

## 4.19 CONSTRUCTION

### 4.19.1 INTRODUCTION

This section updates the Phase 1 construction information presented in the SEIR-1, incorporating additional information acquired (and associated environmental impacts) as the design has progressed. The section briefly outlines preconstruction activities and the proposed construction schedule. Detailed information about Phase 1 construction is available in several technical reports, which are listed in **Chapter 10, Bibliography** of this SEIR-2 and are available upon request from VTA.

VTA would be responsible for the construction of Phase 1, including implementation of the mitigation measures, in accordance with the VTA/BART Comprehensive Agreement. Once construction is completed, BART would operate and maintain the system.

### 4.19.2 ACTIVITIES PRIOR TO CONSTRUCTION

#### 4.19.2.1 Construction Education and Outreach Plan

Prior to construction, a coordinated outreach effort would be implemented to address construction issues raised by local businesses and residents. The following mitigation measure would be implemented by VTA to address issues and inform the public and other stakeholders of the construction schedule and associated activities:

**Mitigation Measure CNST-1:** A Construction Education and Outreach Plan will be developed by VTA to foster communication between VTA, various municipalities, and the public during the construction phase. The plan will be implemented to coordinate construction activities with existing business operations and other development projects, and establish a process that will adequately address the concerns of businesses and their customers, property owners, residents, and commuters. Critical components of this plan will include but are not limited to the following public outreach strategies:

- Frequent updates to stakeholder groups, business organizations, and municipalities;
- Public workshops and meetings with community members;
- Distribution of project information and advanced construction notification via flyers, emails, mailers, and face-to-face visits;

- Continuous sharing of project information and contacts posted to the website;
- Media relations—i.e., news releases, news articles, and interviews; and
- Deployment of an onsite outreach coordinator and outreach personnel.

Throughout development and implementation, the education and outreach activities will be: (1) comprehensive, seeking widespread involvement; (2) proactive, with efforts geared toward obtaining input, as well as disseminating information; (3) responsive to various needs, including translations into multiple languages and alternative formats; and (4) timely, accurate, and results oriented.

### **4.19.3 CONSTRUCTION SCHEDULE AND MAJOR ACTIVITIES**

#### **4.19.3.1 Construction Schedule**

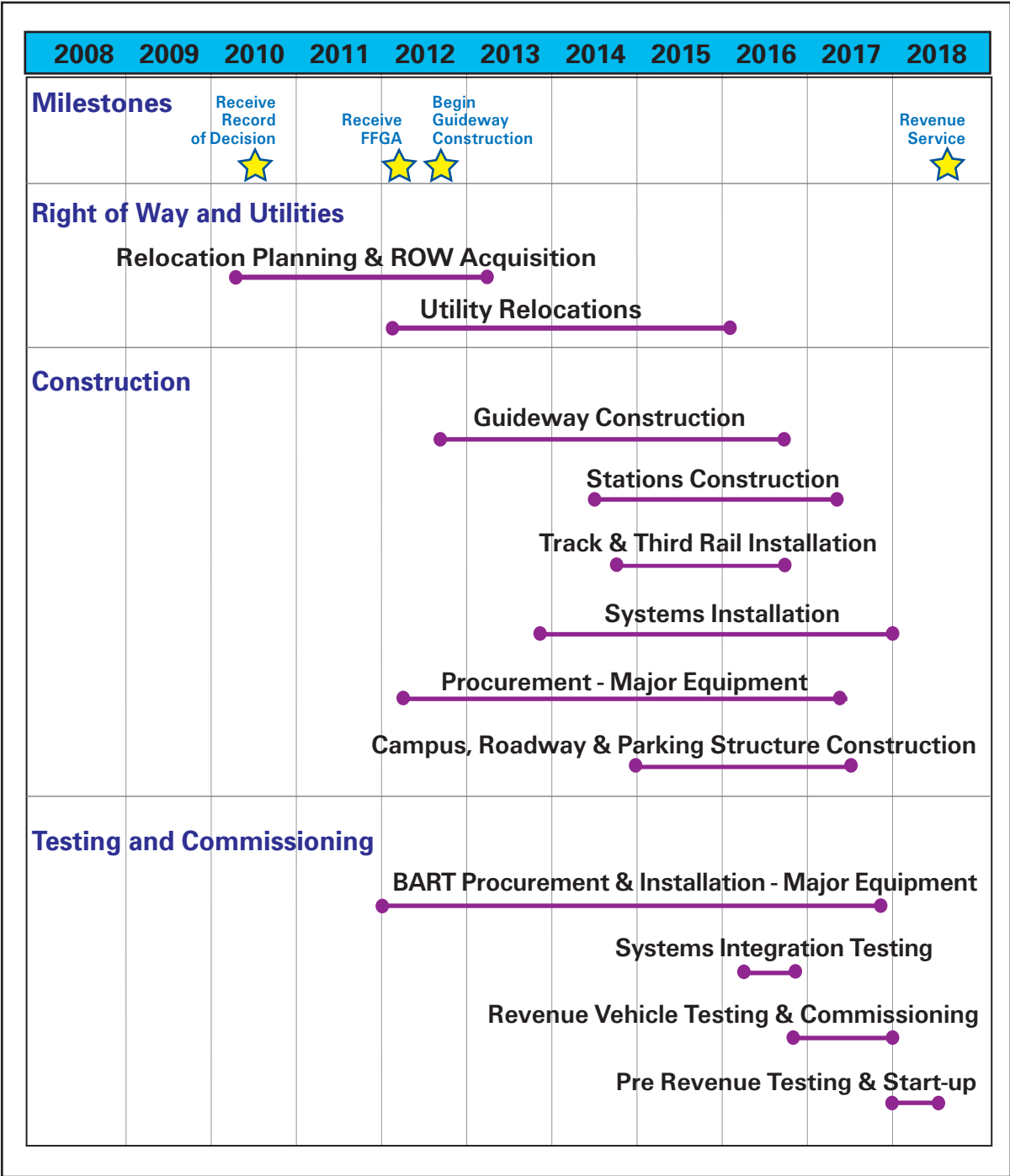
Phase 1 construction and start-up and testing activities are expected to span approximately eight years, as shown in **Figure 4.19-1**. Passenger service for Phase 1 would start in 2018, assuming that funding is available. The following subsections describe the major construction activities.

#### **4.19.3.2 Truck Haul Routes**

Phase 1 would require the removal of excavated soil, primarily to construct the retained cuts, roadway underpasses, and building foundations for stations and facilities; depending on its suitability, some of the soil might also be used in the retained fills for final grading of trackway. However, a considerable amount of excavated material would be residual. An estimate has been made of the volume of material to be hauled from the construction sites and the number of trucks that would be required (see **Table 4.19-1**).

**Table 4.19-1** identifies the haul routes by major roadway; however, trucks could use other streets, excluding residential streets, to travel to and from various construction access points along the line segment.

Restrictions on haul routes could be incorporated into construction specifications, and any request by the contractor to change the routes would be subject to approval by the applicable city.



Source VTA 2010

Figure 4.19-1: Phase 1 Construction Schedule

**Table 4.19-1: Warms Springs to Berryessa Road Haul Road Volumes and Numbers of Trucks for SVBX**

Haul Road	Haul Volume (cubic yards)	Estimated Number of Trucks <sup>a</sup>
East Warren Avenue using I-880 or I-680 via Mission Boulevard	96,000	4,800
Kato Road using I-880 or I-680	52,000	2,600
Dixon Landing Road using I-880	63,000	3,150
Calaveras Boulevard using I-880 or I-680	8,000	400
Montague Expressway using I-880 or I-680	160,000	8,000
Trade Zone Boulevard/East Capitol Avenue using I-880 or I-680	107,000	5,350
Hostetter Road using I-880 or I-680	121,000	6,500
Mabury/Berryessa Roads using US 101 or I-680	84,000	4,200
<b>Totals</b>	<b>691,000</b>	<b>35,000</b>

<sup>a</sup> Based on approximately 20 cubic yards per truck.  
Source: HNTB Quantity Take-offs, 2010.

**Subsection 3.2.5** of this SEIR-2 discusses the changes to the construction staging areas (CSAs) since publication of the SEIR-1. **Figures 4.19-2 through 4.19-8** show the CSAs needed for Phase 1.

## 4.19.4 ENVIRONMENTAL ANALYSIS FOR CONSTRUCTION

### 4.19.4.1 Transportation

The information in this SEIR-2 appends to the discussion in subsection 4.18.5.1 of the SEIR-1 for construction impacts to transportation.

#### Transportation and Safety

Refer to the discussion under the heading “Vehicular Traffic” below for an evaluation of construction impacts relative to changes in access and to **subsection 4.19.4.4** of this SEIR-2 for an evaluation of construction impacts relative to emergency access.

No construction impacts related to airport safety would occur as a result of Phase 1, as construction activities would not be located within an applicable airport land use plan. No mitigation is required.

#### Transit

During construction of Phase 1, bus routes and bus stops could be temporarily re-routed and relocated, respectively. VTA will coordinate with AC Transit as necessary, to ensure that appropriate measures are taken to re-route bus routes



Source: VTA, 2010.

Figure 4.19-2: Mission Falls Court Construction Staging Area





Source: VTA, 2010.

Figure 4.19-3: Piper Drive Construction Staging Area





Source: VTA, 2010.

Figure 4.19-4: Capitol Avenue Construction Staging Area

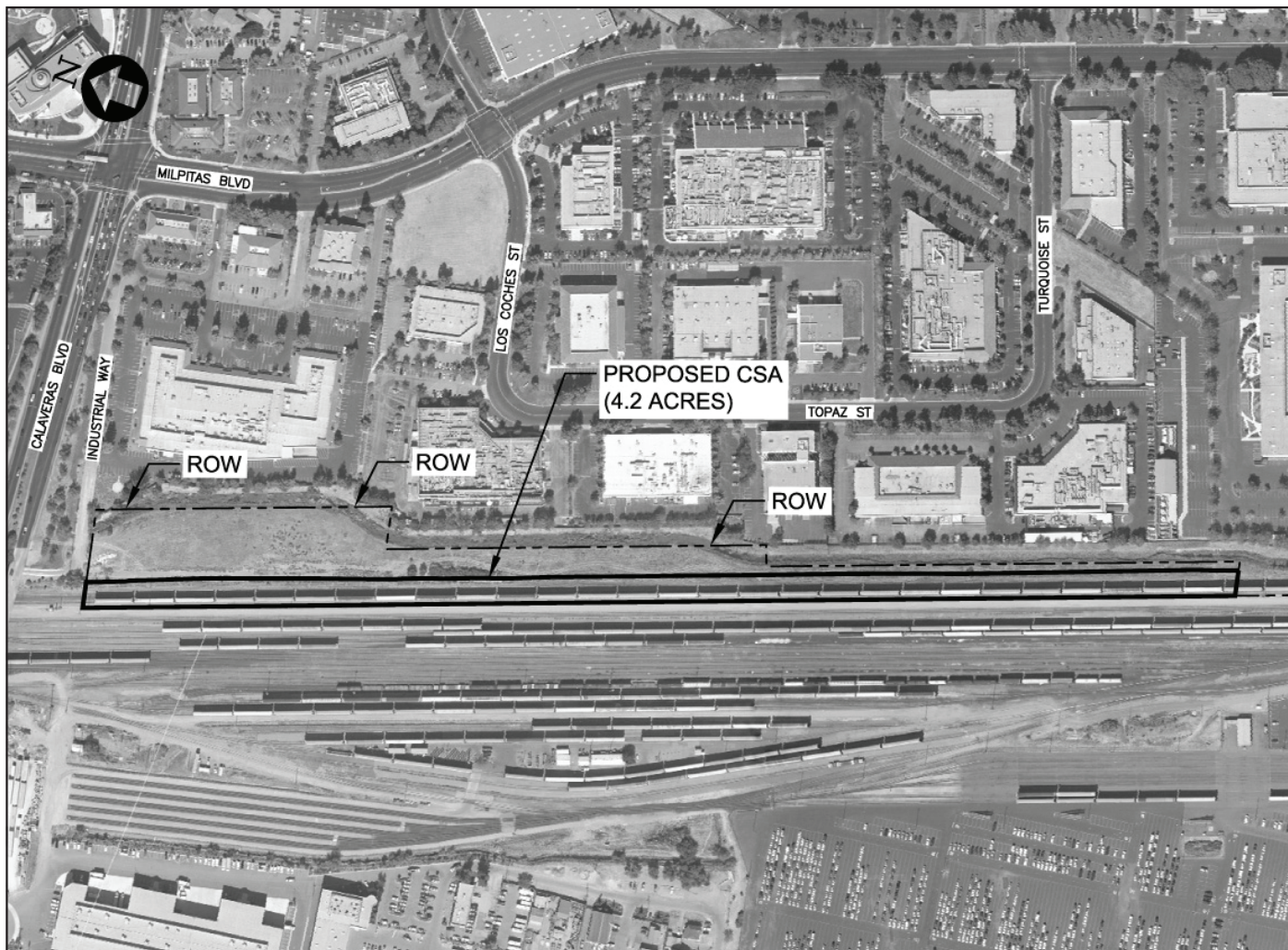




Source: VTA, 2010.

Figure 4.19-5: Trade Zone Boulevard Construction Staging Area





Source: VTA, 2010.

Figure 4.19-6: Calaveras Boulevard Construction Staging Area

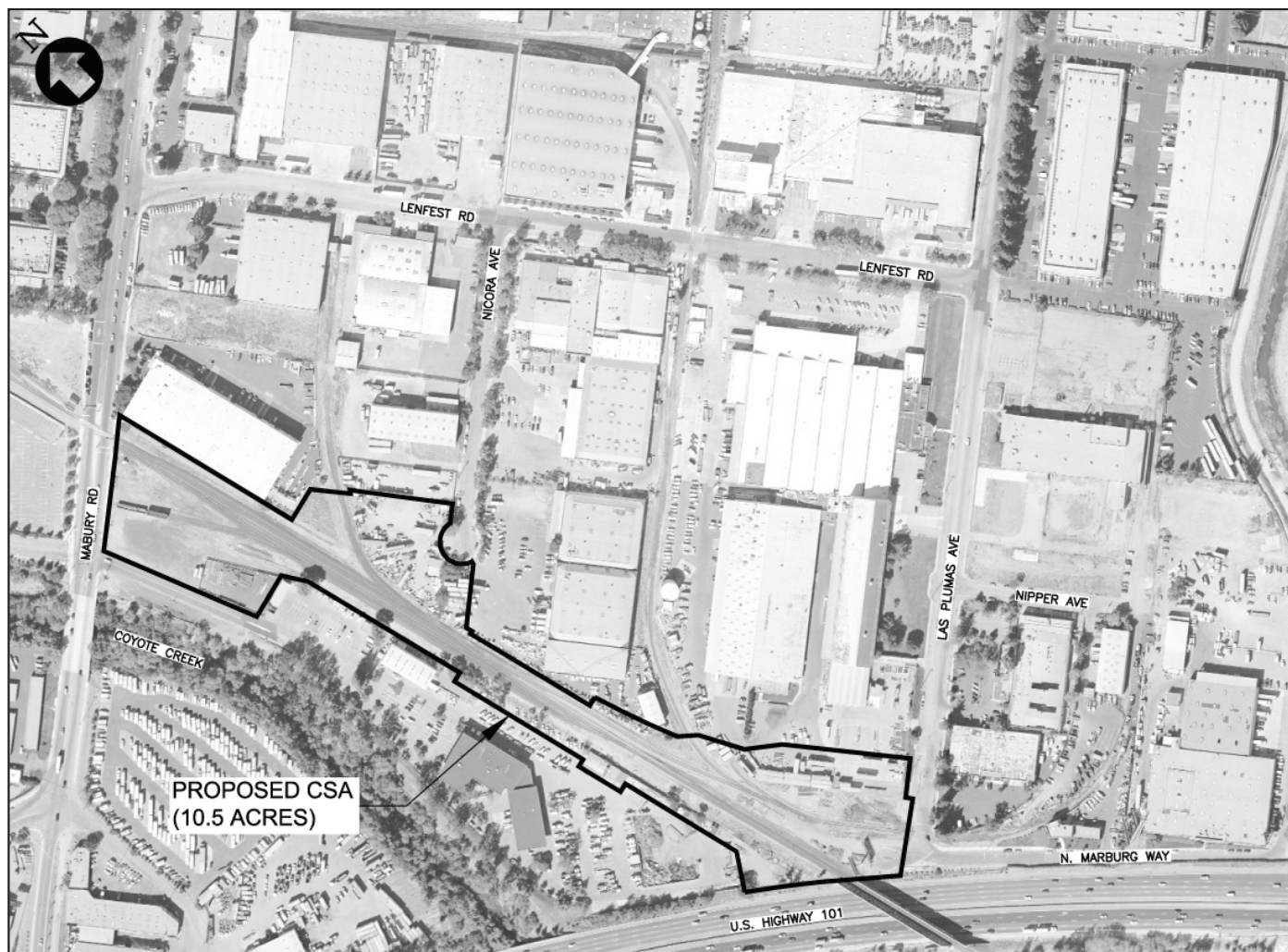




Source: VTA, 2010.

Figure 4.19-7: Berryessa Road Construction Staging Area





Source: VTA, 2010.

Figure 4.19-8: Proposed Mabury Road and U.S. 101 Construction Staging Area



and to relocate bus stops during construction. Notification to the media and general public will be provided in accordance with the Construction Education Outreach Plan.

Phase 1 would also involve connecting the southern terminus of the BART Warm Springs Extension to the new Phase 1 trackway. Construction of this connection has the potential to disrupt existing BART revenue service. To avoid the disruption, construction would be scheduled during non-revenue hours as required.

The construction of the Dixon Landing Road, Montague Expressway, Capitol Avenue, Trade Zone Boulevard, Hostetter Road, Sierra Road/Lundy Avenue, Berryessa, and Mabury Road crossings would cause minimal impacts to freight operations. Construction of the crossings would require temporary (evenings and weekends) closures of freight tracks. VTA will work with UPRR to minimize significant impacts to freight operations during construction of the crossings.

Construction of Phase 1 would result in a less than significant impact to bus and transit services and routes.

### **Pedestrians and Bicyclists**

No pedestrian or bicycle facilities would be impacted during construction of Phase 1.

### **Vehicular Traffic**

Construction along the line segment includes grade separations between the Phase 1 alignment and several roadway crossings, as described below. As part of the Construction Education and Outreach Plan (see **subsection 4.19.2.1** of this SEIR-2), VTA will inform the media and public (local residents, business owners, and motorists) of the construction activities, schedules, lane closures, and detours for the crossings. In addition, VTA will work with police departments to monitor lane closures and provide manual traffic control on detour routes as necessary; work with the cities to modify green times at key intersections during construction; set up event timers at key intersections for time of day when closures are planned; modify timing to allow longer gap and maximum times for detour movements at key intersections; provide flag control or temporary signalization at un-signalized intersections; and provide early signage of potential construction delays for motorists to choose alternate routes.

### ***Road Crossings***

The construction methodology of Dixon Landing Road was more defined since approval of the SEIR 1. There are two alignment options at Dixon Landing Road: BART At Grade and BART Retained Cut, as described in the Project Description.

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Under the BART At Grade Option, there are two options for construction methodology: full road closure and partial closure of Dixon Landing Road. The construction durations of the options are listed below:

- **BART Retained Cut Option:** entire construction period of 30 months, with a few nighttime and weekend full closures,
- **BART At Grade Option, with full road closure:** entire construction period of 30 months, 12 of which would involve full closure of Dixon Landing Road, the remaining 18 months would require occasional nighttime and weekend closures,
- **BART At Grade Option, with partial road closure:** entire construction period of 48 months, 30 months of which there would be long-term partial closure of Dixon Landing Road with occasional nighttime and weekend full closures. The other 18 months would require minimal intermittent traffic restrictions, with occasional nighttime and weekend full closures.

Construction of the BART Retained Cut Option would result in a less than significant impact to traffic during construction. Construction of the BART At Grade Option, whether full or partial closure, would result in a significant impact to traffic during construction. Mitigation measures to reduce these impacts are not feasible due to ROW constraints. However, the following mitigation measure would help reduce the severity of this impact:

**Mitigation Measure CNST-TR-1:** Mitigation measures to reduce these impacts are not feasible due to ROW constraints. VTA will work with the City of Milpitas to develop a Traffic Management Plan for construction of the Dixon Landing Road Crossing. This impact remains significant and unavoidable.

Construction of the Montague Expressway, Capitol Avenue, Trade Zone Boulevard, Hostetter Road, Sierra Road/Lundy Avenue, Berryessa Road, and Mabury Road Crossings would have less than significant impacts to traffic; therefore, no mitigation is required.

### **Truck Haul Routes**

The proposed truck haul routes and projected volumes of material for Phase 1 are provided in **subsection 4.19.3.2** of this SEIR-2. Significant impacts from the low volume of peak hour trucks on traffic level of service would not be substantial, except for momentary delays where trucks would be entering or leaving streets from the construction areas. This is considered a less-than-significant impact; therefore, no mitigation is required.

## **Conclusion**

The transportation construction impacts have not changed since certification of the SEIR-1. Construction of Phase 1 would not have significant impacts to transit systems. Construction of Phase 1 would result in significant vehicular traffic impacts at Dixon Landing Road under the At Grade Option, for full closure or partial closure of Dixon Landing Road, during construction. While Mitigation Measure CNST-TR-1 would reduce such impacts, the constrained ROW availability at Dixon Landing Road would render construction impacts at this location significant and unavoidable. Impacts to truck haul routes would be less than significant due to the low volume of peak hour trucks.

### **4.19.4.2 Air Quality**

The discussion in subsection 4.18.5.2 of the SEIR-1 for construction impacts to air quality is replaced by the information in this SEIR-2. The SEIR-2 updates the previous information based updated guidance for assessing construction emissions.

Since certification of the SEIR-1, the Bay Area Air Quality Management District's (BAAQMD) published new guidance for assessing air quality construction impacts in June of 2010.<sup>1</sup> This guidance includes new calculation methodologies and quantitative thresholds that were not considered in the FEIR or SEIR-1. The updated BAAQMD guidance applies to Phase 1 as a whole, including all design changes. This analysis includes the following changes:

- Construction emissions were estimated using the BAAQMD-recommended Sacramento Metropolitan Air Quality Management District (SMAQMD) RoadMod emissions inventory model; and
- The toxic air contaminant (TAC) analysis has been revised to include updated discussions of diesel particulate matter emissions and potential exposure to airborne asbestos.

The BAAQMD recommends using the SMAQMD RoadMod to quantify construction emissions. RoadMod calculates emissions for transportation projects that are constructed in a linear fashion (e.g. roadway, bridge, and railways). This model calculates both on-site and off-site emissions, and both fugitive dust emissions, as well as exhaust emissions. The BAAQMD also focuses on the implementation of effective and comprehensive control measures to reduce fugitive dust emissions. Regional emissions are compared to the BAAQMD regional thresholds to determine significance.

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<sup>1</sup>BAAQMD, California Environmental Quality Act Air Quality Guidelines, June 2010.



BAAQMD's approach to the CEQA analysis of construction-related fugitive dust impacts is to emphasize the implementation of effective and comprehensive control measures rather than detailed quantification of emissions. The *BAAQMD CEQA Guidelines* provide feasible control measures for construction emissions of particulate matter (PM<sub>10</sub>).<sup>2</sup> If the appropriate construction controls are to be implemented, then fugitive dust emissions for construction activities would be considered less than significant.

The BAAQMD has identified the following quantitative thresholds for construction equipment exhaust emissions (**Table 4.19-2**):

**Table 4.19-2: Construction Emissions Thresholds**

Criteria Pollutant	Pounds per Day
Reactive Organic Gases (ROG)	54
Nitrogen Oxides (NOX)	54
Fine Particulate Matter (PM <sub>2.5</sub> )	54 (exhaust only)
Respirable Particulate Matter (PM <sub>10</sub> )	82 (exhaust only)

Source: BAAQMD, California Environmental Quality Act Air Quality Guidelines, June 2010.

### **Construction Pollutant Emissions**

Construction associated with Phase 1 would generate pollutant emissions from the following construction activities: (1) site preparation, (2) demolition of existing roadways, (3) construction workers traveling to and from construction sites, (4) delivery of construction supplies to construction sites and hauling of debris from construction sites, and (5) fuel combustion by on-site construction equipment. These construction activities would create emissions of dust (particulate matter), fumes, equipment exhaust, and other air contaminants. Emissions in pounds per day were calculated for particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), reactive organic gas (ROG), and nitrogen oxide (NO<sub>x</sub>). **Table 4.19-3** presents the regional construction emissions for Phase 1. NO<sub>x</sub> emissions would exceed the significance threshold, and would result in a significant impact without mitigation.

A quantitative significance threshold for construction emissions was not available by the BAAQMD when the FEIR and SEIR-1 were completed. Therefore, significant air quality construction impacts were not previously identified in the environmental documentation.

<sup>2</sup> *Ibid.*

**Table 4.19-3: Unmitigated Construction Emissions Criteria Pollutant Emissions (Pounds per Day)**

Scenario	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Total Phase 1 Emissions	18	92	5	5
BAAQMD Thresholds	54	54	82	54
Exceed Threshold?	No	Yes	No	No

Source: Terry A. Hayes Associates Inc., 2010.

Construction of Phase 1 would exceed the BAAQMD thresholds for NO<sub>x</sub>. The following mitigation measures would be implemented to minimize this significant impact.

### ***Construction Phase Control Measures and Mitigation Measures***

**Mitigation Measure CNST-AQ-1:** Construction contractors shall implement the BAAQMD *Basic Construction Mitigation Measures* listed below and the applicable measures in the *Additional Construction Mitigation Measures*, also listed below. This includes Measure 10 in the *Additional Construction Mitigation Measures*.

#### *Basic Construction Mitigation Measures*

The following controls should be implemented at all construction sites.

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. 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.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. 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.
6. 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.

7. 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.
8. 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.

*Additional Construction Mitigation Measures*

The following measures will also be implemented as applicable.

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel powered construction equipment to two minutes.



10. Phase 1 shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO<sub>x</sub> reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO<sub>x</sub> and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Construction activity would result in a potentially significant impact without the utilization of applicable BAAQMD control measures. Mitigation Measure CNST-AQ-1 includes the *Basic Construction Mitigation Measures* above and Measure 10 listed in the *Additional Construction Mitigation Measures*. These mitigation measures would reduce NO<sub>x</sub> emissions by 25 percent and PM<sub>2.5</sub> and PM<sub>10</sub> emissions by 45 percent. As shown in **Table 4.19-4**, NO<sub>x</sub> emissions would still exceed the BAAQMD threshold resulting in a significant and unavoidable impact.

**Table 4.19-4: Mitigated Construction Emissions Criteria Pollutant Emissions (Pounds per Day)**

Scenario	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Total Phase 1 Emissions	18	69	3	3
BAAQMD Thresholds	54	54	82	54
Exceed Threshold?	No	Yes	No	No

The BAAQMD recommends implementing Measure 10 from the *Additional Construction Mitigation Measures* for a 20 percent reduction in NO<sub>x</sub>, and a 45 percent reduction in PM<sub>10</sub> and PM<sub>2.5</sub>. The BAAQD recommends that implementation of the *Basic Construction Mitigation Measures* reduces NO<sub>x</sub> an additional 5 percent.

Source: Terry A Hayes Associates Inc., 2010.

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## **Toxic Air Contaminants (TAC)**

The FEIR and SEIR-1 discussed the sources and health impacts of TAC. This report updates the previous TAC analysis in the FEIR using the new guidance provided by the BAAQMD *CEQA Air Quality Guidelines*.<sup>3</sup> The new guidelines include an assessment of asbestos, which was not previously analyzed in the air quality analysis in the FEIR or SEIR-1.

### ***Diesel Particulate Matter***

Construction-related activities could result in the generation of TACs, specifically diesel PM, from on-road haul trucks and off-road equipment exhaust emissions. Due to the variable nature of construction activity, the generation of TAC emissions would be temporary; especially considering the short amount of time equipment is typically located near sensitive land uses. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk. Additionally, the implementation of the *Basic Construction Mitigation Measures*, which is recommended for all proposed projects, would reduce diesel PM exhaust emissions. Construction diesel PM emissions would result in a less-than-significant impact, which is consistent with the conclusions presented in the FEIR and SEIR-1. No mitigation is required.

### ***Demolition and Renovation of Asbestos-Containing Materials***

The BAAQMD has adopted Regulation 11, Rule 2 which addresses asbestos demolition renovation, manufacturing, and standards for asbestos containing serpentine. The purpose of Regulation 11, Rule 2 is to control emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and establish appropriate waste disposal procedures.<sup>4</sup> Some of the regulations listed in Regulation 11, Rule 2 include:

- **Visible Emissions:** There shall be no visible emissions to the outside air from any asbestos mill or from any operation involving the demolition, renovation, removal, manufacture or fabrication of any product containing asbestos.
- **Demolition, Renovation, and Removal:** To prevent emissions from asbestos containing material, a person responsible for scheduled, nonscheduled, or emergency demolition, renovation, or removal of any building elements containing any amount of RACM shall use the

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<sup>3</sup>BAAQMD, CEQA Air Quality Guidelines, June 2010.

<sup>4</sup>BAAQMD, Regulation 11, Rule 2, October 1998.

procedures specified in subsections 303.1 through 303.13. This shall not apply to maintenance or decontamination procedures where no removal takes place.

- **Waste Disposal:** To prevent emissions from asbestos-containing material, a person responsible for the collection, processing (including incineration and conversion), packaging, transporting, or disposition of any asbestos-containing waste material which is generated by manufacturing; fabricating; scheduled, nonscheduled, or emergency demolition or renovation, whether notified or not; spraying operations; or asbestos milling, shall use procedures specified in Regulation 11, Rule 2, Standard 304.
- **Waste Disposal Sites:** There shall be no visible emissions to the outside air from a waste disposal site where asbestos-containing waste material has been or is being deposited.

Phase 1 would not involve the demolition or renovation of any materials containing asbestos. Because BAAQMD Regulation 11, Rule 2 is in place, no further analysis about the demolition of asbestos-containing materials is needed in a CEQA document. BAAQMD does recommend that CEQA documents acknowledge and discuss BAAQMD Regulation 11, Rule 2 to support the public's understanding of this issue. The purpose of this Rule is to control emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and establish appropriate waste disposal procedures. Rule 2 prohibits the use of asbestos in surfacing roadways, insulating buildings, or as any sort of architectural coating. The Rule also identifies standards in the demolition or renovation of buildings containing asbestos. Demolition and renovation of asbestos-containing materials would result in a less-than-significant impact.

### ***Naturally Occurring Asbestos***

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by the California Air Resources Board (CARB). NOA is located in many parts of California and is commonly associated with ultramafic rocks, according to the California Department of Geology's special publication titled Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California. BAAQMD's NOA program requires that the applicable notification forms from the Air District's website be submitted by qualifying operations in accordance with the procedures detailed in the Airborne Toxic Control Measure (ATCM) Inspection Guidelines Policies and Procedures. The Lead Agency shall reference BAAQMD's ATCM Policies and Procedures to determine which NOA Notification Form is applicable to Phase 1 (NOA Notification Forms). The ATCM requires regulated operations engaged in road construction and maintenance activities,

construction and grading operations, and quarrying and surface mining operations in areas where NOA is likely to be found, to employ the best available dust mitigation measures to reduce and control dust emissions.

Phase 1 is located in an area near NOA, and the grading associated with construction has the potential to expose nearby residents. The implementation of the *Basic Construction Mitigation Measures* by the construction contractor, as identified in Mitigation Measure CNST-AQ-1, would control NOA exposure to the greatest extent feasible and reduce impacts related to NOA exposure to a less-than-significant level.

### **Conclusion**

The analysis based on the most recent BAAQMD guidance indicates that regional construction emissions would result in an unavoidable significant air quality impact. Although implementation of Mitigation Measure CNST-AQ-1 would reduce NO<sub>x</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub> emissions through the incorporation of construction control measures, the NO<sub>x</sub> emissions would still exceed the BAAQMD threshold for construction emissions. Phase 1 would therefore result in a significant and unavoidable impact. This impact was not previously identified in the FEIR or SEIR-1. Impacts related to TACs would be less than significant and no mitigation is required.

#### **4.19.4.3 Biological Resources**

The discussion in subsection 4.19.5.1 of the FEIR related to temporary impacts to Congdon's tarplant, wetlands and waters of the United States, riparian habitat, nonnative grasslands, and several bat species remains applicable in the SEIR-2. Updated information provided in the SEIR-1, subsection 4.18.5.3, including mitigation measures that further clarify requirements to avoid, minimize, or compensate for impacts to nesting raptors, steelhead and other aquatic species, and western burrowing owls, remains applicable in this SEIR-2. Note that the mitigation measure applicable to burrowing owls for preconstruction surveys, avoidance of occupied burrows, passive relocation and, if necessary, habitat preservation is also applicable if burrowing owls are found to occupy the vacant lot identified as an alternate location for High Voltage Substation SRC and Switching Station SRR (see Design Change 3, System Facilities Alternate Location A, in **subsection 4.4.4**). Congdon's tarplant is discussed in **Section 4.4, Biological Resources**.

Several of the design requirements, best management practices, and/or mitigation measures included in the FEIR, subsections 4.19.5.2 and 4.19.5.3, related to swallows and other migratory birds, roosting bats, fish and other in-stream species, water quality; California red-legged frogs, and western pond turtles have been modified as new or revised mitigation measures in the SEIR-2. The mitigation measure for California red-legged frogs has been revised in this



SEIR-2 to include California tiger salamanders, as construction activities at or near Upper Penitencia Creek and Lower Silver Creek, which provide potential aquatic habitat and upland aestivation habitat, could impact tiger salamanders.

The following mitigation measures have been added as part of this SEIR-2 and would be required in addition to the mitigation measures previously identified in the FEIR and SEIR-1.

**Mitigation Measure CNST-BIO-1:** If construction activities are scheduled to occur during the nesting season of swallows and other migratory birds (generally March through August), a pre-construction survey for nesting activity will be conducted prior to commencement of construction. If no nesting swallows are found, then no further mitigation is warranted.

**Mitigation Measure CNST-BIO-2:** If active nests are identified close to construction work, a biological monitor will monitor the nests when work begins. If the biological monitor, in consultation with the CDFG, determines that construction activities are disturbing adults incubating eggs or young in the nest, then a no work zone buffer will be established by the biological monitor around the nest until the young have fledged and the nest is no longer active. If a biological monitor, in consultation with CDFG, determines that construction activities occurring in proximity to active cliff swallow nests are not disturbing adults or chicks in the nest, then construction activities can continue. Nests that have been determined to be inactive (with no eggs or young) can be removed with CDFG approval.

**Mitigation Measure CNST-BIO-3:** A qualified biologist will conduct preconstruction surveys in suitable habitat determine the presence of roosting bats. If no roosting bats are found, then no further mitigation is warranted.

**Mitigation Measure CNST-BIO-4:** If it is determined that bats are roosting beneath a bridge, in a building, or in adjacent riparian habitat, then appropriate modifications to construction time and method will be implemented in accordance with CDFG approval. Modifications may include timing construction activities to avoid breeding periods, establishment of buffers, or biological monitoring. In some cases, bats may be actively encouraged to avoid roosting in the area impacted prior to the onset of construction activities.

**Mitigation Measure CNST-BIO-5:** To the maximum extent practicable throughout the project site, construction activities and facilities, including pilings and bridge footings, will be placed outside of aquatic/riparian habitat to avoid impacts to riparian habitat and steelhead and Chinook salmon fisheries.

**Mitigation Measure CNST-BIO-6:** Installation of falsework and stream diversions required in the course of bridge construction will be consistent with VTA's Fish-Friendly Channel Design Guidelines to minimize impacts to migrating anadromous fish and other in-stream species. These guidelines address concerns related to a number of issues including high water velocities, jumps to channelized inlets or outlets, water depths, and resting pools.

**Mitigation Measure CNST-BIO-7:** The following recommendations by CDFG will be followed to address water quality impacts:

- No equipment will be operated in the live stream channel.
- When work in a flowing stream is unavoidable, any stream flow will be diverted around the work area by a barrier, temporary culvert, or a new channel capable of permitting upstream and downstream fish movement.
- Construction of the barrier or the new channel normally will begin in the downstream area and continue upstream, and the flow will be diverted only when construction of the diversion is completed.
- Appropriate erosion control measures will be installed to prevent debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material from being washed into waterways by rainfall or runoff.

**Mitigation Measure CNST-BIO-8:** The following mitigation measures will be followed to avoid or minimize take of California red-legged frogs or California tiger salamanders:

- A qualified biologist will conduct pre-construction surveys for California red-legged frog and California tiger salamanders within the vicinity of the project site no earlier than 2 days before ground-disturbing activities. The survey area will include 300 feet upstream and downstream from the project site.
- No activities will occur in suitable frog or salamander habitat after October 15 or the onset of the rainy season, whichever occurs first, until May 1 except for during periods greater than 72 hours without precipitation. Activities can only resume after the 72-hour period or after May 1 following a site inspection by a qualified biologist, in consultation with the U.S. Fish and Wildlife Service (USFWS). The rainy season is defined as a frontal system that results in depositing 0.25 inches or more of precipitation in one event.

- Vehicles to and from the project site will be confined to existing roadways and defined access routes to minimize disturbance of California red-legged frog and California tiger salamander habitat.
- If a California red-legged frog or California tiger salamander is encountered during excavations, or any project activities, activities will cease until the frog or salamander is removed and relocated by a USFWS-permitted biologist. Exclusionary fencing will be installed to prevent red-legged frogs or tiger salamanders from re-entering the work area. Any incidental take will be reported to the USFWS immediately by telephone.
- If suitable red-legged frog habitat or tiger salamander is disturbed or removed, VTA will restore the suitable habitat back to its original value by covering bare areas with mulch and re-vegetating all cleared areas with plant species that are currently found in the project site or as negotiated with USFWS.
- Any permanent loss of aquatic habitat in Upper Penitencia Creek or Lower Silver Creek will be compensated through protection or enhancement of degraded aquatic and riparian habitat at either an onsite or an offsite location. The location and total amount of the compensation habitat will be determined in consultation with USFWS. (Mitigation for impacts to wetland and aquatic habitats is included in Section 4.4.4 of the SEIR-1. Mitigation for impacts to riparian habitat has been revised and is included in **Section 4.4.4** of the SEIR-2.)

**Mitigation Measure CNST-BIO-9:** A qualified biologist will conduct a preconstruction survey for western pond turtles in all suitable aquatic habitats. The survey area will include 300 feet upstream and downstream from the project site. This survey will be conducted no more than 24 hours prior to the onset of in water construction activities. If individual pond turtles are located, they will be captured by a qualified biologist and relocated to the nearest suitable habitat upstream or downstream of the project site. If individuals are relocated, then the contractor will install barrier fencing along each side of the work area to prevent individual turtles from re-entering the work area. In the event barrier fencing is installed, the qualified biologist will conduct relocation surveys for three consecutive days to ensure that all animals are removed from the disturbance area.

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## **Conclusion**

With implementation of Mitigation Measures CNST-BIO-1 through CNST-BIO-9, construction impacts to biological resources would be reduced to a less-than-significant level. Implementation of these measures would reduce significant impacts on special status species or their habitats, or other sensitive natural community to a less-than-significant level.

### **4.19.4.4 Community Services and Facilities**

The discussion of construction impacts relative to community services and facilities in subsection 4.19.6 of the FEIR remains applicable to this SEIR-2. None of the design changes would result in new construction impacts to community services and facilities and impacts to such services and facilities would remain less-than-significant.

However, clarifying text related to the design requirements identified in the FEIR has been added as part of this SEIR-2. In regards to coordinating with local emergency service providers in developing construction phase detour routes, VTA will coordinate with the City of San Jose Fire Department (Fire Station 34 at 1634 Las Plumas near the CSA at Mabury Road and US 101) to ensure that access to and from the station is not impacted by construction truck traffic along Las Plumas Avenue and King Road/US 101. With this clarifying text, impacts would remain less than significant and no new mitigation is required.

### **4.19.4.5 Cultural and Historic Resources**

The design changes made since certification of the SEIR-1 would not result in new significant construction impacts related to cultural and historic resources. Electromagnetic Fields

There are no new impacts due to any of the design changes included in the SEIR-2.

### **4.19.4.6 Energy**

The FEIR and SEIR-1 did not include a discussion of energy construction impacts. This section provides a new discussion of these impacts.

Energy (diesel fuel and electricity) would be used during construction of Phase 1. Energy usage during construction, while short-term, would encompass a period of approximately eight years. There would be substantial use of energy though the use of fossil fuels by machinery and workers traveling to and from the sites. Increased use of energy and electricity also would occur due to operation of facilities during construction. However, VTA's adopted Sustainability Program requires projects to "incorporate sustainability and green building principles and practices in the planning, design, construction, and operation of new VTA facilities". Energy demands during construction activities would be short-term



and temporary, and they are not anticipated to result in the substantial waste or inefficient use of energy. Therefore, construction impacts related to energy would be less than significant and no mitigation is required.

#### **4.19.4.7 Geology and Seismicity**

The discussion in subsection 4.18.5.5 of the SEIR-1 remains applicable and provides the most up-to-date information for geology, soils, and seismicity for construction impacts related to potential surface settlement and lateral ground movements. There are no new impacts due to any of the design changes included in the SEIR-2.

#### **4.19.4.8 Greenhouse Gas Emissions**

The FEIR and SEIR-1 did not include a discussion of greenhouse gas (GHG) construction emission impacts. This section provides a new discussion of these impacts.

Construction activity would generate greenhouse gas (GHG) emissions from the operation of on- and off-road motor vehicles. Construction GHG emissions were estimated using the BAAQMD-recommended Sacramento Metropolitan Air Quality Management District RoadMod emissions inventory model. The model estimated that construction activity would generate 7,419 metric tons of GHG emissions per year during the construction period. However, there are no established thresholds for construction period GHG emissions. While the GHG emissions associated with construction of Phase 1 would be localized and temporary in nature, construction of Phase 1 would span a period of about eight years, representing a significant impact. Mitigation Measure CNST-GHG-1 would be required to reduce GHG emissions during construction.

**Mitigation Measure CNST-GHG-1:** VTA shall ensure that construction waste and demolition materials are recycled and that 50 percent of the construction waste is diverted from landfill, in accordance with the BAAQMD recommended guidance for reducing GHG emissions during construction.

In addition to Mitigation Measure CNST-GHG-1, implementation of Mitigation Measure CNST-AQ-1 would also reduce GHG emissions during Phase 1 construction. Specifically, the measures related to the idling of construction equipment and vehicles, construction equipment maintenance, and fleet requirements would reduce construction GHG emissions. With these measures, Phase 1 construction GHG impacts would be reduced to a less-than-significant level.

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## **Conclusion**

While there are no established thresholds for construction period GHG emissions, implementation of Mitigation Measures CNST-GHG-1 and CNST-AQ-1 would reduce GHG emissions during the eight year construction period of Phase 1.

### **4.19.4.9 Hazardous Materials**

This section replaces the information contained in subsection 4.19.10 of the FEIR and subsection 4.18.5.5 of the SEIR-1 to include new and updated information for VTA's *Contaminant Management Plan*, hazardous materials on the Great Mall property, remedial action plans, and contractor health and safety plans. The primary issues related to hazardous materials during construction are the health and safety of construction workers, the public, and the environment, and the proper management of hazardous materials.

## **Quantitative Site Assessments**

Quantitative site assessments completed since the SEIR-1 include a soil characterization study along the alignment from Berryessa Road to Mabury Road. Groundwater characterization studies were completed for the retained cut sections between Montague Expressway to Trade Zone Boulevard and Hostetter Road to Sierra Lundy Road, and for areas near Line B, Scott Creek, Berryessa Creek, Wrigley Creek, and Kato Road. The purpose of these investigations was to determine reuse or disposal requirements for soil and discharge requirements for groundwater during construction.

### ***Soil and Groundwater Investigation***

Kennedy/Jenks Consultants collected soil samples along the alignment from north of Montague Expressway in Milpitas, which includes the area of the Jones Chemical plume, to south of the Sierra Avenue/Lundy Avenue intersection in San Jose (Station 358+00 to Station 498+00) where BART would be in retained cuts, and from Berryessa Road to Mabury Road (Station 519+00 to Station 550+00) where sub-grade footings would be installed to support the BART aerial guideway. Eighty-two borings were advanced and 276 samples were collected with 225 samples analyzed. The remaining samples were retained by the laboratory.

Analytical results indicated that cadmium, total chromium, nickel, zinc, polyaromatic hydrocarbons, and total petroleum hydrocarbons as diesel and motor oil were either not detected or were detected at concentrations acceptable for reuse. Arsenic is the primary contaminant of concern, similar to the results of previous testing along the Phase 1 alignment. Lead is the secondary contaminant of concern in the Montague Expressway to Sierra Avenue/Lundy

Avenue intersection portion of the alignment. From Berryessa Road to Mabury Road, lead was either not detected or was detected at concentrations acceptable for reuse.

For areas where the contaminated soil is more than 50 feet from a stream or 5 feet above groundwater, the contractor could reuse the soil on site if it were encapsulated under barriers or other structures and covered on all exposed sides by clean material in accordance with VTA's *Contaminant Management Plan*. However, VTA anticipates that all contaminated soil would be re-sampled for profiling purposes, hauled off-site, and disposed at an appropriate landfill in accordance with local, state, and federal regulations. Impacts related to soils with would be less than significant and no additional mitigation is required.

Kennedy/Jenks Consultants performed a groundwater investigation along the railroad corridor from north of Montague Expressway in Milpitas, which includes the area of the Jones Chemical plume, to south of the Sierra Avenue/Lundy Avenue intersection in San Jose (Station 358+00 to Station 498+00). Groundwater samples were collected from Jones Chemical monitoring wells located within 100 feet of the existing railroad tracks. Groundwater analytical results were compared to the NPDES permit for discharge limits to the storm sewer.<sup>5</sup> The results were also compared to the San Jose-Santa Clara Water Pollution Control Plant industrial waste discharge limits to the sanitary sewer.

Dissolved metals including arsenic, copper, nickel, and selenium were detected in groundwater samples at concentrations greater than that allowed to discharge water to the storm sewer; therefore, further sampling would need to be performed prior to discharge. Total petroleum hydrocarbons as diesel (TPHd) and select volatile organic compounds (VOCs) were detected in the Jones Chemical monitoring wells at concentrations greater than discharge limits to the storm sewer. Groundwater treatment for TPHd and VOCs would most likely be required prior to discharge. Concentrations of dissolved metals and VOCs did not exceed available San Jose-Santa Clara Water Pollution Control Plant discharge limits. Other than potential removal of suspended solids, treatment of groundwater prior to discharge into the sanitary sewer would most likely not be required.

Locus Technologies performed a groundwater investigation for the purposes of permitting at four locations near creeks along the railroad corridor: Line B, Scott Creek, Berryessa Creek, and Wrigley Creek. Due to site inaccessibility, groundwater investigation near Kato Road was performed by using data from the Scott Creek sample location (approximately 550 feet south of Kato Road) and semi-annual groundwater monitoring data from the Scott Creek Business Park

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<sup>5</sup> NPDES General Permit R2-2004-0055, General Waste Discharge Requirements for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds.

cleanup site located at 48870 Kato Road. Groundwater analytical results were compared to the discharge limits for the NPDES permit, Union Sanitary District in Fremont, and San Jose/Santa Clara Water Pollution Control Plant in Milpitas.

Groundwater discharge from the Line B area would not require treatment prior to discharge to the Union Sanitary District Publicly Owned Treatment Works (POTW) other than the removal of suspended solids. The construction contractor would select from any number of best management practice methods to remove suspended solids. Typically, these methods include settlement in a storage tank or filtration. Discharge from the Berryessa and Wrigley creek areas would likewise not require treatment prior to discharge to the San Jose/Santa Clara Water Pollution Control Plant other than the removal of suspended solids. For the Scott Creek area, treatment for VOCs would be required in addition to the removal of suspended solids. Prior to discharge to the storm sewer, groundwater from the Scott Creek and Kato Road areas would require reductions in VOCs and zinc and groundwater from the Berryessa and Wrigley creek areas would require reductions in copper.

### **Contaminant Management Plan**

VTA's draft *Contaminant Management Plan* was described in the SEIR-1. In 2008, subsequent to the certification of the SEIR-1, the *Contaminant Management Plan* was finalized and approved by the Regional Water Quality Control Board. The Plan addresses the management of contaminated materials that could be encountered during construction for Phase 1, including soil, existing railroad ballast, groundwater from construction dewatering, and debris from building demolition. The plan also includes a site-specific risk assessment for soil and ballast reuse and "reuse standards" below which soil and ballast can be reused. A summary of the *Contaminant Management Plan* is provided below, which replaces and updates the information in the SEIR-1.

The *Contaminant Management Plan* is incorporated into this SEIR-2 by reference. The *Contaminant Management Plan* is technical in nature and includes mitigation measures in Section 4 for soil and railroad ballast; Section 5 for groundwater as part of dewatering activities; and Section 6 for building materials. Mitigation measures applicable to soil and railroad ballast include characterization of the material, constraints on material transportation and stockpiling, restriction of reuse of the material to defined specific reuse scenarios, and air monitoring requirements. Mitigation measures applicable to groundwater as part of dewatering activities include characterization, treatment, and disposal of groundwater and would reduce impacts during construction. Mitigation measures applicable to building materials (demolition) include characterization, abatement, and disposal. While the mitigation measures from the *Contaminant Management Plan* are summarized in this section, the reader should refer to the *Contaminant Management Plan* for the complete analysis of significant impacts and the mitigation measures to be implemented during construction of Phase 1.

**Mitigation Measure CNST-HAZ-1:** The *Contaminant Management Plan* dated and approved by the Regional Water Quality Control Board on October 21, 2008 and mitigation measures included in the *Contaminant Management Plan* shall be implemented during construction. The mitigation measures detail requirements for the management for soil and railroad ballast, groundwater as part of dewatering activities, and building materials.

With implementation of the *Contaminant Management Plan* as part of Mitigation Measure CNST-HAZ-1, impacts related to groundwater and soil quality during project construction would be reduced to a less-than-significant level.

The following discussion documents the aspects of the *Contaminant Management Plan* in regards to groundwater (dewatering), soil and ballast, and building demolition.

### **Groundwater**

Dewatering of the shallow groundwater zone (approximately 20 and 30 feet below ground surface) would be required during excavation activities. Dewatering activities would be conducted within the excavation limits either by utilizing a well-based dewatering system and/or by pumping from the excavation using trash pumps in low spots. Prior to construction, a preliminary estimate of the volume of groundwater that needs to be extracted for a specific construction activity will be calculated to determine the appropriate dewatering method.

It is anticipated that groundwater encountered during excavation will contain contaminants that require remediation prior to discharge. Based on available analytical data as described above, groundwater containing metals (arsenic, lead, selenium, and chromium), chlorinated solvents (including PCE and TCE), and/or total petroleum hydrocarbons may be present in the excavation areas.

The variation of groundwater contamination will not allow the dewatering methods to adequately segregate clean groundwater from contaminated groundwater. Therefore, all extracted groundwater will be considered as potentially contaminated and will require characterization to determine the appropriate treatment requirements for discharge/disposal. Groundwater characterization will be performed in accordance with the discharge permit requirements or offsite facility acceptance requirements, as appropriate. Aboveground treatment of extracted groundwater, such as by gravity sedimentation followed with activated carbon adsorption using granular activated carbon (GAC) vessels, will be performed prior to discharge. Removal of metals may be required based on permit requirements, dewatering rates, and concentrations of metals encountered during the dewatering.



Discharge of treated dewatering groundwater to the storm drain system is regulated by the Regional Water Quality Control Board (RWQCB), under a NPDES general permit. VTA anticipates discharge under Order No. R2-2004-0055, for the discharge of extracted and treated groundwater. The contractor will apply for the NPDES permit from the RWQCB. The contractor will also meet the substantive requirements for discharge of storm water runoff associated with construction activity. Regular system sampling and reporting is required under any NPDES permit. Solids and spent carbon generated from the dewatering system must be handled and disposed of in accordance with appropriate and relevant state and federal regulations. The contractor will be responsible for system operation, maintenance, sampling, and reporting as required by the NPDES permit.

Discharge of treated dewatering groundwater to the local sanitary sewer system will be in compliance with the regulatory requirements of the Union Sanitary District for the City of Fremont or the San Jose/Santa Clara Water Pollution Control Plant for the cities of Milpitas, San Jose, and Santa Clara.

### ***Soil and Ballast***

A wide variety of protective measures will be employed for both soil and railroad ballast encountered during construction of Phase 1 as required in the *Contaminant Management Plan* (Mitigation Measure CNST-HAZ-1). These will include environmental characterization of the material, restriction of reuse of the material to defined specific reuse scenarios, constraints on material transportation and stockpiling, and air monitoring requirements.

As part of the Contaminant Management Plan, soil and ballast that will be excavated or disturbed during construction will be characterized through sampling, chemical analysis, and statistical analysis of the resulting data. The characterization process is detailed in the *Contaminant Management Plan* and includes the sampling strategy, chemical analysis methods, and data analysis methods.

After the soil and ballast is adequately characterized for design purposes, the soil will be classified for potential reuse during construction. The *Contaminant Management Plan* includes the five reuse scenarios for soil and ballast listed in anticipated order of lowest to highest acceptable chemical concentrations. These reuse scenarios are included in subsection 4.10.4 of the SEIR-1. Details of the criteria used to develop the reuse scenarios and further explanation of the reuse scenarios are included in the Plan.

Transportation procedures included in the *Contaminant Management Plan* (discussed below) are designed to minimize potential health, safety, and environmental risks resulting from the transportation of soil and ballast. Transportation of soil and ballast may occur both onsite (within VTA ROW including construction staging areas and temporary construction easements) and

offsite (along a public or private ROW) using either trucks or railcars. Much of the soil and ballast material excavated during construction will be transported onsite to a stockpile or reuse area. Offsite transportation occurs when a material is being properly shipped for disposal or under a variance approved by the Department of Toxic Substances Control for consolidation or reuse. Soil and ballast that contains chemical constituents at levels greater than the acceptable reuse concentrations for any of these five reuse scenarios will be characterized in accordance with applicable regulations and disposed of offsite at an appropriate disposal facility. Some soil acceptable for reuse may also be disposed offsite after characterization, depending on volume constraints to onsite reuse. Offsite disposal will be in accordance with all appropriate federal, state, and local regulations.

Due to physical space limitations, the sequencing of work, the proximity of sensitive receptors, and/or the net balance of fill/cut, soil or ballast may be removed from and transported to a stockpile location within the project site while awaiting either reuse or offsite disposal. Large stockpile sites would be within the construction staging areas and fenced to discourage public access. Smaller sites adjacent to reuse locations may be used temporarily to store the material prior to reuse. Material from separate project areas will not be mixed unless the material has been fully characterized and shown to be equivalent for the purposes of reuse or disposal. Records will be kept for all stockpiled material. For stockpiled material intended for offsite disposal, the records will also include the sampling and analytical results for samples used to profile the material for disposal. Onsite storage of non-hazardous material will meet the following requirements:

- Best management practices for erosion control will be implemented to prevent migration of sediment into the storm drain system or surface waters.
- The soil will be stockpiled in a manner that facilitates the segregation of 1,000 cubic yard subsections.
- A silt fence will be constructed around the perimeter of the stockpile area to mitigate migration of sediment into the storm drains or surface waters.
- Saturated soils, if any, will be placed on 10 millimeter plastic sheeting.
- A commercial, non-petroleum-based dust palliative or hydroseeding will be applied to stockpiles within 30 days of placement to minimize the migration of airborne dust.
- Soils classified for as “Reuse in ROW” or “Reuse in Encapsulation” (see subsection 4.10.4 of the SEIR-1) or classified as waste for disposal will be covered with 10 millimeter plastic sheeting. Sheeting will be anchored to prevent removal by the wind.

- After receipt of sample results, separate stockpiles may be consolidated into larger piles consistent with potential reuse criteria and space constraints.
- The dimensions of any single soil stockpile will be not greater than 1,000 feet long by 50 feet wide and 15 feet high.

### ***Building Demolition***

Several buildings and structures would be demolished at the locations of the station areas and northernmost area of Phase 1 where the tracks are planned to be shifted from the existing ROW to the east. Since there have been no previous hazardous materials surveys for these buildings or structures performed, appropriate building materials characterization will be conducted by qualified personnel prior to demolition. During demolition of buildings, potential hazardous and contaminated building materials encountered may include asbestos containing materials, lead-based paints, light ballasts containing polychlorinated-biphenyls (PCBs), mercury vapor lamps, and/or wood, concrete, or sheetrock contaminated from previous chemical use, storage, and/or handling. Additionally, chemicals from prior use, such as pesticides, may be present during demolition of buildings.

As documented in the Construction Management Plan, if hazardous building materials (including remaining chemicals that will be removed during demolition) are identified during the hazardous building materials survey, a site-specific Hazardous Materials Management Plan (or equivalent such as hazardous building materials abatement work plan) will be prepared and will include: 1) the overall scope and schedule of hazardous materials management; 2) the contact information for the demolition contractor(s)'s designated Hazardous Materials Supervisor; and 3) the identification of the appropriate landfill where materials will be disposed. If at least 100 square feet of hazardous materials are found to have asbestos content of more than 0.1 percent, abatement must be performed by a certified California Asbestos Contractor (Title 8 CCR Section 1529). Asbestos abatement includes proper personal protective equipment for workers and negative pressure to prevent the emission of fibers. Also, asbestos levels in worker breathing zones must be maintained below permissible exposure limits defined by Occupational Safety and Health Administration. Abatement of other hazardous building materials is usually performed at the same time as asbestos abatement.

### **Air Monitoring Requirements**

Construction activities such as excavation, backfilling, grading operations, stockpiling soil, construction vehicle traffic, and wind blowing over disturbed soil may expose site workers and the public within the surrounding area to chemicals of concern via airborne contamination. Exposures are possible either by the volatilization of contaminants into ambient air or the movement of airborne

particulate matter containing contaminants. An air quality monitoring program will be implemented during construction, particularly in the areas where potential elevated concentrations of chemicals of concern have been detected, to ensure that construction activities do not create an unacceptable health risk to site workers or the public. The air quality program will be included in the Contractor's Health and Safety Plan and will include procedures to be followed, action levels for total particulates that require respiratory or other protection, types of equipment needed for monitoring, and frequency of monitoring. For particulate matter, the air monitoring program will consist of real-time particulate monitoring and will include personal monitoring, site perimeter monitoring, and meteorological monitoring. Real-time particulate monitoring will be performed to protect construction workers and the public from nuisance particulate dust.

The BAAQMD's approach to analysis of construction impacts is to emphasize the implementation of effective and comprehensive control measures. If the appropriate construction control measures are implemented, then air pollutant emissions for construction activities would be reduced to acceptable levels. With implementation of design requirements and best management practices for construction activity, construction of Phase 1 would result in less-than-significant impacts. The BAAQMD construction control measures will be implemented, as required under Mitigation Measure CNST-AQ-1, during construction to reduce air pollutant emissions due to construction activities (see **subsection 4.19.4.2** of this SEIR-2 for a discussion of the BAAQMD construction control measures). If site-specific dust action levels, as set forth in the Health and Safety Plan, are exceeded, immediate corrective actions will be taken to minimize dust generation and/or the work will be temporarily ceased until more favorable conditions exist.

### **Great Mall Property**

In addition to the requirements included in the *Contaminant Management Plan*, the "Site Management Plan – Former Ford Automobile Assembly Plant Formerly 1100 South Main Street, Milpitas, California" (March 1997) addresses soil and groundwater conditions specifically on the Great Mall property. The Plan includes measures that must be followed for redevelopment activities at this property including measures for notification and disclosure, construction safety, soil management, and use of shallow groundwater. Redevelopment includes construction of Phase 1 at this location. In a letter dated April 16, 2001, the RWQCB specified several additional actions required for redevelopment activities on the property. These actions include: notification to the RWQCB prior to initiating construction activity; review of historic environmental data and further investigation, if necessary; performance of a human health risk assessment; and development of a project-specific site management plan and health and safety plan. The measures in both these documents will be implemented during construction of Phase 1.

**Mitigation Measure CNST-HAZ-2:** In addition to implementation of the *Contaminant Management Plan*, the measures included in the “Site Management Plan – Former Ford Automobile Assembly Plant Formerly 1100 South Main Street, Milpitas, California” (March 1997) and the RWQCB’s letter dated April 16, 2001 for this property will be implemented during construction of the Project at the Great Mall. These documents include measures for: review of historic environmental data and further investigation, if necessary; performance of a human health risk assessment; development of a project-specific site management plan and health and safety plan; and requirements for notification and disclosure, construction safety, soil management, and use of shallow groundwater.

With implementation of Mitigation Measure CNST-HAZ-2, impacts related to hazardous material contaminated groundwater and soils associated with construction activities near the Great Mall Property would be reduced to a less-than-significant level.

### **Remedial Action Plans**

Remedial action plans will be prepared during subsequent engineering phases and submitted to the RWQCB for approval following a 30-day public review period. The plans will be site-specific for locations where known contaminated soil is present and remediation is required prior to construction of Phase 1. The ultimate objective of the remediation is to safely remove soil with contamination levels greater than the reuse screening criteria included in the *Contaminant Management Plan* (see subsection 4.10.4 of the SEIR-1) so that the site conditions meet the requirements of the planned future use, and the soil contaminants that may pose substantial levels of risk to human health or the environment are removed from the site. Each remedial action plan will include the purpose and objectives of the remedial action, site information, a summary of the site investigations completed to date, a detailed technical approach for the remedial activities, a discussion of health and safety and decontamination, the identification of permits and notifications needed, a description of the report to be prepared upon completion of the remedial action, and an estimated schedule for implementation. Each plan will include the requirements as described in the *Contaminant Management Plan*, with additional site-specific requirements as necessary.

### **Contractor Health and Safety Plan**

In addition to the requirements discussed above, a Health and Safety Plan will be prepared prior to construction in contaminated areas, including areas where excavation and grading will occur.



**Mitigation Measure CNST-HAZ-3:** To protect the health and safety of construction workers, the public, and the environment, and to ensure the proper management of hazardous materials, a Health and Safety Plan that meets Occupational Safety and Health Administration requirements will be prepared, CERCLA certified, and implemented during construction.

Implementation of Mitigation Measure CNST-HAZ-3 would reduce impacts related to the exposure of hazardous materials to construction workers, the public, and the environment to a less-than-significant level.

### **Conclusion**

This SEIR-2 includes design requirements, best management practices, and mitigation measures, including those described in the *Contaminant Management Plan*, to reduce hazardous materials impacts on the health and safety of construction workers, the public, and the environment and to address the proper management of hazardous materials. Therefore, construction of Phase 1 would not create a potential public or environmental health hazard or an undue potential risk for health-related accidents, or result in a safety hazard for people residing or working in the project area.

#### **4.19.4.10 Land Use**

The discussion in subsection 4.18.5.6 of the SEIR-1 remains applicable to this SEIR-2. Construction of Phase 1 would not result in any land use impacts related to consistency with land use plans or policies, habitat conservation plans, or natural community conservation plans and no mitigation is required.

The CSAs would, however, displace several businesses. Refer to **subsection 4.19.4.13** in this SEIR-2 for a discussion of these displacements.

#### **4.19.4.11 Noise and Vibration**

The discussion in subsection 4.18.5.7 of the SEIR-1 of noise guidelines and noise impacts along the Phase 1 alignment (line segment) remains applicable to this SEIR-2. Updated information related to noise impacts at the construction staging areas as a result of the design changes since certification of the SEIR-1 is provided below.

In regards to vibration, the discussion in subsection 4.18.5.7 of the SEIR-1 remains applicable to this SEIR-2. However, additional information related to vibration impacts associated with the use of non-impact pile driving methods and additional clarifying text of the vibration impacts of Phase 1 has been added as part of this SEIR-2.

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### **Construction Staging Areas**

A variety of construction activities would take place in the construction staging areas, such as many of the major activities described in **subsection 4.19.3** of this SEIR-2. Since certification of the SEIR-1, a new CSA was included as part of Phase 1. The new Piper Drive CSA would include 2.2 acres of the Piper Drive cul-de-sac north of Montague Expressway and east of the UPRR ROW to accommodate the staged construction of the freight tracks for the Milpitas Wye (regardless of the option selected). Noise sensitive receptors near the Piper Drive CSA include the Residence Inn at Marriot and the Town Place Suites to the west. These hotels are approximately 90 to 190 feet west of the Piper Drive CSA and would experience a noise level of about 80 dBA at the closest distance. While this projected noise level meets the FTA noise impact criteria of 80 dBA, noise impacts during construction at the Piper Drive CSA would be significant based on the uncertainty in the assumptions used in the noise modeling. While the Piper Drive CSA was not evaluated in the FEIR or SEIR-1, the same mitigation measures identified in these previous documents, such as temporary sound walls, noise control curtains, or other measures to comply with FTA noise guidelines, would be applied to the Piper Drive CSA to reduce impacts to a less-than-significant level. These mitigation measures would also continue to apply to the other six CSAs associated with Phase 1, thereby reducing significant impacts to a less-than-significant level. No new mitigation would be required.

No vibration impacts are projected for the CSAs and no mitigation would be required.

### **Vibration Impacts**

Subsection 4.18.5.7 of the SEIR-1 provided an evaluation of vibration impacts associated with pile driving methods. This SEIR-2 provides additional information related to non-impact pile driving methods.

If non-impact pile driving methods are used, the maximum distance to vibration impacts would be 315 feet, and the distance to potential cosmetic damage to nearby buildings would be 25 feet. The potential for serious foundation or structural damage, even when impact pile driving is used, occurs only at distances of 20 feet or less from the activity.

### **Conclusion**

The design changes do not result in any new construction noise impacts beyond those identified in subsection 4.18.5.7 of the SEIR-1. Construction of Phase 1 would continue to result in significant impacts due to construction noise which would occur during site clearing, preparation of subgrade, retaining wall and aerial construction, layout of sub-ballast, and track installation for the line portion construction. Mitigation measures such as temporary sound walls, noise control curtains, restrictions on work hours, or temporary relocation of impacted

residents have been identified to reduce significant impacts but do not reduce noise levels to acceptable levels per FTA criteria. Therefore, significant and unavoidable noise impacts are anticipated during construction, consistent with the conclusion in the SEIR-1.

The design changes do not result in any new construction vibration impacts beyond those identified in subsection 4.18.5.7 of the SEIR-1. Significant construction vibration impact would occur from the use of vibratory pile drivers, large tracked dozers, compactors and other heavy equipment. Mitigation measures such as the use of “resonant-free pile drivers” would be required if vibration levels exceed the criteria. Vibration monitoring during construction is proposed to ensure compliance. With mitigation, construction period vibration impacts would be reduced to a less-than-significant level.

#### **4.19.4.12 Security and System Safety**

The discussion in subsection 4.19.12.1 of the FEIR remains applicable and provides the most up-to-date information related to Phase 1 construction impacts to security and system safety. The FEIR states that construction best management practices would be required to ensure the safety of construction workers, employees, and local residents during construction. Impacts to security and system safety during construction would be less than significant. There are no new impacts due to any of the design changes included in this SEIR-2 and no new mitigation is required.

#### **4.19.4.13 Socioeconomics**

Since publication of the FEIR and SEIR-1 the location of construction staging areas has changed, resulting in revised displacement and relocation information. The following discussion replaces the information provided in the FEIR and SEIR-1.

The construction staging areas outside of and in addition to the permanent footprint of the project would result in the following displacements of businesses and/or residences for Phase 1.

- **Mission Falls Court.** There would be no displacements of businesses or residences.
- **Calaveras Boulevard.** There would be no displacements of businesses or residences.
- **Capitol Avenue.** Two industrial businesses would be displaced. No residences would be displaced.

- **Trade Zone Boulevard.** This construction staging area would result in the displacement of 110 parking spaces from a business for two to three years; however, the business could continue the use onsite. Therefore, there would be no displacements of businesses or residences.
- **Berryessa Road.** Up to 3 industrial businesses would be displaced. No residences would be displaced.

The provisions of VTA's Relocation Program will minimize any significant impacts of the business and residential displacements associated with the construction of Phase 1; therefore, no mitigation is required.

### **Easements**

In addition to the changes to CSAs listed above, the need for both temporary and permanent easements was much more defined during Preliminary Engineering.

**Table 4.19-5** shows a list of temporary easements required for Phase 1. Figures of these easements are provided in **Appendix H**. These easements are not included in **Appendices B** and **C** as they are not permanent ROW to be acquired by VTA. Permanent easements needed to construct Phase 1 are described in **Section 4.15, Socioeconomics**.

**Table 4.19-5: Phase 1 – Summary of Temporary Displacements**

<b>PIN #</b>	<b>APN</b>	<b>Type</b>	<b>Impact</b>
B2050A	519-1010-136, 519-1010-140, 519,1010-138	TCE	Temporary loss of 2 parking spaces and landscaping <sup>a</sup> for up to 3 years. Less than significant impact.
B2077	022-01-014	TCE	Soundwall would not be removed. Less than significant impact.
B2081	022-01-006	TCE	Temporary loss of up to 6 parking spaces and landscaping <sup>a</sup> for up to 3 years. Site to be restored to pre-construction condition after construction complete. Less than significant impact.
B2079	022-37-031	TCE	Temporary loss of up to 6 parking spaces and landscaping <sup>a</sup> for up to 3 years. Site to be restored to pre-construction condition after construction complete. Less than significant impact.
B2257	092-08-084	TCE	Temporary displacement of 13 parking spaces and loss of landscaping <sup>a</sup> for up to 3 years. Site to be restored to pre-construction condition when construction is complete. Less than significant impact.
B2576	241-27-000	TCE	Temporary loss of up to 4 parking spaces and removal of approximately 40 feet of a 7 foot high soundwall. Soundwall to be provided on retained fill structure. Refer to 4.13 Noise and Vibration for noise mitigation. Less than significant impact.

<sup>a</sup> Landscaping to be replaced after construction is complete at a 1:1 ratio where feasible. Refer to 4.17 Visual Quality and Aesthetics.

Source: VTA, 2010.

#### **4.19.4.14 Utilities**

The discussion in subsection 4.19.13 of the FEIR for construction impacts to utilities remains applicable to this SEIR-2. As discussed in **Section 4.16, Utilities**, of this SEIR-2, Phase 1 has been designed to avoid conflicts with existing major utilities to the extent feasible. Nonetheless, some major utilities would need to be relocated or reinforced and suspended to enable construction of Phase 1, stations, and ancillary facilities. Specifically, Design Change 16, 115 kilovolt Line Relocation at Milpitas Station, would require the existing 115 kilovolt line to be relocated in three locations. However, the design requirements and mitigation measures identified in the FEIR would remain applicable to the design changes evaluated as part of this SEIR-2 (i.e., Design Change 16, 115 kilovolt Line Relocation at Milpitas Station), and impacts would be reduced to a less-than-significant level. No new mitigation is required.

#### **4.19.4.15 Visual Quality and Aesthetics**

This discussion replaces subsection 4.19.14 of the FEIR for visual construction impacts related to Phase 1. Construction of Phase 1 would occur in different locations at different times. Construction activities would involve the use of heavy equipment, stockpiling of soils and materials, and other visual signs of construction.

To minimize the signs of construction, visual screening would be erected at construction sites as appropriate. Construction areas would be maintained in an orderly manner, including proper containment and disposal of litter and debris to prevent dispersal onto adjacent properties or streets. Construction crews working at night would direct any artificial lighting onto the work area to minimize the spillover of light or glare onto adjacent areas. Specifically at the Crossings at Montague, which is adjacent to the Milpitas Station, a 12-foot high community wall would be constructed as a first order of work to provide a visual screen and noise buffer of the construction area.

Short-term visual changes as a result of construction are a common and accepted feature of urban and suburban areas. Mitigation is not required.

#### **4.19.4.16 Water Resources, Water Quality, and Floodplains**

##### **Surface Waters**

The discussion in subsection 4.19.15 of the FEIR for construction impacts to surface waters is replaced by the information in this SEIR-2. The SEIR-2 updates and clarifies the previous information, and emphasizes compliance with the NPDES Construction General Permit.

Construction of Phase 1 would involve earth-disturbing activities including excavation for retained cuts and other facilities; grading activities, stockpiling of excavated soil and imported fill; and other construction activities that could result



in the discharge of sediment or other pollutants in site runoff that would flow directly to surface waters or enter the storm drain system. Dewatering operations for excavations could also result in discharge of sediments or pollutants in surface waters. High sediment content in dewater discharges is common because of the nature of the operation in which soil and water mix in a turbulent flow of high-volume pump intakes.

Construction of Phase 1 will require an NPDES Construction General Permit (State Water Resources Control Board, General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES Permit No. CAS000002, September, 2009), and contractors must meet the substantive requirements for discharge of storm water runoff associated with construction activity. This permit, which went into effect on July 1, 2010, establishes three levels of risk possible for a construction site. Overall risk is calculated in two parts: 1) sediment risk and 2) receiving water risk. Sediment risk is based on the relative amount of sediment that may be discharged, which is a function of scheduling and site characteristics. Receiving water risk is the risk sediment discharges pose to the receiving waters, particularly sediment sensitive waterbodies such as those listed as 303(d) list for waterbodies impaired for a sediment pollutant (e.g., total suspended solids, turbidity). The result of the calculation determines if a construction site is a Risk Level 1, 2 or 3. Risk Level 1 sites must implement best management practices such as: certain narrative effluent limitations; good “housekeeping”; non-stormwater management; erosion, sediment, and run-on/runoff control; inspection, maintenance, and repair procedures; and certain monitoring requirements. Risk Level 2 sites must include these requirements plus certain numeric action levels for turbidity and pH; additional sediment controls, a Rain Event Action Plan, and additional monitoring. Risk Level 3 includes all of the above plus more stringent numeric action levels, sediment controls, and monitoring, including monitoring of receiving water if certain numeric action levels are exceeded. In some case, bioassessment sampling and analysis may be required. Phase 1 construction is anticipated to be at Risk Level 2, though a final determination will be made at the time of the permit application.

The permit will also include the implementation of measures to avoid or minimize degradation of water quality during construction, and will include the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) by contractors involved with earth-disturbing activities. The SWPPP will accomplish two major objectives: (1) identify the sources of sediment and other pollutants that may impact water quality and (2) describe and ensure the implementation of site-specific erosion and sediment control measures and best management practices that reduce or eliminate sediment and other pollutants that could be discharged into surface waters or the storm drain system.

The SWPPP will also include provisions for management of dewatering effluent. At a minimum, all dewatering effluent will be contained prior to discharge to allow the sediment to settle out, or will be filtered if necessary, to ensure that only

properly treated water is discharged to the storm drain system or sanitary sewer, as appropriate. In areas of suspected groundwater contamination (i.e., underlain by fill or near sites where chemical releases are known or suspected to have occurred), groundwater will be sampled and analyzed by a state-certified laboratory for the suspected pollutants prior to discharge. Based on the results of the analytical testing, VTA will work with the RWQCB and/or local wastewater treatment plants to determine appropriate disposal options in compliance with applicable regulations. Additional impacts due to dewatering are discussed under the Groundwater subsection below.

As part of the SWPPP, an erosion and sediment control plan will be developed and implemented for implementation by VTA and submitted to the RWQCB, Alameda County Flood Control and Water Conservation District (ACFCWCD), and Santa Clara Valley Water District (SCVWD) for review and comment. For earth-disturbing activities that occur during the rainy season, the erosion and sediment control plan will specifically address measures to be undertaken during this season. As required by the NPDES permit, erosion and sediment control measures will include, but are not limited to, the following.

- Temporary and permanent seeding of disturbed areas and stockpiles
- Use of erosion control blankets
- Stabilization of construction area entrances and exits
- Dust suppression
- Use of straw rolls, sediment fences, straw bales, and/or sediment traps
- Use of temporary dikes to redirect or control runoff

Construction of Phase 1 will also be consistent with the NPDES permits issued to the Alameda Countywide Clean Water Program and Santa Clara Valley Urban Runoff Pollution Prevention Program. These permits address non-point storm water pollutant runoff and include conditions that reduce storm water-borne pollutants at their source. Construction of Phase 1 would not violate water quality standards or waste discharge requirements or provide substantial additional sources of polluted runoff. Compliance with the NPDES permits and implementation of a SWPPP and an erosion and sediment control plan would avoid or reduce impacts to surface water resources during construction.

Therefore, the impact is less than significant and mitigation is not required.

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## **Groundwater**

The discussion in subsection 4.19.15 of the FEIR related to impacts to groundwater due to construction of the retained cut segments between the Great Mall parking lots and the Trade Zone Boulevard crossing, and from the Trade Zone Boulevard crossing to north of Berryessa Road, remains applicable in this SEIR-2. The requirements in the FEIR to use non-hazardous materials in construction (to the extent feasible), to avoid groundwater contamination from accidental spills, and to use cutoff walls to avoid potential impacts to groundwater due to dewatering also remain applicable in this SEIR-2.

The information in the FEIR, as updated in subsection 4.18.5.9 of the SEIR-1, regarding information on a groundwater level monitoring program for shallow aquifers remains applicable in this SEIR-2.

While discussed in the FEIR, updated or additional detail is provided in this SEIR-2 about aquifer pumps tests, which define the effects of dewatering on groundwater supply facilities, and the discharge of dewatering effluent. Additional detail is also provided on the identification of contamination that could or does impact groundwater, on a water level and water quality monitoring program related to well fields, and on the closure of abandoned or improperly destroyed well to prevent potential cross-contamination of aquifers.

Preliminary site investigations and aquifer pump tests have been conducted where groundwater is expected to be encountered during construction to determine the amount of water to expect, to define the effects of dewatering on groundwater supply facilities, and to characterize any groundwater contamination. Additional investigations and pump tests will be completed in subsequent engineering phases to refine the information obtained from the preliminary work effort, with the results used to develop a dewatering plan. Appropriate sampling and analysis protocols for dewatering during construction will be developed as part of the plan and incorporated into contractual agreements for implementation during construction. Groundwater from dewatering activities will be preferentially discharged to the sanitary sewer or used as dust control on site, if appropriate. If discharge directly to surface waters or the storm drain system is unavoidable, an NPDES permit and waste discharge requirements from the RWQCB will be obtained. Some effluent may require treatment prior to discharge. Depending on the volume and characteristics of the discharge, coverage under the NPDES General Construction Permit may be possible. This permit contains numerical and narrative limits that are sufficiently protective of water quality such that impacts to surface water or groundwater as a result of dewatering activities will be minimized.

VTA will identify the sources of contamination or any existing groundwater contaminants within or around the construction area and implement a water level and water quality monitoring program to prevent potential movement of contaminated water before it impacts a well field. Abandoned or improperly

destroyed wells screened across deep aquifers and overlying shallow aquifers could provide a conduit for vertical contaminant migration. These conduits could —short-circuit the groundwater flow system and allow rapid transport of water vertically between aquifers. Abandoned wells were not identified during the Preliminary Engineering field investigations along the Phase 1 alignment. Additional investigations will continue in subsequent engineering phases to identify abandoned wells at other facilities such as parking areas. Existing wells will be closed and abandoned in accordance with applicable regulations prior to construction to prevent cross contamination of aquifers. Any undocumented and unexpected wells encountered during construction will also be closed and abandoned appropriately in accordance with the local agency rules and regulations.

With implementation of the design requirements and best management practices described in the FEIR, SEIR-1, and this SEIR-2, significant groundwater impacts due to construction of Phase 1 are not anticipated. Therefore, the impact is less than significant and mitigation is not required.

### **Floodplains**

The discussion in subsection 4.19.15 of the FEIR for construction impacts to floodplains is replaced by the information in this SEIR-2.

The Phase 1 alignment passes through 100-year floodplain mapped by FEMA at several locations. Flood protection projects are planned and/or programmed (funded) to address flooding conditions in the Phase 1 area by the local flood control agencies.

The objective of the flood control projects is to upgrade the creek channels and cross-drainage facilities to contain the 100-year flows within the channel. Once completed, these projects will eliminate flooding in the areas of improvements, which include along the Phase 1 alignment. In the event these flood control projects are not completed by the time Phase 1 is under construction, or if these projects are under construction concurrently with Phase 1, the construction sites could be subject to flooding if a 100-year flood event were to occur. The option of scheduling construction during the non-rainy season will be evaluated in floodplain areas, and temporary flood control measures will be implemented during construction if necessary. If needed, construction in the flood prone areas will be completed in stages to minimize flooding impacts.

VTA will coordinate with appropriate agencies to obtain updated information on the progress of the flood control projects. Depending on the schedule of flood control project and the Phase 1 construction, additional hydrologic and hydraulic studies would be performed as necessary to address any floodplain control measures during construction.

**Conclusion**

This SEIR-2 includes design requirements and best management practices to address impacts to groundwater and surface water resources, which are listed in subsection 4.19.15.4 of the FEIR. Also as stated in the FEIR, VTA will coordinate construction activities with other agencies implementing flood control projects along the alignment. Construction of Phase 1 would not substantially impact surface water or groundwater quality, or alter surface runoff rates, thereby contributing to flooding or erosion hazards. Therefore, impacts to water resources, water quality, and floodplains during construction would be less than significant. No mitigation is necessary.

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