

DRAFT
BIOLOGICAL AND WETLAND RESOURCES
TECHNICAL REPORT

Santa Clara-Alum Rock Corridor

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Summary of Findings and Conclusions

This study describes the biological setting and existing biological resources occurring within the Santa Clara Valley Transit Authority's proposed Santa Clara-Alum Rock Corridor in the City of San Jose. PBS&J biologists surveyed the creek crossings potentially affected by the proposed project. These streams include Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek. At these locations PBS&J biologists mapped biotic habitats, identified plants and animals occurring on the project site, determined the likelihood of occurrences of special-status plant and animal species, and determined potential project impacts to adjacent habitats.

Five habitat types were identified and mapped as occurring within and adjacent to the Corridor. These habitats include: aquatic (0.160 acres), emergent wetland (0.043 acres), mixed riparian forest (0.485 acres), ruderal (0.267 acres), and urban landscaping (0.575 acres). Special-status species that are likely to be present in or adjacent to the proposed project area include: steelhead, Chinook salmon, western pond turtle, California red-legged frog, and two bat species.

Construction of the proposed project in the Santa Clara-Alum Rock Corridor may have effects on the biological resources of the project area. Primary areas of potential impacts include mixed riparian forest and aquatic habitats and species associated with them, and nesting birds through the removal of street trees.

Implementation of the mitigation measures as outlined in this document would be expected to mitigate all potential impacts to a less-than-significant level.

Chapter 1 Introduction

This study describes the biological setting and existing biological resources occurring within the Santa Clara Valley Transportation Authority's (VTA) proposed Santa Clara-Alum Rock Corridor in the City of San Jose (Figure 1). For the purpose of this study, the term project area shall apply to the actual project footprint or areas in which construction or construction-related activities would occur. This study also discusses potential direct and indirect impacts of project construction on biological resources within and adjacent to the project area, including special-status plant and wildlife species and habitats; street trees; and aquatic habitat and species occurring in Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek. Mitigation measures could be established that would avoid, eliminate, or reduce any significant impacts to the level of less than significant.

Information on biological resources is based on review of the California Department of Fish and Game's (CDFG), Natural Diversity Data Base (CNDDDB), RareFind Report for the U.S. Geological Survey's (USGS), 7.5-minute San Jose West and San Jose East quadrangles (Appendix A). In addition, the U.S. Fish and Wildlife Service (USFWS) provided a list of Endangered and Threatened Species that May Occur in or be affected by Projects in Santa Clara County (Appendix B).

1.1 Project Description

The Santa Clara Valley Transportation Authority (VTA) is considering a proposed project for improving direct transit service in the Santa Clara-Alum Rock Corridor (Corridor) in the City of San Jose (City) in Santa Clara County (County) (Figure 1). The proposed project includes the implementation of Phase 1 - Bus Rapid Transit (BRT), or Phase 2 - Single Car Light Rail Transit (Single Car LRT) service (Figure 2). This section describes the proposed project.

1.1.1 Phase 1 - Bus Rapid Transit

Implementation of BRT service has been recommended by Staff, the Downtown East Valley Policy Advisory Board, and the VTA Board as the preferred near term (Phase 1) development strategy for the Santa Clara-Alum Rock Corridor. Specialized BRT vehicles with unique features and a distinctive brand identity would be a key component of the BRT Alternative. The BRT alternative is designed to follow criteria set out in VTA's Service Design Guidelines.

With implementation of BRT, two separate BRT lines (the 522 El Camino and the 523 Stevens Creek) would operate in the Santa Clara-Alum Rock Corridor. West of 34th Street, BRT vehicles would operate in the curb lane of Santa Clara Street and Alum Rock Avenue. East of 34th Street, the alignment would transition to a median busway within the center of Alum Rock Avenue. Limited stop BRT service between the Downtown San Jose Transit Mall to the Eastridge Transit Center would be provided. At the Downtown Transit Mall, the two BRT lines would split with westbound 522 El Camino service continuing on West Santa Clara Street to the San Jose Arena. Westbound 523 Stevens

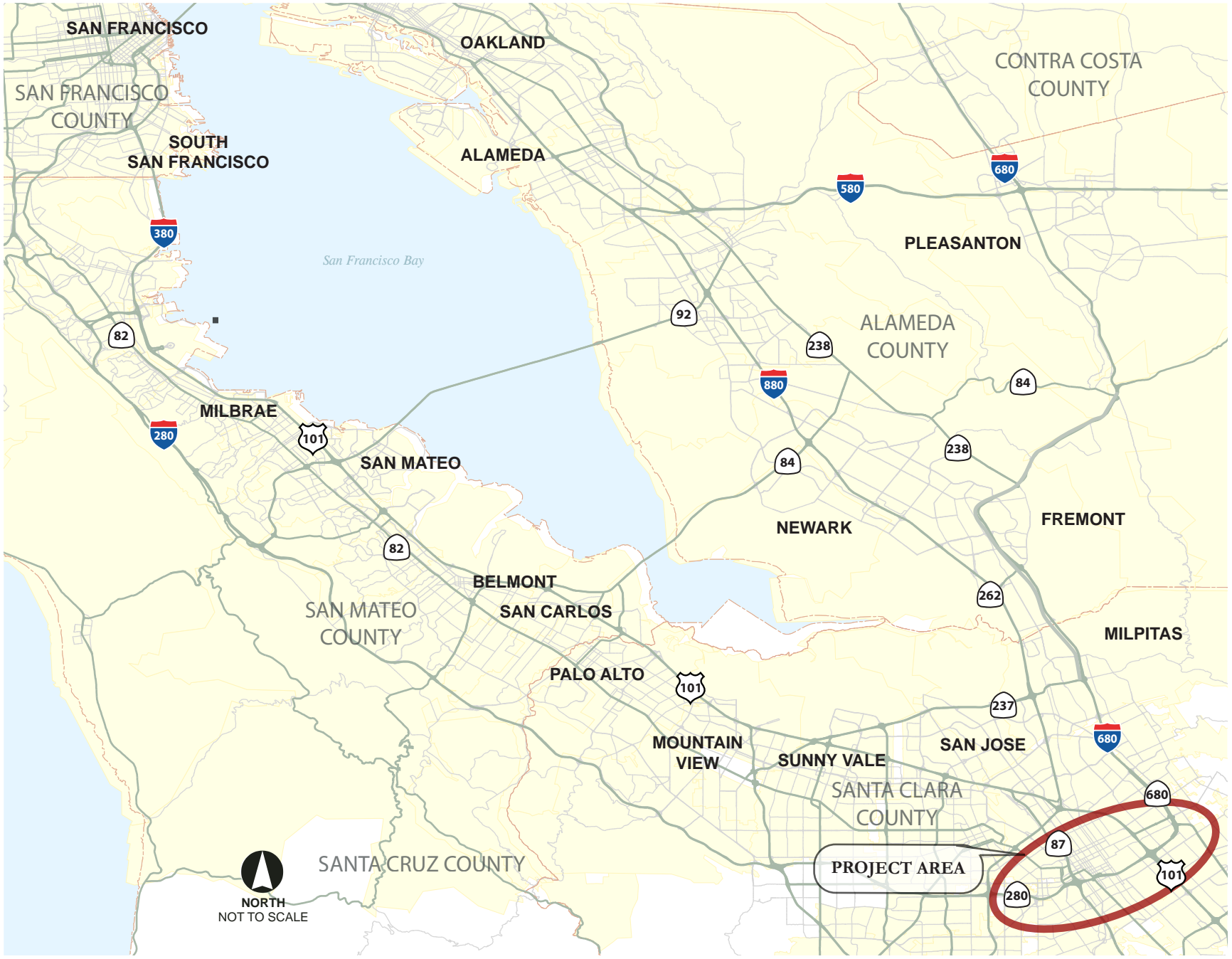


FIGURE 1: PROJECT LOCATION

Source: PBS&J, 2008.

Creek service would turn south on Second Street and west on West San Carlos Street, stopping at the San Jose Convention Center and Bird Avenue.¹ While BRT service would extend for both lines west of Bird Avenue and the San Jose Arena, capital improvements associated with those services would be incorporated into the Stevens Creek and El Camino BRT projects. On the east end of the Corridor both BRT lines would turn south from Alum Rock Avenue to Capitol Avenue and Capitol Expressway, with intermediate stops at Story Road and Ocala Avenue, before terminating at the Eastridge Transit Center.

BRT service would utilize articulated vehicles (approximately 60 feet in length) with unique branding. The two BRT lines would operate at 12-minute headways during the peak periods with off set schedules allowing for a combined six-minute headway between the transit mall and the Eastridge Transit Center.

BRT service would utilize articulated vehicles (approximately 60 feet in length) with unique branding. The two BRT lines would operate at 12-minute headways during the peak periods with off set schedules allowing for a combined 6-minute headway between the transit mall and the Eastridge Transit Center.

BRT service would include the following features:

- BRT stations (sidewalk “bulb-out” or median platform design with expanded shelters, lighting, etc.);
- Off board fare collection;
- Real-time information at stops; and
- Transit priority measures such as signal priority, where appropriate.

Lines 22 and 23 would continue to provide local bus service all day in the Santa Clara-Alum Rock Corridor from downtown San Jose to Palo Alto and De Anza College respectively.

1.1.2 Proposed Stations

Thirteen BRT stations and one optional station are proposed at the following locations (also shown in Figure 2):

- Bird (Line 523 Only);
- Convention Center (Line 523 Only);
- San Jose Arena (Cahill Street/Montgomery Street, Line 522 Only);
- Transit Mall (1st and 2nd Streets);
- 6th Street/City Hall;
- 16th Street;

¹ East bound buses would travel on 1st Street between the Convention Center and Santa Clara Street.

- 28th Street;
- King Road;
- Jackson Avenue;
- Alexander Avenue/Muirfield Drive (optional station)
- Capitol Avenue;
- Story Road;
- Ocala Avenue; and
- Eastridge Transit Center.

The proposed station locations were selected based on criteria set out in the VTA Service Design Guidelines as follows:

- Transit demand;
- Connections to bus and rail;
- Surrounding land uses;
- Station spacing;
- Station visibility and access;
- Right-of-way impacts;
- Traffic and parking impacts; and
- Public support.

All BRT stations would be constructed at-grade and would be fully compliant with ADA requirements. Most existing bus stops located between proposed BRT stations would remain and would be served by local buses. No improvements are planned at these existing bus stops. However, some existing bus stops located in the vicinity of the proposed BRT stations would be relocated to the new station platforms. The typical platform for the BRT stations would be 180 feet in length for stations along the shared right-of-way of the Corridor (west of 34th Street), 75 feet in length at stations in the semi-exclusive section of the Corridor (east of 34th Street), and 235 feet in length at the Transit Mall Station. As described below, most platforms along the shared right-of-way section of the Corridor would be constructed as an extension (or bulb-out) of the existing sidewalk and would be 8 feet wide (not including the existing sidewalk) with a curb height of 6 inches. At stations in the semi-exclusive section of the Corridor, the platforms would be located adjacent to the median alignment with a 12.5-foot width. Actual plans for the station platforms are not yet finalized. The proposed stations and station options are described below.

Bird Avenue (Line 523 Only). The Bird Avenue Station would be constructed adjacent to the curb in both directions without bulb-outs. The eastbound platform would be located on the farside of Bird Avenue in front of Delmas Park Apartments. The westbound platform would be constructed along the

curb on the nearside of the intersection at the existing local bus stop. The platforms will include BRT capital improvements and enhanced amenities. Bulb-outs will be added to the stations in the future as the area continues to redevelop.

Convention Center (Line 523 Only). The Convention Center Station would include the construction of a bulb-out on West San Carlos Street in the westbound direction. The station would be located at the existing local bus stop west of the signalized mid-block crosswalk between Market Street and Almaden Boulevard. The eastbound platform would occupy the existing turn-out in front of the San Jose Convention Center.

San Jose Arena (Cahill Street/Montgomery Street, Line 522 Only). The San Jose Arena Station would include two station platforms, without bulb-outs, to be located along West Santa Clara Street between Cahill Street and Montgomery Street. The eastbound platform would occupy most of the length of curb between Cahill Street and Montgomery Street. The westbound platform would be located on the opposite side of West Santa Clara Street.

Transit Mall Station. To accommodate the high level of passenger activity at this location, the Transit Mall Station would be located along the entire block of East Santa Clara Street between 1st Street and 2nd Street. The station would have bulb-out platforms adjacent to the curb lane on both sides of East Santa Clara Street. Construction of the station would require the relocation of the existing truck loading zones from East Santa Clara Street to West Santa Clara Street in the vicinity of the proposed station. The eastbound loading zone would be moved to a location just west of 1st Street, and the westbound loading zone would be moved to a location just east of 2nd Street. Existing bus stops located between 3rd Street and 4th Street would be removed.

Line 23 and 523 would stop at the existing bus stations on 1st Street and 2nd Street between East San Fernando and East Santa Clara Streets. Passengers from both BRT lines would be able to transfer to and from the Mountain View-Winchester LRT Line and the Alum Rock-Santa Teresa LRT Line, as well as several VTA bus lines at the station.

6th Street/City Hall Station. The City Hall Station includes the construction of two bulb-out platforms, both of which would be located adjacent to the curb lane of East Santa Clara Street west of 6th Street. The bus stops currently located at the intersection of East Santa Clara Street and 7th Street would be relocated to the City Hall Station platform.

Under BRT Station Option 1, the eastbound bulb-out platform would be located west of 7th Street. This location would require the removal of on-street parking and the driveway that opens on to Santa Clara Street.

16th Street Station. The 16th Street Station includes the construction of bulb-out platforms located adjacent to the curb lane on opposite sides of 16th Street. The bulb-out platform for westbound buses would be located west of 16th Street and the bulb-out platform for eastbound buses would be located east of 16th Street. The two bus stops currently located along East Santa Clara Street at 17th Street would be relocated to the 16th Street Station platforms. Both the bus stops currently located at the southeast corner of East Santa Clara Street and 15th Street and the bus stop currently located at the

northwest corner of East Santa Clara Street and 14th Street would be removed. The intersection of East Santa Clara Street and 16th Street would be signalized to enhance passenger safety while accessing this station.

28th Street Station. The 28th Street Station includes bulb-out platforms adjacent to the curb lanes of East Santa Clara Street, on opposite sides of 28th Street. The westbound bulb-out platform would be located east of 28th Street in front of Five Wounds Church and the eastbound bulb-out platform would be located west of 28th Street in front of the former Empire Lumber site. Construction of the eastbound bulb-out platform would require the removal of one of the two curb cuts at 1260 East Santa Clara Street. The bus stop currently located at the northwest corner of East Santa Clara Street and 26th Street would be removed. The 28th Street Station would provide a connection point for passengers transferring to and from the proposed Alum Rock BART Station.

King Road Station. The King Road Station would be constructed adjacent to the median running alignment on the opposite sides of King Road. The westbound platform would be located west of King Road and the eastbound platform would be located east of King Road. Access to the platforms would be via the pedestrian crosswalks across King Road.

Jackson Avenue Station. The Jackson Avenue Station would be constructed adjacent to the median running alignment on opposite sides of Jackson Avenue. The median platform for eastbound buses would be located east of Jackson Avenue and the median platform for westbound buses would be located west of Jackson Avenue.

Capitol Avenue Station: Baseline Alum Rock Transit Center. The baseline assumes that the BRT line would stop at the Alum Rock Transit Center providing transfer opportunities at the end-of-line LRT station. If the Capitol Expressway LRT extension project is delayed, VTA would move forward with the Baseline Alternative.

Optional Alexander Avenue/Muirfield Drive Station. BRT Station Option 2 includes a station at Alexander Avenue/Muirfield Drive. Construction of this station assumes that LRT would be extended along Capitol Expressway to the Eastridge Transit Center and the existing Alum Rock Transit Center would no longer function as a primary transfer facility. Under this station option, the platform for westbound buses would be located adjacent to the median-running alignment west of Alexander Avenue/Muirfield Drive. Access to the platform would be via the pedestrian crosswalks across Alum Rock Avenue. The platform for eastbound buses would be located east of Alexander Avenue/Muirfield Drive as a sidewalk bulb-out platform.

Construction of the westbound platform would require the relocation of the bus stop east of Alexander Avenue/Muirfield Drive to a location west of Alexander Avenue/Muirfield Drive. Construction of the eastbound platform would also require the removal of one of the driveways into the shopping center located along Alum Rock Avenue. However, access to the shopping center would still be available from other driveways located along Alum Rock Avenue as well as from driveways located along Muirfield Drive and Capitol Avenue.

If the Capitol Expressway LRT extension project is delayed, the Alexander Drive/Muirfield Drive Station would not be constructed. BRT would stop at the Alum Rock Transit Center providing transfer opportunities at the end-of-line Alum Rock-Santa Teresa LRT Line station.

Story Road Station. The Story Road Station includes bus duckouts adjacent to the curb lanes on Capitol Expressway. Both northbound and southbound stations will be located on the farside of the intersection of Story Road and Capitol Expressway.

Ocala Avenue Station. The Ocala Avenue Station includes bus duckouts adjacent to the curb lanes on Capitol Expressway. Ocala will have a split-station configuration, with the southbound duckout located south of Ocala Avenue and the northbound duckout located north of Cunningham Avenue.

1.1.3 Phase 2 - Single Car Light Rail Transit

Phase 2 includes the construction of a LRT line in the Santa Clara-Alum Rock Corridor extending from the Diridon LRT Station on the west to the Alum Rock Station on the east. The LRT line would also utilize stations on the future Capitol Expressway Corridor LRT Line. As a result, completion of the Capitol Expressway LRT extension is a pre-requisite for the implementation of LRT service in the Santa Clara-Alum Rock Corridor. In addition because Santa Clara Street between Market and 3rd Street will be excavated for BART construction, Single Car LRT can not be implemented until BART construction is complete. It is estimated that the BART construction will be complete in 2018.

The proposed alignment is from the Diridon LRT Station along San Fernando Street on trackway used for the Mountain View-Winchester LRT Line, continues with new trackway constructed along West San Fernando Street from Delmas Avenue to Almaden Boulevard; transitions to Santa Clara Street along Almaden Boulevard; and continues along Santa Clara Street and Alum Rock Avenue to Capitol Avenue. From Capitol Avenue, the alignment would connect with the trackway for the future Capitol Expressway LRT extension.

An optional alignment (LRT Alignment Option 1) is under consideration on the western end of the Corridor. Rather than utilize the Mountain View-Winchester LRT Line track at Diridon Station and its approaches, the optional alignment would remain on Santa Clara Street toward the San Jose Arena. At Montgomery Street, the alignment would turn south into the San Jose Diridon Station parking lot. The terminus station, tail track, and crossover would be located within the parking lot.

Single Car LRT service would utilize new VTA low-floor vehicles operating as a single car running at 15-minute headways through the Corridor during peak periods. LRT vehicles would operate at-grade in a semi-exclusive (separate from automobile traffic) center right-of-way along West San Fernando Street and Almaden Boulevard; in shared operation with automobiles in the outside lanes (curb lanes) of Santa Clara Street and Alum Rock Avenue west of 34th Street; and transition back to a semi-exclusive center right-of-way in the median of Alum Rock Avenue east of 34th Street.

Following completion of the project, single car LRT vehicles would provide service between the Diridon LRT Station and the Eastridge Transit Center. Line 22, Line 23, and Line 522 would provide

further supplemental bus service in the Santa Clara-Alum Rock Corridor. Additional bus lines in the Corridor (including DASH service) may be modified to better accommodate the new LRT service.

The proposed LRT alignment and station locations are also depicted on Figure 2. A description of the alignment and alignment options as well as the stations proposed is provided below.

1.1.3.1 Alignment Description

As described above, between the Diridon LRT Station and West San Fernando Street, the proposed alignment would share trackway for the Mountain View-Winchester LRT line, which extends along West San Fernando Street between Delmas Avenue and Almaden Boulevard; transition to West Santa Clara Street along Almaden Boulevard; and continue along Santa Clara Street and Alum Rock Avenue to Capitol Avenue; where it would connect with the trackway for the Alum Rock-Santa Teresa LRT Line along Capitol Avenue. The LRT line would also utilize stations on the future Capitol Expressway Corridor LRT Line. The proposed alignment and alignment options are described below.

West San Fernando Street from Delmas Avenue to Almaden Boulevard. Between the Diridon LRT Station and Delmas Avenue, Single Car LRT would operate on the Mountain View-Winchester LRT tracks. East of Delmas Avenue, new tracks would be constructed to transition LRT trains into the center median of West San Fernando Street. These tracks would continue in the center median along West San Fernando Street to Almaden Boulevard. The bus stop currently located mid-block along westbound West San Fernando Street would be relocated to the corner of West San Fernando Street and Almaden Boulevard.

Within this segment of the alignment, a mid-block pedestrian crossing would be provided for the existing pedestrian/bicycle trail located west of the State Route (SR) 87 overcrossing. This crossing would be protected with swing gates to prevent pedestrians and cyclists from entering the crossing when LRT vehicles are approaching.

A design option for this alignment segment includes the construction of approximately 275 feet of non-revenue LRT tracks connecting the Santa Clara-Alum Rock Corridor with the Mountain view-Winchester LRT line east of Delmas Avenue. This design option would provide greater flexibility in the movement of LRT trains throughout VTA's system.

Almaden Boulevard from West San Fernando Street to West Santa Clara Street. Along this short section of Almaden Boulevard between West San Fernando Street and West Santa Clara Street, LRT tracks would be placed in the center median, separate from automobile traffic. At West Santa Clara Street, the alignment would shift to the outside curb lanes for shared LRT/automobile options. Striping for two through lanes and one left-turn lane along each direction of West Santa Clara Street between Notre Dame Street and Almaden Boulevard would be provided. This would require the removal of the two passenger loading zones along westbound West Santa Clara Street located on either side of Notre Dame Street.

Under a design option under consideration in this segment, striping for two through lanes and one left-turn lane along westbound West Santa Clara Street, but only one through lane and one shared

through/left-turn lane along eastbound Santa Clara Street between Notre Dame Street and Almaden Boulevard would be provided. This design option would allow the existing passenger loading zones along westbound Santa Clara Street on opposite sides of Notre Dame Street to remain.

LRT Alignment Option 1: West Santa Clara Street from Montgomery Street to Almaden Boulevard. As described above, LRT Alignment Option 1 would not interline with the Mountain View-Winchester LRT line. This alignment option would have the western terminus light rail platform in the southwest quadrant of the Santa Clara Street/Montgomery Street intersection in the parking lot of the San Jose Diridon Station. A track crossover would be provided in front of the platform to allow trains to switch from one track to another. No new tracks would be constructed along West San Fernando Street or Almaden Boulevard under LRT Alignment Option 1.

Santa Clara Street/Alum Rock Avenue from Notre Dame Street to 34th Street. Along Santa Clara Street and Alum Rock Avenue from Notre Dame Street to 34th Street, LRT tracks would be constructed in the outside (curb) lane. LRT trains would operate in shared lanes with automobile traffic throughout this segment. Within this segment, the existing 60-foot wide Coyote Creek Bridge would be widened by 20 feet to accommodate the operation of LRT vehicles.

Alum Rock Avenue from 34th Street to Capitol Avenue. At 34th Street, the LRT alignment would transition from shared LRT/automobile operation within the outside (curb) lane of Alum Rock Avenue to transit-only operation in the median of Alum Rock Avenue. Within this segment, the Alum Rock Avenue/34th Street intersection and the Alum Rock Avenue/McCreery Avenue intersection would be signalized. Left turns from eastbound Alum Rock Avenue onto Eastgate Avenue would no longer be permitted.

LRT trains would operate in a semi-exclusive lane in the center of Alum Rock Avenue from Eastgate Avenue to Capitol Avenue. At Capitol Avenue, the LRT tracks would transition south to interline with the Alum Rock-Santa Teresa LRT line and the future Capitol Expressway LRT Line. No new tracks would be constructed along Capitol Avenue or Capitol Expressway to accommodate the addition LRT line. However, a design option under consideration at the Alum Rock Avenue/Capitol Avenue intersection includes the construction of tracks for a non-revenue connection that would transition north to join the Alum Rock-Santa Teresa LRT Line. This option would provide greater flexibility in the movement of LRT trains throughout VTA's system.

1.1.3.2 Proposed Stations

In addition to serving the Diridon LRT Station and the San Fernando Street Station (both included on the Mountain View-Winchester LRT Line); the Alum Rock Station (included on the Alum Rock-Santa Teresa LRT Line); and the Story Road Station, the Ocala Avenue Station, and the Eastridge Transit Center (all included in the proposed Capitol Expressway Corridor Project), service would also be provided to the six stations in the Santa Clara-Alum Rock Corridor constructed as part of BRT Phase 1. These stations are proposed at the following locations (as shown in Figure 2):

- Transit Mall (1st Street and 2nd Street);

- 6th Street/City Hall;
- 16th Street;
- 28th Street;
- King Road; and
- Jackson Avenue

In addition, a new station would be constructed along Almaden Boulevard as part of the implementation Phase 2. For LRT Alignment Option 1, the Mountain View-Winchester LRT Line stations at Diridon and San Fernando Street would not be served by the Santa Clara/Alum Rock LRT Line. In addition, the Almaden Boulevard Station would not be constructed. Instead, the Diridon terminal station would be located in the Caltrain parking lot along Montgomery Street. These two stations are described below.

All stations would be constructed at-grade and would be fully compliant with ADA requirements. Most existing bus stops would remain and would be served by local buses. However, some existing bus stops located in the vicinity of the proposed LRT stations would be relocated to the station platforms.

Similar to BRT station platforms, typical side-running LRT stations in the shared operations section (along Santa Clara Street and Alum Rock Avenue west of 34th Street) would include a bulbed-out sidewalk area 9 feet wide (not including the existing sidewalk) and approximately 230 feet long to accommodate both buses and LRT vehicles. The platform height would vary from 6 inches at the ends of the platform and the bus boarding area, ramping up to 14 inches at train boarding locations.

East of King Road in the semi-exclusive median-running operation, the typical platform length for the stations would be 90 feet, the width would be 12.5 feet, and the platform height would be 14 inches. Ramps leading to the platforms from crosswalks would be approximately 25 feet in length.

The Transit Mall Station would need to accommodate large volumes of both passengers and pedestrians. Therefore, the LRT platforms at the Transit Mall Station would be 240 feet in length and 9 feet wide (not including the existing sidewalk). Similar to the BRT stations, the side-running LRT stations would be constructed as an extension (or bulb-out) of the existing sidewalk. The bus loading section of these platforms would have a height of 6 inches, ramping up to a height of 14 inches at the LRT loading section. The proposed stations and station options are further described below.

Diridon Station (LRT Alignment Option 1 Only). For LRT Alignment Option 1, the existing Vasona line stations and the proposed Almaden Boulevard Station would not be served by Santa Clara/Alum Rock LRT vehicles. The terminal station would consist of a center platform for both eastbound and westbound trains located in the Caltrain parking lot along Montgomery Street. Tailtrack would be provided past the platform and a crossover in front of the platform.

Almaden Boulevard Station. The Almaden Boulevard Station would be located in the median of Almaden Boulevard north of Post Street. The station would consist of a center platform for both eastbound and westbound trains. Passenger access would be provided by a pedestrian crosswalk. To

ensure passenger safety while accessing the station, the Almaden Boulevard/Post Street intersection would be signalized.

1.1.3.3 Support Systems

In addition to the primary alignment and stations, Single Car LRT service would incorporate light rail support systems, including traction power system and substations, overhead contact, and communications support systems are described in the following sections.

Traction Power System and Substations. A traction power system is a distribution system that converts high-voltage commercial electrical power received from substations to medium-voltage direct current (DC) electric power and distributes it to the light rail vehicles via the overhead catenary or contact wire as they travel along the alignment. A traction power system consists of the power distribution mechanism and electrical substations.

The alignment would require four traction power substations (TPSS). The final location and placement of the substations along the alignment would be determined during the preliminary engineering phase. Locations for new substations that are under consideration include the following:

- In Caltrans right-of-way west of SR 87 north of West San Fernando Street;
- Along eastbound East Santa Clara Street between 11th Street and 12th Street in the parking lot of an existing restaurant;
- In Caltrans right-of-way at U.S. 101 and 30th Street, south of Alum Rock Avenue; and
- In Caltrans right-of-way east of I-680, south of Alum Rock Avenue.

Electrical power would be supplied to each TPSS by an underground feeder from the electrical utility distribution system. Alternate substations would be equipped with two primary feeders from the utility company and an automatic transfer switch to supply reliable power to the substation.

Each TPSS would be contained in a prefabricated substation housing that is factory-wired to accommodate internal components and built on a concrete foundation. Foundations would be equipped with embedded conduits to accommodate incoming alternating current primary power cables, control and communications cables, and the DC feeder cables to the overhead contract system.

The estimated size for each TPSS would be approximately 650 to 750 square feet in area and 12 to 15 feet in height. Substations sites need to allow a service vehicle to park, unless convenient parking is available on an adjacent roadway.

Overhead Contact System. For the side-running portion of the alignment west of 34th Street, poles for overhead power would be located along the sidewalk, jointly with streetlights wherever possible. Span wires to support the overhead power connections could alternatively be attached to buildings. For the center-running alignment east of 34th Street, typical TES poles between the two tracks would be utilized. Final location of Overhead Contact System (OCS) features would be determined during the preliminary engineering phase of the project. The final design would adhere to VTA design guidelines.

Communications System. The communications equipment and design would be fully compatible with the communications system that serves VTA's existing light rail operations. A wayside cable system, fiber optic cable, and two-way radio system would link light rail stations and traction power substations with the existing Operations Control Center by the use of supervisory control and data acquisition and remote terminal units. The communications system would consist of the following main components:

- Public address system with two-way voice announcement linking the Operations Control Center and the light rail stations;
- Two-way radio system with two-way voice announcement linking the Operations Control Center and light rail vehicles;
- Supervisory control and data acquisition system with the capability to monitor and control the TPSS switchgear functions from the Operations Control Center via the remote terminal units and wayside cable system;
- Pulse code modulation carrier system to provide for the multiplexing of voice and data channels between the Operations Control Center and locations along the Corridor; and
- Cable transmission system designed to incorporate both the backbone communications distribution (fiber optics) and metallic distribution. Wayside cabling would utilize a combined systems duct installed continuously along the Corridor.

Tailtrack at Diridon LRT Station. Implementation of LRT service in the Santa Clara-Alum Rock Corridor would not require any new vehicle maintenance facilities. Heavy maintenance activities and storage for most vehicles used on this line would continue to be performed at the existing Younger Street facility. However, a new tailtrack for mid-day storage of up to three vehicles, along with operator break facilities, would be constructed adjacent to the Diridon LRT Station. This tailtrack facility would include LRT track, TES poles, and overhead wires to accommodate up to three light rail vehicles.

Chapter 2 **Study Methodology**

2.1 Studies Required

PBS&J biologists surveyed the creek and wetland crossings within the Santa Clara-Alum Rock Corridor to map biotic habitats, identify plants and animals occurring in the project area, determine the likelihood of occurrences of special-status plant and animal species, and to determine potential project impacts to adjacent habitats. All stream and wetland crossings fall under the jurisdiction of the U.S. Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA) of 1972. Any construction activities, such as widening of bridges, that would potentially impact streams or wetlands and the adjacent riparian corridors could require a Corps verified Section 404 CWA jurisdictional delineation and permit depending on the location and nature of the work (see Section 6, *In Depth Studies for Special Laws*).

During field surveys of the project area, dominant trees, shrubs, and herbaceous vegetation were identified and used to characterize major plant communities. A list of plant species observed along the Corridor and along the banks of streams affected by the proposed project (Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek) was prepared and is included in Table 1. Plant communities were classified according to CDFG's Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986).

The Santa Clara-Alum Rock Corridor was assessed for wildlife usage and sensitive species occurrences by surveying the project area with special attention given to the riparian corridor streams affected by the proposed project. These streams include Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek. Surveys were conducted on foot and covered an area 100 feet on either side of the project area. Binoculars were used to facilitate wildlife identification. The potential suitability of biotic habitats on and immediately adjacent to the project area for wildlife habitat, including that of the western burrowing owl (*Athene cunicularia*)², was assessed. A list of wildlife species observed along the Corridor and along the banks of these streams was prepared and is also included in Table 1.

2.2 Survey Dates and Personnel

On September 26, 2001, PBS&J (formally EIP) biologist Lee Ellis (botanist) conducted a site survey of the Corridor by automobile and on foot along Santa Clara Street/Alum Rock Avenue from State Route (SR) 87 east to Capitol Avenue, and along East San Fernando Street from SR 87 east to Almaden Boulevard. Particular attention was given to riparian and wetland resources occurring along the banks of Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek adjacent to the Corridor. A second survey was conducted on October 23, 2001 by PBS&J biologist Brent Spencer (fisheries and aquatic biologist). The survey of the Corridor was conducted on foot with binoculars. The purpose of this second survey was to determine the likelihood of aquatic and riparian impacts

² Bird names follow nomenclature of the American Ornithologists Union Check-list of North American Birds, 7th Edition as amended through the 44th supplement.

resulting from the construction of the proposed project in the corridor. Follow-up visits were made by PBS&J biologist Demian Ebert on February 12, 2004 and PBS&J Biologist Sam Bacchini on March 6, 2008 to ensure conditions reported from previous surveys remained valid. A list of wildlife and plant species observed along the Corridor on each survey was prepared and included in Table 1.

Table 1
Plant and Wildlife Species Observed within the Santa Clara-Alum Rock Corridor

Common Name	Scientific Name
Plants	
Box Elder	<i>Acer negundo*</i>
Tree of Heaven	<i>Ailanthus altissima</i>
Ash	<i>Fraxinus</i> sp.
Black Walnut	<i>Juglans nigra</i>
Crepe Myrtle	<i>Lagerstroemia indica</i>
Magnolia	<i>Magnolia grandiflora</i>
Canary Island date palm	<i>Phoenix canariensis</i>
Chinese Pistache	<i>Pistachia chinensis</i>
Western Sycamore	<i>Platanus racemosa*</i>
Sycamore	<i>Platanus</i> sp.
Fremont Cottonwood	<i>Populus fremontii*</i>
Coast Live Oak	<i>Quercus agrifolia*</i>
Oaks	<i>Quercus</i> ssp.*
Black Locust	<i>Robinia pseudoacacia</i>
Peruvian Pepper Tree	<i>Schinus molle</i>
Cattails	<i>Typha</i> sp.*
Mexican fan palm	<i>Washingtonia robusta</i>
Animals	
Western Pond Turtle	<i>Actinemys marmorata**</i>
Mallard	<i>Anas platyrhynchos</i>
Great Egret	<i>Ardea alba</i>
Great blue heron	<i>Ardea herodias</i>
Anna's Hummingbird	<i>Calypte anna</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Rock Pigeon	<i>Columba livia</i>
House Sparrow	<i>Passer domesticus</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>
Bushtit	<i>Psaltriparus minimus</i>
Black Phoebe	<i>Sayornis nigricans</i>
Eastern Fox Squirrel	<i>Sciurus niger</i>
Mourning Dove	<i>Zenaida macroura</i>

Source: PBS&J, March 2008.

Notes:

*Denotes native plant species

**State and federal species of special concern.

2.3 Problems Encountered and Limitations that may Influence Results

In the preparation of this report, no limitations that may influence the results have been identified.

2.4 Definitions of Terms Used in the Report

BRT	Bus Rapid Transit
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DBH	diameter at breast height
ESU	Evolutionarily Significant Unit
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
LRT	Light Rail Transit
MBTA	Migratory Bird Treaty Act
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
NGVD	National Geodetic Vertical Datum
NOAA Fisheries	National Oceanic and Atmospheric Administration, Fisheries Branch (previously National Marine Fisheries Service)
project area	The term project area shall apply to the actual project footprint or areas in which construction or construction related activities would occur.
RWQCB	Regional Water Quality Control Board
SCVWD	Santa Clara Valley Water District
SFRWQCB	San Francisco Regional Water Quality Control Board
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
VTA	Santa Clara Valley Transportation Authority

Chapter 3 Regulatory Setting

3.1 Special-status Species

Special-status species include those that are formally listed as threatened, endangered, or rare (in the case of plants) by the federal government or the State of California; species proposed for listing; candidates for listing; and species of concern, which could become candidates for listing in the future. Species of local concern, heritage or specimen trees, and migratory birds also may be considered to be special-status species.

3.2 Federal Endangered Species Act of 1973

Section 3 of the Federal Endangered Species Act (FESA) defines an endangered species as any species or subspecies "in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as any species or subspecies "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Designated endangered and threatened species, as listed through publication of a final rule in the Federal Register, are fully protected from a "take" without a permit administered by USFWS or NOAA Fisheries as appropriate. A take is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532(19)). Proposed endangered or threatened species are those for which a proposed regulation, but not final rule, has been published in the Federal Register.

Section 7 of the FESA requires that federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. This obligation requires federal agencies to consult with the USFWS or NOAA Fisheries on any actions (issuing permits including Section 404 permits issuing licenses, providing federal funding) that may affect listed species to ensure that reasonable and prudent measures will be undertaken to mitigate impacts on listed species. Consultation with USFWS or NOAA Fisheries can be either formal or informal depending on the likelihood of the action to adversely affect listed species or critical habitat. Once a formal consultation is initiated, USFWS or NOAA Fisheries will issue a Biological Opinion (either a "jeopardy" or a "no jeopardy" opinion) indicating whether the proposed agency action will or will not jeopardize the continued existence of a listed species or result in the destruction or modification of its critical habitat. A permit cannot be issued for a project with a "jeopardy" opinion unless the project is redesigned to lessen impacts.

3.3 Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (MBTA) makes it unlawful to "take" (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10.13, including their nests, eggs, or products. The MBTA provides legal protection to over 800 species of birds including many that are common within the project area such as American robin (*Turdus migratorius*), red-winged blackbird (*Agelaius phoeniceus*), mourning

dove (*Zenaida macroura*), as well as neotropical migrants such as Bullock's oriole (*Icterus bullockii*), Pacific slope flycatcher (*Empidonax difficilis*), warbling vireo (*Vireo gilvus*), and black-headed grosbeak (*Pheucticus melanocephalus*), and all the species of gull (*Larus* spp) and swallows (Family *Hirundinidae*).

3.4 Clean Water Act Section 401

As part of the Corps Section 404 permit review process, the California Regional Water Quality Control Board (RWQCB) must issue a Water Quality Certification or waiver under Section 401 of the CWA. RWQCB will also review the project for consistency with Waste Discharge Requirements under State land disposal regulations. In reviewing the project, RWQCB will consider impacts to waters of the State in addition to the filling of wetlands.

3.5 Clean Water Act Section 404

Section 404 of the Clean Water Act requires that a permit be obtained from the Corps prior to the discharge of dredged or fill materials into "Waters of the United States or wetlands." Waters of the United States are broadly defined by the Corps to include navigable waterways (and their tributaries), ponds, lakes, and wetlands. Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered jurisdictional wetlands. Several general (Nationwide or Regional) 404 permits that streamline the regulatory process exist for certain activities that are deemed to have minimal impacts such as minor road crossings, utility corridor crossings, maintenance, and minor streambank stabilization projects. Projects that do not meet the criteria for general permits require specific individual permits. The Corps is required to consult with USFWS, the Environmental Protection Agency (EPA), and CDFG in carrying out its discretionary authority for individual permits under Section 404.

3.6 State Endangered Species Act

The California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

3.7 California Fish and Game Code Sections 1600-1616

Under sections 1600-1616 of the California Fish and Game Code, CDFG prohibits activities that would "substantially divert or obstruct the natural flow of, or substantially change or use any material of the bed, channel, or bank of any river, stream and lake, or deposit or dispose of debris, waste or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream or lake" without consulting with CDFG. Notification is required prior to any such activities and CDFG

will issue an Agreement with any necessary mitigation to ensure protection of the State's fish and wildlife resources. The lack of any precise definitions of river, stream, or lake allows CDFG, as a practical matter, some latitude in determining what physical features qualify.

3.8 California Fish and Game Code Sections 3503, 3503.5, 3511, 3513, and 3800

These sections of the California Fish and Game Code prohibit the "take, possession, or destruction of birds, their nests or eggs" including 13 species of fully protected birds (Section 3511) that may not be taken or possessed at any time. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take." The Fish and Game Code incorporates the MBTA into Section 3513 thereby providing State protection to species listed in the MBTA (Section 4.3). The only species exempt from these take provisions are house sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*).

3.9 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act charges the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) Statewide with protecting water quality throughout California. Typically, the SWRCB and RWQCB act in concert with the Corps under Section 401 of the Clean Water Act in relation to permitting fill of federally jurisdictional waters. The U.S. Supreme Court ruling in the case of the *Solid Waste Agency of Cook County v. U.S. Army Corps of Engineers* limited the regulatory jurisdiction of the Corps under Section 404 of the Clean Water Act (*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, U.S. Supreme Court Case No. 99-1178*). This action did not limit the State's regulatory jurisdiction over Waters of the State (Guzy and Andersen 2001). Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "...any surface water or groundwater, including saline waters, within the boundaries of the state" (SWRCB 2002). Currently, an applicant would delineate the wetlands on their property utilizing methodology presented in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the delineation would be verified by the Corps. In cases where an area meets the criteria to be considered a wetland, but the Corps does not have jurisdiction, the applicant is referred to the appropriate RWQCB. Within the greater San Jose area the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) can exercise its jurisdiction over wetlands where a proposed project does not require a federal permit, but involves removal or placement of material into Waters of the State. In these cases, the project must receive a permit for Waste Discharge Requirements or a Waiver of Waste Discharge Requirements from the SFRWQCB. Projects that affect Waters of the State are required by the SFRWQCB to incorporate mitigation.

3.10 City of San Jose Municipal Code Chapter 13.28

Chapter 13.28 of the *San Jose Municipal Code* deals with protection of street trees and heritage trees. This chapter defines street trees as any vegetation over 6 feet in height growing within a public right-of-way. Street trees themselves are not considered a sensitive resource unless they have been

designated as a heritage tree by the City Council as per Section 13.28.330. Heritage trees are those that have been protected because of their size, location, unique qualities or other special significance to the community. Civil penalties are established in Section 13.32.090 for individuals damaging a designated heritage tree. A permit is required for removal and replacement of heritage trees. Replacements ratios and species for trees removed are generally established by the City's Arborist Inspector during project implementation. While VTA is not required to comply with this code, review of the heritage tree list provided by the City's Arborist indicates that there are no designate heritage trees within the Santa Clara-Alum Rock Corridor.³

3.11 Santa Clara Valley Natural Community Conservation Plan/Habitat Conservation Plan

The Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is a regional partnership between six Local Partners (the County of Santa Clara, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy and Morgan Hill) and three Wildlife Agencies (the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service (NMFS-NOAA Fisheries)). The HCP/NCCP addresses the conservation of natural communities, endangered species, and other less sensitive species of native wildlife. The purpose of this will be to encourage and simplify the process of conserving sensitive habitats for special-status species. Once the Plan is approved, it will likely allow for incidental take of covered species with the requirement of mitigation of lost habitat at approved ratios. This HCP/NCCP is in the development stages and is projected to be adopted in 2010.

³ Resolution No. 69745. Resolution of the Council of the City of San Jose designating certain trees as heritage trees, placing said trees on the heritage tree list, and deleting certain trees therefrom, and repealing resolution No. 60892. Adopted June 17, 2008.

Chapter 4 Environmental Setting

The Santa Clara-Alum Rock Corridor is located in the City of San Jose, Santa Clara County, California (Figure 1). Because of the urban setting, most biological resources potentially affected by the proposed project are associated with the creek crossings. The four creeks within the project area are Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek. Phase 1 - BRT would cross all four of these creeks but require no modifications to the existing bridges and therefore not impact resources in these locations. Phase 2 - Single Car LRT would cross Lower Silver Creek, Coyote Creek, and the Guadalupe River (and Los Gatos Creek under LRT Alignment Option 1). Work on the surface of the Lower Silver Creek and Guadalupe River bridges (and the Los Gatos Creek Bridge under LRT Alignment Option 1) could be required, but the structures themselves would not be altered. However, the Single Car LRT would require the replacement of the Santa Clara Avenue Bridge over Coyote Creek with a wider bridge. Particular attention was given to the stream crossings of the Single Car LRT including the Guadalupe River, Coyote Creek, and Lower Silver Creek.

The Corridor is in the San Jose East USGS 7.5 minute quadrangle. The average annual rainfall for downtown San Jose is approximately 14 inches. Temperatures range from an average high of 81 degrees Fahrenheit (F) during July to an average low of 58 degrees F in January. Elevations within the Corridor range from 85 to 130 feet above the national geodetic vertical datum (NGVD). The area surrounding the Corridor is highly urbanized. Almost all native vegetation has been removed and replaced by impervious surfaces, structures, or urban landscaping comprised mostly of non-native horticultural varieties of trees, shrubs, and groundcovers.

4.1 Description of the Biological Communities

The Santa Clara-Alum Rock Corridor contains a variety of habitat types. These habitat types are summarized in Table 2 and further described below.

4.1.1 Aquatic

The aquatic community consists of the open water portions of the stream crossings without emergent vegetation. The Santa Clara-Alum Rock Corridor contains 0.160 acres of aquatic habitat.

The Guadalupe River, Coyote Creek, and Lower Silver Creek provide habitat for aquatic invertebrate species such as insects and crayfish, and vertebrates including among others Sacramento suckers (*Catostomus occidentalis*), steelhead (*Oncorhynchus mykiss*), Pacific chorus frogs (*Pseudacris regilla*), western garter snakes (*Thamnophis elegans*), western pond turtle, red-eared slider (*Trachemys scripta elegans*), and waterfowl like mallards, and American coots (*Fulica americana*). Watercourses also provide an essential source of water for wildlife occurring in riparian and upland habitats.

Table 2
Summary of Habitat Type and Acreage of the Existing Stream Crossings in
the Santa Clara-Alum Rock Corridor^a

Habitat Type	Acreage
Coyote Creek	
Aquatic	0.103
Emergent Wetland ^b	0.018
Mixed Riparian Forest	0.458
Ruderal	0.092
Urban/Landscaping	0.425
Subtotal	1.096
TOTAL ACREAGES	
Aquatic	0.160
Emergent Wetland^b	0.043
Mixed Riparian Forest	0.485
Ruderal	0.267
Urban/Landscaping	0.575

Notes:

- a. Guadalupe River, Silver Creek, and Los Gatos Creek are not included because they are not affected by either phase of the project.
- b. Not based on Section 404 CWA Jurisdictional Delineation.

4.1.2 Emergent Wetland

Emergent wetlands, typically dominated by perennial emergent cattails, rushes, and sedges, occurs in areas of permanent, slow-moving fresh water. The area of this marsh community has been much reduced throughout its entire range. This community is not well developed in the Guadalupe River because the concrete channel is maintained for flood control and vegetation is removed every few years. However, dense stands of cattails (*Typha* sp), a characteristic component of the Coastal and Valley Freshwater Marsh community, occur along the banks of Lower Silver Creek north and south of Alum Rock Avenue. A list of freshwater emergent plant species occurring along the banks of the Guadalupe River, Coyote Creek, and Lower Silver Creek is included in Table 1. The Santa Clara-Alum Rock Corridor contains 0.043 acres of emergent wetlands. A wetland delineation was not conducted as part of the work required for this document. Functional wetland habitats were mapped based on field observations to generate the acreages discussed.

Emergent wetlands provide important nesting and foraging habitat for many species of birds and small mammals. A great egret (*Ardea alba*) was observed foraging in cattails in Lower Silver Creek, great blue heron (*Ardea herodias*), and mallard (*Anas platyrhynchos*), Canada geese (*Branta canadensis*), and a pied-billed grebe (*Podilymbus podiceps*) were observed in and around the confluence of Los Gatos Creek and the Guadalupe River.

4.1.3 Mixed Riparian Forest

Mixed riparian forest communities form dense cover and a closed canopy over the banks of Coyote Creek north and south of Santa Clara Street. Vegetation in the riparian corridor of Coyote Creek is comprised of trees and shrubs including native coast live oak (*Quercus agrifolia*), box elder (*Acer negundo*), Fremont cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemosa*). Non-native trees occurring in the riparian corridor include black walnut (*Juglans nigra*), black locust (*Robinia pseudoacacia*), tree-of-heaven (*Ailanthus altissima*), and California pepper tree (*Schinus molle*). A list of riparian plant species occurring along the banks of the Guadalupe River, Coyote Creek, and Lower Silver Creek was prepared and included in Table 1. The Santa Clara-Alum Rock Corridor contains 0.485 acres of Mixed Riparian Forest.

Riparian corridors provide seasonal and diurnal migration corridors and biologically valuable shelter, breeding and foraging habitat throughout the year for a diverse assemblage of species. These include native and non-native, resident and migratory birds, and small to medium native and non-native mammals. At Coyote Creek, Anna's hummingbird (*Calypte anna*) and an eastern fox squirrel (*Sciurus niger*) were observed foraging in riparian vegetation. A western pond turtle (*Actinemys marmorata*) was observed climbing onto a partially submerged log in the creek channel. Western pond turtles are a CDFG species of special concern, but do not have a fully protected designation.

4.1.4 Ruderal

Ruderal habitat, which in the Santa Clara-Alum Rock Corridor is associated with riparian corridors, consists of disturbed areas that are dominated by non-native vegetation. Plant species observed in ruderal habitats include California pepper tree, palms, and non-native grasses. The Corridor contains 0.267 acres of ruderal habitat.

Within the Santa Clara-Alum Rock Corridor, ruderal areas provide limited foraging opportunities for hawks, small birds, and small mammals. No wildlife species were observed in the ruderal areas during any of the surveys.

4.1.5 Urban Landscaping

Urban landscaping typically consists of street trees, ranging from new plantings to mature trees. Typically, a single species has been planted over an area of one to many blocks, resulting in uniform appearance and habitat. Sycamores (*Platanus* sp) are the most common street tree along Santa Clara Street and Alum Rock Avenue. Other street trees include Chinese pistache (*Pistachia chinensis*), magnolia (*Magnolia grandiflora*), ash (*Fraxinus* sp), horticultural varieties of oak (*Quercus* spp) and several species of palms (Family *Arecaceae*). Crepe myrtle (*Lagerstroemia indica*) is a shrub used in sidewalk plantings. To the extent possible, all street tree species along the Corridor were identified and included in Table 1. The Santa Clara-Alum Rock Corridor has 0.575 acres of urban landscaping directly adjacent to the three stream crossings surveyed.

Urban Landscaping habitat has little habitat value to most wildlife species. Mature trees located in parks and open spaces may provide some habitat for nesting birds. None of the surveys resulted in the observations of wildlife species within urban landscaping habitats.

4.1.6 Existing Level of Disturbance

The proposed project would to be constructed in a highly developed urban corridor. Because the Santa Clara-Alum Rock Corridor is completely urban there is essentially no habitat that can be considered undisturbed. This is true even of the creek crossings where two of the four streams are contained within concrete channels (Lower Silver Creek and the Guadalupe River) and provide no wildlife habitat.

Chapter 5 **Important Biological Resources in the Project Area**

5.1 Sensitive Species Likely to Occur in the Project Area

Information on special-status species is based on review of the CDFG CNDDDB (information dated March 2008) RareFind Report for the USGS 7.5-minute San Jose West and San Jose East quadrangles. Information on the habitat requirements of native plant species occurring in the San Jose area was obtained from the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Sixth Edition, August 2001). In addition, USFWS provided a list of Endangered and Threatened Species, as well as their potential critical habitat that May Occur In or Be Affected by Projects in the USGS 7.5-minute San Jose West and San Jose East quadrangles. Information provided by USFWS for the San Jose East quadrangle indicates that the project area does contain lands designated as critical habitat for Central California Coast steelhead (*Oncorhynchus mykiss*). The quadrangle also contains critical habitat for bay checkerspot butterfly (*Euphydryas editha bayensis*), and California red-legged frog (*Rana aurora draytonii*), however, the critical habitat is not within the project area. CDFG also provided information regarding sensitive species potentially occurring in the project area.

Table 3, contains a list of special-status species that have the potential to occur in the San Jose West and San Jose East quadrangles. The table includes common and scientific names, status, habitat requirements, and an evaluation of the potential for the occurrence of each species in and adjacent to the Santa Clara-Alum Rock Corridor. Select species from Table 3 are discussed below. These species have been selected for discussion based upon the following criteria:

- Habitat for the species has been identified within the project area; or
- Proposed project has the potential to affect the species; or
- The species is well known to the public and resource agencies and is likely to be a commented on regardless of available habitat or lack thereof.

5.2 Special-status Plant Species

All of the special-status plant species that have been reported from the San Jose East and San Jose West 7.5-minute USGS quadrangles are found in habitat types (chaparral, salt marsh, coastal dunes, or foothill grasslands) that are not present within the project area. Most of these species are predominantly associated with serpentine or alkaline soils which do not occur within the Santa Clara-Alum Rock Corridor. Round-leaved filaree (*California macrophyllum*) is predominantly found in foothill grasslands that are also not present.

Table 3
Special Status Species¹ Potentially Occurring within the Vicinity of the Proposed Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ² Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ³
PLANTS				
Big-scale balsamroot	<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	none/none/1B.2	Occurs in chaparral, cismontane woodland, and valley and foothill grassland, sometimes in serpentine soil substrates at elevations ranging from 90 to 1400 meters; blooms March to June.	Low. Lack of suitable serpentine soil substrates or valley/foothill grasslands likely precludes the presence of this species at the project site.
Round-leaved filaree	<i>California macrophyllum</i>	none/none/1B.1	Occurs in cismontane woodland and valley and foothill grassland often with clay soil substrates at elevations ranging from 15 to 1200 meters; blooms March to May.	Absent. Lack of suitable serpentine soil substrates or valley/foothill grasslands likely precludes the presence of this species at the project site. No recent records indicate presence.
Congdon's tarplant	<i>Centromadia parryi</i> ssp. <i>congdonii</i>	none/none/1B.2	Occurs in valley and foothill grasslands with alkaline soil substrates at elevations ranging from 1 to 230 meters; blooms May to October.	Absent. Lack of suitable valley/foothill grasslands precludes the presence of this species at the project site. No recent records indicate presence.
Robust spineflower	<i>Chorizanthe robusta</i> var. <i>robusta</i>	FE/none/1B.1	Cismontane woodland openings, coastal dunes, and coastal scrub habitats in association with sandy or gravelly soil substrates. 3 to 300 meters. Blooms April to September	Absent. Absence of suitable sandy substrates or any coastal scrub habitats likely precludes the presence of this species at the project site.
Mt. Thistle	Hamilton <i>Cirsium fontinale</i> var. <i>campylon</i>	none/none/1B.2	Drainages through serpentine soils in woodland, chaparral, and grassland habitats	Absent. Lack of suitable serpentine soil substrates likely precludes the presence of this species at the project site. No recent records indicate presence
San Francisco collinsia	<i>Collinsia multicolor</i>	none/none/1B.2	Closed-cone coniferous forest and coastal scrub habitats often in association with serpentine soils. 30 to 250 meters. Blooms March to May	Absent. Absence of suitable serpentine soil substrates or any coastal scrub habitats likely precludes the presence of this species at the project site.
Santa Clara Valley dudleya	<i>Dudleya setchellii</i>	FE/none/1B.1	Rocky and serpentine valley and foothill grasslands. 60 to 455 meters. Blooms April to June.	Low. Lack of suitable serpentine soil substrates likely precludes the presence of this species at the project site. The nearest recent record is roughly 5 miles away.
Fragrant fritillary	<i>Fritillaria liliaceae</i>	none/none/1B.2	Occurs in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland often in serpentine soil substrates at elevations ranging from 3 to 410 meters; blooms February to April.	Absent. Lack of suitable serpentine soil substrates and suitable habitats likely precludes the presence of this species at the Project Site. No recent records indicate presence.
Contra goldfields	Costa <i>Lasthenia conjugens</i>	FE/none/1B.1	Occurs in cismontane woodland, alkaline playas, valley and foothill grassland, and mesic vernal pools at elevations ranging from 0 to 470 meters; blooms March to June.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.
Arcuate mallow	bush <i>Malacothamnus arcuatus</i>	none/none/1B.2	Chaparral and cismontane woodland habitats, usually in gravelly alluvium. 15 to 355 meters. Blooms April to September	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.

Table 3
Special Status Species¹ Potentially Occurring within the Vicinity of the Proposed Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status²Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity³
Hall's bush mallow	<i>Malacothamnus hallii</i>	none/none/1B.2	Chaparral and coastal scrub habitats. 10 to 760 meters. Blooms May to September	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence.
Hairless popcornflower	<i>Plagiobothrys glaber</i>	none/none/1A	Alkaline meadows and seeps, coastal salt marshes and swamps. 15 to 180 meters. Blooms March to May.	Absent. This species is presumed extinct in California; project site lacks suitable salt marsh and alkaline meadow habitats.
Metcalf Canyon jewel-flower	<i>Streptanthus albidus</i> ssp. <i>albidus</i>	FE/none/1B.1	Occurs in relatively open areas in dry grassy meadows on serpentine soils and balds. 45 to 800 meters. Blooms April to July.	Low. Lack of suitable serpentine soil substrates likely precludes the presence of this species at the project site.
Caper-fruited tropidocarpum	<i>Tropidocarpum capparideum</i>	none/none/1B.1	Occurs in valley and foothill grassland in alkaline hills at elevations ranging from 1 to 455 meters; blooms March to April.	Low. Lack of suitable habitats likely precludes the presence of this species at the project site.
INVERTEBRATES				
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT/none/none	The butterfly and its host plants (dwarf plantain, purple owl's-clover, dense flowered owl's clover) are found in areas with serpentine soil, soils derived from the serpentine mineral, and other ultramafic rocks. Adult activity peaks between February to early May.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within 5 miles of the project area.
FISH				
Delta smelt	<i>Hypomesus transpacificus</i>	FT/none/ NA	Native to deltaic and riverine systems of Sacramento Valley.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within 5 miles of the project area. The project is also well out of any designated critical habitat.
Central California Coastal steelhead ESU	<i>Oncorhynchus mykiss</i>	FT/none/NA	Coastal streams with stable water supply, clean gravels, and good quality riparian habitat.	Moderate. The segment of Coyote Creek passing through the project area, and a portion of the Guadalupe River outside the project area (to the north) are designated as Critical Habitat for this species. Although no spawning habitat is present within the project area, this species may pass through Coyote Creek during spawning migrations.
Central Valley steelhead ESU	<i>Oncorhynchus mykiss</i>	FT/none/NA	Central Valley streams with stable water supply, clean gravels, and good quality riparian habitat	Low. This DPS does not occur in the project area, but passes through the San Francisco Bay during migrations to spawning sites along the Sacramento and San Joaquin Rivers and their tributaries.
Central Valley winter-run chinook salmon ESU	<i>Oncorhynchus tshawytscha</i>	FE/SE/NA	Native to Sacramento and San Joaquin rivers and their tributaries.	Low. This species/ESU does not spawn or occur in the project area, but passes through the San Francisco Bay and Delta on its way to spawning areas in the Sacramento River and its tributaries.

Table 3
Special Status Species¹ Potentially Occurring within the Vicinity of the Proposed Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status²Fed/CA /other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity³
Central Valley spring-run chinook salmon ESU	<i>Oncorhynchus tshawytscha</i>	FE/SE/NA	Native to Sacramento and San Joaquin rivers and their tributaries.	Low. This species/ESU does not spawn or occur in the project area, but passes through the San Francisco Bay and Delta on its way to spawning areas in the Sacramento River and its tributaries.
AMPHIBIANS				
California tiger salamander	<i>Ambystoma californiense</i>	FT/CSC/NA	Occurs in grasslands and open oak woodland that provide suitable aestivation (i.e., summer retreats) and/or breeding habitat in close proximity to vernal pools, seasonal wetlands, or artificial impoundments (e.g., stock ponds). Threatened by predation from Centrachid fish species (e.g., sunfish, bluegill, large-mouth bass), bullfrogs, and signal and red swamp crayfish.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site.
California red-legged frog	<i>Rana aurora draytonii</i>	FT/CSC/NA	Typically found in slow-flowing portions of perennial streams, ephemeral streams, and hillside seeps that maintain pool environments (including ponds) or saturated soils throughout the summer months. Threatened by predation from Centrachid fish species, bullfrogs, and signal and red swamp crayfish.	Low. While marginally suitable upland and breeding habitat is available along the project corridor, CRLF are not likely to occur due to the presence of predatory bullfrogs and crayfish or fish. Known CNDDDB occurrences of this species all occur roughly 5 miles away from the project area.
REPTILES				
Western pond turtle	<i>Actinemys [Emys] marmorata</i>	none/CSC/NA	Associated with permanent or nearly permanent water in a wide variety of aquatic habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water	Observed. Species observed at the Coyote Creek crossing during an early Survey. There are CNDDDB occurrences in both Coyote Creek and the Guadalupe River.
Silvery Legless Lizard	<i>Anniella pulchra pulchra</i>	none/CSC/NA	Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter.	Absent. Lack of suitable habitats likely precludes the presence of this species at the Project Site.
California Horned Lizard	<i>Phrynosoma coronatum frontale</i>	none/CSC/NA	Inhabits open country, especially sandy areas, washes, flood plains and wind-blown deposits in a wide variety of habitats.	Absent. Lack of suitable habitats likely precludes the presence of this species at the Project Site.
BIRDS				
Cooper's hawk	<i>Accipiter cooperii</i>	none/CSC/MBT A	(Nesting) woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Moderate. Tall trees occurring in the riparian habitat of the Guadalupe River and Coyote Creek adjacent to the Corridor may provide potential nesting habitat. Though foraging opportunities for these species are not present in the Project Area.
Burrowing owl	<i>Athene cunicularia</i>	none/CSC/MBT A	Prefers burrows adjacent to open grassland and ruderal habitats. Dependent upon ground squirrels and other burrowing animals to provide nesting locations; also uses culverts for burrows.	Absent. Lack of suitable habitats likely precludes the presence of this species at the Project Site.

Table 3
Special Status Species¹ Potentially Occurring within the Vicinity of the Proposed Santa Clara-Alum Rock Corridor Project Site

Common Name	Scientific Name	Status ² Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ³
Yellow warbler	<i>Dendroica petechia brewsteri</i>	none/CSC/MBTA	Nests in dense riparian vegetation along streams.	Moderate. Riparian habitat along Coyote Creek could provide potential nesting habitat for this species. No records for this species in the vicinity.
American peregrine falcon	<i>Falco peregrinus anatum</i>	Delisted/SE; CFP/NA	Frequents bodies of water in open areas with cliffs and canyons nearby for cover and nesting.	High. A pair is nesting on the San Jose City Hall rooftop. Any similar structures could in theory provide similar habitat. Only urban area foraging habitat is present in the project area.
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE/SE; CFP/NA	Saltwater and brackish marshes often crossed by tidal sloughs in the San Francisco Bay. Closely associated with pickleweed (<i>Salicornia virginica</i>).	Absent. Lack of suitable habitats likely precludes the presence of this species at the Project Site. No recent records indicate presence within 5 miles of the Project area.
California least tern	<i>Sterna antillarum browni</i>	FE/SE; CFP/NA	Migratory species that usually arrives in California in April and depart in August; nest in colonies on bare or sparsely vegetated flat substrates near the coast.	Absent. Lack of suitable habitats likely precludes the presence of this species at the project site. No recent records indicate presence within 5 miles of the project area.
MAMMALS				
Pallid bat	<i>Antrozous pallidus</i>	None/CSC/none	Daytime roosts in buildings and crevices; less often in caves, mines, and hollow trees. Nighttime roosts in buildings, caves, mines and cliff overhangs.	Low. Bridges along the project corridor do not appear to be suitable roost sites for this species. No recent records indicate presence.
Hoary bat	<i>Lasiurus cinereus</i>	None/CSC/NA	This species roosts in foliage of large trees.	Moderate. Could potentially roost in any of the larger trees along the project corridor.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE/ST/NA	Species inhabits suitable grassland, scrubland, alkali meadows and playas, and agricultural landscapes in the San Joaquin Valley and in surrounding foothill areas of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains.	Absent. The lack of suitable habitat likely precludes the presence of the species. Project area outside the known range for the species. No known CNDDB occurrences of this species within 5 miles of the project corridor. Nearest known record occurs approximately 11 miles southeast of the project area.

NOTES:

1-Special Status Species: Animals that were included in this table have a ranking of CSC or higher. Special-status plants that were included in this table have a ranking of List 2 or higher.

2-Status:

Federal

FE Federally listed as Endangered

FT Federally listed as Threatened

MBTA Protected by Migratory Bird Treaty Act

State

SE State listed as Endangered

ST State listed as Threatened

CR California rare

Table 3
Special Status Species¹ Potentially Occurring within the Vicinity of the Proposed Santa Clara-Alum Rock Corridor Project Site

Common Name	<i>Scientific Name</i>	Status ² Fed/CA /other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity ³
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CFP California Department of Fish and Game designated “Fully Protected” – Permit required for “take.”

CSC California Department of Fish and Game designated “Species of Special Concern”

SAL California Department of Fish and Game designated “Special Animals List”

Other

CNPS 1A Presumed extinct in California.

CNPS 1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.

CNPS 2 California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere.

CNPS Threat Code Extension

1. Species seriously endangered in California
2. Species fairly endangered in California
3. Species not very endangered in California

3-Likelihood of Occurrence:

- Likelihood of Occurrence within the Study area, unless noted within the analysis, is derived from the following formula:
 - Absent: Species, habitat, or community was not observed during biological field surveys conducted at an appropriate time for identification of the species; or species is restricted to habitats that do not occur within the study area.
 - Low: The species is not likely to occur within the site as no recent extant records cite the species' occurrence in or near the survey (project) area (approximately 5 miles), or the on-site habitat(s) needed to support the species are of poor quality and not likely to be utilized by the species.
 - Moderate: Either an historical record exists of the species within the vicinity of the study area (approximately 5 miles) or the habitat requirements associated with the species occur within the study area. The validity of a historical occurrence is weighted by the condition of on-site habitat at the time of occurrence versus existing habitat conditions.
 - High: An extant historical record cites the species in or near the study area, and the habitats strongly associated with that species occur within the study area or in its immediate vicinity (within 1 mile).
 - Observed: Species, habitat, or community was observed within the study area at the time of the biological field survey.

5.3 Special-status Wildlife Species

5.3.1 Mammals

The CNDDDB contains no occurrence records in the Santa Clara-Alum Rock Corridor for special-status mammals. The project area is out of the known range of the San Joaquin kit fox (*Vulpes macrotis mutica*). Although as many as two species of bats likely forage along the riparian corridors of Los Gatos Creek, the Guadalupe River, Coyote Creek, and Lower Silver Creek, bridges spanning these urban watercourses provide little roosting habitat for bats. These bridges do not provide breeding habitat for bats because bats are extremely sensitive to human disturbance.

5.3.2 Amphibians

California tiger salamanders (*Ambystoma californiense*) and California red-legged frogs (*Rana aurora draytonii*) occur in the San Jose Area. However, there is no breeding or upland habitat for tiger salamanders or red-legged frogs in the Santa Clara-Alum Rock Corridor and the CNDDDB contains no records of occurrence of these species within the Corridor. It is possible that flood events could wash red-legged frog larvae or adults into watercourses in the vicinity of the Corridor, however, it is not likely that they would become established there because their preferred stream habitat includes deep pools and quiet backwaters with abundant aquatic vegetation (USFWS 2002). The creeks that cross the Corridor are relatively slow moving most of the time but lack backwaters and aquatic vegetation. As such, they provide only marginal habitat for this species. The likely presence of any fish species would also greatly reduce any potential for either of these species to occur.

5.3.3 Reptiles

The slow-moving water and vegetated banks of Coyote Creek provide habitat for the western pond turtle. It is possible that turtles could lay eggs on the upper creek banks and within the riparian corridor. Outside of the riparian corridors, the adjacent area is intensely developed and does not provide suitable egg-laying habitat for pond turtles. The western pond turtle is a State species of concern, and is protected by CDFG.

5.3.4 Birds

There is no breeding habitat in the highly developed Santa Clara-Alum Rock Corridor for the majority of special-status bird species occurring in the San Jose area. The CNDDDB does contain occurrence records within the Corridor for several special-status bird species.

Cattails occurring in the Silver Creek channel provide potential breeding habitat for the San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*), and the tricolored blackbird (*Agelaius tricolor*), however vegetation is cleared from the channel for flood control purposes at regular intervals, further lowering habitat value. Although not reported in the CNDDDB, riparian breeding habitat for the yellow warbler (*Dendroica petechia brewsteri*) occurs adjacent to the Guadalupe River and Coyote Creek. No open fields or grasslands used for foraging by the western burrowing owl, or

the American peregrine falcon (*Falco peregrinus anatum*) occur within the Corridor. Although there are occurrences of nesting burrowing owls in the nearby San Jose Municipal Airport, the Corridor does not provide suitable habitat for this species. The American peregrine falcon generally require cliffs for nesting, which are not present in the vicinity. However, a pair has an observed nesting on the roof of the City of San Jose's City Hall in 2007/2008.

Tall trees occurring in the riparian habitat of the Guadalupe River and Coyote Creek adjacent to the Corridor may provide potential nesting habitat for the Cooper's hawk (*Accipiter cooperii*) although foraging opportunities for these species are not present in the project area.

5.3.5 Invertebrates

Only one special-status invertebrate species is reported as occurring in the San Jose area: the Bay checkerspot butterfly (*Euphydryas editha bayensis*). This species is associated with serpentine habitat or dependent upon their host plant species growing on serpentine soils, neither of which occur within the Santa Clara-Alum Rock Corridor, the critical habitat also occurs well outside of the project area.

5.3.6 Fish

Fish. Of the five sensitive species of fish or sensitive species Evolutionarily Significant Units (ESU's), only the Central California Coast steelhead DPS (*Oncorhynchus mykiss*) and Chinook salmon (*Oncorhynchus tshawytscha*), have a reasonable potential to occur within the study area (Appendix B, Table 2). A detailed discussion of this species follows.

Steelhead - Central California Coast ESU-Federally Threatened.

Steelhead are an anadromous form of rainbow trout, which return to freshwater streams to spawn. In February 1994, the National Oceanic and Atmospheric Administration (NOAA) Fisheries identified and established 15 ESU's of west coast steelhead populations (Federal Register 1998). The Central California Coast steelhead ESU was listed as threatened under the *Federal Endangered Species Act of 1973* (FESA) on August 18, 1997, and consists of steelhead populations from the Russian River in Sonoma County south to and including Aptos Creek in Santa Cruz County. This ESU also includes San Francisco Bay and its tributaries, excluding the Sacramento/San Joaquin River system east of Vallejo, California. Thus, steelhead found in Bay Area streams would potentially belong to the Central California Coast steelhead ESU.

Steelhead populations are known to be present in the Guadalupe River and Coyote Creek. The Santa Clara Valley Water District (SCVWD) does not have any records or evidence of steelhead within Lower Silver Creek (Abel 2001). The location of stream crossings within the Santa Clara-Alum Rock Corridor do not contain suitable spawning or rearing habitat for steelhead. At these locations, these creeks only function as migration habitat for steelhead and other salmonids. Lower Silver Creek lacks a well-developed riparian corridor, which often results in elevated water temperatures. The surveys did not result in the observation of steelhead within the project area. In 2005 Coyote Creek, including the segment that passes through the project area, was designated as Critical Habitat for this species (Federal Register 2005).

Chinook salmon – Central Valley Spring run ESU-Federally Threatened, State Threatened.

The Chinook salmon, like steelhead, return to fresh water streams to reproduce. This ESU state and federally listed as threatened. In recent years, runs of Chinook salmon have been documented in the Guadalupe River and Coyote Creek. The origin of these fish is the subject of much debate among researchers, biologist, agencies, and local environmental groups as the project area is not a part of any of the ESUs defined by NOAA/NMFS.⁴ The timing of the run, late July to December, with the bulk of the run in September and October, is consistent with the Central Valley Fall/Late Fall-run Chinook salmon ESU. To date, no Chinook salmon have been documented in Lower Silver Creek (Abel 2001; CNDDDB 2004). The surveys conducted did not result in the observation of Chinook salmon within the project area.

The construction of the proposed project in the Santa Clara-Alum Rock Corridor are not expected to pose any impacts to steelhead or Chinook salmon in the Guadalupe River as conceptual plans do not indicate any alterations to the crossing or its habitats (DMJM Harris, 2008). No impacts are expected to either species in Lower Silver Creek, as neither species is known to present. However, potentially significant impacts may potentially occur to steelhead or Chinook salmon in Coyote Creek. The conceptual plans (DMJM Harris, 2008) call for the replacement of the Coyote Creek Bridge during Phase 2 - Single Car LRT. Assessment of effects to listed fish species would need to be addressed during a Section 7 consultation with NOAA Fisheries conducted as part of the Corps' permitting process.

⁴ <http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Chinook/Index.cfm>

Chapter 6 **In-Depth Studies for Special Laws**

6.1 Biological Assessment

Under Section 7 of the FESA, all federal agencies are required to consult with the USFWS or NOAA Fisheries to ensure that their actions do not jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat (Section 4.2, Federally Endangered Species Act of 1973). The potential presence of federally listed species (Chinook and steelhead) in the Guadalupe River and Coyote Creek will require the lead federal agency to consult with NOAA Fisheries under Section 7 of the FESA. Depending on the specific project design, construction methods, and required Best Management Practices (BMPs), a Biological Assessment (BA) may or may not be required by NOAA Fisheries. If it is required, the BA for the Santa Clara-Alum Rock Corridor project should identify any endangered or threatened species that could be affected by the proposed project including those mentioned above. Submitted as part of the Section 7 consultation process, the BA would allow NOAA Fisheries to prepare a Biological Opinion (BO) and, if necessary, an incidental take permit. The BA and BO will be important in the finalizing the EIS, establishing a Record of Decision, and would also support the permitting process.

6.2 Wetlands Assessment

The Santa Clara-Alum Rock Corridor contains areas that may be subject to Corps jurisdiction under Section 404 of the CWA. A routine Section 404 CWA jurisdictional delineation was not conducted for the Corridor, as conceptual plans did not indicate potential impacts to jurisdictional areas. However, plans from DMJM Harris (2008) call for the replacement of the Santa Clara Avenue Bridge over Coyote Creek. A Section 404 CWA jurisdictional delineation may be required as part of the permitting process for the bridge replacement depending on the final design of the bridge and construction techniques used.

Chapter 7 **Project Impacts and Mitigation Measures**

The construction of the proposed project in the Santa Clara-Alum Rock Corridor may have effects on the biological resources within the project area. Primary areas of potential impacts are to mixed riparian forest and aquatic habitats and species associated with them, and to nesting birds due to the removal of street trees. The proposed project considered in this impact analysis comprises of the installation and operation Phase 1 – BRT and Phase 2 – Single Car LRT in the Corridor. Most biological resources potentially affected by the proposed project are associated with the creek crossings. The four creeks within the project area are Los Gatos Creek, the Guadalupe, River Lower Silver Creek, and Coyote Creek. Phase 1- BRT would cross all four of these creeks but require no modifications to the existing bridges and therefore not impact resources in these locations. Phase 2 - Single Car LRT would cross the Guadalupe River, Coyote Creek, and Lower Silver Creek (and Los Gatos Creek under LRT Alignment Option 1). Work on the surface of the Lower Silver Creek and Guadalupe River bridges will be required, but the structures themselves will not be altered. However, Phase 2 - Single Car LRT would require the replacement of the bridge over Coyote Creek with a wider bridge.

7.1 No Impacts

7.1.1 Serpentine Plant Species

The majority of the sensitive plant species identified by USFWS as having the potential to occur within the 7.5-minute USGS San Jose East and San Jose West quadrangles are species that are endemic to serpentine or alkaline soils. The Santa Clara-Alum Rock Corridor does not contain serpentine or alkaline soils. Therefore, impacts to these species are not expected to occur from the proposed project.

7.1.2 Animals not Expected to Occur

Many of the sensitive species of invertebrates identified by USFWS as having a potential to occur within the 7.5-minute USGS San Jose East and San Jose West quadrangles are species that are endemic to serpentine soils. Additionally, the Corridor is either beyond the known range of many of these species or does not contain suitable habitat. Examples of these species include: San Joaquin kit fox, riparian brush rabbit, delta smelt, winter-run Chinook salmon.

7.1.3 Riparian and Sensitive Aquatic Species Located in the Guadalupe River and Lower Silver Creek

The conceptual plans (DMJM Harris, 2008) do not indicate that the proposed project would require alteration of the bridges that currently cross the Guadalupe River or Lower Silver Creek. Thus, no impacts are expected to occur with respect to the mixed riparian habitat or sensitive aquatic species that may occur in the Guadalupe River. There is no riparian habitat at the Lower Silver Creek crossing and

this channel is subject to routine maintenance. Therefore, there would be no impact to this habitat or species that use this habitat.

7.2 Less-Than-Significant Environmental Impacts

7.2.1 Loss of Urban Landscaping and Ruderal Habitats

The proposed roadway improvements and bridge replacement at Coyote Creek associated with Phase 2 - Single Car LRT would result in the loss of urban landscaping and ruderal habitats throughout the Corridor. The loss of urban landscaping and ruderal habitats would be a less-than-significant impact because of relatively low habitat values for native plant and wildlife species.

7.3 Significant Environmental Impacts

7.3.1 Impacts to Sensitive Aquatic Species and Riparian Resources Located within Coyote Creek

Where the Santa Clara-Alum Rock Corridor crosses Coyote Creek, the project could result in impacts to the creek and its associated riparian corridor and the biological resources within the aquatic and riparian habitats. Project plans detail the widening of the East Santa Clara Street Bridge over Coyote Creek if the Phase 2 - Single Car LRT is implemented.

This would require the clearing and construction of support structures on one or both sides of the existing bridge (Figure 3). Bridge construction would result in the permanent removal of adjacent riparian corridor because the width of the bridge would be increased. Also, widening of this bridge is projected to require intrusion into the riparian habitat about 30 feet beyond the width of the expanded bridge on each side. Widening of this bridge will result in the permanent and temporary loss of sensitive habitats. The wider bridge would result in the permanent loss of 0.04 acres of Mixed Riparian Forest and about 130 square feet (0.003 acres) of Emergent Wetland on each side for a total of 0.08-acres of mixed riparian forest, and about 260 square feet of Emergent Wetland. This permanent loss of sensitive habitats would be considered a significant impact.

Construction is estimated to require the temporary removal of 0.14 acres of Mixed Riparian Forest and about 348 square feet (0.008 acres) of Emergent Wetland on each side. Because sensitive habitats would be affected, even if they are restored following construction, this would be considered a significant impact. Additionally, as further discussed in BIO-6, any construction that involves placement of crews or equipment within the creek has the potential to significantly affect the aquatic habitat and the species that use this habitat primarily through release of contaminants and habitat modification. The BRT Phase would not require modification of Coyote Creek Bridge; therefore, there would be no affect to sensitive aquatic resources or riparian habitat in this location when this phase is implemented.

Coyote Creek supports runs of Central California Coast ESU steelhead which are federally listed as threatened. It is unclear which ESU the Chinook recorded from Coyote Creek belong to, as this creek is not a part of the defined ranges of any designated ESU⁵, and therefore it is difficult to determine their protection status. Coyote Creek at the Santa Clara Avenue Bridge does not contain spawning or rearing habitat for either of these species, but is a migration corridor. Because construction details are not known at this time, it has been assumed that the creek-side intrusion zone indicated in the drawings would be subject to complete removal of vegetation and the presence of workers and equipment. Utilizing these assumptions, construction activities could impact steelhead or Chinook if they were present during construction. Because the final bridge would free span the creek it would not alter streamflows or alter other instream conditions. Therefore, the finished project would not pose additional adverse effects to salmonids. To avoid impacts to these species, construction activities in Coyote Creek associated with Phase 2 - Single Car LRT would have to take place during non-migration periods. Assessment of potential effects to listed fish species would need to be addressed during a Section 7 consultation with NOAA Fisheries conducted as part of the Corps permitting process.

Table 4 summarizes potential impact acreages and mitigation requirements for impacts to Coyote Creek associated with the widening of the Coyote Creek Bridge. As shown, removal of 0.18 acres of riparian vegetation and 0.01 acres of Emergent Wetland in Coyote Creek in the vicinity of the bridge over Coyote Creek would require mitigation. The resource agencies are currently expecting mitigation to occur onsite at a ratio of 3:1 (restored : impacted). Therefore, a total of 0.54 acres of riparian habitat and 0.03 acres of Emergent Wetland would have to be restored within Coyote Creek. Of this, the construction impacts would be temporary and these areas can be restored following construction. However, it is expected that the resource agencies would require the use of the 3:1 ratio even for the temporary construction impacts. Therefore, the on-site availability for mitigation is limited, and the remaining acreages would have to be mitigated for off-site.

Table 4
Acreages of Mixed Riparian and Emergent Wetland Habitats Impacted by the Replacement (Permanent) and Construction (Temporary) of the Coyote Creek Bridge and Required Mitigation (3:1 ratio) That Could Occur Either On or Off-site (All Units in Acres)

Habitat	Loss			Mitigation
	Permanent	Temporary	Total	Total
Mixed Riparian	0.08	0.24	0.32	0.32
Emergent Wetland	0.006	0.016	0.022	0.022

⁵ <http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Chinook/Index.cfm>

Areas suitable for riparian restoration are becoming difficult to find in the Santa Clara Valley.⁶ There is also a planned flood improvement project on Coyote Creek that could remove mitigation if not properly coordinated. Because mitigation cannot be accommodated entirely on-site, VTA will investigate the adjacent reaches of Coyote Creek for additional mitigation opportunities. If mitigation cannot be conducted adjacent to the area of disturbance, VTA will coordinate with resource agency personnel (CDFG and SCVWD) to identify other potential riparian mitigation sites within the watershed. Assuming the adoption of the HCP/NCCP another option would be to pay fees into the HCP/NCCP for offsite preservation/restoration of these habitats.

A qualified biologist, in coordination with resource agency personnel, will develop a riparian mitigation and monitoring plan. The plan will include:

- Replacement of 0.54 acres of riparian habitat including riparian values and functions;
- Replacement of 390 square feet of Emergent Wetland;
- Identification of the locations where mitigation will take place;
- Replacement of plantings that are in-kind using locally collected plant materials to the maximum extent practicable;
- Removal of non-native species to be replaced with commercially-available native species common to the planting area;
- Irrigation of plantings through the end of the monitoring period.
- Monitoring of the restoration project by a qualified biologist for a period of five years, with annual monitoring reports submitted to the resource agencies. Success criteria will be determined for plant survival, percent cover, health and vigor of plants, and/or other criteria as determined in consultation with the resource agencies, but an 80 percent survival rate is typically standard.
- Replanting if at any time during the five-year monitoring period survival is less than the success criteria.
- Develop an adaptive management strategy for the restoration effort in consultation with the agencies to ensure success of the restoration effort in the face of changing site conditions.
- Construction activities within the riparian corridor should be restricted to ordinarily dry-weather months (June 1st to October 15th) when steelhead and Chinook salmon are not likely to be migrating. Pre-construction surveys for sensitive species, such as steelhead, Chinook salmon, and California red-legged frog, shall be conducted by a qualified biologist prior to the start of work within the riparian or aquatic habitats. Implementation of these mitigation measures for riparian resources and sensitive aquatic species would reduce impacts to a less-than-significant level.

7.3.2 Nesting Birds

The removal of trees and vegetation within the project area could potentially result in disturbances to nesting birds. Nesting birds, their nests, and eggs are fully protected by CDFG Fish and Game Code (Sections 3503, 3503.5) and the Federal Migratory Bird Treaty Act of 1918. If vegetation is removed

⁶ EIP Associates 2004. Memorandum dated May 14, 2004 from D. Ebert to M. Kay regarding riparian restoration costs and constraints for the VTA – Santa Clara/ Alum Rock Corridor project (10558-02).

outside the nesting season (typically February 1st to August 31st), there would be no impact and mitigation would not be required. Construction activities would, to the extent practicable, be timed to avoid vegetation removal during the nesting season. If this cannot be accomplished, then a qualified biologist would conduct pre-construction nesting surveys no more than two weeks prior to construction to determine if nesting birds are present. If nesting birds are present, a suitable buffer zone, as determined through coordination with CDFG, would be observed and construction activities would be suspended in this zone until future surveys indicate that chicks have fully fledged (left the nest). Completion of pre-construction surveys and avoidance would result in no impacts to nesting birds.

7.3.3 Loss of Street Trees

Construction of the proposed project in the Santa Clara-Alum Rock Corridor would result in the removal of street trees as a result of bridgework and roadway work. Street trees within the corridor typically include sycamores, Chinese pistache, magnolia, ash, oaks, and palms. Many of these street trees are large enough to provide potential bird nesting habitat. The removal of large street trees may result in a significant impact on nesting birds (see above).

Street trees removed or damaged by construction activities would be replaced with plantings of the same tree species, or native tree species in accordance with streetscape guidelines established by the City of San Jose. Street trees greater than 12 inches diameter at breast height (DBH) would be replaced at a 3:1 ratio with the same species, or if replacing non-native with native tree species a 2:1 ratio may be used. If trees to be replaced are less than 12 inches DBH a replacement ratio of 2:1 for non-native replacement trees may be used, or 1:1 for native replacement trees.

Steps shall be taken with mature landscape trees designated to be retained, to avoid or minimize damage by installing temporary fencing at the drip line of trees during construction. There would be no disturbance from construction activity, storage of materials, or worker parking within the drip lines of these trees. Implementation of this avoidance and replacement plan would result in a less-than-significant impact to street trees.

Chapter 8 Cumulative Impacts

The Santa Clara-Alum Rock Corridor is in a highly urbanized area of the City of San Jose. Like most urban areas, the habitat is fragmented and of varying qualities. If the mitigation measures from Section 7, Project Impacts and Mitigation Measures, are implemented during the construction of the proposed project in the Corridor, potential impacts to the natural resources in the project area would be mitigated to a level of insignificance. Therefore, these potential impacts are not expected to substantially contribute to significant cumulative effects.

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**Appendix A California Department of Fish and
Game's Natural Diversity Data Base (CNDDDB)**

**Appendix B List of Endangered and Threatened
Species that May Occur in or be affected by Projects
in Santa Clara County**
