximately 1,574 vehicles east of Capitol Avenue. The presence of approximately 5,109 vehicles per day alone would not generate substantial toxic air contaminant emissions and thus would not lead to significant health impacts that exceed the BAAQMD's health risk thresholds. As such, the incremental effect of the proposed changes to the approved project on Ocala Avenue would not lead to substantial pollutant concentrations and this impact would be less than significant.

Table 5.4-5 Daily[1] Traffic Volume Changes Relative to No Project Conditions (Existing [2017] Year, Year 2023, and Year 2043)[2]

Roadway	2017 + Project	2023 + Project	2043 + Project
Capitol Avenue Segments			
North of Capitol Avenue[3]	-669	-703	-747
Between Capitol Expressway and Story Road[3]	-733	-873	-975
Between Story Road and Ocala Avenue	-1,023	-1,012	-1,321
Between Ocala Avenue and Cunningham Avenue	-1,702	-1,710	-854
South of Cunningham Avenue	-1,676	-1,731	-3,274
Cross Street Segments			
Excalibur - West of Capitol Expressway[3]	-54	-61	-63
Capitol Avenue - East of Capitol Expressway[3]	-393	-568	-628
Story Road - West of Capitol Expressway[3]	-580	-300	-1,193
Story Road - East of Capitol Expressway[3]	-855	-315	-668
Ocala Avenue - West of Capitol Expressway	-581	-87	**5,109**
Ocala Avenue - East of Capitol Expressway	-993	-478	**1,574**
Cunningham Avenue - West of Capitol Expressway	-43	-49	-97
Cunningham Avenue - East of Capitol Expressway	-108	-155	-271

Notes:

[1] AM & PM peak-hour intersection volumes were provided by Hexagon Transportation Consultants, Inc. (hourly volumes provided in Attachment F). Hourly volumes were converted into daily volumes by multiplying the PM peak-hour volumes by 10, based on consultation with Hexagon Transportation Consultants, Inc.

[2] Volume increases are shown in **bold** font.

[3] On these roadway segments, 2016 data were used, because minor construction activities were occurring in 2017.

Source: Tse, pers. comm.

IMPACTS ON GHG EMISSIONS

In addition to emissions changes from on-road vehicles, the proposed changes to the approved project would result in the use of electricity and natural gas during its operational phase. Electricity would be used to provide power to the light rail vehicles and lighting, while natural gas would be used to heat the facility where light rail vehicles are maintained.

The GHG emissions associated with consumption of electricity and natural gas were quantified in the 2014 Subsequent IS/MND, which concluded that the net effect of the approved project would be a benefit with respect to climate change in 2035, because the reduction in single-occupancy vehicle-related GHG emissions would be greater than any increases in energy consumption-related GHG emissions. The 2014 Subsequent IS/MND also concluded that for the No Ocala Station option in analysis year 2018, there would be a net increase in GHG emissions, but by 2035 the net effect would be negative GHG emissions. The largest increase in electricity- and natural gas-related emissions from the approved project relative to no-build conditions was 2,029 metric tons of CO2e per year.[3]

The proposed aerial guideway would allow the light rail vehicles to avoid traffic signal delay that would occur at intersections for an at-grade alignment. Thus, the proposed changes would eliminate the need for additional energy required for light vehicle acceleration at intersections and would operate more efficiently and with lower energy consumption. Although the acceleration effect is anticipated to be minor, the proposed changes to the approved project would likely result in lower energy consumption and lower GHG emissions than the approved project.

Changes in criteria pollutant emissions from on-road vehicles from construction of the proposed changes to the approved project were quantified using VMT data and the EMFAC2017 database of emission factors. Annual changes in GHG emissions from on-road vehicles shown in Table 5.4-6 were quantified using the same method,[4] and the results follow the same trend as the criteria pollutant emissions (net decrease in GHG emissions from the proposed changes to the approved project in 2017, net increase in 2023, and net decrease in 2043). Table 5.4-6 also shows the total GHG emissions including electricity and natural gas-related emissions.

[3] From Table 3.2-2 in the 2014 Subsequent IS/MND, 1,888 metric tons of electricity-related emissions plus 141 metric tons of natural gas-related emissions equals 2,029 metric tons.

[4] Emissions of CH_4 were quantified using emission factors from a separate module of EMFAC2017, for Santa Clara County only. Due to model-processing time, running the separate CH_4 module for the whole nine-county region was not feasible.

Table 5.4-6 Summary of Operational GHG Emissions (Existing [2017] Year, Year 2023, and Year 2043)

	On-Road Emissions				Total with Energy Emissions[1]
Year	**CO_2**	**CH_4**	**N_2O**	**CO_2e**	**CO_2e**
Existing Plus Project Scenario (2017)					
Annual Emissions (metric tons/year) [2]	-96	> -0.01	-0.01	-97	1,932
Project Scenario Relative to No Project in 2023					
Annual Emissions (metric tons/year) [2]	3,680	0.1	0.2	3,733	5,762
Project Scenario Relative to No Project in 2043					
Annual Emissions (metric tons/year) [2]	-26,568	-0.3	-1.3	-26,964	-24,935

Notes:

[1] From Table 3.2-2 in the 2014 Subsequent IS/MND, 1,888 metric tons of electricity-related emissions plus 141 metric tons of natural gas-related emissions equals 2,029 metric tons CO2e. This amount of emissions is the highest value for any of the alternatives for the approved project. As discussed above, the elevated guideway (i.e. a proposed change to the approved project) would likely result in less energy consumption than the approved project's partial-elevated alternatives. Thus, these energy-related GHG emissions represent a worst-case estimate.

[2] Daily GHG emissions were converted into annual emissions by multiplying by a standard factor of 347 days per year, to account for reduced volumes on weekends.

CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide
CO_2e = carbon dioxide equivalent

Sources: Vehicle miles traveled data: Hexagon 2018. Emission factors from EMFAC2017 (California Air Resources Board 2018b) are included in Attachment F.

As shown in Table 5.4-6, the proposed changes to the approved project would result in an initial decrease in traffic-related GHG emissions, but with the addition of the energy consumption emissions (as a worst-case scenario, energy-related GHG emissions are assumed to be equal to the 2014 Subsequent IS/MND energy-related GHG emissions: 2,029 metric tons of CO2e per year), the net effect of the proposed changes to the approved project would result in a total GHG emission increase in 2017 relative to existing conditions. GHG emissions were not quantified in the 2005 Final EIR and 2007 Final SEIR, because those documents were prepared before it had become a necessity and common practice to evaluate GHG emissions quantitatively. In the 2014 Subsequent IS/MND, GHG emissions were quantified for two alternatives, the at-grade Light Rail Alternative and the at-grade Light Rail Alternative with the No Ocala Station option. Compared to the options analyzed in the 2014 Subsequent IS/MND, in 2017, the proposed changes to the approved project would result in more GHG emissions than for the at-grade Light Rail Alternative in 2018, but less GHG emissions than the at-grade Light Rail Alternative with the No Ocala Station option in 2018.

Similarly, in 2023, VMT would increase (for the reasons discussed for criteria pollutants), and there would be an additional increase from energy-related GHG emissions. However, in 2043, VMT and GHG emissions would be net negative by a substantial amount (negative reductions greater than 24,000 metric tons), and the proposed changes to the approved project would result in a net benefit to GHG emissions. This result is consistent with both the at-grade and No Ocala Station options, but the proposed changes to the approved project would result in much larger negative reductions than the options in the 2014 Subsequent IS/MND.

Additionally, over 90% of the energy consumption-related GHG emissions are expected to result from electricity consumption. Any electricity supplied for the proposed changes to the approved project would be subject to Senate Bill (SB) 350, which requires that publicly- and investor-owned utilities procure 33% and 50% of electricity from qualified renewable energy sources by 2020 and 2030, respectively. One of the primary purposes of SB 350 is to support the state's climate change goals as codified in SB 32, which requires a statewide reduction in GHG emissions of 40% below 1990 levels by 2030. As such, the proposed changes to the approved project's energy consumption would become less carbon intensive in the future as utilities increase their renewable energy portfolios, and thus the proposed changes would be considered consistent with the state's plans and goals with respect to reducing GHG emissions (i.e., SB 32). Similarly, the net increase in GHG emissions in 2017 and 2023 would be reduced in future years by the Low Carbon Fuel Standard and other state regulations that have been adopted to support the goals of SB 32.

Overall, the proposed changes to the approved project would result in a net benefit to GHG emissions by 2043, because of the net decreases from reduced single-occupancy vehicle trips, and would result in a substantially greater net reduction in GHG emissions than identified in the 2014 Subsequent MND for the approved project in 2035. A net benefit to GHG emissions would support and be directly consistent with the state's overarching GHG emissions reduction goal to reduce emissions by 80% below 1990 levels by 2050. Thus, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to air quality and climate change.

IMPACTS ON AIR QUALITY EMISSIONS DURING CONSTRUCTION

The impact discussion below focuses on the proposed changes to the approved project in conjunction with the components of the approved project, because air quality and GHG impacts are inherently cumulative. The effects of air quality and GHG emissions do not occur in isolation from individual project components; as such, a comprehensive analysis of all activity that would occur is appropriate.

With respect to construction of the proposed changes to the approved project, the replacement of the at-grade track alignment with an aerial guideway between south of Story Road and north of Tully Road would include concrete columns supported on pile foundations. It is anticipated that construction of the aerial guideway sections between Capitol Avenue and Tully Road would require a traditional percussive or impact hammer

to drive the foundation piles at each column location to support a cast-in-place pilecap. It is anticipated that about 6 to 12 piles would be driven per day for 3 to 6 days at each column site. The approximately 76 column sites would be spaced approximately 130 to 150 feet apart. The piles would require subsurface ground disturbance with a depth of up to approximately 100 feet. This depth is similar to the anticipated ground disturbance previously analyzed for the approved project. Overall, construction of the approved project with the proposed changes to the approved project would last for approximately five years. In addition, revisions to the Capitol Expressway roadway configuration could result in construction impacts.

Emissions of Criteria Pollutants and Greenhouse Gases (GHGs). For construction emissions, the 2005 Final EIR and the 2007 Final SEIR relied on BAAQMD's 1999 CEQA Thresholds. At that time, the BAAQMD's approach to CEQA analyses of construction impacts was to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. As a result, the 2005 Final EIR and the 2007 Final SEIR did not quantify construction emissions. Subsequently, the BAAQMD adopted thresholds of significance on June 2, 2010 that included thresholds for construction emissions. Thus, the 2014 Subsequent IS/MND estimated construction emissions for the approved project, as summarized in Table 5.4-7. The analysis of the proposed changes to the approved project includes the emissions anticipated from the construction of approximately 2.4 miles of aerial guideway included in the approved project and the proposed change to the approved project, which would replace the at-grade track alignment with approximately 1.25 miles of aerial guideway from south of Story Road to north of Tully Road (hereafter referred to as "approved project plus proposed changes to the approved project"). All other construction work on the non-guideway components of the approved project, such as roadway widening, intersection curb work, utility relocation, station construction, and paving, are also included in the analysis. In other words, the impacts summarized in this analysis are inclusive of the activities that would occur for the approved project, in addition to the activities required to construct the proposed changes to the approved project.

Table 5.4-7 Summary of Maximum Daily Construction Criteria Pollutant Emissions (Year 2019 - 2023)[1]

Maximum Daily Emissions	ROG	NO_x	CO	PM10		PM2.5	
				Dust	Exhaust	Dust	Exhaust
Approved Project (As of the 2014 Subsequent IS/MND)							
Light Rail Alternative[2]	5.6	34.1	33.3	450.0	1.8	93.6	1.4
Light Rail Alternative, No Ocala Station Option[2]	5.6	34.1	33.3	450.0	1.8	93.6	1.4
Approved Project (Including the Proposed Extension of the Aerial Guideway to Grade-Separate the Ocala Avenue and Cunningham Avenue Intersections)[3]							
Year 2019	1.6	18.5	22.2	0.3	0.6	0.1	0.5
Year 2020	2.4	27.2	32.1	1.0	0.8	0.3	0.7
Year 2021	2.3	24.5	31.7	0.8	0.7	0.2	0.7

Maximum Daily Emissions	ROG	NO_x	CO	PM10		PM2.5	
				Dust	Exhaust	Dust	Exhaust
Year 2022	2.1	21.6	31.2	1.2	0.6	0.3	0.6
Year 2023	0.4	2.1	19.3	0.3	< 0.1	0.1	< 0.1
Maximum Daily Emissions (lbs/day)	2.4	27.2	32.1	1.2	0.8	0.3	0.7
BAAQMD Daily Thresholds (lbs/day)	54	54	-	BMPs[4]	82	BMPs[4]	54
Exceed Thresholds?	No	No	No	N/A	No	N/A	No

Notes:

[1] Construction is expected to occur for approximately five years, beginning in 2019; however, it is possible that the construction period could be extended by one year, depending on whether lane closure restrictions during construction limit the amount of activity that can occur. Emissions for the five year construction period, as reflected in this table, would be a worst-case scenario, because an extended construction schedule would likely result in less daily activity. Thus, although it is possible that construction activity could occur in 2024 or 2025, daily emissions in those years would not exceed the worst-case daily emissions in this table.

[2] Maximum emissions that would occur for any individual construction phase (i.e., the drainage/utilities/sub-grade phase), as presented in Table 3.18-1 in the 2014 Subsequent IS/MND.

[3] This analysis includes the emissions anticipated from the construction of approximately 2.4 miles of aerial guideway included in the approved project and the proposed change to the approved project, which would replace the at-grade track alignment with approximately 1.25 miles of aerial guideway from south of Story Road to north of Tully Road. It also includes other, non-guideway construction work, such as roadway widening, intersection curb work, utility relocation, station construction, and paving,[4] BMPs = best management practices

Source: ICF, 2018. Construction modeling conducted with CalEEMod and project-specific construction information. See Attachment F for construction assumptions and CalEEMod outputs.

Construction of the aerial guideway would result in changes to the construction equipment and activity that were evaluated for the approved project. As such, the criteria pollutants and GHG emissions that would occur from construction of the proposed changes to the approved project were quantified and evaluated relative to the applicable thresholds adopted by BAAQMD. Construction emissions were modeled using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 and detailed construction equipment and activity data provided by VTA. According to VTA, construction equipment with engine horsepower less than 175 would be equipped with engines that meet Tier 4 engine standards.[5] All other equipment with engine horsepower 175 or greater were modeled using fleet averages for each engine tier as programmed in CalEEMod. VTA construction specifications will require Tier 4 engine standards in equipment less than 175 horsepower; however, in the event that this requirement cannot be met (e.g., for feasibility or constructability reasons), construction emissions and the corresponding impacts would need to be reevaluated inclusive of the actual equipment that would be used. If emissions are higher than modeled in this SEIR-2 such that applicable thresholds may be exceeded, then remedial measures may be necessary, which could include but are not limited to the following: use of different pollution controls, scheduling of work, use of alternative fuels (biofuels, electricity, and/or purchase of air

[5] Tier 4 engine standards are the most stringent emissions standards set by the U.S. Environmental Protection Agency and must be met in new off-road equipment. Older equipment may have engines that are equal to less stringent, more emissions permissive requirements (i.e. Tier 3, Tier 2, etc.).

quality offsets). Construction phasing and activity assumptions used to evaluate emissions of construction criteria air pollutants and GHG are included in Attachment F.

Table 5.4-7 shows the maximum daily emissions of criteria pollutants from on-road vehicles (e.g., haul trucks, pick-up trucks, construction worker commute vehicles), off-road equipment (e.g., excavators, pile drivers), and fugitive dust from grading during construction of the approved project including the proposed extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections as well as BAAQMD thresholds. As shown in Table 5.4-7, construction activities would not exceed BAAQMD's thresholds for any pollutants in any year. Overall, emissions of ROG, NOx, CO, and exhaust PM10 and PM2.5 as quantified in the 2014 Subsequent IS/MND are similar to the emissions estimates for the approved project plus the proposed changes to the approved project shown in Table 5.4-7. Emissions for the approved project plus the proposed changes to the approved project are lower than the emissions estimated in the 2014 Subsequent IS/MND and are below the BAAQMD threshold.[6]

The estimates of maximum daily emissions were developed using assumptions provided by VTA regarding the types of construction activities that could occur within a 'worst-case' day and the types of activities that could occur on a typical day, and the number of 'worst-case' days and typical days that would occur in one year of construction. A worst-case day involves the most emissions intensive activity, concrete pouring, occurring simultaneously with three other non-concrete pouring activities. The assumptions used to develop the worst-case day scenario are included in Attachment F.

Emissions of PM10 and PM2.5 fugitive dust are substantially lower for the approved project plus the proposed changes to the approved project than for the approved project in the 2014 Subsequent IS/MND, however, BAAQMD does not have quantitative thresholds for fugitive dust. Instead, the threshold is based on compliance with best management practices (BMPs). Unmitigated fugitive dust could adversely affect local and regional PM10 and PM2.5 levels, which would result in health impairment due to the inhalation of dust. BAAQMD considers fugitive dust emissions to be significant without implementation of BMPs. Thus, the approved project plus the proposed changes to the approved project could result in fugitive dust emissions impacts.

Table 5.4-8 shows the GHG emissions associated with construction of the approved project plus the proposed changes to the approved project. As shown in Table 5.4-8, construction emissions for the approved project were estimated to be between 4,006 and 4,146 total metric tons of CO_2 per year depending on the alternative,[7] and construction of

[6] The reason for the differences in estimated emissions in the results between the analysis performed for the SEIR-2 and the analysis performed for the 2014 Subsequent IS/MND is due to changes in the methodologies used for each analysis. The analysis in the SEIR-2 uses construction data specific to the proposed changes to the approved project, whereas the analysis in the 2014 Subsequent IS/MND used a more generalized approach and largely model-default assumptions.

[7] The model used to estimate GHG emissions in the 2014 Subsequent IS/MND, the Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model (RCEM), only calculated emissions in terms of CO_2, not CO_2e. The RCEM is a spreadsheet-based model designed for road construction and linear projects and estimates criteria pollutant and GHG emissions based on a project's length and area, the type of project, and other

the approved project plus proposed changes to the approved project would emit 2,302 metric tons of CO_2e during the entire construction period. As discussed above, there are methodology differences between the previous estimate of emissions for the approved project and the current estimate for the approved project plus the proposed changes. As such, the approved project plus the proposed changes to the approved project would result in a smaller amount of GHG emissions than the previous estimate of GHG emissions for the approved project. BAAQMD's 2017 CEQA Guidelines do not identify a GHG emission threshold for construction-related emissions. However, the CEQA Guidelines do recommend implementation of BMPs to help control and reduce GHG emissions.

Table 5.4-8 Summary of Annual Construction GHG Emissions (Year 2019 – 2023)

Annual Emissions	**CO_e[2]**	**Other[3]**	**CO_2e[4]**
Approved Project (As of the 2014 Subsequent IS/MND)			
Light Rail Alternative[5]	4,146	-	-
Light Rail Alternative, No Ocala Station Option[5]	4,006	-	-
Approved Project (Including the Proposed Extension of the Aerial Guideway to Grade-Separate the Ocala Avenue and Cunningham Avenue Intersections)[6]			
2019	300	< 1	302
2020	565	< 1	568
2021	788	< 1	791
2022	414	< 1	416
2023	223	< 1	225
Total Combined Emissions	2,290	< 1	2,302

Notes:

[1] Construction is expected to occur for approximately five years, beginning in 2019; however, it is possible that the construction period could be extended by one year, depending on whether lane closure restrictions during construction limit the amount of activity that can occur. Emissions for the five year construction period, as reflected in this table, would be a worst-case scenario, because an extended construction schedule would likely result in less daily activity. Thus, although it is possible that construction activity could occur in 2024 or 2025, daily emissions in those years would not exceed the worst-case daily emissions in this table.

[2] Carbon dioxide

[3] Includes CH_4 and N_2O emissions.

[4] Carbon dioxide equivalent

[5] Total CO2 that would occur for the approved project, as presented in Table 3.18-1 in the 2014 Subsequent IS/MND. The model used to estimate GHG emissions in the 2014 Subsequent IS/MND only calculated emissions in terms of CO2, not CO2e.

[6] This analysis includes the emissions anticipated from the construction of approximately 2.4 miles of aerial guideway included in the approved project and the proposed change to the approved project, which would replace the at-grade track alignment with approximately 1.25 miles of aerial guideway from south of Story Road to north of Tully Road. It also includes other, non-guideway construction work, such as roadway widening, intersection curb work, utility relocation, station construction, and paving,

generalized information. The RCEM is best suited for projects when the availability of detailed construction information is limited.

Annual Emissions	CO_e[2]	Other[3]	CO_2e[4]

Sources: ICF, 2018. Construction modeling conducted with CalEEMod and project-specific construction information for the proposed changes to the approved project. See Attachment F for construction assumptions and CalEEMod outputs.

Impact: The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1: (Temporary Increase in Construction-Related Emissions during Grading and Construction Activities).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and 2014 Subsequent IS/MND would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Mitigation Measure AQ (CON)-1 has been revised to be consistent with the BMPs in the 2017 CEQA Guidelines:

Mitigation Measure AQ (CON)-1

In accordance with the BAAQMD's current CEQA guidelines (2017), the project applicant shall implement the following BAAQMD-recommended basic control measures to reduce particulate matter emissions from construction activities. Additional control measures (including watering, washing, and other control measures) as detailed in the 2017 BAAQMD CEQA guidelines (see Additional Construction Mitigation Measures), would further reduce particulate matter emissions and should be implemented when feasible.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title

13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ (CON)-2

The project applicant will implement, to the extent feasible, the BAAQMD's BMPs to reduce GHG emissions from construction equipment. These BMPs are outlined in their 2010 CEQA Guidelines.

- Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet;
- Local building materials of at least 10 percent; and
- Recycle at least 50 percent of construction waste or demolition materials.

Inclusion of these mitigation measures would reduce this impact to "Less than Significant."

Less-than-significant impact with mitigation.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations. An evaluation of pollutant concentration exposure on sensitive receptors was not conducted in the 2005 Final EIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND.

Construction of the approved project plus the proposed changes to the approved project would emit PM2.5 and diesel particulate matter (DPM), resulting in the exposure of nearby existing sensitive receptors to increased pollutant concentrations and health risks associated with DPM. As such, a health risk assessment (HRA) was conducted to evaluate the potential health effects associated with the approved project plus the proposed changes to the approved project.[8] EPA's AERMOD dispersion model was used to predict hourly PM2.5 and exhaust DPM concentrations at sensitive land uses; DPM is assumed to be PM2.5 exhaust from diesel equipment only. Estimates of project-level cancer risk, non-cancer hazard index, and annual PM2.5 concentrations were based on

[8] An HRA is an analysis in which human exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances to provide quantitative estimates of health risks.

the annual concentrations from AERMOD, anticipated construction durations, and accepted OEHHA and BAAQMD default values (California Office of Environmental Health Hazard Assessment 2015 & Bay Area Air Quality Management District 2017). The risk calculations incorporate OEHHA's recent guidance update, which includes age-specific factors to take into account the increased sensitivity to carcinogens during early-in-life exposure.

There are many sensitive receptors located along Capitol Expressway near where construction would occur, most of which are single- or multi-family residences. The sensitive receptors that were estimated to experience the highest pollutant concentrations are the various single-family residences located near the intersection of South Capitol Avenue and Capitol Expressway (specifically the residences along Highwood Drive) and the residences near the intersection of Ocala Avenue and Capitol Expressway (specifically the residences along the western portion of Home Gate Drive). Other residential receptors that are directly adjacent to Capitol Expressway would be exposed to pollutant concentrations from construction; however, the maximum risk is expected at residences along Highwood Drive. Exposures of pollutant concentrations on other types of sensitive receptors, including recreational receptors and school receptors, were also modeled.

Table 5.4-9 shows the PM2.5 concentration, non-cancer hazard index, and increased cancer risk values modeled for construction of the approved project plus the proposed changes to the approved project. The exposure of all receptor types to pollutant concentrations during construction was assessed by modeling PM2.5 and DPM concentrations at the sensitive receptor locations based on the construction emissions generated by the approved project plus the proposed changes to the approved project (see Table 5.4-7). Construction of the approved project plus the proposed changes to the approved project would not result in PM2.5 concentrations, hazard index or increased cancer risk values in excess of BAAQMD's threshold. As such, there would be no unacceptable increase in risks or pollutant concentrations based on BAAQMD's criteria.

Table 5.4-9 PM2.5 Concentration, Non-Cancer Hazard Index, and Increased Cancer Risk from Construction

Sensitive Receptor	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)	Non-Cancer Hazard Index	Increased Cancer Risk (per million)
Residential	< 0.1	< 0.1	4.9
School	< 0.1	< 0.1	0.3
Recreational	< 0.1	< 0.1	0.1
BAAQMD Project-Level Threshold	0.3	1.0	10.0

Source: Dispersion and health risk modeling conducted with AERMOD. See Attachment F for further calculation details.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to substantial pollutant concentrations.

Mitigation: None required. This impact is "Less than Significant."

Less-than-significant construction impact. No mitigation required.

CUMULATIVE IMPACTS

This cumulative analysis examines the effects of the proposed changes to the approved project, in combination with other current projects, probable future projects, and projected future growth within the region.

Operational Criteria Pollutant Emissions. With respect to the emissions of criteria air pollutants, BAAQMD has identified project-level thresholds to evaluate criteria pollutant impacts. In developing these thresholds, BAAQMD considered levels at which project emissions would be cumulatively considerable. As noted in the district's CEQA Guidelines (Bay Air Quality Management District 2017a):

> *In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary.*

Therefore, the criteria pollutant thresholds presented in Table 5.4-3 represent the maximum emissions the proposed changes to the approved project may generate before contributing to a cumulative impact on regional air quality. Consequently, because operational emissions associated with the proposed changes to the approved project are expected to be net negative in 2017 and 2043, and below the applicable thresholds in 2023, operational emissions would not be cumulatively significant. Criteria pollutant emissions for the approved project were estimated to be below the BAAQMD's thresholds in the 2014 Subsequent IS/MND. The proposed changes to the approved project would not result in any impacts related to cumulative criteria pollutant emissions beyond the impacts previously identified and analyzed for the approved project.

CO Hot Spots. The project-level analysis above includes both project and non-project related traffic volumes and thus represents a cumulative CO hot spot analysis. The proposed changes to the approved project would result in lower CO concentrations than the approved project for all years at the Capitol Expressway and Story Road intersection. Additionally, there would be no exceedances of the CAAQS.

GHG Emissions. GHG emissions are fundamentally a cumulative impact issue because no single project would result in sufficient GHG emissions to affect global warming or climate change in isolation. As such, the project-level discussion of GHG emissions is a cumulative impact analysis, and cumulative impacts are not discussed further here.

Operational Pollutant Concentrations/Toxic Air Contaminants. The potential cumulative pollutant concentrations/toxic air contaminants impacts of the approved project were not previously analyzed in the 2005 Final EIR, the 2007 Final SEIR, or the 2014 Subsequent IS/MND. Because there are non-project-related traffic volumes on the roadways that would also contribute to pollutant concentrations, the combined effect of the 5,109 vehicle increase plus the background, non-project related traffic volumes on Ocala Avenue and Capitol Expressway are evaluated as a cumulative impact.

As discussed previously, in 2043 on Ocala Avenue, vehicle volumes would increase by approximately 5,109 vehicles per day west of Capitol Expressway and by approximately 1,574 vehicles east of Capitol Expressway. While the increase in traffic volumes associated with the proposed changes to the approved project would be comparatively small and would not result in substantial toxic air contaminant concentrations, the cumulative effect of the increases plus non-project related traffic volumes could result in health risks or PM2.5 concentrations that exceed the BAAQMD's cumulative risk thresholds.

To evaluate the health risks associated with on-road traffic, the BAAQMD recommends the use of their roadway screening calculator. The roadway screening calculator quantifies cancer risk and PM2.5 concentrations based on basic details about the roadway (including the roadway directional orientation, direction and distance of the nearest sensitive receptor to the roadway, and the average daily traffic volumes). The roadway screening calculator uses exhaust emissions factor from an older version of CARB's emission factor database, EMFAC2011, for an analysis year of 2014.

To evaluate the health risks associated with the traffic volume increases associated with the proposed changes to the approved project in 2043, a scaling factor of 0.29 is appropriate to apply to the screening calculator values to account for the substantially cleaner vehicles that will be present in 2043 relative to the calculator's baseline year of 2014.[9] The scaling factor also takes into account the increased number of vehicles that will be present in 2043. Finally, a second scaling factor of 1.3744 is appropriate to apply to the cancer risk values (not the PM2.5 concentrations) from the screening calculator to account for updates to age-specific exposure factors not included in the calculator from the California Office of Environmental Health Hazard Assessment's updated 2015 health risk assessment guidance (California Office of Environmental Health Hazard Assessment 2015).

[9] Two separate scaling factors were applied to the cancer risk values. The first scaling factor of 0.29, is a weighted-scaling factor of PM2.5 exhaust emission rates that accounts for lower-emitting vehicles in future years and increased number of vehicles in future years. The second scaling factor of 1.3744 was applied to account for updated 2015 California Office of Environmental Health Hazard Assessment guidance that was published subsequent to the BAAQMD screening calculator. Only the first scaling factor was applied to PM2.5 concentrations.

Table 5.4-10 shows the cancer risk and PM2.5 concentration values for a maximally exposed sensitive receptor located at 1756 Home Gate Drive. The residence at this address is considered maximally exposed because it would be exposed to pollutant concentrations from increased traffic on Ocala Avenue due to the proposed changes to the approved project. The residence is also exposed to traffic on Capitol Expressway. Although the proposed changes to the approved project would reduce traffic volumes on Capitol Expressway relative to no project conditions, pollutant concentrations from traffic on Capitol Expressway would contribute cumulatively to the increased concentrations on Ocala Avenue. As such, Table 5.4-10 shows the cumulative sources of roadway-related concentration that could affect the maximally exposed receptor.

As shown in the Table 5.4-10, the maximally exposed sensitive receptor would not be exposed to cancer risks or PM2.5 concentrations that exceed the cumulative thresholds set by BAAQMD. As such, the cumulative effect of the proposed changes to the approved project plus background sources would not lead to substantial pollutant concentrations and would not result in a significant cumulative impact.

Table 5.4-10 Cancer Risk and PM2.5 Concentrations from Roadway Sources with the Proposed Changes to the Approved Project

Roadway	Average Daily Traffic with Proposed Changes to Approved Project	Cancer Risk (per million)[1]	PM2.5 Concentration ($\mu g/m^3$)[1]
Ocala Avenue - East of Capitol Expressway[2]	26,063	6.89	0.1
Capitol Expressway at Ocala Avenue[3]	63,796	22.94	0.4
Combined Cumulative Exposure	**-**	**29.83**	**0.5**
BAAQMD Cumulative Threshold[4]		100	0.8

Notes:

[1] Two separate scaling factors were applied to the cancer risk values. The first scaling factor of 0.29, is a weighted-scaling factor of PM2.5 exhaust emission rates that accounts for lower-emitting vehicles in future years and increased number of vehicles in future years. The second scaling factor of 1.3744 was applied to account for updated 2015 California Office of Environmental Health Hazard Assessment guidance that was published subsequent to the BAAQMD screening calculator. Only the first scaling factor was applied to PM2.5 concentrations.

[2] This roadway was inputted into the BAAQMD screening calculator as an east-west oriented roadway, with the nearest sensitive receptor (1756 Home Gate Drive) located approximately 20 feet south of the roadway.

[3] This roadway was inputted into the BAAQMD screening calculator as north-south oriented roadway, with the nearest sensitive receptor (1756 Home Gate Drive) located approximately 20 feet east of the roadway.

[4] Bay Area Air Quality Management District 2017.

Sources:

Intersection volume data – Tse pers. comm.

Emission factors from EMFAC2017 (California Air Resources Board 2018b) are included in Attachment F.

BAAQMD Roadway Screening Calculator – Bay Area Air Quality Management District 2015.

Construction Criteria Pollutant Emissions. As discussed for cumulative operational criteria pollutant emissions, BAAQMD has identified project-level thresholds to evaluate criteria pollutant impacts that are also considered cumulative thresholds. Because construction criteria pollutant emissions associated with the proposed changes to the approved project are expected to be below the applicable thresholds in all years of construction, construction emissions would not be cumulatively significant. Criteria pollutant emissions for the approved project were estimated to be below the BAAQMD's thresholds in the 2014 Subsequent IS/MND. The proposed changes to the approved project would not result in any impacts related to cumulative criteria pollutant emissions beyond the impacts previously identified and analyzed for the approved project.

Cumulative Air Quality Impacts During Construction. A cumulative evaluation of pollutant concentration exposure on sensitive receptors was not conducted in the 2005 Final EIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND.

In addition to project-level impacts, BAAQMD recommends that projects evaluate the cumulative effect of project impacts plus all background sources of emissions. BAAQMD identified separate cumulative-level risk thresholds for cumulative analyses. For a cumulative analysis of construction of the approved project plus proposed changes to the approved project, background sources of toxic air contaminants were identified using resources from BAAQMD.[10] As previously discussed, the sensitive receptors that would experience the maximum pollutant concentrations from the approved project plus the proposed changes to the approved project are located near the intersection of South Capitol Avenue and Capitol Expressway as well as the intersection of Ocala Avenue and Capitol Expressway. Residences in these locations are directly adjacent to Capitol Expressway, with the closest residential locations (which are the backyards) as close as 15 feet from the edge of Capitol Expressway. Some residences along the eastern side of Capitol Expressway are located as close as 20 feet to the roadway edge and also located as close as 20 feet to the edge of a second roadway (i.e., Ocala Avenue, Cunningham Avenue); these sensitive receptors may be exposed to elevated background concentrations of pollutants from roadway traffic. Thus, for the cumulative analysis, four residential sensitive receptors were evaluated:

- Various residences within the area near Ocala Avenue and Capitol Expressway, which would experience a contribution from the approved project plus proposed changes to the approved project and elevated background concentrations of pollutants from roadway traffic);
- Residential exposure near the corner of Story Road and Capitol Expressway (which would experience a contribution from the approved project plus proposed changes to the approved project and elevated background concentrations of pollutants from roadway traffic);

[10] The resources used from BAAQMD include the Roadway Screening Analysis Calculator (for evaluating all roadway risks and PM2.5 concentrations), and the Stationary Source Screening Analysis Tool (for evaluating all existing stationary sources of TACs the corresponding risks and PM2.5 concentrations). These tools can be found at the following link: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools.

- Residential exposure near the corner of Cunningham Avenue and Capitol Expressway (which would experience a contribution from the approved project plus proposed changes to the approved project and elevated background concentrations of pollutants from roadway traffic); and
- Residential exposure near the corner of South Capitol Avenue and Capitol Expressway, including the maximally exposed receptor location along Highwood Drive (which would experience a contribution from the approved project plus proposed changes to the approved project and elevated background concentrations of pollutants from roadway traffic).

Table 5.4-11 shows the cumulative PM2.5 concentration, non-cancer hazard index, and increased cancer risk values evaluated at the four residential sensitive receptors.

Table 5.4-11 Cumulative PM2.5 Concentration, Non-Cancer Hazard Index, and Increased Cancer Risk from Construction

Sensitive Receptor	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)	Non-Cancer Hazard Index	Increased Cancer Risk (per million)
1. Contribution from Existing Sources[1]			
Residential (Corner of Story Road and Capitol Expressway)	0.57	0.01	38.83
Residential (Corner of Ocala Avenue and Capitol Expressway)	**0.80**	< 0.01	47.67
Residential (Corner of Cunningham Avenue and Capitol Expressway)	**0.94**	< 0.01	53.63
Residential (Corner of South Capitol Avenue and Capitol Expressway	0.49	< 0.01	28.69
2. Contribution from Construction of Approved Project Plus Proposed Changes			
Residential (Corner of Story Road and Capitol Expressway)	0.02	< 0.01	4.58
Residential (Corner of Ocala Avenue and Capitol Expressway)	0.02	< 0.01	4.86
Residential (Corner of Cunningham Avenue and Capitol Expressway)	0.01	< 0.01	3.90
Residential (Corner of South Capitol Avenue and Capitol Expressway	0.02	< 0.01	4.94
3. Cumulative Totals (Sum of 1 and 2 above)			
Residential (Corner of Story Road and Capitol Expressway)	0.59	0.01	43.41
Residential (Corner of Ocala Avenue and Capitol Expressway)	**0.81**	< 0.01	52.53

Sensitive Receptor	Maximum Annual PM2.5 Concentration (µg/m^3)	Non-Cancer Hazard Index	Increased Cancer Risk (per million)
Residential (Corner of Cunningham Avenue and Capitol Expressway)	**0.95**	< 0.01	57.53
Residential (Corner of South Capitol Avenue and Capitol Expressway	0.51	< 0.01	33.63
BAAQMD Cumulative Threshold	0.8	10.0	100

Notes:

Exceedances of the thresholds shown in bold

Source: Existing contributions of toxic air contaminants include stationary sources and roadway traffic in the vicinity of the receptors. Stationary source data were obtained from the BAAQMD's stationary sources tool. Roadway risks were calculated using the BAAQMD's Roadway Screening Analysis tool (BAAQMD 2012 and 2015). Because the Roadway Screening Analysis tool uses 2014 vehicle emission factors, risk values were scaled by 65% to account for cleaner vehicles in 2020 (when construction will occur) and higher vehicle volumes in 2020. For more detail on the background risks, refer to Attachment F.

As shown in Table 5.4-11, the cumulative hazard index and increased cancer risk values at all sensitive receptors would be below the BAAQMD's threshold. However, cumulative PM2.5 concentrations would be elevated at the receptors located near the corners of Ocala Avenue and Capitol Expressway and Cunningham Avenue and Capitol Expressway due to substantial sources of pollutant concentrations that currently exist in the area where the approved project plus the proposed changes to the approved project would occur. Even without the contribution of emissions from construction, existing PM2.5 concentrations near these sensitive receptors are at or exceed the BAAQMD's threshold because Capitol Expressway and its cross streets are heavily traveled roadways, with residences located in close proximity to the roadway edge. The approved project plus the proposed changes to the approved project would cause further exceedances of existing pollutant concentrations, worsening the cumulative exposure of sensitive receptors to toxic air contaminant concentrations. Although the contribution of the approved project plus the proposed changes to the approved project to existing concentrations would not be substantial (approximately 6% at the locations where concentrations are at or exceed 0.8 µg/m^3), there would nevertheless be a worsening of an already cumulatively significant impact. The approved project plus the proposed changes to the approved project would result in temporarily worsened concentrations of pollutants; however, the proposed changes would also result in lower vehicle volumes in future years on nearby all roadways. Thus, after construction is completed, the approved project plus the proposed changes to the approved project would likely result in reduced pollutant concentrations from existing roadway traffic due to increased light rail usage. Nevertheless, the approved project plus the proposed changes to the approved project would result in a cumulatively significant contribution during the temporary construction period.

Impact: Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant cumulative impacts related to pollutant concentration exposure on sensitive receptors during construction.

Mitigation: The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant cumulative impacts related to pollutant concentration exposure on sensitive receptors during construction.

Significant and unavoidable cumulative impact, even with mitigation.

Section 5.5 Construction

This section describes the potential construction impacts associated with the proposed changes to the approved project. This section supplements Section 4.19 of the 2005 Final EIR, Section 5.18 of the 2007 Final SEIR, and Section 3.18 of the 2014 Subsequent IS/MND. Mitigation measures are identified for impacts that exceed the significance thresholds included in the 2005 Final EIR.

Environmental Setting

The 2014 Subsequent IS/MND used the 2010 Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines. As discussed in Chapter 3, *Proposed Design Changes*, the BAAQMD updated their CEQA Guidelines in May 2017. The 2017 CEQA Guidelines are used below to update best management practices (BMPs) for air quality; there have been no substantial changes to any air quality significance thresholds between the 2010 and 2017 guidelines.

The environmental setting for the other environmental topics remain unchanged since the 2014 Subsequent IS/MND.

Construction Duration and Scenario

Details regarding the proposed extension of the construction duration and modification to the construction scenario are included in Chapter 3, *Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information.* Details regarding the nighttime construction scenario are provided below.

Noise-generating construction activities would be conducted during the allowable hours of construction as identified by the City of San Jose, where feasible. However, construction work may be necessary during night and early morning periods to minimize traffic disruption, and would be limited to temporary short-term periods at any one location. The most disruptive construction activities that may take place during these periods are as follows:

- Cranes would be used to lift materials up to superstructure levels.
- Partial or complete intersection closures may take place where Capitol Expressway intersects Capitol Avenue, Story Road, Ocala Avenue, and Cunningham Avenue.
- One complete roadway lane may be closed in each travel direction (northbound and southbound) on Capitol Expressway where the proposed aerial guideway crosses over the roadway.
- The Tully Road intersection may be closed for major lift work for the aerial structure.
- Construction activities for the pedestrian overcrossing at Story Road may take place over northbound and southbound Capitol Expressway.

- Other nighttime work may include bridge construction activities, roadway striping, startup and testing of equipment, and trenching for underground utilities.

Construction equipment that could be used during nighttime work includes cranes, backhoes, concrete trucks, concrete pumpers flatbed trucks, and other trucks and equipment. Nighttime lighting, engine noise, and truck back-up alarms could disrupt adjacent properties. Lane and intersection closures may cause roadway traffic disruptions; however, a traffic management plan (TMP) would be prepared to address traffic disruptions from project construction (Mitigation Measure TRN [CON]-2a). The TMP would include outreach to inform the public of the times and locations of upcoming construction, construction signage near and within the project area, and traffic control in the vicinity of construction activities. Temporary detours would be provided and access for emergency response vehicles would be maintained. In addition, should construction activities for the proposed project be limited to non-commuting hours, an increase of approximately one year would be anticipated for the duration of construction.

Environmental Impacts and Mitigation

AIR QUALITY AND GREENHOUSE GAS IMPACTS

Emissions of Criteria Pollutants and Greenhouse Gases (GHGs). For construction emissions, the 2005 Final EIR and the 2007 Final SEIR relied on the Bay Area Air Quality Management District's (BAAQMD) 1999 CEQA Thresholds. At that time, the BAAQMD's approach to CEQA analyses of construction impacts was to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. As a result, the 2005 Final EIR and the 2007 Final SEIR did not quantify construction emissions. Subsequently, the BAAQMD adopted thresholds of significance on June 2, 2010 that included thresholds for construction emissions. Thus, the 2014 Subsequent IS/MND estimated construction emissions for the approved project, as summarized in Table 5.4-7 in Section 5.4, *Air Quality and Climate Change*, of the SEIR-2.

Table 5.4-7 shows the maximum daily emissions of criteria pollutants from on-road vehicles (e.g., haul trucks, pick-up trucks, construction worker commute vehicles), off-road equipment (e.g., excavators, pile drivers), and fugitive dust from grading during construction of the approved project including the proposed extension of the aerial guideway to grade-separate the Ocala Avenue and Cunningham Avenue intersections as well as BAAQMD thresholds. As shown in Table 5.4-7, construction activities would not exceed BAAQMD's thresholds for any pollutants in any year. Overall, emissions of ROG, NOx, CO, and exhaust PM10 and PM2.5 as quantified in the 2014 Subsequent IS/MND are similar to the emissions estimates for the approved project plus the proposed changes to the approved project shown in Table 5.4-7. Emissions for the approved project

plus the proposed changes to the approved project are lower than the emissions estimated in the 2014 Subsequent IS/MND and are below the BAAQMD threshold.[1]

Emissions of PM10 and PM2.5 fugitive dust are substantially lower for the approved project plus the proposed changes to the approved project than for the approved project in the 2014 Subsequent IS/MND, however, BAAQMD does not have quantitative thresholds for fugitive dust. Instead, the threshold is based on compliance with best management practices (BMPs). Unmitigated fugitive dust could adversely affect local and regional PM10 and PM2.5 levels, which would result in health impairment due to the inhalation of dust. BAAQMD considers fugitive dust emissions to be significant without implementation of BMPs. Thus, the approved project plus the proposed changes to the approved project could result in fugitive dust emissions impacts.

Table 5.4-8 in Section 5.4, *Air Quality and Climate Change*, of the SEIR-2 shows the GHG emissions associated with construction of the approved project plus the proposed changes to the approved project. As shown in Table 5.4-8, construction emissions for the approved project were estimated to be between 4,006 and 4,146 total metric tons of CO_2 per year depending on the alternative, [2] and construction of the approved project plus proposed changes to the approved project would emit 2,302 metric tons of CO_2e during the entire construction period. The approved project plus the proposed changes to the approved project would result in a smaller amount of GHG emissions than the previous estimate of GHG emissions for the approved project. BAAQMD's 2017 CEQA Guidelines do not identify a GHG emission threshold for construction-related emissions. However, the CEQA Guidelines do recommend implementation of BMPs to help control and reduce GHG emissions.

Impact: The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1: (Temporary Increase in Construction-Related Emissions during Grading and Construction Activities).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and the 2014 Subsequent IS/MND would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Mitigation Measure AQ (CON)-1 has been revised to be consistent with the BMPs in the 2017 CEQA Guidelines:

[1] The reason for the differences in estimated emissions in the results between the analysis performed for the SEIR-2 and the analysis performed for the 2014 Subsequent IS/MND is due to changes in the methodologies used for each analysis. The analysis in the SEIR-2 uses construction data specific to the proposed changes to the approved project, whereas the analysis in the 2014 Subsequent IS/MND used a more generalized approach and largely model-default assumptions.

[2] The model used to estimate GHG emissions in the 2014 Subsequent IS/MND only calculated emissions in terms of CO_2, not CO_2e.

Mitigation Measure AQ (CON)-1

In accordance with the BAAQMD's current CEQA guidelines (2017), the project applicant shall implement the following BAAQMD-recommended basic control measures to reduce particulate matter emissions from construction activities. Additional control measures (including watering, washing, and other control measures) as detailed in the 2017 BAAQMD CEQA guidelines (see Additional Construction Mitigation Measures), would further reduce particulate matter emissions and should be implemented when feasible.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ (CON)-2

The project applicant will implement, to the extent feasible, the BAAQMD's BMPs to reduce GHG emissions from construction equipment. These BMPs are outlined in their 2010 CEQA Guidelines.

- Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet;
- Local building materials of at least 10 percent; and
- Recycle at least 50 percent of construction waste or demolition materials.

Inclusion of these mitigation measures would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations. An evaluation of pollutant concentration exposure on sensitive receptors was not conducted in the 2005 Final EIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND.

Table 5.4-9 in Section 5.4, *Air Quality and Climate Change*, of the SEIR-2 shows the PM2.5 concentration, non-cancer hazard index, and increased cancer risk values modeled for construction of the approved project plus the proposed changes to the approved project. The exposure of all receptor types to pollutant concentrations during construction was assessed by modeling PM2.5 and DPM concentrations at the sensitive receptor locations based on the construction emissions generated by the approved project plus the proposed changes to the approved project (see Table 5.4-7). Construction of the approved project plus the proposed changes to the approved project would not result in PM2.5 concentrations, hazard index or increased cancer risk values in excess of BAAQMD's threshold. As such, there would be no unacceptable increase in risks or pollutant concentrations based on BAAQMD's criteria.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to substantial pollutant concentrations.

Mitigation: None required. This impact is "Less than Significant."

Less-than-significant construction impact. No mitigation required.

Cumulative Air Quality Impacts During Construction. A cumulative evaluation of pollutant concentration exposure on sensitive receptors was not conducted in the 2005 Final EIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND.

Table 5.4-11 in Section 5.4, *Air Quality and Climate Change*, of the SEIR-2 shows the cumulative PM2.5 concentration, non-cancer hazard index, and increased cancer risk values evaluated at four residential sensitive receptors.

As shown in Table 5.4-11, the cumulative hazard index and increased cancer risk values at all sensitive receptors would be below the BAAQMD's threshold. However, cumulative PM2.5 concentrations would be elevated at the receptors located near the corners of Ocala Avenue and Capitol Expressway and Cunningham Avenue and Capitol Expressway due to substantial sources of pollutant concentrations that currently exist in the area where the approved project plus the proposed changes to the approved project would occur. Even without the contribution of emissions from construction, existing PM2.5 concentrations near these sensitive receptors are at or exceed the BAAQMD's threshold because Capitol Expressway and its cross streets are heavily traveled roadways, with residences located in close proximity to the roadway edge. The approved project plus the proposed changes to the approved project would cause further exceedances of existing pollutant concentrations, worsening the cumulative exposure of sensitive receptors to toxic air contaminant concentrations. Although the contribution of the approved project plus the proposed changes to the approved project to existing concentrations would not be substantial (approximately 6% at the locations where concentrations are at or exceed 0.8 µg/m3), there would nevertheless be a worsening of an already cumulatively significant impact. The approved project plus the proposed changes to the approved project would result in temporarily worsened concentrations of pollutants; however, the proposed changes would also result in lower vehicle volumes in future years on nearby all roadways. Thus, after construction is completed, the approved project plus the proposed changes to the approved project would likely result in reduced pollutant concentrations from existing roadway traffic due to increased light rail usage. Nevertheless, the approved project plus the proposed changes to the approved project would result in a cumulatively significant contribution during the temporary construction period..

Impact: Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant cumulative impacts related to pollutant concentration exposure on sensitive receptors during construction.

Mitigation: The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: AQ (CON)-1 (BAAQMD's BMPs to reduce particulate matter emissions from construction activities) and AQ (CON)-2 (BAAQMD's BMPs to reduce GHG emissions from construction equipment). Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant cumulative impacts related to

pollutant concentration exposure on sensitive receptors during construction.

Significant and unavoidable cumulative construction impact, even with mitigation.

BIOLOGICAL RESOURCES IMPACTS

With inclusion of the mitigation measures identified below, impacts related biological resources during construction of the approved project would be less than significant.

Similar to the approved project, the vast majority of the impacts to biological resources that would result from the proposed changes to the approved project would be short-term and construction-related, especially the temporary disturbance of species and their habitats. The construction-related impacts on biological resources and the associated mitigation measures are summarized below and discussed in detail in Section 3.3, *Biological Resources*, of the Second Subsequent IS.

Impact: The following impacts from the 2005 Final EIR would still apply to the proposed changes to the approved project:

- BIO-7 (Permanent Loss of Biological Habitats or Disturbance to Inhabiting Species),
- BIO-14 (Temporary Disturbance of Nesting Raptors during Construction, Including Swallows),
- BIO-15 (Temporary Disturbance of Nesting Habitat for Migratory Birds, Including Swallows), and
- BIO-18 (Loss of Urban Trees).

The March 28, 2017 *Capitol Expressway Corridor Project – Biological Resources Update* determined that burrowing owls do not currently nest on or near the project corridor, and have not nested in the vicinity in three or more years. Thus, it is assumed that breeding burrowing owls are currently absent from the study area. As a result, the proposed changes to the approved project would not result in a significant impact on burrowing owl habitat. Ruderal habitat impacted by the proposed changes to the approved project is ostensibly suitable for the species, and it is possible that occasional migrant or wintering owls may roost or forage on the site. However, because burrowing owls are more abundant and widespread in the South Bay in winter than during the breeding season, suitable habitat for migrants and wintering owls is unlikely to limit South Bay burrowing owl populations. Therefore, impacts on potential, but unoccupied, burrowing owl habitat resulting from the proposed changes to the approved project would not adversely affect baseline regional burrowing owl populations. Thus, the compensatory mitigation for

habitat impacts described in the 2005 Final EIR as part of Mitigation Measure BIO-7 is not necessary and the mitigation measure has been revised below accordingly. Nevertheless, ostensibly suitable habitat is present within the project corridor, and there is some potential for burrowing owls to occur in the project corridor, at least as occasional migrants or winter visitors.

The 2005 Final EIR includes the western pond turtle in the discussion of special-status species that could occur in aquatic habitat, but indicates that the potential for its occurrence on the site is low. The Santa Clara Valley Habitat Plan maps the reach of Thompson Creek south and west of Lake Cunningham as "primary habitat" for the western pond turtle, however biologists did not observe any western pond turtles in either Thompson Creek or Silver Creek during surveys. Nevertheless, this species has the potential to occur in either creek. Western pond turtles are known to occur in permanent or ephemeral aquatic habitats such as rivers, streams, lakes, ponds, lagoons, and marshes, as well as artificial aquatic habitats such as reservoirs, stock ponds, gravel pits, and sewage treatment plants. Turtles use these aquatic habitats for both foraging and dispersing, with known dispersal distances along stream corridors of over 3.1 miles. Stagnant or slack-water relatively deep pools within these aquatic habitats that contain suitable basking and hiding spots (such as exposed and subsurface woody debris, exposed rocks, rooted or undercut banks, emergent vegetation, and branches at the water surface) are important habitat elements for this species, and western pond turtles seem to avoid aquatic habitats that lack these habitat elements. Although neither creek currently contains optimal habitat for the western pond turtle, some of the habitat elements preferred by western pond turtles are present and thus this species could occur here, at least in low numbers. The magnitude of anticipated impacts on this species due to the proposed changes to the approved project would be very low, if at all, given the low number of western pond turtles that may be present in or near the project area. Nevertheless, Mitigation Measure BIO-12 would ensure that impacts to individual western pond turtles do not occur during project construction.

Mitigation: The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project:

- BIO-7 (Conduct Preconstruction Surveys for Nesting and Wintering Western Burrowing Owls and Implement Measures to Avoid or Minimize Adverse Effects if Owls Are Present),
- BIO-12 (Conduct Preconstruction Surveys for Western Pond Turtles and Implement Measures to Avoid or Minimize Adverse Effects if Turtles are Present),

- BIO-14a (Conduct a Preconstruction Survey for Nesting Raptors),
- BIO-14b (Avoid Active Raptor Nests during the Nesting Season),
- Mitigation Measure BIO-15 (Conduct Preconstruction Surveys for Nesting Migratory Birds),
- BIO-18a (Conduct a Tree Survey to Assess Tree Resources Impacted), and
- BIO-18b (Replace Trees).

Mitigation Measure BIO-7 has been revised based on the recommendations in the March 28, 2017 *Capitol Expressway Corridor Project – Biological Resources Update*. In addition, Mitigation Measures BIO-12, BIO-14a, and BIO-15 have been modified to reflect current conditions as well as current biological resources standards and recommendations by the California Department of Fish and Wildlife (CDFW).

Mitigation Measure BIO-7

Preconstruction surveys for Western burrowing owls shall be conducted by a qualified ornithologist before any development within the habitat identified in Figure 3.3-1. These surveys, which shall include any potentially suitable habitat within 250 feet of construction areas, shall be conducted no more than 30 days before the start of site grading, regardless of the time of year in which grading occurs. If breeding owls are located on or immediately adjacent to the site, a construction-free buffer zone (typically 250 feet) around the active burrow must be established as determined by the ornithologist in consultation with CDFW. No activities, including grading or other construction work or relocation of owls, would proceed that may disturb breeding owls. If owls are resident within 250 feet of the Project Area during the nonbreeding season a qualified ornithologist, in consultation with CDFW, shall passively relocate (evict) the owls to avoid the loss of any individuals if the owls are close enough that they or their burrows could potentially be harmed by associated activities.

Mitigation Measure BIO-12

Preconstruction surveys for western pond turtles shall be conducted by a qualified biologist just prior to (i.e., the day of) initiation of any construction in non-developed habitat that occurs within 100 feet of Thompson Creek. If any individual western pond turtles are detected within the project's impact areas, the individuals will be moved to suitable habitat within the nearest creek, at least 300 feet outside the project area.

Mitigation Measure BIO-14a

Preconstruction surveys for nesting raptors will be conducted by a qualified ornithologist to ensure that no raptor nests will be disturbed during implementation of the light rail alternative. This survey shall be conducted within 48 hours of construction activity during the breeding season. For nesting raptors, the breeding season is from January 1 to August 31. During this survey, the ornithologist would inspect all trees and suitable grassland habitat in and immediately adjacent to the affected areas for raptor nests. If the survey does not identify any nesting special-status raptor species in the area potentially affected by the proposed activity, no further mitigation is required.

Mitigation Measure BIO-15

If construction activities are scheduled to occur during the migratory bird breeding season (February 1-August 31), a preconstruction survey for nesting migratory birds shall be conducted prior to commencement of construction activities. If an active nest is identified within the study area, construction activities will stop (only where a nest is located) until the young fledge or the nest is removed in accordance with CDFW approval.

Inclusion of these mitigation measures would reduce these impacts to "Less than Significant."

Less-than-significant construction impact with mitigation.

COMMUNITY SERVICES IMPACTS

With inclusion of the mitigation measures identified below, impacts related to community services during construction of the approved project would be less than significant.

Similar to the approved project, construction activities associated with the proposed changes to the approved project could have short-term and construction-related impacts to police and fire services. The construction-related impacts on community services and the associated mitigation measures are summarized below and discussed in detail in Section 3.4, *Community Services*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to community services.

The following impact from the 2005 Final EIR would apply to the proposed changes to the approved project: CS (Construction)-1 (Temporary Disruption of Emergency Access).

Mitigation: The following mitigation measure identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: Mitigation Measure CS (CON)-1 (Coordinate with Emergency Service Providers). Inclusion of this mitigation measure would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

CULTURAL RESOURCES IMPACTS

With inclusion of the mitigation measures identified below, impacts related to cultural resources during construction of the approved project would be less than significant.

There are no known archaeological resources within the project footprint. However, there is one prehistoric resource outside the project footprint but within 0.25 mile of the southern end of the project footprint. Similarly, there are no isolated human remains, cemeteries, or archaeological resources that contain human remains identified within the project corridor. The horizontal and vertical extent of ground disturbing activities associated with some of the proposed changes to the approved project would be different than those analyzed for the approved project. Thus, the proposed changes to the approved project could result in impacts on unknown archaeological resources. The construction-related impacts on cultural resources and the associated mitigation measures are summarized below and discussed in detail in Section 3.5, *Cultural Resources*, of the Second Subsequent IS.

Impact: The May 16, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Final Cultural Resources Memorandum* indicates that the total amount of ground disturbance from the instances where the proposed changes to the approved project (0.06 acre) would account for a very small percentage (0.7 percent) of the 9-acre project footprint. Therefore, the conclusions of the prior archaeological reports have not changed, and the potential for the proposed changes to the approved project to affect as-yet undocumented archaeological resources would be minimal.

The following procedures represent standard practice that would be followed in the case of inadvertent discovery of buried cultural resources and human remains:

- **Stop work immediately if buried cultural deposits are encountered during construction activities.** Should any cultural and/or archaeological resources be discovered (such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains) during construction activities, VTA shall suspend work in the immediate vicinity, and VTA's construction inspector shall contact VTA's Environmental Programs Department to coordinate site investigations by a

qualified archaeologist to assess the materials and determine their significance.

- **Stop work immediately if human remains are encountered during construction activities:** If human remains are unearthed during construction, pursuant to Section 50977.98 of the Public Resources Code and Section 7050.5 of the State Health and Safety Code, VTA and Contractor shall immediately suspend work in the immediate vicinity and contact the Santa Clara County coroner. If the Santa Clara County coroner determines the remains are Native American in origin, VTA will contact the Native American Heritage Commission to request a Most Likely Descendent to coordinate the disposition of the remains.
- **Native American monitoring during construction:** VTA shall retain the services of a Native American monitor during construction involving subsurface excavation between Cunningham Avenue and Quimby Avenue.

Based on the analysis above, the proposed changes to the approved project would not result in new significance impacts or a substantial increase in the severity of previously identified significant impacts related to archaeological resources (including human remains).

Mitigation: None required. Inclusion of the standard procedures would reduce this impact to "Less than Significant

Less-than-significant impact. No mitigation required.

ENERGY IMPACTS

With inclusion of the mitigation measure identified below, impacts related to energy during construction of the approved project would be less than significant.

Similar to the approved project, construction-related energy consumption would result from construction of the proposed changes to the approved project and secondary facilities. Energy consumed for construction of the proposed changes would be used for the construction of trackway and support facilities, and for the transportation of materials and equipment to and from the work sites. A secondary facility is a facility (e.g., a factory), that produces construction materials and machinery that would be used in the construction and maintenance of the structures and attendant facilities. The construction-related impacts on energy and the associated mitigation measures are summarized below and discussed in detail in Section 3.7, *Energy*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial

increase in the severity of previously identified significant impacts related to energy.

The following impacts from the 2005 Final EIR would still apply to the proposed changes to the approved project: E (Construction)-1 (Consumption of Nonrenewable Energy Resources in a Wasteful, Inefficient, and/or Unnecessary Manner from Project Construction), E (Construction)-2 (Consumption of Nonrenewable Energy Resources in a Wasteful, Inefficient, and Unnecessary Manner from Secondary Facilities Activities).

Mitigation: The following mitigation measure identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: Mitigation Measure E (CON)-1 (Adopt Energy Conservation Measures). Inclusion of this mitigation measure would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

GEOLOGY, SOILS, AND SEISMICITY IMPACTS

With inclusion of the mitigation measure identified below, impacts related to geology, soils, and seismicity during construction of the approved project would be less than significant.

Similar to the approved project, the proposed changes to the approved project would be located in an area that may be susceptible to lateral spreading, subsidence, collapse, and expansive soils. Soils and underlying geologic materials that are susceptible to lateral spreading, subsidence, and collapse, or that have expansive properties, could increase the risk of structural loss, injury, or death. The construction-related impacts on geology, soils, and seismicity and the associated mitigation measures are summarized below and discussed in detail in Section 3.8, *Geology, Soils, and Seismicity*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to geology, soils, and seismicity impacts.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: GEO (CON)-1 (Lateral Spreading, Subsidence, and Collapse), and GEO (CON)-2 (Presence of Expansive Soils).

Mitigation: The following mitigation measure identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: Mitigation Measure GEO (CON)-1 (Minimize Lateral Spreading,

Subsidence, and collapse), and GEO (CON)-2 (Minimize Risk of Soil Expansivity). Inclusion of this mitigation measure would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

HAZARDOUS MATERIALS IMPACTS

With inclusion of the mitigation measures identified below, impacts related to hazardous materials during construction of the approved project would be less than significant.

Similar to the approved project, the proposed extensive pile driving required for construction of the proposed aerial guideway included in the proposed changes to the approved project would in some cases require dewatering. Dewatering could cause construction workers to encounter and be exposed to hazardous materials and could expose the surrounding environment to contaminated soils and groundwater from historic hazardous materials handling in the area. The construction-related impacts on hazardous materials and the associated mitigation measures are summarized below and discussed in detail in Section 3.9, *Hazardous Materials*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to hazardous materials.

The following impacts from the 2005 Final EIR would still apply to the proposed changes to the approved project: HAZ (CON)-1 (Release of Hazardous materials into the Environment).

Mitigation: The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: Mitigation Measure HAZ (CON)-1a (Conduct subsurface Investigations), HAZ (CON)-1b (Control Contamination), and HAZ (CON)-1c (Conduct Lead and Asbestos Surveys Prior to Building Demolition or Renovation). Inclusion of these mitigation measures would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

HYDROLOGY IMPACTS

With inclusion of the mitigation measures identified below, impacts related to hydrology during construction of the approved project would be less than significant.

Similar to the approved project, construction activities associated with the proposed changes to the approved project involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters. In addition, construction activities could result in depletion of water

supplies/interference with groundwater recharge. The construction-related impacts on hydrology and water quality and the associated mitigation measures are summarized below and discussed in detail in Section 3.10, *Hydrology and Water Quality*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to hydrology and water quality.

The following impacts from the 2005 Final EIR would apply to the proposed changes to the approved project: HYD (CON)-1 (Impair Water Quality) and HYD (CON)-2 (Depletion of Groundwater Supplies).

Mitigation: The following mitigation measures identified in the Final EIR would still apply to the proposed changes to the approved project: HYD (CON)-1 (Implement Water Quality Control Measures), HYD (CON)-2 (Use Non-Potable Water). Inclusion of these mitigation measures would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

LAND USE IMPACTS

Impacts related to land use during construction of the approved project would be less than significant.

Similar to the approved project, construction activities associated with the proposed changes to the approved project would temporarily result in lane and street closures, and detours would occur. As with the approved project, a Traffic Management Plan would be implemented to restore traffic capacity and access to local businesses during construction. In addition, signs would be posted to direct pedestrians to intersections where they may cross to proceed along the project corridor and to avoid construction areas. The construction-related impacts on hydrology and water quality and the associated mitigation measures are summarized below and discussed in detail in Section 3.11, *Land Use*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to land use.

The following impact from the 2005 Final EIR would apply to the proposed changes to the approved project: LU (Construction)-1 (Disruption of Local Businesses).

Mitigation: None required. This impact is "Less than Significant."

Less-than-significant construction impact. No mitigation required.

NOISE IMPACTS

With inclusion of the mitigation measures identified below, impacts related to noise during construction of the approved project would be less than significant.

Similar to the approved project, pile driving would occur during construction of the proposed changes. The construction-related impacts on noise and vibration and the associated mitigation measures are summarized below and discussed in detail in Section 5.3, *Noise and Vibration*, of the SEIR-2.

Impact: The September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* indicates that the proposed changes to the approved project would result in exceedances of the FTA construction noise impact criteria at unobstructed homes and businesses (i.e., homes and businesses not shielded by other structures or sound walls) within 300 feet of pile driving activity. The noise impacts would have a duration of 8 to 15 days per sensitive receiver. Pile driving would exceed the construction noise impact criteria of 80 Leq at residences and 85 Leq at commercial properties at 156 sensitive receiver locations. The location of receivers where pile driving noise impacts are predicted are as follows:

- Fifteen residential properties located east of the alignment between Wilbur Avenue and Mervyns Way would experience construction noise impacts. One home is within 25 feet of the closest pile.
- Five institutional/commercial properties located east of the alignment between Mervyns Way and Story Road would experience construction noise impacts.
- Forty-one residential properties located east of the alignment between Story Road and Ocala Avenue would experience construction noise impacts.
- Twenty-seven residential properties located east of the alignment between Ocala Avenue and Cunningham Avenue would experience construction noise impacts.
- Two residential properties located west of the alignment along South Capitol Avenue would experience construction noise impacts.
- Two commercial properties located west of the alignment along South Capitol Avenue would experience construction noise impacts.

- Twenty-one residential properties located west of the alignment between Excalibur Drive and Story Road would experience construction noise impacts.
- Three commercial properties located west of the alignment near the intersection of Capitol Expressway and Story Road would experience construction noise impacts.
- Seventeen residential properties located west of the alignment between Story Road and Foxdale Loop would experience construction noise impacts.
- One commercial property located west of the alignment near the intersection of Capitol Expressway and Foxdale Loop would experience a construction noise impact.
- Three residential properties located west of the alignment along Foxdale Loop would experience construction noise impacts.
- Nineteen residential properties located west of the alignment between Foxdale Drive and Ocala Avenue would experience construction noise impacts.

The proposed changes to the approved project would result in an increase in the number of construction noise impacts compared to the 2007 Final SEIR due to an increase in the number of foundation piles associated with changing the at-grade track under the approved project to an aerial guideway under the proposed changes.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: NV (Construction)-1: (Generation of Noise or Vibration That Substantially Affects Nearby Sensitive Receptors).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and the 2007 Final SEIR would still apply to the proposed changes to the approved project: NV (CON)-1a (Notify Residents of Construction Activities), NV (CON)-1b (Construct Temporary Noise Barriers During Construction), NV (CON)-1c (Restrict Pile Driving)[3], NV (CON)-1d (Use Noise Suppression Devices), NV (CON)-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors), NV (CON)-1f (Reroute Construction-Related Truck Traffic), NV (CON)-1g (Develop Construction Noise Mitigation Plan) and NV (CON)–2.

Mitigation Measure NV (CON)-2 has been modified.

[3] In the 2005 Final EIR, this measure restricts pile driving to the hours of 8:00 am to 5:00 pm. To be consistent with the San Jose municipal code, these hours are revised to 7:00 am to 7:00 pm, Monday through Friday.

Mitigation Measure NV (CON)-2

A combination of the following measures should be considered if reasonable and feasible to reduce noise and vibration impacts from pile driving:

1. Noise Shield: A pile driving noise shield could be effective at reducing the pile driving noise by a minimum 5 dBA, depending on the size of the shield and how well it surrounds the pile and hammer. A portable shield/barrier could be implemented to provide a nominal 10 dBA noise reduction.
2. Pre-Drilling Piles: Pre-drilling a portion of the hole may provide a means to reduce the duration of impact pile driving, and should be explored. Reducing the total impact time to an aggregate duration of no more than 2 hours per day will reduce the equivalent noise level by 6 dBA to a range of 80 to 90 dBA (L_{eq}) at a distance of 100ft.
3. Non-Impact Piles or Cast in Drilled Hole (CIDH) piles: Using the Soil-Mix or CIDH method would reduce the vibration below the FTA Criteria. This method is recommended for homes which would be within 75 ft of pile driving.
4. Reduced Impact Pile Driving Time: Limiting the hours per day of impact pile driving would reduce the equivalent noise level and would reduce potential work interference.
5. Excessive Vibration: If pile driving amplitudes exceed the building threshold criteria, cosmetic repair work may be required at nearby buildings. A detailed preconstruction crack survey will be conducted at homes and businesses where these criteria are expected to be exceeded. Vibration monitoring, crack monitors and photo documentation will be employed at these locations during pile driving activity.
6. Relocating Items on Shelves: Since items on shelves and walls may move during pile driving activity, nearby residents will be advised through the community outreach process that they should move fragile and precious items off of shelves and walls for the duration of the impact pile driving. Achievement of standards for building damage would not eliminate annoyance, since the vibration would still be quite perceptible.
7. Advance Notification (Work Interference): The impact pile driving vibration may cause interference with persons working at home or the office on their computers. Nearby residents and businesses will be advised in advance of times when piles would be driven, particularly piles within 160 ft of any occupied building, so that they may plan accordingly, if possible.

8. Notification of Pile Driving Schedule: Nearby residents and businesses will be notified of the expected pile driving schedule. In particular, these notifications should be made with home-bound residents, homes where there is day-time occupancy (e.g., work at home, stay-at-home parents) and offices/commercial businesses where extensive computer/video monitor work is conducted.
9. Hotel Accommodations: Residents at 660 South Capitol Avenue will be provided with hotel accommodations while pile driving activities occur adjacent to the residence.

Contractor Controls

In addition to the above list of specific noise and vibration control measures, the following are recommended for inclusion in the Contractor specifications for the Indicator and Production pile driving programs if reasonable and feasible:

- Comply with the equivalent noise levels (L_{eq}) limits specified on page 12-8 of FTA 2006 and a maximum noise level limits of 90 dBA (slow) or 125 dBC (fast) for residential buildings,
- Comply with the maximum vibration limits specified in Table 12-3 of FTA 2006,
- Perform a detailed survey and photo documentation prior to construction of all potentially affected wood-frame buildings within 135 ft of the piling activity,
- Coordinate and perform noise and vibration monitoring at a representative sampling of potentially affected buildings along the Project corridor,
- Install crack monitors where appropriate and provide photo documentation at all potentially affected buildings during pile driving activity and through construction,
- Community Notification and Involvement:
  - provide a minimum four-week advance notice of the start of piling operations to all affected receptors (e.g., internet, phone and fax), and regular, up-to-date communications. This includes education of the public on the expected noise and vibration,
  - provide a knowledgeable Community Liaison to respond to questions and complaints regarding pile driving noise and vibration, and
  - provide assistance as needed to nearby residents or offices who may require help relocating valuable items off shelves.

Mitigation Measure NV (CON)-1h: Use Impact Cushions

A suitable pile cap cushion could be effective at reducing the pile driving noise by up to 5 dB. The construction crew will initially use only burlap bags to reduce noise and then will also use the wood block when pile driving becomes more difficult.

This new mitigation measure shall be implemented in addition to the measures identified in the Mitigation Monitoring and Reporting Plan (MMRP) prepared for the approved project.

With inclusion of impact cushions, pile driving would exceed the construction noise impact criteria at 135 sensitive receiver locations. With inclusion of impact cushions and pre-drilling, pile driving would exceed the construction noise impact criteria at 80 sensitive receiver locations. With inclusion of impact cushions and noise shields around the pile equipment, pile driving would exceed the construction noise impact criteria at 2 sensitive receiver locations. VTA is recommending to mitigate this impact with noise cushions and temporary noise barriers. Even with inclusion of these mitigation measures, this impact would be "Significant and Unavoidable" at 2 residences. Based on the analysis above, the proposed changes to the approved project would result in new significant impacts related to pile driving noise impacts during construction.

Significant and unavoidable construction impact, even with mitigation.

Impact: The September 21, 2018 *EBRC – CELR Noise and Vibration Assessment* indicates that the proposed changes to the approved project would result in exceedances of the FTA nighttime construction vibration of 0.2 PPV impact criteria at homes within 100 feet of pile driving activity. Pile driving would exceed the construction vibration impact criteria at 64 sensitive receiver locations. The location of receivers where pile driving vibration impacts are predicted are as follows:

- Nine properties located east of the alignment between Wilbur Avenue and Mervyns Way would experience construction vibration impacts. One home is within 25 feet of the closest pile.
- Five properties located east of the alignment between Story Road and Ocala Avenue would experience construction vibration impacts.
- Twenty-one properties located east of the alignment between Ocala Avenue and Cunningham Avenue would experience construction vibration impacts.

- Fifteen properties located west of the alignment between Story Road and Foxdale Loop would experience construction vibration impacts.
- Fourteen properties located west of alignment between Foxdale Drive and Ocala Avenue would experience construction vibration impacts.

The following impact from the 2005 Final EIR would still apply to the proposed changes to the approved project: NV (Construction)-1: (Generation of Noise or Vibration That Substantially Affects Nearby Sensitive Receptors).

Mitigation: The following mitigation measures identified in the 2005 Final EIR and the 2007 Final SEIR would still apply to the proposed changes to the approved project: NV-1a (Notify Residents of Construction Activities), NV-1c (Restrict Pile Driving), NV-1e (Locate Stationary Construction Equipment as Far as Possible from Sensitive Receptors) and NV (Construction)-2.

VTA is not recommending the use of non-impact piling methods at any locations for a couple of reasons. Most locations are only slightly above the FTA Damage Criteria, and therefore may not experience any actual impacts due to the +3 VdB safety factor included to estimate construction vibration levels. At the locations with the highest construction vibration levels, structural damage is not anticipated to occur. As a result, VTA is not recommending to use non-impact piling methods at any locations. Thus, this impact would be "Significant and Unavoidable."

No mitigation proposed. Significant and unavoidable construction impact.

SAFETY & SECURITY IMPACTS

With inclusion of the mitigation measure identified below, impacts related to safety and security during construction of the approved project would be less than significant.

Similar to the approved project, construction of the proposed changes could result in safety and security impacts. The construction-related impacts on safety and security and the associated mitigation measures are summarized below and discussed in detail in Section 3.13, *Safety and Security*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to safety and security.

The following impact from the 2005 Final EIR would apply to the proposed changes to the approved project: SS (CON)-1 (Potential for Safety Risks during Construction).

Mitigation: The following mitigation measure identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: Mitigation Measure SS (CON)-1 (Implement Construction BMPs to Protect Workers and the Public). Inclusion of this mitigation measure would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

TRANSPORTATION IMPACTS

With inclusion of the mitigation measures identified below, impacts related to transportation during construction of the approved project would be less than significant.

Similar to the approved project, lane and street closures, traffic delays, and detours would occur along the project corridor during construction of the proposed changes. Under the approved project, construction activities were anticipated to periodically reduce the capacity of Capitol Expressway from three lanes to two in each direction during the mid-day off peak periods. However, the proposed changes to the approved project would require lane closures to additionally take place during peak periods of travel. VTA would seek to minimize these delays to the greatest extent feasible and provide viable detour routes as appropriate. The construction-related impacts on noise and vibration and the associated mitigation measures are summarized below and discussed in detail in Section 5.1, *Transportation*, of the SEIR-2.

Impact: The August 23, 2018 *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis* indicates that the proposed lane reductions on Capitol Expressway during construction may cause study intersections to temporarily operate at LOS F, impacting passenger vehicles, buses, and trucks. The proposed changes to the approved project may also result in the temporary closures of bikeways, bus stops, and sidewalks in the corridor during construction. The duration, times, and locations of temporary closures during construction cannot be predicted with certainty.

The following impact from the 2005 Final EIR would apply to the proposed changes to the approved project: TRN (CON)-1 (Long-Term Street or Lane Closure) and TRN (CON)-2 (Long-Term Loss of Parking or Access Essential for Business Operations).

Mitigation: The following mitigation measures identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: TRN (CON)-2a (Prepare Traffic Management Plan), TRN (CON)-2b

(Inform Public of Traffic Detours), and TRN (CON)-2c (Inform Public of Transit Service Changes).

During construction, VTA will prepare traffic handling plans, employ traffic flaggers, and endeavor to minimize peak hour delays to all users. However, such measures cannot guarantee that construction activities would not cause temporary significant impacts to passenger vehicles, buses, trucks, bikes, and pedestrians. There is no feasible mitigation for this impact and this impact would be "Significant and Unavoidable." Based on the analysis above, the proposed changes to the approved project would result in new significant impacts or a substantial increase in the severity of previously identified significant transportation impacts during construction. With inclusion of these mitigation measures, the proposed changes to the approved project would result "Less than Significant" impacts related to parking during construction.

Significant and unavoidable construction impact. No feasible mitigation.

UTILITIES IMPACTS

With inclusion of the mitigation measure identified below, impacts related to utilities during construction of the approved project would be less than significant.

Similar to the approved project, the proposed changes to the approved project would require the relocation of utilities during construction, which requires disruption of service. The proposed changes to the project would require the relocation of a 3-inch high pressure natural gas line under Cunningham Avenue. The construction-related impacts on utilities and the associated mitigation measures are summarized below and discussed in detail in Section 3.14, *Utilities*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant effects or a substantial increase in the severity of previously identified significant impacts related to utilities.

The following impact from the 2005 Final EIR would apply to the proposed changes to the approved project: UTL (CON)-1 (Disrupt a Utility Service for a Period of 24 Hours or More).

Mitigation: The following mitigation measure identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: UTL (CON)-1 (Coordinate with Utility Service Providers Prior to Construction of Light Rail Facilities). Inclusion of this mitigation measure would reduce this impact to "Less than Significant."

Less-than-significant construction impact with mitigation.

VISUAL QUALITY IMPACTS

With inclusion of the mitigation measure identified below, impacts related to visual quality during construction of the approved project would be less than significant.

Similar to the approved project, nighttime construction activities associated with the proposed changes would involve the use of lighting equipment that could cause glare, potentially affecting the residents adjacent to the project corridor.

In addition, construction activities associated with the proposed changes would involve the use of heavy equipment, transport of soils and material, and other visual signs of construction would occur along the Capitol Expressway corridor and at construction staging areas, similar to the approved project. These activities would be most visible to pedestrians along the corridor and residents of adjacent homes. The construction-related impacts on visual quality and the associated mitigation measures are summarized below and discussed in detail in Section 3.16, *Visual Quality*, of the Second Subsequent IS.

Impact: Based on the analysis above, the proposed changes to the approved project would not result in new significant impacts or a substantial increase in the severity of previously identified significant impacts related to light and glare.

The following impact from the 2005 Final EIR would apply to the proposed changes to the approved project: VQ (CON)-1 (Creation of a New Source of Substantial Light or Glare).

Mitigation: The following mitigation measure identified in the 2005 Final EIR would still apply to the proposed changes to the approved project: VQ (CON)-1 (Direct Lighting toward Construction Areas). Inclusion of this mitigation measure would reduce these impacts to "Less than Significant."

Less-than-significant construction impact with mitigation.

Chapter 6
Other CEQA Considerations

This section presents other environmental issues that are of particular significance to CEQA. It includes a discussion of significant impacts and irreversible environmental changes, cumulative effects, and growth-inducing impacts.

Section 6.1 Significant and Irreversible Environmental Changes

This section supplements Section 5.4 of the 2005 Final EIR, Section 6.1 of the 2007 Final SEIR, and Section 4.1of the 2014 Subsequent IS/MND. It generally evaluates the effect of the project on nonrenewable resources. The proposed changes to the approved project would not affect the conclusions of the 2005 Final EIR and the 2007 Final SEIR on the potential for significant and irreversible environmental changes.

A commitment of a resource is considered irreversible when its use limits the future options for its use. Irreversible changes may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. In accordance with CEQA Guidelines Section 15126.2(c), this section evalutes the effect of the proposed changes to the approved project associated with three distinct categories of significant irreversible changes: changes in land use that would commit future generations to specific uses, consumption of nonrenewable resources, and irreversible changes from environmental actions.

The approved project and the proposed changes to the approved project would commit a similar amount of land resources due to the right-of-way needs within the corridor. The commitment of long-term land resources for the light rail system is consistent with Envision San José 2040 General Plan, as discussed in Section 3.11, *Land Use*, of the Second Subsequent IS. The proposed changes would not commit future generations to or introduce changes in land use that would vary from the existing conditions or planned development by the City of San Jose.

Non-renewable energy is the primary resource that would be irreversibly affected by the proposed changes. As discussed in Section 3.7, *Energy*, of the Second Subsequent IS, it is anticipated that the proposed replacement of the at-grade track alignment with an aerial

guideway would result in slightly less energy consumption compared to the approved project because the elevated guideway would allow light rail vehicles to avoid traffic signal delay that would occur at intersections for an at-grade alignment. By avoiding traffic signal delay, this proposed change to the project would eliminate the need for additional energy required for light rail vehicle accelerations at intersections. Thus, the system would operate more efficiently, which would lead to lower energy consumption. Although the acceleration effect is anticipated to be minor, this proposed change to the approved project would result in lower energy consumption compared to the impacts previously identified and analyzed for the approved project.

Similar to the approved project, the construction and operation of the proposed changes would entail the irreversible and irretrievable commitment of energy and human resources, including labor required for planning, design, construction, and operations.

The use of these resources would be irrecoverable; however, they are not in short supply, and their use would not affect the continued availability and supply of these resources.

Based on the analysis above, no new significant and irreversible effects or a substantial increase in the severity of previously identified significant and irreversible effects would occur.

Section 6.2 Analysis of Cumulative Effects

This section supplements Section 5.5 of the 2005 Final EIR, Section 6.2 of the 2007 Final SEIR, and Section 4.2 of the 2014 Subsequent IS/MND. It generally evaluates the incremental effect of the proposed changes to the approved project on the environment when considered in conjunction with closely related past, present, and reasonably foreseeable future projects.

The 2005 Final EIR and the 2007 Final SEIR identified significant and unavoidable cumulative effects to transportation at the intersections of Capitol Expressway and Story Road (TRN-2a and TRN-8b), Ocala Avenue (TRN-2b and TRN-8c), Capitol Avenue (TRN-8a), and Quimby Road (TRN-8e). According to the transportation analysis in the 2014 Subsequent IS/MND, the approved project would not result in cumulative effects to transportation at the intersections of Capitol Expressway and Story Road (TRN-2a and TRN-8b) and Quimby Road (TRN-8e), and would result in a reduction in the effect to less than significant with mitigation at Capitol Avenue. As discussed in Section 5.1, *Transportation*, of the SEIR-2, the proposed changes to the approved project would result in significant and unavoidable cumulative effects to transportation at the Capitol Expressway and Story Road (TRN-2a and TRN-8b) and Capitol Expressway and Ocala Avenue (TRN-2b and TRN-8c). Due to recent geometric changes at the intersection of Capitol Expressway and Capitol Avenue, the SEIR-2 no longer identifies a less than significant effect with mitigation at this location.

The 2007 Final SEIR also identified new significant and unavoidable impacts to energy and environmental justice. The 2014 Subsequent IS/MND determined that no new

significant cumulative effects or a substantial increase in the severity of previously identified significant cumulative effects would occur to energy and environmental justice.

In the SEIR-2, new significant and unavoidable impacts associated with the proposed changes to the approved project were identified for air quality and climate change (construction) as well as environmental justice. In addition, in the SEIR-2, significant and unavoidable impacts with increased severity associated with the proposed changes to the approved project were identified for transportation (operation and construction) as well as noise and vibration (operation and construction).

A cumulative analysis evaluates the incremental effect of the project on the environment when considered in conjunction with closely related past, present, and reasonably foreseeable future projects. Cumulative impacts related to transportation, noise, and air quality (during operation and construction), are described and evaluated in Section 5.1, *Transportation*; Section 5.3, *Noise and Vibration*; and Section 5.4; *Air Quality and Climate Change*; of the SEIR-2, respectively. Based on the analysis in the sections, the proposed changes to the approved project would disproportionately affect minority and low-income populations. Thus, the proposed changes would have a cumulative impact on environmental justice (EJ-1). This impact is "Significant and Unavoidable."

Section 6.3 Growth-Inducing Impacts

This section supplements Section 5.6 of the 2005 Final EIR, Section 6.3 of the 2007 Final SEIR, and Section 4.3 of the 2014 Subsequent IS/MND. It generally evaluates the potential of the proposed changes to the approved project to directly or indirectly foster economic or population growth, or the construction of new housing.

The 2005 Final EIR concluded that the approved project is generally consistent with projected and planned growth in the region and in the project area. However, the 2005 Final EIR did acknowledge that the approved project could have an indirect growth-inducing effect by accelerating planned growth in a more compact, transit-oriented form, particularly in and around planned light rail stations.

The proposed changes to the approved project would not affect the conclusions of the 2005 Final SEIR, 2007 Final SEIR, or the 2014 Subsequent IS/MND regarding the potential for growth-inducing impacts.

Similar to the approved project, the proposed changes to the approved project are consistent with the project and planned growth in the vicinity of the project corridor. The proposed changes would not directly or indirectly induce economic, population, or housing growth in the surrounding environment. As a result, no new significant growth-inducing impacts or increase in the severity of previously identified significant growth-inducing impacts would occur as a result of the proposed changes to the approved project.

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Chapter 7
References

Chapter 3, Changes to the Approved Project, Changes in Circumstances, and Introduction of New Information

Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act Air Quality Guidelines*. May. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: July 31, 2018.

Bay Area Air Quality Management District. 2017b. Spare the Air-Cool the Climate: A Blueprint for Cleaner Air and Climate Protection in the Bay Area. April 19. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: July 31, 2018.

Lukes, Robb & Christopher Kloss. 2018. *Managing Wet Weather with Green Infrastructure Municipal Handbook Green Streets*. December. Available: https://www.epa.gov/sites/production/files/2015-10/documents/gi_munichandbook_green_streets.pdf. EPA-833-F-08-009.

San Jose Trails. Thompson Creek map. Available: https://sanjoseca.gov/DocumentCenter/View/71561. Accessed on: January 28, 2018.

Section 5.1, Transportation

Hexagon Transportation Consultants, Inc. 2018. *Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Supplemental Transportation Analysis*. August 23.

Section 5.2, Environmental Justice

U.S. Census Bureau. 2017a. B03002 Hispanic or Latino Origin by Race, 2012–2016 American Community Survey 5-Year Estimates. Available: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B03002&prodType=table. Accessed: February 12, 2018.

U.S. Census Bureau. 2017b. S1701 Poverty Status in the Past 12 Months, 2012–2016 American Community Survey 5-Year Estimates. Available: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1701&prodType=table. Accessed: February 12, 2018.

U.S. Census Bureau. 2017c. S1903 Median Income in the Past 12 Months, 2012–2016 American Community Survey 5-Year Estimates. Available: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1903&prodType=table. Accessed: February 12, 2018.

US Census Bureau. 2018. Cartographic Boundary KML Files - Census Tracts. Available at: https://www.census.gov/geo/maps-data/data/kml/kml_tracts.html. Accessed February 12, 2018.

U.S. Department of Health and Human Services. 2018. *Poverty Guidelines*. Available: https://aspe.hhs.gov/poverty-guidelines. Accessed: February 13, 2018.

Section 5.3, Noise and Vibration

ATS Consulting. 2018. *EBRC – CELR Noise and Vibration Assessment.* September 21.

Section 5.4, Air Quality and Climate Change

Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act Air Quality Guidelines*. May. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: July 10, 2018.

Bay Area Air Quality Management District. 2017b. Spare the Air-Cool the Climate: A Blueprint for Cleaner Air and Climate Protection in the Bay Area. April 19. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: December 29, 2017.

Bay Area Air Quality Management District. 2015. *Roadway Screening Analysis Calculator*. Available: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools.

California Air Resources Board. 2018a. *iADAM: Air Quality Data Statistics*. Available: https://www.arb.ca.gov/adam/index.html. Accessed: July 2, 2018.

California Air Resources Board. 2018b. *EMFAC Web Database.* Available: https://www.arb.ca.gov/emfac/.

California Air Resources Board. 2017. *Area Designations Maps*. Available: https://www.arb.ca.gov/desig/adm/adm.htm. Accessed: April 13, 2018.

California Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program: Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments*. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: July 10, 2018.

Lakes Environmental. 2016. *CALRoads View Release Notes*. Available: https://www.weblakes.com/products/calroads/resources/lakes_calroads_view_release_notes.pdf.

U.S. Environmental Protection Agency. 2018a. *Monitor Values Report*. Available: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed: April 13, 2018.

U.S. Environmental Protection Agency. 2018b. *Nonattainment Areas for Criteria Pollutants (Green Book)*. Available: https://www.epa.gov/green-book. Accessed: April 13, 2018.

Jaworski, Christina. Senior Environmental Planner. VTA. San Jose, CA. May 15, 2018.

Tse, Eric. Associate. Hexagon Transportation Consultants, Inc. Pleasanton, CA. July 9, 2018. Email to Christina Jaworski of VTA, forwarded to Jessica Viramontes of ICF.

Section 5.5, Construction

Bay Area Air Quality Management District. 2017. *California Environmental Quality Act Air Quality Guidelines*. May. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: July 10, 2018.

California Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program: Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments*. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: July 10, 2018.

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Chapter 8
List of Preparers

Section 8.1 Lead Agency

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Attachment A
Notice of Preparation and Public Scoping with Comments Received

Santa Clara Valley Transportation Authority

NOTICE OF PREPARATION

May 29, 2018

To:
Reviewing Agencies and Organizations

From:
Santa Clara Valley Transportation Authority
Environmental Programs
3331 North First Street, Building B-2
San Jose, CA 95134-1927

SUBJECT: Notice of Preparation of a Draft Second Supplemental Environmental Impact Report for the Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project

The Santa Clara Valley Transportation Authority (VTA), as the lead agency under the California Environmental Quality Act (CEQA), will prepare a Draft Second Supplemental Environmental Impact Report (Draft SEIR-2) for the Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project (EBRC-CELR or Project). We request the views of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project. The Draft SEIR-2 will supplement the Final Environmental Impact Report (Final EIR) (SCH 2001092014), Final Supplemental Environmental Impact Report (Final SEIR-1), and the Subsequent Initial Study/Mitigation Negative Declaration (Subsequent IS/MND), which were certified by the VTA Board of Directors in May 2005, August 2007, and March 2014, respectively. Your agency may need to use the Final EIR, Final SEIR-1, and Subsequent IS/MND available here: http://www.vta.org/projects-and-programs/transit/capitol-expressway-light-rail-project/library as well as this SEIR-2 prepared by our agency when considering permits or other approvals for the EBRC-CELR Project.

The project description, location, overview, and potential environmental effects are contained in the attached materials. A copy of the Initial Study ☐ is ☑ is not attached.

Because of the time limits mandated by State law, your response must be sent at the earliest possible date, but no later than 30 days after receipt of this notice.

Please send your response to Christina Jaworski at the address shown above or via email at EBRC-CELR-Comments@vta.org . We request that the name for a contact person in your agency be provided with your response.

Project Title: Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project (formerly named "Downtown East Valley Capitol Expressway Corridor" and "Capitol Expressway Corridor")

Project Applicant, if any: Santa Clara Valley Transportation Authority

Date: 05/29/18

Signature: Christina Jaworski

Name: Christina Jaworski
Title: Senior Environmental Planner
Telephone: (408) 321-5789
Email: EBRC-CELR-Comments@vta.org

Reference: California Code of Regulations, Title 14, (State CEQA Guidelines) Section 15082(a), 15103, 15375.

Attachment to the Notice of Preparation of a Draft Second Supplemental Environmental Impact Report for the Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project

Introduction

The Santa Clara Valley Transportation Authority's (VTA's) Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project (approved project) is located in the City of San José. The approved project (discussed below under *Approved Project*) would be implemented in two distinct phases. The first phase consisted of pedestrian and bus improvements, including sidewalk, landscaping, and lighting along Capitol Expressway; bus stop improvements at Story Road and Ocala Avenue; and the replacement of Eastridge Transit Center. Construction of the pedestrian and bus improvements was completed in 2012 and the replacement of Eastridge Transit Center was completed in 2015. The second phase consists of the extension of light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center, a distance of approximately 2.4 miles.

Following project approval (discussed below under *Prior Environmental Documentation*), work began on Preliminary Engineering (PE), which advanced designs to a greater level of detail. Because of the nature of the design changes recently proposed during PE (discussed below under *Changes to the Approved Project*), VTA determined that additional environmental review is required and that a Draft Second Supplemental Environmental Impact Report (Draft SEIR-2) is the appropriate level of documentation. An SEIR is prepared only if minor additions or changes would be necessary to make the previous EIR adequately apply to the changed situation. According to Section 15163(b) of the California Environmental Quality Act (CEQA) Guidelines, the SEIR needs to only contain the information necessary to make the previous EIR adequate for the project as revised.

Prior Environmental Documentation

The federal and state environmental process for the approved project was initiated in September 2001 with the publication of a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) in the federal register and the filing of the Notice of Preparation of an Environmental Impact Report (EIR) with the State Clearinghouse. A Draft EIS/EIR was circulated in April 2004, but only a Final EIR was completed as a result of limited opportunities for securing federal funds.

In May 2005, the VTA Board of Directors certified the Final EIR and approved the Light Rail Alternative. As a result of PE, the Light Rail Alternative was modified to address agency comments, improve operations, minimize right-of-way acquisition and lower costs. The VTA Board of Directors certified a Final Supplemental EIR (Final SEIR) and approved these modifications in August 2007.

Due to unprecedented declines in revenues beginning in 2008, the implementation plan for the Light Rail Alternative was modified to construct the project in phases. An Addendum was approved in June 2010 that included the installation of pedestrian and bus

improvements as Phase 1 and the extension of light rail along Capitol Expressway as Phase 2.

A Subsequent Initial Study/Mitigated Negative Declaration (IS/MND) was approved in March 2014 that eliminated the Ocala Station, eliminated sidewalk widening and sound wall relocation north of Ocala Avenue, and expanded the Eastridge Park-and-Ride lot.

Proposed Location

The approved project is located along Capitol Expressway, generally between Capitol Avenue and north of Quimby Road in the City of San Jose in Santa Clara County. Exhibit 1 depicts the approved project alignment and the proposed changes to the approved project (discussed below under *Approved Project* and *Changes to the Approved Project*).

Approved Project

The approved project would consist of the extension of light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center, a distance of approximately 2.4 miles. Light rail would operate primarily in the median of Capitol Expressway within exclusive and semi-exclusive rights-of-way. To provide the additional right-of-way to accommodate light rail, high-occupancy vehicle lanes (HOV lanes) would be removed between Capitol Avenue and Tully Road. The alignment would include an elevated section that would extend from Capitol Avenue north of the Capitol Expressway intersection to south of Story Road, and an elevated crossing of Tully Road. The approved project would include new light rail stations at Story Road (aerial) and Eastridge Transit Center (at-grade). At Eastridge Station, the existing Park-and-Ride lot would be expanded to accommodate the project. The approved project would also include traction power substations at Ocala Avenue and Eastridge Transit Center. Five 115-kilovolt electrical transmission towers and two tubular steel poles (TSPs) would require relocation from the median of Capitol Expressway to the east side of Capitol Expressway in order to accommodate the approved project.

Changes to the Approved Project

VTA is proposing changes to certain elements of the approved project, including:

- Extension of the aerial guideway (south of Story Road) to grade-separate the Ocala Avenue and Cunningham Avenue intersections;
- Revisions to Capitol Expressway roadway lane configurations (including the conversion of the existing high-occupancy vehicle lanes to general purpose traffic lanes and maintaining eight lanes between Story Road and Capitol Avenue);
- Modifications to Eastridge Station platforms and track;
- Reduction in parking spaces at Eastridge Park-and-Ride lot;
- Modification of the Story Station pedestrian overcrossing;
- Modification to Story Station pedestrian access; and
- Relocation of a construction staging area.

Exhibit 2 provides a detailed description of the proposed changes to the approved project.

Proposed Scope and Content of the SEIR-2

The purpose of the SEIR-2 is to disclose the environmental consequences of the proposed changes to the approved project. The SEIR-2 will explore the extent to which the proposed changes will result in environmental impacts and discuss actions to reduce or eliminate such impacts. Based on the proposed changes, VTA is proposing to focus the SEIR-2 on the following topics of potential environmental effects:

- Transportation
- Noise and Vibration
- Environmental Justice

To ensure that the significant environmental issues are identified, and reasonable alternatives and mitigation measures are considered, comments and suggestions are invited from all interested parties on the scope and content of the SEIR-2. Comments or questions on the SEIR-2 should be directed to VTA as noted below.

Scoping Meeting

VTA will hold a public scoping meeting for the project. The meeting will begin with staff presentations on the project's history, proposed changes to the project, and the environmental process. The meeting will conclude with an open house where attendees can receive additional project information, ask questions, and submit written comments on the scope and content of the SEIR-2. Details of the scoping meeting are as follows:

Thursday, June 14, 2018
6:00 to 8:00 p.m.
William C. Overfelt High School
Multi-Purpose Room (Building F, Room 5F)
1835 Cunningham Avenue
San Jose, CA 95122
This location is served by VTA Bus routes 22, 70, and 77.

Individuals who require language translation, American Sign Language, or documents in accessible formats are requested to contact VTA Community Outreach at (408) 321-7575 / TTY (408) 321-2330 at least five business days before the meeting. The meeting facility is accessible to persons with disabilities.

Comment Due Date

Written scoping comments must be received by **June 28, 2018** and can be sent via the following methods to:

Mail: Christina Jaworski, Senior Environmental Planner
Santa Clara Valley Transportation Authority
Environmental Programs
3331 North First Street, Building B-2
San Jose, CA 95134-1927

E-mail: EBRC-CELR-Comments@VTA.org

For Further Information Contact

For further information regarding the environmental process, to be included on the project mailing list, or to receive additional information about the project, please contact Christina Jaworski at (408) 321-5789. People with special needs should contact VTA Community Outreach at (408) 321-7575 / TTY (408) 321-2330.

Issued on: May 29, 2018

Signature: Christina Jaworski

Christina Jaworski
Senior Environmental Planner
Environmental Programs and Resources Management

Source: Korve Engineering 2003; VTA 2016; revised by ICF 2018.

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Exhibit 1
Proposed Changes to Capitol Expressway Light Rail Project

Exhibit 2: Detailed Description of the Proposed Changes to Approved Project

Location	Proposed Changes to the Approved Project
Capitol Expressway, from south of Story Road to north of Tully Road	<u>Extension of the Aerial Guideway to Grade-Separate the Ocala Avenue and Cunningham Avenue Intersections</u> The proposed change to the approved project would replace the at-grade track alignment with approximately 1.25 miles of aerial guideway from south of Story Road to north of Tully Road. The aerial guideway would include concrete columns supported on pile foundations. The aerial guideway would also include aerial sound walls. As a result of an additional left turn pocket (as discussed in detail below) on Capitol Expressway at Story Road, the alignment of the aerial guideway between Story Road and Foxdale Drive would be shifted slightly west by three feet.
Capitol Expressway, between Capitol Avenue and Story Road, and at Story Road, Cunningham Avenue, and Tully Road intersections	<u>Revisions to Capitol Expressway Roadway Lane Configurations</u> The proposed change to the approved project would revise the roadway lane configurations along Capitol Expressway. The proposed roadway lane configuration changes include: • *Four traffic lanes in each direction north of Story Road.* Both of the existing high occupancy vehicle (HOV) lanes (one northbound and one southbound) would be converted to general purpose (GP) traffic lanes, resulting in a total of four GP lanes in each direction between Story Road and Capitol Avenue. One southbound inner GP lane would end at the introduction of the left turn pockets at Story Road. This proposed change would be accomplished by the widening of Capitol Expressway and a reduction of the median. • *Maintain two way street on Kollmar Drive between Story Road and Sussex Drive*. • *Right turn lanes.* Exclusive right turn lanes on southbound Capitol Expressway would be added at Story Road, Cunningham Avenue, and Tully Road intersections. Exclusive right turn lanes will be maintained on northbound Capitol Expressway at Story Road. • *Bicycle Slot.* At the locations where exclusive right turn lanes are added or maintained on Capitol Expressway (as discussed in detail above), bicycle slots would be included to the left of the right turn lanes. Exhibit 3 includes pictures of a typical bicycle slot with bicycle detector. • *Left turn lanes.* Longer left turn lanes on Capitol Expressway would be added at the following intersections: northbound and southbound at Story Road, northbound at Ocala Avenue, and southbound at Tully Road. At Ocala Avenue, one northbound left turn lane would be removed. • *Left turn pocket.* A second left turn pocket would be maintained on northbound Capitol Expressway at Story Road.
West of the Capitol Expressway, between	<u>Modifications to Eastridge Station Platforms and Track.</u> The approved project includes two platforms, additional tail tracks,

Location	Proposed Changes to the Approved Project
Tully Road and Eastridge Loop	and one traction power substation at the Eastridge Station. The proposed changes to the project include only one, center platform at Eastridge Station, which would be adequate for the anticipated patronage. Additional changes to the Eastridge Station include: • Removal of the siding track; • Reconfigure tail tracks, including the addition of a pocket track; • Diamond crossover shifted from structure to ballast; • Addition of passenger access at north end of station (adjacent to the Park-and-Ride Lot); • Shift platform to north, which would eliminate reconstruction of Eastridge Loop/Capitol Expressway intersection; • Platform would be raised on retained fill; and, • Tully Road bridge crossing would be lowered.
West of the Capitol Expressway, between Tully Road and Eastridge Loop	<u>Reduction in Parking Spaces at Eastridge Park-and-Ride Lot</u> The approved project includes 445 spaces at Eastridge Station to partially address the increased demand for parking from the project. VTA is proposing to reduce the parking to approximately 200 spaces due to the relocation of VTA Paratransit staff and vehicles to a remodeled building at this location in September 2017.
Capitol Expressway (northbound), south of Story Road	<u>Modification of the Story Station Pedestrian Overcrossing</u> The approved project includes a pedestrian overcrossing at the Story Station. The proposed change to the project would adjust the location of the eastern and western landings of the pedestrian overcrossing. On the east side of the pedestrian overcrossing, this change would maintain an existing driveway along Capitol Expressway into the gas station located south of Story Road. On the west side of the pedestrian overcrossing, this change would provide for improved clearances at the bottom of the access stairs, the crosswalk ramps, and the waiting areas at the intersection.
Capitol Expressway/ Story Road intersection	<u>Modification to Story Station Pedestrian Access</u> The approved project also includes a pedestrian access point to Story Station at the median. The proposed change to the project would restrict pedestrian access to the Story Station at the median to emergency purposes only.
Northwest corner of the Capitol Expressway/ Tully Road intersection	<u>Relocation of a Construction Staging Area</u> The approved project includes a construction staging area at Capitol Expressway/Tully Road. The proposed change to the project would eliminate this construction staging area. Thus, the project will require additional areas for staging construction material and equipment. The actual locations and associated access remain to be identified, and it is expected that the laydown areas will be adjacent to the roadway in areas that are either vacant or available for use.

a. View of an example bike slot facing west at Lawrence Expressway and Cabrillo Avenue in the City of Santa Clara.

b. View of a bike detector embedded in a bike slot. The purpose of a bike detector is to detect a bicyclist approaching an intersection and communicate with the traffic signal cabinet to provide enough time for cyclists to safely cross an intersection.

Source: VTA and ICF 2018.

Graphics ... 00011.18 (5/16/18) AB

Exhibit 3
Typical Bike Slot

Viramontes, Jessica

Subject: FW: Eastridge to BART Regional Connector: Notice of Preparation

---

From: Sheppard, Barry [mailto:B2SZ@pge.com]
Sent: Tuesday, June 26, 2018 12:51 PM
To: Jaworski, Christina
Cc: Feron, Ethan; Galicia, Mark; Liddell, Brandon; Thomas, David; Techangam, Mae
Subject: FW: Eastridge to BART Regional Connector: Notice of Preparation

Christina

Please see PG&E comments below, the scope description in the NOP page 2 does not match the planned construction scope planned by PG&E.
Please let me know if you have any questions.

Thanks
Barry
Cell 415 320 2246

From: Galicia, Mark
Sent: Thursday, June 07, 2018 4:47 PM
To: Sheppard, Barry <B2SZ@pge.com>
Cc: Purugganan, Steve <STP9@pge.com>; Techangam, Mae <C2TI@pge.com>; Liddell, Brandon <BxLg@pge.com>; Thomas, David <DLTg@pge.com>; Quach, Ted <TPQ1@pge.com>; Withrow, Kevin <KIW1@pge.com>
Subject: RE: Eastridge to BART Regional Connector: Notice of Preparation

Barry,

Page 2 of the NOP does not reflect the Tline scope per current design. Currently the documents reads:

Five 115-kilovolt electrical transmission towers and two tubular steel poles (TSPs) would require relocation from the median of Capitol Expressway to the east side of Capitol Expressway in order to accommodate the approved project.

Per our current design, six towers and two tubular steel poles (TSPs) would require relocation, and two new TSPs would be installed. There will be a total of 10 TSPs installed including both structure replacements and new structures. Of the existing structures being relocated, only 2 towers are currently located on the median.

Mark Galicia, PE
Project Engineer
Pacific Gas & Electric Company
6111 Bollinger Canyon Rd. Room 2120-J
San Ramon, CA 94583
925-328-5340

From: Sheppard, Barry
Sent: Tuesday, May 29, 2018 7:15 PM
To: Liddell, Brandon; Thomas, David; Quach, Ted; Galicia, Mark; Withrow, Kevin

Cc: Purugganan, Steve; Techangam, Mae
Subject: FW: Eastridge to BART Regional Connector: Notice of Preparation

All
Please let me know your comments by COB 6/8/18
Barry

From: Jaworski, Christina [mailto:Christina.Jaworski@VTA.Org]
Sent: Tuesday, May 29, 2018 4:18 PM
To: Sheppard, Barry <B2SZ@pge.com>
Subject: Eastridge to BART Regional Connector: Notice of Preparation

*****CAUTION**: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****
May 29, 2018

Eastridge to BART Regional Connector: Capitol Expressway Light Rail

Notice of Preparation of a Draft Second Supplemental Environmental Impact Report

Attached to this email is the Notice of Preparation (NOP) of a Draft Second Supplemental Environmental Impact Report (SEIR-2) for the Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project (project). The project would extend light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center in the City of San Jose.

A Supplemental EIR is prepared only if minor additions or changes would be necessary to make the previous EIR adequately apply to the changed situation. According to Section 15163(b) of the California Environmental Quality Act (CEQA) Guidelines, the SEIR needs to only contain the information necessary to make the previous EIR adequate for the project as revised.

The NOP describes the project location, purpose and need, approved project, proposed changes to the project, probable environmental effects, and the time and location of the public scoping meeting. Additional information on this project can be found online at www.vta.org/eastridgetobart.

VTA is seeking your comments on the scope and content of the Draft SEIR-2. Comments are due by 5:00pm on **Thursday, June 28, 2018**.

If you have any questions about the NOP, please feel free to contact Christina Jaworski, Senior Environmental Planner, at (408) 321-5751 or Christina.Jaworski@vta.org.

Sincerely,

Christina Jaworski
Senior Environmental Planner

Santa Clara Valley Transportation Authority
3331 North First Street, Building B
San Jose, CA 95134-1927
Phone **408-321-5751**

Santa Clara Valley Transportation Authority

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STATE OF CALIFORNIA

EDMUND G. BROWN Jr., Governor

CALIFORNIA TRANSPORTATION COMMISSION

1120 N STREET, MS-52
SACRAMENTO, CA 95814
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
(916) 654-4245
FAX (916) 653-2134
http://www.catc.ca.gov

June 20, 2018

Ms. Christina Jaworski
Santa Clara Valley Transportation Authority
Environmental Programs
3331 North First Street, Building B-2
San Jose, CA 95134-1927

RE: Draft Second Supplemental Environmental Impact Report for the Eastridge to BART Regional Connector: Capital Expressway Light Rail Project

The California Transportation Commission (Commission), as a Responsible Agency, received the Draft Second Supplemental Environmental Impact Report prepared by the Santa Clara Valley Transportation Authority to construct regional connector improvements in two phases. The first phase, which was already constructed in 2012 and 2015, consisted of pedestrian and bus improvements, including, sidewalk, landscaping, and lighting along Capitol Expressway; bus stop improvements at Story Road and Ocala Avenue; and the replacement of the Eastridge Transit Center. The second phase consists of the extension of light rail along Capitol Expressway between the existing Alum Rock Light Rail Station and Eastridge Transit Center, a distance of approximately 2.4 miles. The total project cost for Phase 1 and 2 is estimated at $453,000,000.

The Commission has no comments with respect to the project purpose and need, the alternatives studied, the impacts evaluated, or the evaluation methods used. Please notify the Commission as soon as the environmental process is finalized since project funds cannot be allocated for project design, right of way, or construction until the final environmental document is complete. Once

the final environmental process is concluded, the Commission will consider the environmental impacts in determining whether to approve the project for future funding consideration.

Upon completion of the environmental process, please ensure the Commission is notified in writing whether the selected alternative identified in the final environmental document is consistent with the project as programmed by the Commission and included in the appropriate Regional Transportation Plan. In the absence of such assurance of consistency, the project may be considered inconsistent, and thus ineligible for funding.

If you have any questions, please contact Jose Oseguera, Assistant Deputy Director, at (916) 653-2094.

Sincerely,

Mitchell Wein FOR

SUSAN BRANSEN
Executive Director

c: Phil Stolarski, Chief, California Department of Transportation, Division of Environmental Analysis

Viramontes, Jessica

Subject: FW: Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Draft SEIR

From: Veronica Macias [mailto:vmacias@mpesd.org]
Sent: Tuesday, June 26, 2018 12:00 PM
To: EBRC-CELR-Comments
Subject: Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project Draft SEIR

I oppose the construction of this expansion. I have a deep concern since currently on Ocala /Marten there are 5-6 schools and approximately another 8-10 schools along Story, Capital, Tully. Traffic in already an issue because of this on Capital Expressway. Losing lanes in both directions on Capital Expressway is not practical since school age children would not benefit from using the lightrail.

Veronica Macias
408-674-0174

STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

June 27, 2018

Christina Jaworski
Santa Clara Valley Transportation Authority
3331 North First Street, Bldg. B-2
San Jose, CA 95134

Re: Notice of Preparation
Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project draft Environmental Impact Report
SCH # 2001092014

Dear Ms. Jaworski:

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for construction or alteration of crossings and grants the Commission exclusive power on design, alteration, and/or closure of rail crossings in California. The Commission's Rail Crossings and Engineering Branch (RCEB) has received a copy of the *Notice of Preparation (NOP)* from the State Clearinghouse for Santa Clara Valley Transportation Authority's (VTA's) proposed Eastridge to BART Regional Connector: Capitol Expressway Light Rail project.

According to the NOP, the project proposes a light rail extension along Capitol Expressway between Alum Rock Light Rail Station and Eastridge Transit Center. The light rail extension would continue the proposed aerial guideway to grade separate the Ocala Avenue and Cunningham Avenue intersections as well as construct associated pedestrian access to Story Station. Construction of new public crossings requires a formal application to the Commission for authorization, as discussed below.

Commission Rules and Regulations

The following link provides resources on the Commission's rules and regulations in regard to rail safety: http://www.cpuc.ca.gov/rail/.

Any modification to an existing or proposed new crossing is subject to a number of rules and regulations involving the Commission, including:

- California Public Utilities Code, Sections 1201 et al, which requires Commission authority to construct rail crossings;
- Commission's Rules of Practice and Procedure, which details the Formal Application process for construction or modification of a public crossing; and
- Commission's General Order (GO) 88-B, Rules for Altering Public Highway-Rail Crossings.

The design criteria for any proposed modification or new crossing construction shall comply with the following GOs:

- GO 26-D, Clearance on Railroads and Street Railroads as to Side and Overhead Structures, Parallel Tracks and Crossings;

- GO 72-B, Construction and Maintenance of Crossings – Standard Types of Pavement Construction at Railroad Grade Crossings;
- GO 75-D, Warning Devices for At-Grade Railroad Crossings;
- GO 118-A, Construction, Reconstruction and Maintenance of Walkways and Control, of Vegetation Adjacent to Railroad Tracks; and
- GO 128, Construction or Underground and Electrical Supply and Communication.

Federal Rules and Regulations

The project shall ensure compliance with federal regulations as well, including:

- Code of Federal Regulations, Title 49, Part 213 (49 CFR Part 213), Track Safety Standards;
- 49 CFR Part 214 Railroad Workplace Safety;
- 49 CFR Part 234, Grade Crossing Signal System;
- 49 CFR Part 236, Rules Standards and Instructions Governing the Installation, Inspection Maintenance, and Repair of Signal and Train Control Systems Devices, and Appliances.

Crossing Authorizations

RCEB staff is available for consultation on crossing safety matters. The following link provides more information on the Commission's GO 88-B and formal crossing application process: http://www.cpuc.ca.gov/crossings/.

1. Formal Application

   A Formal Application is required for construction of all new at-grade and grade separated crossings along the corridor in accordance with the Commission's Rules of Practice and Procedure. When the Capitol Expressway Light Rail project is clearly defined and prior to submission of a Formal Application, VTA should contact RCEB staff to arrange a diagnostic meeting with Commission staff and all interested parties to discuss relevant safety issues at each proposed crossing location, if any.

   As part of its mission to reduce hazards associated with at-grade railroad crossings, the Commission's policy is to reduce the number of such crossings. New at-grade crossings would typically not be supported by Commission staff and long-term planning for the grade separation of the existing at-grade rail crossings should be considered.

2. GO 88-B Requests

   Modification (including closure) of existing rail crossings is typically authorized through the Commission's GO 88-B process. If interested parties do not reach agreement regarding proposed modifications, a Formal Application to the Commission will be required in order to obtain authorization to implement the modifications.

   Prior to submission of a GO 88-B request for authorization, VTA should arrange a diagnostic meeting with Commission staff and all interested parties to discuss relevant safety issues at the crossing location. Commission crossing safety web page is found at this link: http://www.cpuc.ca.gov/crossings/.

Thank you for your consideration of these comments. If you have any questions in this matter, please feel free to contact me at (415) 703-1327 or by email at willard.lam@cpuc.ca.gov.

Sincerely,

Willard Lam
Utilities Engineer
Rail Crossings and Engineering Branch
505 Van Ness Avenue
San Francisco, CA 94102

CC: State Clearinghouse

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

June 27, 2018

Christina Jaworski
Santa Clara Valley Transportation Authority
3331 North First Street, Bldg B2
San Jose, CA 95134

RE: SCH#2001092014 Eastridge to Bart Regional Connector

Dear Ms. Jaworski,

The Native American Heritage Commission has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: frank.lienert@nahc.ca.gov

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

cc: State Clearinghouse

Viramontes, Jessica

Subject: FW: City of San Jose EBRC-CELR Comments

From: Nguyen, Joe D [mailto:joed.nguyen@sanjoseca.gov]
Sent: Thursday, June 28, 2018 3:28 PM
To: EBRC-CELR-Comments
Cc: Kimura, Josephine; Nguyen, Thuy (DOT); Gulzadah, Zahir
Subject: City of San Jose EBRC-CELR Comments

Hi Christina,

Please see attached for an Excel Sheet containing comments/concerns from City of San Jose Staff. Please note that these comments have been discussed with the County and they may be submitting similar comments.

Thank you,

Joe Nguyen
City of San José | Department of Transportation
200 E. Santa Clara St. 8th Floor
San José, CA 95113
P: (408) 794-7514
E: joed.nguyen@sanjoseca.gov

Comm	Comment
1	Remove driveway at station 997+00 on the eastside where Chevron Gas station is.
2	Driveway at Chevron by station 997+00 presents sight distance issues, will need to be eliminated.
3	Design at southeast corner of Story/Capitol Ex seems suboptimal; appears to prioritize maintaining gas station. Have you considered TOD opportunities? Also, ped access to POC could be improved.
4	Consider implementing a pick up & drop off zone or park & ride zone at the Story station
5	The plans appear to prioritize driveway access at the expense of station access and TOD opportunities as well as traffic operations (e.g. Story Rd intersection).
6	Where will the parking right lot be located for the Story Station? Potential neighborhood intrusion if parking is not available.
7	Extend bike lane along SB Capitol Ave up to Capitol Av/Capitol Expy intersection.
8	Provide Class IV Separated Bike Lane on Capitol Expressway. The #1 lanes along Capitol Expressway can be decreased from 13’ to 11’ to increase the 8’ bike lane to 10’. This will allow 2’ of protection by installing k-rail for physical separation. Once the bike lane reaches the portion where the left turn pockets begin (where we no longer have the extra 2’ from the #1 lane), bike lane will be brought up onto the sidewalk and converted to Class I Shared-use Path which would be shared with pedestrians through the intersection and the Class IV Separated Bike Lane will continue when the extra 2’ is available again. The crosswalk through the intersection would have to be widened to accommodate the bicyclists and pedestrians. At south of Tully Rd/Capitol Expy intersection, remove the median island at the entrance to In-N-Out Burger plaza, eliminate the dedicated right turn lane, widen sidewalk between south of the median island and intersection to bring Class IV bike lane to sidewalk south of plaza entrance.
9	Narrow travel lanes to 11' generally, and 12' inside lane (#1/next to median). Use extra space to provide better bike and ped accommodation. As a standard through the corridor, include Class IV one-way protected bikeway (6'+3' separation). -Where not feasible due to ROW constraints, maintain minimum 6' wide Class II bike lane -Where not feasible due to right turn lanes or large/busy driveways, use Green Pavement Enhancement (GPE) in transition area to highlight conflict zone -Do not exceed 7' width bike lane (if wider, it looks like travel lane and cars drive in)
10	Add two-stage left turn boxes for bikes at all signalized intersections (to facilitate left turn from Capitol onto cross street).
11	Where bike lane and parking are not present, provide 12’ curb lane width as gutter does not serve as driving space. (i.e, SB Capitol Av right turn movement to WB Capitol Expy).
12	Apply Green Pavement Enhancement (GPE) to bikeways at signalized intersection approaches/departures, per DOT standards.
13	Provide Class II or IV Bikeways into/out of Eastridge entrance.

Comm	Comment
14	Include secure bike parking at LRT station area (e.g. electronic bike lockers, bike racks)
15	How will people with bikes get their bike up onto elevated platforms? -Include bike stair channels in stairs to platform.
16	Include ped median harbors with push button at all controlled, marked ped crossings of Capitol. (Currently plans have some, but not all. Use extra ROW from (1) above to fit.) Capitol is hugely wide and difficult for elderly or disabled to cross in one signal cycle.
17	Maintain bike/ped Neighborhood Access Points to Capitol (e.g., east side of Capitol, 400' north of Ocala, at S. Capitol Ave). Add more near bus and LRT stops on Capitol where neighborhood streets have only a fence (no buildings, etc.) separating them from Capitol.
18	NB Capitol Exp to NB Capitol Ave Right Turn: Square up corner and add stop control (remove free merging RTOL).
19	Excalibur at Capitol - Excalibur/Bambi/S.Capitol Ave will be a neighborhood bikeway connector south and west from Capitol to Jackson, Lower Silver Creek Trail, Goss School, Capitol Park. - Add Right, Thru, Left bike lanes.
20	At station 1073+00, add a teardrop island at the crosswalk on the west side of Capitol Expressway.
21	At station 1080+00 on the east side of Capitol Expressway, straighten the curb and sidewalk.
22	At stations 994+00, realign the crosswalk from median island of Capitol Expressway to the west side so that the crosswalk is closer to the intersection and will end closer to the center of the curb return.
23	At stations 982+00 to 984+00, new sidewalk on the east side should be 10' consistently and tree wells should be added to this new sidewalk.
24	At station 1084+00 to 1085+00 on the east side of Capitol Expressway, tighten the curb returns. The crosswalk should connect to the Thompson
25	As described in the NOP, Phase 1 of the Project includes bus stop improvements at Story Road and Ocala Avenue. Consider to include the following improvements at these bus stops: - ADA accessibility improvements - Construction/replacement of bus stop pavement pads, passenger waiting pads, and shelter pads - Addition or relocation of lighting - Crosswalk improvements such as special pavement, bollards, pedestrian-activated in-pavement lights, countdown signals, narrowing pedestrian crossing distance including reduced curve radii and/or curb bulbouts, etc.
26	Design of cul-de-sac at northwest corner of Story/Capitol Ex seems suboptimal. Consider redesigning. Provide pedestrian/bike access from S Capitol Ave frontage Rd (north of Story Rd) to the main street in order to provide acccess to the light rail station.

Comm	Comment
27	The Emergency access on the north side of the Story Rd intersection should be reoriented to the crosswalk and a made a general access entrance which can also serve emergency access.
28	The existing 8' to 10' sidewalk/path/trail must be sustained between Ocala and Tully. This alignment is defined as part of the Council-approved Lower Silver Creek Trail Master Plan. That does appear to occur with this plan, but We want to insure that the width of this facility is not compromised as the plans develop further.
29	On the northeast corner of Capitol Ave/Capitol Expressway, align crosswalk to the neighborhood path and sidewalk.
30	At stations 972+00 through 974+00, keep SB through/right turn lane all the way to intersection and remove pork chop island.
31	At station 1072+00 to 1072+50 on the east side of Capitol Expressway, tighten the curb returns.
32	At the northwest and southwest corners of Tully Rd/Capitol Expressway, tighten the curb returns.
33	Remove pork chop islands in the intersection of Capitol Ave & Capitol Expressway and tighten curb returns.
34	Evaluate curb return radii at T-intersection. The large curb radii cannot effectively slow down the turning movement from Capitol Expy to side streets (i.e, NB Capitol Expy Sta 1072+00, SB Capitol Expy Sta 1073+00, SB Capitol Expy Sta 1095+00, etc.)
35	At intersection of Story Rd/Capitol, the northeast and southwest curb returns should be tightened. On Story Rd, add a dedicated westbound right turn lane and eastbound right turn lane.
36	Since this is a Second Supplemental EIR for proposed changes to the already-approved project, include an analysis of both the approved project and the proposed changes for comparison.
37	Despite not a CEQA metric, consider to include a travel time analysis in the EIR and/or the appended transportation analysis report. Travel time by mode on Capitol Expressway between Existing and Project conditions can be roughly estimated using existing travel time data and intersection delay calculations.
38	Despite not a CEQA metric, consider to include estimated absolute and relative amount of mode shift to transit due to the Project, as well as the associated reduction in vehicle-miles traveled in the proximate area.
39	Consider to include complete street elements on Capitol Expressway (e.g. enhanced crossing, signage, and other bus stop improvements besides Ocala) to improve last-mile connection for transit riders.
40	Incorporate City's complete street design for the roadway. This is a transit corridor; people being able to access the transit particularly by non-vehicular modes, is important to the success of this project.
41	The Tully Road Vision Zero Safety Improvement Project has a project area on Tully Road that ends at Eastridge Lane before the Capitol/Tully intersection. The City, VTA, and the County should coordinate to ensure that the Project aligns well with the safety improvement project on Tully Road, including plans for the remaining segment of Tully Road between Eastridge Lane and Capitol Expressway.

Comm	Comment
42	Extend the second SB left turn queue lane at Story Rd and Capitol Expressway further north by cutting into the median. Light rail aerial alignment would have to be reworked between stations 979+00 and 982+00 in order to have the columns land further east on the median to create room for the lane extension.
43	Per Highway Design Manual 309.2 (2), "**Pedestrian over-crossings shall have a minimum vertical clearance 2 feet greater than the standard for major structures for the State facility in question.**" 15.5' vertical clearance is required for major structure for this project, therefore 17.5' vertical clearance is required for pedestrian overcrossing. It currently shows 17' in the minimum vertical clearance table.
44	Please evaluate if ROW take is required between north of Tully Rd/Capitol Expy intersection and end of project.
45	Please provide: a. Horizontal clearance between face of column and median face of curb on cross sections. Provide design standard where this horizontal clearance refers to. b. Design standard where the pedestrian vertical clearance refers to. It currently shows a 9' in the minimum vertical clearance table.
46	At stations 974+00 to 975+00 close off Highwood Dr that connects to NB Capitol Avenue.
47	On NB Excalibur Dr entering Capitol Ave/Capitol Expressway intersection, City do not support double left turn lanes. Roadway should be narrow
48	At station 1000+50, on the east side on Kollmar Dr, there is no need to convert to one-way. This will cut off access to high density residential apartments.
49	Kollmar Dr at station 998+00, street is too narrow.
50	At stations 997+00 to 997+50, on the west side of Capitol Expressway, do not bulbout sidewalk south of the elevator in order to provide deceleration area to the driveway. Also narrow and realign the driveway to the end of the bus pad.
51	Provide CCTV at Capitol Ave and Capitol Expressway.
52	Provide CCTV at Ocala and Capitol Expressway.
53	Provide CCTV at Story and Capitol Expressway.
54	Provide CCTV at Cunningham Ave and Capitol Expressway.
55	Provide CCTV at Tully and Capitol Expressway.
56	Provide conduit for communication between Capitol Ave & Capitol Expressway to Eastridge Transit Center.
57	Provide fiber optic cable from Alum Rock & Capitol Ave to Eastridge Transit Center.
58	Install 3" conduit for ITS (video surveillance and TSP)
59	Install PTZ cameras as part of traffic signal modifications for Capitol Ave/Capitol Exp, Story Rd/Capitol Exp, Ocala Ave/Capitol Exp, and Cunnignham Ave/Capitol Exp
60	Consider implementing new technology suitable for LRT priority, more advanced TSP.

Comm	Comment
61	Consider complete streets concept along corridor. Consider streetlights to be installed on Capitol Expressway beyond project limits.
62	Keep HOV lanes. Do not convert to mixed flow. This is contrary to CSJ GP mode shift goals.

Attachment B
Detailed Description of the Proposed Changes

Description of Recommended Light Rail Alternative

The following section integrates the approved components of the Light Rail Alternative from the 2005 Final Environmental Impact Report (EIR), 2007 Supplemental EIR, and the 2014 Subsequent Mitigated Negative Declaration (MND) with the proposed changes to provide a complete project description of the Recommended Light Rail Alternative.

Recommended Light Rail Alternative

The Recommended Light Rail Alternative would extend light rail along Capitol Expressway from the existing Alum Rock Light Rail Station to the Eastridge Transit Center a distance of approximately 2.4 miles. Light rail will operate primarily in the median of Capitol Expressway within exclusive and semi-exclusive rights-of-way. Property acquisition for the project would be minimized through the removal of two high-occupancy vehicle (HOV) lanes on Capitol Expressway between Story Road and Tully Road. The project will include new light rail stations at Story Road (aerial) and Eastridge Transit Center (at-grade). The project will also include traction power substations at Ocala Avenue and Eastridge Transit Center. Relocation and replacement of a number of 115-kilovolt steel lattice electrical transmission towers with Tubular Steel Poles (TSP).

Figure 1 shows the location of the Recommended Light Rail Alternative.

Benefits of the Recommended Light Rail Alternative are related to speed and travel time. The light rail trains would travel at high speeds and would be minimally impacted by roadway congestion. As a result, travel times for the Recommended Light Rail Alternative would generally be faster, more reliable and dependable than other modes.

In addition, the Recommended Light Rail Alternative would benefit transit users by providing a direct light rail connection to the Bay Area Rapid Transit (BART) at the Milpitas BART Station.

Figure 1 Recommended Light Rail Alternative Project Area

Background. The Eastridge to BART Regional Connector Project is the last portion of the larger Capitol Expressway Corridor Project that transforms Capitol Expressway into a multi-modal boulevard offering pedestrian improvements, bus rapid transit (BRT), light rail transit (LRT), and convenient connections to the regional transit system. VTA first addressed pedestrian access and improved safety measures along Capitol Expressway between Quimby Road and Capitol Avenue. This was completed in Fall 2012 and included new sidewalks, street lighting, and landscaping . VTA also replaced the Eastridge Transit Center, which was completed in 2015.

In June 2016, VTA Board of Directors approved $70 million to complete design, acquire right of way and relocate utilities for the project. In October 2016, VTA Board of Directors approved a full funding plan for the project. In June 2018, voters approved Regional Measure 3, which included $130 million in funding for the project.

URBAN DESIGN

Since the conceptual engineering phase of the Capitol Expressway Corridor Project, there has been a consistent effort to incorporate attractive, urban design elements into the Light Rail Alternative. These principles reflect the policy guidance of the PAB. The following section highlights the key urban design elements of the Light Rail Alternative.

Urban Design Principles

- Transform the expressway from an auto-oriented corridor to a multi-modal boulevard.
- Establish pedestrian and bicycle linkages along and across the corridor to connect neighborhoods to activity centers.
- Design stations to facilitate safe and convenient pedestrian access and to convey the personality and identity of adjacent neighborhoods.
- Introduce special treatments along the edges of the boulevard to reduce visual and noise impacts and to create a more positive relationship with adjacent neighborhoods.
- Promote opportunities for transit-oriented development that will enhance ridership and the quality of life of the surrounding community.

STATIONS AS NEIGHBORHOOD GATEWAYS

The design of stations and their relationship with the adjacent neighborhoods is critical to promote a viable transit environment. Convenience, safety, and ease of access for residents and employees arriving by foot, bike, bus, or car are primary design objectives. Additionally, stations can create identities and gateways to communities. Stations can also provide opportunities for neighborhood-serving retail

uses and/or a mix of commercial, residential, and recreational uses. The Recommended Light Rail Alternative will be consistent with the goal to integrate high-quality design enhancements, designed by artists and project architects, that reflect the identity of the communities and neighborhoods in which they are located.

There are numerous examples of community influenced design enhancements that have been incorporated into VTA's existing light rail stations. For example, at Alum Rock Station, artists working in coordination with the community designed special railings, shelter canopy glass, pavers, art tile benches, and entry markers.

ALIGNMENT DESCRIPTION

The Recommended Light Rail Alternative would be designed to reduce travel time and to support higher speed transit operations with signal priority or grade separation at congested intersections. Construction of the light rail would alter the roadway geometry along some portions of Capitol Expressway. Perhaps the most dramatic change would be the removal of existing HOV lanes between Story Road and Tully Road to provide the additional right-of-way to accommodate light rail. While some property needs would be required for improvements and for utility relocations, especially at stations and substations, the removal of the HOV lanes would minimize the need for additional property for the Recommended Light Rail Alternative and would be consistent with past policy decisions in the City of San Jose's Evergreen Specific Plan, Evergreen Specific Plan Transportation Improvements EIR and the Evergreen-East Hills Development Policy.

Alum Rock LRT Station to Story Road

The light rail alignment would begin at the existing Alum Rock LRT Station on the Santa Teresa to Alum Rock LRT Line. In this section of the corridor, an aerial guideway would be constructed for the full distance from south of the Alum Rock LRT Station to south of Story Road to support higher speed transit operations and minimize congestion at major intersections. The guideway would be located largely in the median of Capitol Avenue and Capitol Expressway. The aerial guideway would include concrete columns supported on piled foundations. The aerial guideway would also include aerial sound walls where necessary to mitigate noise levels. Visual simulations of the aerial guideway are provided in Section 3.16, Visual Quality, and a detailed discussion of the proposed aerial sound walls is provided in Section 3.12, Noise and Vibration, of the Subsequent Initial Study for the Recommended Light Rail Alternative. At its northern end, the aerial structure would cross the northbound lanes of Capitol Avenue and Capitol Expressway and transition to an alignment in the median of Capitol Expressway. The light rail alignment would continue on the aerial structure over Story Road.

Story Road to Eastridge Transit Center

From south of Story Road, the Recommended Light Rail Alternative would continue on an aerial guideway for 1.25 miles to north of Tully Road. Before reaching Tully

Road, the aerial guideway would transition from median-running north of Tully Road to side-running south of Tully Road. The light rail alignment would continue on the aerial structure over Tully Road and return to grade on an embankment structure as it terminates at the Eastridge Transit Center

CROSSINGS

The Recommended Light Rail Alternative would include rail crossings along the corridor as shown in Table 1.

PROPOSED STATIONS AND PARK-AND-RIDE FACILITIES

Two new stations are included with the Recommended Light Rail Alternative between the northern terminus at the existing Alum Rock LRT Station and the southern terminus at the existing Eastridge Transit Center. The stations would be located approximately 1.0 miles apart. The placement of the proposed stations was based on the desire to balance convenient passenger access and minimize travel time delay. The following sections describe each station along the alignment of the Recommended Light Rail Alternative.

Alum Rock LRT Station (existing)

At its northern end, the Light Rail Alternative would connect to the existing light rail network at the Alum Rock LRT Station on the Santa Teresa to Alum Rock Line. The two lines would meet at the station, and the Santa Teresa to Alum Rock Line would be through-routed with the Recommended Light Rail Alternative. Both lines would share the existing station platform and could operate in the same corridor. No improvements are anticipated at this station.

Story Station (proposed)

The Recommended Light Rail Alternative includes a two-level station in the median of Story Road with a mezzanine level and an elevated center platform. Since the traffic volumes and pedestrian/bicycle activity at the Story Road intersection are high, a single set of pedestrian overcrossings (POC) would be located south of Story Road connecting the southern corners of the intersections to the station. From the mezzanine level, an elevator and stairs would provide access to the station platform. The Recommended Light Rail Alternative would restrict pedestrian access to the Story Station at the median to emergency purposes only.

Figure 2 shows the proposed project features at Story Station.

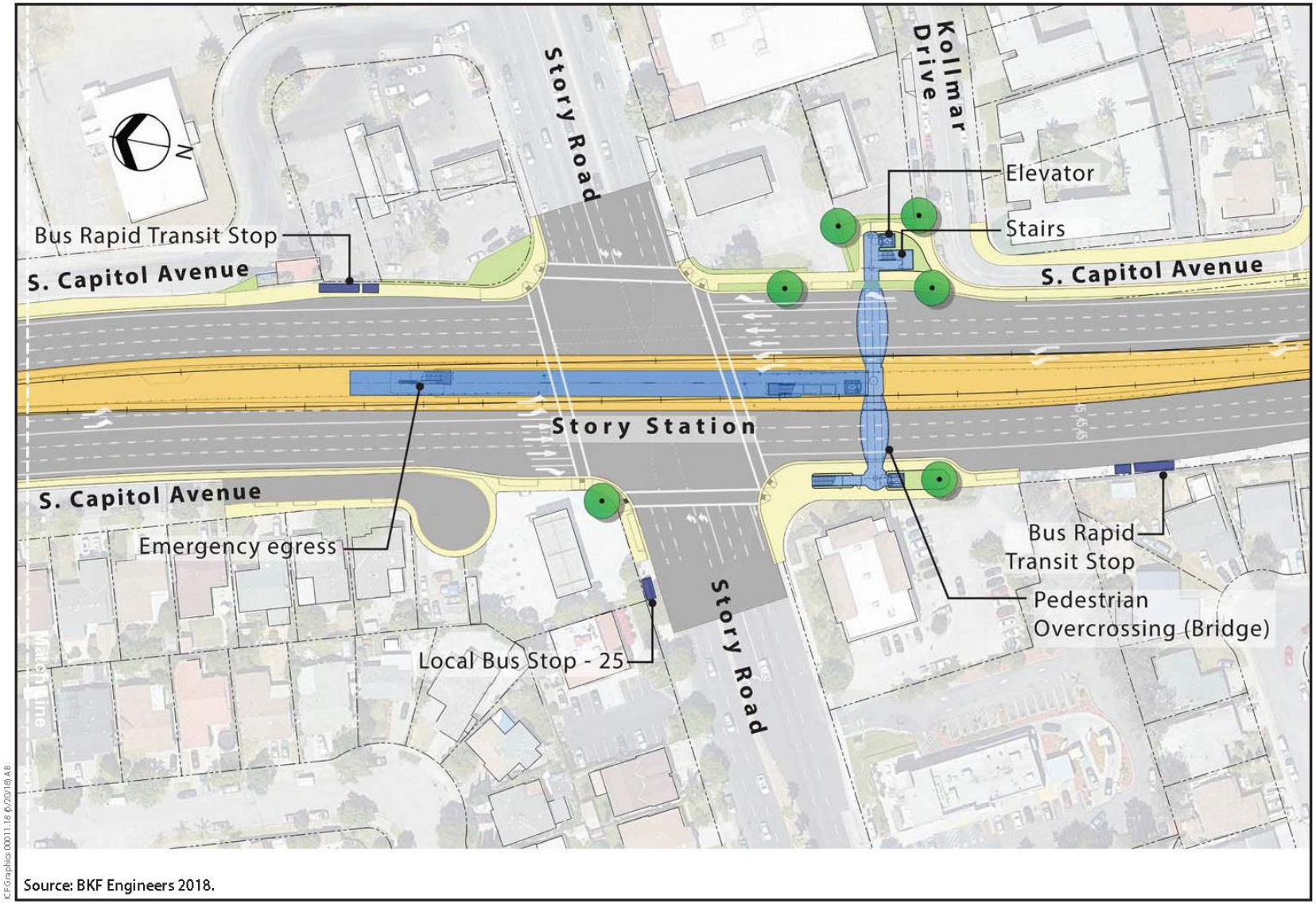


Figure 2 **Proposed Story Station**

Table 1 Rail Crossings of the Recommended Light Rail Alternative

Cross Street	Track Stationing	Number of Tracks	Pedestrians	Automobiles	Safety Risks	Proposed Crossing Type	Proposed Safety Devices (At Grade Crossings)
Wilbur Avenue/Nuestra Castillo Court	+965+00	2	1 Crosswalk	2 Lanes	VTA buses, Left turns from Wilbur to southbound Capitol Avenue	At-grade (existing crossing with t-signals)	T-signals, Traffic signals
Northbound Capitol Avenue	+974+00	2	2 Sidewalks	2 Lanes	High roadway traffic volumes	Grade separated, Aerial	n/a
Northbound Capitol Expressway	+978+00	2	1 Sidewalk	4 Lanes	High roadway traffic volumes	Grade separated, Aerial	n/a
Story Road	+995+00	2	2 Crosswalks	6 Through lanes, 4 turn lanes	High auto and pedestrian traffic volumes. Left turn movements	Grade separated, Aerial	n/a
Ocala Avenue	+1037+00	2	2 Crosswalks	4 Through lanes, 2 Turn lanes	School children, School buses, Heavy volume of LT movements	Grade separated, Aerial	n/a
Cunningham Avenue	+1050+00	2	2 Crosswalks	2 Lanes	Light traffic volumes, low risk	Grade separated, Aerial	n/a
SB Capitol Expressway	+1067+00	2	1 Sidewalk	3 Lanes	Heavy roadway traffic volumes	Grade separated, Aerial	n/a

Table 1 Rail Crossings of the Recommended Light Rail Alternative

Cross Street	Track Stationing	Number of Tracks	Pedestrians	Automobiles	Safety Risks	Proposed Crossing Type	Proposed Safety Devices (At Grade Crossings)
Swift Lane	+1073+00	2	2 Sidewalks	2 Lanes	Light traffic volumes, low risk	Grade separated, Aerial	n/a
Tully Road	+1078+00	2	2 Sidewalks	6 Lanes, 4 Turn lanes	Heavy roadway traffic volumes	Grade separated, Aerial	n/a
Northern Pedestrian Crossing to Platform	+1086+00	1	1 Crossing of SB track	None	Incoming and departing trains	At-grade	Crossing gates, Flashing Lights, and Bells
Southern Pedestrian Crossing to Platform	+1089+80	1	1 Crossing of SB track	None	Train movements in and out of tail track	At-grade	Crossing gates, Flashing Lights, and Bells

Notes:
Shaded rows indicate proposed rail crossing changes to the approved project.

Source: VTA, 2018.

Eastridge Station (proposed)

The Eastridge Transit Center is currently the second busiest transfer point in the VTA system, with significant bus transfer activity and a Park-and-Ride lot. Most bus routes serving the Downtown/East Valley area terminate at or pass through the center. The Recommended Light Rail Alternative includes an at-grade station with one platform, tail tracks, and one traction power substation at the Eastridge Station. Additional project work at the Eastridge Station would include the following:

- Tail tracks, including a pocket track;
- Diamond crossover on the ballasted section of track;
- Passenger access at north and south ends of station;
- Platform raised on retained fill; and

Figure 3 shows the proposed project features at the Eastridge Station.

Park-and-Ride Facilities

Two existing Park-and-Ride lots are located along the alignment: Alum Rock Station and Eastridge Transit Center.

To serve the Recommended Light Rail Alternative, there would be no increase in parking at Alum Rock Station due to space constraints. The Eastridge Park-and-Ride Lot currently includes 180 parking spaces due to the relocation of VTA Paratransit staff and vehicles to a remodeled building at this location in September 2017. VTA is proposing to increase the parking to approximately 200 spaces.

SUPPORT SYSTEMS

In addition to the primary alignment, stations, and Park-and-Ride facilities, the Recommended Light Rail Alternative would incorporate light rail support systems, including traction power and substations, overhead contact, communications, signaling, gates, Intrusion Detection System, closed-circuit television (CCTV) cameras, a fare collection system, and noise and vibration abatement. Support systems are described in the following sections.

Traction Power System and Substations

A traction power system is a distribution system that converts high-voltage commercial electrical power received from substations to medium-voltage direct current (DC) and distributes it to the light rail vehicles via the overhead catenary or contact wire as they travel along the alignment. A traction power system consists of the power distribution mechanism and electrical substations. For the Recommended Light Rail Alternative, the traction power system

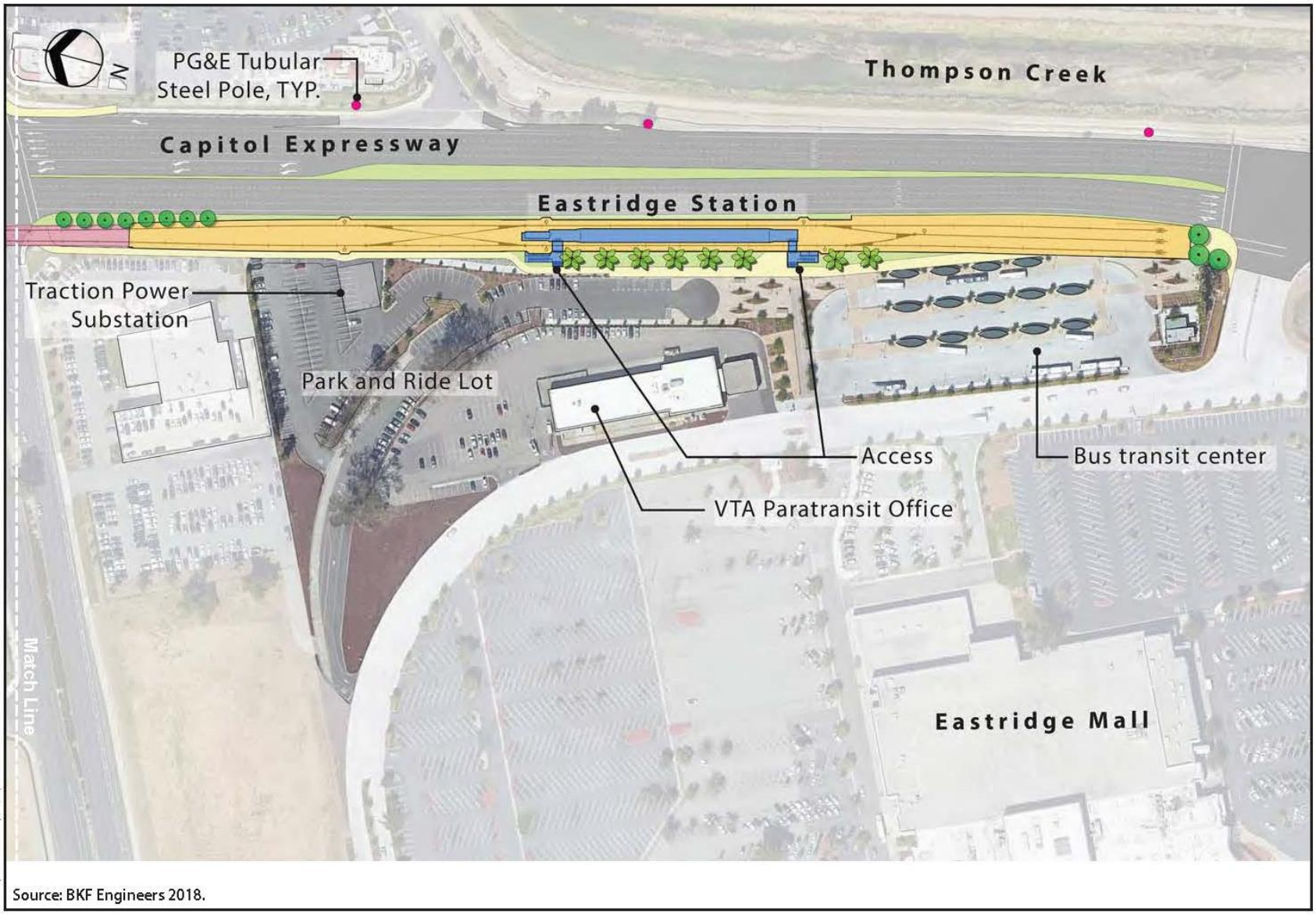


Figure 3 Recommended Light Rail Alternative at Eastridge Station

would provide the potential for three-car light rail trains operating at speeds up to 55 mph on approximately 5-minute headways, as provided by VTA Service Design Guidelines. During peak periods of use, such as during special events, the traction power system is anticipated to accommodate 3-minute headways.

The alignment would require a total of two substations, not including one existing substation south of the Alum Rock LRT Station near the Park-and-Ride lot shown in Figure 2.

Locations for new substations include the following:

- Southwest corner of Capitol Expressway and Ocala Avenue
- Eastridge Transit Center

Electrical power would be supplied to each traction power substation (TPSS) by an underground feeder from the electrical utility distribution system. Alternate substations would be equipped with two primary feeders from the utility company and an automatic transfer switch to supply reliable power to the substation. Each TPSS would be contained in a prefabricated substation housing that is factory wired to accommodate internal components and built on a concrete foundation. Foundations would be equipped with embedded conduit to accommodate incoming alternating current primary power cables, control and communication cables, and the DC feeder cables to the overhead contact system.

The estimated size for each TPSS building would be approximately 650–750 square feet in area and 12–15 feet in height. Parcels used as substation sites would need to be large enough to provide for side clearance from passing trains and automobiles and to allow a service vehicle to park, unless convenient parking is available on an adjacent roadway.

Overhead Contact System

The overhead contact system (OCS) would be an auto-tensioned simple catenary (ATSC) consisting of a contact wire, a messenger wire, and counterweight terminations (see Figure 4). This configuration represents the typical application for the VTA light rail system. The height of the contact wire would conform to the requirements of *VTA Light Rail Design Criteria Manual* and the California Public Utilities Commission's (CPUC's) General Order 95 (California Public Utilities Commission 1941). All OCS poles, except counterweight poles, would be constructed as tubular, hollow, tapered, round poles made of rigid galvanized steel.

Figure 4 Overhead Contact System at Alum Rock Station

Counterweight poles would be nontapered. The pole height would be adjusted to suit the contact wire height and match the existing system as closely as possible. The OCS poles would be located between the tracks or on the outside of the tracks, depending on space restrictions.

Communications Systems

The communications equipment and design would be fully compatible with the communications system that serves VTA's existing light rail operations. A wayside cable system, fiber optic cable, and two-way radio system would link light rail

stations and TPSSs with the existing Operations Control Center. The communications system would consist of the following main components:

- Public address system with two-way voice announcement linking the Operations Control Center and the light rail stations.
- Two-way radio system with two-way voice announcement linking the Operations Control Center and light rail vehicles.
- Capability to monitor and control the TPSS switchgear functions from the Operations Control Center via the remote terminal units and wayside cable system.
- Cable transmission system designed to incorporate both the backbone communications distribution (fiber optics) and metallic distribution.

Wayside cabling would utilize a combined systems duct installed continuously along the corridor.

Signaling and Gates System

The signal system for the Recommended Light Rail Alternative would be an extension of the existing light rail signal system and functionally compatible with the existing lines. The signal system would include a wayside color light aspect with no cab signal and Automatic Block Signaling (ABS). (*Wayside color light aspect* refers to a signal at the side of the tracks indicating the next block is either clear or occupied.) The signal system would be designed to support the train headway goals of the Recommended Light Rail Alternative. Generally, the alignment would not be gated except at the at-grade pedestrian crossing at Eastridge Station.

Intrusion Detection System

Intrusion detection would be provided at the ends of the station platforms and at the aerial guideway approach embankments to provide warning of people either trespassing or walking in restricted areas. This information would be provided to VTA Operations Control Center to initiate a response from VTA security and to alert train operators to proceed with caution.

VEHICLE STORAGE FACILITIES

The Recommended Light Rail Alternative does not include any new vehicle maintenance and overnight storage facilities. Heavy maintenance activities for vehicles used on this line would continue to be performed at the existing Guadalupe Light Rail Division on Younger Street in San Jose.

PEDESTRIAN AND LANDSCAPING ENHANCEMENTS

A separate project constructed pedestrian and landscaping improvements at various locations along Capitol Expressway between Capitol Avenue and Quimby Road. The

Recommended Light Rail Alternative will relocate or upgrade these improvements where there are conflicts with the proposed alignment, especially where additional right-of-way is required for aerial guideways, stations, and utility relocations. The enhancements could include sidewalk, landscaping, or a multi-use path consisting of sidewalk, landscaping, and street lighting.

Between Foxdale Drive and Ocala Avenue, VTA will not replace the existing sidewalk along the west side of Capitol Expressway with a new multi-use path and landscaping for a distance of about 1,500 feet in order to minimize the acquisition of property from the backyards of adjacent residences.

To accommodate bicyclists to the greatest extent possible, curb lanes on both sides of Capitol Expressway will be 17–18 feet for the entire length to allow use of the shoulders by bicycles.

CAPITOL EXPRESSWAY ROADWAY LANE CONFIGURATIONS.

In addition to restriping, a slight reduction in lane width, and minor modifications to traffic lanes, the project would revise the roadway lane configurations along Capitol Expressway. The could include resurfacing Capitol Expressway with rubberized, open-graded asphalt concrete (OGAC).[1] Detailed track plans and profiles showing the proposed geometric design changes are included in Attachment C of the SEIR-2. The proposed roadway lane configuration includes the following.

- *Four traffic lanes in each direction north of Story Road.* Both of the existing high-occupancy vehicle lanes (one northbound and one southbound) would be converted to general purpose traffic lanes, resulting in a total of four general purpose lanes in each direction between Story Road and Capitol Avenue. One southbound inner general purpose lane would end at the introduction of the left turn pockets at Story Road. This would be accomplished by the widening of Capitol Expressway and a reduction of the median.

- *Right turn lanes.* Exclusive right turn lanes on Capitol Expressway would be added at Story Road, Cunningham Avenue, and Tully Road intersections.

- *Bicycle Slot.* At the locations where exclusive right turn lanes are added or maintained on Capitol Expressway, bicycle slots would be included to the left of the right turn lanes. Figure 5 includes pictures of a typical bicycle slot with bicycle detector.

- *Left turn lanes.* Longer left turn lanes on Capitol Expressway would be added at the following intersections: northbound and southbound at Story Road, northbound at Ocala Avenue, and southbound at Tully Road. At Ocala Avenue, one northbound left turn lane would be removed.

[1] Recent studies by Caltrans indicate that OGAC produces noticeably less vehicle noise than other pavement types (i.e., concrete and conventional asphalt).

- *Left turn pocket.* A second left turn pocket would be maintained on northbound Capitol Expressway at Story Road.

a. View of an example bike slot facing west at Lawrence Expressway and Cabrillo Avenue in the City of Santa Clara.

b. View of a bike detector embedded in a bike slot. The purpose of a bike detector is to detect a bicyclist approaching an intersection and communicate with the traffic signal cabinet to provide enough time for cyclists to safely cross an intersection.

Source: VTA and ICF 2018.

Figure 5 Representation Of Bicycle Slots

UTILITY RELOCATIONS

The project will include minor utility relocations (e.g., water, gas, communications, electric lines, sanitary sewer, stormwater, etc.), as necessary.

In addition, 6 steel lattice towers and 2 Tubular Steel Poles [TSPs] carrying the Pacific Gas & Electric Company's (PG&E) McKee-Piercy and Milpitas-Swift sections of the 115 kilovolt transmission lines would need to be relocated between Ocala Avenue and north of Quimby Road. A total of 10 new TSPs would be installed. It is anticipated that the TSPs would need to be up to 121 feet in height in order to clear the aerial guideway. As a result of the increase in height of the TSPs and the proximity to Reid-Hillview Airport, PG&E may need to install red light-emitting diode (LED) obstruction lighting on some or all of the new or modified towers or poles in accordance with Federal Aviation Administration (FAA) requirements. These lights would be powered by either solar panels or local distribution electric lines. One of the TSPs (No. 54) may require right-of-way from the Santa Clara Valley Water District for placing the TSP and its foundation. The new TSPs would be mounted on a drilled foundation. Figures 6a and 6bshow the proposed project work for the electrical transmission facilities.

The new TSPs would be mounted on a drilled foundation, and construction of the foundation for TSP No. 53A, 54, and 55 may require temporary closure of the Thompson Creek Trail for safety during drilling, and foundation operations. For TSPs located immediately adjacent to Capitol Expressway, a pull-out area will be provided for safe ingress and egress of PG&E maintenance vehicles.

RIGHT-OF-WAY REQUIREMENTS

The majority of the improvements will be constructed within existing public right-of-way. There are a number of locations, however, where the Recommended Light Rail Alternative will require minor amounts of additional right-of-way. Based on preliminary designs, the locations where additional right-of-way will be required are listed in Table 2.

Easements and other right-of-way requirements may change (i.e., increase or decrease in size, change type, and/or change from permanent to temporary, etc.) during final design while being within the scope of the project and minor in nature. It is the intent of this environmental document to environmentally clear easements and other right-of-way requirements that are generally indicative of the type of work required, recognizing some adjustments may be necessary based on final design and/or working with individual property owners during the real estate acquisition process. Should modifications beyond the scope of the project trigger the need for additional environmental review pursuant to CEQA and NEPA, subsequent environmental analysis would be required.

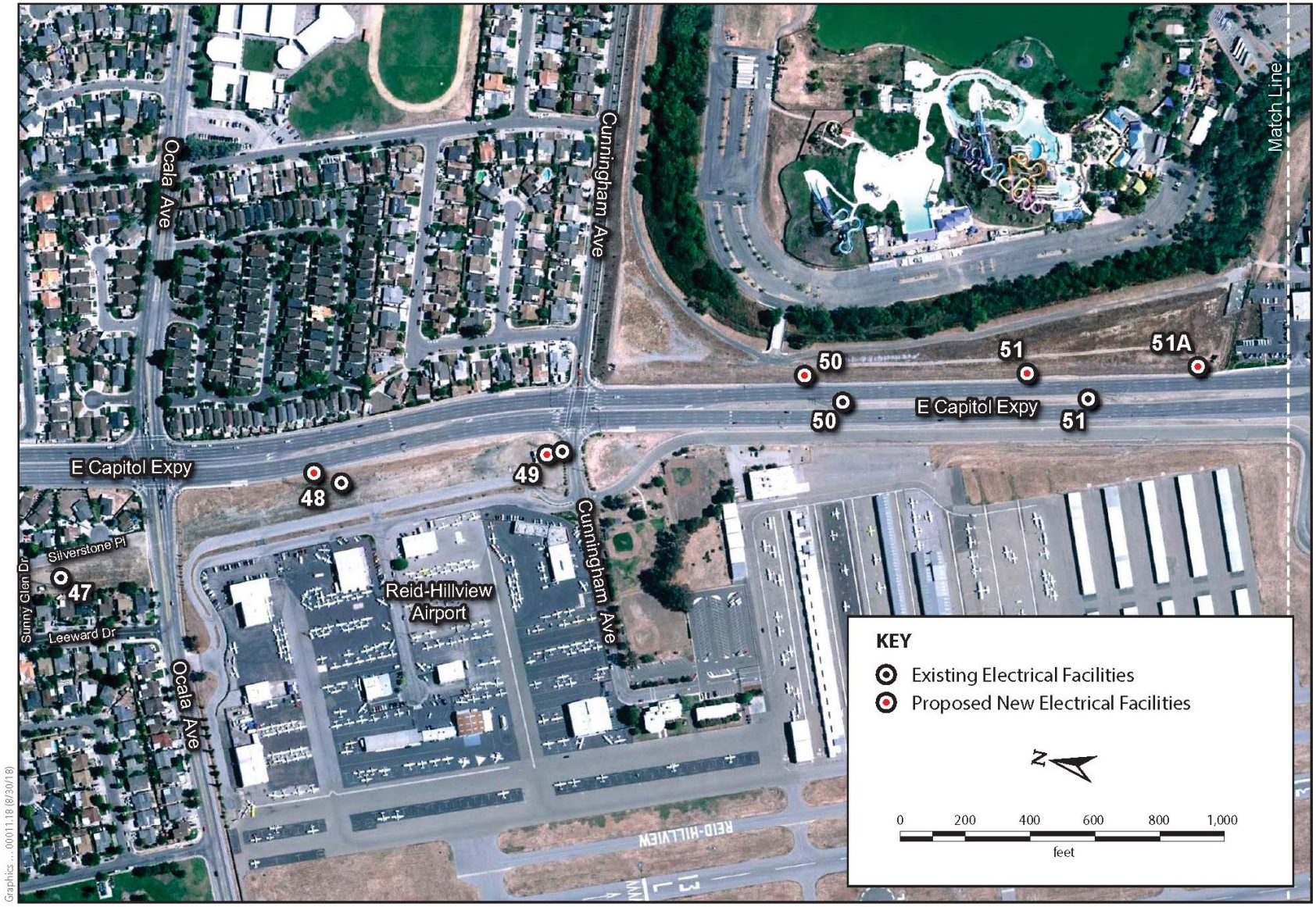


Figure 6a Electrical Transmission Facilities

Figure 6b Electrical Transmission Facilities

Table 2 Preliminary Right-of-Way Requirements for the Recommended Light Rail Alternative

No.	Assessor's Parcel Number	Address	Existing Use	Right-of-Way Needed	Right-of-Way Requirement (square feet)		Partial or Full Right-of-Way Requirement
					Permanent	Temporary	
1	484-33-108	2701 Story Road	Business	TCE	0	237	Partial
2	488-01-041	2710 Story Road	Business	Partial Fee Take, TCE, Permanent Easement	1,175	1,845	Partial
3	488-01-002	1148 Kollmar Drive	Business	Partial or Full Fee Take,[1] TCE	2,428	1,523	Partial
4	488-01-004	2710 Kollmar Drive	Multi-Family	TCE	0	687	Partial
5	488-01-037	2709 Sussex Drive	Single-Family	TCE	0	74	Partial
6	491-01-016	SE Corner of Capitol Expressway & Cunningham Avenue	Public	Partial Fee Take, TCE[2]	514	701	Partial
7	491-02-073	3000 E. Capitol Expressway	Business	Partial Fee Take, TCE, Permanent Easement	2,246	1,757	Partial
8	491-02-074	3001 E. Capitol Expressway	Business	Partial Fee Take, TCE, Permanent Easement	8,496	10,582	Partial
9	491-02-069	2880 E. Capitol Expressway	Business	Permanent Easement	922	0	Partial
10	491-02-070	2950 E. Capitol Expressway	Business	Permanent Easement	1,582	0	Partial
11	491-02-071	2950 E. Capitol Expressway	Business	Permanent Easement	4,644	0	Partial
12	491-02-072	2990 E. Capitol Expressway	Business	TCE, Permanent Easement	1,194	1,917	Partial
13	491-02-066	Thompson Creek	Public	Permanent Easement	21,770	0	Partial
14	491-48-006	Thompson Creek	Public	Permanent Easement	4,706	0	Partial

Table 2 Preliminary Right-of-Way Requirements for the Recommended Light Rail Alternative

No.	Assessor's Parcel Number	Address	Existing Use	Right-of-Way Needed	Right-of-Way Requirement (square feet)		Partial or Full Right-of-Way Requirement
					Permanent	Temporary	
15	484-45-060	2686 Lombard Avenue	Single-Family	TCE	0	465	Partial
16	484-45-061	353 S. Capitol Avenue	Single-Family	TCE	0	337	Partial
17	484-45-062	455 S. Capitol Avenue	Single-Family	TCE	0	310	Partial
18	484-45-116	461 S. Capitol Avenue	Business	Partial Fee Take, TCE	2,277	2,223	Partial
19	484-34-015	1017 S. Capitol Avenue	Single-Family	TCE	0	250	Partial
20	484-34-016	1033 S. Capitol Avenue	Single-Family	Partial Fee Take, TCE	22	250	Partial
21	484-34-017	1049 S. Capitol Avenue	Single-Family	Partial or Full Fee Take,[1] TCE	225	335	Partial
22	484-34-131	1091 & 1093 S. Capitol Avenue	Business	Partial or Full Fee Take[1], TCE	1,829	277	Partial
23	484-34-019	2695 Story Road	Business	Partial Fee Take, TCE	3,977	878	Partial
24	486-39-025	1330 Foxdale Loop	Multi-Family	TCE	0	4,593	Partial
25	486-43-106	2690 Story Road	Business	Partial Fee Take, TCE	1,479	3,343	Partial
26	486-43-108	2680 Story Road	Business	TCE. Permanent Easement	3	6	Partial
27	491-15-003	Reid-Hillview Airport	Public	Partial Fee Take, TCE, Permanent Easement	8,299	1,084	Partial
28	491-15-041	Swift Avenue	Utility	Partial Fee Take, TCE Permanent Easement[2]	1,817	816	Partial
29	491-13-009	Reid-Hillview Airport	Public	Permanent Easement	1,401	0	Partial

Table 2 Preliminary Right-of-Way Requirements for the Recommended Light Rail Alternative

No.	Assessor's Parcel Number	Address	Existing Use	Right-of-Way Needed	Right-of-Way Requirement (square feet)		Partial or Full Right-of-Way Requirement
					Permanent	Temporary	
30	491-05-001	North of Airport Access Road	Public	TCE, Permanent Easement	1,699	106,481	Partial
31	491-05-020	Reid-Hillview Airport	Public	Partial Fee Take, Permanent Easement, TCE	16,598	5,169	Partial
32	491-04-012	290 E. Capitol Expressway	Business	Full Fee Take	3,030	0	Full
33	491-04-047	290 E. Capitol Expressway	Business	Full Fee Take	5,864	0	Full
34	484-33-110	2785 Mervyns Way	Public	Partial Fee Take, TCE	374	642	Partial
35	NA	NA[2]	Public Right-of-Way	Permanent Easement	32,575	0	Partial
36	NA	NA[2]	Public Right-of-Way	Permanent Easement	4,134	0	Partial
Total Right-of-Way Needed:					**135,280**	**146,782**	**NA**

Notes:

TCE = Temporary Construction Easement; NA = Not Applicable; IEE = Ingress Egress Easement

Partial Fee Take refers to the partial right-of-way need of a parcel; Full Fee Take refers to the full right-of-way need of a parcel.

[1] These areas are within public right-of-way, and do not have an Assessor's Parcel Number or address associated with them.

Source: BKF 2018.

OPERATING ASSUMPTIONS

For the purposes of environmental analysis, the operating assumptions are based on past, current, and reasonably foreseeable future service plans. The purpose is to assess the project's effect on the environment under the "worst-case" conditions. The key operating assumptions are as follows:

- The Recommended Light Rail Alternative is assumed to operate on both the Santa Teresa to Alum Rock Line and the proposed new line from Mountain View to Alum Rock.
- The Recommended Light Rail Alternative is assumed to operate one to three-car train consists depending on ridership demands. Initially, VTA plans to operate two-car trains during peak hours in this corridor.
- The hours of operation are assumed to be between 4:30 a.m. and 1:30 a.m.
- Initially, VTA plans to operate on 15 minute headways on each line for 7.5 minute combined headways for both lines during peak hours. For the segment of the alignment between the Alum Rock LRT Station and Eastridge Transit Center, the estimated running time would be approximately 4.3 minutes, as shown in Table 3.
- Generally, the Recommended Light Rail Alternative will be designed for 55 mph operations.

Table 3 LRT Estimated Travel Time and Speed

LRT Segments	Distance/Average Speed/Time		
	Miles	**mph**	**min.**
Alum Rock TC to Story Station	0.6	25	1.4
Story Station to Eastridge Station	1.8	45	2.9
Corridor Total	2.4	35	4.3

Notes:
[1] Travel speed and time are assumed to be approximately the same for AM and PM hours as well as northbound and southbound directions as the aerial guideway would not be affected by vehicular traffic.
[2] Approximately 30 seconds of dwell time would be experienced at Story Station.
Source: BKF, 2018.

CONSTRUCTION SCENARIO

Project construction would take place over several years. Most of the construction work would occur in multiple locations along the project corridor between Alum Rock LRT Station and Eastridge Transit Center. Utility relocations would take place in 2019. Construction of the Recommended Light Rail Alternative is anticipated to begin in 2020 and end in 2024. Construction would consist of clearing and grubbing, grading, structural work, trackwork, and paving. Major construction at Eastridge Mall during the holiday season will be minimized to the extent practicable.

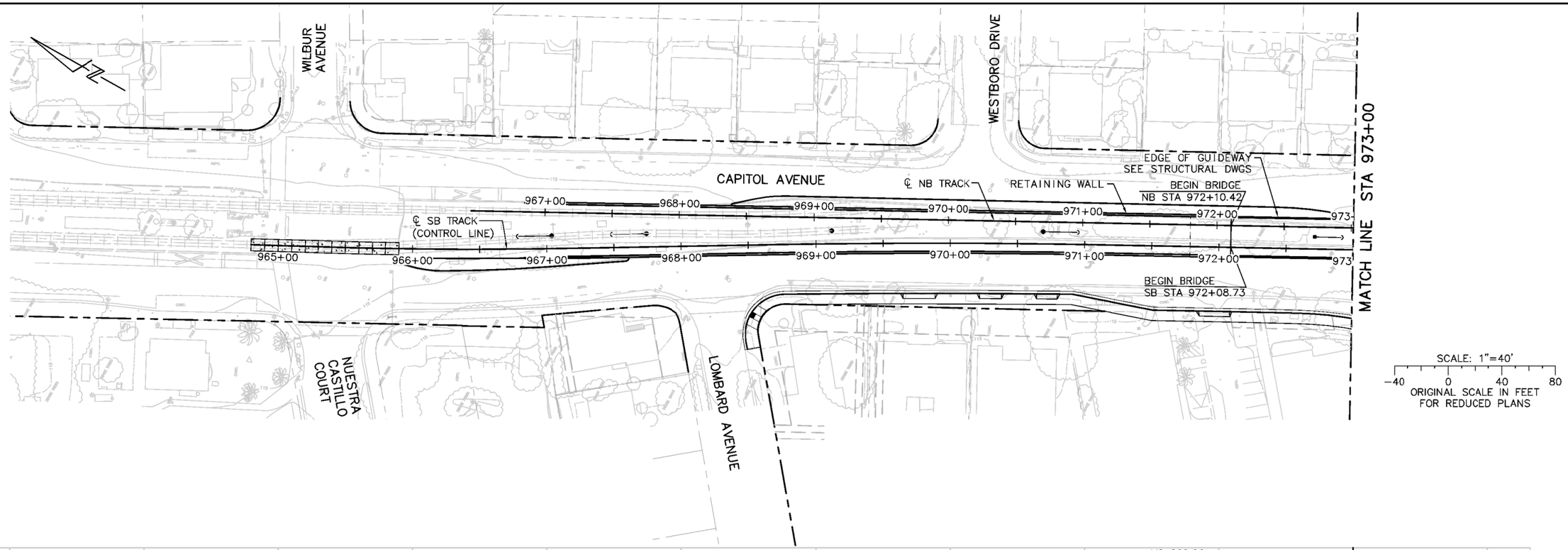
At the height of construction, a number of construction employees and equipment would occupy portions of the street, including the median and potentially including parking spaces, at active construction locations. In the most active areas, construction activities would periodically reduce the capacity of Capitol Expressway to two lanes in the northbound direction, and one lane in the southbound direction during non-peak hours of travel. Three travel lanes in each direction are expected to stay open during peak hours of travel. One left turn lane in each travel direction may be closed at intersections temporarily during various construction events. Lane closures would be contingent on the requirements and restrictions of the County of Santa Clara and the City of San Jose. If lane closures for construction activities are further restricted, an increase of approximately one year would be anticipated in the duration of project construction, moving the construction completion from 2024 to 2025.

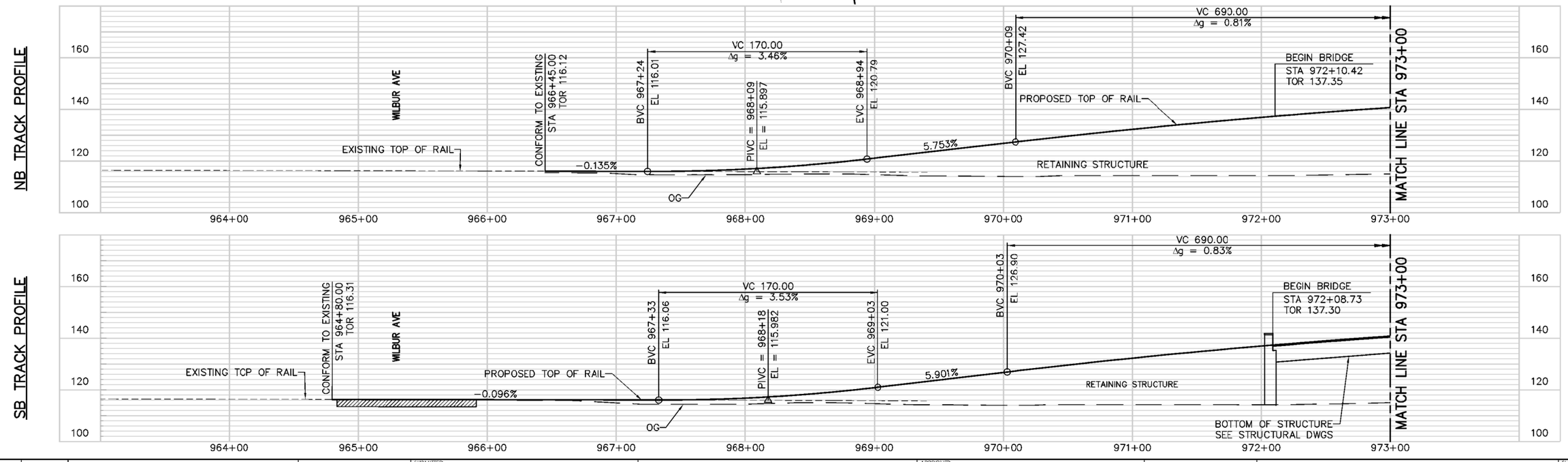
In addition, construction activities may be necessary during night, early morning, and weekend periods to minimize traffic disruption. Construction activities at night may involve partial or complete intersection closures along Capitol Expressway at Capitol Avenue, Story Road, Ocala Avenue, Cunningham Avenue, Swift Lane and Tully Road. Complete expressway closures at night may occur in each travel direction (northbound and southbound) of Capitol Expressway for work on the proposed pedestrian overcrossing.

The aerial guideway sections would require extensive pile driving. It is anticipated that 6 to 12 piles would be driven per day for 3 to 6 days at each column site. The column sites are spaced approximately 120 to 130 feet apart. Pile driving could occur simultaneously at 2 locations along the alignment.

The main construction staging area would likely occur on vacant airport property between Cunningham Avenue and Tully Road subject to the concurrence of Santa Clara County Roads and Airports, and also at Eastridge Transit Center. . The median of expressway would also be used as a staging area for daily activities.

Attachment C
Detailed Plans for the Proposed Changes





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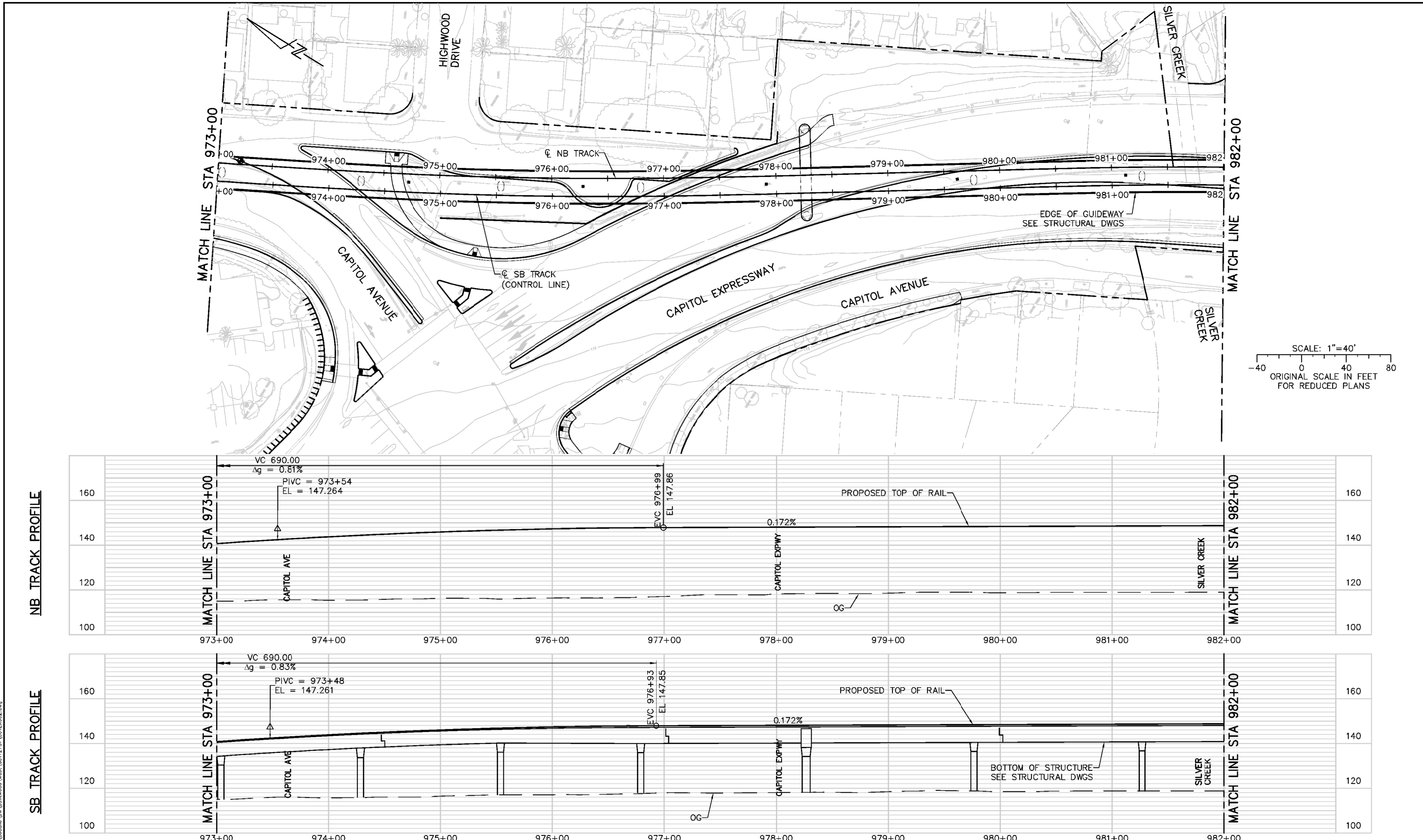

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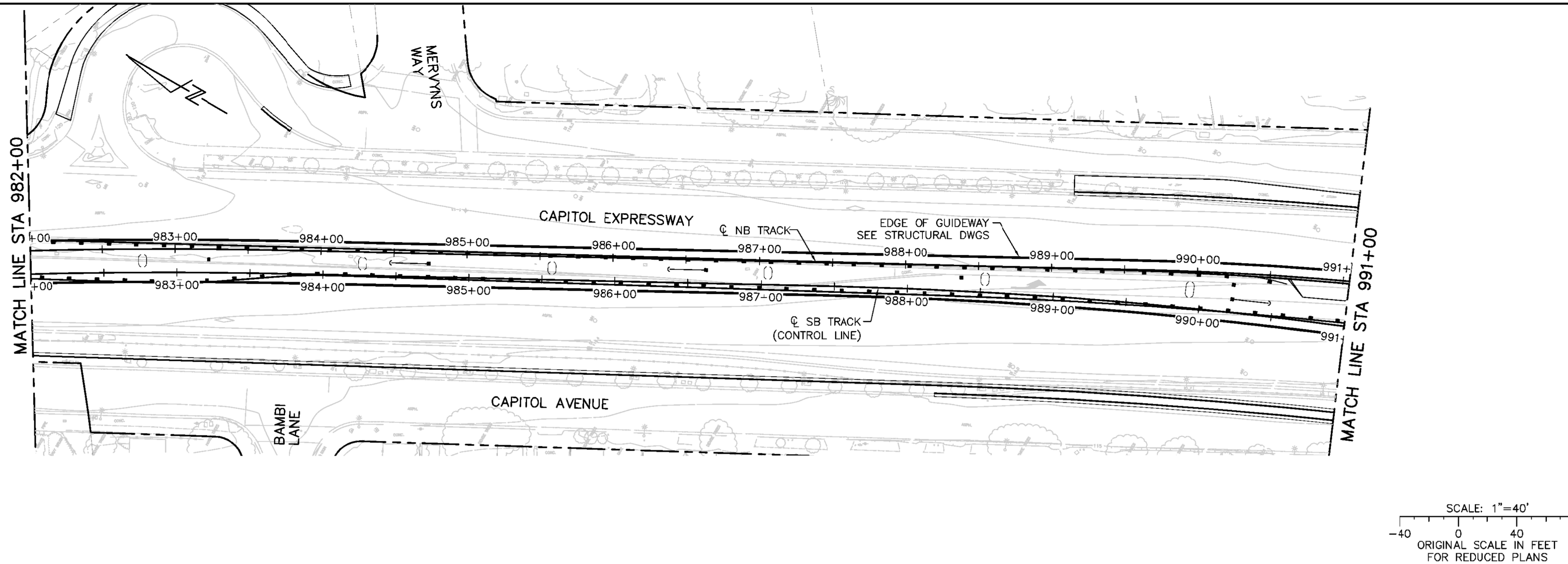

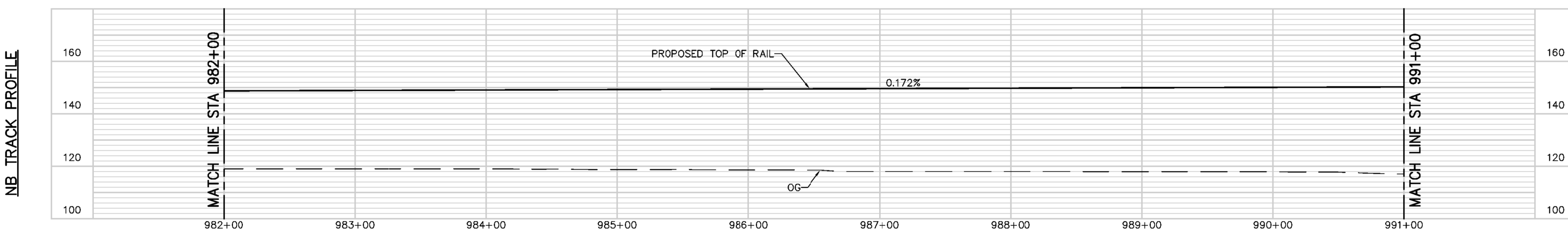

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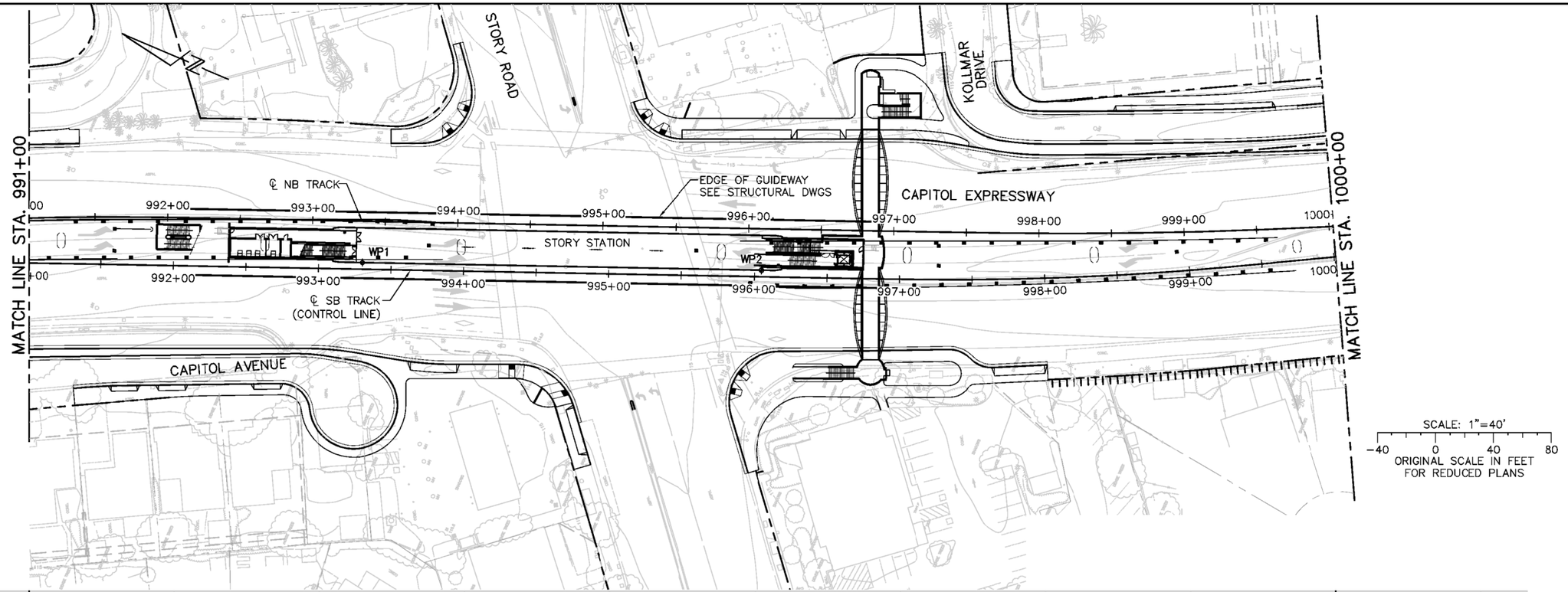

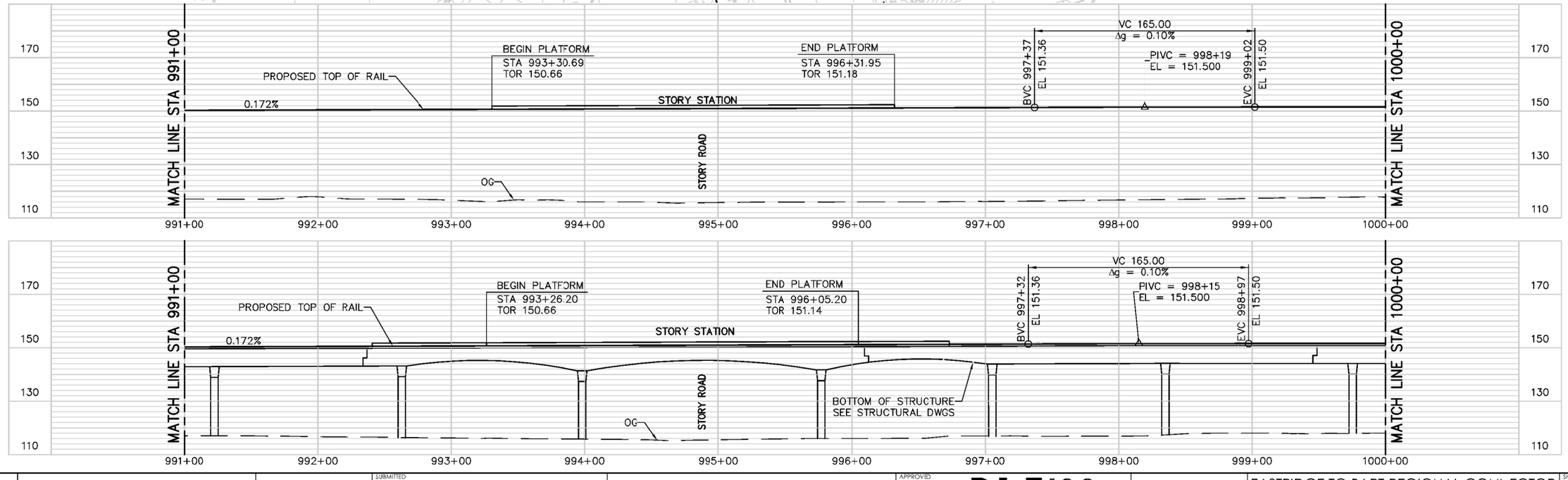

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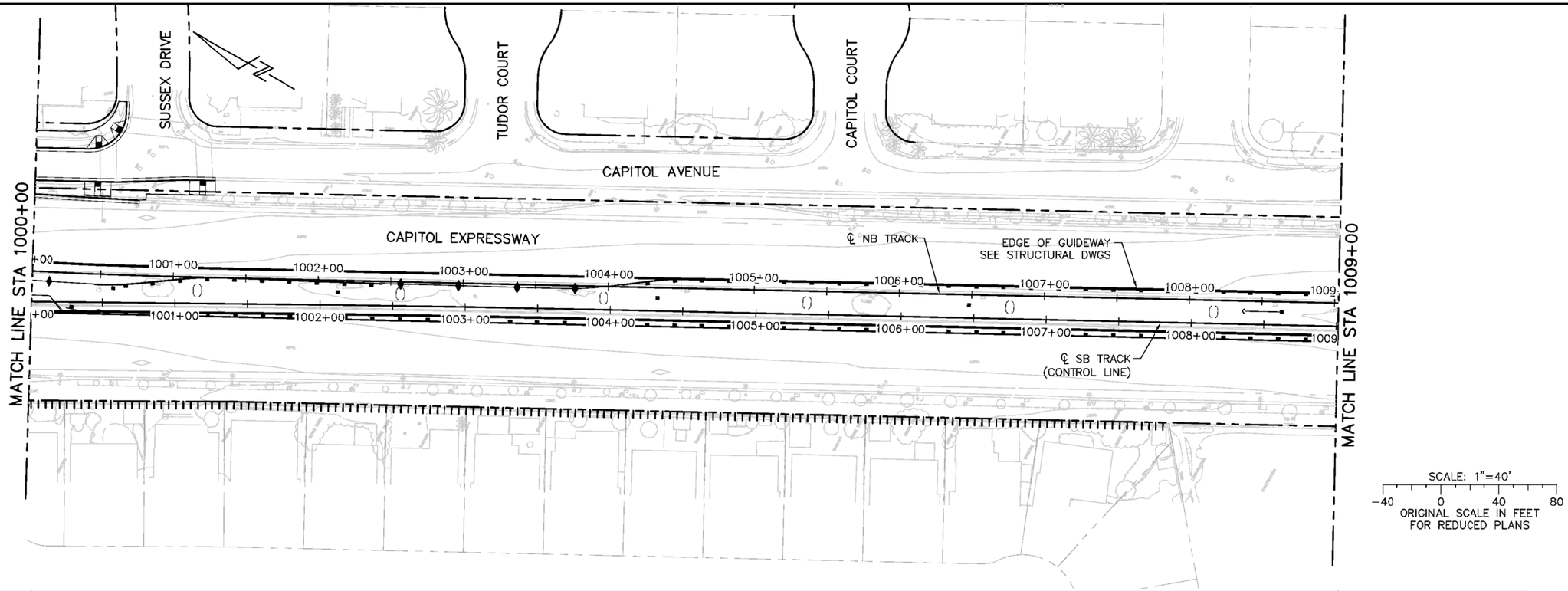

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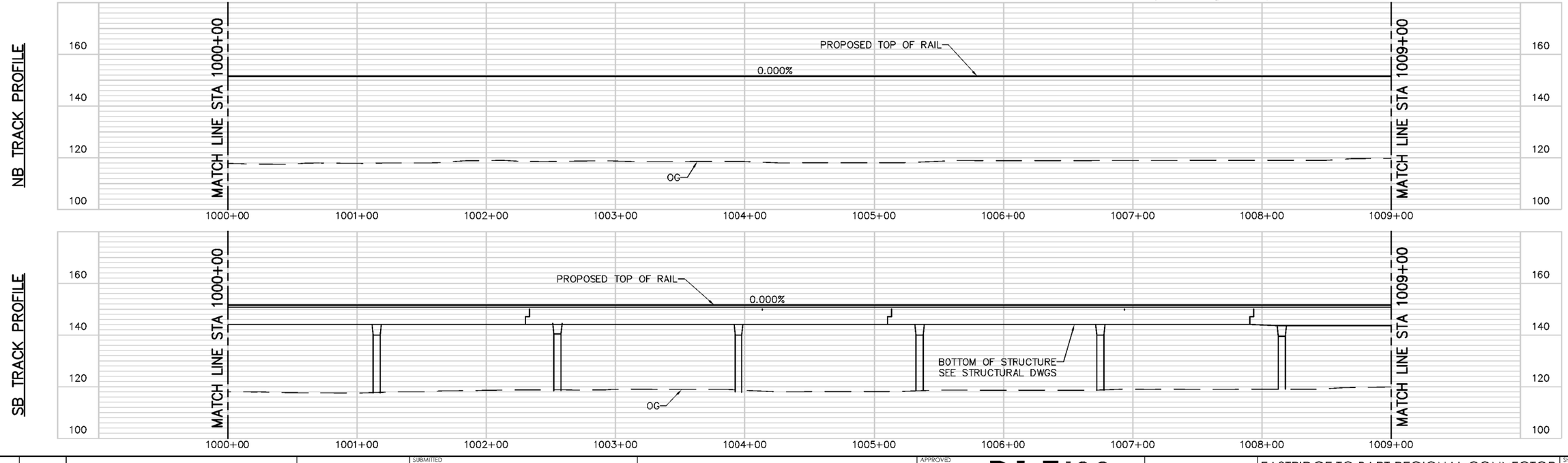

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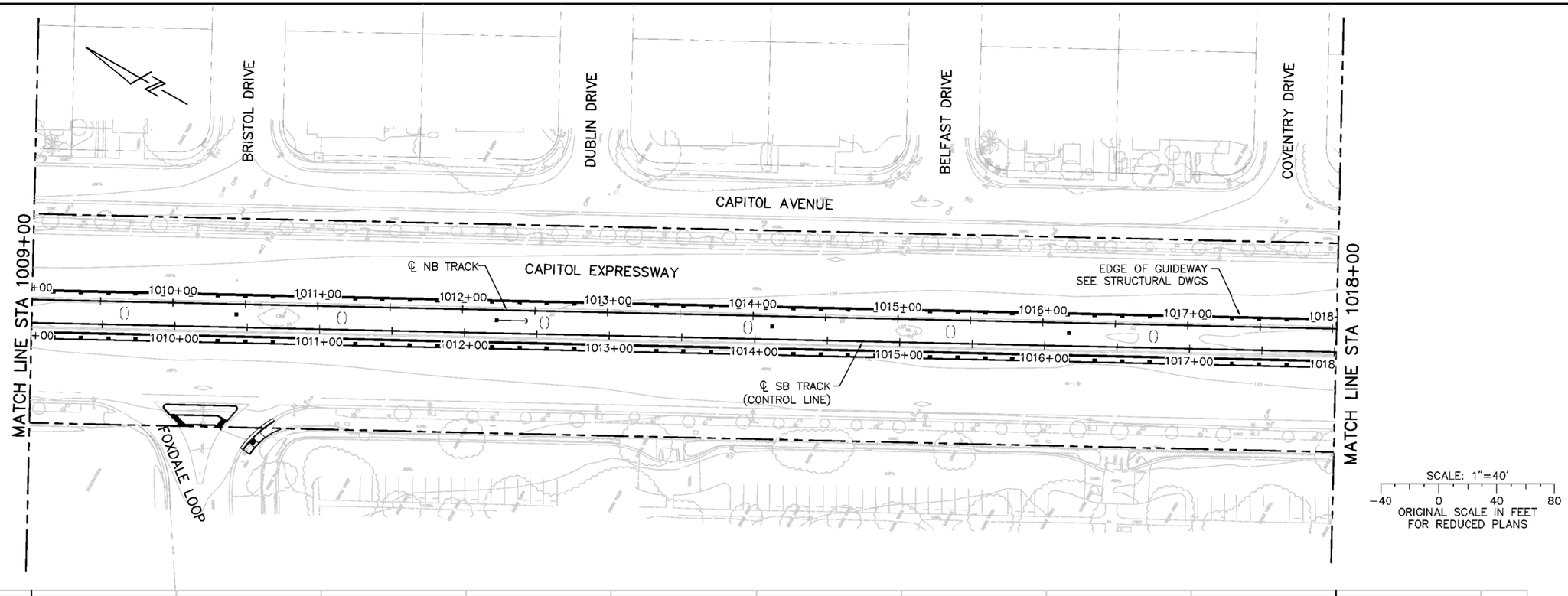

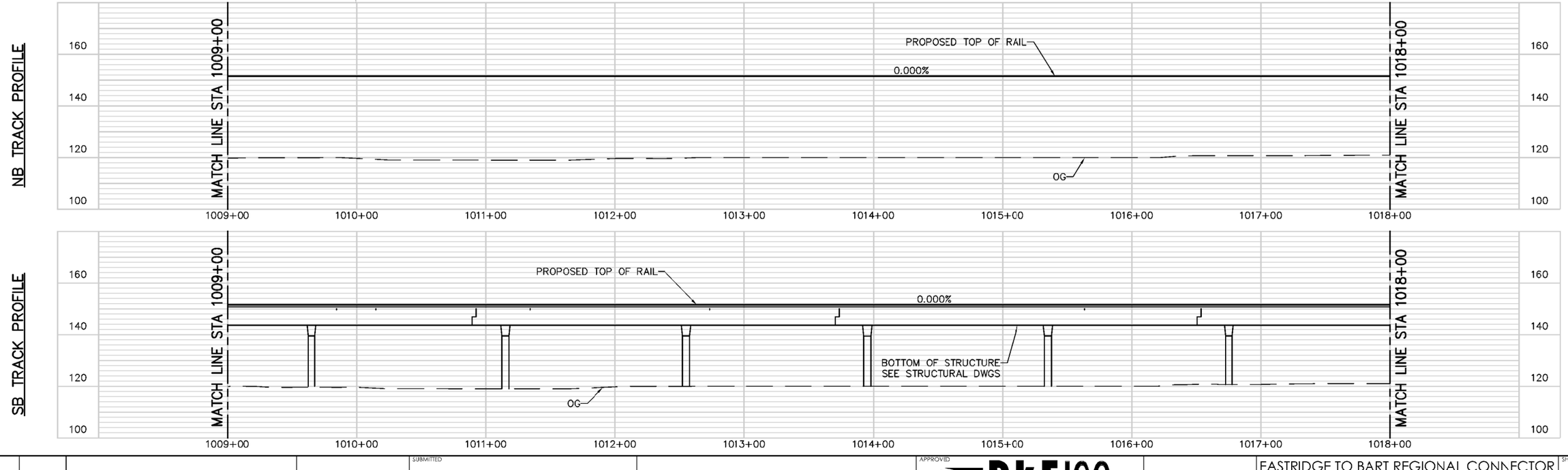

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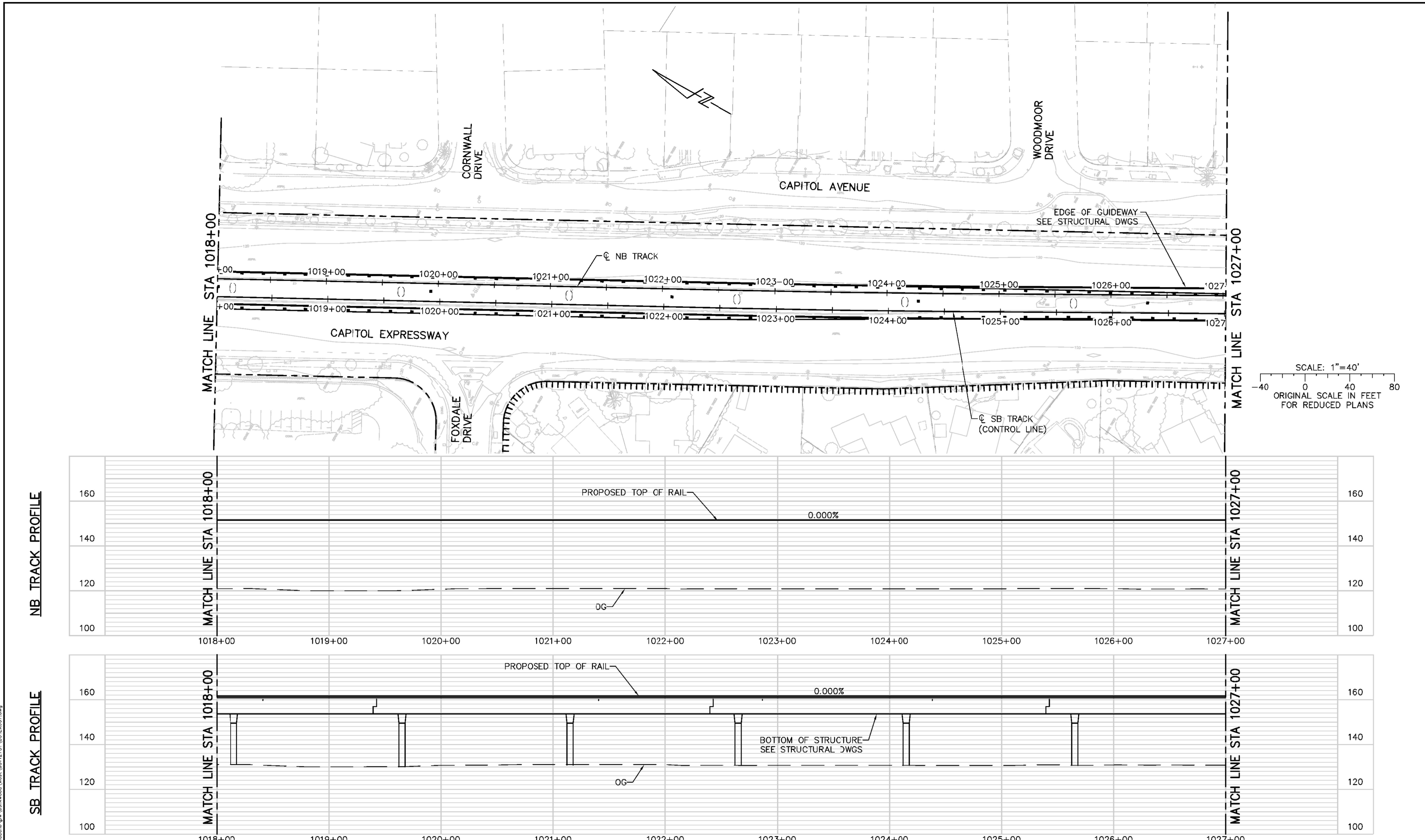

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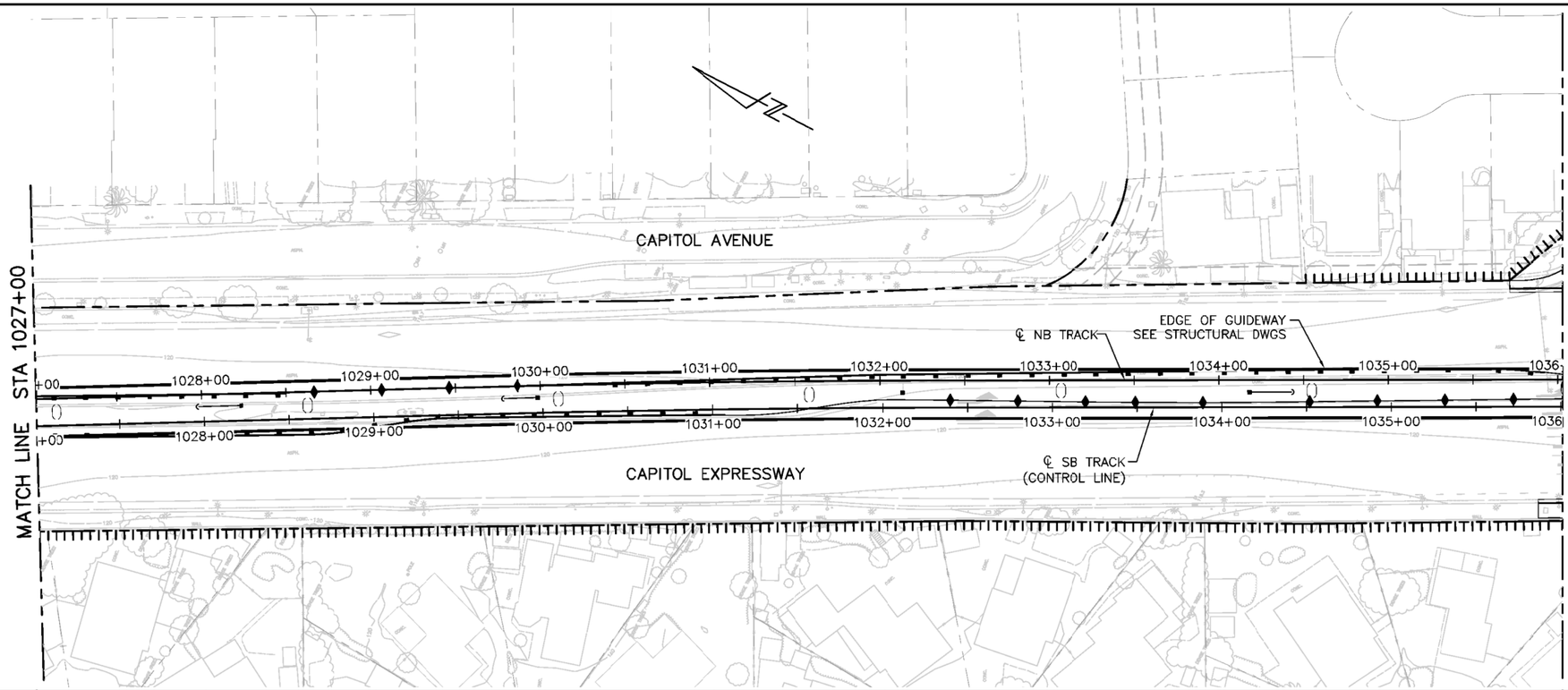

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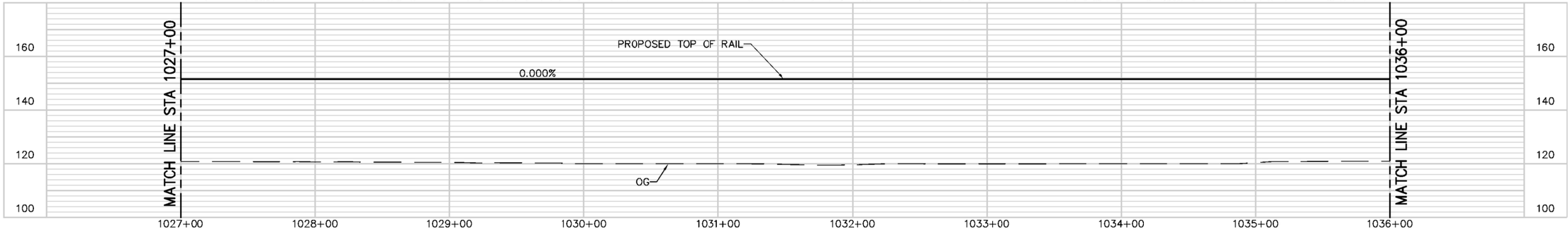

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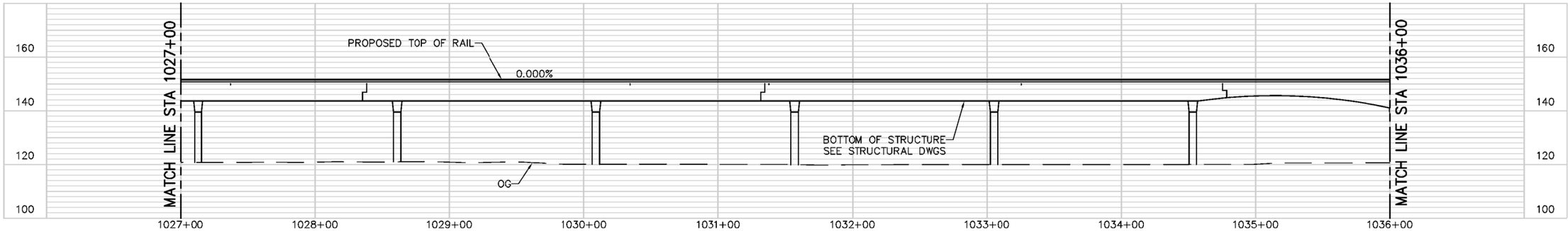

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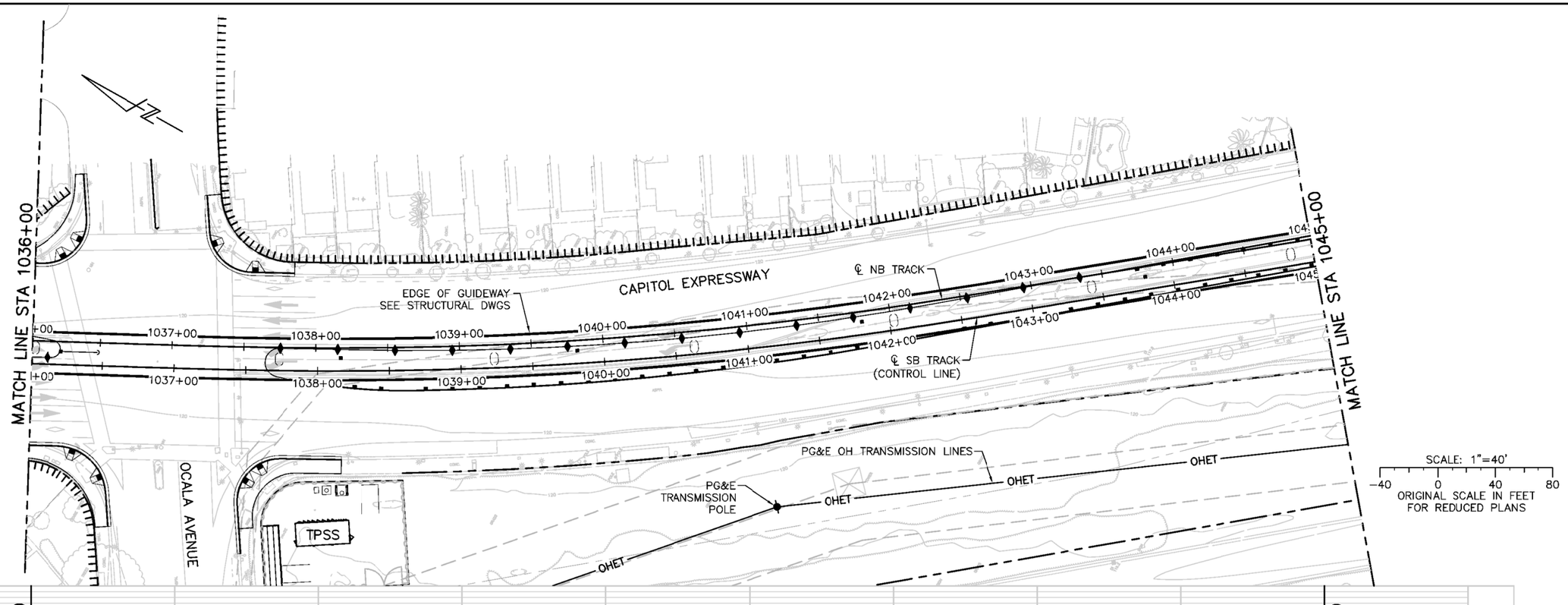

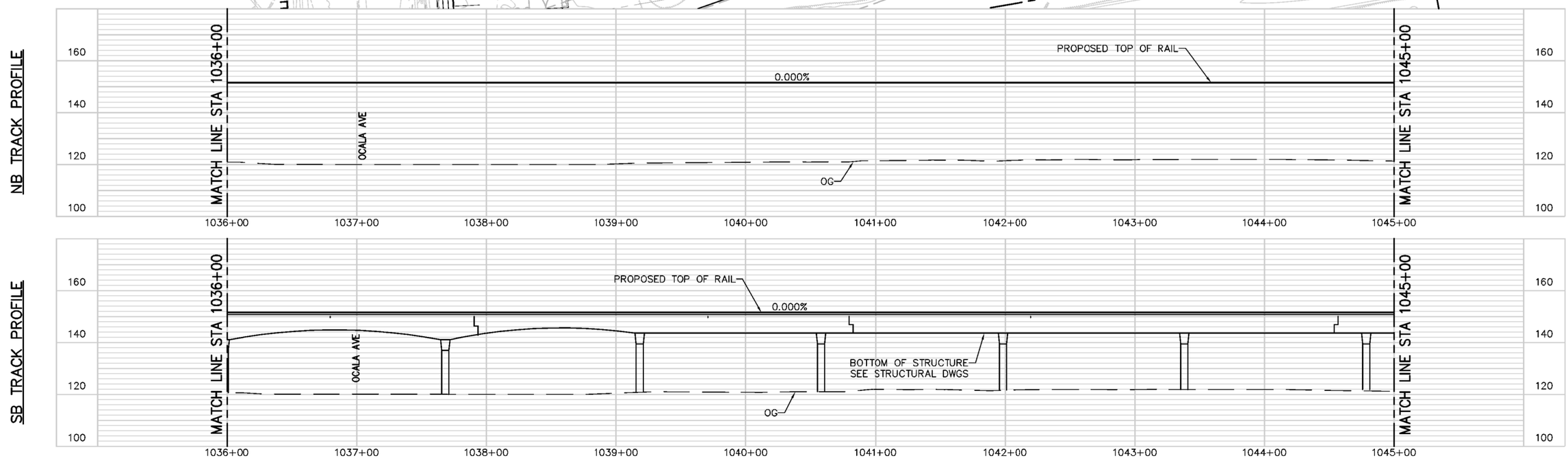

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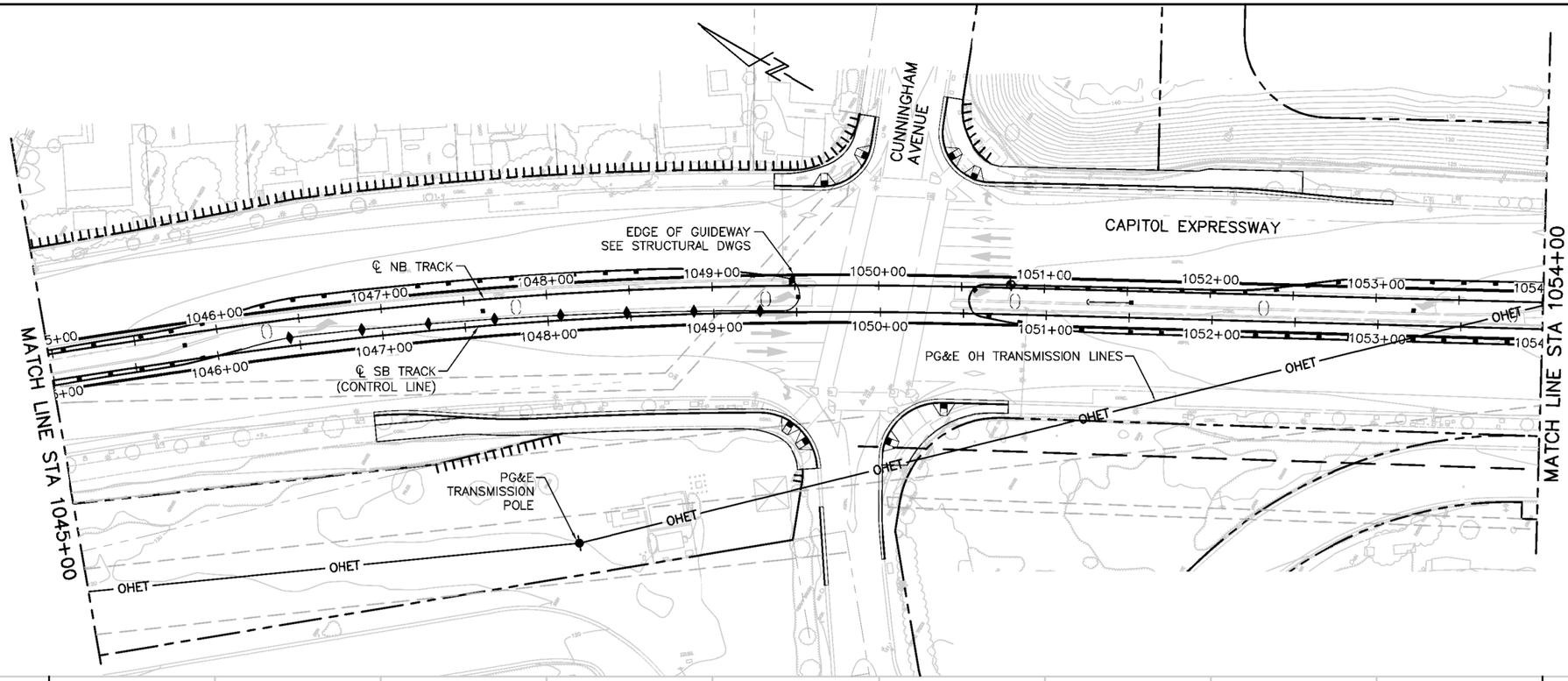

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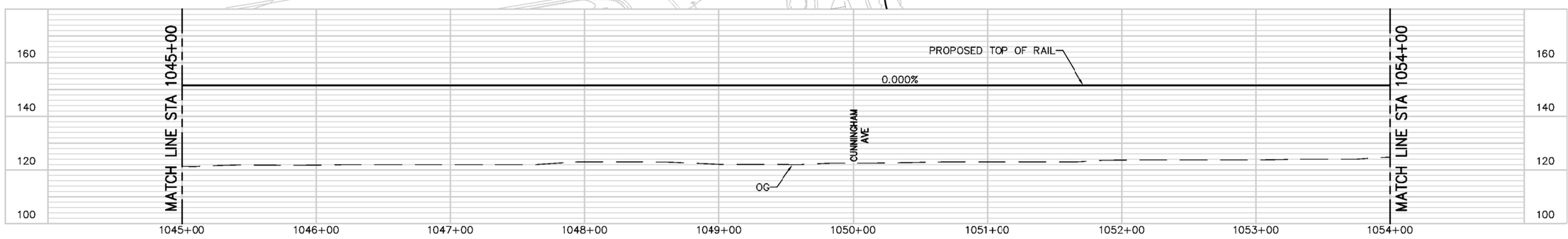

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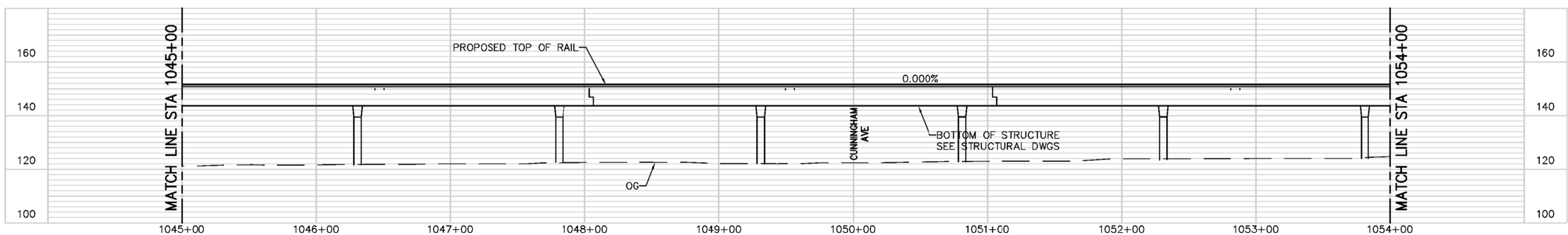

NO.	DATE	REVISIONS

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DRAWN | CADD FILE NAME: 801EX010.dwg

Santa Clara Valley Transportation Authority

APPROVED

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ENGINEERS / SURVEYORS / PLANNERS

CADD FILE DATE: 07/19/2018 | SCALE: 1"=40' H; 1"=20' V

SUBMITTAL DATE | BOARD APPROVAL DATE

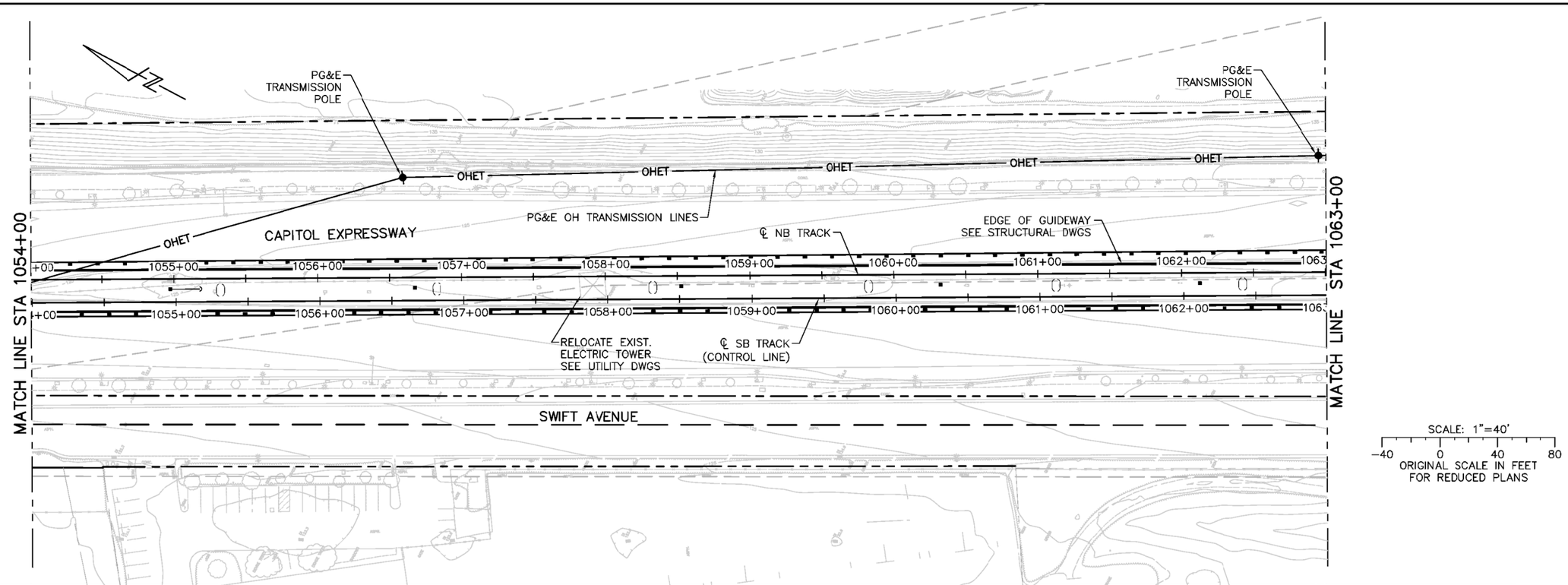
EASTRIDGE TO BART REGIONAL CONNECTOR
CAPITOL EXPRESSWAY LIGHT RAIL PROJECT

ENVIRONMENTAL EXHIBITS
STA 1045+00 TO STA 1054+00

PCA NO. | CONTRACT NO.: C801 | FILE LOCATION: PROJECTWISE

SHEET 10 OF 15
DRAWING NO.: EX010
REVISION

Jul 20, 2018 - 10:27am C:\cadd8\pw\bafkwood.west\d0112751\801EX010.dwg



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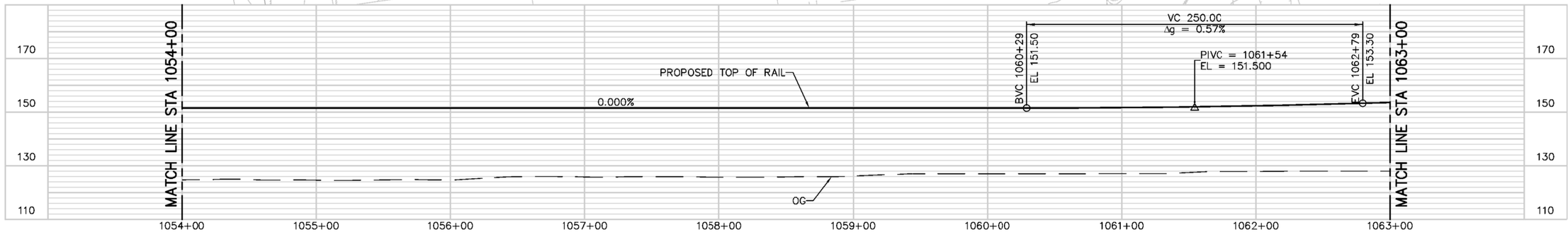
ORIGINAL SCALE IN FEET
FOR REDUCED PLANS

NB TRACK PROFILE



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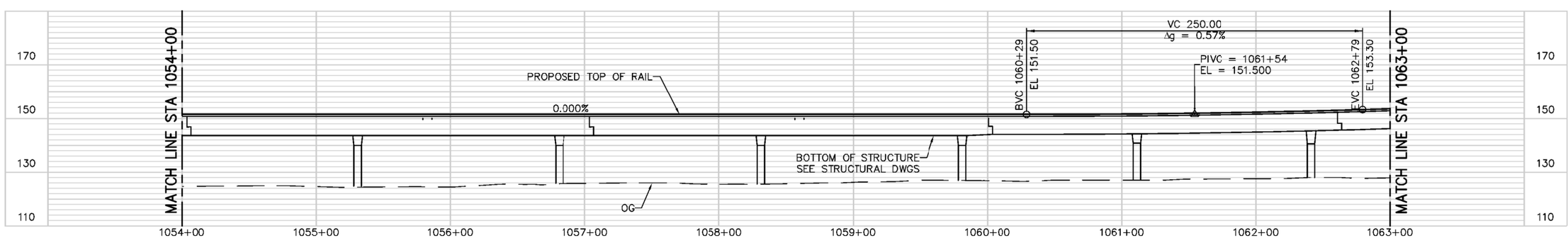

NO.	DATE	REVISIONS

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Santa Clara Valley Transportation Authority

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EASTRIDGE TO BART REGIONAL CONNECTOR
CAPITOL EXPRESSWAY LIGHT RAIL PROJECT

ENVIRONMENTAL EXHIBITS
STA 1054+00 TO STA 1063+00

PCA NO. | CONTRACT NO. C801 | FILE LOCATION PROJECTWISE

SHEET 11 OF 15

DRAWING NO. EX011

REVISION

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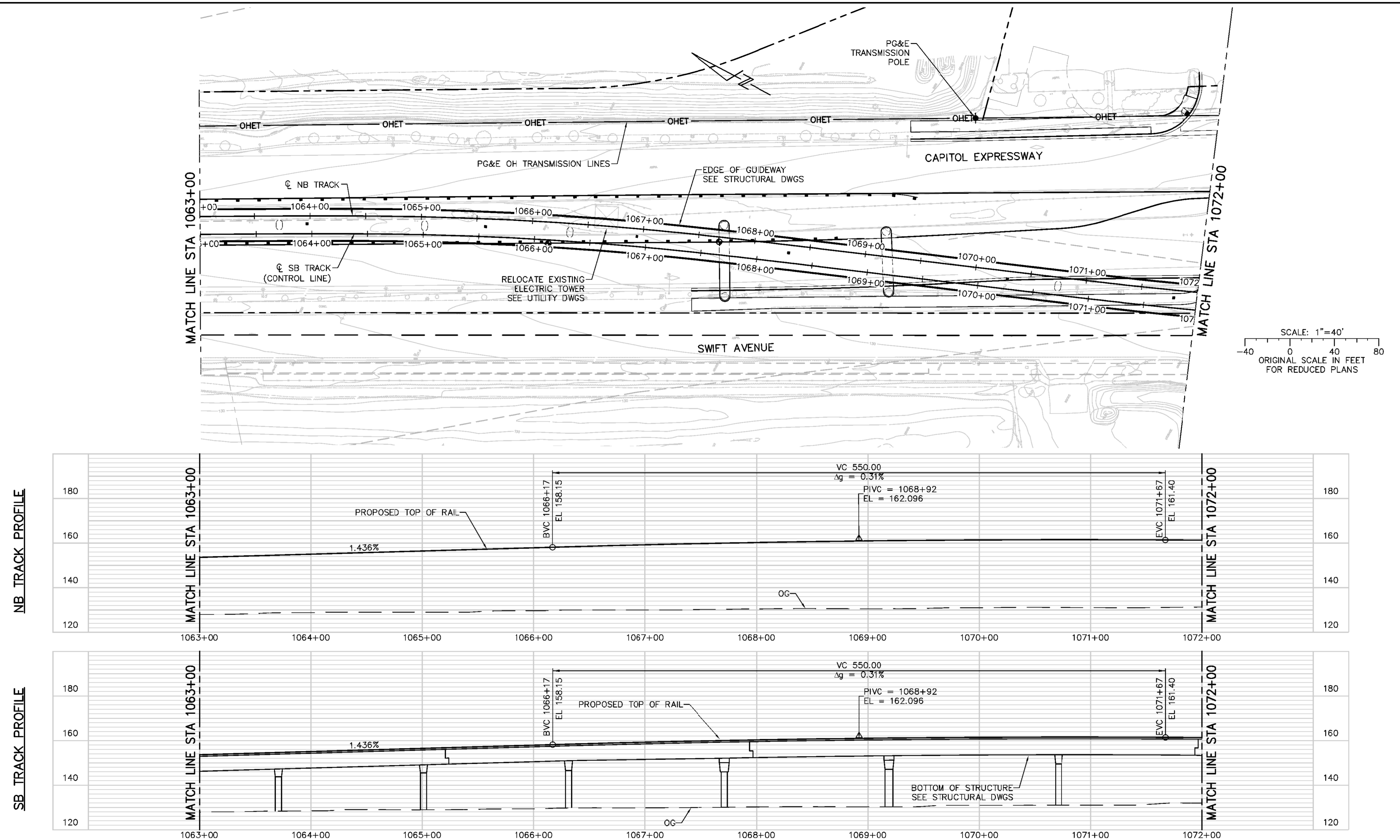

NO.	DATE	REVISIONS

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DRAWN | CADD FILE NAME 801EX012.dwg

Santa Clara Valley Transportation Authority

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ENGINEERS / SURVEYORS / PLANNERS

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SUBMITTAL DATE | BOARD APPROVAL DATE

EASTRIDGE TO BART REGIONAL CONNECTOR
CAPITOL EXPRESSWAY LIGHT RAIL PROJECT

ENVIRONMENTAL EXHIBITS
STA 1063+00 TO STA 1072+00

PCA NO. | CONTRACT NO. C801 | FILE LOCATION PROJECTWISE

SHEET 12 OF 15

DRAWING NO. EX012

REVISION

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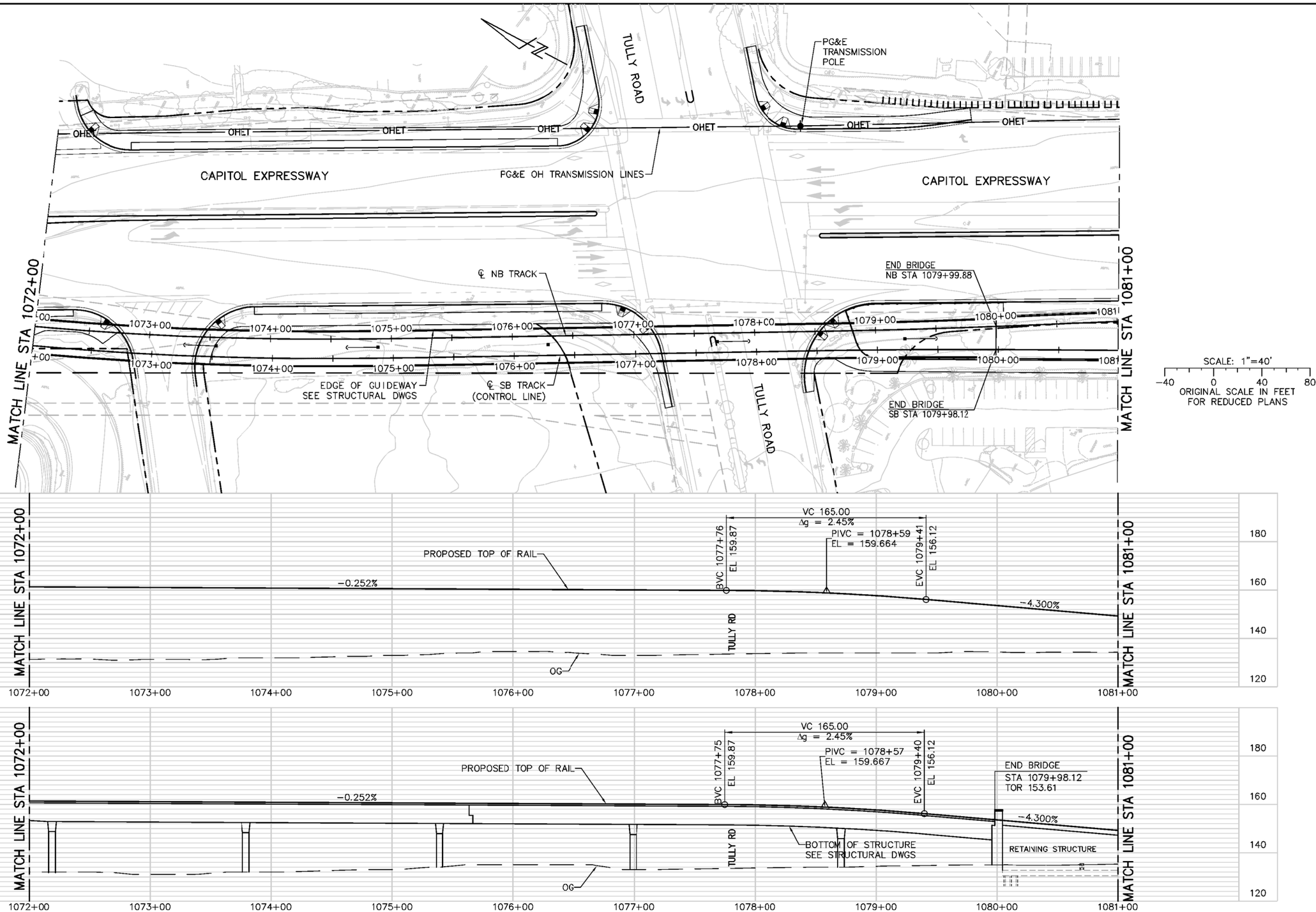

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Santa Clara Valley Transportation Authority

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ENGINEERS / SURVEYORS / PLANNERS

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SUBMITTA. DATE | BOARD APPROVAL DATE

EASTRIDGE TO BART REGIONAL CONNECTOR
CAPITOL EXPRESSWAY LIGHT RAIL PROJECT

ENVIRONMENTAL EXHIBITS
STA 1072+00 TO STA 1081+00

PCA NO. | CONTRACT NO.: C801 | FILE LOCATION: PROJECTWISE

SHEET 13 OF 15

DRAWING NO.: EX013

REVISION

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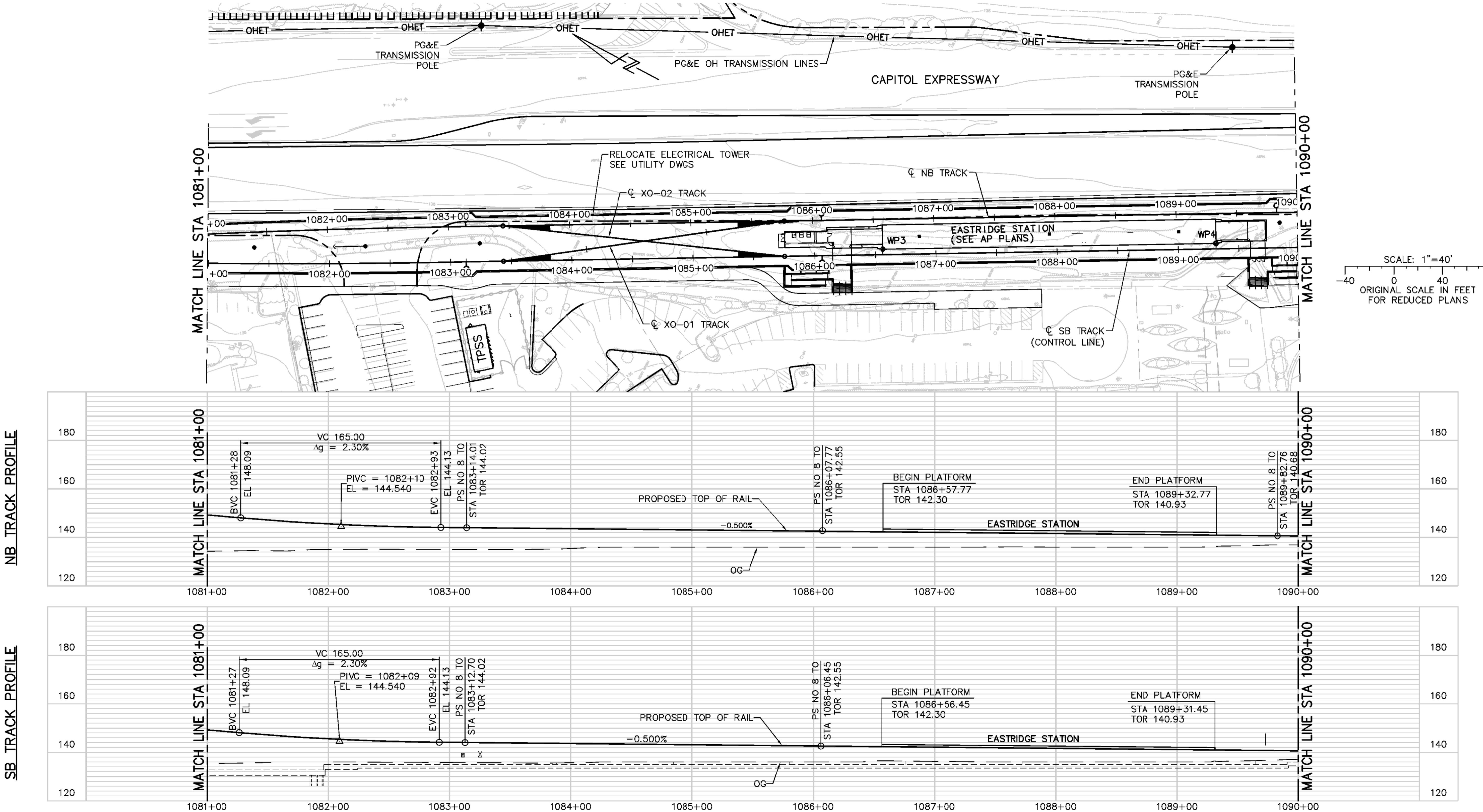

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SUBMITTAL DATE | BOARD APPROVAL DATE

EASTRIDGE TO BART REGIONAL CONNECTOR
CAPITOL EXPRESSWAY LIGHT RAIL PROJECT

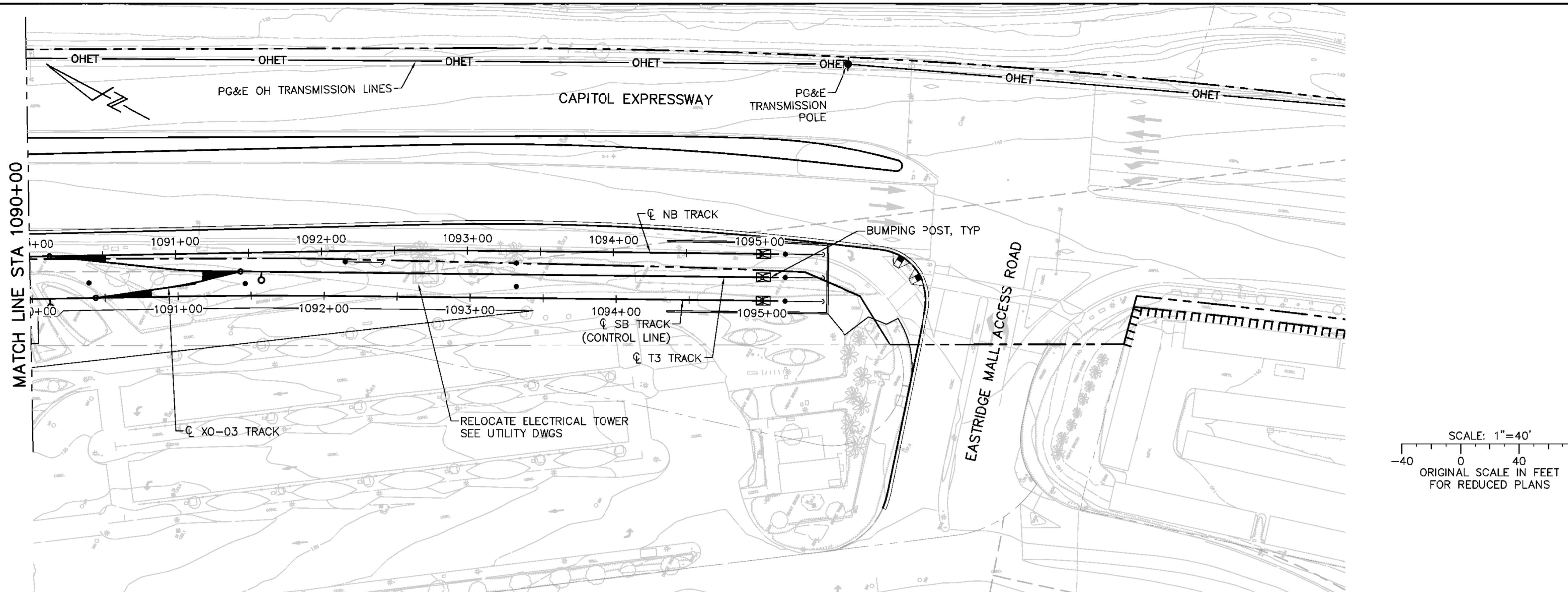
ENVIRONMENTAL EXHIBITS
STA 1081+00 TO STA 1090+00

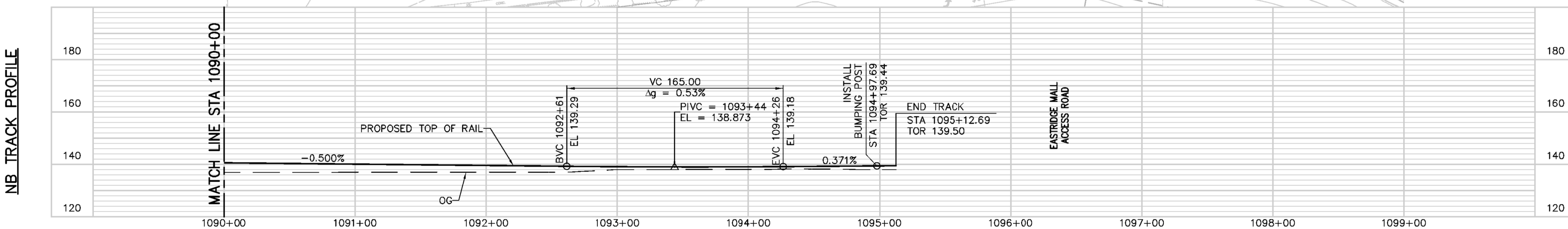
SHEET 14 OF 15

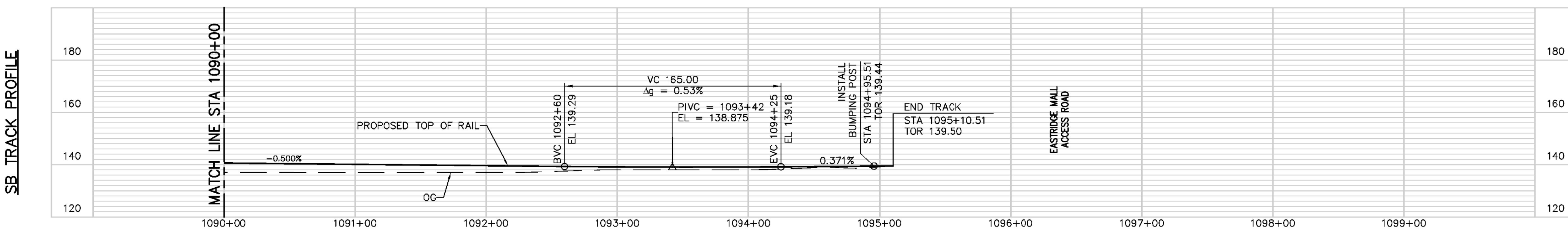
DRAWING NO. EX014

REVISION

PCA NO. | CONTRACT NO. C801 | FILE LOCATION PROJECTWISE







NO.	DATE	REVISIONS

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SCALE 1"=40' H; 1"=20' V
SUBMITTAL DATE
BOARD APPROVAL DATE

EASTRIDGE TO BART REGIONAL CONNECTOR
CAPITOL EXPRESSWAY LIGHT RAIL PROJECT

ENVIRONMENTAL EXHIBITS
STA 1090+00 TO STA 1096+00

SHEET 15 OF 15
DRAWING NO. EX015
REVISION
PCA NO.
CONTRACT NO. C801
FILE LOCATION PROJECTWISE