AGENDA

PENINSULA CORRIDOR JOINT POWERS BOARD

Bacciocco Auditorium, 2nd Floor
1250 San Carlos Avenue, San Carlos CA 94070

January 8, 2015 – Thursday

10:00 a.m.

1. Pledge of Allegiance

2. Swearing in of Jeff Gee (City Selection Committee SamTrans Representative)

3. Call to Order/Roll Call

4. Report from Nominating Committee (Cisneros, Guilbault, Yeager)
   - Election of 2015 Officers
   MOTION

5. Public Comment
   Public comment by each individual speaker shall be limited to two minutes

6. Consent Calendar
   Members of the public or Board may request that an item under the Consent Calendar be considered separately
   a) Approval of Minutes of December 4, 2014
   b) Acceptance of Statement of Revenues and Expenses for November 2014
   c) Authorize Delegation of Approval Authority for all Aspects of the San Francisco Roadway Bridges Replacement Project, Including Design, Construction, Phasing and Schedule
   d) Authorize Adoption of Continuing Disclosure Policy
   RESOLUTION

7. Chairperson’s Report

8. Report of the Citizens Advisory Committee

9. Report of the Executive Director
   a) Quint Street Bridge Update
   INFORMATIONAL
   b) Caltrain Modernization Update
   INFORMATIONAL

10. Authorize Certification of the Peninsula Corridor Electrification Project Final Environmental Impact Report Certification and Project Approval
   RESOLUTIONS

Note: All items appearing on the agenda are subject to action by the Board. Staff recommendations are subject to change by the Board.
11. Authorize Issuance of Not to Exceed $11 Million Aggregate Principal Amount of 2015 Series A Farebox Revenue Bonds and the Forms of a Third Supplemental Trust Agreement, a Continuing Covenant Agreement and Executing and Delivery Thereof

12. Authorize Award of Contract to MV Transportation, Inc. to Provide Contracted Shuttle Bus Services for a Base Term of Five Years and Five Months at an Estimated Price of $14,716,754

13. Presentation on Caltrain Sustainability Efforts

14. Legislative Update

15. Correspondence

16. Board Member Requests

17. General Counsel Report

18. Date/Time of Next Meeting: Thursday, February 5, 2015, 10 a.m. at San Mateo County Transit District Administrative Building, Bacciocco Auditorium, 2nd Floor, 1250 San Carlos Avenue, San Carlos, CA 94070

19. Adjourn
INFORMATION FOR THE PUBLIC

All items appearing on the agenda are subject to action by the Board. Staff recommendations are subject to change by the Board.

If you have questions on the agenda, please contact the JPB Secretary at 650.508.6242. Agendas are available on the Caltrain website at www.caltrain.com.

Location, Date and Time of Regular Meetings

Regular meetings are held at the San Mateo County Transit District Administrative Building located at 1250 San Carlos Avenue, San Carlos, one block west of the San Carlos Caltrain Station on El Camino Real, accessible by SamTrans bus Routes ECR, FLX, 260, 295 and 398. Additional transit information can be obtained by calling 1.800.660.4287 or 511.

The JPB meets regularly on the first Thursday of the month at 10 a.m. The JPB Citizens Advisory Committee meets regularly on the third Wednesday of the month at 5:40 p.m. at the same location. Date, time and place may change as necessary.

Public Comment

If you wish to address the Board, please fill out a speaker’s card located on the agenda table and hand it to the JPB Secretary. If you have anything that you wish distributed to the Board and included for the official record, please hand it to the JPB Secretary, who will distribute the information to the Board members and staff.

Members of the public may address the Board on non-agendized items under the Public Comment item on the agenda. Public testimony by each individual speaker shall be limited to two minutes and items raised that require a response will be deferred for staff reply.

Accessibility for Individuals with Disabilities

Upon request, the JPB will provide for written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. Please send a written request, including your name, mailing address, phone number and brief description of the requested materials and a preferred alternative format or auxiliary aid or service at least two days before the meeting. Requests should be mailed to the JPB Secretary at Peninsula Corridor Joint Powers Board, 1250 San Carlos Avenue, San Carlos, CA 94070-1306; or emailed to board@caltrain.com; or by phone at 650.508.6242, or TDD 650.508.6448.

Availability of Public Records

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at 1250 San Carlos Avenue, San Carlos, CA 94070-1306, at the same time that the public records are distributed or made available to the legislative body.
Chair Tom Nolan called the meeting to order at 10:08 a.m. and led the Pledge of Allegiance.

PUBLIC COMMENT
Jeff Carter, Millbrae, said Caltrain runs an inadequate Saturday schedule on Black Friday. A number of people were waiting for a train early in the morning at the Millbrae station, but because of the schedule change they had to wait a long time, and there were no announcements about the change.

Shirley Johnson, San Francisco Bicycle Coalition (SFBC), said many bicyclists are bumped even when there is still space on the train. The conductors should be more considerate.

Marc Brandt, San Francisco Bicycle Advisory Committee, said the committee passed a resolution calling on Caltrain to add a third bike car to all Bombardier trains. He said Caltrain needs more onboard bike capacity, and paying bike passengers get bumped while all walk-on passengers are accommodated.

Paige Miller, San Francisco, said she takes her bike on the train to Stanford. She said she has been bumped a few times on the commute home, and if she has a commitment she cannot take the train. She requested that the Board make bikes a priority on the trains. She also said that the new rail cars should be made bike cars.

Jim Bigelow, Redwood City-San Mateo County and Menlo Park Chambers of Commerce, thanked David Miller, Legal Counsel, on behalf of the business community for going through the challenges with Union Pacific and Southern Pacific over the years and for all the work Mr. Miller has done.

Hans Nielsen, San Francisco, said his bike is an essential part of his commute. He said he usually travels on Gallery trains, but when a Bombardier train set is used, more bikes are bumped, and when train sets are interchanged it is hard for bicyclists to plan trips. He asked that the new Bombardier cars be made bike cars.
CONSENT CALENDAR
a. Approval of Minutes of November 6, 2014
b. Acceptance of Statement of Revenues and Expenses for Fiscal Year (FY) Ending June 2014 (Unaudited)
c. Acceptance of Statement of Revenues and Expenses for October 2014
d. Authorize Entering into a 10-Year Lease Agreement with Maverick Jack's, LLC for the Use of the Former Broadway Station Building at 1190 California Drive in Burlingame as a Restaurant
e. Authorize Amendment to Citizens Advisory Committee Bylaws to Change How a Quorum is Defined

Motion/Second: Tissier/Yeager
Ayes: Cisneros, Cohen, Guilbault, Kalra, Nolan, Tissier, Yeager
Absent: Woodward

CHAIRPERSON’S REPORT
Resolution of Appreciation for Legal Counsel David J. Miller
Motion/Second: Yeager/Tissier
Ayes: Cisneros, Cohen, Guilbault, Kalra, Nolan, Tissier, Yeager
Absent: Woodward

The Board thanked Mr. Miller for his years of service.

Public Comment
Jeff Carter, Millbrae, said he appreciates Mr. Miller’s work on the JPB and the San Mateo County Transit District. He said Mr. Miller has done great work and handled difficult negotiations expertly.

Mr. Miller said it will be a seamless transition, and he thanked the Board, audience and staff for their kind comments.

Appointment of Nominating Committee for 2015 Officers
Chair Nolan appointed directors Jose Cisneros, Rose Guilbault, and Ken Yeager to the nominating committee.

REPORT OF THE CITIZENS ADVISORY COMMITTEE (CAC)
Cat Tucker, CAC Chair, said the CAC is happy to have two new members. She said the CAC voted to amend the Bylaws defining a quorum, received an update on accessibility and a report on electrification, and questioned what will be done in the short-term regarding ridership.

REPORT OF THE EXECUTIVE DIRECTOR
Michael Scanlon, Executive Director, reported:
• The Chairs of the three agencies have agreed to install a plaque at the Redwood City Caltrain Station recognizing Mr. Miller for the acquisition of the railroad.
• **Key Caltrain Performance Statistics October 2014 compared to October 2013**
  o **Monthly Performance Statistics:**
    - Total Ridership was 1,699,129, an increase of 18.3 percent.
    - Average Weekday Ridership (AWR) was 61,673, an increase of 19.2 percent.
    - Total Revenue was $7,649,147, an increase of 24.2 percent.
    - On-time Performance (OTP) was 89.8 percent, a decrease of 2.4 percent.
    - Caltrain Shuttle Ridership was 8,246, an increase of 21.2 percent.
  o **Year-to-Date Performance Statistics:**
    - Total Ridership was 6,520,585, an increase of 12.6 percent.
    - AWR was 60,591, an increase of 12.8 percent.
    - Total Revenue was $29,194,566, an increase of 14 percent.
    - OTP was 91.6 percent, an increase of 0.5 percent.
    - Caltrain Shuttle Ridership was 8,901, an increase of 28.2 percent.
    - The increase percentage is not accurate due to miscounts last year.
• The Bicycle Advisory Committee (BAC) met on November 20 and received updates on the San Francisco bike parking facility, and bicycle access and parking recommendations.
• **Special service:**
  o Levi’s Stadium service:
    - The San Francisco 49ers will play on December 20 and 28.
    - The Pac-12 College Football Championship will be on December 5.
    - The Foster Farms College Bowl will be on December 30.
  o The Holiday Train will operate on December 6 and 7.
  o A Sunday schedule will run on Christmas Day. A full weekday schedule will run the day before and after Christmas.
  o Extra service will run on New Year’s Eve, including four trains leaving San Francisco at 12:45 a.m., 1:15 a.m., 1:45 a.m., and 2:15 a.m.
  o A Sunday schedule will run New Year’s Day.
  o The Freedom Train will go from Diridon to San Francisco on January 19.
• Work begins this month on the San Mateo County Bridges Replacement Project.
• **Staff is working with the Santa Clara Valley Transportation Authority (VTA) on shifting the Caltrain main lines to accommodate a track extension for the VTA light rail.**

Rita Haskin, Executive Officer, Customer Service and Marketing, said that regional transit agencies and the Metropolitan Transportation Commission (MTC) have been working on the Clipper 2.0 fare collection system. A public input process has just been kicked off. The information will be used to help develop the next generation of Clipper, which will go live in 2019. A survey is available at futureofclipper.com.

**Public Comment**
Catherine Young, BAC member, said the BAC is keen to hear the newly purchased rail cars will be used to increase bicycle capacity on Bombardier trains in the future.
Doug DeLong, Mountain View, said the month of October typically has a lot of mechanical delays. He said this year there were fewer minutes of delays, so Caltrain is making progress and there is evidence of improving reliability.

Adina Levin, Friends of Caltrain, said the original vision of Clipper was payment technology and integration of the Bay Area’s fares and the customer experience. She said in order for MTC to make progress they will need to hear many customers say that Clipper should be about supporting the customer experience from point A to point B. The goal should be to serve customers with their end-to-end experience.

Director Malia Cohen said there are a lot of Clipper users who don’t speak English, so outreach should be done in multiple languages.

PENINSULA CORRIDOR ELECTRIFICATION PROJECT (PCEP) FINAL ENVIRONMENTAL IMPACT REPORT (FEIR) RELEASE
Rich Walter, ICF Consultant, presented:
- The FEIR addresses key impact areas, other California Environmental Quality Act (CEQA) subject areas, cumulative impacts, and alternative analysis.
- Project purpose and need:
  - Improve Caltrain system performance
  - Increase service and ridership
  - Increase revenue and reduce fuel cost
  - Reduce environmental impacts related to train noise, air quality and greenhouse gas emissions
  - Provide California High-speed Rail Authority (CHSRA)-compatible electrical infrastructure
- Project Description:
  - Approximately 51 miles from San Francisco to Tamien Station
  - Electrification
    - Overhead contact system
    - Traction power facilities
    - Electric Multiple Units (EMUs)
  - Service:
    - Up to 79 miles per hour
    - Increase to six trains per hour per direction, add more station stops and reduced travel time, and restore Atherton and Broadway stations weekday service
    - Mixed-fleet service for interim period
    - Continue tenant service
    - Continue diesel service to Gilroy
- Key Regional Benefits:
  - Decreases in greenhouse gases, daily traffic congestion, engine noise
  - Improvements in clean air quality and increases in daily ridership, improved frequency and quicker trips
- Key Comments:
  - Visual aesthetics: Concerns about overhead contact system (OCS) and traction power facilities (TPF) impacts
This is an existing transportation corridor and already has utilities along it. Mitigation has been revised for TPFs. Tree mitigation will help with OCS impacts.

- Tree removal: Concerns about the worst-case scenario
  - Reduction of removal estimate from 2,200 to 1,000 trees and pruning of 3,600 to 3,200 trees.

- Noise: Concerns about project noise sources and quiet zones and grade separations
  - Horn, train, wheel-rail, and ambient noise were considered. Trains are quieter so there will be no significant expected project-level impacts. There will be TPF noise impacts in South San Francisco and Palo Alto, but mitigation options exist.

- Local Traffic: Concerns about specific locations and support for grade separations
  - Staff added 10 new study locations and did not find new significant impacts. Grade separations would help but are not financially feasible for PCEP.

Chair Nolan left at 10:52 a.m. Director Yeager chaired the remainder of the meeting.

- Traction Power Facilities: Study additional options
  - Five additional options were studied in South San Francisco, Burlingame, San Mateo, Palo Alto, and Redwood City.

- Bikes Onboard: Concerns about expanding onboard bike capacity
  - The project will continue the bikes onboard program. Specific bicycle capacity is not a significant environmental impact. This issue is addressed in the EMU procurement process.

- Freight: Concerns about vertical clearances, operational hours, and electromagnetic interference (EMI)
  - Existing vertical clearances will be accommodated with limited cumulative effect. The operations hours are the same as today. There are EMI-proven controls from the Northeast Corridor, which are included in the FEIR.

- Alternatives: Concerns that the environmental process is not considering non-electrification alternatives.
  - Fifty-two alternatives were considered and screened. Four were analyzed in greater detail including no project, diesel multiple units, dual-mode multiple units, and Tier 4 diesel locomotives.

- CHSRA: Concerns about analyzing the blended service in this document
  - The CHSRA/blended service is currently only at a conceptual level. This project is not about blended service, it is about electrified Caltrain service. CEQA allows projects to be analyzed in separate environmental processes. The two projects have independent utility and different purposes. The environmental impacts for the PCEP can be fully disclosed in this FEIR.

- Cost Reduction Strategies:
  - Eliminate electrification of Union Pacific-owned Main Track 1 in South Terminal area.
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- Eliminate electrification beyond Michael Yard.
- Defer electrification of San Francisco Yard storage tracks.
- Use electric locomotives for backup trains.
- Revise design concept shared OCS pole foundations for guy-wires.

- Legal considerations:
  - Caltrain is a Federally-regulated rail carrier subject to the authority of the Surface Transportation Board (STB).
  - Court rulings support arguments that rail projects subject to STB jurisdiction are exempt from CEQA.
  - If the FEIR is legally challenged, the JPB reserves the right to assert STB preemption of CEQA.
  - The JPB proposed to adhere to the CEQA mitigations identified in the FEIR.

- Key Milestones:
  - FEIR made available on December 4.
  - Board to consider certifying the FEIR, adopting the findings, statement of overriding considerations, and the project and mitigation monitoring and reporting program on January 8.

Public Comment

Jim Bigelow, Redwood City-San Mateo County Chamber of Commerce, said the FEIR is an outstanding product. He said people using the rail corridor need relief and an improved system, and approving this would be a step in the right direction.

Andy Chow, Redwood City, congratulated Caltrain for releasing the FEIR. He said he hopes the FEIR is not challenged in court.

Roland Lebrun, San Jose, said electrification does not increase capacity, signaling does. He said that electrification south of Santa Clara is problematic, and the Board should decide to decouple electrification and the replacement of rolling stock to make it possible to get new rolling stock right away that will be electrification-ready.

Bena Chang, Silicon Valley Leadership Group (SVLG), said the SVLG is supportive of electrification and excited about increased capacity and frequency, and improvement of the service. The SVLG is looking forward to partnering with Caltrain to find funding for the Caltrain Modernization (CalMod) Program.

Adina Levin, Friends of Caltrain, said it is great to see this milestone that will allow the project to go forward to support the region’s growth.

Greg Conlon, Atherton, said it is not clear if the FEIR looked at installing quad gates or quiet zones. He said Orange County did 10 miles of quad gates and put in a quiet zone.

Jeff Carter, Millbrae, said this is long overdue and he hopes the report will be certified soon. He said Caltrain should not be limited to six trains per hour or two tracks.
AUTHORIZE ADOPTION OF THE DISADVANTAGED BUSINESS ENTERPRISE (DBE) GOAL OF 5.2 PERCENT FOR THE PENINSULA CORRIDOR ELECTRIFICATION PROJECT

Bill Carson, Manager, Employee Relations and Civil Rights, presented:

- The Board is being asked to approve the published goal of 5.2 percent and to submit the goal to the Federal Transportation Administration (FTA) if there are no comments during the public comment period that would result in a change to the goal.
- The goal is based on the assessment of subcontracting opportunities within the project and the relative availability of DBE firms.
- The goal was initially calculated at 2.45 percent, based solely on U.S. Census data, but the goal was adjusted using the Disparity Study data, which bumped up the participation rate, which staff hopes to achieve on a race-neutral basis.
- Conversation with FTA:
  - FTA supports establishing a DBE project goal on large contracts.
  - JPB must provide notice of DBE goal prior to issuing the Request for Proposals.
  - JPB would provide oversight and Design-Builder would be held accountable for DBE participation.
  - The JPB used the established methodology for setting the DBE goal.
  - The FTA will closely monitor the DBE program performance on the project.
- DBE goal setting is a two-step process:
  - Develop a base figure of ready, willing and able DBEs who are qualified to perform on a given project. North American Industry Classification System (NAICS) codes are used to identify firms by expertise.
  - Examine all other data relevant to the goal-setting process that can be used to adjust the goal, such as the Disparity Study and public input.
- DBE goal setting:
  - Forty-five percent of the total project work has to be performed by the Design-Build team, leaving 55 percent of the remaining work available for subcontracting opportunities. The 5.2 percent goal is an estimate of DBE participation on 55 percent of the work.
  - Sixty-three scopes of work were analyzed and 27 NAICS codes were used to establish the goal.

Director Cohen asked how the NAICS codes were narrowed down to 27. Mr. Carson said it was based on the work the engineers said would need to be done for the project.

- PC EP contract breakdown includes 8 percent design, 62 percent materials and 30 percent construction.
- U.S. Census data shows that 6 percent of all available DBE firms could do design work, 3 percent could do materials and 10 percent could do construction.

Director Cohen asked if the search for qualified DBE firms was just regional, statewide, or countrywide. John Barker, Labor Compliance Officer, said the Disparity Study was used to determine where the majority of the contractors are located. He said the search was conducted in the nine Bay Area counties, Sacramento County, and San Joaquin County.
The Disparity Study adjusted the U.S. Census data to include certified DBEs and firms that could be DBEs but have not gone through the certification process. This increased availability to show 28 percent of firms that could do design work and 19 percent that could do construction. There was no change for materials.

Director Adrienne Tissier asked if anything is being done to encourage the firms that could be certified to go through the process. Mr. Carson said staff has regular training and outreach events to network with DBEs and other DBE-possible firms to teach them how to apply for certification and register online.

**Procurement process**
- Announced DBE requirements at Industry Day event.
- JPB sponsored DBE outreach events and proposer outreach events.
- Proposers are evaluated on procedures in Design-Builders’ Work Plan to achieve DBE participation.
- Key elements include hiring DBE staff, DBE monitoring and report, and good faith efforts.
- The Project Labor Agreement will include DBE program elements.
- The selected builder for the EMUs will have their own Transit Vehicle Manufacturer DBE Program approved by the FTA.
- Manufacturers must follow the same methodology for establishing goals as the JPB.

**JPB Monitoring and Oversight**
- Monthly progress meetings with the Design-Builder.
- Review reports on DBE activity.
- Identify areas of underutilization.
- Require good-faith efforts from the Design-Builder.
- Prepare FTA reports as required.
- Use of race-conscious goal-setting on subcontracts.

**Challenges**
- The DBE goal is only on 55 percent of the entire project.
- There is little civil and structural work on the project.
- There is low availability of DBEs certified for the scopes of work.
- Scopes of work could change through the design process.
- If circumstances change that will impact the proposed goal, staff will analyze the impact, report to the Board and submit a request to the FTA for approval of an adjustment to the goal.

Chair Yeager said he appreciates how proactive staff is being on the subject.

Director Ash Kalra thanked staff for their work on this issue. He said the pool of available DBE firms is not large, but will only grow if the JPB puts effort into and is intentional about this process.

Director Cohen said she does not know much about the JPB’s Disparity Study and asked when and how often it is updated and what the methodology of it is. She said she would like a formal report on what the JPB is doing to help get firms DBE qualified.
Public Comment
Roland Lebrun, San Jose, said CHSRA is at zero participation. He said one idea is for a bunch of DBEs to get together and work together as one of the partners in a joint venture.

Director Cohen asked what race-neutral measures means. Mr. Carson said it means the goal will be achieved on a voluntary basis. It will not be a contract-specific goal, it is set out as a challenge and it is the good-faith efforts of the primary and subcontractors to achieve it. Race-conscious measures, which are contract-specific goals used as remedial measures, are used if voluntary measures will not achieve the goal.

Motion/Second: Cohen/Cisneros
Ayes: Cisneros, Cohen, Guilbault, Kalra, Tissier, Yeager
Absent: Nolan, Woodward

AUTHORIZE APPROVAL TO EXERCISE OPTION 2 PHASE 4 WITH Parsons Transportation Group (PTG) FOR Communications-Based Overlay Signal System (CBOSS)/Positive Train Control (PTC) System Integration, Testing, Training, Commissioning, Final System Acceptance and Warranty in the Amount of $32,809,927

Gigi Harrington, Deputy CEO, presented:
- The contract was awarded in 2011, the Notice to Proceed was issued in 2012, and three phases of contract have been exercised.
- The project meets all requirements of the Rail Safety Act of 2008.
- The project also meets additional requirements including:
  - Improved grade crossings
  - Improved headways
  - Enforced scheduled station stops
  - Schedule management
  - New functionality for the employee in charge
- It is a turnkey contract with PTG with a variety of phases.
- Interoperable train control solution.
- Supplied by General Electric.
- The Back Office Server is supplied by WABTEC.
- The Backup Central Control Facility has an ARINC office.
- A fiber backbone is the communication network.
- Phasing was required to support the funding strategy.
- Design has been completed.
- The FRA approved the system on September 26.

Director Cohen left at 11:51 a.m.

- A backup control facility has been built.
- JPB continues to work with the tenants.
- Fiber has been installed from San Jose to Redwood City.
- Base stations and wayside systems have been installed.
- There is equipment on eight vehicles.
- The software will be coming out of the factory.
• The first release of the software came from the factory this fall. It was demonstrated recently in a lab in which a train that was violating a red signal was stopped.

• The system is on schedule to be completed and in revenue service by October 2015 to meet the mandated deadline of December 31.

• The project cost $231 million and is fully funded.

• Next steps:
  o Complete fiber installation
  o Complete software development
  o Test the system

Public Comment
Roland Lebrun, San Jose, said he will write to the Board with the latest information available from the Federal Railroad Administration.

Motion/Second: Tissier/Guilbault
Ayes: Cisneros, Guilbault, Kalra, Tissier, Yeager
Absent: Cohen, Nolan, Woodward

AUTHORIZE PROGRAMMING OF $5,398,033 IN FEDERAL TRANSIT ADMINISTRATION FORMULA FUNDS FOR THE CALTRAIN MODERNIZATION PROGRAM AND ROLLING STOCK STATE OF GOOD REPAIR PROJECT AND COMMIT $1,349,509 IN LOCAL MATCHING FUNDS
Eva Goode, Director, Grants, introduced this item. There were no questions on this report.

Motion/Second: Tissier/Guilbault
Ayes: Cisneros, Guilbault, Kalra, Tissier, Yeager
Absent: Cohen, Nolan, Woodward

AUTHORIZE AMENDMENT TO INCREASE THE FY2015 CALTRAIN CAPITAL BUDGET IN THE AMOUNT OF $10 MILLION FOR THE RAIL CAR CAPACITY EXPANSION PROJECT AND APPROVAL OF THE ASSET PURCHASE AGREEMENT, STORAGE AGREEMENT AND $1 MILLION DEPOSIT WITH SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
Ms. Harrington said if this purchase agreement is approved, staff will make a down payment on the cars on December 11, then take title to the cars on December 17. Staff will be back to the Board in January for the financing and to award contract to rehabilitate the cars.

Public Comment
Jeff Carter, Millbrae, said the need is immediate and capacity is strained. He said there should be bike capacity on the new cars.

Emma Shlaes, Silicon Valley Bicycle Coalition (SVBC), thanked the JPB for its history of accommodating people who bring their bikes onboard. She said the SVBC supports the purchase of the cars and requested the cars be retrofitted as bike cars.

Director Cohen returned at 11:57 a.m.
Roland Lebrun, San Jose, said there are only six locomotives capable of towing these new cars. He said if the locomotives are repowered, they could be made Tier 4 compliant, which would reduce pollution by 90 percent, be more powerful than the bullet locomotives, and be more reliable. He said staff should come to Board with that option.

Shirley Johnson, SFBC, said she supports purchase of new cars, but the Board should see if there is money in the rehabilitation budget to convert the cars to bike cars.

Adina Levin, Friends of Caltrain, thanked the Board for the additional rail cars. She urged the Board to do more capacity planning, so as to be prepared for ridership doubling. She said she supports the recommendation to increase onboard bike capacity.

Catherine Young, San Francisco, said it is tricky to balance the needs of all user groups. She asked the Board to consider retrofitting 11 of the cars to match bike ridership and provide additional onboard bike capacity.

Mr. Scanlon said five of the new cars will be put into service as soon as possible. He said next month staff will be back with a recommendation for award for the rehabilitation, which will include an option to retrofit up to six cars with bike capacity. Staff is working with the FRA on a wayside study to understand the balance all riders.

Motion/Second: Tissier/Guilbault
Ayes: Cisneros, Cohen, Guilbault, Kalra, Tissier, Yeager
Absent: Nolan, Woodward

AUTHORIZE AWARD OF CONTRACT TO DISNEY CONSTRUCTION, INC. IN THE TOTAL AMOUNT OF $8,393,333 FOR THE SAN FRANCISCO ROADWAY BRIDGES REPLACEMENT PROJECT
There were no questions for Ms. Harrington on this report.

Motion/Second: Tissier/Guilbault
Ayes: Cisneros, Cohen, Guilbault, Kalra, Tissier, Yeager
Absent: Nolan, Woodward

AUTHORIZE AWARD OF CONTRACTS TO PFM ASSET MANAGEMENT LLC AND U.S. BANK TO PROVIDE INVESTMENT MANAGEMENT AND CUSTODIAL SERVICES FOR A THREE-YEAR BASE TERM
There were no questions for Ms. Harrington on this report.

Motion/Second: Tissier/Guilbault
Ayes: Cisneros, Cohen, Guilbault, Kalra, Tissier, Yeager
Absent: Nolan, Woodward

LEGISLATIVE UPDATE
No report.
CAPITAL PROJECTS QUARTERLY STATUS REPORT - 1ST QUARTER FY2015
No report.

CORRESPONDENCE
No discussion.

BOARD MEMBER REQUESTS
Director Cohen said she would like a report on the Disparity Study, the methodology used, and when and how it is updated. She said she would also like a report on the strategy to get potential DBE firms qualified.

GENERAL COUNSEL REPORT
No report.

DATE/TIME/PLACE OF NEXT MEETING
The next meeting will be Thursday, January 8, 2015, 10 a.m. at San Mateo County Transit District Administrative Building, Bacciocco Auditorium, 2nd Floor, 1250 San Carlos Avenue, San Carlos, CA 94070.

Adjourned at 12:07 a.m.
AGENDA ITEM #6 (b)
JANUARY 08, 2015

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: Joint Powers Board

THROUGH: Michael J. Scanlon
Executive Director

FROM: Gigi Harrington
Deputy CEO

SUBJECT: STATEMENT OF REVENUE AND EXPENSE FOR THE PERIOD ENDING NOVEMBER 30, 2014 AND SUPPLEMENTAL INFORMATION

ACTION
Staff Proposes the Board of Directors accept and enter into the record the Statement of Revenue and Expense for the month of November 2014 and supplemental information.

SIGNIFICANCE
Revenue: For November of Fiscal Year 2015, Total Operating Revenue (line 7) is $4,429,907 or 12.7 percent better than budget. Within total operating revenue, Farebox Revenue (line 1) is $4,186,979 or 13.3 percent better than budget. Compared to the prior year, Total Operating Revenue (line 7) is $3,543,624 or 9.9 percent higher.

Expense: Grand Total Expenses (line 50) show a favorable variance of $2,841,113 or 5.7 percent. The Rail Operator Service (line 23) is $326,326 or 1.2 percent better than budget, and Total Operating Expense (line 36) is $2,050,704 or 4.9 percent better than budget. Total Administrative Expense (line 46) is $790,402 or 10.7 percent better than budget.

Compared to prior year, Grand Total Expenses (line 50) are $966,494 or 2 percent lower.

BUDGET IMPACT

There are no budget revisions for the month of November 2014.

Prepared By: Jeannie Chen, Senior Accountant 650.508.6259
Sheila Tioyao, Manager, General Ledger 650.508.7752
### PENINSULA CORRIDOR JOINT POWERS BOARD

#### STATEMENT OF REVENUE AND EXPENSE

**Fiscal Year 2015**  
**November 2014**

<table>
<thead>
<tr>
<th>MONTH</th>
<th>CURRENT ACTUAL</th>
<th>PRIOR ACTUAL</th>
<th>YEAR TO DATE</th>
<th>REVISED ACTUAL</th>
<th>% REV</th>
<th>BUDGET</th>
<th>% REV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages and Benefits</td>
<td>6,447,824</td>
<td>31,438,786</td>
<td>35,642,394</td>
<td>31,455,415</td>
<td>113.3%</td>
<td>75,043,692</td>
<td>75,043,692</td>
</tr>
<tr>
<td>Parking Revenue</td>
<td>370,861</td>
<td>1,589,916</td>
<td>1,850,196</td>
<td>1,651,350</td>
<td>112.0%</td>
<td>4,051,240</td>
<td>4,051,240</td>
</tr>
<tr>
<td>Shuttles</td>
<td>122,829</td>
<td>565,567</td>
<td>670,146</td>
<td>834,100</td>
<td>80.3%</td>
<td>2,001,840</td>
<td>2,001,840</td>
</tr>
<tr>
<td>Rental Income</td>
<td>143,492</td>
<td>730,170</td>
<td>722,389</td>
<td>724,050</td>
<td>99.8%</td>
<td>1,737,720</td>
<td>1,737,720</td>
</tr>
<tr>
<td>Other Income</td>
<td>74,321</td>
<td>1,438,679</td>
<td>421,616</td>
<td>211,920</td>
<td>199.0%</td>
<td>1,679,620</td>
<td>1,679,620</td>
</tr>
</tbody>
</table>

**REVENUE OPERATIONS:**

| CONTRIBUTIONS: | 959,942 | 24 |
| CONTRIBUTIONS: | 84,514,112 | 14 |
| **GRAND TOTAL REVENUE** | 125,736,026 | 40.7% |

**CONTRIBUTIONS:**

<table>
<thead>
<tr>
<th>Contributions</th>
<th>Year To Date</th>
<th>% Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AB434 Peninsula &amp; TA Shuttle Fund</td>
<td>144,600</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Operating Grants</td>
<td>554,452</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. FJP Member Agencies</td>
<td>1,652,412</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. Other Sources</td>
<td>3,047,733</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>TOTAL CONTRIBUTED REVENUE</strong></td>
<td>5,837,138</td>
<td>112.7%</td>
</tr>
</tbody>
</table>

| Total Operating Revenue | 7,159,328 | 108.6% |
| Total Operating Revenue | 35,763,118 | 113.3% |
| Total Contributed | 39,306,742 | 99.2% |
| **grand total revenue** | 45,663,836 | 103.7% |

**EXPENSE:**

<table>
<thead>
<tr>
<th>Expense</th>
<th>Year To Date</th>
<th>% Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rail Operator Service</td>
<td>5,400,670</td>
<td>98.8%</td>
</tr>
<tr>
<td>2. Rail Operator Service</td>
<td>1,102,875</td>
<td>90.0%</td>
</tr>
<tr>
<td>3. Rent</td>
<td>3,720,771</td>
<td>82.6%</td>
</tr>
<tr>
<td>4. Utilities</td>
<td>83,890</td>
<td>92.0%</td>
</tr>
<tr>
<td>5. Maint &amp; Services-Bldg &amp; Other</td>
<td>491,508</td>
<td>88.3%</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING EXPENSE</strong></td>
<td>12,758,000</td>
<td>98.8%</td>
</tr>
<tr>
<td><strong>total operating expense</strong></td>
<td>35,642,394</td>
<td>98.8%</td>
</tr>
</tbody>
</table>

**OTHER EXPENSES AND SERVICES:**

<table>
<thead>
<tr>
<th>Expense</th>
<th>Year To Date</th>
<th>% Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wages and Benefits</td>
<td>6,636,361</td>
<td>94.1%</td>
</tr>
<tr>
<td>2. Managing Agency Admin OH Cost</td>
<td>5,486,432</td>
<td>93.5%</td>
</tr>
<tr>
<td>3. Board of Directors</td>
<td>11,700</td>
<td>11.0%</td>
</tr>
<tr>
<td>4. Professional Services</td>
<td>3,720,771</td>
<td>82.6%</td>
</tr>
<tr>
<td>5. Communications and Marketing</td>
<td>118,300</td>
<td>118.3%</td>
</tr>
<tr>
<td>6. Other Expenses and Services</td>
<td>2,048,674</td>
<td>35.6%</td>
</tr>
</tbody>
</table>

**TOTAL ADMINISTRATIVE EXPENSE:**

<table>
<thead>
<tr>
<th>Expense</th>
<th>Year To Date</th>
<th>% Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Long Term Debt Expense</td>
<td>1,102,875</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>grand total expense</strong></td>
<td>125,736,026</td>
<td>37.3%</td>
</tr>
</tbody>
</table>

**NET SURPLUS / (DEFICIT):**

<table>
<thead>
<tr>
<th>Year To Date</th>
<th>% Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Net Surplus</td>
<td>144,245</td>
</tr>
</tbody>
</table>

% OF YEAR ELAPSED provides a general measure for evaluating overall progress against the annual budget. When comparing it to the amounts shown in the "% REV BUDGET" column, please note that individual line items reflect variations due to seasonal activities during the year.

(A) Staff has reallocated year to date budget due to timing of expenditures.

12/22/14 4:04 PM
**PENINSULA CORRIDOR JOINT POWERS BOARD**

**INVESTMENT PORTFOLIO**

**AS OF NOVEMBER 30, 2014**

<table>
<thead>
<tr>
<th>TYPE OF SECURITY</th>
<th>MATURITY DATE</th>
<th>INTEREST RATE</th>
<th>PURCHASE PRICE</th>
<th>MARKET PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Agency Investment Fund (Restricted)</td>
<td></td>
<td>0.261%</td>
<td>$2,000,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Local Agency Investment Fund (Unrestricted)</td>
<td></td>
<td>0.261%</td>
<td>42,042,220</td>
<td>42,042,220</td>
</tr>
<tr>
<td>County Pool (Unrestricted)</td>
<td></td>
<td>0.680%</td>
<td>10,719,387</td>
<td>10,719,387</td>
</tr>
<tr>
<td>Other (Unrestricted)</td>
<td>Liquid Cash</td>
<td>0.000%</td>
<td>5,564,026</td>
<td>5,564,026</td>
</tr>
<tr>
<td>Other (Restricted)</td>
<td>Liquid Cash</td>
<td>0.200%</td>
<td>18,929,628</td>
<td>18,929,628</td>
</tr>
</tbody>
</table>

| Accrued Earnings for NOVEMBER 2014      | $19,047.66    |
| Cumulative Earnings FY2015              | $84,844.41    |

* The market value of Local Agency Investment Fund (LAIF) is calculated annually and is derived from the fair value factor as reported by LAIF for quarter ending June 30 each fiscal year.

** As of November 2014 the amortized cost of the Total County Pool was $3,729,887,88.31 and the fair market value per San Mateo County Treasurer’s Office was $3,737,541,663.79.

*** Prepaid Grant funds for Homeland Security and PTMISEA projects, and funds reserved for debt repayment.

The Portfolio and this Investment Report comply with the Investment Policy and the provisions of SB 564 (1995).

The Joint Powers Board has the ability to meet its expenditure requirements for the next six months.
TO: Joint Powers Board

THROUGH: Michael J. Scanlon
Executive Director

FROM: Gigi Harrington C.H. (Chuck) Harvey
Deputy CEO Deputy CEO

SUBJECT: AUTHORIZATION OF DELEGATION OF APPROVAL AUTHORITY FOR ALL
ASPECTS OF THE SAN FRANCISCO ROADWAY BRIDGES REPLACEMENT
PROJECT, INCLUDING DESIGN, CONSTRUCTION, PHASING, AND SCHEDULE
TO THE EXECUTIVE DIRECTOR

ACTION
Staff Coordinating Council (SCC) recommends that the Board delegate the authority to
approve all aspects of the San Francisco Roadway Bridges Replacement Project, and
related improvements, including the design, construction, phasing, and schedule to the
Executive Director or his designee(s), to be effective until revoked by an action of the
Board.

SIGNIFICANCE
On December 4, 2014, pursuant to Resolution No. 2014-60, the Board awarded a
construction contract to Disney Construction, Inc. (DCI) for the San Francisco Roadway
Bridges Replacement Project to provide three (3) new vehicular roadway bridges (San
Francisco Vehicular Bridges) over the Caltrain tracks at 22nd Street, 23rd Street, and Paul
Avenue, and to strengthen an existing pier foundation at Jerrold Avenue in San
Francisco.

In order to provide greater administrative efficiency, responsiveness and flexibility, staff
is seeking Board delegation of the authority to approve all aspects of the San Francisco
Roadway Bridges Replacement Project, and related improvements, including the
design, construction, phasing, and schedule to the Executive Director or his designee(s),
to be effective until revoked by an action of the Board.

BUDGET IMPACT
There is no budget impact associated with this action. Funding for the construction
contract has been fully budgeted in the approved Caltrain capital budgets and
includes Federal, State and local funds.
BACKGROUND
The San Francisco vehicular roadway bridges are required to be replaced due to their current state of disrepair. The strengthening of the pier foundation at Jerrold Avenue is part of the Peninsula Corridor Joint Powers Board’s (JPB) “State of Good Repair” maintenance.

Contract Officer: Evelyn Marcal 650.508.7958
Project Manager: Rafael Bolon 650.622.7805
RESOLUTION NO. 2015 -

BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD
STATE OF CALIFORNIA

*   *   *

AUTHORIZING DELEGATION OF APPROVAL AUTHORITY FOR ALL ASPECTS OF THE SAN FRANCISCO ROADWAY BRIDGES REPLACEMENT PROJECT, INCLUDING DESIGN, CONSTRUCTION, PHASING, AND SCHEDULE TO THE EXECUTIVE DIRECTOR

WHEREAS, on December 4, 2014, the Peninsula Corridor Joint Powers Board (JPB) awarded a contract to Disney Construction, Inc. for the San Francisco Roadway Bridges Replacement Project pursuant to Resolution No. 2014-60; and

WHEREAS, in order to provide greater administrative efficiency, responsiveness and flexibility, Staff Coordinating Council recommends and the Executive Director concurs that the Board of Directors delegate the authority to approve all aspects of the San Francisco Roadway Bridges Replacement Project, and related improvements, including the design, construction, phasing, and schedule to the Executive Director or his designee(s), to be effective until revoked by an action of the Board.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby authorizes the Executive Director, or his designee(s), effective immediately and until terminated by action of the Board of Directors, to approve all aspects of the San Francisco Roadway Bridges Replacement Project, and related improvements, including the design, construction, phasing, and schedule; and

BE IT FURTHER RESOLVED that the Executive Director and his designee(s), in the exercise of authority for the approval of all aspects of the San Francisco Roadway Bridges Replacement Project, and related improvements, including the design, construction, phasing, and schedule, are directed to reasonably and appropriately balance considerations of safety and convenience for pedestrians, bicyclists and
motorists, accessibility to transit facilities and rail operations, and cost effectiveness, and to balance all benefits, advantages, and potential risks involved; and

BE IT FURTHER RESOLVED that the authority for the approval of all aspects of the San Francisco Roadway Bridges Replacement Project, and related improvements, including the design, construction, phasing, and schedule granted by this Resolution is not intended to alter the process by which funds may be budgeted or expended on the San Francisco Roadway Bridges Replacement Project and related improvements.

Regularly passed and adopted this 8th day of January, 2015 by the following vote:

AYES:

NOES:

ABSENT:

Chair, Peninsula Corridor Joint Powers Board

ATTEST:

J PB Secretary
AGENDA ITEM # 6 (d)
JANUARY 8, 2015

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: Joint Powers Board
THROUGH: Michael J. Scanlon
Executive Director

FROM: Gigi Harrington
Deputy CEO

SUBJECT: ADOPTION OF CONTINUING DISCLOSURE POLICY

ACTION
Staff Coordinating Council (SCC) recommends the Board adopt the Statement of Continuing Disclosure Policy (attached).

The Policy provides written guidelines and procedures for submittal of information required to meet applicable continuing disclosure obligations undertaken by Peninsula Corridor Joint Powers Board (JPB) in connection with the public offering of debt obligations by the JPB.

SIGNIFICANCE
The Municipal Securities Rulemaking Board (MSRB) requires that an underwriter, prior to purchasing or selling an issue of debt obligations (hereinafter referred to as "Bonds") determine that the JPB, as Obligated Person (as such term is defined in Securities and Exchange Commission Rule 15c2-12) with respect to such Bonds, has undertaken in writing to provide certain information to the public on an ongoing basis. Such information as is specified in a Continuing Disclosure Undertaking entered into by the JPB in connection with an issuance of Bonds is to be provided by a filing with the MSRB utilizing the MSRB's electronic municipal access system referred to as EMMA. Failure of the JPB to comply with its Continuing Disclosure Undertakings is required to be disclosed in its disclosure documents, including official statements, relating to public offerings of Bonds for a period of five years subsequent to each material failure to comply. Making a false statement in an official statement about compliance with continuing disclosure undertakings could result in enforcement action by the Securities and Exchange Commission. Such enforcement action includes, but is not limited to, issuance of cease and desist orders and fines.

BUDGET IMPACT
There is no impact on the budget.

BACKGROUND
The JPB has entered into continuing disclosure undertakings in connection with farebox revenue bonds issued in 2007 (the "2007 bonds") and in 1999 (the "1999 bonds"). The JPB
was required to enter into a continuing disclosure undertaking in connection with the 2007 and 1999 bonds and will be required to enter into a continuing disclosure undertaking in connection with farebox revenue bonds in future. Since implementation of the continuing disclosure requirements in 1995, the Securities and Exchange Commission has repeatedly emphasized the importance of compliance with continuing disclosure undertakings. Preparation and adoption of written policies and procedures is intended to facilitate and enhance ongoing compliance with applicable continuing disclosure requirements.

Even though Securities and Exchange Commission Rule 15c2-12 currently does not require adoption of written guidelines and procedures, staff is recommending the adoption of written guidelines and procedures at this time as a matter of good practice and in response to the increasing level of concern publicly expressed by the Securities and Exchange Commission regarding failures to comply with continuing disclosure undertakings, most recently through the Securities and Exchange Commission’s Municipalities Continuing Disclosure Cooperation Initiative (MCDC). In response to MCDC, adoption of written guidelines and procedures is being undertaken by a number of other issuers and other Obligated Persons.

Prepared By: Rima Lobo, Director of Finance 650.508.6274
Usha Desai, Sr. Financial Analyst 650.508.7773
I. PURPOSE

The purpose of the Continuing Disclosure Policy (the "Policy") is to establish written guidelines and procedures for the submittal of information required to meet applicable continuing disclosure obligations undertaken by the Peninsula Corridor Joint Powers Board (the "JPB") in connection with the public offering of debt obligations by the JPB.

II. OBJECTIVE

It is the intent that this Policy conform to the applicable requirements relating to Securities and Exchange Commission Rule 15c2-12 (as modified, supplemented or amended from time to time pursuant to its terms, "Rule 15c2-12").

III. POLICY

Rule 15c2-12 requires that an underwriter, prior to purchasing or selling an issue of debt obligations subject to Rule 15c2-12 (hereinafter referred to as "Bonds") determine that the JPB, as Obligated Person (as such term is defined in Rule 15c2-12) with respect to such Bonds, has undertaken in writing to provide certain information on an ongoing basis (each such undertaking being hereinafter referred to as a "Continuing Disclosure Undertaking"). Pursuant to Rule 15c2-12, such information as is specified to be provided pursuant to a Continuing Disclosure Undertaking is to be provided by a filing with the Municipal Securities Rulemaking Board (the "MSRB") utilizing the MSRB's electronic municipal access system referred to as "EMMA."

As of the date of initial adoption of this Policy, information required to be provided pursuant to a Continuing Disclosure Undertaking and filed with EMMA includes:

- By such date as is specified in each Continuing Disclosure Undertaking, an annual update of specified financial and operating information presented in the official statement with respect to an issue of Bonds (each such filing being hereinafter referred to as an "Annual Report"), each of which Annual Report shall include audited annual financial statements.

- In a timely manner by such date as is specified in each Continuing Disclosure Undertaking, notice of the occurrence of one or more of the listed events described in Rule 15c2-12 (each a "Rule 15c2-12 Event Notice") which listed events (each, a "Rule 15c2-12 Event") as of the date of initial adoption of this Policy are set forth in Appendix A hereto; and
In a timely manner, notice of a failure to file an Annual Report on or before the date specified in a Continuing Disclosure Undertaking (each a "Notice of Failure to File").

As of the date of initial adoption of this Policy, U.S. Bank National Association serves as dissemination agent (together with any successor thereto or any replacement therefor or any additional dissemination agent which enters into a Continuing Disclosure Undertaking with the JPB, the "Dissemination Agent") with respect to the Continuing Disclosure Undertaking entered into by the JPB.

1. **Responsibility for Compliance with Continuing Disclosure Undertakings; Training**

   Day-to-day responsibility for compliance with all Continuing Disclosure Undertakings shall fall within the responsibilities of the Finance and Administration Division under the supervision and direction of the Deputy CEO, Finance and Administration.

   The Deputy CEO, Finance and Administration, or the designee of Deputy CEO, Finance and Administration (herein collectively referred to as the "Deputy CEO") shall be knowledgeable and familiar with the provisions of each Continuing Disclosure Undertaking as to the type, format and content of the financial and operating information to be included in each Annual Report and timing requirements for the filing thereof with the applicable Dissemination Agent, if any, and with EMMA.

   The Deputy CEO shall be knowledgeable and familiar with the provisions of each Continuing Disclosure Undertaking with respect to Rule 15c2-12 Events and timing requirements for the filing of Rule 15c2-12 Event Notices with the applicable Dissemination Agent, if any, and with EMMA.

   The Deputy CEO shall be knowledgeable and familiar with the provisions of each Continuing Disclosure Undertaking as to the specific requirements for the filing of a Notice of Failure to File and the timing requirements for the filing of a Notice of Failure to File with the applicable Dissemination Agent, if any, and with EMMA.

   The Deputy CEO, with the assistance of general counsel to the JPB ("JPB Counsel"), shall review and update the Policy on a periodic basis and shall present each update of the Policy to the Board of Directors of the JPB for approval.

   The Deputy CEO, with the assistance of JPB Counsel, shall provide such training as is necessary to JPB management and Finance and Administration Division staff familiarize JPB management and Finance and Administration Division staff with this Policy, each update to this Policy and the reporting requirements relating to each Continuing Disclosure Undertaking, including, without limitation, training relating to identification of Rule 15c2-12 Events and the reporting requirements relating to Rule 15c2-12 Events.
2. Continuing Disclosure Filings

Annual Reports shall be filed on EMMA within the time period specified in each Continuing Disclosure Undertaking. For so long as a Continuing Disclosure Undertaking designates a dissemination agent, each Annual Report shall be filed with the applicable Dissemination Agent within the time period specified in such Continuing Disclosure Undertaking.

Rule 15c2-12 Event Notices, if any, shall be filed on EMMA within the time period specified in such Continuing Disclosure Undertaking (which as of the date of initial adoption of this Policy is not later than ten (10) business days after the occurrence of a Rule 15c2-12 Event). For so long as a Continuing Disclosure Undertaking designates a dissemination agent, each Rule 15c2-12 Event Notice shall be filed with the applicable Dissemination Agent within the time period specified in such Continuing Disclosure Undertaking.

Notices of Failure to File, if any, shall be filed on EMMA within the time period specified in each Continuing Disclosure Undertaking. For so long as a Continuing Disclosure Undertaking designates a dissemination agent, each Notice of Failure to File shall be filed with the applicable Dissemination Agent within the time period specified in such Continuing Disclosure Undertaking.

3. Monitoring of Rule 15c2-12 Events

The Deputy CEO will be responsible for monitoring Rule 15c2-12 Events to determine if any Rule 15c2-12 Event has occurred. If the Deputy CEO determines that a Rule 15c2-12 Event has occurred, the Deputy CEO shall prepare a Rule 15c2-12 Event Notice and shall file or cause the applicable Dissemination Agent to file such Rule 15c2-12 Event Notice within the time period specified in such Continuing Disclosure Undertaking (which as of the date of initial adoption of this Policy is no later than ten (10) business days after the occurrence of a Rule 15c2-12 Event).

4. Monitoring of Continuing Disclosure Filings; Remedial Action

Subsequent to filing any Annual Report, Rule 15c2-12 Event Notice and/or Notice of Failure to File (each, a "Disclosure Filing") on EMMA, the Deputy CEO shall confirm the posting of such Disclosure Filing on EMMA.

Subsequent to filing any Disclosure Filing with the applicable Dissemination Agent, the Deputy CEO shall confirm the posting of such Disclosure Filing on EMMA.

In the event that it is determined that any Disclosure Filing was not filed on EMMA on a timely basis, the Deputy CEO shall: (i) take such action as is necessary to cause such Disclosure Filing to be filed as promptly as possible after a determination that a Disclosure Filing was not filed on a timely basis and (ii) identify the factors which resulted in a failure to file on a timely basis and take such corrective action as is necessary to prevent a recurrence.
5. **Additional Filings**

As set forth in each Continuing Disclosure Undertaking, in addition to such information as is required to be filed by any Continuing Disclosure Undertaking, nothing in any Continuing Disclosure Undertaking shall be deemed to prevent the JPB from disseminating any other information by means of a filing on EMMA or any other means of communication, or including any other information in any Annual Report or Rule 15c2-12 Event Notice.

6. **Records Retention**

The Deputy CEO shall maintain records with respect to all Disclosure Filings, including, Disclosure Filings filed on EMMA by JPB staff and Disclosure Filings forwarded by JPB staff to a Dissemination Agent for filing on EMMA. Such records shall include a copy of the Disclosure Filing and evidence of receipt of the Disclosure Filing by EMMA if filed by JPB staff on EMMA or the applicable Dissemination Agent if filed by JPB staff with a Dissemination Agent.

Adopted:
Appendix A

Listing of Rule 15c2-12 Events

Part I – Notice Required

1. principal and interest payment delinquencies;
2. unscheduled draws on debt service reserves reflecting financial difficulties;
3. unscheduled draws on credit enhancements reflecting financial difficulties;
4. substitution of credit or liquidity providers, or any failure by such credit or liquidity provider to perform;
5. adverse tax opinions or issuance by the Internal Revenue Service of a proposed or final determination of taxability or a Notice of Proposed Issue (IRS Form 5701 TEB);
6. tender offers;
7. defeasances;
8. rating changes; or
9. bankruptcy, insolvency, receivership or similar event of the JPB.*

Note: for the purposes of the event identified in clause (9) above, the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for the JPB in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the JPB, or if such jurisdiction has been assumed by leaving the existing governing body or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the JPB.

* All capitalized terms used but not defined in Appendix A shall have the meanings assigned to such terms in the Continuing Disclosure Policy to which this Appendix A is attached.
Part II – Notice Required if Material

1. unless described in clause (5) listed above under Part I, other material notices or determinations by the Internal Revenue Service with respect to the tax status of an issue of Bonds or other material events affecting the tax status of an issue of Bonds;

2. modifications to rights of bondholders;

3. Bond calls;

4. release, substitution or sale of property securing repayment of an issue of Bonds;

5. non-payment related defaults;

6. the consummation of a merger, consolidation or acquisition involving the JPB or the sale of all or substantially all of the assets of the JPB, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms; or

7. appointment of a successor or additional trustee or the change of name of a trustee for an issue of Bonds.
RESOLUTION NO. 2015 -

BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD
STATE OF CALIFORNIA

***

ADOPTING A STATEMENT OF CONTINUING DISCLOSURE POLICY
FOR THE PENINSULA JOINT POWERS BOARD

WHEREAS, in order to enhance compliance with applicable requirements relating to Securities and Exchange Commission Rule 15c2-12, the Peninsula Joint Powers Board (JPB) desires to implement a continuing disclosure policy; and

WHEREAS, the Executive Director has presented the Statement of Continuing Disclosure Policy, attached hereto as Exhibit A, which will apply to continuing disclosure undertakings entered into by the JPB in connection with the public offering of bonds and other debt obligations; and

WHEREAS, staff recommends adoption of the Statement of Continuing Disclosure Policy for the JPB.

NOW, THEREFORE BE IT RESOLVED that the Board of Directors of the JPB approves and adopts the Statement of Continuing Disclosure Policy attached hereto as Exhibit A.

Regularly passed and adopted this 8th day of January, 2015 by the following vote:

AYES:

NOES:

ABSENT:

Chair, Peninsula Corridor Joint Powers Board

ATTTEST:

JPB Secretary
TO: Joint Powers Board

THROUGH: Michael J. Scanlon
  Executive Director

FROM: C.H. (Chuck) Harvey
  Deputy CEO

SUBJECT: KEY CALTRAIL PERFORMANCE STATISTICS NOVEMBER 2014

In November 2014, Caltrain’s average weekday ridership (AWR) was 56,899, which is an increase of 4,908 or 9.4 percent over November 2013 AWR of 51,991. The total number of passengers who rode Caltrain in November 2014 was 1,418,781, which is 7 percent more than in November 2013.

On-time performance (OTP) for November 2014 was 92.5 percent, which is lower than the 93.5 percent OTP for November 2013. When trains arriving within 10 minutes of the scheduled arrival time are included, November 2014 OTP rises to 95.2 percent. Overall in November 2014, there were 1,212 mechanical minutes of delay compared with 652 mechanical minutes of delay in November 2013. There were five days (two weekdays, two weekend days, and one holiday) when 100 percent of the trains operated on time. An additional eight days operated with 95 percent or better OTP.

Three days significantly affected the overall OTP:

- On Tuesday November 11, 14 trains were delayed due to Train 279 mechanical problems.
- On Tuesday November 18, 17 trains were delayed due to Train 366 striking a vehicle at Ravenswood Avenue Milepost 29.0 at approximately 5:12 p.m.
- On Friday November 21, one train was terminated and six trains were delayed due to Train 220 mechanical problems and an additional 14 trains were delayed due to a fire in Tunnel 1 near Mariposa and Indiana.

There was one fatality in November. On Tuesday, November 4, 2014 at approximately 1:09 a.m., a teenage male was struck by southbound train 198 south of California Avenue Station in Palo Alto. Train 198 was the only train delayed as a result.

Looking at customer service statistics, there were 12.5 complaints per 100,000 passengers in November 2014. This is higher than the 11.5 complaints in November 2013, but lower than the 13.6 complaints from the previous month in October 2014.
Shuttle ridership is down 9 percent from last year from when the Marguerite shuttles started improving the accuracy of their ridership reporting. When comparing the same shuttle routes as last year and the Marguerite shuttles are removed, overall shuttle ridership decreased 2.2 percent over November 2013. For the station shuttles, the Millbrae-Broadway shuttle averaged 200 daily riders. The Belmont-Hillsdale shuttle averaged 66 daily riders. The weekend Tamien-San Jose shuttle averaged 47 riders per day.

Caltrain Promotions - November 2014

Off-peak & Weekend Campaign – Caltrain wrapped up its two-month off-peak and weekend ridership campaign. The promotion focused on using Caltrain to Shop • Play • Go. Campaign elements included the electronic billboard along Highway 101 in Redwood City, Pandora Internet radio, KCBS, KQED, social media, Caltrain website and a news release.

49ers – In November, the 49ers played three home games, including one on Thanksgiving Day. Transit to Levi’s® Stadium information was provided to football fans through three websites: the stadium’s, Santa Clara Valley Transportation Authority’s and Caltrain’s. Fans who visit the Caltrain website instantly see a big button on the home page directing them to information. Service information also is provided through newsletters, brochures, conductor announcements, station message signs and social media. Caltrain and VTA also teamed up to provide a joint Day Pass, available through Caltrain station ticket machines, to help streamline the customers’ rides. Caltrain staff work as ambassadors at the Mountain View Caltrain Station to assist customers with their transition from Caltrain to VTA. More than 12,300 football fans rode Caltrain for the games.

Stanford Football – The Stanford Cardinal wrapped up its regular home season with one game in November. Caltrain made extra stops at its Stanford Stadium station. Staff promoted the service with a station banner, radio spots and banner ads on Pandora, social media, station message signs, conductor announcements, web button and dedicated page on its website. Service information also was included in a Caltrain newsletter and brochure. Stanford produced an onboard brochure and posted Caltrain information on its website. Because the Stanford station doesn’t have a Clipper card tagging device or ticket machines, an unknown number of customers also used the Palo Alto station. Caltrain served 2,221 fans for the November game. For the season, Caltrain carried 11,840 customers, a 15 percent increase compared to last season.

San Jose Sharks – Caltrain served six Sharks games held at the SAP Center, located across the street from the San Jose Diridon station. Service to the games is promoted through onboard adcards produced by the Sharks, a link from the Sharks website to Caltrain, Pandora spots and banner ads, web button and dedicated page on caltrain.com and social media. Information also was included in the fall editions of Track the Fun and Caltrain Connection. Caltrain carried an extra 2,113 customers.
**Day After Thanksgiving Service** - Caltrain operated a Saturday schedule on the day following Thanksgiving due to the decrease in demand. To get the word out to customers and also to potential customers who may have wanted to try Caltrain, staff disseminated information on the schedule through the Caltrain website, social media, news release, conductor announcements, station electronic message signs and Caltrain Connection newsletter. The information also is included in Caltrain’s pocket timetable.

Prepared By: Rita P. Haskin, Executive Officer, Customer Service and Marketing
Catherine David, Senior Planner
### Table A

#### November 2014

<table>
<thead>
<tr>
<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>% Change</th>
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<tbody>
<tr>
<td>Total Ridership</td>
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<tr>
<td>Average Weekday Ridership</td>
<td>51,991</td>
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<td>9.4%</td>
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<td>Total Farebox Revenue</td>
<td>$5,839,024</td>
<td>$6,447,824</td>
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<tr>
<td>On-time Performance</td>
<td>93.5%</td>
<td>92.5%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Average Caltrain Shuttle Ridership</td>
<td>9,222</td>
<td>8,395</td>
<td>-9.0%</td>
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#### Year to Date

<table>
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<th></th>
<th>FY2013</th>
<th>FY2014</th>
<th>% Change</th>
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<tbody>
<tr>
<td>Total Ridership</td>
<td>7,115,414</td>
<td>7,939,366</td>
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<tr>
<td>Average Weekday Ridership</td>
<td>53,374</td>
<td>59,853</td>
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<td>Total Farebox Revenue</td>
<td>$31,438,851</td>
<td>$35,642,390</td>
<td>13.4%</td>
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<tr>
<td>On-time Performance</td>
<td>91.5%</td>
<td>91.8%</td>
<td>0.3%</td>
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<tr>
<td>Average Caltrain Shuttle Ridership</td>
<td>7,422</td>
<td>8,858</td>
<td>19.3%</td>
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</table>

### Graph A

Caltrain Average Weekday Ridership

![Graph showing Caltrain Average Weekday Ridership from November 2013 to November 2014 with a trend line and data points for each month.]
Graph B

MONTHLY MECHANICAL DELAYS

Graph C

CALTRAIN MONTHLY COMPLAINTS
AGENDA ITEM #10
JANUARY 8, 2015

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: Joint Powers Board

THROUGH: Michael J. Scanlon
Executive Director

FROM: Marian Lee
Executive Officer, Planning and Development

SUBJECT: PENINSULA CORRIDOR ELECTRIFICATION PROJECT FINAL ENVIRONMENTAL IMPACT REPORT CERTIFICATION / PROJECT APPROVAL

ACTION
Staff Coordinating Council (SCC) recommends the Board adopt resolutions to:

1. Certify the Final Environmental Impact Report (FEIR); and

2. Adopt the California Environmental Quality Act (CEQA) Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program (MMRP) documents and approve the Peninsula Corridor Electrification Project (Proposed Project).

SIGNIFICANCE
Staff and the consultant for the Peninsula Corridor Joint Powers Board (JPB), ICF International, have completed a FEIR to examine potential environmental impacts of the Proposed Project. The environmental document has been made available for public review in accordance with all requirements of CEQA. In order to proceed with the next phases of the program, the JPB needs to certify the FEIR and adopt related findings under CEQA.

Environmental clearance represents a crucial milestone to enable the JPB to qualify for funding, to be able to obtain any necessary right of way (ROW), and to make commitments to construct and operate the Proposed Project.

Per the Environmental Impact Report (EIR), the total estimated cost of the electrification project is estimated as $1,474 to 1,531 million in year of expenditure dollars: $950 million to $958 million for electrification infrastructure and $524 million to $573 million for vehicle replacement. Please note that all financial projections in the EIR document are based on staff’s best estimates at the time the EIR was prepared.

Preliminary engineering design was completed in 2008 and refreshed in 2013 and 2014. Environmental clearance will allow the program to proceed into final design and ultimately construction. The recommended Board actions to certify the FEIR and to
approve the Proposed Project also will commit the JPB to implementation of various mitigation measures contained in the MMRP prepared in accordance with CEQA.

**BUDGET IMPACT**

There is no impact on the budget.

The costs for the mitigation measures included as part of the MMRP are included in the PCEP overall project cost estimate that was presented to the Board in November.

**BACKGROUND**

**Final Environmental Impact Report**

Staff and JPB Consultant, ICF International, have completed the Proposed Project FEIR enclosed herein. The FEIR is required at the state level to environmentally clear the electrification project and permit access to state funding. At the federal level, a final Environmental Assessment (EA) was completed in 2009. In accordance with the National Environmental Policy Act (NEPA), the Federal Transit Administration (FTA) issued a Findings of No Significant Impact after review and concurrence with EA findings. Staff has coordinated with the FTA throughout the CEQA process.

Electrification is necessary to sustain and increase Caltrain services in the future. Electrification of the system will allow for operational efficiencies that will facilitate implementation of significant increases in service, ridership and revenues and decrease operational fuel costs. Electrification also will substantially reduce air pollution and greenhouse gas emissions as well as train engine noise.

The Proposed Project FEIR evaluates the environmental impact of electrifying Caltrain from the San Francisco 4th and King Station to approximately two miles south of the Tamien Station in San Jose. The project would convert approximately 75 percent of the Caltrain service between San Jose and San Francisco from a diesel to an electrified system. The Proposed Project includes an increase to six trains per peak hour per direction (from the current five) and an overall increased level of Caltrain service to 114 daily trains (from 92 at present). Most of the infrastructure improvements are in the existing Caltrain ROW. ROW may need to be acquired for two traction power substations (one in South San Francisco and one in San Jose) as well as possibly for one paralleling station (in San Jose). ROW will also need to be acquired in certain areas where the poles and/or wires for the overhead contact system (OCS) will need to be located outside the JPB ROW and where an electrical safety zone to protect the OCS from vegetation or structural encroachment will need to be located outside the ROW. The preliminary encroachment areas were evaluated in the FEIR and will be finalized during final design.

Overall, the program will provide an environmental benefit to the region and San Francisco, San Mateo and Santa Clara counties. The key findings of the environmental review are as follows:

- The Proposed Project would have beneficial impacts to the following resources:
- Daily and annual criteria pollutant emissions
- Greenhouse gas emissions
- Train operating noise levels at 37 out of 49 study locations
- Regional traffic levels

- The Proposed Project would have less than significant impacts to the following resources:
  - Electromagnetic fields (Human health effects)
  - Noise (train operating noise at 12 out of 49 study locations)
  - Population and housing
  - Parking

- With mitigation measures identified in the FEIR, the Proposed Project would have less than significant impacts to the following resources:
  - Visual aesthetics (related to the OCS and the traction power facilities)
  - Air quality (during construction)
  - Cultural resources
  - Electromagnetic interference
  - Geology, soils and seismicity
  - Hazards and hazardous materials
  - Hydrology and water quality (except in relation to long-term sea level rise)
  - Land use and recreation
  - Noise (operational noise at two traction power facilities)
  - Public services and utilities
  - Traffic (during construction and during operations at certain locations), other transit services, bicycle and pedestrian facilities, emergency access, freight

- Even with mitigation measures identified in the FEIR, the Proposed Project would have significant and unavoidable impacts to the following resources:
  - Visual aesthetics (related to tree removal)
  - Cultural resources
  - Long-term risk of flooding due to sea level rise
  - Construction noise
  - Traffic (localized traffic at certain locations)

The FEIR also analyzed cumulative effects with the Proposed Project and the Proposed Project’s contribution to those potential cumulative effects, including cumulative effects of blended Caltrain and high-speed rail service along the Caltrain corridor. The FEIR identifies that Proposed project could have a considerable contribution to the following significant cumulative impacts:

- Visual aesthetics
- Operational noise
- Operational vibration
- Operational traffic
- Freight operations
As required by CEQA, the FEIR also considered a reasonable range of alternatives that could meet most of the Proposed Project objectives, are feasible, and could lower one or more of the significant impacts of the Proposed Project. The FEIR initially evaluated 52 alternatives suggested in scoping and public input, screened them against the Proposed Project objectives, their feasibility, and their environmental effects. The FEIR analyzed five alternatives in greater detail as follows:

- **No Project Alternative**
- **Non-Electrified Alternatives:** The three non-electrified alternatives would avoid the aesthetic impacts of the OCS and tree removal and the localized traffic impacts of the project but would have greater air quality, greenhouse gas, noise, and regional traffic impacts. In the future, this alternative would also have less benefit to regional traffic than the Proposed Project, because it could not service the Transbay Terminal Center.
  - Diesel Multiple Unit Alternative
  - Dual-Mode Multiple Unit Alternative
  - Tier 4 Diesel Locomotive Alternative
- **Factory Train Alternative (construction only)**

**Public Outreach**

During the environmental process, public outreach was conducted to meet and exceed the requirements of CEQA. Staff also conducted additional outreach to ensure sufficient information sharing with partner agencies and the public. The following are outreach events conducted during the environmental process:

- **February/March 2013** - Notice of Preparation issuance and four scoping meetings
- **March/April 2014** - Draft Environmental Impact Report (DEIR) circulation (for 60 days) and four public meetings. DEIR circulated widely (residents, Community Based Organizations (CBOs), cities/counties, Federal/local agencies).
- **December 2014** - FEIR Notice of Availability circulated widely (residents, CBOs, cities/counties, Federal/local agencies). FEIR circulation to public agencies that commented on the draft and as requested, FEIR made available to public through website and local libraries for 30 days. Copies of the FEIR have been made available at 28 libraries along the project corridor, at the Caltrain Administrative Office and online at [www.caltrain.com/electrification](http://www.caltrain.com/electrification).
- **2013 – 2014** - Throughout the environmental process, staff and the consultant team has met with and given presentations to the JPB, the JPB Citizen Advisory
Committee and Bicycle Advisory Committee, standing Caltrain Modernization stakeholder groups (Peninsula Corridor Working Group, Local Policy Maker Group, and City and County Staff Coordinating Group), city/county technical staff, local transit agencies and other venues as requested.

Proposed CEQA Findings

Section 15091 of the CEQA Guidelines states that no public agency shall approve or carry out a project for which an EIR has been certified identifies one or more significant environmental effects of the project, unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. For each significant effect identified in the EIR, the enclosed Findings provide one the following conclusions and describe the supporting substantial evidence in the record:

- Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

Proposed Statement of Overriding Considerations

Pursuant to Section 15093 of the State CEQA Guidelines, in determining to approve the project the JPB must balance the benefits of the proposed project against its unavoidable environmental impacts. The proposed Statement of Overriding Consideration documents the economic, environmental, and social benefits, including region-wide and statewide environmental benefits, of the Proposed Project against its unavoidable environmental impacts. As described in the proposed Statement, the specific benefits, including region-wide and statewide environmental benefits, of the Proposed Project are considered to outweigh the unavoidable adverse environmental effects, and thus the adverse environmental effects may be considered “acceptable” per Section 15093 of the CEQA Guidelines.

Proposed Mitigation Monitoring and Reporting Program

CEQA also requires that a Lead Agency establish a program to monitor and report on mitigation measures that it has adopted as part of the environmental review process, and that this program must be adopted at the time that the agency determines to carry out a project for which the environmental review process has been conducted (Public Resources Code Section 21081.6 (a) (1)). The proposed MMRP is recommended for adoption to ensure that mitigation measures identified in the Final (EIR) are fully
implemented during project implementation.

Legal Considerations

The JPB is a federally regulated rail carrier, subject to the authority of the federal Surface Transportation Board (STB). Court rulings (including the recent appellate ruling in the Friends of the Eel River vs. North Coast Rail Authority) and a recent decision of the STB regarding the California High Speed Rail project support the argument that rail projects subject to STB jurisdiction are exempt from state environmental law, including CEQA. If the project EIR is legally challenged, the resolutions reserve the right of the JPB to assert STB pre-emption of CEQA in order to support project implementation.

If the project is legally challenged and the JPB successfully defends against that challenge on the basis of STB pre-emption, staff recommends that the JPB nevertheless comply with the mitigation measures identified in the EIR and contained in the MMRP. The resolutions include language to the effect that the mitigations from the EIR (which are included in the MMRP) represent commitments of the JPB for the project, regardless of whether CEQA legally applies to the project or not.

If the Board certifies the EIR and approves the Proposed Project, within five days a Notice of Determination will be filed with the State Clearinghouse. The State Clearinghouse process provides the public 30 days to review the notice and to consider legal appeal.

Prepared by: Stacy Cocke, Senior Planner 650.508.6207

Enclosures provided:

1. Caltrain Electrification Program FEIR (link), December 2014
2. Draft Errata to the FEIR, January 2015
3. Draft Findings of Fact and Statement of Overriding Considerations
4. Draft Mitigation Monitoring and Reporting Program
5. Letters submitted to Caltrain concerning the project and/or EIR after release of the Final EIR received prior to December 29, 2014.
Errata to the Final EIR

Introduction

This Errata provides several additional responses to certain late comments on the Draft EIR, several minor corrections to the Final EIR released on December 4, 2014, and provides additional material for one of the Master Responses in the Final EIR concerning alternatives.

Additional Responses to Certain Late Comments

While CEQA requires consideration of the substantive issues raised in any written comments submitted during the CEQA review process, CEQA only requires the preparation of written responses to substantive issues raised in written comment submitted during the specified review period for the Draft EIR which was from February 28, 2014 to April 29, 2014.

Despite being under no obligation to respond in writing, the JPB has opted to respond to two late comments: (1) from the Silicon Valley Law Group on behalf of San Jose Arena Management, LLC (06/9/14) and (2) San Francisco Bay Conservation and Development Commission (06/30/14). These late comment letters are included at the end of this Errata.

Response to Silicon Valley Law Group June 9, 2014 comment submitted on Behalf of San Jose Arena Management, LLC

The late comment from the Silicon Valley Group dated June 9, 2014 submitted on behalf of San Jose Arena Management LLC included technical comments dated June 5, 2014 from James Benshoof of Wenck Associates, Inc. which presented information and assertions about the existing and future parking demand data used for the EIR analysis in light of additional data presented in the comment letter. As explained below, the Final EIR has accounted appropriately for existing and future parking demand in the analysis. Thus, the late comment does not warrant any revisions to the Final EIR analysis.

Existing Parking Demand

- The comment asserts that the existing Caltrain parking demand is 868 spaces, but aside from citing that number there is no evidence presented to support that claim. They also do not cite which days the surveys were conducted. It should be noted that October 2012 was when the San Francisco Giants were in the baseball playoffs and in the World Series so many weekdays would have not had “typical” parking demand due to games at AT&T Park. Also the stated method used of just counting occupied spaces may also include other parking activity that is not related to Caltrain, such as Capitol Corridor or ACE parking and other non-transit commute parking in the vicinity of the station.

- In the analysis conducted by Fehr & Peers for the EIR, the existing parking demand is shown based on Caltrain data, which notes that the existing parking supply of 576 spaces is 99% occupied, resulting in a typical weekday demand of 572 spaces. The comment is correct that this is just demand in the Caltrain lots.
• An alternative way to calculate existing demand would be to take the Fehr & Peers Mode of Access survey results (described in Appendix D in the EIR) that show that 30 percent of morning boardings at Diridon are park and ride related. Out of 1,950 AM peak boardings, this would result in a total park and ride demand of 586 people (this total would be reduced further if one were to assume that some of these people carpooled). This result is very close to demand of 572 spaces noted in Caltrain lot data. Since the Mode of Access study includes direct survey of Caltrain riders, this data is specific to defining Caltrain parking demand.

• In any case, the existing demand doesn’t technically matter for the calculation of project-level demand, since the Fehr & Peers EIR analysis included other parking supply for the 2020 and 2040 analysis as discussed below.

2020 and 2040 Parking Demand

• The late comment letter notes that the 10-year Diridon Horizon Plan estimates parking demand in about 2024 to be 1,240 spaces. It appears that the 1,240 number is simply based on the assumed total parking supply around the station. The 10-year Diridon Plan states it assumes all spaces will be 100 percent occupied, thus arriving at the 1,240 number. No apparent evidence is provided to back the assumption that 100 percent of all available spaces will in fact be occupied.

• Regardless, the Diridon Station Area Plan (DSAP), which is described and incorporated by reference in the PCEP Final EIR, states that future transit (not just Caltrain) demand will be 1,350 to 2,200 spaces, which is a higher number than 1,240 number cited in the late comment letter. And thus, the PCEP Final EIR takes into account future higher demands for parking. As described in the PCEP Final EIR (see Pages 4-137 and 4-138), the DSAP includes a strategy to address not only transit parking demand as well as non-transit parking demand. Thus, while the PCEP does not propose to add any additional parking facilities as part of the project or as mitigation, the DSAP provides an overall approach to considering and addresses cumulative parking taking into account planned development and planned transit and has provided for meeting that demand.

• Regarding Fehr & Peers’ analysis of future parking demand, which puts future 2020 Caltrain demand at 1,002 spaces and 2040 Caltrain demand at 380 spaces, these are demands based on Fehr & Peers extensive mode of access modeling for Caltrain that accounted for how changes in station environments would affect access mode (i.e. that station area conditions will be different in the future than they are today). This analysis is more detailed and rigorous than what was done for the DSAP estimates of demand (Fehr & Peers confirmed this with the DSAP parking consultant in summer 2014), so Fehr & Peers remains confident that the analysis approach to calculating future Caltrain parking demand is sound.

Response to San Francisco Bay Conservation and Development Commission
June 30, 2014 comment

The late comment from the SF BCDC dated June 20, 2014 included comments concerning the BCDC’s jurisdictional authority, the San Francisco Bay Area Seaport Plan and concerns about the project’s impact to freight related to the Redwood City and San Francisco ports which fall under BCDC’s jurisdiction.

As explained below, the Final EIR has accounted appropriately for BCDC’s jurisdictional authority and adequately analyzed impacts related to freight. Thus, the late comment does not warrant any further revisions to the Final EIR.
BCDC Jurisdictional Authority

The JPB is well aware of BCDC’s jurisdictional authority in implementing the San Francisco Bay Plan and in its role related to the federal Coastal Zone Management Act (CZMA). Table 2-6, in Chapter 2, Project Description notes that the project is potentially subject to the state permitting authority of the BCDC. BCDC authority is also described in Section 3.9.1.1 in Section 3.9, Hydrology and Water Quality.

However, as described in Chapter 1, Introduction section 1.5.12, of the Final EIR, the JPB is a federally regulated rail carrier under the jurisdiction of the Surface Transportation Board (STB). Per prior and recent rulings, rail projects under the jurisdiction of the STB can be exempt from certain state and local environmental regulations, including permits.

Regardless of the application of state environmental permitting authority, the project would still be subject to BCDC review of any federal permits, licenses or federal funding under the federal CZMA for areas within the coastal zone, which includes a portion of the project adjacent to San Francisco Bay as defined in the San Francisco Bay Plan. The JPB will obtain any necessary permits and/or complete any CZMA consultation as necessary related to federal permits, licenses, or federal funding and will work with BCDC to complete any necessary review and/or permit processes prior to construction within BCDC jurisdictional areas.

Project Impacts on Freight

The JPB has carefully considered the potential impact of the Proposed Project on freight rail. The Final EIR analyzes the following potential impacts to freight and reaches conclusions as summarized below:

- Operational Hours – As explained in Volume II of the Final EIR, Chapter 3, Section 3.1.11, Master Response 11 (Freight), the Draft EIR analyzed potential effects on freight operations assuming temporal separation is required as temporal separation is part of the current FRA Waiver. Pursuant to comments from freight operators and in light of recent discussions with vehicle providers and in consideration of the current FRA rule-making for alternative compliant vehicles, the JPB is now confident that the FRA Waiver requirement for temporal separation with freight can be eliminated through either modification of the waiver or through the compliance process in the new FRA rule-making. As such, freight operations should be able to continue to operate in a manner that is more or less similar to present operations in terms of operational hours.

- Vertical Clearances – As explained in Volume II of the Final EIR, Master Response 11 (Freight):
  - The JPB analyzed the vertical clearances with the PCEP and determined that with minor modifications of several tunnels and lowering of the tracks at several bridges existing freight equipment used on the Caltrain corridor can continue to be used on the corridor to serve existing customers without any constraint. A table showing all of the existing vertical clearances, the existing height of freight equipment, and the vertical clearances with the Proposed Project have been added to the Final EIR.
  - For future cumulative conditions where freight operators may desire to operate higher equipment than they are running now along the Caltrain corridor, there would be a minor (~1’) constraint on allowable equipment between Sunnyvale and Bayshore due to a low point at the San Franciscoquito Creek bridge. This is a historic bridge, and the EIR found that replacing or major modification of the bridge is not feasible for the JPB because (1) the...
overall cost of bridge replacement, estimated as $48 million; (2) the need to construct a
shoofly track and temporary bridge while the current bridge is modified/replaced which
would have substantial disruption to both passenger and freight operations as well as
additional impact on the riparian corridor along the creek; and (3) the environmental and
operational disruption was not justified in order to provide a vertical clearance height that
is not being used by current freight traffic.

- Although the PCEP would limit the maximum vertical height of freight to approximately 19
feet (instead of a nominal 20.25’ clearance for Plate H) between Sunnyvale and Bayshore,
which is a theoretical constraint to future freight operations, this is not considered a
significant physical environmental effect because (1) existing freight has been operating
successfully on this portion of the route using equipment less than 19 feet high; (2) the
additional freight that could utilize slightly higher freight railcars can in most cases be
placed in the 18.92’ railcars in use on the corridor today; (3) a few additional railcars on
some freight consists would not substantially change environmental conditions for air
quality, greenhouse gas emissions or regional traffic. As a result, although the slight
lowering of allowable heights would limit the future ability to run Plate H from MP 41.4 to
MP 5.10, this is not considered to result in a significant physical environmental effect related
to air quality, greenhouse gas emissions or regional traffic.

Offsetting Benefit of Project Reductions in Criteria Pollutant and Greenhouse Gas Emissions: As
explained in Volume I of the Final EIR, Chapter 4, Pages 4-149 through 4-150, the EIR does
analyze the specific criteria pollutant and greenhouse gas emission that might result from
limited diversion of freight from rail to truck modes and demonstrates quantitatively that the
reduction of such emissions to the Proposed Project would be substantially larger than any such
secondary emission increases. The data on existing and potential future freight volumes for the
EIR was developed in consultation with freight owners and operators, including Union Pacific
and the Peninsula Freight Rail Users Group (PFRUG).

Regarding the BCDC’s suggestion that the JPB should include infrastructure or operational
mitigation in anticipation of future changes in freight transport in terms of equipment height, under
CEQA, mitigation is only warranted where significant impacts are identified and where feasible
mitigation is available. As explained in the EIR, there are a number of existing constraints to vertical
clearance today including bridges, overcrossing, and tunnels. The Project is not required to remedy
existing constraints. As noted above, vertical clearance to accommodate higher freight equipment
than currently operating on the Caltrain Corridor is not feasible to provide at the San Franciscquito
Creek Bridge, which sets a fixed low-point for the portion of the corridor between Sunnyvale and
Bayshore. The EIR does include mitigation to address a low point in Santa Clara (the Lafayette
Pedestrian overcrossing) to maintain Plate H clearance for freight in that location. Thus, the EIR has
properly considered potential impacts and mitigation appropriately related to future vertical
clearances.

Regarding BCDC’s suggestion that the Proposed Project should provide for expanded freight rail
storage for future rail use, the project would not eliminate use of any of the existing rail storage
areas by freight. Furthermore, the amount of freight occurring at present (3 round-trips a day
between Santa Clara and San Francisco) and projected to occur in the future along the Caltrain
Corridor (which was derived based on input from freight owners and operators), is not so large that
minor additional future potential needs for storage (due to the height limitation noted above for
equipment larger than today’s equipment) would be expected to substantially change the needs for
rail car storage. Thus there is insufficient nexus or proportionality for consideration of such
provision as mitigation for a project significant effect.

The JPB works closely with freight owners and operators in the course of its responsibilities for the
Caltrain Corridor. The project has been designed to allow for continued freight use of the Caltrain
corridor and the JPB will continue to work with freight owners and operators on matters of concern
to these parties.

Additional Response for Master Response 2 (Alternatives)

The following additional response is added to Volume II, Chapter 3, Section 3.1.2, Master Response 2
(Alternatives) on page 3-11, following Lines 1 to 2, before “Level Boarding”:

Natural Gas-Fueled Train Alternatives

Regarding natural gas fueled train alternatives (including liquefied natural gas – LNG, compressed
natural gas CNG, or other natural-gas fueled variants), the JPB is not aware of any operating
commuter or intercity passenger rail systems operating using these fuels today and is not aware of
any proposals to use such trains by any operating commuter passenger railroad. Some of the Class I
freight railroads like BNSF are beginning to evaluate natural gas fueled freight locomotives1. Such
systems, while potentially feasible in the future, have a number of operational, financial, regulatory
and mechanical challenges to them including the need to develop additional natural gas delivery
infrastructure, volatile natural gas prices and the need to develop new regulatory standards.

Natural gas fueled trains are only in their early stages of development for freight use. Thus their
potential use for commuter rails at this time is speculative.

Errata Changes to the Final EIR

The following changes are made to the Final EIR document released on December 4, 2014. Changes
are noted in strikeout for deleted text and underline for added text:

Mitigation Measure AES-2b, in Volume I, Chapter 3, Section 3.1, Aesthetics, Page 3.1-39, Lines 15
to 21 are modified as follows:

During nighttime construction adjacent to residential neighborhoods, the JPB will
require the contractor to direct any artificial lighting onto the worksite and away from
any adjacent residential areas at all times.

The construction contractor JPB will notify nearby residences of the construction
schedule, prior to the start of construction, including the time periods for nighttime
construction. A point of contact, including contact information, will be provided to
residents to address concerns associated with construction and nighttime lighting.

Mitigation Measure CUL-1c, in Volume I, Chapter 3, Section 3.4, Cultural Resources, Page 3.4-21, Lines
19-28 are modified as indicate below.

---

http://www.eia.gov/forecasts/aeo/section_issues.cfm#liq_nat_gas; and
http://www.progressiverailroading.com/mechanical/article/Liquefied-natural-gas-could-help-railroads-reap-
locomotive-benefits-if-regulatory-technical-issues-are-resolved-39693

2 Ibid.
At Tunnels No. 1, 2, and 3, the OCS shall be attached to the interior roof surface of the tunnel by brackets inserted into shotcrete. In addition, pole sets shall be installed at the portals of each tunnel. For Tunnel Nos. 1–3, side poles at the portals shall be used with power systems over the individual tracks that the poles power. The brackets within the tunnel interiors shall be set inside the tunnel mouth sufficiently far back that they would not be readily visible to passers-by or to those standing on the passenger platforms.

At Tunnel No. 4, the system shall also be attached to the interior roof surface of the tunnel by brackets inserted into shotcrete the brick lining. In addition, pole sets shall be installed at the portals of each tunnel. The brackets within the tunnel interiors shall be set inside the tunnel mouth sufficiently far back that they will not be readily visible to passers-by or to those standing on the passenger platforms (particularly at Tunnel No. 4’s southern portal, the Bayshore Station).

*Mitigation Measure CUL-1f, in Volume I, Chapter 3, Section 3.4, Cultural Resources, Page 3.4-33, Lines 4 – 7 and Lines 21 – 24 are modified as indicate below. The elimination of the requirement for headspans at these locations would not result in any additional impacts to the historic underpasses because the overhead contact system poles would not be placed on the historic structure itself.*

**Airport Boulevard Underpass or South San Francisco Subway**

Rather than installing the power system directly onto the bridge, power cables shall be suspended parallel to and above it to ensure that the bridge will not be impacted. The pole sets shall support a headspan that crosses the track at the same angle as the roadway beneath.

**Alameda Underpass, San Jose**

Power cables shall be suspended parallel to and above the Alameda Underpass. Pole sets shall support a headspan that crosses the track at the same angle as the roadway beneath. No poles shall be set on the bridge itself.

*Mitigation Measure CUL-2a, in Volume I, Chapter 3, Section 3.4, Cultural Resources, Page 3.4-34, Lines 37 to 41 are modified as indicated below.*

Prior to the start of construction or future construction activities, the JPB and/or the construction contractor shall retain qualified archaeologists to conduct a pedestrian archaeological survey to determine the prehistoric, ethnographic, and historic archaeological resources within areas proposed for disturbance within the Archaeological Study Area and within those areas outside of the Archaeological Study Area established for OCS pole placement and vegetation maintenance. In those areas covered

The table in Volume I, Chapter 3, Section 3.7, Greenhouse Gas Emissions, on Page 3.7-10, was supposed to have been entirely in strikeout because it has been entirely replaced by Table 3.7-4 on Page 3.7-12. Commenters on the Draft EIR on greenhouse gas emissions were notified of this errata change via email or letter. The strikeout table should be as follows:
### Table 3.7.3. Estimated Operational Emissions (metric tons CO₂e per year)

<table>
<thead>
<tr>
<th>Condition</th>
<th>CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing (2013)</strong></td>
<td></td>
</tr>
<tr>
<td>Caltrain Diesel Consumption</td>
<td>45,899</td>
</tr>
<tr>
<td>Caltrain Electricity Consumption</td>
<td>785</td>
</tr>
<tr>
<td><strong>Total Caltrain System Emissions</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>46,684</td>
</tr>
<tr>
<td><strong>No Project (2020)</strong></td>
<td></td>
</tr>
<tr>
<td>Caltrain Diesel Consumption</td>
<td>45,899</td>
</tr>
<tr>
<td>Caltrain Electricity Consumption</td>
<td>531</td>
</tr>
<tr>
<td><strong>Total Caltrain System Emissions</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>46,430</td>
</tr>
<tr>
<td><strong>Project (2020)</strong></td>
<td></td>
</tr>
<tr>
<td>Caltrain Diesel Consumption</td>
<td>11,586</td>
</tr>
<tr>
<td>Caltrain Electricity Consumption</td>
<td>11,192</td>
</tr>
<tr>
<td><strong>Total Caltrain System Emissions</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>22,778</td>
</tr>
<tr>
<td><strong>Change in VMT from Increased Ridership</strong></td>
<td>-44,317</td>
</tr>
<tr>
<td><strong>Emissions Due to Loss in Carbon Sequestration Resulting From Tree Removal</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td>260</td>
</tr>
<tr>
<td><strong>Total Project Emissions</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-21,279</td>
</tr>
<tr>
<td><strong>Cumulative No Build (2040)</strong></td>
<td></td>
</tr>
<tr>
<td>Caltrain Diesel Consumption</td>
<td>45,899</td>
</tr>
<tr>
<td>Caltrain Electricity Consumption</td>
<td>531</td>
</tr>
<tr>
<td><strong>Total Caltrain System Emissions</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>46,430</td>
</tr>
<tr>
<td><strong>Cumulative Project (2040)</strong>&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Caltrain Diesel Consumption</td>
<td>1,511</td>
</tr>
<tr>
<td>Caltrain Electricity Consumption</td>
<td>14,117</td>
</tr>
<tr>
<td><strong>Total Caltrain System Emissions</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>15,628</td>
</tr>
<tr>
<td><strong>Change in VMT from Increased Ridership</strong></td>
<td>-146,241</td>
</tr>
<tr>
<td><strong>Emissions Due to Loss in Carbon Sequestration Resulting From Tree Removal</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td>260</td>
</tr>
<tr>
<td><strong>Total Project Emissions</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-130,353</td>
</tr>
<tr>
<td><strong>2020 Caltrain System vs. Existing (2013)</strong>&lt;sup&gt;e&lt;/sup&gt;</td>
<td>-23,906</td>
</tr>
<tr>
<td><strong>2040 Caltrain System with Full Electrification vs. Existing (2013)</strong>&lt;sup&gt;d,e&lt;/sup&gt;</td>
<td>-31,056</td>
</tr>
<tr>
<td><strong>2020 Project vs. 2020 No Project</strong>&lt;sup&gt;f&lt;/sup&gt;</td>
<td>-67,709</td>
</tr>
<tr>
<td><strong>2040 Project with Full Electrification vs. 2020 No Project</strong>&lt;sup&gt;df&lt;/sup&gt;</td>
<td>-176,783</td>
</tr>
</tbody>
</table>

**Thresholds**: 1,100 / 10,000

<sup>a</sup>Includes diesel and electricity emissions; VMT-related reductions due to increased ridership are not included.

<sup>b</sup>Does not include increase in carbon sequestration resulting from tree replanting. Assuming a 1:1 minimum tree replanting ratio (see Section 3.3, Biological Resources, for proposed mitigation), the increase in carbon sequestration would result in lowering project emissions by 3 metric tons in 2020 (assumed 1 year after planting) and 216 metric tons in 2040 (21 years after planting).

<sup>c</sup>Includes the net change in VMT from No Project to Project Conditions associated with increased ridership.

<sup>d</sup>The Proposed Project includes 75% electrified service from San Jose to San Francisco. Fully electrified service from San Jose to San Francisco is presumed by 2040, but is not presently fully funded.

<sup>e</sup>Comparison of Caltrain system emissions only. Changes in VMT emissions and in carbon sequestration not included.

<sup>f</sup>Includes changes in Caltrain system emissions, VMT emissions, and carbon sequestration.

CO₂e = carbon dioxide equivalent

VMT = vehicle miles traveled
Mitigation Measure HYD-4, in Volume I, Chapter 3, Section 3.9, Hydrology and Water Quality, Page 3.9-29, Lines 3 through 8 are modified as follows because the analysis above indicated that PS7 Variant A and B are located at an elevation above the elevation of the 100-year flood level:

At PS3 (Option 1), PS6 (Option 1) and TPS2 (Option 3, at CEMOF), as well as PS7 (Variant A and B, if selected), the design will minimize the amount of new impervious areas by using graveled or pervious pavement for all facility areas other than the foundations for new electric equipment and any other weight-bearing facilities. Currently unpaved areas not used to house new equipment shall remain unpaved or if paved shall use pervious pavement. At other paralling stations, TPS1, and the switching station, the same measure is recommended, but not required.

The text in Volume I, Chapter 3, Section 3.9, Hydrology and Water Quality, Page 3.9-29, Lines 25 to 27 are modified as follows because the analysis above indicated that PS7 Variant A and B are located at an elevation above the elevation of the 100-year flood level:

Since under Project Variant 1, PS7 (Variant A and B) are located in the 100-year floodplain but at elevations above the 100 year flood level (as noted above), Mitigation Measure HYD-5 would apply if this PS7 location is selected. With mitigation, Project Variant 1 would not have any different impacts relative to the Proposed Project.

Mitigation Measure HYD-5, in Volume I, Chapter 3, Section 3.9, Hydrology and Water Quality, Page 3.9-31, Lines 11 through 17 are modified as follows because the analysis above indicated that PS7 Variant A and B are located at an elevation above the elevation of the 100-year flood level:

For new TPFs within the current 100-year floodplain (PS3 Option 1, TPS-2 Option 3, and PS6 –both options and PS7 Variant A and B, if selected), the preferred method of avoiding damage would be to place all new electrical equipment on elevated pads above expected flood depths and/or protect such equipment with flood barriers. If equipment cannot be designed so that flood waters cannot contact the equipment, then sealed or capped moisture-resistant components are required. Ground Fault Circuit Interrupters (GCFIs) shall be utilized for all electrical circuits below the base flood elevation for the 100-year flood.

Mitigation Measure TRA-CUMUL-1, in Volume I, Chapter 4, Section 4.1.4, Cumulative Impact Analysis, Pages 4-125 and 4-126 is modified as follows:

The reference to Table 4-17 on Lines 12, 24, 39, and 40 on Page 4-125 and on Lines 7, 8, and 27 on Page 4-126 should be to Table 4-18 instead.

Mitigation Measure TRA-CUMUL-3, in Volume I, Chapter 4, Section 4.1.4, Cumulative Impact Analysis, Pages 4-152, Lines 15 to 17 are modified as follows:

Mitigation Measure TRA-CUMUL-3: As warranted, Caltrain and freight operators will partner to provide Plate H clearance at as the Lafayette Pedestrian Overpass location.

The last page in Volume III, Appendix K, containing the references for Appendix K was inadvertently left out of the CDROMs and off the website initially created for the December 4, 2014 Final EIR release. The web-site has been updated with the correct file and future CDROMS will contain the missing the page. The content of the missing page is listed below.
<table>
<thead>
<tr>
<th>References for Appendix K</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrain, No Date. Caltrain webpage &quot;Commute Fleets&quot;</td>
<td><a href="http://www.caltrain.com/about/statsandreports/commute">http://www.caltrain.com/about/statsandreports/commute</a> fleets.html</td>
</tr>
</tbody>
</table>
June 9, 2014

Via Email and U.S. Mail: cockes@samtrans.com

Ms. Stacy Cocke, Senior Planner
Peninsula Joint Powers Board
1250 San Carlos Ave.
San Carlos, CA 94070

Re: Supplemental Comments on Behalf of San Jose Arena Management, LLC Regarding DEIR for Peninsula Corridor Electrification Project

Dear Ms. Cocke:

Enclosed please find the supplemental comment letter discussed in your email of May 8, 2014.

Sincerely,

SILICON VALLEY LAW GROUP

By: Jeffrey S. Lawson

JSL:edn
Encl.: Wenck comment letter
Cc: Jim Benshoof
    Jim Goddard
June 5, 2014

Ms. Stacy Cocke, Senior Planner  
Peninsula Joint Powers Board  
1250 San Carlos Ave.  
P.O. Box 3006  
San Carlos, CA 94070-1306

RE: Supplemental Comments on Behalf of San Jose Arena Management, LLC Regarding  
DEIR for Peninsula Corridor Electrification Project

Dear Ms. Cocke:

On behalf of San Jose Arena Management LLC, this is to follow-up on two items:

- Letter to you dated April 29, 2014, from Jim Goddard of the SAP Center with comments  
  regarding the DEIR for the Peninsula Corridor Electrification Project.
- Telephone conversation between you and Jeff Lawson of the Silicon Valley Law Group  
  about the above referenced letter from Jim Goddard and our submission of supplemental  
  comments.

As you are aware from Jim Goddard’s letter, I have reviewed the DEIR for your electrification  
project and have been providing consultation to Jim Goddard and the San Jose Arena  
Management, LLC regarding potential traffic and/or parking implications of the project on the  
SAP Center. After Jim Goddard’s letter was sent on April 29, I realized that we had new and  
more accurate information regarding parking demand by Caltrain users that reveal greater  
impacts than the parking analysis results presented in the DEIR.

The DEIR must provide accurate information in order to serve its required purpose. While  
drafting an EIR necessarily involves some degree of forecasting, an agency must use its best  
efforts to find out and disclose all that it reasonably can. Because I have been closely involved in  
evaluating all the traffic and parking plans surrounding the SAP Center for the last 24 years, I  
have access to detailed forecasts and land use plans and congestion management plans, for which  
others may not have such familiarity. Thus, I am in a position to assist Caltrain by identifying the  
most accurate information available.

If parking demand at the Diridon Station exceeds projections and exceeds the parking supply for  
transit users, the extra transit users will park in spaces that are part of the off-site parking  
inventory the City is committed to provide for SAP Center customers. This potential loss of  
available spaces for SAP Center customers is a significant impact on the SAP Center and our  
customers. I am sure Caltrain seeks to avoid such impacts.
As you know, the Diridon Station area will experience extensive growth in the future, including:

- Substantial new development
- Extension of BART service to Santa Clara, with a Diridon station
- Blended Caltrain/High Speed Rail service

Accurate and consistent data must be utilized in order for the cumulative effects of the above projects and the Caltrain Electrification Project to be successfully accommodated without causing significant negative impacts. For example, if Caltrain parking demand exceeds the supply of spaces for Caltrain customers, negative impacts would occur for all other users in the Diridon area.

As part of Arena Management’s ongoing work pertaining to the Diridon Station Area Planning Study, Arena Management staff conducted a survey in October and November 2012 to record parking occupancy by Caltrain users. Using data recorded on three typical weekdays, this survey found that the total parking demand by Caltrain users was 868 spaces, full usage of Cahill Lots 1, 2, 3, and 4 (581 spaces) plus full usage of the Stevens Meat lot (130 spaces) plus 157 vehicles parked nearby in on-street spaces. Though more recent survey data are not available, Arena Management staff have observed that Caltrain parking demand is continuing to grow, including parking by Caltrain customers in SAP Center parking lots. This existing, surveyed parking demand at the Diridon Station of 868 vehicles is substantially higher than the estimated parking demand referenced on page 2 in Appendix D of the DEIR (576 spaces with a 99% utilization, which yields a parking demand for 570 spaces).

In addition to parking projections at the Diridon Station presented in your DEIR, transit parking projections at this station also have been presented in Appendix C.2 of the following document: “Diridon Station Area Plan, Preferred Plan, Final Draft Report,” City of San Jose, December 2013. Appendix C.2 is entitled, “Diridon Station Area Plan 10-Year Horizon Report.” As presented on attached page 3-3 from that appendix, the projected parking demand for the Diridon Station at the end of the 10 year planning period (about 2024) is 1,240 vehicles. This parking demand projection of 1,240 vehicles in about year 2024 is substantially higher than the two projections presented in Appendix D of your Caltrain DEIR. Table 3-34 in that appendix cites a parking demand of 1,002 vehicles in 2020, and Table 3-35 cites a parking demand of 380 vehicles in 2040. The parking demand of 868 vehicles surveyed in October and November 2012, together with the ridership growth projected by Caltrain, clearly indicate that the transit parking demand of 1,240 vehicles presented in the Diridon Station Area Plan is more valid than the demand values of 1,002 and 380 presented in the Caltrain DEIR.

As you respond to comments regarding the DEIR for the Caltrain Electrification Project, please account for the two items of information presented in this letter regarding transit parking demand at the Diridon Station:

- Parking demand of 868 vehicles surveyed in October and November 2012, with continued growth since that time
- Ten year parking demand projection in Diridon Station Area Plan of 1,240 vehicles
As previously mentioned, we believe that the Caltrain Electrification Project should use the best data available to avoid unanticipated adverse impacts on SAP Center customers due to increased parking by transit users in off-site spaces.

Thank you for considering this supplemental information and request. If you have any questions, you are welcome to contact me by email: jabenshoof@msn.com or by phone: 612-799-5918.

Sincerely,

WENCK ASSOCIATES, INC.

James A. Benshoof

Enc. Page 3-3 from Appendix C.2. of Diridon Station Area Plan

C w/ enclosure: Jim Goddard, SAP Center and Jeff Lawson, Silicon Valley Law Group
DIRIDON STATION AREA PLAN
10-YEAR HORIZON ANALYSIS
DRAFT REPORT - APRIL 2014

Prepared by
Field Paoli
CDM Smith
Dyett & Bhatia
Fehr & Peers
David J. Powers & Associates
Hexagon

for
The City of San José

Revisions Prepared by the
City of San José
Department of Transportation
3.3 Shared Parking Demand

The shared or combined parking demand for the TYHA has been projected based upon current and future transit service at the Diridon Station, and the maximum build out of the Central Zone of the DSAP Preferred Plan. The Central Zone core block land uses would include high-density office, retail, and hotel uses in the immediate vicinity of the Diridon Station. The two major components of parking demand, transit and development, are analyzed below:

Transit Parking Demand

For transit based parking demand, the existing surface parking lots in front and in the immediate vicinity of the Diridon Station from Santa Clara Street to Park Ave meet the existing transit generated parking demand (refer to the Diridon Station Area Plan Existing Conditions Report, Table 7-5: Non-Event Off-Street Parking Demand (Subareas G and H) which shows that these lots are typically at a maximum 88% occupied at peak times on non-event days). The following surface lots and street parking spaces represent the supply of adjacent parking to meet transit based parking demand:

<table>
<thead>
<tr>
<th>Off-street Spaces</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrain Lots:</td>
<td>581 spaces</td>
</tr>
<tr>
<td>Stevens Meat Lot:</td>
<td>135 spaces</td>
</tr>
<tr>
<td>150 South Montgomery:</td>
<td>68 spaces</td>
</tr>
<tr>
<td>Carousel Lot:</td>
<td>228 spaces</td>
</tr>
<tr>
<td>Amtrak Lot:</td>
<td>78 spaces</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>1,090 off-street spaces</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>On-street Spaces</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subarea G:</td>
<td>82 spaces</td>
</tr>
<tr>
<td>Subarea H:</td>
<td>68 spaces</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>150 on-street spaces</td>
</tr>
</tbody>
</table>

**Available Transit Parking:** 1,240 spaces

Given the adjacent parking supply has consistently met the transit parking demand of the Diridon Station, and that these parking spaces will be developed upon, the TYHA assumed that 1,240 spaces represent the transit parking demand, and would need to be fully replaced in the TYHA build out scenario, within a reasonable walking distance of the Station. For purposes of the TYHA scenario, the transit parking demand is estimated at 1,240 spaces.

Development Parking Demand

The development related parking demand estimates in TYHA were based upon industry parking generation manuals and the applied experience of the parking and transportation consultants performing and validating the analysis. The shared parking methodology outlined in the Urban Land Institute’s, “Shared Parking, Second Edition” formed the basis of shared parking model central to efficiently meeting the parking needs of the Diridon Station Area Plan. As described in the ULI guidelines, “the shared parking methodology
June 30, 2014

Mr. Tom Nolan, Chair
Peninsula Corridor Joint Powers Board
1250 San Carlos Avenue
PO Box 3006
San Carlos, CA 94070

SUBJECT: Peninsula Corridor Electrification Project, Draft Environmental Impact Report
BCDC Inquiry File SM.SM.7115.1

Dear Mr. Nolan:

Please accept for the consideration of the Peninsula Corridor Joint Powers Board (Board) the following San Francisco Bay Conservation and Development Commission (Commission or BCDC) staff comments on the proposed Peninsula Corridor Electrification Project. I understand that the comment period on the Draft Environmental Impact Report (DEIR) closed at the end of April. We received the DEIR in February, however, it was not brought to my attention until last week, and I hope that our tardy comments can still be factored into the revisions to the document.

The staff applauds the efforts of the Joint Powers Board to accommodate the ever increasing demand for transit service along the Peninsula and hopefully reduce the vehicular miles travelled in this growing area of the region. I am a daily Caltrain passenger, and appreciate the service immensely, and look forward to faster, more frequent service. We do, however, wish to highlight where we have questions concerning future shared use of the rail tracks for freight transport between the Central and South Bays, based on our review of the DEIR, and the Commission’s law and policies.

The Commission exercises permitting authority over San Francisco Bay and the shoreline area between the Bay’s edge and a line 100 feet landward and parallel to the shoreline. The San Francisco Bay Plan (Bay Plan) contains, in part, policies related to the use and protection of the Bay. Under the Federal Coastal Zone Management Act (CZMA), BCDC analyzes proposed federal actions or projects involving a federal permit, license or federal funding for potential effects to the coastal zone. Within its jurisdiction, which is coterminous with the coastal zone, the Commission designates certain shoreline areas for uses that require a waterfront location, such as ports and water-related industry, to avoid potential filling of the Bay in order to accommodate such uses. If federal funding, or a federal permit is associated with this project, the Commission has the authority to review the lead agencies determination whether the activity is consistent with the Commission’s law and policies.

The San Francisco Bay Area Seaport Plan (Seaport Plan) contains policies concerned with future port development. The Commission’s Bay Plan policies aim to ensure that sufficient land and appropriate infrastructure be retained and improved to support ongoing and future port operations. This would include maintaining adequate cargo transport facilities to and from the two seaports located on the Peninsula, Redwood City and San Francisco. Seaport Plan Ground Transportation policy 3 states, “Local and regional transportation planning and funding priorities should facilitate the efficient movement of goods by rail and truck to and from the Bay Area ports.” As stated in the project DEIR, the level of freight service could be negatively affected by restricting the number of daily freight trains due to shortened overnight operating hours as well as by restricted tunnel clearances due to the addition of the overhead electrification equipment.
Where shared rail lines would be affected by the proposed Caltrain improvements, we request that the Board consider the needs of the industries sharing the tracks. Continued steady growth is anticipated in the types of products handled by the Peninsula ports. As an example, the Port of Redwood City recently rebuilt and enlarged its Wharves 1-2 terminal, greatly expanding its capacity for bulk cement and general cargo. Construction material facilities such as concrete production need to be located in the vicinity where the material will be used as is currently the case in Redwood City, the Peninsula and Silicon Valley. The Port of San Francisco has similar construction-material related port facilities. These are critical to the overall functioning of the Bay Area construction industry, and our economy. The suggestion that future growth in transport of these types of products could be accommodated, at least in part, by diverting freight to alternative ports (DEIR p. 4-128), does not reflect the operational requirements of construction-related industry currently, or in the future.

Another potential project impact on freight service would be reduced clearance in tunnels and other locations along the route with the installation of electrification infrastructure. According to the DEIR, modifications would be made to accommodate current freight service needs. However, future service could be adversely affected by precluding industry modifications that include increasing car size, designed to improve shipping efficiencies and lower fuel use. We believe some infrastructure or operational mitigation should be considered in anticipation of changes in freight transport.

The Bay Plan also contains policies designed to mitigate the regional effects of climate change and sea level rise. The proposed electrification would provide a number of benefits to the region, including a direct reduction in adverse air quality impacts from Caltrain operations, and green house gas (GHG) emissions reductions. Concurrently, automobile congestion and associated adverse air quality impacts and GHG production would decline on area roadways with increased rail passenger capacity. According to the DEIR, these gains will offset any added truck traffic that may result from reduced rail freight service. It is our understanding that, as with ship cargo transport, rail freight volumes rise and fall during the course of a year. Demand for track use is thus not consistent, and should be considered in calculating the potential volume of freight that may be diverted to truck and resulting additions to air quality impacts and greenhouse gases. Additionally, with curtailed or altered rail operations comes a likely need for expanded storage. The DEIR should consider future car storage needs of freight users of the shared tracks.

We believe that Caltrain electrification helps achieve important regional objectives for reducing GHG emissions and increasing the capacity and convenience of regional transit. Over 40 years ago, the region established priorities for its ports as articulated in the Bay Plan, and more specifically in the Seaport Plan. We believe that the issues raised here can and should be addressed so that we do not achieve one green house gas reduction goal, only to push trucks on to Bay Area roads thereby offsetting those gains. We stand ready to work with you to address our comments and achieve a win-win.

Thank you for considering the staff's comments. I would be pleased to discuss these issues at your convenience. Or should you have any questions, please contact me at 415.352-3656, or via email, at joel@bcdc.ca.gov.

Sincerely,

JOE LaCLAIR
Chief Planning Officer

cc: John Coleman, Bay Planning Coalition
Peter Dailey, Port of San Francisco
Mike Giari, Port of Redwood City

1 Including construction materials for the South Bay, such as cement, imported sand and aggregates. Regional volumes of dry bulk cargoes such as these are projected to increase at a rate of 4% annually through 2030, based on a 2011 review of the Seaport Plan bulk cargo forecast conducted by Tioga Group, Inc.
FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

PENINSULA CORRIDOR ELECTRIFICATION PROJECT

PREPARED FOR:

Peninsula Corridor Joint Powers Board
1250 San Carlos Avenue
San Carlos, CA 94070
Contact: Stacy Cocke
650.508.6207

PREPARED BY:

ICF International
620 Folsom Street, Suite 200
San Francisco, CA 94107
Contact: Rich Walter
415.677.7167

January 2015
Introduction

The Peninsula Corridor Joint Powers Board (JPB) has certified a Final EIR for the Caltrain Peninsula Corridor Electrification Project (Proposed Project or PCEP\(^1\)). The JPB decided to prepare the new EIR for the corridor electrification due to the changes in existing conditions\(^2\) that have occurred along the corridor since prior EIR analyses were conducted, to update the environmental analysis, and to update the cumulative analysis of Blended Service and other developments along the corridor that affect the cumulative scenario. The EIR also allowed public agencies, stakeholders, the public and decision-makers the opportunity to review and comment on the PCEP’s environmental effects in light of current information and analyses.

The PCEP will modernize Caltrain service and includes the following basic components. Corridor electrification is the only component that is being environmentally cleared with the FEIR, as explained below. For a detailed description of the PCEP, see Chapter 2, Project Description, of the FEIR.

**Corridor Electrification:** The PCEP will install facility improvements, including overhead catenary wires, support poles, traction power facilities, and other appurtenances necessary to convert service from the existing diesel-locomotive driven trains to Electric Multiple Units (EMUs). EMUs are self-propelled electric trains that do not have a separate locomotive. EMUs can accelerate and decelerate at faster rates than diesel-powered trains, even with longer trains. With EMUs, Caltrain could run longer trains without degrading speeds, thus increasing peak-period capacity. This will provide for operation of up to 6 Caltrain trains per peak hour per direction (an increase from 5 trains per peak hour per direction at present). Electrification of the rail line is scheduled to be operational by 2020/2021\(^3\). The PCEP includes operating 114 trains per day between San Jose and San Francisco and six trains per day between Gilroy and San Jose. Future proposed actions to expand service beyond 114 trains per day may require additional environmental review.

The PCEP would include the installation of 130 to 140 single-track miles of overhead contact system (OCS) for the distribution of electrical power to the new electric rolling stock. The OCS would be powered from a 25 kilovolt (kV), 60 Hertz (Hz), single-phase, alternating current (AC) traction power

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\(^1\) Capitalized terms in this document have the same meaning as in the FEIR.

\(^2\) For example, there have been changes in existing development adjacent to the Caltrain right of way and stations, in levels of traffic, and in adopted land use plans around stations.

\(^3\) The first year of project operation would be 2020/2021 depending on the timing of construction completion. For the sake of simplicity and in recognition that the first year of operations could be in 2020, this document refers to the operational year as 2020.
system consisting of two traction power substations (TPSs), one switching station and seven paralleling stations.

The Proposed Project can be analyzed as a separate project under the California Environmental Quality Act (CEQA) because it has independent utility (providing Caltrain electrified service – see Section 1.5.1.2 of the FEIR) and logical termini (station end points). The PCEP is not dependent upon either of the other components (CBOSS PTC or Blended Service) for operation.

- **Advanced Signal System (commonly referred to as CBOSS PTC or CBOSS):** This component will increase the operating performance of the current signal system, improve the efficiency of at-grade crossing warning functions, and automatically stop a train when there is violation of safe operating parameters. This component, which includes implementation of safety improvements mandated by federal law and a new fiber optic backbone, has been previously approved and is currently being installed. It is scheduled to be operational by 2015 as mandated by the Federal Railroad Administration (FRA).

- **Blended Service:** The JPB, California High Speed Rail Authority (CHSRA), and the Memorandum of Agreement (MOU) partners have agreed on shared use of the Caltrain corridor for the use of up to six Caltrain trains per peak hour per direction and up to four high-speed rail (HSR) trains per peak hour per direction. The operational feasibility of Blended Service has been studied but is presently only at the conceptual planning phase. The potential addition of HSR service to this corridor will be the subject of a separate environmental review process that will be undertaken by CHSRA as the lead agency subsequent to the environmental process for the PCEP. Based on the current 2014 Business Plan (CHSRA 2014), Blended Service along the Corridor is scheduled to commence sometime between 2026 and 2029. Blended Service would connect with the Downtown Extension (DTX) near the Fourth and King Station in San Francisco, providing Caltrain and HSR service to downtown San Francisco at the Transbay Terminal Center (TTC).

Section 1 of this document provides a summary of the environmental review process. Section 2 describes the alternatives considered in the 2014 FEIR. Section 3 contains the JPB’s findings for each significant environmental effect of the Project identified in the FEIR, as required by CEQA. Section 3 also describes the reasons why the project alternatives ultimately have been rejected. Section 4 consists of a statement of overriding considerations, as required by State CEQA Guidelines Section 15093, stating the specific circumstances that support the JPB’s determination that the unavoidable significant environmental effects of the PCEP are acceptable because specific benefits of the PCEP outweigh those effects.

**CEQA Process**

The JPB analyzed the PCEP on the basis of the California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 CCR 15000, et seq.). The FEIR prepared by the JPB determined that the PCEP could have potentially significant effects on the environment, including significant effects that cannot be avoided.

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4 The CHSRA 2014 Business Plan (CHSRA 2014) presumes Phase 1 Blended Service would have up to four trains per peak hour and up to four trains per off-peak hour. As explained in Chapter 4, Section 4.1 Cumulative Impacts, of the EIR, the EIR presumes up to 40 to 53 daily round-trip high-speed trains in 2040 based on the CHSRA 2012 Business Plan, Estimating High-Speed Train Operating and Maintenance Cost for the CHSRA 2012 Business Plan (CHSRA 2012c), which presumed 40 HSR daily round-trips per day and, the Draft 2014 Business Plan Service Planning Methodology document (CHSRA 2014) which includes an assumption of 53 daily round trip trains starting in 2029 and continuing beyond 2040. The 2014 Business Plan does not make an explicit statement about the level of service on the Caltrain corridor. Thus, the exact amount of daily HSR service is unknown. The later CHSRA project-level environmental evaluation will address proposed high-speed train service levels along the San Francisco Peninsula.
Consistent with CEQA’s requirements, the Draft EIR was circulated for a public comment period beginning on February 28, 2014 and ending on April 29, 2014. All written comments received during the public comment period and during the public meetings held during the public comment period to receive comments on the Draft EIR were responded to in Volume II of the FEIR.

Prior to approving the PCEP, the JPB must certify that it has considered the FEIR, that the FEIR adequately meets the requirements of CEQA, and that the FEIR reflects the independent judgment of the JPB.

Upon approving the PCEP, the JPB must adopt the following findings of fact regarding the significant effects identified in the FEIR, the alternatives identified in the FEIR, and statement of overriding considerations explaining the benefits that outweigh the significant unavoidable effects identified in the FEIR.

Pursuant to Public Resources Code (PRC) Section 21081.6, the JPB is also adopting a mitigation monitoring and reporting program (MMRP) for the mitigation measures that are the JPB’s responsibility to implement. The MMRP establishes a program to ensure that the adopted mitigation measures identified in the FEIR will be implemented.
Alternatives Considered

Introduction

The JPB conducted a comprehensive alternative identification and screening process to identify which alternatives to analyze in the PCEP EIR. During the scoping process, the JPB solicited input from the public, agencies, and stakeholders about potential alternatives for consideration. The JPB also reviewed the impacts of the Proposed Project and identified several additional potential alternatives for consideration as well. As discussed in Section 5.4, Alternative Screening Process in the FEIR, the JPB initially considered a wide range of 52 alternatives to the project (other than the No Project Alternative) and then conducted a three-part screening evaluation to select the potentially feasible alternatives to be analyzed in the EIR. Forty-one alternatives were determined to be technically, logistically or financially infeasible, to not avoid or substantially reduce one or more significant impacts of the Proposed Project, or to not meet all or most of the project’s purpose and need and were dismissed from further analysis. Of the remaining eleven (11) alternatives, seven (7) were incorporated into the project or mitigation, leaving four (4) action alternatives.

The FEIR examined five alternatives to the PCEP: the No Project Alternative, a Diesel Multiple Unit (DMU) Alternative, a Dual-Mode Multiple Unit Alternative, a Tier 4 Diesel Locomotive Alternative, and an Electrification with Overhead Contact System (OCS) Installation by Factory Train Alternative. Each of these alternatives is ultimately rejected as infeasible5 for the reasons described in Section 3 below.

No-Project Alternative

State CEQA Guidelines Section 15126.6(e)(2) states that the “no project analysis shall discuss the existing conditions at the time the notice of preparation is published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”

Under the No-Project Alternative, there would be no electrification of the Caltrain right of way between San Jose and San Francisco, no purchase of EMUs, and no increase in train service. The current train service is assumed to continue unchanged to 2020 and 2040. This service consists of five trains per peak hour, 92 trains per day, through use of diesel engine–hauled locomotive trains. Locomotives and passenger carriages would be replaced when they reach the end of their service life, meaning that approximately 75 percent of the existing fleet would be replaced by 2020. As new equipment is purchased, the new locomotives would meet the U.S. Environmental Protection Agency (USEPA) Tier 4 emissions standards.

5 See section below on “Findings Regarding the Alternatives” for discussion of the definition of “infeasible” used in these findings.
While this alternative would not increase the frequency of train service, ridership would still be expected to increase, based on the increase in ridership in recent years. This means that trains would have a higher average occupancy in the future than at present.

**DMU Alternative**

DMUs are self-propelled diesel-mechanical vehicles with engines located below the passenger compartment. The key DMU characteristic related to desired service improvements is the reduction of running times due to faster acceleration than traditional diesel locomotive push-pull service. DMUs require less time to accelerate up to full speed from stations stops and slow areas (compared to existing single-head diesel locomotive trains). This reduces overall travel times, particularly on a corridor featuring frequent stops.

For the purposes of the EIR, this alternative assumed the following:

- An eight-car single-level DMU train, with a capacity of 78 passengers per car (624 passengers per train) was analyzed in order to analyze an alternative that would roughly match the approximate number of seats ridership per train capacity of the PCEP. Only a single-level DMU is being evaluated because the currently available double-deck DMU designs would not fit through the Caltrain system tunnels and because there are a number of other constraints to a double-deck design including that there is no existing market for double-deck DMUs.

- The Caltrain service schedule for the DMU Alternative would be the same as the PCEP, although ridership would likely be less due to inferior performance. DMUs do not accelerate or decelerate as fast as EMUs and thus the number of station stops would likely have to be reduced to maintain the same trip time as the PCEP EMUs. Otherwise, travel times would be unacceptably longer.

- The eight-car single-level DMU train length of 680 feet would exceed the length of Caltrain platforms at most Caltrain stations and would require platform extension construction.

- The DMU Alternative is assumed to terminate at the Fourth and King Station in San Francisco. It would not proceed to the TTC because the DTX tunnel and the TTC are designed only for electric trains. In the long-run, this would also result in less ridership than the Proposed Project.

**Dual-Mode Multiple Unit Alternative**

Dual-mode MUs are self-propelled vehicles that can operate in both a diesel mode and in an electrified mode. While there are dual-mode locomotives in operation on the East Coast, there are no known dual-mode MUs presently in operation in the United States. However, there are dual-mode MUs in operation in Europe and others under construction that can operate in both a diesel mode in non-electrified territory and in an electrified mode using an overhead 25 kVA OCS.

For the purposes of this alternative analysis, existing European train designs were used to derive alternative assumptions:

- A 10-car single-level dual-mode MU train, consisting of two, coupled, five-car trainsets with an approximate capacity of 600 passenger seats per train was analyzed in order to provide an alternative that would roughly match the per-train capacity of the PCEP.
The 10-car single-level dual-mode MU train length would be 600 feet which would require lengthening at some of the Caltrain platforms including the platforms at 22nd Street, Broadway, California Street, Sunnyvale, and Santa Clara.

Caltrain’s service schedule for the Dual-Mode MU Alternative would be the same as the PCEP, but likely lower ridership due to inferior performance compared to EMUs. Dual-mode MUs do not accelerate or decelerate as fast as EMUs and thus the number of station stops would likely have to be reduced to maintain the same trip time as the PCEP EMUs. Otherwise, travel times would be unacceptably longer.

This alternative does not include electrification between San Jose and the Fourth and King Station in San Francisco. However, this alternative would need to include traction power facilities to link the electrified lines in the DTX to power from PG&E. This electrification would involve connecting overhead or underground transmission wires from PG&E to a new traction power substation, and connecting transmission lines from the new traction power substation to the Overhead Contact System (OCS) for the DTX.

This Alternative is assumed to operate in a diesel mode from San Jose to San Francisco and then either terminate at the San Francisco Fourth and King Station or proceed in an electric mode to the TTC. In 2020, this alternative, like the Proposed Project, would terminate at the Fourth and King Station. In 2040, this alternative is presumed to operate with split service with 4 trains terminating at the Fourth and King Station and two trains proceeding to TTC.

**Tier 4 Diesel Locomotive (T4DL) Alternative**

This alternative would substitute Tier 4 diesel locomotives for EMUs. This alternative includes two variants: 1) a single-head (SH) scenario where the train is operated with only one locomotive; and 2) a double-head (DH) scenario in which trains are operated with two locomotives in order to match the PCEP schedule.6

The following assumptions were made for this alternative in the EIR:

- The train would be the same as today with a single or double locomotive hauling 5 bi-level passenger coaches with a nominal capacity of 600 passenger seats per train order. The alternative would roughly match the ridership per train capacity of the PCEP.
- It was assumed that the Caltrain service levels (6 trains per peak hour, 114 trains/weekday) would be the same as the PCEP.
- For 2040, the T4DL Alternative is assumed to terminate at the San Francisco Fourth and King Station and would not proceed to the TTC because the DTX and the TTC are designed only for electric trains.

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6 In order to provide an “apples to apples” comparison, the Tier 4 Diesel Locomotive Alternative presumes replacement of approximately 75 percent of the existing diesel locomotives in 2020 with Tier 4 diesel locomotives and the use of the other remnant Caltrain diesel locomotives until they reach the end of their service life, which is the same assumption made about the use of EMUs for the PCEP.
Electrification with OCS Installation by Factory Train Alternative

This alternative consists of the same operational elements as the PCEP (i.e., electrified service with EMUs), but with a different method for construction of the OCS. The alternative method of installing the OCS would be through the use of a so-called “Factory Train” (also called an “Electrification Train” and a “High Output Plant System” or the HOPS train), which is a moveable assembly line system, mounted on rails. One of the prime advantages of a Factory Train is the faster rate of progress in OCS installation compared to the PCEP. Rates of progress up to one (1) mile/night have been reported, and the system can reportedly be used while allowing for adjacent rail lines to be used by existing trains although there may be speed restrictions for the use of adjacent lines.

This is a construction methodology alternative to conventional construction of the OCS. Thus, analysis in the EIR is limited to differences between the PCEP and this alternative relative to OCS construction. Under this alternative, about 80 percent of the OCS is presumed to be installed using a Factory Train with the remaining 20 percent assumed to be installed using conventional construction.
CEQA Requirements

CEQA requires the lead agency to make written findings about the disposition of the project’s effects whenever it decides to approve a project for which an EIR has been certified (PRC Section 21081). Regarding these findings, Section 15091 of the State CEQA Guidelines states, in part:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

The “changes or alterations” referred to in the State CEQA Guidelines may be mitigation measures, alternatives to the project, or changes to the project by the project proponent. The FEIR for the PCEP identifies mitigation measures that will reduce significant effects of the PCEP or mitigate other potential effects that may not be, strictly speaking, environmental effects under CEQA. These mitigation measures will be incorporated into the design of the Project. An MMRP will also be adopted by the JPB to ensure that the mitigation measures identified in the FEIR and these findings will be implemented.

The documents and other materials that constitute the record upon which the JPB’s decision and these findings are based can be reviewed in person at the following location:

Peninsula Corridor Joint Powers Board
1250 San Carlos Avenue
San Carlos, CA 94070
Contact: Stacy Cocke
Findings Regarding Independent Review and Judgment

Each member of the JPB was provided a complete copy of the FEIR for the PCEP in advance of the hearing on the project. The JPB hereby finds that the FEIR reflects its independent judgment. The JPB also finds that it has independently reviewed and analyzed the FEIR prior to taking final action with respect to the PCEP.

Findings Regarding the PCEP

Findings Regarding Significant and Unavoidable Effects

The JPB determines that the following significant effects cannot be avoided. Feasible mitigation measures included in the FEIR will lessen the effects, but will not result in complete mitigation of the effects to a less-than-significant level. The following identifies the pertinent mitigation measures by number and summary title. The full text of each of the mitigation measures cited below is found in the FEIR and that text is hereby incorporated by reference.

Note that the next section identifies those effects for which mitigation measures have been adopted and that are thereby reduced below the level of significance. The titles/numbers of the effects are the same as those in the FEIR.

Aesthetics

**Significant Effect:** AES-2 - Substantially degrade the existing visual character or quality of the site and its surroundings (certain operations).

**Findings:** The JPB hereby makes findings (a)1 and (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** The PCEP would change local visual character through addition of the OCS, TPFs and tree removal along the existing Caltrain right of way. The effect of the OCS and the TPFs can be mitigated to a less-than-significant level with the measures identified in the FEIR as discussed in the discussion below on Findings Regarding Significant Effects Mitigated to a less than Significant Level.

However, the change in aesthetics resulting from the tree removal necessary to operations is considered a significant and unavoidable impact. The following measures mitigate this impact to the extent feasible, but not to a less than significant level.

- AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers.
- BIO-5: Tree Avoidance, Minimization, and Replacement Plan.
- CUL-1d: Implement design commitments at historic railroad station.
While Mitigation Measure BIO-5 would require the use of alternative pole designs (such as center poles, two-track cantilevers, side poles with offset insulators, and portals) to reduce the removal and pruning of trees where consistent with construction, maintenance, operations and safety concerns, in some locations along the project corridor there is insufficient ROW width or track spacing to both place electrification infrastructure and completely avoid tree removal. For example, center poles can only be used when there is adequate spacing between tracks to allow for adequate separation of the electrified lines, which does not exist in all areas. Even with alternative designs, there will remain a need to provide for electrical safety of the electrified overhead wires from contact with vegetation. Where trees must be removed, Mitigation Measure BIO-5 requires them to be replanted within areas to help offset the aesthetic effects of the tree removal. But in some locations, trees may not be able to be replanted directly in the same line of sight as trees removed, which could change localized visual character. Thus, adopted mitigation would reduce this impact as much as possible, but is not guaranteed to avoid localized significant effects to visual character.

Four of the five alternatives analyzed in the FEIR would avoid tree removal impacts of the Proposed Project because they do not include electrical infrastructure between San Jose and San Francisco (the fifth alternative involving the installation of the OCS using a factory train would not). The reasons for rejecting the four alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives that would avoid this impact, such as third-rail technology, were also considered and screened out of the range of potentially feasible alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

**Significant Effect:** CUMUL-1-AES – Cumulative impacts on visual aesthetics (operations).

*Findings:* The JPB hereby makes findings (a)1 and (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Blended service with more than two high-speed trains would require a set of passing tracks. Depending on location, this may result in a significant change in local visual character in combination with the PCEP’s impacts related to tree removal and OCS installation. Because the PCEP would result in changes in visual character at some locations due to tree removal where tree replacement is not possible on-site, the PCEP may contribute considerably to localized changes in visual character along with blended service passing tracks.

The following measures mitigate the PCEP’s contribution to this impact, but not to a less than considerable (i.e., less than significant) level.

- AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers.
- BIO-5: Tree Avoidance, Minimization, and Replacement Plan.
- CUL-1d: Implement design commitments at historic railroad station.
- AES-4b: Minimize light spillover at TPFs.

There is no feasible alternative that would avoid this impact. See Findings Regarding the Alternatives for an explanation of why none of the five alternatives analyzed in the FEIR were adopted. Other alternatives that would avoid this impact, such as third-rail technology, were considered and screened out of the range of alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.
Cultural Resources

**Significant Effect:** CUL-1 - Cause a substantial adverse change in the significance of historic built resources pursuant to Section 15064.5 (certain locations)

**Findings:** The JPB hereby makes findings (a)(1) and (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Construction of the Proposed Project’s OCS has the potential to affect certain historic resources, specifically the Caltrain San Francisco Railroad Tunnels 1 through 4, historic Caltrain stations, certain bridges and underpasses, and several other potential historic resources. Required mitigation measures would avoid significant effects on historical resources, with the exception of Railroad Tunnel 4 in San Francisco. Tunnel 4 modifications necessary to provide sufficient height clearances for Caltrain and freight rail cars, particularly the removal of the decorative stone portal, may result in significant and unavoidable impacts.

To create safety clearance for the OCS, trees would be potentially pruned or removed from potentially historic residential properties at 45 and 51 Mount Vernon Lane in Atherton. Because these two properties are 50 years old or more and were not visually accessible, for the purpose of this Project they are assumed to be historic resources eligible for listing due to their architectural significance. At this time, it is unknown whether the properties are historic resources, whether the PCEP would have a significant impact on their historic character due to tree removal and whether Mitigation Measure CUL-1e would avoid significant impacts. Therefore, it is presumed that this impact is potentially significant and unavoidable.

The following measures mitigate this impact, but not to a less than significant level.

- CUL-1a: Evaluate and minimize impacts on structural integrity of historic tunnels
- CUL-1b: Minimize impacts on historic decorative tunnel material
- CUL-1c: Install project facilities in a way that minimizes impacts on historic tunnel interiors
- CUL-1d: Implement design commitments at historic railroad stations.
- CUL-1e: Implement specific tree mitigation considerations at two potentially historic properties and landscape recordation, as necessary.
- CUL-1f: Implement historic bridge and underpass design requirements.
- BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan.

At San Francisco Tunnel 4 a combination of tunnel notching and track lowering is proposed to provide necessary vertical clearances. Due to track alignment issues north and south of the tunnel, it is not feasible to lower the track sufficiently to avoid the need for notching. Mitigation Measure CUL-1b would lower the impact on the decorative tunnel portal but may not be able to fully avoid visual alteration of the portal decorative material.

Mitigation Measure BIO-5 would require the use of alternative poles to minimize tree removal including on the two potentially historic residential properties. A preliminary analysis conducted for the FEIR for Atherton showed that the use of center poles, if ultimately feasible, could avoid encroachment on private properties in Atherton including the two potentially historic residential properties, in which case this significant impact could be avoided. However, this cannot be determined until final design.
Four of the five alternatives analyzed in the FEIR would avoid tree removal impacts to the two potentially historic residential properties and tunnel modification to San Francisco Tunnel 4 because they do not include electrical infrastructure between San Jose and San Francisco (the fifth alternative involving the installation of the OCS using a factory train would not). The reasons for rejecting the four alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives were considered and screened out of the range of potentially feasible alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

Hydrology and Water Quality

Effect: HYD-7 - Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of sea level rise.

Findings: The JPB hereby makes findings (a)(1), (a)(2) and (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings:

Sea level rise (SLR) is a concern for the future, particularly in combination with future storm events and coastal flooding. A scenario with 100-year flood flows coincident with high tides taking into account SLR over a 50-year or 100-year horizon would dramatically increase the risk of flooding in the vicinity of the project area. The PCEP, the tracks, and associated facilities, are minimal in size relative to their surrounding areas and would not divert or increase flood risks relative to other adjacent areas associated with these events.

However, future SLR may result in worsened coastal flooding events that could affect new project facilities (i.e., traction power substations, switching station, and paralleling stations), existing facilities (tracks and stations), and service and riders on Caltrain. The concern is the impact of SLR on the PCEP (and existing facilities) as opposed to the impact of the PCEP on SLR (the project would help to reduce GHG emissions which would help to reduce the potential amount of SLR in combination with other global efforts to reduce such emissions). Given recent court rulings (including Ballona Wetlands) and the pending review of this issue by the California Supreme Court, it is uncertain whether analysis of such “impacts of the environment on the project” are or are not required by CEQA. Caltrain is providing this analysis as if such analysis is required under CEQA as a conservative approach and for the purpose of full public disclosure.

The PCEP would not change the potential localized impacts of flooding associated with SLR when they would occur. However, the PCEP would introduce electrical infrastructure at risk of flooding impact and electrical safety risks associated with water contact. The OCS wires and energized elements would be at least 15 feet above the ground surface and, thus, would not be at risk of flooding, even with projected SLR ranges in the higher part of the range for 2100 (+5.5 feet). However, the TPFs would be at ground surface and thus those TPFs in areas subject to future coastal flooding may be exposed to mid-century (2050) and/or end-of-century (2100) SLR projections.

Portions of the Caltrain right of way and some of the new project facilities are at risk of future coastal flooding due to the projected SLR associated with climate change. Existing trackbed elevations along the alignment were compared to the future state projections of sea level rise elevations for 2050 and 2100(CO-CAT 2013).

The following measures mitigate this impact, but not to a less than significant level.
- HYD-4: Minimize floodplain impacts by minimizing new impervious areas for new TPFs or relocating these facilities
- HYD-5: Provide for electrical safety for all new TPFs subject to periodic or potential flooding
- HYD-7: Implement a sea level rise vulnerability assessment and adaptation plan

Given that effective coastal flooding mitigation requires the involvement of multiple parties beyond Caltrain, at this time it cannot be concluded that future flooding impacts on the Caltrain system would be fully avoided. Potential adaptation solutions could include flood levees, seawalls, elevated tracks, and/or minor track realignment. In most locations, new levees or seawalls would be optimally placed closer to the Bay or along tidal channels rather than directly along the Caltrain alignment given the need to protect other development subject to flooding between the Caltrain alignment and the Bay. At this time, the feasibility of implementing all measures necessary to avoid future inundation associated with 100-year floods influenced by SLR is not known given that assessment of such solutions will be an ongoing, long-term, and multi-agency process.

Four of the five alternatives analyzed in the FEIR would avoid placing new electrical infrastructure of the between San Jose and San Francisco (the fifth alternative involving the installation of the OCS using a factory train would not) which would avoid placing such new facilities at potential risk of future flooding with SLR. The reasons for rejecting the four alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives were considered and screened out of the range of potentially feasible alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

**Significant Effect:** CUMUL-9-HYD - Cumulative impacts related to hydrology and water quality (regarding flooding due to sea level rise).

**Finding:** The JPB hereby makes findings (a)(1), (a)(2) and (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** For future coastal flooding resultant from increased SLR, additional portions of the Caltrain right of way could be affected by flooding. Mitigation Measure HYD-7 requires Caltrain to adopt and implement a sea level rise vulnerability assessment and adaptation plan and work with other local partners to identify and implement adaptation measures to protect people and structures. However, as noted in Section 3.9, Hydrology and Water Quality, at this time the feasibility of implementing all measures necessary to avoid future inundation associated with 100-year floods influenced by SLR is not known given that assessment of such solutions will be an ongoing, long-term, and multi-agency process. Consequently, because the PCEP would place additional people and structures in areas that could be affected by coastal flooding influenced by SLR and the determination of definitive mitigation to protect all parts of the Caltrain right of way and facilities is infeasible at this time, the PCEP’s contribution to potential cumulative risks of flooding would be considerable.

The following measures mitigate this impact, but not to a less than significant level.

- HYD-4: Minimize floodplain impacts by minimizing new impervious areas for new TPFs or relocating these facilities
- HYD-5: Provide for electrical safety for all new TPFs subject to periodic or potential flooding
- HYD-7: Implement a sea level rise vulnerability assessment and adaptation plan
Given that effective coastal flooding mitigation requires the involvement of multiple parties beyond Caltrain, at this time it cannot be concluded that future flooding impacts on the Caltrain system would be fully avoided. Potential adaptation solutions could include flood levees, seawalls, elevated tracks, and/or minor track realignment. In most locations, new levees or seawalls would be optimally placed closer to the Bay or along tidal channels rather than directly along the Caltrain alignment given the need to protect other development subject to flooding between the Caltrain alignment and the Bay. At this time, the feasibility of implementing all measures necessary to avoid future inundation associated with 100-year floods influenced by SLR is not known given that assessment of such solutions will be an ongoing, long-term, and multi-agency process.

Four of the five alternatives analyzed in the FEIR would avoid placing new electrical infrastructure of the between San Jose and San Francisco (the fifth alternative involving the installation of the OCS using a factory train would not) which would avoid placing such new facilities at potential risk of future flooding with SLR. The reasons for rejecting the four alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives were considered and screened out of the range of alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

**Noise and Vibration**

**Significant Effect:** NOI-1a - Expose sensitive receptors to substantial increase in noise levels (construction).

*Findings:* The JPB hereby makes findings (a)(1) and (a)(3) (described in Section 3.1 above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Construction would be required during the day and night in order to maintain Caltrain passenger service during construction. Although the measures specified in Mitigation Measure NOI-1a would generally reduce the construction noise levels, the measures would not necessarily guarantee that all sensitive residential receptors would not be exposed to noise levels exceeding the 80 dBA limit during the day or the 70 dBA limit at night. Specifically, given that construction must work around the operations of this active railroad line, it is probable that construction near some residential areas will have to be conducted at night to avoid disruption of passenger rail operations and to complete the project on schedule. Furthermore, at TPFs, a temporary sound wall may be effective, but in many cases (such as OCS pole installation) the nature of the construction work makes use of such sound walls infeasible.

The following measure mitigates this impact, but not to a less than significant level.

- NOI-1a: Implement Construction Noise Control Plan

Four of the five alternatives analyzed in the FEIR would avoid placing new electrical infrastructure at risk of future flooding with SLR. The fifth alternative involving the installation of the OCS using a factory train would not avoid placing such new facilities at potential risk of future flooding with SLR. The reasons for rejecting the four alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives were considered and screened out of the range of alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.
Significant Effect: CUMUL-11-NOI - Cumulative increase in noise or vibration (operational noise)

Finding: The JPB hereby makes finding (a)(2) and (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Mitigation Measure NOI-1a would require development and implementation of a noise control plan to reduce potential construction noise impacts, but would not necessarily reduce all noise impacts at all times during construction to a less than significant level, particularly with the likelihood of substantial night-time construction expected with the PCEP. Because there will be other projects in construction adjacent to the Caltrain right of way at the same time, the PCEP could result in a cumulatively considerable contribution to cumulative construction noise impacts. Even with mitigation measures identified below, these cumulative impacts could be significant and unavoidable.

Cumulative operational noise impacts were evaluated for both 2020 and 2040 scenarios with the combined effect of the Proposed Project, HSR trains (2040 scenario only), increases in freight service, and increases in other tenant passenger rail services (ACE, Capitol Corridor, AMTRAK, and Dumbarton Rail Corridor). Cumulative noise increases were found to increase noise levels in excess of FTA noise thresholds in 2020 at approximately one quarter of study locations and in 2040 at nearly all study locations if all rail increases come to fruition. With full Caltrain electrification (e.g. all EMUs between San Jose and San Francisco), then the Proposed Project would not contribute to cumulative increases in noise above existing levels. However, with continued operation of 25% remnant diesels, the Proposed Project would contribute to cumulatively significant noise increases above existing levels at a discrete number of locations (three in 2020 and four in 2040), but the amount of Caltrain’s contribution is only 8 to 13 percent in 2020 and 3 percent in 2040, respectively.

Cumulative noise mitigation is proposed to consider a long-term program of noise reductions including multiple approaches such as building sound insulation, quiet zones and grade separations. Caltrain is responsible to pay for its fair-share portion of the mitigation for cumulative noise increase due to the Proposed Project per the mitigation in the EIR. Quiet zones may be adopted only by local jurisdictions (i.e., cities and counties), not by rail operators like Caltrain. As discussed in Section 4.1, Cumulative Impacts, in the Final EIR, this mitigation strategy would only apply where a local jurisdiction is willing to approve a quiet zone and where feasible at-grade crossing improvements are identified that meet the FRA requirements for quiet zones. Other mitigation options include grade separations and building insulation. As discussed in the FEIR, on its own, it is financially infeasible for Caltrain to implement grade separations as noise mitigation. Given the relatively small percent contribution, on its own the project’s fair-share contributions are infeasible to fully mitigate the cumulative impacts to a less than significant level, and the mitigation will require the fair-share participation in costs of the other contributors to cumulative noise increases.

The following measures mitigate this impact, but not to a less than significant level.

- NOI-1a: Implement Construction Noise Control Plan
- NOI-1b: Conduct site-specific acoustical analysis of ancillary facilities based on the final mechanical equipment and site design and implement noise control treatments where required
- NOI-CUMUL-1: Implement a phased program to reduce cumulative train noise along the Caltrain corridor, as necessary to address future cumulative noise increases over FTA thresholds.
As to secondary environmental impacts of Mitigation Measure NOI-CUMUL-1, grade separations may nevertheless have substantial environmental impacts depending on their design and location, and their construction can be highly disruptive. Therefore, as a conservative assumption, their secondary environmental impacts such as traffic delays are assumed to be significant and unavoidable.

None of the five alternatives analyzed in the FEIR would avoid significant cumulative noise impacts. As shown in Table 4-11 in the FEIR, the No Project Alternative would have higher noise levels than the Proposed Project in both 2020 and 2040. The DMU Alternative would also have higher noise levels than the Proposed Project as shown in Table 5-9 and as discussed in Chapter 5, Alternatives in the FEIR. The Dual-Mode MU Alternative would have similar noise levels as the DMU Alternative when in diesel mode. The Tier 4 Diesel Locomotive Alternative would also have higher noise levels than the Proposed Project as shown in Table 5-10 and as discussed in Chapter 5, Alternatives in the FEIR. The Factory Train Alternative would have the same noise levels as the Proposed Project. Thus, all the action alternatives would also require cumulative noise mitigation and result in potentially significant secondary environmental impacts. Other alternatives were considered and screened out of the range of potentially feasible alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

**Transportation and Traffic**

**Significant Effect:** TRA-1c - Conflicts or creates inconsistencies with local traffic plans or substantially disrupts future local traffic operations from Proposed Project operation in 2020

**Finding:** The JPB hereby makes finding (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Although the PCEP would reduce regional vehicle miles travelled which will help levels of service on arterials, highways and freeways, and city by city overall vehicle miles travelled (VMT), the PCEP would also affect local traffic operations along the Caltrain corridor in several ways. First, the number of trains would increase, increasing the number of gate down occurrences in comparison to the No Project scenario which would affect traffic at intersections near grade crossings. Second, the increased train service and added train capacity would increase ridership which would result in potential increases in traffic near Caltrain stations from the increased number of riders accessing the stations via vehicles.

The following measures mitigate this impact, but not to a less than significant level.

- TRA-1c: Implement signal optimization and roadway geometry improvements at impacted intersections for the 2020 Project Condition.

As discussed in Section 3.14 in the Final EIR, it is financially infeasible for Caltrain, on its own, to implement grade separations or major roadway reconfigurations to address localized traffic impacts at locations where the EIR mitigation would not reduce project impacts to a less than significant level as there is inadequate funding likely available to Caltrain for the project and inadequate funding available otherwise to Caltrain as a subsidized public railroad. Caltrain will continue to work with local, state, and federal partners in implementing grade separations over time (as it has done in the past) to find funding and to implement separation projects, but this will take many decades to implement and cannot be guaranteed at this time.
The No Project Alternative would have less localized traffic impacts due to lower ridership at the expense of worse conditions on arterials and regional roadways and overall higher VMT. The DMU Alternative, Dual Mode MU Alternative, and the Tier 4 Diesel Locomotive Alternative would likely have somewhat lower ridership due to inferior performance and/or inability to reach the TTC in the long-run which would mean less localized traffic also at the expense of worse conditions on arterial and regional roadways and overall higher VMT. This is a tradeoff of traffic impacts that JPB finds overriding considerations in favor of overall city by city VMT reduction and overall regional VMT reduction. The fifth alternative involving the installation of the OCS using a factory train would not have the same traffic impacts as the Proposed Project. The reasons for rejecting the five alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives were considered and screened out of the range of alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

Significant Effect: CUMUL-14-TRA - Cumulative effects to transportation and traffic (localized traffic and freight service during operation)

Finding: The JPB hereby makes finding (a)(3) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The Draft EIR studied cumulative impacts with and without the PCEP at a total of 92 intersections along the Caltrain corridor. Of those intersections, there would be 39 locations where the PCEP would contribute considerably to significant localized cumulative traffic impacts. Cumulative mitigation includes signalization and minor roadway improvements. Proposed mitigation would reduce the PCEP’s cumulative contribution to less than significant at all but 17 intersections. While grade separations are a technically feasible mitigation, as noted above it is financially infeasible for Caltrain to adopt a comprehensive program of grade separations as mitigation. However, in the long-term where funding becomes available and it is acceptable to local jurisdictions, Caltrain would support grade separations in the long run.

As to roadway major widenings or grade separations, the design and feasibility of such potential future mitigations are unknown and unstudied at this time, and, thus, the specific environmental impacts cannot be identified. Such major improvements will need to have their own environmental review as appropriate, as they can have substantial environmental impacts depending on their design and location and their construction can be highly disruptive and, thus, as a conservative assumption, their secondary environmental impacts are considered significant and unavoidable.

The PCEP could result in potential localized traffic and related noise impacts if freight diversion to trucks occurs. The actual potential for diversion of freight is considered low and the low levels of existing and future freight can likely be accommodated even with the changes in heights due to the PCEP OCS. Even if limited diversion of freight from trains occurs, it is not likely to result in significant secondary regional traffic, air quality or greenhouse gas emissions impacts because of the positive effects of the PCEP. However, there is the potential for localized noise and traffic effects as a result of diverting some future increases in freight carried by rail to trucks because of changes in the lowered vertical height due to the OCS.

The following measures reduce these contributions, but not to a less than considerable level.

For Localized Traffic Operation
TRA-CUMUL-1: Implement a phased program to provide traffic improvements to reduce traffic delays near at-grade crossings and Caltrain stations

For Freight Service Operation
TRA-CUMUL-3: As warranted, Caltrain and freight operators will partner to provide Plate H clearance as the Lafayette Pedestrian Overpass location

Mitigation Measure TRA-CUMUL-3 would be limited to track lowering at the Lafayette Pedestrian Overpass (MP 43.65) to allow Plate H clearance to be able to access the Butterhouse Spur. The residual cumulative impact would be a future constraint on train equipment to existing freight heights from the Butterhouse Spur to Bayshore to Plate F+ (18.92’) instead of the current possible Plate H (20.25’) clearance. While it is not likely that freight will be diverted to truck modes due to this change, given that existing Plate H equipment is not used on this portion of the corridor, it is possible there might be a mode shift for some of the future freight growth. As discussed in Section 4, Other CEQA – Required Analysis of the FEIR, this would not be a significant regional traffic, air quality or GHG emissions cumulative impact, but might result in some localized noise or traffic impacts, depending on location of truck haul routes, timing, and intensity. This is considered a significant and unavoidable impact, primarily due to the effect on the San Francisquito Bridge. Due to the cost and environmental impact associated with replacement of the San Francisquito Bridge, it is considered infeasible for Caltrain to fully mitigate this minor lowering of vertical clearance heights.

The No Project Alternative would have less localized traffic impacts due to lower ridership at the expense of worse conditions on arterials and regional roadways and overall higher VMT. The DMU Alternative, Dual Mode MU Alternative, and the Tier 4 Diesel Locomotive Alternative would likely have somewhat lower ridership due to inferior performance and/or inability to reach the TTC in the long-run which would mean less localized traffic also at the expense of worse conditions on arterial and regional roadways and overall higher VMT. The fifth alternative involving the installation of the OCS using a factory train would not) would have the same traffic impacts as the Proposed Project.

Four of the five alternatives analyzed in detail in the FEIR would avoid impacts associated with lowering vertical height clearances for freight trains (the Factory Train Alternative would have the same impact as the Proposed Project on vertical height clearances).

The reasons for rejecting the five alternatives analyzed in the FEIR are presented later in the section below Findings Regarding the Alternatives. Other alternatives were considered and screened out of the range of alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

Findings Regarding Significant Effects Mitigated to Less-Than-Significant Levels

The JPB has determined that, for the following effects, mitigation measures included in the FEIR will mitigate the effects of the PCEP to a less-than-significant level. The following identifies the pertinent mitigation measures by number and summary title. The full text of each of the mitigation measures cited below is found in the FEIR and that text is hereby incorporated by reference.
Aesthetics

**Significant Effect:** AES-2a - Substantially degrade the existing visual character or quality of the site and its surroundings (construction, the OCS, TPFs, and overbridge protection).\(^7\)

**Finding:** The JPB hereby makes finding (a)(1) (described in Section 3.1 above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Installation of OCS poles and wires and vegetation clearance outside the right of way on industrial or commercial land would be consistent with the existing visual character. Installation of OCS poles and wires and vegetation clearance outside the right of way also would occur in residential areas and parks where visual quality can be moderate to high, depending on their individual setting. Construction activity in residential and park areas would be anomalous, and the visual character of such areas would be partially degraded during construction. The duration of OCS construction at any one location would be limited to the time necessary to install pole foundations and then later to install poles and string wires. The change in visual character would only occur for a limited period and the perception of the visual quality of such areas would not be altered once construction is complete.

The following measure mitigates this impact to a less than significant level.

- AES-2a: Minimize OCS construction activity on residential and park areas outside the Caltrain ROW

Mitigation Measure AES-2a would ensure that the duration of construction disruption and activities in areas of greater visual sensitivity would be limited by avoiding the use of such areas for access or staging areas and removing all construction equipment and materials immediately following completion of construction on such sites.

**Significant Effect:** AES-2b - Substantially degrade the existing visual character or quality of the site and its surroundings during Proposed Project operation

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Permanent impacts of the PCEP on visual character would result from 1) introduction of the new Traction Power Facilities (TPFs) inside and outside the Caltrain right of way, 2) OCS poles and wires, and 3) overbridge protection structures. (See separate discussion of tree removal impacts on visual aesthetics above).

The existing ROW is a long-standing active transportation corridor. The ROW is not a natural landscape feature; it contains train rails, warning signs and lights, overhead signal bridges, spur tracks, and the frequent presence of passenger trains and freight trains with their attendant visual features, engine noise, and horn noise at grade crossings. In some areas, the ROW includes elevated embankments and grade separations that can be substantial structures. In certain areas, such as Mountain View and Millbrae, other transit facilities such as VTA light rail and BART are adjacent to the JPB ROW. In certain areas, including in South San Francisco, in Redwood City, in Santa Clara and San Jose, there are extensive freight tracks and freight train movements. In many locations, there is existing overbridge fencing protection and fencing along the ROW. The Caltrain corridor is an active transportation corridor with

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\(^7\) Note: See discussion above concerning the significant and unavoidable impact associated with tree removal on visual character.
intense activity and infrastructure that can be different from adjacent residential and commercial areas. The ROW has been an active transportation corridor for approximately 150 years and has operated as Caltrain commuter rail for decades. As a result, an intensity of transportation-related infrastructure and operations is the expected aesthetic character of the ROW. The addition of OCS poles and wires along the ROW will introduce a new linear visual feature, but not one that is out of character with an active transportation character.

Utility wires are a normal part of the ROW and the adjacent landscape and do not inherently compromise the visual character of adjacent areas. The addition of new poles and wires for the OCS along the Caltrain ROW would not be an unprecedented visual feature in areas with existing overhead poles and wires. As shown in the new visual simulations in the EIR along Alma Street in Palo Alto (Figure 3.1-9b) and along Ravenswood (Figure 3.1-19a) and Glenwood (Figure 3.1-19b) Avenues in Menlo Park, the addition of OCS poles and wires would not substantially change the visual character of views along these roadways toward the Caltrain ROW. The addition of new poles and wires for the OCS along the Caltrain ROW would not be an unprecedented visual feature in areas with existing overhead poles and wires. As shown in the new visual simulations in the EIR along Alma Street in Palo Alto and along Ravenswood and Glenwood Avenues in Menlo Park, the addition of OCS poles and wires would not substantially change the visual character of views along these roadways toward the Caltrain ROW. The poles and wires can be observed at grade crossings and when looking directly at the ROW, but then when shifting view laterally, the poles and wires are usually obscured from view by existing vegetation outside the ROW and/or other existing development.

The ROW is not readily observable from ground-level areas that are not directly adjacent to the ROW itself. The view of a long line of poles and wires shown in the visual simulations looking down the ROW, such as at Churchill Avenue in Palo Alto or Oak Grove in Burlingame is only available when crossing the ROW itself or at Caltrain stations and rarely from any other locations due to intervening vegetation and structures. From other viewpoints directly along the ROW, such as at residences with a clear view of the ROW, several poles and the immediately adjacent wires will be observable when looking at the ROW, but residences are usually setback somewhat from the ROW and intervening vegetation, fences or structures often obscure the view down the ROW except when standing right at the ROW fence itself. From streets that are not directly parallel to the ROW, it is difficult to see the ROW and will be difficult to readily observe the poles and wires due to intervening structures and vegetation. When considering the visual character of a city or a neighborhood, one must consider the full range of views available throughout daily activities and whether a new visual feature does or does not become a dominant feature that actually defines the character of an area. While the new OCS poles and wires will become part of the visual character of the Caltrain ROW itself (consistent with its current transportation intense character), and will affect certain immediate views from directly adjacent residential, commercial and park areas, the new OCS poles and wires will, over time become more of a background condition to the visual character, like the existing utility poles and wires shown in the new simulations in Menlo Park and Palo Alto.

While poles and wires themselves would not inherently result in a significant change in visual character of an existing transportation corridor for the reasons noted above, depending on design of the poles in particular, they might become more readily observable instead of blend into the background. For example, if the OCS poles were to have a shiny steel finish, this would make the poles stand-out due to sun glare on the finish, which would make them abnormally obvious and would not more readily become part of the long-range background.

Thus, although the OCS poles and wires alone would not necessarily result in a significant aesthetic impact, unusually vivid OCS pole designs or colors could result in more overtly obvious changes in visual
character that would not help the system to fade into the background as one moves away from the Caltrain ROW and that would be considered a significant effect on visual character.

The following measures mitigate this impact to a less than significant level.

- AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers
- CUL-1d: Implement design commitments at historic railroad stations

Mitigation Measure AES-2b contains specific provisions for OCS pole design, TPFs, and overbridge protection structures to ensure that infrastructure will be designed in a manner that allows these features to blend with the surrounding built and natural environments as much as possible. Mitigation Measures CUL-1d, which requires specific design commitments by station and ensures that OCS poles recede into the visual landscape as much as feasible, would avoid potential impacts on historic rail stations.

**Significant Effect:** AES-4a - Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area during construction

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Some of project construction would be accomplished at night. Artificial lighting onto the worksite could result in “spill over” light or glare in adjacent residential areas.

The following measure mitigates this impact to a less than significant level.

- AES-4a: Minimize spill over light during nighttime construction.

Under Mitigation Measure AES-4a, the JPB will require the project contractor to ensure that construction crews working at night to minimize spill over light or glare in adjacent residential areas.

**Significant Effect:** AES-4b - Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area during operations

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* The TPFs and OCS facilities have the potential to cause minor increases in glare. While not substantial in most instances, this glare would reinforce the industrial character of the electrical infrastructure and would have a significant impact on sensitive receptors at residences or parks along the Caltrain right of way. Installation of new nighttime lighting may be required for new TPFs for security purposes and could result in significant visual impacts if this lighting spilled outside of the site boundaries, creating a new source of nuisance lighting or glare to adjacent sensitive viewers.

The following measures mitigate these impacts to a less than significant level.

- AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers.
- AES-4b: Minimize light spillover at TPFs.
Mitigation Measure AES-2b would reduce glare associated with TPFs and OCS facilities to a less-than-significant level by requiring paint color treatment to reduce glare and the visual obviousness of new facilities. Mitigation Measure AES-4b mandates specific lighting design features that will minimize light spillover.

**Significant Effect:** CUMUL-1-AES – Cumulative impact on visual aesthetics during construction.

**Finding:** The JPB hereby makes finding (a)(1) (described in above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** As described in Section 3.1, Aesthetics, of the FEIR, the character of the areas adjacent to the Caltrain corridor vary from residential to commercial to industrial and includes a number of park areas as well. Cumulative construction would be most out of character in residential and park areas and less out of character in commercial and industrial areas or in transportation corridors. Where construction activities are present for an extended period of time in or directly adjacent to residential or park areas, there could be a temporarily significant aesthetic impact.

Installation of new nighttime lighting may be required for new TPFs for security purposes and could result in significant visual impacts if this lighting spilled outside of the site boundaries, creating a new source of nuisance lighting or glare to adjacent sensitive viewers.

The following measures mitigate these impacts to a less than significant level.

- AES-2a: Minimize OCS construction activity on residential and park areas outside the Caltrain ROW.
- AES-4a: Minimize spill over light during nighttime construction.

Mitigation Measure AES-2a will minimize the PCEP’s temporary impacts on residential and park areas outside the Caltrain right of way. Although other cumulative projects may also result in a temporary change of visual character of areas adjacent to the Caltrain right of way during construction, with the recommended mitigation measure, the PCEP’s contribution to cumulative temporary changes in visual character would be less than considerable.

Mitigation Measure AES-4a mandates specific lighting design features that will minimize light spillover and thereby avoid a cumulatively considerable contribution.

**Air Quality**

**Significant Effect:** AQ-2a - Violate any air quality standard or contribute substantially to an existing or projected air quality violation during Proposed Project construction.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** PCEP construction has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, and truck hauling trips. Maximum daily NO\textsubscript{X} emissions generated in 2017 and 2018 would exceed the Bay Area Air Quality Management District’s (BAAQMD’s) significance threshold. Emissions would result primarily from offroad equipment and haul truck trips. In addition, fugitive dust emissions would result from grading associated with the traction power substations and the switching and paralleling stations.
The following measures mitigate these impacts to a less than significant level.

- AQ-2a: Implement BAAQMD basic and additional construction mitigation measures to reduce construction-related dust
- AQ-2b: Implement BAAQMD basic and additional construction mitigation measures to control construction-related ROG and NO\textsubscript{X} emissions
- AQ-2c: Utilize clean diesel-powered equipment during construction to control construction-related ROG and NO\textsubscript{X} emissions

Mitigation Measures AQ-2a and AQ-2b outline the BAAQMD’s basic and advanced construction mitigation measures for exhaust and fugitive dust emissions. As demonstrated by the modeling undertaken for the FEIR, Mitigation Measure AQ-2c will reduce NO\textsubscript{X} emissions and requires offroad equipment to be rated Tier 3 or higher (FEIR, Chapter 3.2, *Air Quality*, Impact AQ-2a).

**Significant Effect:** AQ-3 - Cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** The BAAQMD has identified project-level thresholds to evaluate criteria pollutant impacts (see Table 3.2-4 of the FEIR). In developing these thresholds, BAAQMD considered levels at which project emissions would be cumulatively considerable. The criteria pollutant thresholds presented in Table 3.2-4 of the FEIR therefore represent the maximum emissions the Proposed Project may generate before contributing to a cumulative impact on regional air quality.

The following measures mitigate these impacts to a less than cumulatively considerable level.

- AQ-2a: Implement BAAQMD basic and additional construction mitigation measures to reduce construction-related dust
- AQ-2b: Implement BAAQMD basic and additional construction mitigation measures to control construction-related ROG and NO\textsubscript{X} emissions
- AQ-2c: Utilize clean diesel-powered equipment during construction to control construction-related ROG and NO\textsubscript{X} emissions

As discussed under Impact AQ-2a, construction emissions associated with the PCEP would be reduced to below thresholds BAAQMD’s by Mitigation Measures AQ-2a, AQ-2b, and AQ-2c. Therefore, they would avoid a cumulatively considerable contribution.

**Significant Effect:** CUMUL-2-AQ – Cumulative effects on air quality.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** During construction of the cumulative projects listed in Table 4-3 and the overall growth shown in Table 4-1 of the FEIR, criteria pollutants that could impact air quality in the San Francisco air basin would be emitted. Construction of the cumulative projects may emit criteria pollutants singularly that could exceed the allowable threshold for criteria pollutants in the basin or could exceed these thresholds for the combined effect of cumulative construction that occurs at the same time.
Therefore, the cumulative projects would have a significant cumulative impact on air quality due to construction.

From an operational perspective, the PCEP would substantially improve both local and regional air quality. Reductions in Caltrain system criteria pollutant emissions compared with existing (2013) conditions would range from 66 to 86 percent in 2020 and more for 2040 with full electrification. Toxic air contaminant health risks along the Caltrain corridor between San Jose and San Francisco due to train emissions would be reduced by 87 percent in 2020 and by 100 percent in 2040 with full electrification compared to existing conditions.

The following measures mitigate these impacts to a less than significant level.

- AQ-2a: Implement BAAQMD basic and additional construction mitigation measures to reduce construction-related dust
- AQ-2b: Implement BAAQMD basic and additional construction mitigation measures to control construction-related ROG and NOX emissions
- AQ-2c: Utilize clean diesel-powered equipment during construction to control construction-related ROG and NOX emissions

In the Bay Area, all discretionary projects evaluate their construction air quality emissions and usually compare them to the BAAQMD’s construction daily or annual thresholds for criteria pollutants. The BAAQMD’s thresholds are designed so that if all projects meet those thresholds, then regionally construction would not have a significant effect on regional air quality. The PCEP will not exceed any BAAQMD thresholds, therefore it will make a less than considerable contribution for construction. For operations, the PCEP will reduce criteria pollutants relative to existing and No Project conditions and thus would have a beneficial contribution.

**Biological Resources**

**Significant Effect:** BIO-1a: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service during Proposed Project construction.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** The Caltrain right of way is primarily a disturbed urban rail corridor with only limited biological resources. For the most part, the PCEP would disturb areas of a ruderal and previously disturbed character with limited potential for special-status species. The overall scale of potential disturbance would be limited because the PCEP construction within the Caltrain right of way would primarily consist of installing OCS poles with a limited permanent footprint for pole foundations (the OCS poles would be 1 to 2 feet in diameter). For the TPFs within the right of way, the overall footprint would be only 0.8 acres and most of the TPFs in the ROW are in areas that are previously disturbed. For the two TPSs outside the right of way, the overall footprint would be only 1.4 acres and both traction power substations would be in highly urbanized areas with limited habitat value. Special-status plant species have the potential to occur in undeveloped areas with suitable habitat, namely areas that support natural land cover. As noted in Appendix G of the Draft EIR, such areas are only found in limited portions of the Caltrain right of way, which is dominated by disturbed and ruderal conditions.
Where suitable habitat occurs, project construction would have the potential to result in direct take of special-status plant species through crushing and indirect take of special-status plant species through habitat modification or loss, if they are actually present.

Project construction would not directly affect streams and thus would not directly affect aquatic species. However, the PCEP does have the potential to release pollutants into storm drain systems and directly into the drainages themselves. These pollutants would degrade the physical conditions of the water features and could result in direct or indirect mortality of Central California steelhead, other aquatic and partially aquatic species (i.e., San Francisco garter snake, western pond turtle, California tiger salamander, and California red-legged frog), and species that depend on aquatic prey (i.e., great blue heron and snowy egret). Releases of pollutants could also result in habitat loss. Releases of contaminants from construction equipment and supplies could affect the creeks passing under the project corridor; however, implementation of the Storm Water Pollution Prevention Plan (SWPPP) for the PCEP and the mitigation measures specified below would avoid and reduce the amount of runoff into the creeks during construction as required by the CWA Section 401 Permit that would need to be obtained prior to Project initiation. Implementation of the PCEP’s SWPPP is expected to avoid impacts on aquatic habitat in the drainages crossed by the Proposed Project and consequently, on central coast steelhead. Details of the Proposed Project’s SWPPP are further explained in Section 3.9, Hydrology and Water Quality, of the FEIR.

Although the potential to encounter special-status species is low, construction activities and related effects would still have potential to disturb habitat and individual San Francisco garter snake, western pond turtle, California tiger salamander, California red-legged frog, pallid bat, hoary bat, fringed myotis, western burrowing owl, northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, purple martin, and other nesting birds.

The following measures mitigate these impacts to a less than significant level.

- BIO-1a: Implement general biological impact avoidance measures
- BIO-1b: Implement special-status plant species avoidance and revegetation measures
- BIO-1c: Implement California red-legged frog and San Francisco garter snake avoidance measures
- BIO-1d: Implement western pond turtle avoidance measures
- BIO-1e: Implement Townsend’s big-eared bat, pallid bat, hoary bat, and fringed myotis avoidance measures
- BIO-1f: Implement western burrowing owl avoidance measures
- BIO-1g: Implement northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, purple martin, and other nesting bird avoidance measures
- BIO-1h: Conduct biological resource survey of future contractor-determined staging areas
- BIO-1i: Minimize impacts on Monarch butterfly overwintering sites
- BIO-1j: Avoid nesting birds and bats during vegetation maintenance

Under Mitigation Measures BIO-1a and BIO-1h, all sensitive habitat and wetland areas would be identified for avoidance during project design where feasible. Mitigation Measure BIO-1b would ensure that impacts on the species of special status plants that may be found on the site are minimized through surveys, avoidance where feasible, and specific performance standards for revegetation if necessary.
Mitigation Measures BIO-1c through BIO-1g include species-specific requirements and performance standards to ensure that the project will not adversely affect those species with the potential to be on site. No known Monarch butterfly overwintering sites are found within the project area. Implementation of Mitigation Measure BIO-1i would avoid disrupting overwintering sites should any be found prior to construction.

**Significant Effect:** BIO-1b: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service during Proposed Project operation.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** With the OCS, there would be a need for vegetation maintenance to ensure safe clearances are provided between vegetation and energized elements of the OCS in the ESZ. Vegetation clearance activities occur today under existing conditions to maintain a clear accessway for trains, but the level of vegetation clearance in the future would be larger given the OCS clearance needs. Thus, there would be an increased potential to disturb nesting birds and bats due to annual vegetation maintenance.

The following measure mitigates this impact to a less than significant level.

- BIO-1j: Avoid nesting birds and bats during vegetation maintenance

Mitigation Measure Bio-1j would ensure that impacts on nesting birds and bats would be less than significant by prescribing specific requirements to avoid impacts.

**Significant Effect:** BIO-2a: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations during Proposed Project construction

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** The Caltrain right of way is primarily a disturbed urban rail corridor with only limited biological resources. The PCEP would impact areas of riparian vegetation, wetlands and sensitive natural communities during construction but routine project mitigation would reduce these impacts to a less-than-significant level.

The following measures mitigate these impacts to a less than significant level.

- BIO-1a: Implement general biological impact avoidance measures
- BIO-1b: Implement special-status plant species avoidance and revegetation measures
- BIO-1h: Conduct biological resource survey of future contractor-determined staging areas
- BIO-2: Implement serpentine bunchgrass avoidance and revegetation measures
- BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan

No project features would be constructed within any stream or riparian areas. However, construction of the PCEP could result in removal of some riparian trees and other riparian vegetation where necessary for electrical safety clearances. The implementation of Mitigation Measure BIO-1a would further identify
sensitive habitat during Project design and require avoiding such sensitive habitats during construction as feasible. However, removal of riparian vegetation may still be necessary in order to provide electrical safety clearances. Mitigation Measure BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan (see discussion below) would require replacement of removed trees or other riparian vegetation as close to the source of impact as possible, which would result in replacement of riparian trees/vegetation along any areas of disturbed riparian habitat. With these measures, impacts on riparian trees and vegetation would be less than significant.

There is a small area (0.2 mile) of the project alignment in San Jose south of the proposed location of PS7 at Communications Hill that the Santa Clara Valley Habitat Plan maps as serpentine bunchgrass grassland. Serpentine bunchgrass grassland is a sensitive natural community designated by CDFW because the community often supports rare plant and wildlife species. In this area, the only proposed PCEP activities would be installation of OCS poles and wires adjacent to the existing tracks. It is unknown whether or not there is actual serpentine bunchgrass grassland in the area adjacent to the existing tracks. Mitigation Measures BIO-1a and BIO-1b would apply to this area and would require minimization, avoidance, and revegetation if special-status plants are identified in this area, which would address rare plants that may occur within this vegetation community. Implementation of Mitigation Measures BIO-2 and BIO-1h would ensure that impacts to serpentine bunchgrass grassland would be less than significant.

**Significant Effect:** BIO-3: Have a substantial adverse effect on federally protected waters or wetlands as defined by Section 404 of the Clean Water Act or state waters or wetlands through direct removal, filling, hydrological interruption, or other means

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: A few potentially jurisdictional state and federal waters and wetlands occur within the project corridor. If construction were to take place within those areas, construction could disturb or result in the loss of waters or wetlands.

The following measures mitigate these impacts to a less than significant level.

- BIO-1a: Implement general biological impact avoidance measures
- BIO-1h: Conduct biological resource survey of future contractor-determined staging areas
- BIO-3: Avoid or compensate for impacts on wetlands and waters
- HYD-1: Implement construction dewatering treatment

Mitigation Measures BIO-1a and BIO-1h would require JPB to identify wetlands and waters during Project design and avoid such sensitive habitats during construction, where feasible. It should be feasible to avoid all waters and wetlands along the entire Caltrain right of way for OCS pole installation, but if permanent loss any waters/wetlands is necessary, then Mitigation Measure BIO-3 would apply.

For potential construction staging areas within the right of way, potential wetlands or waters were identified at nine different potential staging areas. Potential construction staging areas outside the right of way have not yet been identified but may contain waters or wetlands. Mitigation Measures BIO-1a, BIO-1h, and BIO-3 would apply to all staging areas containing waters or wetlands. With the implementation of Mitigation Measures BIO-1a, BIO-1h, and BIO-3, direct impacts on waters and wetlands would be less than significant overall.
Regarding indirect effects, the JPB will develop and implement the required SWPPP, as described in Section 3.9, *Hydrology and Water Quality* of the FEIR. In addition, Mitigation Measure HYD-1 will address any indirect water quality impacts on wetlands related to dewatering that may occur during construction.

**Significant Effect:** BIO-5a: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance during Proposed Project construction.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Trees that are located along or within 10 feet of the energized elements of OCS alignment would need to be removed or pruned in order to provide adequate safety clearance from the energized elements of the OCS. It is ordinary JPB maintenance practice to comply with California Public Utility Commission requirements by pruning trees and other mature vegetation from adjacent properties that lean into or hang over the Caltrain right of way and pose a potential hazard to safe train operations. The tree maintenance program would need to be expanded to provide the new clearance around the OCS.

The majority of the trees and vegetation that would require removal or pruning are eucalyptus, oleander, and other windrow species; some coast live oaks and other native and horticultural species would also need to be removed or pruned. Table 3.3-4 of the FEIR provides a profile of the estimated trees to be removed, by city. As discussed in Appendix F, *Tree Inventory and Canopy Assessment*, of the EIR, some of the trees to be removed or pruned are designated heritage trees in local tree ordinances. PCEP construction would likely require removal of approximately 1,000 trees and pruning of an additional 3,200 trees for the OCS alignment and electrical safety zone (and up to 2,200 trees removed and 3,600 trees pruned under worst-case assumptions). Project mitigation would require tree avoidance, minimization, and/or replacement.

The following measures mitigate these impacts to a less than significant level.

- **BIO-5:** Implement Tree Avoidance, Minimization, and Replacement Plan

Mitigation Measure BIO-5 contains specific requirements for final tree surveys, avoidance, protective fencing of trees that are not to be removed, tree and root pruning, tree replacement, and maintenance and monitoring of all replanted trees to assure their survival and/or remedial replanting in case they do not survive. Pursuant to that mitigation measure, JPB will avoid and/or minimize impacts on trees along the right of way by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to reduce impact include removing trees only as necessary to provide adequate safety clearance; locating OCS poles and alignment to minimize tree removals; and use of center poles, two-track cantilever poles, portals, or offset insulator poles, and where consistent with operational and safety requirements. Where tree removal is unavoidable after implementation of avoidance and minimization measures, then the JPB will replace trees in accordance with the performance standards in Mitigation Measure BIO-5.

**Significant Effect:** BIO-6a: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: There are no adopted habitat conservation plans (HCPs) or natural community conservation plans (NCCPs) for the project area in San Francisco or San Mateo Counties. There is an adopted HCP/NCCP in Santa Clara County (the Santa Clara Valley Habitat Plan or SCVHCP) that covers a portion of the project area from just south of the Santa Clara Station to the southern end of the project area several miles south of Tamien Station. The PCEP is not specifically a covered activity in the SCVHCP; thus, the SCVHCP requirements may not apply to the PCEP.

Within the SCVHCP plan area, the only project facilities would be the OCS, TPS2, and PS7. The SCVHCP has a fee payment system to compensate for impacts on covered species habitat. All three TPS2 options and PS7 would be in areas mapped by the SCVHCP as urban land cover and, thus, development of these sites would be consistent with the SCVHCP and require no land cover fee payment. The TPS2 Option 1 site consists of a ruderal grass field surrounded by industrial development but is within the burrowing owl survey and fee zone of the SCVHCP. The TPS2 Options 2 and 3 sites are both in developed areas and would not be subject to any fee or compliance with the SCVHCP. A small portion (0.2 mile) of the project alignment south of PS7 is mapped as serpentine bunchgrass grassland and is within Landcover Fee Zone A and the Serpentine Fee zone. Another small portion (0.4 mile) immediately south of the grassland area is mapped as urban park land, although there is no park within the Caltrain right of way, and is within Land Cover Fee Zone B. The OCS poles would be placed along the railroad alignment, which is mostly previously disturbed and thus OCS pole construction would have very limited impacts on covered species habitat. It is unclear if the PCEP would or would not be subject to fees if the SCVHCP is determined to cover the Proposed Project.

The following measure mitigates these impacts to a less than significant level.

- BIO-6: Pay Santa Clara Valley Habitat Plan land cover fee (if necessary)

At this time, it is unknown whether or not the Proposed Project is covered by the SCVHCP and thus whether JPB could obtain Endangered Species Act (ESA) coverage for the portions of the PCEP within the SCVHCP area. If not covered by the SCVHCP, JPB would obtain a separate authorization under the federal and state ESAs from the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) as necessary to address any potential take of federally or state-protected species and thus would mitigate for those effects separately from the SCVHCP.

Incidental take authorization from either USFWS or CDFW is a discretionary action granted at the end of an intensive permitting process involving site-specific study, collaborative development of conservation plans, and implementation of the specific requirements set out in those plans. The JPB cannot undertake any activity that would result in the “take” of a species protected under the federal or state ESA without prior approval of an incidental take permit from the USFWS or CDFW, or both, depending upon the affected species. The provisions of the incidental take permit would be enforced on JPB by the USFWS and/or CDFW.

If separate authorization under the ESAs is necessary, then Mitigation Measure BIO-6 would not be required. If it is determined that JPB could address impacts within the SCVHCP area through the Plan, then Mitigation Measure BIO-6 would be required and would impose SCVHCP requirements on the PCEP.

Significant Effect: CUMUL-3-BIO: Cumulative effects on biological resources
Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As described in Section 3.3, Biological Resources of the FEIR, the PCEP could have significant impacts to special-status species, riparian habitats or other sensitive natural communities, protected wetlands or waters and to trees along the Caltrain right of way during construction, unless mitigated.

While increased train traffic would occur with HSR operations and the PCEP, operational conditions are not expected to be significantly different from pre-project conditions relative to biological resources. Routine tree maintenance would be conducted along the Caltrain right of way for all areas where OCS clearance is required, but these activities would be similar to existing maintenance practices albeit they would be conducted in more expansive areas and more frequently than at present. Where development occurs on existing vacant sites, there could be increases in the stormwater runoff which could degrade water quality in surface waters downstream of the Caltrain right of way corridor and affect aquatic species. However, current water quality regulations implemented through the countywide stormwater NPDES permits requires treatment of stormwater runoff for substantial new projects precisely to manage the cumulative impact on water quality of new development in the corridor.

- BIO-1a: Implement general biological impact avoidance measures
- BIO-1b: Implement special-status plant species avoidance and revegetation measures
- BIO-1c: Implement California red-legged frog and San Francisco garter snake avoidance measures
- BIO-1d: Implement western pond turtle avoidance measures
- BIO-1e: Implement Townsend’s big-eared bat, pallid bat, hoary bat, and fringed myotis avoidance measures
- BIO-1f: Implement western burrowing owl avoidance measures
- BIO-1g: Implement northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, purple martin, and other nesting bird avoidance measures
- BIO-1h: Conduct biological resource survey of future contractor-determined staging areas
- BIO-1i: Minimize impacts on Monarch butterfly overwintering sites
- BIO-1j: Avoid nesting birds and bats during vegetation maintenance
- BIO-2: Implement serpentine bunchgrass avoidance and revegetation measures
- BIO-3: Avoid or compensate for impacts on wetlands and waters
- HYD-1: Implement construction dewatering treatment
- BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan
- BIO-6: Pay Santa Clara Valley Habitat Plan land cover fee (if necessary)

With implementation of Mitigation Measures BIO-1a through BIO-1h (special-status species), BIO-2 (sensitive natural communities), BIO-3 (wetlands and waters), BIO-5 (tree avoidance, minimization, and replacement) and BIO-6, the PCEP’s project-level impacts on biological resources due to construction would be reduced to a less-than-significant level. The PCEP construction would not occur in pristine areas, but, rather, in a developed rail corridor; thus, impacts would be to remnant biological resources within that context. Given that context, with mitigation, the PCEP’s residual construction impacts would
be limited in scale and extent. Consequently, PCEP construction, with mitigation, would make a less than considerable contribution to any potential cumulative impacts on biological resources.

As described in Section 3.3, *Biological Resources* of the FEIR, the PCEP could have significant impacts to nesting bird or bat species during tree maintenance along the Caltrain right of way if not mitigated. However, with implementation of Mitigation Measure BIO-1j, impacts due to disruption of bird nesting or bat roosting would be reduced to a less-than-significant level. Therefore, the PCEP would not contribute to cumulative operational impacts.

**Cultural Resources**

**Significant Effect:** CUL-1 - Cause a substantial adverse change in the significance of historic built resources pursuant to Section 15064.5

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* There is the potential that the PCEP could result in a change to the significance of archaeological and historic built resources (considered “historical resources,” as defined under CEQA). The known historic built resources in the Historical Study Area, which includes the Caltrain right of way, one parcel on either side of the traction power facility sites and areas along the right of way needed for OCS poles and/or vegetation clearance for electrical safety, are listed in Table 3.4-2 of the FEIR. The PCEP would result in potentially significant impacts to some of the identified historic properties unless mitigated.

The PCEP has four different potential impacts on Railroad Tunnels 1 through 4 in San Francisco: notching of the interiors of the tunnels to provide clearance for the OCS infrastructure above freight and passenger trains; removal of a portion of the decorative stone portals outside the tunnels when notching; installation of OCS infrastructure in the tunnel lining; and track lowering for vertical clearance. All potentially significant impacts on the tunnels could be mitigated to a less-than-significant level, with the exception of the impact on the decorative portal of Railroad Tunnel 4.

The Proposed Project would install OCS poles and wires adjacent to seven of eight historically significant railroad stations. Due to the location of poles and OCS in relation to seven of eight stations, impacts would be less than significant. At the eighth station, Diridon Station, the OCS would be placed on the passenger platforms and extend through the existing umbrella sheds used as passenger shelters. Because these shelters are a contributing feature of this NRHP-listed station, impacts at this location would be significant, but can be mitigated through mitigation identified below.

The following measures mitigate these impacts to a less than significant level.

- CUL-1a: Evaluate and minimize impacts on structural integrity of historic tunnels
- CUL-1b: Minimize impacts on historic decorative tunnel material
- CUL 1c: Install project facilities in a way that minimizes impacts on historic tunnel interiors
- CUL-1d: Implement design commitments at historic railroad stations
- CUL-1f: Implement historic bridge and underpass design requirements
- BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan
Mitigation Measures CUL-1a through CUL-1c would mitigate impacts on the historic Railroad Tunnels in San Francisco by requiring design features that will minimize the changes to the tunnels such they are not adverse. Mitigation Measure CUL-1d contains station-specific design standards for pole installation that will mitigate potential impacts at the Millbrae, Burlingame, Atherton, Menlo Park, Palo Alto, Santa Clara (station and tower), and Diridon stations. Mitigation Measure CUL-1f contains specific design standards to mitigate the potential impacts to nine historic bridges/underpasses by ensuring that the power system supports are not attached to the historic fabric of these bridges/underpasses, thereby avoiding adverse impacts on their historic integrity and visual appearance. Mitigation Measure BIO-5 will avoid a significant impact to “El Palo Alto” tree from minor pruning necessary to keep tree branches out of the San Francisquito Bridge truss. The measure stipulates that a Tree Avoidance, Minimization, and Replacement Plan (including specific attention to minimization of effects on El Palo Alto) will be developed by a certified arborist in consultation with the City of Palo Alto Urban Forester. Mitigation Measure BIO-5 also includes measures to require replanting with eucalyptus for any necessary replantings associated with the historic Burlingame Francard Grove.

**Significant Effect:** CUL-2 - Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Table 3.4-1 of the FEIR presented the 21 identified archaeological resources—19 prehistoric, one multi-component, and one historic-era archaeological—in or potentially in the PCEP’s Archaeological Study Area. Additionally, documentary research identified three archaeologically sensitive zones: the area between Easton Creek and the east bank of San Mateo Creek identified as the “Hamilton shell mound sensitive zone”; the vicinity of the Third Mission Santa Clara [CA-SCL-30/H]; and the Native American burial ground at Tamien Station [CA-SCL-690]. Because all areas of potential ground disturbance have not been surveyed for cultural resources, some portions of the Archaeological Study Area, as well as some areas outside of the Archaeological Study Area where OCS poles and wires would be placed partially outside the existing Caltrain right of way, and where vegetation maintenance would be required within 10 feet of the OCS pole alignment for electrical safety, are sensitive for archaeological resources. Therefore, there is a potential to encounter heretofore unidentified buried cultural resources and potential ground disturbance from construction.

The following measures mitigate these impacts to a less than significant level.

- CUL-2a: Conduct an archaeological resource survey and/or monitoring of the removal of pavement or other obstructions to determine if historical resources under CEQA or unique archaeological resources under PRC 21083.2 are present
- CUL-2b: Conduct exploratory trenching or coring of areas where subsurface project disturbance is planned in those areas with “high” or “very high” potential for buried site
- CUL-2c: Conduct limited subsurface testing before performing ground-disturbing work within 50 meters of a known archaeological site
- CUL-2d: Conduct exploratory trenching or coring of areas within the three zones of special sensitivity where subsurface project disturbance is planned
- CUL-2e: Stop work if cultural resources are encountered during ground-disturbing activities
• CUL-2f: Conduct archaeological monitoring of ground-disturbing activities in areas as determined by JPB and SHPO

If specific prehistoric, ethnographic, and/or historic archaeological resources are identified within the proposed disturbance areas as a result of Mitigation Measures CUL-2a through CUL-2d, then the evaluation and treatment of such resources will be conducted according to the measures set forth in Mitigation Measure CUL-2e. Under Mitigation Measure CUL-2e, if the find is determined to be potentially significant, the archaeologist, in consultation with the Native American representative, shall develop a treatment plan that could include site avoidance, capping, or data recovery. Mitigation Measure CUL-2f provides for the additional monitoring of project operations within recorded site boundaries to ensure that previously undiscovered resources are properly assessed and treated. Implementing these measures would reduce this impact to a less-than-significant level.

**Significant Effect:** CUL-3: Disturb any human remains, including those interred outside of formal cemeteries

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* There is the potential that the PCEP could disturb human remains, including those interred outside of formal cemeteries. There are two known archaeological resources that are known to contain human remains: the vicinity of the Third Mission Santa Clara [CA-SCL-30/H], and the Native American burial ground at Tamien Station [CA-SCL-690]). Previous investigations indicate that CA-SCL-30/H has been determined eligible to the NRHP, and CA-SCL-690 has been recommended eligible; however, neither has been listed. Some portions of the Archaeological Study Area, and within those areas outside of the Archaeological Study Area established for OCS pole placement and vegetation maintenance, are sensitive for archaeological resources, including human remains; and since there is a potential to encounter heretofore unidentified buried cultural resources, including human remains, potential ground disturbance from construction could result in a significant impact on such resources.

The following measures mitigate these impacts to a less than significant level.

• CUL-3: Comply with state and county procedures for the treatment of human remains discoveries

Implementing Mitigation Measure CUL-3 would reduce this impact to a less-than-significant level by requiring that any human remains and related items discovered shall be treated in accordance with the requirements of Section 7050.5(b) of the California Health and Safety Code and, if determined to be of Native American origin, pursuant to the provisions of Section 5097.98(a)-(d) of the California Public Resources Code.

**Significant Effect:** CUMUL-4-CUL: Cumulative effects on cultural resources

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* The following measures mitigate these impacts to a less than significant level.

• CUL-1a: Evaluate and minimize impacts on structural integrity of historic tunnels
  • CUL-1b: Minimize impacts on historic decorative tunnel material
- CUL-1c: Install project facilities in a way that minimizes impacts on historic tunnel interiors
- CUL-1d: Implement design commitments at historic railroad stations
- CUL-1e: Implement specific tree mitigation considerations at two potentially historic properties and landscape recordation, as necessary
- CUL-1f: Implement historic bridge and underpass design requirements
- BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan
- CUL-2a: Conduct an archaeological resource survey and/or monitoring of the removal of pavement or other obstructions to determine if historical resources under CEQA or unique archaeological resources under PRC 21083.2 are present
- CUL-2b: Conduct exploratory trenching or coring of areas where subsurface project disturbance is planned in those areas with “high” or “very high” potential for buried site
- CUL-2c: Conduct limited subsurface testing before performing ground-disturbing work within 50 meters of a known archaeological site
- CUL-2d: Conduct exploratory trenching or coring of areas within the three zones of special sensitivity where subsurface project disturbance is planned
- CUL-2e: Stop work if cultural resources are encountered during ground-disturbing activities
- CUL-2f: Conduct archaeological monitoring of ground-disturbing activities in areas as determined by JPB and SHPO
- CUL-3: Comply with state and county procedures for the treatment of human remains discoveries

As discussed in Section 3.4, Cultural Resources of the FEIR, the implementation of Mitigation Measures CUL-1a through CUL-1f would reduce the PCEP’s effects on historic tunnels, stations, and underpasses along the Caltrain right of way below the level of significance, with the exception of San Francisco Tunnel 4. Mitigation Measure BIO-5 would reduce the PCEP’s effects on the historic El Palo Alto tree and the historic Francard Grove. While other cumulative projects may have significant impacts on the same historic resources affected by the PCEP and their impact may or may not be mitigable, the PCEP’s residual impacts on these resources after PCEP mitigation would be minimal, except at Tunnel 4 where the PCEP would result in an individual impact. Therefore, the PCEP’s potential contribution to cumulative impacts on historical resources due to construction would be less than considerable.

As discussed in Section 3.4, Cultural Resources, the implementation of Mitigation Measures CUL-2a, CUL-2b, CUL-2c, CUL-2d, CUL-2e, and CUL-2f would reduce the PCEP’s effects on archaeological resources along the Caltrain right of way to a less-than-significant level. While other cumulative projects may have significant impacts on the same archaeological resources affected by the PCEP, the PCEP’s residual impacts on these resources after PCEP mitigation would be minimal. Therefore, the PCEP’s potential contribution to cumulative impacts on archaeological resources due to construction would be less than considerable. As discussed in Section 3.4, Cultural Resources, the PCEP would have no impact on cultural resources during operations. Therefore, there would be no cumulative cultural resource impacts resulting from PCEP operation, and the PCEP would make no contribution to any impact.

**Electromagnetic Fields and Electromagnetic Interference**

**Significant Effect:** EMF-2 - Substantially increase electromagnetic interference along the Corridor
**Finding**: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings**: The main sources, or generators, of transient EMI disturbances from electrification would be switching currents produced by switching loads, relays, power controllers, and switch mode power supplies associated with operation of the OCS or the TPFs. High-current electronic switches and controls are capable of producing transient signals that can be transmitted along the power supply network to other electronic systems. Magnetic fields would also be generated by paralleling and switching stations, as well as traction power substations. These fields could affect the signal systems of the freight rail, BART, SCVTA and/or affect highly sensitive electronic equipment, such as certain medical imaging equipment.

The following measure mitigates this impact to a less than significant level.

- **EMF-2**: Minimize EMI effects during final design, Monitor EMI effects during testing, commission and operations, and remediate substantial disruption of sensitive electrical equipment

Mitigation Measure EMF-2 will require that EMI be further assessed on a site-specific basis during final project design to ensure avoidance of significant EMI effects above baseline conditions. As explained in Chapter 3.5, *Electromagnetic Fields and Electromagnetic Interference*, of the FEIR under Impact EMF-2, there is ample evidence that electrified trains can operate harmoniously with freight trains on the same line without adversely affecting the signal systems of the freight rail or other users. Existing technical solutions, such as those employed for electromagnetic compatibility along the Northeast Corridor in the United States or in Europe, are available to be employed for this project.

In addition to the mitigation measure, the PCEP includes mitigating features in its design. As described in FEIR Chapter 2, *Project Description*, the PCEP will protect the existing railroad signal system, the grade crossing system, and the Positive Train Control system from electromagnetic interference created by the 25kv AC system by:

- designing the catenary system using proven solutions that minimize the effect of EMI;
- providing sufficient shielding for electronic equipment;
- installing specialized components, such as filters, capacitors, and inductors; and
- ensuring that the electric vehicles are designed with a frequency that does not interfere with the frequency of the grade crossing warning system.

**Significant Effect**: CUMUL-5-EMF - Cumulative increase in electromagnetic fields or electromagnetic interference

**Finding**: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings**: The concern with EMFs is potential health risks to receptors along the Caltrain right of way. As described in Section 3.5, *Electromagnetic Fields and Electromagnetic Interference*, the PCEP’s EMF levels along the Caltrain right of way were estimated at up to 41 milliGauss (mG). With full electrification, EMF levels for Caltrain electrified service could increase by perhaps 25 percent. The EMF levels along the fence line for Blended Service should be well below the threshold used in the PCEP FEIR of 833 mG. Thus, the PCEP would make a less than considerable contribution to potential health risks associated with EMFs.
The concern with EMI is potential interference with sensitive electrical equipment along the Caltrain right of way due to increased EMF levels. As explained above, before mitigation, the PCEP could result in EMI to adjacent freight and transit system signal systems and perhaps to some adjacent sensitive equipment in other settings.

The following measure mitigates this impact to a less than significant level.

- **EMF-2**: Minimize EMI effects during final design, Monitor EMI effects during testing, commission and operations, and remediate substantial disruption of sensitive electrical equipment

Mitigation Measure EMF-2 and elements of the PCEP design eliminate any potential significant effects associated EMI interference. As a result, the project would not contribute to any cumulative interference.

### Geology and Soils

**Significant Effect:** GEO-1 - Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Strong ground shaking would be experienced along the PCEP line during an earthquake. During an earthquake, TPFs and OCS poles could be subject to liquefaction effects (such as foundation failure or settlement), if they are constructed on liquefiable soils and not properly designed for such soils.

The following measure mitigates this impact to a less than significant level.

- **GEO-1**: Perform a site-specific geotechnical study for traction power facilities

The PCEP would be located in a seismically active area and must, therefore, be constructed in accordance with the California Building Code. The California Building Code establishes standards intended to permit structures to withstand seismic hazards. To this end, the Code sets standards for excavation, grading, earthwork construction, fill embankments, expansive soils, foundation investigations, liquefaction potential, and soil strength loss. Additionally, Mitigation Measure GEO-1 would require the JPB to conduct site-specific geotechnical investigations for TPFs, the results of which will be used in the design specifications for the proposed TPF structures. Adherence to applicable building code requirements and implementation of Mitigation Measure GEO-1 would minimize potential construction and operational impacts of the proposed Project due to seismic ground shaking, seismic-related ground failure (including liquefaction), and landslides.

**Significant Effect:** GEO-3 - Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.
Facts in Support of Findings: Underlying soils at the various TPF locations are prone to geologic hazards such as liquefaction and subsidence. Where construction of proposed TPFs and OCS poles is planned within areas with compressible and collapsible soils (as mentioned above), the structures would be susceptible to damage due to ground settlement from the weight of the structures or the addition of water in the form of irrigation or concentrated runoff.

The following measure mitigates this impact to a less than significant level.

- GEO-1: Perform a site-specific geotechnical study for traction power facilities

The PCEP must be constructed in conformance with the California Building Code. The Code sets standards for excavation, grading, earthwork construction, fill embankments, expansive soils, foundation investigations, liquefaction potential, and soil strength loss. Additionally, Mitigation Measure GEO-1 would require the JPB to conduct site-specific geotechnical investigations for TPFs, the results of which will be used in the design specifications for the proposed TPF structures. Adherence to applicable building code requirements and implementation of Mitigation Measure GEO-1 would minimize potential construction and operational impacts of the proposed Project due to unstable soils.

Significant Effect: GEO-4 - Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Expansive soils are typically composed of clays and can undergo a volume change with changes in moisture content. They have tendencies to expand and soften when wet and to harden when dry. If not properly considered prior to the construction of structures, this expansive behavior can damage foundations and other building components.

The following measure mitigates this impact to a less than significant level.

- GEO-4a: Identification of expansive soils
- GEO-4b: Mitigation of expansive soils

Mitigation Measures GEO-4a and GEO-4b would be implemented where construction of proposed TPFs and OCS poles are planned atop soils composed of clay or silty clays, which are expansive soils with high shrink-swell potential. The mitigation measures would ensure that soils are tested by a qualified geotechnical engineer and engineering geologist, and requisite actions are taken such as removing and replacing any expansive soils, or incorporating design features into foundations, in order to avoid this impact.

Significant Effect: CUMUL-6-GEO - Cumulative exposure of people or structures to geologic or seismic hazards or destruction of unique paleontological/geologic resources

Finding: The JPB hereby makes finding (a)(1) (described in Section 3.1 above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: New transportation, residential, commercial and other facilities and services could increase exposure of people or structures to geologic, seismic and soil hazards could result in a significant cumulative impact. The project area is likely to experience a strong seismic activity and
geologic instability (e.g., soil liquefaction or collapse) that could damage structures or expose people to greater risks of loss of life and injury. In addition, there could be cumulative exposure due to construction in areas of expansive soils.

The following measure mitigates this impact to a less than significant level.

- GEO-1: Perform a site-specific geotechnical study for traction power facilities
- GEO-4a: Identification of expansive soils
- GEO-4b: Mitigation of expansive soils

Implementation of Mitigation Measures GEO-1, 4a, and 4b would eliminate the PCEP’s exposure to unacceptable risks of geologic, seismic and soil hazards. Therefore, the PCEP’s contribution to the increase of exposure to these hazards would be less than considerable.

**Hazards and Hazardous Materials**

**Significant Effect:** HAZ-2 - Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Typical construction-related hazardous materials would be used during construction of the proposed Project, including gasoline, diesel, oil, other vehicle-related fluids, paints, solvents, and metals. It is possible that any of these substances could be released during construction activities. The proposed Project TPF locations lie within areas that are highly industrialized and commercial in nature. Contaminants of concern along the Caltrain right of way include arsenic, lead, and total petroleum hydrocarbons. Consequently, construction activities, including dewatering operations, could encounter soil and/or groundwater contamination. Operational activities would generate hazardous material waste due to the use of lubricants, solvents, and other materials.

The following measures mitigate this impact to a less than significant level.

- HAZ-2a: Conduct a Phase II Environmental Site Assessment prior to construction
- HAZ-2b: Implement engineering controls and best management practices during construction

Mitigation Measures HAZ-2a and HAZ-2b require that, prior to construction, the potential presence of contaminants in soil and groundwater will be investigated using conventional drilling, sampling, and chemical testing methods. Based on the chemical test results, a mitigation plan will be developed to establish guidelines for the disposal of contaminated soil and discharge of contaminated dewatering effluent, and to generate data to address human health and safety issues that may arise as a result of contact with contaminated soil or groundwater during construction. JPB will be required to provide a copy of this plan to the Department of Toxic Substances Control for review and approval prior to starting work on the PCEP. These measures, along with standard requirements for construction and operation, as discussed in Section 3.8, *Hazards and Hazardous Materials* and Section 3.9, *Hydrology and Water Quality* (discussion of SWPPP) of the FEIR will avoid the potential for significant effect.
Hazardous waste generated by PCEP operations would be managed according to all applicable regulatory requirements, which would minimize the exposure risk to all Caltrain personnel and the surrounding environment. Additionally, proposed PCEP infrastructure will be constructed with engineering controls to limit and contain releases and spills, thus further minimizing the potential for operational impacts.

**Significant Effect:** HAZ-4 - Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Due to the extent of the project corridor, construction of some of the TPFs and portions of the OCS would be surrounded by numerous sites found in various environmental databases.

The following measures mitigate this impact to a less than significant level.

- **HAZ-2a:** Conduct a Phase II Environmental Site Assessment prior to construction
- **HAZ-2b:** Implement engineering controls and best management practices during construction

Industrial, commercial and agricultural facilities that deal with storage, use, and disposal of hazardous materials within all proposed construction areas are required to comply with all appropriate federal, state and local regulations, such as the regulations discussed Section 3.8.1.1, *Regulatory Setting*, of the FEIR to ensure safety of the surrounding public and environment. Additionally, implementation of Mitigation Measures HAZ-2a and HAZ-2b, would further minimize potential impacts from sites included in hazardous materials databases by undertaking the study necessary to characterize the hazard and the engineering controls and management practices necessary to avoid the hazard.

**Significant Effect:** HAZ-6 - Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Construction activities at grade crossings could potentially interfere with an adopted emergency response plan or emergency evacuation plan by increasing traffic congestion and vehicle wait time. As discussed in Section 3.14, *Transportation and Traffic*, of the FEIR the PCEP would result in significant increases in traffic delays at a number of at-grade crossings along the Peninsula corridor due to increased gate-down time during peak hours, as well as impacts on traffic near some of the Caltrain stations.

The following measure mitigates this impact to a less than significant level.

- **TRA-1a:** Implement construction road Traffic Control Plan

During project construction, implementation of a Traffic Control Plan (Mitigation Measure TRA-1a) discussed in Section 3.14, *Transportation and Traffic*, would minimize obstructions at crossings, which would help to ensure continued emergency access to the various TPF project sites and nearby properties.
The traffic plans would include construction truck marshaling to prevent construction traffic congestion to and from the project sites.

Emergency response times are a function of the conditions between the responder base location and the incident location overall, not only a function of conditions at any one point along the response path. As discussed in Section 3.14, Transportation and Traffic, if the FEIR the PCEP would substantially reduce overall vehicle miles traveled in the Peninsula corridor, which would improve congestion on a broad general basis. Most of the vehicle miles traveled reductions would be during peak hours, which is especially important in reducing congestion. This broad-based congestion improvement (approximately 235,000 miles per day in 2020 and 619,000 miles per day in 2040, compared with No Project Conditions) is expected to more than offset the localized effects on at-grade crossings and near Caltrain stations and result in a net improvement (compared with No Project Conditions) in the emergency response times and in the ability to evacuate constrained areas by vehicle.

**Significant Effect:** CUMUL-8-HAZ - Cumulative effects related to hazards and hazardous materials

_Finding:_ The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

_Facts in Support of Findings:_ During construction of cumulative projects, people could be exposed to a risk to human health and spillage of hazardous materials such as gasoline, oil paint and solvents could. Water quality contamination could occur from accidental spillage of hazardous materials and mixture of contaminated water with non-contaminated water. Excavation activities could expose construction crew members to hazardous materials that could pose a risk to health and safety.

During cumulative project construction, there may be temporary obstruction of access and egress from construction sites and on adjacent roads due to construction. Such obstruction would affect the ability of emergency responders to timely reach their destinations and impede the ability to evacuate constrained areas in the event of an emergency. Where one or more cumulative projects would be in construction at the same time in the same area, there could be cumulative impacts on emergency response or evacuation capacity.

Release of and exposure to hazardous materials during operation of cumulative projects could result in a cumulative significant impact. Because both HSR service and the PCEP would involve electrically powered trains, spills of diesel petroleum products would not occur during operation. However, operation of HSR service and the PCEP would involve handling of hazardous materials including batteries in EMUs, fluids in transformers and other electrical equipment, and maintenance materials and cleaning fluids.

Operation of the other cumulative projects would also involve the use and handlings of petroleum and other hazardous materials including during maintenance.

The following measures mitigate this impact to a less than significant level.

- HAZ-2a: Conduct a Phase II Environmental Site Assessment prior to construction
- HAZ-2b: Implement engineering controls and best management practices during construction
- TRA-1a: Implement construction road Traffic Control Plan
Compliance with local, state and federal regulations for handling of materials and implementation of the mandatory Stormwater Pollution prevention Plan will address impacts associated with construction handling of petroleum and other materials. For encountered contamination, the PCEP would require implementation of Mitigation Measures HAZ-2a and HAZ-2b, which require preconstruction investigation of potentially contaminated areas and appropriate containment, handling and disposal of any encountered contaminated soil and groundwater. Thus, the PCEP’s contribution to any potential cumulative impact related to hazardous materials during construction would be reduced to a less-than-considerable level.

As discussed in Section 3.8, Hazards and Hazardous Materials, of the FEIR the PCEP could have such effects if an emergency occurs at the time when the PCEP construction limits access to the Caltrain right of way or at at-grade crossings. As described in Section 3.14, Transportation and Traffic, of the FEIR Mitigation Measure TRA-1a will require the preparation of a traffic control plan to help ensure continued emergency access to Caltrain right of way, at-grade crossings, and all nearby properties. Caltrain would coordinate with local public works departments, local emergency providers, and Caltrans in the development of the traffic control plan to specifically address emergency response concerns. Potential issues associated with multiple projects in construction at the same time may be addressed through development of the traffic control plan. Thus, with mitigation, the PCEP’s contribution to a potential cumulative impact related to emergency response or evacuation would be less than considerable.

The operational use and handling of hazardous materials is highly regulated by local, state, and federal requirements that are applicable universally. Therefore, routine operation and maintenance of the cumulative projects is not likely to have a significant cumulative impact from the release of or exposure to hazardous materials. There is always the possibility of an unforeseen accident involving petroleum or other hazardous materials, but local, state, and federal regulations also specify operating procedures to minimize the potential for such accidents and remedial response necessary in the event of such accidents or spills to contain and cleanup hazardous material releases.

**Hydrology and Water Quality**

**Significant Effect:** HYD-1a - Violate any water quality standards or WDRs, or otherwise substantially degrade water quality

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Construction grading and utility excavations at proposed TPF sites could result in a short-term increase in the sediment load in stormwater during rainfall events. Installation of OCS poles would require soil excavation, which would potentially result in substantial soil disturbance, and could also increase sediment loads into nearby waterways. Additional sediment sources created during construction include soil stockpiles and soil tracked across construction areas, debris resulting from the installation of OCS pole foundations, erosion in areas where vegetation is cleared for OCS pole and catenary system placement, and soil transported by wind (from dry, exposed excavated areas). Although sediment from erosion is the pollutant most frequently associated with construction activity, other pollutants of concern are toxic chemicals from heavy equipment or construction-related materials.

The following measure mitigates this impact to a less than significant level.

- HYD-1: Implement construction dewatering treatment, if necessary
Because the PCEP would disturb more than 1 acre of land, a SWPPP would be required as part of compliance with the NPDES Construction General Permit. The purpose of a SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP would emphasize standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas with the project area and other best management practices to prevent and minimize the potential for other pollutants of concern to enter waterways. As discussed in Section 3.9, Hydrology and Water Quality of the FEIR, use of non-potable water (i.e., from wastewater reclamation facilities and permitted groundwater wells) for dust control would not present a health or safety hazard if used in accordance with applicable State Department of Health, State Water Resources Control Board, Regional Water Quality Control Board, and City Departments of Health and Public Works orders, standards and regulations.

Construction dewatering in areas of shallow groundwater could be required during excavation required to install OCS poles and possibly during utility relocations and installation. In the event groundwater is encountered during construction, dewatering would be conducted according to methods and performance standard described in Mitigation Measure HYD-1. Coverage under the Construction General Permit typically includes dewatering activities as authorized non-stormwater discharges provided that dischargers prove the quality of water to be sufficient and not affect beneficial uses. However, the San Francisco Bay Regional Water Quality Control Board will need to be notified if dewatering will occur and the contractor may be subject to dewatering requirements in addition to what’s outlined in the Construction General Permit, including discharge sampling and reporting.

**Significant Effect:** HYD-2 - Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** As the OCS poles would have foundations 15 to 20 feet below ground surface (bgs), groundwater would be encountered in areas where the groundwater table is less than 15 feet bgs. In addition, utility relocation and installation may also encounter shallow groundwater. Shallow groundwater may be encountered in the vicinity of San Francisco Bay in San Francisco, San Mateo, and Santa Clara Counties. Impacts on groundwater would be limited to areas with high groundwater tables where construction-related dewatering would occur on a temporary, short-term (during construction) basis. There would also be potential to encounter groundwater during excavation in areas where depth to groundwater is unknown. In the event groundwater is encountered during construction, temporary dewatering would be conducted locally.

The following measure mitigates this impact to a less than significant level.

- **HYD-1:** Implement construction dewatering treatment, if necessary

Given the limited area of construction activity associated with the OCS foundation augering and potential utility relocations/installations, potential groundwater dewatering volumes would be limited and, thus, the PCEP would not substantially deplete groundwater supplies. In addition, groundwater within the project area is not a large source of water supply, one reason which is that much of it is saline due to the proximity to the San Francisco Bay. The PCEP would comply with the Construction General Permit and other related requirements, and, if dewatering is necessary, would also implement the methods and performance standard described Mitigation Measure HYD-1. Provided that the water is of sufficient...
quality or can be treated on-site, this measure will require water to be discharged to the storm drain system or other water bodies and thereby kept within the local groundwater basin.

**Significant Effect:** HYD-4 - Place housing within a 100-year flood hazard area, or place structures that would impede or redirect flood flows within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or FIRM or other flood hazard delineation map

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Overall, potential significant impacts are only expected at the TPFs located within 100-year floodplains.

As discussed in Section 3.9, *Hydrology and Water Quality* of the FEIR, PS3 Option 1 is located in a part of Burlingame subject to flooding, likely because of backwater effects from Mills Creek and/or Easton Creek which are located north of PS3 Option 1. PS3 Option 1 would be located about 1,000 feet south of Easton Creek and 2,500 feet south of Mills Creek. Easton Creek is deficient in capacity and results in flooding of residential and industrial areas during a moderate rainstorm and medium to high tides. Mills Creek experiences frequent flooding during moderate rain storms due to undersized box culverts under Rollins Road and U.S. Highway 101. In addition, the low elevation of the Mills Creek embankment causes overtopping of the creek during moderate rain storm events. The PS3 area is within the southern edge of the inundation area along the Caltrain right of way due to these two creeks and thus would not redirect flood flows. PS3 Option 1 would be approximately 40 feet by 80 feet (3,200 square feet, or <0.1 acre) and would be located in a previously cleared and graded area. As a result, the amount of infiltration at PS3 Option 1 is likely minimal. Given the small size of PS3 Option 1, and its location on the edge of the inundation zone on a previously graded area with limited existing infiltration, it is considered unlikely that PS3 Option 1 would contribute significantly to flooding.

PS6 (both options) is located in an area shown as within the current 100-year floodplain. The area of flooding is shown as an elongated area of flooding along the Caltrain right of way itself. PS6 (Option 2) is located in an existing paved area; placement at this location would have no impact on flooding. PS6 (Option 1) is located in an unpaved area and thus, as discussed above for PS3, the addition of a small amount of impervious space is unlikely to contribute significantly to flooding, but Mitigation Measure HYD-4 would apply to the PS6 (Option 2) location to minimize the potential to contribute to flooding.

TPS2, Option 3 would be located at CEMOF in an area that is partially a parking lot and partially a graded dirt lot that is surrounded entirely by developed buildings and pavement. Flooding in this area appears to be local flooding, possibly due to a lack of adequate drainage to the Guadalupe River or issues with the Howard Street outfall (the river is approximately 1,500 feet to the east of the potential TPS2 location). TPS2, Option 3 would be approximately 150 feet by 200 feet (30,000 square feet, or 0.7 acre) and would be located in a previously cleared and graded and partially paved area. As a result, the amount of infiltration at this potential location for TPS2 is likely minimal. In addition, as a backwater area, TPS2 would not redirect or block flood flows. Nevertheless, the increase in impervious space could contribute to expanded localized flooding. Mitigation Measure HYD-4 would apply to this location in order to minimize the potential to contribute to flooding potential.

The following measure mitigates this impact to a less than significant level.

- **HYD-4:** Minimize floodplain impacts by minimizing new impervious areas for new TPFs or relocating these facilities
Mitigation Measure HYD-4 contains site-specific performance standards that would reduce impacts at these locations to a less-than-significant level by further reducing the potential of these TPFs to contribute to localized flooding. Mitigation Measure HYD-4 is also recommended at TPFs not located within 100-year floodplains to minimize downstream flooding impacts, but is not required due to less-than-significant impacts relative to impacts on downstream flooding for these locations.

**Significant Effect:** HYD-5: Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Several of the new TPFs are proposed within 100-year floodplains. Given the electrical equipment contained in new paralleling stations and traction power substations, flooding would pose electrical safety risks to these facilities and to any people near the facilities if flooding were to contact energized equipment.

Numerous levees are located along the San Francisco Bay shoreline and along certain creeks to protect various residential, commercial and industrial areas from coastal and riverine flooding. Levees can fail due to earthquakes or storm events, if not properly maintained or reinforced to withstand potential stresses. In the event of levee failure, there could be flooding of several areas of the existing Caltrain alignment beyond those included in the current 100-year floodplain. This existing flooding potential due to levee failure would not be changed by the Proposed Project; however, the PCEP would introduce new electrical facilities that could be damaged or result in electrical safety risks in the event of flooding.

In the event of dam failure, portions of the existing Caltrain right of way could be inundated. This existing flooding potential due to dam failure would not be changed by the PCEP; however, the PCEP would introduce new facilities that could be damaged or result in electrical safety risks in the event of flooding.

The following measure mitigates this impact to a less than significant level.

- **HYD-5:** Provide for electrical safety for all new TPFs subject to periodic or potential flooding

If these facilities are not relocated outside of the 100-year floodplain or at previously paved areas pursuant to options in Mitigation Measures HYD-4, then Mitigation Measure HYD-5 will provide for the safety of these new facilities by requiring Caltrain to place all new electrical equipment on elevated pads above expected flood depths and/or protect such equipment with flood barriers. If equipment cannot be designed so that flood waters cannot contact the equipment, then sealed or capped moisture-resistant components are required. In addition, Caltrain shall develop emergency response procedures to provide electrical safety including system shutdown during projected flood events.

**Significant Effect:** CUMUL-9-HYD: Cumulative impacts related to hydrology and water quality (excluding flooding related to sea level rise).

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to construction hydrology and water quality effects, and flooding aspects other than those related to sea level rise.

*Facts in Support of Findings:* The PCEP could have construction effects on water quality due to construction runoff or dewatering that could combine with cumulative projects in construction at the same time that could affect downstream cumulative water quality. Application of all state and federal
requirements for stormwater control would help to control cumulative construction effects. The PCEP also includes some TPFs located within the 100 year floodplain which, in combination with cumulative developments could affect floods and flows in watersheds affected by cumulative projects.

The following measure mitigates the PCEP’s contribution to these effects to a less than considerable level.

- **HYD-1**: Implement construction dewatering treatment, if necessary
- **HYD-4**: Minimize floodplain impacts by minimizing new impervious areas for new TPFs or relocating these facilities
- **HYD-5**: Provide for electrical safety for all new TPFs subject to periodic or potential flooding

Mitigation Measure HYD-1, in addition to Construction NPDES requirements would limit PCEP contributions to construction period water quality effects to a less than considerable levels. Mitigation Measures HYD-4 and HYD-5 would limit PCEP contributions to cumulative flooding impacts by limiting the amount of new impervious space and by providing for facility protection for TPS subject to flooding.

**Land Use and Recreation**

**Significant Effect**: LUR-4: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: A number of parks and open spaces are located adjacent to the Caltrain right of way. Under the PCEP, vegetation clearance for safety purposes may be necessary at four park locations where the electrical safety zone would extend outside the current Caltrain right of way and one location where the park is partially on the Caltrain right of way. This vegetation removal could have an effect on park uses, park lands and park aesthetics.

Operationally, the PCEP would only potentially adversely affect adjacent parks in relation to aesthetics and vegetation maintenance. PS7 would be adjacent to Kurte Park in San Jose. At this location, the prevailing views northward from the park are of the grasslands on Communications Hill, a few scattered trees and the railroad right of way. Although the PS7 facility would be small (40 by 80 feet), it would be an anomalous industrial facility in a view largely dominated by grassland features. As discussed in Section 3.1, Aesthetics of the FEIR this is considered a significant aesthetic impact.

As discussed above, vegetation maintenance inside the Caltrain right of way is an existing activity. While the area of vegetation maintenance would move outward to the edge of the right of way, after initial vegetation removal for construction, the maintenance activity should be roughly similar to existing vegetation maintenance. Thus, temporary noise of vegetation maintenance inside the Caltrain right of way would have less-than-significant impacts on adjacent or nearby parks. Where vegetation maintenance is required within the electrical safety zone in the four parks described above, it would be more intrusive than vegetation maintenance than on the Caltrain right of way itself. Because the areas of maintenance would be outside the areas of active park use and maintenance would occur for a limited period of time in any one year, vegetation maintenance would have a less-than-significant impact on park lands and park uses.
The following measure mitigates this impact to a less than significant level.

- **BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan**
- **AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers**

Mitigation Measure BIO-5 would require replacement of any removed trees, and it is feasible to replace the visual screening function of trees that exists today in a way that is compatible with PCEP design. Thus, with mitigation, the loss of park vegetation would be a less-than-significant impact.

Mitigation Measure AES-2b would require planting of trees between the park and PS7 to visually screen the lower portions of the new paralleling station and require aesthetic treatment to help the facility blend in with surroundings. With this mitigation, aesthetic impacts at this location would be less than significant. With Project Variant 1, PS7 would be located farther north than its current proposed location and would not be visible from Kurte Park and there are no other parks in the close vicinity to the PS7 variant locations.

**Significant Effect:** CUMUL-10-LUR - Cumulative effects related to land use and recreation

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Cumulative construction impact analysis focused on temporary impacts on existing land uses and recreation. Operational impact analysis addressed potential division of communities, land use policy/plan consistency, and direct/indirect changes in recreational facilities.

The following measures mitigate this impact to a less than significant level.

- **BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan**
- **AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers**

The PCEP would be constructed within the Caltrain right of way, with the exception of the two TPSs (except for TPS2, Option 3 which is in the right of way) and potentially for the PS7 Variant locations, limited areas where the OCS alignment would be outside the Caltrain right of way, and areas where the electrical safety zone would extend outside the Caltrain right of way and require vegetation clearance. Construction within the Caltrain right of way would not displace other land uses outside the right of way.

As discussed in Section 3.10, *Land Use and Recreation*, the TPS location options, with the exception of TPS2 Option 2 and TPS2 Option 3, are vacant parcels surrounded by industrial or commercial areas. TPS2 Option 2 would displace existing industrial use and parking currently on the site; however, there are numerous alternative locations for industrial use in the vicinity. TPS3 Option 3 would be in a parking lot/open area at the CEMOF that is used for parking and as a laydown area. The construction of the OCS poles would primarily occur within the Caltrain right of way; however, in some locations the OCS poles would be erected on adjacent commercial, industrial and residential land. Some tree removal or pruning may be necessary on areas outside the Caltrain right of way, which could disrupt existing land uses. Temporary staging and access could also result in use of vacant lots inside and outside of the Caltrain right of way, but would not result in new land uses that might be inconsistent with adjacent land uses. PS7 Variant A and B would be partially or entirely located on Caltrans-owned land, but not in any area used for active support of SR 87.
As discussed in Section 3.1, *Aesthetics* of the FEIR construction activity in residential and park areas would be anomalous, and the visual character of such areas would be partially degraded during construction. The duration of OCS construction at any one location would be limited to the time necessary to install pole foundations and then later to install poles and string wires. The change in visual character would only occur for a limited period and the perception of the visual quality of such areas would not be altered once construction is complete. To ensure that the duration of construction disruption and activities are limited in areas of greater visual sensitivity, Mitigation Measure AES-2a would be implemented to avoid using residential or park areas for access or staging areas, to minimize the duration of construction activity in such areas (to the extent feasible) and to remove all construction equipment and materials immediately following completion of construction on such sites. Because the disruption of existing land uses during construction would be temporary, would not ultimately result in a conversion of land use (except at TPS2 Option 2, for which there are ample industrial sites for the displaced use and TPS3 Option 3 for which alternative sites can be identified for parking and laydown areas within the Caltrain right of way) and because Mitigation Measure AES-2a would ensure that disruption to individual residential areas or park areas is minimal, the contribution of PCEP’s construction to the cumulative significant impact on land use and recreation would be less than considerable.

As described in Section 3.10, *Land Use and Recreation* of the FEIR the PCEP would not physically divide existing communities. The OCS poles and wires would add additional infrastructure in the Caltrain right of way but would not physically impede access across the Caltrain right of way. There may be increased delays at some at-grade crossings, but the delays would be temporary and would not physically divide communities on either side of the Caltrain right of way. Thus, the contribution of the PCEP’s operation to any potential cumulative impacts related to physically dividing a community would be less than considerable.

As described in Section 3.10, *Land Use and Recreation* the majority of the PCEP, including OCS poles and wires, the paralleling stations, and the switching station would be located within the existing Caltrain right of way and would, therefore, not impact adjacent land use plans. The PCEP would result in several inconsistencies with local plans and policies, specifically, at the location of TPS1 Option 2, and at locations where the OCS alignment and electrical safety zone would be outside rail or road right of way. However, the PCEP would not displace existing or potential future development (except the existing industrial/warehouse use, which can be readily absorbed at other San Jose industrial sites, at the TPS2 Option 2 site) and, thus, would not result in significant secondary environmental impacts as a result of the inconsistencies with local land use plans and policies.

At TPS1, Option 3 there is a pending hotel application under evaluation by the City of South San Francisco for which an EIR will be released in 2015. If approved and constructed, then construction of TPS1 at this location may be in conflict with the hotel, depending on the remaining developable land at the site. As described in Section 3.11, *Noise* of the FEIR there are noise impacts of locating a TPS at this site adjacent to an existing hotel but mitigation would lower the potential noise impact to less than significant. Similarly, if the new hotel is built and there were still remaining land at the site for a TPS, then the noise mitigation would still apply. If the hotel is built, the costs of land acquisition would increase, and may be a consideration for Caltrain in deciding on which potential site to locate the TPS. An additional option, Option 4 was added by Caltrain at the request of the City of South San Francisco in order to increase the options for Caltrain as Option 3 may be more conflicted in the future than in 2013 at the start of the CEQA process.

PS4, Options 1 and 2 would be located within an area envisioned for Transit Oriented Development and a Transit Center and associated improvements as part of the Hillsdale Station Area Plan. As concluded in
Section 3.10, Land Use and Recreation these two options would require minor reconfiguration of the plan, but would not hinder the ability to develop transit oriented development overall, provide a Transit Center, or relocate the Caltrain Hillsdale Station and thus development would not be displaced from the site. PS4, Option 3 would not require the minor reconfiguration.

SWS Option 1 would be located adjacent to, but not in an area proposed for mixed residential-commercial/light industrial use in the Redwood Triangle portion of the North Fair Oaks Community Plan. Because SWS, Option 1 is outside of the plan area, it would not displace any potential other land uses in the plan area. The mixed-use development can be fully realized within the plan area. Thus, contribution of the PCEP operation to any potential cumulative impacts related to land use policy or plan conflicts (and resultant secondary physical impacts on the environment) would be less than considerable.

Where Blended Service passing tracks are proposed outside the Caltrain right of way, they could affect park or open space directly adjacent the Caltrain right of way. Based on Table 3.10-2 in Section 3.10, Land Use and Recreation of the FEIR all of the five preliminarily identified passing track locations would be adjacent to parks. The design of passing tracks is unknown and, thus, no definitive conclusion can be made about whether any parks would actually be affected or not. However, pursuant to the mandatory requirements of Section 4(f) of the Department of Transportation Act of 1966, CHSRA will first consider options for avoiding park impacts in design of any passing tracks. If park impacts cannot be avoided, then Section 4(f) requires mitigation to provide additional park space so that no overall loss of park space and recreational opportunities results.

As described in Section 3.10, Land Use and Recreation of the FEIR the PCEP may require tree removal at Broadway-Arguello Park (Redwood City), Holbrook-Palmer Park (Atherton) and at Peers Park (Palo Alto). Mitigation Measure BIO-5 requires replacement of removed trees and, as discussed in Section 3.10, Land Use and Recreation, it is feasible to replace trees removed at parks at the parks themselves to maintain their visual screening function from the Caltrain right of way without loss of substantial portions of the parks. Given that Blended Service improvements or other cumulative transportation projects would be required to avoid and/or mitigate for park impacts per the Section 4(f) requirements, other cumulative projects are unlikely to affect parks, and the PCEP’s park impacts would be mitigated, cumulative impacts are likely to be mitigable to a less than significant level. Given the project-level mitigation described above, the PCEP’s contribution to any potential cumulative impacts would be less than considerable with mitigation.

**Noise and Vibration**

**Significant Effect:** NOI-1b: Expose sensitive receptors to substantial increase in noise during operation

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Operational train noise impacts would include both a decrease in train noise, because EMUs are quieter than corresponding diesel locomotives, and an increase in train noise, primarily during peak hours due to the Proposed Project’s increase in Caltrain service.

In addition to the noise generated by the proposed Caltrain passenger rail operations, the electrical traction power substations and ancillary facilities would generate stationary noise. Operational noise levels were calculated in order to predict the total PCEP noise levels with the ambient noise at the...
receptors, accounting for both changes resulting from EMU train operations (where TPFs are located near the Caltrain right of way) and the new ancillary facility stationary noise sources.

Before mitigation, the noise analysis results indicate that the operation of TPS1 Option 3 and PS5, Option 2 would result in an increase in ambient noise levels exceeding FTA moderate impact criteria at noise sensitive receptors.

The following measure mitigates this impact to a less than significant level.

- NOI-1b: Conduct site-specific acoustical analysis of ancillary facilities based on the final mechanical equipment and site design and implement noise control treatments where required

Operational train noise impacts would include both a decrease in train noise, because EMUs are quieter than corresponding diesel locomotives, and an increase in train noise, primarily during peak hours due to the PCEP’s increase in Caltrain service. As shown in Table 3.11-15 of the FEIR, there are no study locations where noise increase would exceed the FTA moderate impact or severe impact level. Therefore, PCEP operations would have a less-than-significant impact along the Caltrain corridor.

Implementation of Mitigation Measure NOI-1b, would reduce the impacts related to one TPF facility (TPS1, Option 3) and one PS facility (PS5, Option 2) to a less-than-significant level through compliance with specific performance criteria, site design treatments, and or equipment reconfiguration/relocation that would reduce noise below thresholds levels.

**Significant Effect:** NOI-2a: Expose sensitive receptors to substantial increase in ground-borne vibration levels from proposed operations

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Given that the closest structures are less than 25 feet from the Caltrain right of way, it is possible that construction activities involving vibratory hammer or vibratory compactor/roller operations occurring at the edge of or slightly outside of the current right of way could result in vibration damage. If vibratory pile piling is conducted less than 25 feet from buildings or vibratory rolling/compacting conducted less than 15 feet from buildings, then damage from construction vibration may occur which would be a significant impact. A particular area of concern would be pile driving near historic station structures along the Caltrain right of way.

The following measure mitigates this impact to a less than significant level.

- NOI-2a: Implement Construction Vibration Control Plan

With implementation of Mitigation Measure NOI-2a, vibration impacts would be avoided or minimized. If building damage does occur due to construction, then repairs would be made or compensation provided.

Residents and other sensitive receptors located within the annoyance distances identified in Table 3.11-17 of the FEIR could be significantly annoyed due to construction vibration. The effect would be more acute with equipment with high vibration potential, such as vibratory hammers or vibratory compactor/rollers. Mitigation Measure NOI-2a would result in the use of alternative construction techniques or timing when in proximity to residences and other sensitive receptors, thereby avoiding this impact.
**Significant Effect:** CUMUL-11-NOI - Cumulative increase in noise or vibration

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Cumulative vibration impacts from construction would primarily result from simultaneous construction of different projects in the same location at the same time; however where construction occurs in quick succession in the same area, there could also be a cumulative impact due to the extended duration of construction disruption. Cumulative operational vibration effects would occur due to the increase in the number or vibration events along the project corridor due to the combined increases in passenger and freight rail transit through the corridor.

The following measures mitigate this impact to a less than considerable level.

**Construction**

- NOI-2a: Implement Construction Vibration Control Plan

**Operation**

- NOI-CUMUL-2: Conduct project-level vibration analysis for Blended System operations and implement vibration reduction measures as necessary and appropriate for the Caltrain corridor

Mitigation Measure NOI-2a will avoid substantial vibration impacts from the PCEP during construction. Given this mitigation and the fact that vibration levels due not accumulate (like noise levels can) the PCEP would not contribute considerably to cumulative construction vibration impacts.

Mitigation Measure NOI-CUMUL-2 includes a range of feasible options, including any pertinent measures identified in Table 4-14 in the FEIR, to reduce the cumulative vibration impacts from cumulative operations. Thus, Mitigation Measure NOI-CUMUL-2 would reduce the PCEP’s contribution to a less-than-significant level.

**Public Services and Utilities**

**Significant Effect:** PSU-2 - Exceed wastewater treatment requirements of the applicable Regional Water Board

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* The PCEP would potentially generate substantial amounts of wastewater during dewatering activities during sub-grade excavation for OCS pole installation and excavation for electrical ductbank installation or utility relocations.

The following measure mitigates this impact to a less than significant level.

- HYD-1: Implement construction dewatering treatment, if necessary

Mitigation Measure HYD-1 requires treatment to receiving water quality standards, including those of any receiving wastewater system. This will reduce the impact to a less-than-significant level.
Significant Effect: PSU-8 - Construction activities would result in a substantial disruption to utility service systems

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Known existing utilities within the Caltrain right of way and around TPFs are identified in Tables 3.13-2 and 3.13-3 of the FEIR. Constructing OCS pole foundations, overhead facilities, TPSs, the switching station, and paralleling stations would have the potential to encroach upon existing overhead utilities and utilities that run underground longitudinally within or along the right of way.

The following measures mitigate this impact to a less than significant level.

- PSU-8a: Provide continuous coordination with all utility providers
- PSU-8b: Adjust OCS pole foundation locations
- PSU-8c: Schedule and notify users about potential service interruptions

The JPB would coordinate with all utility providers and local jurisdictions during the design phase of the PCEP to confirm the location of all subsurface and overhead utilities so that effective design treatments and construction procedures can be developed to avoid adverse impacts on existing utilities and prevent disruptions in service.

There is low to moderate potential for the PCEP facilities to affect underground utilities that cross the Caltrain right of way, and pole placement can generally be modified to avoid them. Underground utilities would be relocated if required to accommodate the installation of OCS and TPS equipment and facilities. Underground utilities and longitudinally running utilities would be avoided to the extent possible by design modifications.

Overhead utility conflicts would be avoided by raising the existing utility wires over OCS wires or relocating them under the tracks pursuant to federal, state and local code requirements. If relocation of overhead wires were required, a taller pole would be installed. Pursuant to CPUC General Order 95 and other CPUC requirements, adequate separation and clearance would be provided between the new OCS facilities and other overhead electrical overhead transmission facilities where overhead utilities can be accommodated. Some overhead utility crossings will have to be relocated underground. If relocation underground is required, the overhead wires will be removed once the underground service is established. In most cases, the JPB has reserved the right to have utilities relocated if they interfere or conflict with planned railroad facilities. In the event that a longitudinal or transverse utility line is in conflict with a proposed electrification facility, the utility owner would be requested to relocate it. If the responsibility for utility relocations lies with the JPB, then the utility relocation would be included as part of PCEP construction.

The JPB will give each utility owner advance warning of the PCEP to provide time to plan for relocation to minimize disruptions. No interference with existing utility service is anticipated during installation of connections to existing high-voltage power transmission facilities because the utility would put customer loads on alternate feeders during the connection activity.

In addition to the above PCEP provisions, Mitigation Measure PSU-8a would require that the JPB continuously coordinate with utility providers from preliminary engineering through final construction to
ensure that potential conflicts are identified and disruption is minimized. As prescribed in Mitigation Measure PSU-8b, if unanticipated underground utilities are discovered, OCS pole foundations will be adjusted to avoid them. Additionally, Mitigation Measure PSU-8c would require that any short-term, limited service interruptions would be scheduled well in advance and appropriate notification provided to users.

**Significant Effect:** PSU-9 - Construction activities would result in the construction of new utility facilities or expansion of existing utility facilities, the construction of which could cause significant environmental effects

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:** Certain utilities crossing the right of way at the locations of the two TPSs, along the ductbank connections from the TPSs to the Caltrain right of way or along the route of electrical connections between the PG&E substations and the TPSs may need to be relocated. There would also be potential impacts due to the installation of transmission lines from PG&E to the TPSs. In addition, increased electrical demand of the PCEP could require PG&E to install additional facilities.

The following measure mitigates this impact to a less than significant level.

- PSU-9: Require application of relevant construction mitigation measures to utility relocation and transmission line construction by others

Mitigation for utility line relocations is available to reduce construction period impacts to a less-than-significant level. Where the JPB is responsible for the utility relocation, relocation is considered part of the PCEP and all mitigation applicable to the PCEP would apply to JPB-initiated utility relocations. Utility owners will in most cases be the responsible party for completing the utility relocation. In those instances and pursuant to Mitigation Measure PSU-9, the JPB will require the same construction mitigation measures identified in the FEIR for OCS construction to be applied to utility relocation efforts by the utility owner within the Caltrain right of way or on Caltrain owned property. Outside the right of way, the JPB would recommend the mitigation measures to the relevant city or county jurisdiction in their permitting for the relocation effort.

Relocation of existing underground utilities is a low-order probability, but may occur. For any underground utility relocations that may be necessary, the construction activity would involve excavation and removal of the existing underground facility and placement of the utility in an alternative alignment compatible with PCEP features. Temporary construction impacts would be associated with air quality, noise, soil disturbance, potential dewatering, and traffic and can also be addresses through the construction mitigation measures identified in the PCEP’s FEIR and pursuant to Mitigation Measure PSU-9, the JPB will require their application within the Caltrain right of way (and recommend them for use outside the right of way).

PG&E will be requested to provide power connections from its existing substations to the two proposed TPSs. All the potential TPS sites are located relatively close to their source PG&E substation. Construction impacts for new overhead lines would be similar to the construction impacts described throughout the PCEP’s FEIR for OCS installation and would include temporary air quality, noise, soil disturbance, and traffic effects, but the effects would be limited to the area of the overhead line itself. Temporary construction impacts for underground ductbank installation would be associated with air quality, noise, soil disturbance, potential dewatering, and traffic. In both cases, construction impacts will be addresses through the construction mitigation measures identified in the PCEP’s FEIR, and, pursuant
to Mitigation Measure PSU-9, the JPB will require their application for construction within the Caltrain right of way and recommend them for use by PG&E outside the right of way.

Under the PCEP, use of EMUs for approximately 75 percent of Caltrain’s fleet for service between San Francisco and San Jose would increase electricity demand. As described in FEIR Section 2.3.7.3, Energy Consumption, Section 4.5, Energy, and Impact PSU-9 in Section 3.13, there does not appear to be any need for additional PG&E transmission line facilities upstream of the PG&E substations that would connect to the TPSs.

**Significant Effect:** CUMUL-13-PSU - Cumulative impacts related to public services and utilities

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* During construction, cumulative projects could disrupt utility service systems in a planned or unplanned manner. Standard construction practices and regulations require construction contractors to identify and avoid unplanned disruptions to utilities and to work with utility owners to coordinate construction to avoid damage and utility outages. However, there would remain a small potential for multiple utility disruptions due to construction activities resultant from cumulative projects that occur at the same time.

Construction of the cumulative projects would generate solid waste. Construction waste would include soils from grading and excavating activities, construction and demolition material, and other solid waste. Cumulative growth in the region will also result in increased solid waste generation.

Operation of cumulative projects could increase demands for additional utility infrastructure including water supply, electrical supply and natural gas supply. New transportation projects, including Blended Service, BART Silicon Valley extension, and extension of light-rail systems would increase cumulative demand for electricity. Land use projects and general regional growth will increase water, electricity, and natural gas demands. The cumulative demands for utility service could result in the need for additional utility infrastructure including electricity generation plants and transmission facilities, development of additional water supplies and distribution infrastructure as well as additional natural gas supply and transmission. Depending on where the new infrastructure is required, this could result in significant impacts on the environment during construction of such new facilities.

The following measure mitigates this impact to a less than significant level.

- PSU-8a: Provide continuous coordination with all utility providers
- PSU-8b: Adjust OCS pole foundation locations
- PSU-8c: Schedule and notify users about potential service interruptions
- PSU-9: Require application of relevant construction mitigation measures to utility relocation and transmission line construction by other

As discussed in Section 3.13, Public Services and Utilities of the FEIR earth moving activities for the installation of the OCS poles, and TPFs could temporarily disrupt utility service systems. However, with the implementation of Mitigation Measures PSU-8a, PSU-8b, and PSU-8c, which require JPB coordination with all utility providers, adjustment of OCS pole locations (as necessary to minimize utility conflicts), and scheduling and notification requirements, the PCEP would minimize potential disruptions.
to utilities and thus would make a less than considerable contribution to any potential cumulative impacts during construction.

As described in Section 3.13, Public Service and Utilities of the FEIR the only solid waste expected to result from project construction would be soil resulting from grading and excavation associated with construction of TPFs and OCS foundations as well as general packaging and other materials associated with construction materials and construction workers. Any uncontaminated soil that is not reused onsite would be recycled in accordance with the various state and local ordinances governing recycling. Contaminated soil would be disposed at facilities approved to receive such soil, as discussed in Section 3.8, Hazards and Hazardous Materials of the FEIR. While there are long-term concerns for landfill capacity by 2040, as explained in the EIR for Plan Bay Area, 12 of the current 17 major landfills in the Bay Area will still be open through 2020, including the Guadalupe Sanitary landfill and Kirby Canyon Landfill (both in Santa Clara County). Other construction waste is expected to minimal and readily handled by existing landfill facilities in the region, which have ample remaining capacity for such material in the aggregate. Thus, while long-term growth in the region will require the construction of additional landfill by 2040 to accommodate future solid waste, the Proposed Project’s contribution to any cumulative impacts on landfill capacity would be less than considerable.

As discussed in Section 3.13, Public Services and Utilities of the FEIR the PCEP will require the relocation of some existing utilities crossing the Caltrain right of way or along the location of the ductbanks connecting the TPSs to the Caltrain right of way and will also require construction of electrical transmission connections from PG&E substations to the two TPSs. The relocation of these utilities or the construction of electrical transmission connections could result in secondary environmental impacts. Thus, the PCEP could contribute to cumulative demands for new utility infrastructure relative to the local utility relocations and the local transmission facility extensions. Under Mitigation Measure PSU-9, the JPB will work with utility owners and local jurisdictions to apply the relevant applicable mitigation identified for construction in the PCEP FEIR when conducting local utility relocations or local transmission line extensions made necessary by the PCEP. With this mitigation, the PCEP would make a less-than-considerable contribution to any potential cumulatively significant utility infrastructure demands.

As discussed in Section 3.13, Public Services and Utilities of the FEIR the PCEP is not expected to result in increased demand for police, fire, school, or other public facilities compared with existing conditions because the PCEP would not result in population growth and would not fundamentally change conditions of the Caltrain right of way in a way that increases demand for public services. For these reasons, the contribution of the PCEP to any potential cumulatively significant on public service demands that might result in the need for construction of additional public service facilities would be less than considerable.

As discussed in Section 3.13, Public Services and Utilities of the FEIR, with the PCEP, normal EMU operations would not result in substantial new generation of solid waste above that associated with the servicing of diesel locomotives today. Similarly, maintenance of the OCS and TPFs would not involve the generation of large amounts of solid waste. There would be a minor increase in solid waste production associated with the Proposed Project from increased ridership (e.g., disposable coffee cups, newspaper), but the volumes of waste would not be substantial relative to landfill capacity. Therefore, PCEP operations would result in a less-than-significant solid waste generation and would make a less-than-considerable contribution to any potential cumulatively impacts on landfill capacity.

**Transportation and Traffic**

**Significant Effect:** TRA-1a: Substantially disrupts existing or future traffic operations during construction
Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The following construction activities could require temporary closures of travel lanes or road segments, which would reduce the vehicle capacity of the roadway segments, disrupt the traffic flow, and potentially increase vehicle delays on the roadway segments:

- Installation of OCS wires may require lane or road closures at at-grade crossing when the wires are installed across the roads.
- Installation of overbridge protection barriers may require one-lane closures on the side of the road the barriers are installed.
- Installation of the transmission line or underground conduit between the PG&E substations and the TPS and between the TPS and the Caltrain ROW or utility relocations may require lane or road closures when the work is conducted across public roadways.

The following measure mitigates this impact to a less than significant level.

- TRA-1a: Implement construction Road Traffic Control Plan

Implementation of Mitigation Measure TRA-1a would reduce the temporary construction impact on roadway traffic to a less-than-significant level by requiring preparation and implementation of a road traffic control plan that will include specific measures to minimize impacts on transit service, roadway operations, emergency responses, pedestrian and bicycle facilities, and public safety.

Significant Effect: TRA-2a - Disrupts existing or planned transit services or facilities during construction

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: During the construction, installation of OCS poles and wires would require the use of on-track equipment in many locations. The majority of the work could be accomplished during the nighttime using single-track access; however, some portions of the work would require some multiple track shutdowns and could only be installed by using complete weekend outages, requiring suspension of passenger service, to increase working efficiency and reduce public safety risks. Although most of the on-track work would be conducted during nighttime hours with occasional service shutdowns occurring during weekends, the construction impact on Caltrain passengers (or ACE, Capitol Corridor, or Amtrak trains between Santa Clara and San Jose) that take trains at night or on the weekend is considered significant.

In addition, construction strategies to improve construction efficiency with minimizing construction impacts are included in the PCEP as shown in Chapter 2, Project Description, Table 2-5, of the FEIR. Strategies that could potentially disrupt Caltrain service and affect Caltrain passengers and the connecting transit services include revising the Caltrain schedule, reducing the span of Caltrain’s service day, reducing the number of trains, shutting down service for specific weekends, and closing a station temporarily during construction. Although specific strategies have yet been determined, any of the strategies, if selected, would result in temporary significant impacts on Caltrain passengers and the connecting transit services.

The following measures mitigate this impact to a less than significant level.
• TRA-1a: Implement construction road Traffic Control Plan

• TRA-2a: Implement railway disruption control plan

Implementation of Mitigation Measure TRA-2a would reduce the temporary construction impact on rail passenger and freight service disruption to a less-than-significant level by minimizing the duration of potential disruption to service during construction. This measure requires Caltrain, among other things, to:

• Limit number of simultaneous track closures within each immediate vicinity, with closure time frame limited as much as feasible for each closure, unless bypass tracks are available.

• Provide safety measures for rail services to transit through construction zones safely.

• Require contractors to coordinate with rail dispatch to minimize disruption of rail service in the corridor.

• Where feasible, limit closure of any tracks for construction activities to off-peak periods and weekends, when service is less frequent or late night, when no passenger service is scheduled.

• Where feasible, maintain acceptable service access for passenger and freight service.

• Where one open track cannot be maintained for passenger or freight use, limit multi-track closures to one location at a time, as much as feasible

• Where multi-track closures result in temporary elimination of transit rail service, work with local and regional transit providers to provide alternative transit service around the closure area including increased bus and shuttle service.

• Where multi-track closures result in temporary elimination of freight rail service, work with Union Pacific and freight users to schedule alternative freight service timing to minimize disruption to freight customers.

• Provide advance notice of all construction-related track closures to all affected parties. Provide advance notice to transit riders of any temporary disruption in transit service.

• Where temporary cessation of freight rail service is necessary due to multi-track closures and would result in substantial diversion to truck modes, Caltrain or its construction contractor shall coordinate with local jurisdictions and freight operations to determine preferred truck routes to minimize the effect on local traffic conditions.

• Construction in and adjacent to BART facilities will be coordinated in advance and during construction with BART including any necessary BART safety monitors. If construction would result in any potential service disruption, Caltrain or its construction contractor shall coordinate with BART to avoid the disruption and/or minimize the extent and duration of disruption and provide information to commuters on alternative transit options during the disruption.

• Caltrain and/or its construction contractor shall coordinate with Union Pacific in advance and during any potential disruption to freight operations and/or Union Pacific facilities. Union Pacific’s emergency access will be maintained throughout construction.

Construction impact on roadway transit services could be potentially significant when temporary lane or road closures are required on roadway segments, bridges, and at-grade crossings that are used by transit services. Implementation of Mitigation Measure TRA-1a would reduce the temporary construction impact on roadway transit services to a less-than-significant level by ensuring access through the work zones.
**Significant Effect:** TRA-3a - Disrupts existing or planned pedestrian facilities during construction

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Construction impact on pedestrian facilities related to closure of at-grade crossings when installing OCS infrastructure or when relocating utilities could be significant when temporary sidewalk or walking path closure is required.

The following measure mitigates this impact to a less than significant level.

- **TRA-1a:** Implement construction road Traffic Control Plan

  Mitigation Measure TRA-1a would reduce the temporary construction impact to a less-than-significant level through the following requirements:

  - Provide advance notice of all construction-related street closures, durations, and detours to local jurisdictions, emergency service providers, and motorists.
  - Provide safety measures for vehicles, bicyclists and pedestrians to transit through construction zones safely.
  - Limit sidewalk, bicycle, and pedestrian walkway closures to one location within each vicinity at a time, with a closure time frame limited as much as feasible for each closure unless alternative routings for pedestrian and bicycle transit are available.

**Significant Effect:** TRA-3b - Disrupts existing pedestrian facilities, interferes with planned pedestrian facilities, or conflicts or creates inconsistencies with adopted pedestrian system plans, guidelines, policies, or standards from Proposed Project operations

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Increased ridership under the PCEP would cause increased pedestrian volumes at pedestrian facilities surrounding Caltrain stations. The existing facilities are capable of accommodating increased pedestrian volumes at all stations with the exception of the Fourth and King Station in San Francisco. The PCEP would contribute to increased pedestrian activity from 2020 until DTX/TTC infrastructure is completed and trains are routed through the Fourth and King Station.

The following measure mitigates this impact to a less than significant level.

- **TRA-3b:** In cooperation with the City and County of San Francisco, implement surface pedestrian facility improvements to address the Proposed Project’s additional pedestrian movements at and immediately adjacent to the San Francisco 4th and King Station

  Pedestrian facility flow and safety improvements will be implemented pursuant to Mitigation Measure TR-3b to allow the orderly movement of pedestrians, bicyclists, private vehicles, buses, and shuttles around the Fourth and King Station. This measure will commit the JPB to cooperating with the City and County of San Francisco in preparing a pedestrian access study for the station and the JPB to implementing its fair share of pedestrian improvements as recommended by the study. In addition, the measure identifies the following potential surface improvements to pedestrian facilities:
• Widened curb waiting areas and added pedestrian bulbouts where high levels of demand cannot be accommodated by existing facilities.

• A pedestrian “scramble” at the intersection of 4th and Townsend Streets. A pedestrian scramble is an intersection that is striped and designed to allow pedestrians to cross diagonally in all directions during an all-way red signal at which all motor vehicles are stopped.

• Signalization improvements for both 4th and Townsend and 4th and King intersections. While a pedestrian scramble is not likely to be feasible at the intersection of 4th Street and King Street due to intersection size, traffic volumes, and SMFTA at-grade transit operations, all-way pedestrian signals at existing crosswalks are potentially feasible.

• Widened crosswalks to increase pedestrian volumes and improve pedestrian sidewalk widths on the immediate approaches to the intersections of 4th and Townsend and 4th and King Streets, as appropriate and feasible.

• Pedestrian safety countermeasures, such as pedestrian barriers and improved signage, as necessary to address safety issues that are directly related to increased pedestrian volumes at station access points.

**Significant Effect:** TRA-4a - Substantially disrupts existing bicycle facilities or interferes with planned bicycle facilities during construction

*Finding:* The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

*Facts in Support of Findings:* Construction impact would be significant on bicycle facilities when temporary shoulder or road closures are required on roadway segments, bridges, and at-grade crossings with bicycle lanes or high bicycle traffic.

The following measure mitigates this impact to a less than significant level.

• TRA-1a: Implement construction road Traffic Control Plan

Implementation of Mitigation Measure TRA-1a would reduce the temporary construction impact to a less-than-significant level through the following requirements:

• Limit number of simultaneous street closures and consequent detours of transit and vehicular traffic within each immediate vicinity, with closure time frame limited as much as feasible for each closure, unless alternative traffic routings are available.

• Provide advance notice of all construction-related street closures, durations, and detours to local jurisdictions, emergency service providers, and motorists.

• Provide safety measures for vehicles, bicyclists and pedestrians to transit through construction zones safely.

• Limit sidewalk, bicycle, and pedestrian walkway closures to one location within each vicinity at a time, with a closure time frame limited as much as feasible for each closure unless alternative routings for pedestrian and bicycle transit are available.

**Significant Effect:** TRA-4b - Substantially disrupts existing bicycle facilities or interferes with planned bicycle facilities; or conflicts or creates substantial inconsistencies with adopted bicycle system plans from Proposed Project operations
Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The PCEP may increase future demand for bicycle facilities however, most plans in the study area account for increased bicycle volumes through added bicycle infrastructure.

The following measure mitigates this impact to a less than significant level.

- TRA-4b: Continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available, using the guidance in the Caltrain’s Bicycle Access and Parking Plan

Mitigation Measure TRA-4b would require Caltrain to continue implementation of its current planning improve bicycle facilities at Caltrain stations using the guidance provided in Caltrain’s Bicycle Access and Parking Plan. Over time, Caltrain will use these guidelines to meet potential increased demand for such facilities.

Significant Effect: TRA-5a - Results in inadequate emergency vehicle circulation and/or access

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The PCEP could have a temporary impact on emergency vehicle access if an emergency occurs at the time when project construction requires temporary access or egress limitations.

The following measure mitigates this impact to a less than significant level.

- TRA-1a: Implement construction road Traffic Control Plan

Mitigation Measure TRA-1a will require the preparation of a traffic control plan to help ensure continued emergency access to Caltrain right of way, at-grade crossings, and all nearby properties. Caltrain will coordinate with local public works department, local emergency providers, and Caltrans in the development of the traffic control plan to specifically address emergency response concerns.

Significant Effect: TRA-7a - Results in a change in freight rail service such that resultant diversions to truck or other freight modes would result in significant secondary impacts during construction

Finding: The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Installation of OCS poles and wires would require the use of on-track equipment in many locations. Work could be accomplished during the nighttime using single-track access in many cases. However, some portions of the work would likely require some multiple track shutdowns at night which could result in temporary suspension of freight service in constrained areas.

The following measure mitigates this impact to a less than significant level.

- TRA-2a: Implement railway disruption control plan
Mitigation Measure TRA-2a would reduce the temporary construction impact on freight service disruption to a less-than-significant level by minimizing the duration of potential disruption. The measure includes the following specific provisions to minimize freight service disruption:

- Limit number of simultaneous track closures within each immediate vicinity, with closure time frame limited as much as feasible for each closure, unless bypass tracks are available.
- Provide safety measures for rail services to transit through construction zones safely.
- Require contractors to coordinate with rail dispatch to minimize disruption of rail service in the corridor.
- Where feasible, limit closure of any tracks for construction activities to off-peak periods and weekends, when service is less frequent or late night, when no passenger service is scheduled.
- Where feasible, maintain acceptable service access for passenger and freight service.
- Where multi-track closures result in temporary elimination of freight rail service, work with Union Pacific and freight users to schedule alternative freight service timing to minimize disruption to freight customers.
- Provide advance notice of all construction-related track closures to all affected parties. Provide advance notice to transit riders of any temporary disruption in transit service.
- Where temporary cessation of freight rail service is necessary due to multi-track closures and would result in substantial diversion to truck modes, Caltrain or its construction contractor shall coordinate with local jurisdictions and freight operations to determine preferred truck routes to minimize the effect on local traffic conditions.
- Caltrain and/or its construction contractor shall coordinate with Union Pacific in advance and during any potential disruption to freight operations and/or Union Pacific facilities. Union Pacific’s emergency access will be maintained throughout construction.

**Significant Effect:** CUMUL-14-TRA - Cumulative effects to transportation and traffic

**Finding:** The JPB hereby makes finding (a)(1) (described above), as required by PRC 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

**Facts in Support of Findings:**

The FEIR determines that the following aspects of project impacts would contribute to cumulative transportation impacts before mitigation, each of which are discussed in turn below:

- Construction disruption of traffic, transit, or freight
  - As discussed in Section 3.14, Transportation and Traffic of the FEIR, installation of the OCS poles and construction of the TPFs would not generally disrupt existing transportation systems or transit operations except in limited circumstances. However, construction at the at-grade crossings to install OCS infrastructure and to update grade crossing warning devices would result in temporary roadway closures (as well as bike and pedestrian crossings where present).
  - Where OCS infrastructure needs to be installed at the Millbrae Station shared by Caltrain and BART or in San Francisco at 16th Street where Muni plans to install Muni OCS infrastructure for the re-routing of the 22-Fillmore Trolley Bus, there is the potential for temporary
disruption of other transit systems. There is also the potential to disrupt freight service operations during construction.

- The PCEP could temporarily obstruct access and egress from construction sites and on adjacent roads due to construction. Such obstruction would affect the ability of emergency responders to timely reach their response destinations and/or impede the ability to evacuate constrained areas if the emergency occurs at the time when PCEP construction is temporarily limiting access to or egress from the Caltrain right of way or at at-grade crossings along the Caltrain right of way (e.g., when changing grade-crossing warning devices).

- Transit System Operations (concerning the Muni 22 Fillmore Trolley)

  - SFMTA is proposing to re-route the 22-Fillmore electric trolley bus from its current route crossing over the Caltrain right of way at 18th Street to an at-grade crossing at 16th Street. The installation of the direct current 600-volt OCS for the electric trolley bus at 16th Street creates a conflict with the proposed installation of the 25 kVA alternative current OCS as part of the PCEP.

- Pedestrian and Bicycle Facilities during operations

  - Cumulative projects could also affect pedestrian walkways and bike paths that cross the Caltrain right of way or are directly adjacent to the Caltrain right of way. Blended Service improvements would have the greatest potential to affect such facilities if passing tracks are proposed outside the Caltrain right of way. The PCEP, in combination with other cumulative projects may also increase future demand for bicycle facilities however, most plans in the project area account for increased bicycle volumes through added bicycle infrastructure.

  - However, at the San Francisco 4th and King station, the PCEP in combination with the central Subway and other transit expansion could result in exceedance of pedestrian capacity on surface accessways to the station.

The following measures mitigate these impacts to a less than considerable level.

**Construction**

- TRA-1a: Implement construction road Traffic Control Plan
- TRA-2a: Implement railway disruption control plan

**Transit Systems**

- TRA-CUMUL-2: Implement technical solution to allow electric trolley bus transit across 16th Street without OCS conflicts in cooperation with SFMTA

**Pedestrian and Bicycle Facilities**

- TRA-1c: Implement signal optimization and roadway geometry improvements at impacted intersections for the 2020 Project Condition
- TRA-3b: In cooperation with the City and County of San Francisco, implement surface pedestrian facility improvements to address the Proposed Project’s additional pedestrian movements at and immediately adjacent to the San Francisco 4th and King Station
- TRA-4b: Continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available, using the guidance in the Caltrain’s Bicycle Access and Parking Plan
Caltrain will coordinate with all affected transit operations to avoid and minimize the duration and extent of any potential disruption. With the implementation of mitigation measures identified in Section 3.14, Transportation and Traffic and listed above, the PCEP would minimize potential disruptions to transportation facilities and transit services. Thus, with mitigation, PCEP construction would make a less-than-considerable contribution to any potential cumulative impacts on transportation facilities and systems.

Mitigation Measure TRA-1a will require the preparation of a traffic control plan to help ensure continued emergency access to Caltrain right of way, at-grade crossings, and all nearby properties during construction. Caltrain will coordinate with local public works department, local emergency providers, and Caltrans in the development of the traffic control plan to specifically address emergency response concerns. Any potential issues associated with multiple projects in construction at the same time can be addressed in the traffic control plan. Thus, with mitigation, the PCEP’s contribution to a potential cumulative impact related to emergency response or evacuation would be less than considerable.

In order to manage the conflict to allow the SFMTA project and the PCEP to both go forward, Mitigation Measure TRA-CUMUL-2 is proposed. With implementation of this mitigation, both projects would be able to proceed and provide their improved transit benefits and the PCEP would not make a considerable contribution to any conflict with SFMTA plans.

The PCEP would add increased pedestrian volume to existing pedestrian facilities due to increased ridership. The existing pedestrian facilities have been evaluated and are capable of accommodating an increase in pedestrian traffic with the exception of pedestrian facilities around the San Francisco Fourth and King Station. Future planned pedestrian facilities are designed around the PCEP’s existing alignment. Planned pedestrian facilities will be constructed to accommodate Caltrain’s existing alignment. Therefore the PCEP would not contribute to cumulative impacts on pedestrian facilities at locations other than the Fourth and King Station.

As discussed in Section 3.14, Transportation and Traffic of the FEIR, the PCEP would only contribute to this impact between when the PCEP begins operations in 2020 and when DTX/TTC becomes operational. At that point, with ridership shifting to TTC, the PCEP would no longer have a considerable contribution to pedestrian usage because the PCEP’s contribution would be less than under No Project conditions. Mitigation Measure TRA-3b (discussed in Section 3.14, Transportation and Traffic) would require the JPB and the City and County to plan for and implement necessary pedestrian facility improvements to the Fourth and King Station and adjacent pedestrian facilities in City street rights-of-way. Implementation of this mitigation measure would reduce the PCEP’s contribution to this cumulative impact to a less than significant level.

Mitigation Measure TRA-4b, in Section 3.14, Transportation and Traffic of the FEIR would require Caltrain to continue implementation of its current planning to improve bicycle facilities at Caltrain stations over time to meet potential increased demand for such facilities. Thus, with mitigation, the PCEP would not contribute considerably to any significant cumulative impacts on bicycle facilities.

**Findings Regarding the Alternatives**

As required by CEQA, a discussion of possible alternatives to the PCEP, including the No-Project Alternative, was included in the FEIR. With adoption of the PCEP, the JPB makes the following findings to support its rejection of the five alternatives. Other alternatives were considered and screened out of the
range of alternatives analyzed in the EIR for the reasons discussed in Section 5.4.3 of the FEIR, which is hereby incorporated by reference.

As noted above, Section 15091 (a)(3) of the State CEQA Guidelines describes that one of the findings that a lead agency can make concerning significant project impacts is that specific economic, legal, social, technological, or other considerations, make infeasible the project alternatives identified in the Final EIR. In the Final EIR, Chapter 5, Alternatives, the alternatives were screened for technical, logistical, and financial feasibility, but the alternatives were not evaluated for all economic, legal, social or other considerations that make up the broader definition of “feasibility” in Section 15091 (a)(3). Thus, the use of the term “infeasible” in the findings below concerning the alternatives is more expansive than reference to “feasible” in Chapter 5 of the Final EIR, which was limited to technical, logistical and financial feasibility. An alternative may have been determined to be technically, logistically, and financially “feasible” in the Final EIR and still ultimately be concluded by the JPB to meet the definition of “infeasibility” per Section 15091 (a)(3) when all considerations are taken into account. The term “infeasible” in the findings below uses the broader definition in Section 15091 (a)(3), which is consistent with case law interpreting this provision of CEQA. The determination of infeasibility “involves a balancing of various ‘economic, environmental, social, and technological factors.’” (City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 401, 417). Where there are competing and conflicting interests to be resolved, the determination of infeasibility “is not a case of straightforward questions of legal or economic feasibility,” but rather, based on policy considerations. (Cal. Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957, 1001-02). “[A]n alternative that is impractical or undesirable from a policy standpoint may be rejected as infeasible.” (Id. at p. 1002, citing 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, (Cont.Ed.Bar 2010) section 17.29, p. 824).

No-Project Alternative

Findings: The JPB hereby finds that this alternative is ultimately rejected as infeasible for the following reasons.

Facts in Support of Findings:

The No-Project Alternative would not substantially improve increase ridership and increase service levels. This does not achieve the PCEP’s objective to that effect.

The No-Project Alternative would not meet the project’s objective to reduce train engine noise. The No-Project Alternative would increase noise levels at up to 41 out 49 study locations compared to the Proposed Project (FEIR, pg. 5-10). Four locations would have lower noise than existing (2013) levels but only due to completion of unrelated grade separations. In contrast, the Proposed Project would lower noise levels at 36 out of 49 study locations compared to existing conditions.

The No-Project Alternative would not meet the project’s objective to improve regional air quality and reduce GHG emissions. The No-Project Alternative impedes the improvement of Bay Area air quality by continuing the use of diesel locomotives. Although the eventual replacement of existing diesels with Tier 4 diesel locomotives will reduce criteria air pollutant emissions in the future under the No-Project Alternative, they will not avoid emissions to the extent provided by the PCEP (FEIR, page 5-6). Continued efforts to expand transit ridership are baseline assumptions of the State Implementation Plan (SIP) relative to improving air quality to meet federal and state standards (Bay Area Air Quality Management District, Bay Area Ozone Attainment Plan, October 24, 2001). The No-Project Alternative
would fail to provide increased transit opportunities and will thereby impede the SIP’s ability to meet air quality improvement goals.

Caltrain electrification is identified as a project to be funded as part of the Plan Bay Area (Plan Bay Area, page 90) adopted by the Metropolitan Transportation Commission (MTC). This plan includes the Bay Area’s “Sustainable Communities Strategy” for actions needed to meet the greenhouse gas (GHG) emissions reduction target set by the California Air Resources Board under Senate Bill 375 of 2008. Because the new Tier 4 diesel locomotives are more powerful than the existing diesel locomotives, they would consume more fuel than the existing diesels they are replacing and thus GHG emissions would increase compared to existing conditions (FEIR, page 5-9). Also, the No-Project Alternative would not result in the substantial reductions in regional vehicle miles travelled (VMT) forecast to result from the Project (FEIR, page 11). The No Project Alternative would therefore obstruct attainment of GHG reductions and would be inconsistent with the Sustainable Communities Strategy.

The No-Project Alternative would be in conflict with the DTX and TTC projects because it would only provide for continued diesel train operations rather than the electrified operations anticipated by those projects. Diesel trains could not traverse the San Francisco tunnels that are a part of those projects. This would make infeasible full service connections between Caltrain, the San Francisco transit system, and the BART system that will be provided by the TTC. This conflicts with MTC’s adopted Plan Bay Area (Plan Bay Area - Table 19: MTC Resolution 3434 Project Status, Page 79; Key Transit and Road Improvements, page 90).

The No-Project Alternative would require the JPB to forgo $705 million in state financing authorized by SB 1029 (Ch. 152, Stats. of 2012). The 2012 Budget Act provides these funds as part of the “blended service” portion of the high speed rail system for electrification of the Caltrain line for its future co-use by high speed rail. This would conflict with JPB policy, as reflected in the JPB’s Capital Improvements Program that anticipates electrification of the line and in the Memorandum of Understanding entered into with the California High Speed Rail Authority and jurisdictions on the San Francisco Peninsula (FEIR, Section 1.2, Project History).

The No-Project Alternative would also not provide electrical infrastructure compatible with high speed rail operations. This conflicts with an objective of the project.

For all of the foregoing reasons, and any of them individually, the No-Project Alternative is determined to be infeasible.

**DMU Alternative**

*Findings:* The JPB hereby finds that this alternative is determined to be infeasible for the following reasons.

*Facts in Support of Findings:*

The DMU Alternative would increase ridership and service but not as well as the Proposed Project due to inferior acceleration performance as well as an inability to reach TTC via the DTX and thus would only partially meet the project objective to increase ridership and service (FEIR, page 5-15).

The DMU Alternative would meet the objective of increasing revenue (but not as well as the PCEP due to lower ridership) but not the objective of reducing operating fuel costs. Although the increased train
service under this alternative would increase revenue, this alternative would also increase diesel fuel consumption compared with No Project conditions\(^8\) as shown in the FEIR Table 5-2, which would increase operating fuel costs.

The DMU Alternative would increase noise levels at up to 44 out 49 study locations compared to the No Project Conditions (FEIR, pg. 5-10) and at 40 locations compared to existing conditions (FEIR, Volume III, Appendix C) compared to the Proposed Project which would lower noise levels at 36 out of 49 study locations compared to existing conditions. Therefore, this alternative would conflict with the project objective of reducing noise emanating from trains.

The DMU Alternative would improve air quality conditions relative to existing conditions (FEIR, Table 5-6). The DMU Alternative would have lower criteria pollutant emissions of ROG, CO, and PM10 than No Project conditions, but higher NOx emissions (FEIR, Table 5-6). Compared to the Proposed Project, the DMU Alternative would have substantially higher NOx emissions as well (FEIR, Table 5-6). The DMU Alternative would have lower GHG emissions than existing conditions and No Project conditions, but substantially higher GHG emissions than the Proposed Project (FEIR, Table 5-8). Thus, the DMU Alternative would not meet the objective of improving regional air quality and GHG emissions as well as the Proposed Project.

The DMU Alternative would be in conflict with the DTX and TTC projects because it would not provide for the electrified train operations anticipated by those projects. Diesel trains could not traverse the San Francisco tunnels that are a part of those projects. This would make infeasible full service connections between Caltrain, the San Francisco transit system, and the BART system that will be provided by the TTC. This conflicts with MTC’s adopted Plan Bay Area (Plan Bay Area - Table 19: MTC Resolution 3434 Project Status, Page 79; Key Transit and Road Improvements, page 90).

The DMU Alternative would require the JPB to forgo $705 million in state financing authorized by SB 1029 (Ch. 152, Stats. of 2012). The 2012 Budget Act provides these funds as part of the “blended service” portion of the high speed rail system for electrification of the Caltrain line for its future co-use by high speed rail. This would conflict with JPB policy, as reflected in the JPB’s Capital Improvements Program that anticipates electrification of the line.

The DMU Alternative would also not meet the project’s objective to provide electrical infrastructure compatible with high-speed rail. No such infrastructure would be built under this alternative.

For all of the foregoing reasons, and any of them individually, the DMU Alternative is determined to be infeasible.

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\(^8\) In general, DMUs are more fuel efficient than diesel locomotives for consists of five cars or fewer but less fuel efficient for consists longer than five cars. The PCEP includes six-car consists to accommodate approximately 600 passenger seats per train to meet ridership demands. Thus, an eight-car DMU was assumed to accommodate a similar level of passengers. Among many other considerations described in Chapter 5, Alternatives, train length and fuel efficiency are two reasons that a DMU option is not as favorable for the Caltrain service as EMUs would be.
Dual-Mode Multiple Unit Alternative

Findings: The JPB hereby finds that this alternative is ultimately rejected as infeasible for the following reasons.

Facts in Support of Findings:

While the Dual-Mode Multiple Unit Alternative would increase ridership and revenue, it would not reduce operating fuel cost (FEIR, Table 5-4). Although the increased train service under this alternative would increase revenue, this alternative would also increase diesel fuel consumption compared with existing conditions which would increase operating costs.

Presuming the Dual Mode MU Alternative would have similar train noise as the DMU Alternative, it would increase noise levels at up to 44 out 49 study locations compared to the No Project Conditions and at 40 locations compared to existing conditions compared to the Proposed Project which would lower noise levels at 36 out of 49 study locations compared to existing conditions. Therefore, this alternative would conflict with the project objective of reducing noise emanating from trains.

Presuming the Dual-Mode MU Alternative in diesel mode would have similar emissions to the DMU Alternative, it would improve air quality conditions relative to existing conditions, have lower criteria pollutant emissions of ROG, CO, and PM10 but higher NOx emissions than No Project conditions. Compared to the Proposed Project, the Dual Mode MU Alternative would have substantially higher NOx emissions as well. The Dual-Mode Alternative would have lower GHG emissions than existing conditions and No Project conditions, but substantially higher GHG emissions than the Proposed Project. Thus, the Dual Mode MU Alternative would not meet the objective of improving regional air quality and GHG emissions as well as the Proposed Project.

The Dual-Mode Multiple Unit Alternative would electrify only portions of the Caltrain line. This would conflict with MTC’s adopted Plan Bay Area (Plan Bay Area - Table 19: MTC Resolution 3434 Project Status, Page 79; Key Transit and Road Improvements, page 90) which anticipates electrification of the entire line and connection to the TTC and DTX.

The Dual-Mode Multiple Unit Alternative would require the JPB to forgo $705 million in state financing authorized by SB 1029 (Ch. 152, Stats. of 2012). The 2012 Budget Act provides these funds as part of the “blended service” portion of the high speed rail system for electrification of the Caltrain line for its future co-use by high speed rail. This would conflict with JPB policy, as reflected in the JPB’s Capital Improvements Program that anticipates electrification of the line.

The Dual-Mode Multiple Unit Alternative would not meet the project’s objective to provide electrical infrastructure compatible with high-speed rail. OCP would be installed only in areas adjoining stations and for access to the TTC and DTX. Most of the line would remain without electrification.

For all of the foregoing reasons, and any of them individually, the Dual-Mode Multiple Unit Alternative is determined to be infeasible.

Tier 4 Diesel Locomotive (T4DL) Alternative

Findings: The JPB hereby finds that this alternative is ultimately rejected for the following reasons.
Facts in Support of Findings:

The T4DL Alternative would support increased ridership which would increase operating revenue but would not reduce operating fuel cost. This Alternative would likely have lower ridership due to inferior acceleration performance which could affect the number of stops and/or overall transit times. In the long run, ridership would be lower than the PCEP because this alternative could not reach the TTC through the DTX. Although the increase in train service under this alternative would increase revenue, this alternative would also increase diesel fuel consumption compared with existing conditions which would increase operating costs (FEIR, Table 5-4 and page 5-40). This alternative would not meet the project objective to reduce operating fuel costs.

This alternative would have greater engine noise compared to existing conditions and the No Project Alternative (FEIR, page 5-45). Compared to existing conditions, this alternative would increase noise levels at 38 out of 49 study locations, while lowering noise levels at 9 locations (FEIR, Table 5-10). In contrast, the Proposed Project would lower noise levels at 36 locations, while increasing noise levels at only 4 locations compared to existing conditions. Therefore, this alternative would conflict with the objective of reducing noise emanating from trains.

While the T4DL Alternative would improve air quality conditions relative to existing conditions (FEIR, Table 5-6). In 2020 and 2040, the T4DL single-head alternative would have lower criteria pollutant emissions than the No Project conditions. In 2020, the T4DL double-head alternative would have lower ROG, CO, and PM10 but higher NOx emissions than No Project conditions while in 2040 it would have lower criteria pollutant emissions than the Proposed Project (FEIR, Table 5-6). Compared to the Proposed Project, in 2020 and 2040 the T4DL Alternative would have substantially higher NOx emissions (FEIR, Table 5-6). In 2020 and 2040, the T4DL Alternative, single head variant would have lower GHG emissions than existing conditions and No Project conditions, but substantially higher GHG emissions than the Proposed Project (FEIR, Table 5-8). In 2020, the T4DL Alternative, double head variant would have higher GHG emissions than existing conditions but lower than No Project conditions, but substantially higher GHG emissions than the Proposed Project (FEIR, Table 5-8). Thus, the DMU Alternative would not meet the objective of improving regional air quality and GHG emissions as well as the Proposed Project.

The T4DL Alternative would be in conflict with the DTX and TTC projects because it would not provide for the electrified train operations anticipated by those projects. Diesel trains could not traverse the San Francisco tunnels that are a part of those projects. This would make infeasible full service connections between Caltrain, the San Francisco transit system, and the BART system that will be provided by the TTC. This conflicts with MTC’s adopted Plan Bay Area (Plan Bay Area - Table 19: MTC Resolution 3434 Project Status, Page 79; Key Transit and Road Improvements, page 90), which anticipates full electrification of the line and connections to the TTC and DTX.

The T4DL Alternative would require the JPB to forgo $705 million in state financing authorized by SB 1029 (Ch. 152, Stats. of 2012). The 2012 Budget Act provides these funds as part of the “blended” portion of the high speed rail system for electrification of the Caltrain line for its future co-use by high speed rail. This would conflict with JPB policy, as reflected in the JPB’s Capital Improvements Program that anticipates electrification of the line.

The T4DL Alternative would not meet the project’s objective of providing electrical infrastructure compatible with high-speed rail.
For all of the foregoing reasons, and any of them individually, the T4DL Alternative is determined to be infeasible.

**Electrification with OCS Installation by Factory Train Alternative**

*Findings:* The JPB hereby finds that this alternative is not adopted for the following reasons.

*Facts in Support of Findings:*

The Factory Train is a new construction method being used for OCS installation for the first time in the United Kingdom in 2014. While it has the potential to lower construction time and cost, it could increase the intensity of construction disruption at night while shortening the duration of OCS construction. This alternative would not avoid any significant impacts of the Proposed Project, including any of the significant unavoidable impacts of the Proposed Project. As such, there is no requirement to adopt the Factory Train alternative in order to reduce significant unavoidable impacts of the Proposed Project.
Overriding Considerations

Introduction

CEQA requires decision-makers to balance the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve a project. If the specific economic, legal, social, technological or other benefits of the project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered acceptable (State CEQA Guidelines 15093). In this case, the lead agency must state in writing the specific reasons to support its action. This “statement of overriding considerations” shall be supported by substantial evidence in the record, shall be included in the record of the project approval, and should be mentioned in the notice of determination. Pursuant to Section 15093 of the CEQA Guidelines, a Statement of Overriding Considerations has been prepared for the project.

Significant Unavoidable Impact Summary

The FEIR identifies a number of significant, unavoidable impacts that would result from implementation of the PCEP as summarized below

- **Construction**
  - Cultural Resources – As described in the FEIR, Section 3.2, Cultural Resources, due to tunnel modifications necessary to provide heights for Caltrain and existing freight rail cars, the modifications to historic San Francisco Tunnel 4 may be significant and unavoidable even with mitigation.
  - Noise—As described in the FEIR, Section 3.11, Noise and Vibration, although project mitigation would reduce noise in many locations, given nighttime construction it may not always be possible to reduce construction noise to a less-than-significant level.

- **Operations**
  - Aesthetics—As described in the FEIR, Section 3.1, Aesthetics, although project mitigation would reduce tree removal/pruning effects in many locations, it may not always be possible to replace trees in locations that would avoid significant changes in localized visual character at individual parcels affected by tree removal/pruning. As described in Section 4.1, Cumulative Impacts, the Proposed Project would also contribute considerably to cumulative effects on local visual character, relative to tree removals/pruning.
  - Hydrology and Water Quality - As described in the FEIR, Section 3.9, Hydrology and Water Quality, the Caltrain ROW, including new Proposed Project facilities may be subject to future
flooding associated with sea level rise. Although project mitigation may be able to reduce the potential impacts of future flooding on the Proposed Project, given that effective coastal flooding mitigation requires the involvement of multiple parties beyond Caltrain, at this time it cannot be concluded that future flooding impacts to the Caltrain system will be fully avoided. As described in the FEIR, Section 4.1, Cumulative Impacts, this would also be considered a potential considerable contribution to a significant cumulative impact. As described in the FEIR, Section 3.9, Hydrology and Water Quality, given the Ballona Wetlands decision, it is unknown whether or not the impacts of sea level rise on a project are properly considered significant impacts under CEQA and thus this EIR discloses this impact for disclosure purposes in case they are.

- Noise—As described in the FEIR, Section 4.1, Cumulative Impacts, with cumulative passenger (HSR, ACE, CCJPA, DRC, Amtrak) and freight rail increases along the Caltrain corridor there would be significant noise increases affecting sensitive receptors. Where mitigation is not feasible to reduce the Proposed Project’s noise contribution, the Proposed Project would also contribute to cumulative noise impacts at a number of locations.

- Transportation and Traffic: As described in the FEIR, Section 3.14, Transportation and Traffic, although project mitigation would reduce localized traffic impacts at a number of affected locations, it would not be feasible to reduce all localized traffic impacts with mitigation. As described in the FEIR, Section 4.1, Cumulative Impacts, the Proposed Project would also have a considerable contribution to a significant cumulative impact on localized traffic conditions, even with mitigation, and a potentially significant cumulative impact related to localized traffic and noise resulting from the diversion of limited amounts of freight from rail to truck modes (although diversion of freight to trucks is an unlikely impact).

**Statements of Fact in Support of Overriding Considerations**

The JPB hereby finds that the following social, legal, environmental and economic benefits of the Proposed Project outweigh the significant unavoidable impacts for the following reasons. These benefits, viewed both individually and collectively, outweigh the significant unavoidable adverse effects of implementing the PCEP:

- The PCEP would have far superior performance compared to existing diesel locomotives and compared to the other action alternatives (FEIR Table 5-1 and Figure 5-1). EMU’s superior performance would maximize Caltrain’s ability to increase service stops and/or travel times to support increased projected ridership demand. The increased peak hour and daily service allows Caltrain to serve more riders to meet growing ridership demand better than under existing conditions and better than achievable with any of the action alternatives. Increased ridership would also help to increase Caltrain’s operating revenue.

- Increasing and modernizing Caltrain service will better serve growth in employment and housing projected in San Francisco, in the San Francisco Peninsula cities between San Francisco and San Jose, and in San Jose.

- The PCEP would lower operating fuel costs compared to both existing conditions and all the action alternatives analyzed in the FEIR (FEIR Table 5-4).

- The PCEP would reduce the generation of criteria air pollutants along the Caltrain Corridor and in the San Francisco Bay Area, including ozone precursors (ROG and NOx), carbon monoxide, and fine
particulates, which would improve public health for the community and help the Bay Area to achieve air quality goals for attainment. The PCEP would have substantially lower criteria pollutant emissions than any of the action alternatives analyzed in the FEIR (FEIR Table 5-6).

- The State has adopted AB-32, the Global Warming Solutions Act of 2006, which seeks to make a first step in reducing GHG. The long-term effects of climate change, if unchecked, could have substantial adverse effects on the economy, health, welfare and natural heritage of the San Francisco Peninsula and elsewhere. The JPB, in adopting the PCEP, desires to modernize the Caltrain system in a way that contributes most substantially to reducing greenhouse gas emissions to support California, national, and global efforts. The PCEP would have substantially lower GHG emissions than under existing conditions and compared to all of the action alternatives analyzed in the EIR (FEIR Table 5-8).

- The PCEP would reduce noise levels at most locations along the project route compared to existing conditions thus benefiting residences and other sensitive receptors affected by current train noise. The PCEP would have lower overall noise levels than the non-electrification alternatives analyzed in the EIR (FEIR Table 5-9 and 5-10).

- The State has adopted SB 375 and MTC adopted Plan Bay Area in 2013 in accordance with SB 375 which seek to lower vehicle miles travelled and associated greenhouse gas emissions among other goals. The PCEP supports SB 375 and Plan Bay Area both in terms of lowering VMT and associated emissions, but also in terms of supporting the plans of the communities along the Caltrain Corridor in promoting transit-oriented development.

- The benefit of lowered vehicle miles traveled along the entire San Francisco Peninsula and in every city along the project route overall (FEIR Table 3.14-15 and Table 4-16) outweighs the adverse effects of localized traffic increases at certain locations near grade crossings and Caltrain stations. Caltrain will continue to work with local, regional, state and federal partners to promote grade separations along the Caltrain Corridor as funding become available over time.

- The PCEP would be consistent with and supportive of the Downtown Extension (DTX)/Transbay Transit Center (TTC) project allowing better integration of transit services at the TTC between MUNI, BART, Caltrain, and other transit providers.

- The PCEP would be consistent with JPB policy, as reflected in the JPB’s current and past strategic plans that anticipate and prioritize electrification of the line.

- While the PCEP does not include high-speed rail service, the PCEP would include electrical infrastructure compatible with future high-speed rail service proposed to connect Southern California and Northern California via a route that includes the Caltrain Corridor. The PCEP would be consistent with state financing authorized by SB 1029 (Ch. 152, Stats. of 2012). The 2012 Budget Act provides these funds as part of the “blended” portion of the high speed rail system for electrification of the Caltrain line for its future co-use by high speed rail.

- In June 2012, the Bay Area Council Economic Institute prepared a white paper called, *The Economic Impact of Caltrain Modernization*. This white paper concluded that there would be considerable short-term and long-term economic benefits for the state and the region related to Caltrain electrification. There would be new construction jobs, California’s gross state project would increase, state and local tax collections would increase, and property values near Caltrain could increase by $1

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billion. The City of Palo Alto also retained Economic & Planning Systems, Inc. (EPS) in June 2011\textsuperscript{10} to evaluate the economic and property value impacts of Caltrain Electrification. This study also found that there would be a positive economic impact associated increased property values.

MITIGATION MONITORING AND REPORTING PROGRAM

PENINSULA CORRIDOR ELECTRIFICATION PROJECT

(SCH# 2013012079)

San Francisco, San Mateo, and Santa Clara Counties, California

January 2015
Mitigation Monitoring and Reporting Program

1.0 Introduction

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures that it has adopted as part of the environmental review process, and that this program must be adopted at the time that the agency determines to carry out a project for which the environmental review process has been conducted (Public Resources Code Section 21081.6 (a) (1)). The Peninsula Corridor Joint Powers Board (JPB) has prepared this Mitigation Monitoring and Reporting Program (MMRP) to ensure that mitigation measures identified in the Peninsula Corridor Electrification Project (Project) Environmental Impact Report (EIR) are fully implemented during project implementation.

As the lead agency and proponent of this project, the JPB will implement the mitigation measures through its own actions, those of the Design-Build (D-B) Contractor, the Design-Bid-Build (D-B-B) Tunnel Contractor and actions taken in cooperation with other agencies and entities. The JPB is ultimately accountable for the overall administration of the mitigation and monitoring program and for assisting relevant individuals and parties in their oversight and reporting responsibilities. The responsibilities of mitigation implementation, monitoring, and reporting extend to several entities including the D-B Contractor and the D-B-B Tunnel Contractor as described below. However, the JPB will bear the primary responsibility for verifying that the mitigation measures are implemented.

2.0 Design-Build Contractor and Design-Bid-Build Tunnel Contractor Responsibilities

The JPB has defined the mitigation measures required for the Project, the Design-Build (D-B) Contractor’s responsibilities and the Design-Bid-Build (D-B-B) Tunnel Contractor’s responsibilities.

The D-B Contractor shall:

- Implement the mitigation measures for which it is responsible, as identified in Table 1, Summary of Mitigation Measures;
- Monitor its and its subcontractors’ construction activities to ensure that the mitigation measures are being properly implemented;
- Accurately report its activities and results to the JPB;
- As one of the D-B Contractor’s Key Personnel, provide a qualified Environmental Compliance Lead for the Project who is acceptable to the JPB; and
- Provide additional specific expertise to fulfill specific roles as indicated in Section 4.0 to assist in the implementation of the MMRP.

The D-B-B Tunnel Contractor shall:
• Implement the mitigation measures for which it is responsible, as identified in Table 1, Summary of Mitigation Measures;
• Monitor its and its subcontractors’ construction activities to ensure that the mitigation measures are being properly implemented; and
• Accurately report its activities and results to the JPB.

3.0 JPB Responsibilities
The JPB will provide oversight of the D-B Contractor's activity and the D-B-B Tunnel Contractor's activity, reports, and effectiveness of mitigation activities consistent with the reporting and monitoring schedule described in the column Implementation and Reporting Schedule in Table 1. The JPB will also implement mitigation that Table 1 indicates will be implemented by the JPB.

4.0 Table 1 – Summary of Mitigation Measures
The MMRP for the Project is presented as a table that includes the mitigation measures identified in the Final EIR. The table is organized by environmental issue. The JPB may refine the means by which it will implement a mitigation measure as long as compliance is achieved during project implementation. Several supplementary tables from the Final EIR are included at the end of this document that are referenced in the mitigation measures for ease of reference including FEIR Table 3.3-3 (Special Status Plant Species), 3.4-17 (2020 Traffic Mitigation), and 4-17 (2040 Project Mitigation).

4.1 Description of Table Headers
The MMRP describes implementation and monitoring responsibilities, timing, implementation and reporting schedules, and implementation mechanisms or tools for each mitigation measure identified in the EIR, as described below. Please note that the EIR mitigation in some cases specific “Contractor” which has been changed in this MMRP to specify “D-B” Contractor or “D-B-B Tunnel” Contractor for the purposes of clarity. Reference to D-B Contractor or D-B-B Tunnel Contractor includes any and all subcontractors, as appropriate, working the direction and authority of the D-B Contractor or the D-B-B Tunnel Contractor, respectively.

Mitigation Measure: Provides the mitigation measure as identified the Final EIR.

Implementing, Monitoring, and Reporting Responsibilities: Identifies the entities that will be responsible for directly implementing the mitigation measures, reporting and monitoring. Implementation can be the responsibility of the JPB, the D-B Contractor, the D-B-B Tunnel Contractor or other specified individuals such as a Qualified Biologist. Reporting on implementation will generally be the responsibility of the D-B Contractor (and the D-B-B Tunnel Contractor for tunnel work), with monitoring oversight provided by the JPB during the design and construction process. Post construction mitigation (such as monitoring replanted trees) may transition from the
D-B Contractor to JPB or may remain with D-B Contractor. Long-term mitigation responsibilities separate from construction will be held by the JPB.

**Mitigation Timing:** Implementation of mitigation will not all occur at the same time. Depending on the mitigation requirements, it may be undertaken prior to construction, during construction, following construction, or during operation of the project. These columns identify the stage(s) of the project during which the mitigation will be implemented and when reporting is to occur, if it is required.

**Implementation and Reporting Schedule:** This column of the table describes when the mitigation will be implemented and when reporting is to occur, if it is required.

**Implementation Mechanism or Tool:** Identifies the actions required to implement the mitigation measure, including any required agency consultation, documentation, agreements and/or conditions.

### 4.2 Implementation Roles

Responsibilities for implementation of this MMRP are as follows:

- **D-B Contractor:** Designated contractor responsible for design and construction and for implementing or monitoring and reporting mitigation measures as specified in this MMRP.

- **D-B-B Tunnel Contractor:** Designated contractor responsible for design and construction related to the San Francisco tunnels and for implementing or monitoring and reporting mitigation measures as specified in this MMRP.

- **JPB:** Lead Agency and designated representative responsible for the implementation, monitoring and reporting regarding mitigation measures specified in this MMRP.

- **Qualified Biologist:** A Qualified Biologist will be retained by the JPB for permitting and responsible for regulatory permit preparation and support. A Qualified Biologist will also be retained by the D-B contractor for construction, and will be responsible for preparing and providing a Worker Environmental Awareness Training Program, as well as providing oversight to the D-B Contractor's implementation of the biological mitigation and monitoring. Minimum qualifications for this position include the following: An individual with a bachelor's degree in biology or a similar natural resource field of study and prior experience monitoring the implementation of mitigation activities, as well as long-term success monitoring of mitigation projects.

- **USFWS-Approved Biologist:** A USFWS-Approved Biologist will be retained by the JPB for permitting and responsible for regulatory permit preparation and support. A USFWS-Approved Biologist will be retained by the D-B Contractor and will be responsible for ensuring the appropriate treatment of the California red-legged frog and San Francisco garter snake species and habitat, as identified in the EIR. Minimum qualifications for this position include the following: An individual with a bachelor's degree in biology or a similar natural resource field of study, possessing USFWS approval or a Section 10(A)(1)(a) permit to identify, handle, and relocate California red-legged frog and San Francisco garter snake.
**Qualified Botanist:** A Qualified Botanist will be retained by the JPB, and will be responsible for surveying areas of proposed construction disturbance containing undeveloped habitat suitable to support the special-status plants identified in the EIR to support permitting. A Qualified Botanist will also be retained by the D-B Contractor and be responsible for preparing a revegetation and monitoring plan, in the event that avoidance of special-status plants during construction is not possible. Minimum qualifications for this position include the following: An individual with a bachelor's degree in botany, biology, or similar a natural resource field of study, possessing experience conducting botanical surveys for special-status plant species and vegetation restoration in the greater San Francisco Bay Area.

**Certified Arborist:** A Certified Arborist will be retained by the JPB for tree survey and development of the Tree Avoidance, Minimization, and Replacement Plan in cooperation with the D-B contractor and will also be responsible for consulting with cities, counties, and affected property owners along the project corridor during plan preparation. A Certified Arborist will also be retained by the D-B Contractor for Project construction and will be responsible for overseeing the D-B Contractor's tree mitigation in conformance with the EIR. The D-B Contractor in general shall avoid impacts to trees along the alignment through its final design and layout of the OCS pole configuration, where feasible. Minimum qualifications for this position include the following: (1) Minimum 3 years full-time experience in arboriculture or 2-year degree in arboriculture and 2 years practical experience for a 4-year degree in related field and one year of practical experience; and (2) a currently Certified Arborist per the ISA (International Society of Arboriculture).

**Qualified Architectural Historian:** A Qualified Architectural Historian will be retained by the JPB to support design implementation of historic resource mitigation as implemented by the D-B Contractor and the D-B-B Tunnel Contractor, and for certifying that the D-B and D-B-B Contractors' final designs are compliant with the historic resource mitigation. The JPB in turn will provide the certification to SHPO and procure SHPO's approval. Historic facilities include but are not limited to certain stations and tunnels in the right-of-way. The D-B Contractor and the D-B-B Tunnel Contractor will each retain a Qualified Architectural Historian to verify that construction they supervise is in compliance with the historic resource mitigation. Minimum qualification for this position are a graduate degree in architectural history, art history, historic preservation, or closely related field, with coursework in American architectural history, or a bachelor's degree in architectural history, art history, historic preservation or closely related field plus one of the following: At least two years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

**Qualified Professional Archaeologist:** A Qualified Professional Archaeologist will be retained by the D-B Contractor and will meet the Secretary of the Interior (SOI) Standards of Archaeology. The Qualified Professional Archaeologist will be responsible for implementing mitigation and coordinating the status of the archaeological mitigation with the JPB and the D-B Contractor. The Qualified Professional Archaeologist will also be responsible for coordinating with the local Native American community. Minimum qualification for this
position are a graduate degree in archeology, anthropology, or closely related field plus: At least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management; At least four months of supervised field and analytic experience in general North American archeology, and Demonstrated ability to carry research to completion.

- **Archaeological Monitor**: Archaeological monitors will be retained by the D-B Contractor and will be responsible for field monitoring of archaeological resources. The JPB will perform pre-construction investigation. Minimum qualification for this position are a Bachelor’s degree in anthropology with an emphasis in archaeology or closely related field (such as history or geology) and subsequent course work in archeology and twelve months professional archaeology experience in California.

- **Qualified Geologist**: A Qualified Geologist will be retained by the D-B Contractor, and will be responsible for preparing design-level geotechnical investigations for all Traction Power Facilities (TPFs). Minimum qualifications for this position are that the consultant be a Professional Geologist (P. G.), registered in California, with experience conducting geotechnical investigations.

- **Qualified Geotechnical Engineer**: A Qualified Geotechnical Engineer will be retained by the D-B Contractor, and will be responsible for conducting field observations and testing of onsite soils and formations to identify and define the limits of expansive materials. Minimum qualifications for this position are that the consultant be a Professional Geotechnical Engineer (P. G. E.), registered in California, with experience conducting assessment of soil conditions.

- **Qualified Environmental Consultant for additional hazardous material site assessment**: A Qualified Environmental Consultant will be retained by the JPB and will be responsible for preparation of a Phase II Environmental Site Assessment (ESA). The D-B Contractor shall retain a Qualified Environmental Consultant who can assess whether hazardous materials are encountered and oversee their removal, disposal and remediation in accordance with all applicable rules, regulations and laws. Minimum qualifications for this position are that the consultant be a Professional Engineer (P.E.) or Professional Geologist (P. G.), registered in California, with experience conducting Phase II ESAs.

- **Qualified Acoustical Consultant**: A Qualified Acoustical Consultant will be retained by the D-B Contractor, and will be responsible for conducting site-specific acoustical analysis of ancillary facilities. The D-B Contractor shall design, select equipment and install equipment such that acoustical levels during operations at all traction power facility sites comply with the EIR requirements. Minimum qualifications for this position include the following: 10+ years of experience as practicing acoustical consultant; and a licensed professional engineer or Board Certified by the Institute of Noise Control Engineering.
5.0 **Design-Build Contractor Environmental Compliance Lead**

The D-B Contractor’s Environmental Compliance Lead shall have a minimum of 10 years of experience overseeing and implementing compliance with requirements of environmental impact reports and required mitigations on major construction projects in California. The individual shall have expertise in compliance, mitigation, and in CEQA and NEPA regulations.

6.0 **Project Team Organization**

Implementation of the MMRP will be a team effort consisting of both JPB and D-B Contractor personnel. The D-B Contractor’s Environmental Compliance Lead shall be responsible for communications and coordination with the JPB’s designated environmental lead regarding all MMRP activities throughout the duration of design and construction of the Project and following construction as determined by the JPB.

D-B Contractor team members with specialized expertise identified in Section 4.2 shall report to the D-B Contractor’s Environmental Compliance Lead and shall work closely with JPB-designated experts in similar disciplines.

It is anticipated that, at a minimum, monthly meetings will be held between JPB and D-B Contractor environmental leads and staffs to review status and progress relative to MMRP activities. Additionally, the JPB and D-B Contractor environmental leads shall ensure that all pre-requisite MMRP activities to design and construction are completed in a timely manner.
### Table 1. Mitigation Monitoring and Reporting Program – Summary of Mitigation Measures

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
<th>Implementation and Reporting Schedule</th>
<th>Implementation Mechanism or Tool</th>
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<tbody>
<tr>
<td><strong>AES-2a: Minimize OCS construction activity on residential and park areas outside the Caltrain ROW.</strong>&lt;br&gt; OCS construction activities outside the Caltrain ROW in residential and park areas along the Caltrain ROW shall be minimized in extent and duration to the maximum extent feasible. JPB shall include the following requirements for construction contractors:</td>
<td>Implementing Party: D-B Contractor and D-B-B Tunnel Contractor Reporting Party: D-B Contractor and D-B-B Tunnel Contractor Monitoring Party: JPB</td>
<td>Pre-Construction X Construction X Post-Construction Operation</td>
<td>Implementation: JPB will develop specific requirements to be included in contracts which will then be implemented by the D-B Contractor and the D-B-B Tunnel Contractor. Reporting: D-B Contractor and D-B-B tunnel Contractor shall present OCS proposed construction schedule to JPB for review and approval highlighting activity on/adjacent to residential areas and parks. Monthly during construction from D-B Contractor and D-B-B tunnel Contractor to JPB.</td>
<td>OCS Construction Schedule Review. The D-B Contractor and the D-B-B Tunnel Contractor will be contractually bound to comply with these requirements.</td>
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<tr>
<td><strong>AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers.</strong>&lt;br&gt; New infrastructure (OCS poles, TPF- associated structures and equipment, fencing at TPFs, and overbridge protection barriers) associated with the Proposed Project will be designed in a manner that allows these features to blend with the surrounding built and natural environments as much as possible. Measures will include, but are not limited to, the following:</td>
<td>Implementing Party: D-B Contractor Reporting Party: D-B Contractor Monitoring Party: JPB</td>
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<td>- Aesthetic treatments to project features will be implemented to help soften their visual intrusion upon the landscape, especially in areas of high use.</td>
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<td>Design Review. The D-B Contractor will be contractually bound to implement these requirements during final design, and they will be verified following construction.</td>
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<tr>
<td>OCS Pole Design</td>
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<td>- The JPB shall coordinate with local jurisdictions to obtain their input into OCS pole design relative to station aesthetics.</td>
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<td>- Aesthetic considerations shall be considered when selecting pole design. Different pole designs, including round poles, square poles, and multi-face poles, have different characteristics. Some individuals find square poles to be aesthetically less desirable due to their angularity.</td>
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<td>- In addition, the JPB shall consider options to reduce pole diameter by using thinner diameter poles that are constructed with thicker walls.</td>
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<td>- Aesthetic considerations shall be balanced with other considerations including cost.</td>
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</table>
### Mitigation Measure

**Implementing, Reporting and Monitoring Responsibilities**

<table>
<thead>
<tr>
<th>Safety, maintenance, and durability:</th>
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<tbody>
<tr>
<td>• The JPB shall also evaluate the potential to house OCS wire-tensioning weights inside larger diameter poles.</td>
</tr>
<tr>
<td>• The JPB will also place OCS wires on the track-side of the poles, where feasible.</td>
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<tr>
<td>• Features will be constructed with low sheen and non-reflective surface materials to reduce potential for glare. Unpainted metal surfaces will not be permitted.</td>
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</table>

#### Traction Power Facilities

- The JPB shall coordinate with local jurisdictions regarding color selection and vegetative screening for aesthetic treatments at sensitive TPF sites for current uses (PS3, Option 1; PS5, Option 1, Option 1B and 2; PS6, Option 1 and 2; and PS7) or in the event of future adjacent residential or park/plaza uses (PS4, Options 1 and 2 and SWS Option 1) or in the event of future adjacent residential or park/plaza uses (PS4, Options 1 and 2 and SWS Option 1).

- Vegetative screening will be provided to visually buffer views of TPFs. Vegetative screening may be achieved in a variety of ways, depending on availability of space. Where feasible and necessary, the paralleling station standard design of 40’ X 90’ shall be modified to allow for more space for vegetative screening (such as 30’ X 105’ for example). Acceptable methods of vegetative screening that may be used include:
  - Tree planting
  - Fencing with creeping vines.
  - Landscape buffer planting
  - Vegetative wall/fence.

The options above could be adjacent to the TPF perimeter and/or could be placed in other locations nearby where they would help to reduce the visual apparentness of the TPF and/or enhance the visual aesthetics near to the TPF location. For example, at PS5, Option 1B, tree planting on the east side of Alma Street in the sidewalk median, if allowed by the City of Palo Alto, could help to obscure the view of the facility from residences that back onto Alma Street.

The JPB shall maintain all vegetative screening on an on-going basis on JPB properties. If screening vegetation is placed outside the JPB ROW, the JPB will coordinate with the local jurisdiction on maintenance responsibilities.

- Features will be colored or painted a shade that is two to three shades darker than the general surrounding area. Light or bright colors will be avoided. Colors will be chosen from the U.S. Department of the Interior Bureau of Land Management Standard Environmental Colors Chart CC-001: June 2008. Because color selection will vary by location, the facility designer shall employ the use of color panels evaluated from key observation points during common lighting conditions (front light versus backlighting) to aid in the appropriate color selection. Color selection will be made for the coloring of the most prevalent season.

- All paints used for the color panels and structures will be color matched directly from the physical color chart, rather than from any digital or color-reproduced versions of the color chart. Paints will be of a dull, flat, or satin finish to reduce potential for glare, and the use of glossy paints for surfaces will be avoided. Appropriate paint type will be

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### Mitigation Timing

#### Implementation and Reporting Schedule

#### Implementation Mechanism or Tool

<table>
<thead>
<tr>
<th>Pre-Construction</th>
<th>Construction</th>
<th>Post-Construction</th>
<th>Operation</th>
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<tr>
<td>Implementation and Reporting Schedule</td>
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### Mitigation Measure

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<th>Implementing, Reporting and Monitoring Responsibilities</th>
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</tr>
</thead>
</table>
| **Pre-Construction** | Implementing Party: D-B Contractor and D-B-B Tunnel Contractor  
Reporting Party: JPB  
Monitoring Party: JPB | Implementation: Requirements will be specified in contracts, and will be implemented by the D-B Contractor and D-B-B Tunnel Contractor for the duration of construction.  
Reporting: Monthly | The D-B Contractor and the D-B-B Tunnel Contractor will be contractually bound to comply with these requirements. |
| **Construction** | Implementing Party: D-B Contractor and D-B-B Tunnel Contractor  
Reporting Party: D-B Contractor and D-B-B Tunnel Contractor  
Monitoring Party: JPB | | |
| **Post-Construction** | | | |
| **Operation** | | | |

#### Timing

- **Pre-Reporting and Operation**
  - **Construction**
    - **Implementation**
      - **Requirements** will be specified in contracts, and will be implemented by the D-B Contractor and D-B-B Tunnel Contractor for the duration of construction.
      - **Reporting**: Monthly

**Overview**

- **TPFs** will be managed and maintained for a well-kept appearance and in a manner that vandalism and graffiti is abated semi-annually to maintain the effectiveness and attractiveness of the visual mitigation prescribed herein. The D-B Contractor will be contractually bound to comply with these requirements.

**Overbridge Protection Barriers**

- JPB will coordinate with the appropriate city staff on design selection of overbridge protection barriers and fencing that would be viewed from highly used public spaces and historical train stations.
- Overbridge protection barriers shall be designed to recede into the visual landscape as much as possible to match the aesthetic character on the existing overpass. While Caltrain will retain final approval, Caltrain will make effort to accommodate local input and preference when selecting overbridge protection materials. The D-B Contractor will be contractually bound to comply with these requirements.

**AES 4a: Minimize spillover light during nighttime construction.**

During nighttime construction adjacent to residential neighborhoods, the JPB will require the contractor to direct any artificial lighting onto the worksite and away from any adjacent residential areas at all times. The construction contractor will notify nearby residences of the construction schedule, prior to the start of construction, including the time periods for nighttime construction. A point of contact, including contact information, will be provided to residents to address concerns associated with construction and nighttime lighting.

- **AES 4b: Minimize light spillover at TPFs.**

  The JPB will ensure that all artificial outdoor lighting associated with traction power facilities will be limited to safety and security requirements and will be designed to minimize light spill over into adjacent areas. All lighting is to provide minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only towards objects requiring illumination. Lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties and open spaces. The lowest allowable wattage will be used for all lighted areas and the amount of nighttime lights needed to light an area will be minimized to the highest degree possible. Light fixtures will have non-glare finishes that will not cause reflective daytime glare. Lighting will be designed for energy efficiency, use, and have daylight sensors or be timed with an on/off program. Lights will provide good color rendering with natural light qualities with the minimum intensity feasible for security, safety, and personnel access. Lighting, including light color rendering and fixture types, will be designed to aesthetically minimize the profile of the TPFs. The D-B Contractor will be contractually bound to comply these requirements during final design, and they will be verified following construction.

**AES 5a: Implement BAAQMD basic and additional construction mitigation measures to reduce construction-related dust.**

The JPB will require all construction contractors to implement the basic and additional construction mitigation measures recommended by BAAQMD to reduce fugitive dust emissions. Emission reduction measures will include, at a minimum, the following measures. Additional measures may be identified by BAAQMD or the contractor as appropriate.

- **All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas,** and any other exposed areas that may cause dust emissions) shall be identified by BAAQMD or the contractor as appropriate. Dust Mitigation Plan. The D-B Contractor and the D-B-B Tunnel Contractor will be contractually bound to comply with these requirements.

**Additional Information**

- **Selected for the finished structures to ensure long-term durability of the painted surfaces.** The appropriate operating agency or organization will maintain the paint color over time.
- **Mechanism or Tool selected for the finished structures to ensure long-term durability of the painted surfaces.** The appropriate operating agency or organization will maintain the paint color over time.
- **TPFs will be managed and maintained for a well-kept appearance and in a manner that vandalism and graffiti is abated semi-annually to maintain the effectiveness and attractiveness of the visual mitigation prescribed herein.** The D-B Contractor will be contractually bound to comply with these requirements.

**Overbridge Protection Barriers**

- JPB will coordinate with the appropriate city staff on design selection of overbridge protection barriers and fencing that would be viewed from highly used public spaces and historical train stations.
- Overbridge protection barriers shall be designed to recede into the visual landscape as much as possible to match the aesthetic character on the existing overpass. While Caltrain will retain final approval, Caltrain will make effort to accommodate local input and preference when selecting overbridge protection materials. The D-B Contractor will be contractually bound to comply with these requirements.

**Dust Mitigation Plan.** The D-B Contractor and the D-B-B Tunnel Contractor will be contractually bound to comply with these requirements.
<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
<th>Implementation and Reporting Schedule</th>
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<td>Pre-Construction</td>
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<td>unpaved access roads) will be watered two times per day.</td>
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<td>• All haul trucks transporting soil, sand, or other loose material off site will be covered.</td>
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<td></td>
<td>• All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</td>
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<td>• All vehicle speeds on unpaved roads will be limited to 15 mph.</td>
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<td>• All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.</td>
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<td>• A publicly visible sign will be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. BAAQMD’s phone number will also be visible to ensure compliance with applicable regulations.</td>
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<td>• All grading and demolition will be suspended when wind speeds exceed 20 mph.</td>
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<td>• Wind breaks will be installed on the windward side(s) of actively disturbed areas of construction.</td>
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<td>• Vegetative ground cover (e.g., fast-germinating native grass seed) will be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</td>
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<td>• The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time will be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</td>
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<td>• Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.</td>
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<td>• Contractor shall require daily recording/ monthly reporting throughout construction.</td>
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<td>• Minimize the idling time of diesel powered construction equipment to two minutes.</td>
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<td>• Clear signage will be provided for construction workers at all access points.</td>
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<tr>
<td>AQB-2b: Implement BAAQMD basic and additional construction mitigation measures to control construction-related ROG and NOX emissions.</td>
<td>Implementing Party: D-B Contractor and D-B-B Tunnel Contractor Reporting Party: D-B Contractor and D-B-B Tunnel Contractor Monitoring Party: JPB</td>
<td>X  X</td>
<td>Implementation: Requirements will be specified in contracts, and will be implemented by the D-B Contractor and D-B-B Tunnel Contractor for the duration of construction. Reporting: The D-B Contractor and the D-B-B Tunnel Contractor shall prepare an equipment emissions control plan for JPB review and approval prior to construction. The D-B Contractor and the D-B-B Tunnel Contractor shall require daily recording/ monthly reporting throughout construction to confirm implementation during construction. The JPB shall review compliance as part of annual construction reviews. Equipment Emissions Control Plan The D-B Contractor will be contractually bound to comply with these requirements.</td>
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<tr>
<td>JPB will implement the following BAAQMD-recommended basic and additional control measures to reduce ROG and NOX emissions from construction equipment.</td>
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<td>• All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified mechanic and determined to be running in proper condition prior to operation.</td>
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<td></td>
<td>• Minimize the idling time of diesel powered construction equipment to two minutes. Clear signage will be provided for construction workers at all access points.</td>
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<td>• Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOX and PM.</td>
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<td>• Require all Contractors use equipment that meets the ARIF’s most recent certification standard for off-road heavy duty diesel engines.</td>
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<tr>
<td>AQB-2c: Utilize clean diesel-powered equipment during construction to control construction-related ROG and NOX emissions.</td>
<td>Implementing Party: D-B Contractor and D-B-B Tunnel Contractor Reporting Party: D-B Contractor and D-B-B Tunnel Contractor</td>
<td>X  X</td>
<td>Implementation: Requirements will be specified in contracts, and will be implemented by the D-B Contractor and D-B-B Tunnel Contractor for the duration of construction. Reporting: The D-B Contractor and the D-B-B Tunnel Contractor shall prepare an equipment emissions control plan for JPB review and approval prior to construction. The D-B Contractor and the D-B-B Tunnel Contractor shall require daily recording/ monthly reporting throughout construction to confirm implementation during construction. The JPB shall review compliance as part of annual construction reviews. Equipment Emissions Control Plan The D-B Contractor and D-B-B Tunnel Contractor will be contractually bound to comply with these requirements.</td>
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<tr>
<td>JPB will ensure that all offroad diesel-powered equipment used during construction will be</td>
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<td>Mitigation Measure</td>
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<td>equipped with an EPA Tier 3 or cleaner engines, except for specialized construction equipment in which an EPA Tier 3 engine is not available. This mitigation measure assumes emission reductions compared with a fleet-wide average Tier 2 engine.</td>
<td>B-B Tunnel Contractor&lt;br&gt;Monitoring Party: JPB</td>
<td>Pre-Construction</td>
<td>Contractor for the duration of construction. Reporting: The D-B Contractor and D-B-B Tunnel Contractor shall prepare an equipment emissions control plan for JPB review and approval prior to construction. The D-B Contractor and D-B-B Tunnel Contractor shall require daily recording/ monthly reporting throughout construction to confirm implementation during construction. The JPB shall review compliance as part of annual construction reviews</td>
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<td>Post-Construction</td>
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Comply with these requirements.
### BIO-1a: Implement general biological impact avoidance measures.

The following practices will be implemented when each applies as determined by the construction schedule and specific construction activities.

- A Worker Environmental Awareness Training Program for construction personnel will be conducted by a qualified biologist retained by JPB. The program will provide workers with information on their responsibilities with regard to the special-status species, including central California steelhead, San Francisco garter snake, western pond turtle, California tiger salamander, California red-legged frog, Townsend’s big-eared bat, pallid bat, hoary bat, fringed myotis, Cooper’s hawk, great blue heron, western burrowing owl, northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, and purple martin. The training will provide a physical description of the special-status species that have potential to occur and be affected by construction activities to each construction crew prior to the initiation of the crew’s construction activities. The worker awareness training will also detail each species’ habitat and legal protections, a photo of relevant species, and contact information for the primary biologist.

- Precautions to prevent pollution of streams, waterways, and other bodies of water during construction.

- Dust control through watering of appropriate surfaces.

- Clearing and grubbing procedures that specify that only trees and plants designated for removal will be removed.

- Excavation techniques to ensure the stability of subsurface materials as well as retention of excavated materials within the construction areas.

- Materials and fluids generated by construction activities will be placed at least 10 meters (100 feet) from wetland areas or drainages and covered until they are disposed of at a permitted site.

- All natural communities and wetland areas located outside the construction zone that could be affected by construction activities will be temporarily fenced off and designated Environmentally Sensitive Area(s) to prevent accidental intrusion by workers and equipment.

- Sensitive habitat and wetland (including other waters of the United States and waters of the state) areas will be identified during Project design and avoided during construction to the maximum extent feasible.

### BIO-1b: Implement special-status plant species avoidance and revegetation measures.

During the design phase, prior to construction, JPB will retain a qualified botanist to survey any areas of proposed construction disturbance that contain undeveloped habitat suitable to support Franciscan onion, bent-flowered fiddleneck, round-leaved fillaree, bristly sedge, Congdon’s tarplant, Santa Clara Valley dudleya, marsh microseris, white seaside tarplant, San Francisco tanquion, or showy rancheria clover. The qualified botanist will survey appropriate areas of suitable habitat for these species during each species’ blooming period (Table 3.3-3[ of the EIR]).

If no special-status plants are identified during the design-period surveys, then no further action is necessary. If one or more special-status species is found within areas proposed for disturbance in the project corridor, then the occurrence will be avoided, if feasible. If avoidance is not possible, then a revegetation and monitoring plan would be developed and executed by a qualified botanist.

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<tbody>
<tr>
<td>BIO-1a</td>
<td>Implementing Party: Qualified Biologist and D-B Contractor</td>
<td>X X X</td>
<td>Implementation: Qualified Biologist will prepare and present the Worker Environmental Awareness Training Program to all construction personnel prior to the start of construction activities. Qualified Biologist will complete jurisdictional delineation of all potentially affected wetlands and will work with D-B Contractor on avoidance measures as part of design. Wetland avoidance technical memorandum presenting rationale why avoidance is not possible for any unavoidable impacts to wetland will be presented to JPB for review and approval. Wetland permits will be obtained from USACE and RWQCB as necessary for any temporary or permanent impacts to wetlands. D-B Contractor will comply with the measures for the duration of construction.</td>
<td>Wetland Delineation prepared by a Qualified Botanist. Worker Environmental Awareness Training Program prepared by a Qualified Biologist. The D-B Contractor will be contractually bound to comply with these requirements.</td>
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**Reporting:** Daily recording/ monthly reporting throughout construction.
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<tr>
<td>BIO-1c: Implement California red-legged frog and San Francisco garter snake avoidance measures.</td>
<td>Implementing Party: USFWS-Approved Biologist and D-B Contractor Reporting Party: USFWS-Approved Biologist Monitoring Party: JPB</td>
<td>Pre-Construction Construction Post-Construction Operations</td>
<td>Implementation: USFWS-Approved Biologist will identify and demarcate species habitat prior to the initiation of construction activities, and will monitor all construction activities in sensitive areas for the duration of construction. Construction activities near drainages identified as migration corridors will be restricted between May 15 and October 30. Reporting: Daily recording and monthly reporting for the duration of construction</td>
<td>Worker Environmental Awareness Training Program prepared by a Qualified Biologist. The D-B Contractor will be contractually bound to comply with these requirements.</td>
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<tr>
<td>BIO-1d: Implement western pond turtle avoidance measures. Prior to the start of construction activities at sites that may support western pond turtle (defined as any undeveloped areas within 400 feet of creeks), JPB will retain a qualified biologist to conduct preconstruction surveys for pond turtles in all suitable habitats in the vicinity of the project corridor. Surveys will take place at each area of suitable habitat that will be disturbed no more than 7 days prior to the onset of site preparation and construction activities with the potential to disturb turtles or their habitat. If preconstruction surveys identify active nests, the biologist will establish no-disturbance buffer zones around each nest using temporary orange construction fencing. The demarcation should be permeable to allow young turtles to move away from the nest following hatching. The radius of the buffer zone and the duration of exclusion will be determined in consultation with the CDFW. The buffer zones and fencing will remain in place until the young have left the nest, as determined by the qualified biologist. If western pond turtles are found in the project corridor, a qualified biologist will remove and relocate them to suitable habitat outside of the project limits, consistent with CDFW protocols and permits. Relocation sites will be subject to agency approval.</td>
<td>Implementing Party: Qualified Biologist and D-B Contractor Reporting Party: Qualified Biologist Monitoring Party: JPB</td>
<td>Implementation: No more than 7 days prior to start of construction. Reporting: Following preconstruction survey; weekly recording and monthly reporting thereafter for the duration of construction.</td>
<td>Qualified Biologist will work with D-B Contractor to establish no disturbance buffers as needed.</td>
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retained by JPB that would consist of collection of seed prior to disturbance, reseeding and revegetation after disturbance, and monitoring. Most of the project construction consists of installing OCS poles and wires which have a minimal footprint and, thus, revegetation will be possible in areas where special-status plants may be disturbed. The plan will include revegetation success criteria of 80% of the reseeded target area, in perpetuity conservation of restoration areas, weed management, limiting human access, monitoring for at least 5 years and until success is demonstrated for 3 consecutive years, and remediation measures if success is not achieved by year 5. Monitoring will continue until the success criteria are completely satisfied.

avoidance of special-status plants is not possible, monitoring reports will be prepared on a yearly basis until success criteria are completely satisfied.

BIO-1c: Implement California red-legged frog and San Francisco garter snake avoidance measures.

- Implement the Worker Environmental Awareness Training Program described under Mitigation Measure BIO-1a: Implement general biological impact avoidance measures.
- All potential California red-legged frog and San Francisco garter snake habitat that can be avoided by construction activities will be flagged by a USFWS-approved biologist prior to grading or other construction activities. All California red-legged frog and San Francisco garter snake habitat will be protected by a 10-foot buffer with exclusionary fencing to make it easily avoided by construction crews.
- The construction site will be monitored by a qualified and federally permitted biologist during all phases of construction to remove any California red-legged frogs and San Francisco garter snakes found in the construction area. Individual frogs and snakes will be moved immediately to a site that is a minimum of 330 feet from the construction boundary. The relocation site will be determined prior to commencement of construction activities.
- Construction activities near drainages identified as potential migration corridors will take place between May 15 and October 31 when the California red-legged frog and San Francisco garter snake are least likely to be present in the project corridor.
- To discourage California red-legged frogs from entering the project impact areas via the freshwater ditches west of the impact areas, the ditches will be equipped with lightweight, one-way flow gates. These will be designed so that water can easily pass from the project site to the ditches, but small vertebrates such as the frog cannot move upstream from the ditches to the project site.

BIO-1d: Implement western pond turtle avoidance measures.

Prior to the start of construction activities at sites that may support western pond turtle (defined as any undeveloped areas within 400 feet of creeks), JPB will retain a qualified biologist to conduct preconstruction surveys for pond turtles in all suitable habitats in the vicinity of the project corridor. Surveys will take place at each area of suitable habitat that will be disturbed no more than 7 days prior to the onset of site preparation and construction activities with the potential to disturb turtles or their habitat. If preconstruction surveys identify active nests, the biologist will establish no-disturbance buffer zones around each nest using temporary orange construction fencing. The demarcation should be permeable to allow young turtles to move away from the nest following hatching. The radius of the buffer zone and the duration of exclusion will be determined in consultation with the CDFW. The buffer zones and fencing will remain in place until the young have left the nest, as determined by the qualified biologist. If western pond turtles are found in the project corridor, a qualified biologist will remove and relocate them to suitable habitat outside of the project limits, consistent with CDFW protocols and permits. Relocation sites will be subject to agency approval.


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<tr>
<td><strong>BIO-1a: Implement Townsend’s big-eared bat, pallid bat, hoary bat, and fringed myotis avoidance measures.</strong></td>
<td>Prior to the start of construction activities at sites offering suitable bat roosting habitat, JPB will retain a qualified biologist to conduct preconstruction surveys for Townsend’s big-eared bat, pallid bat, hoary bat, and fringed myotis. Surveys will take place no more than 7 days prior to the onset of site preparation and construction activities with the potential to disturb bats or their habitat and will include close inspection of potential bat roosts, such as trees and any built features within the work footprint. If special-status bats are found in the project footprint and avoidance of roosting areas is not possible, a qualified wildlife biologist will consult with CDFW staff to identify the appropriate protection measures. The contractor will be responsible to ensure that CDFW requirements are implemented. Multiple survey visits and survey methods may be required at a single site to determine presence or absence of roosting bats, specifically Townsend’s big-eared bat, depending on season and roost type.</td>
<td>Implementing Party: Qualified Biologist and D-B Contractor</td>
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<td>Implementation: No more than 7 days prior to start of construction. Reporting: Following preconstruction survey; weekly recording and monthly reporting thereafter for the duration of construction.</td>
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<tr>
<td><strong>BIO-1f: Implement western burrowing owl avoidance measures.</strong></td>
<td>Prior to any construction activity planned to begin during the fall and winter non-nesting season (September 1 through January 31) during the survey or at any time during the construction process, JPB will retain a qualified wildlife biologist to conduct a preconstruction survey for burrowing owls. Surveys will be conducted at each area of suitable habitat that will be disturbed no more than 7 days prior to ground disturbing activities and will cover all suitable burrowing owl habitat subject to disturbance pursuant to the March 7, 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012). If any western burrowing owls are found within the disturbance area, the contractor will notify CDFW and will proceed under CDFW direction. If construction is planned to occur during the nesting season (February 1 through August 31), surveys for nesting owls will be conducted by a qualified wildlife biologist in the year prior to construction to determine if there is breeding pair within 150 meters (approximately 492 feet) of the construction footprint, unless the biologist determines that a smaller survey buffer around the construction footprint is called for based on preexisting background disturbance and conditions. This will provide the project team advance notice regarding nesting owls in the project area and allow ample time to discuss with CDFW regarding the appropriate course of action if nesting owls are found. In addition, same-year preconstruction surveys for nesting western burrowing owls will be conducted no more than 7 days prior to ground disturbance in all suitable burrowing owl habitat relative to the proposed date of disturbance. If the biologist identifies the presence of a burrowing owl nest in an area scheduled to be disturbed by construction, a 200-meter no-activity buffer will be established and maintained around the nest while it is active. Surveys and buffer establishment will be performed by qualified wildlife biologists, will be coordinated with CDFW, and will be subject to CDFW review and oversight.</td>
<td>Implementing Party: Qualified Biologist and D-B Contractor</td>
<td>X X</td>
<td>Implementation: No more than 7 days prior to start of construction or in the year prior to construction if construction starts during nesting season. Reporting: Following preconstruction survey; weekly recording and monthly reporting thereafter for the duration of construction.</td>
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<td><strong>BIO-1g: Implement northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, purple martin, and other nesting bird avoidance measures.</strong></td>
<td>• Implement the Worker Environmental Awareness Training Program described under Mitigation Measure BIO-1a: Implement general biological impact avoidance measures.</td>
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<td>USFWS-Approved Biologist will consult with USFWS and implement protection measures as needed.</td>
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<td>nest buffers for non-raptorial birds are 50 feet and 250 feet for raptors.</td>
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<td>• Prior to construction activities, a USFWS-approved biologist will conduct a preconstruction survey of all potential nesting habitat for tree and ground-nesting raptors as well as purple martins and other swallow species that use cavities in human-made structures (i.e., overpasses) as nest sites or that construct nests that adhere to the aforementioned human-made structures to record the presence and location of nesting swallows.</td>
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<td>• If construction during the breeding season cannot be avoided, then USFWS-approved exclusionary devices such as netting, panels, or metal projectors will be installed over the entrances to the identified cavities and/or next sites prior to the swallows’ arrival in mid-March. No exclusionary devices will be installed after the breeding season begins (i.e., March 15 through August 15), nor will the cavities or external nests be blocked if birds are occupying them. All installation of exclusionary devices will be supervised by the USFWS-approved biologist.</td>
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<td>• Alternatively, no preconstruction surveys for nesting swallows would be conducted, however, all drainage holes or other cavities, or suitable nest substrates associated with human-made structures within the project corridor that may be used by nesting swallows would be fitted with the exclusionary devices described above prior to the birds’ arrival in mid-March.</td>
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<td>• All exclusionary devices will be monitored and maintained throughout the breeding season to ensure that they are successful in preventing the birds from accessing the cavities or next sites. Upon the project’s completion, the exclusionary devices will be removed from the site unless otherwise authorized by USFWS.</td>
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<td>• All proposed new facility sites are recommended for nesting bird surveys in advance of construction activities if trees are to be removed during the breeding season. Although the majority of the proposed facility sites are located within previously disturbed areas, potential exists for birds to nest within suitable habitat present on or adjacent to these sites.</td>
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<td>BIO-1h: Conduct biological resource survey of future contractor-determined staging areas.</td>
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<td>JPB will retain a qualified biologist to conduct a survey of future contractor-determined staging areas prior to any project-related activities commencing in such locations. The biologist will identify any wetlands, other waters of the United States or state, sensitive habitat, and suitable habitat for special-status species. The biologist will work with the contractor, who will avoid such sensitive biological resources to the extent possible through the adjustment of the proposed staging area(s). For habitat where special-status species or other protected species could occur (e.g., occasional upland migration habitat) that could be affected by staging activities, other applicable mitigation measures (BIO-1a to BIO-1g, BIO-1i, BIO-2, BIO-3, BIO-5, BIO-6, and HYD-1) will be implemented for impacts that would occur at the contractor-proposed staging locations.</td>
<td>Implementing Party: Qualified Biologist and D-B Contractor Reporting Party: Qualified Biologist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Qualified Biologist will conduct a survey prior to project-related activities. Reporting: Following establishment of construction staging areas.</td>
<td>The D-B Contractor will be contractually bound to comply with this requirement. Qualified Biologist will work with D-B contractor to adjust proposed staging area(s) as needed avoid sensitive biological resources to the extent possible.</td>
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<td>BIO-1i: Minimize impacts on Monarch butterfly overwintering sites.</td>
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<td>Prior to and during construction, a qualified biologist will periodically monitor the project ROW to evaluate whether Monarch butterfly overwintering sites have been established within areas that would be disturbed by the Proposed Project construction. If no overwintering sites are identified, then no further action is necessary. If overwintering sites become established, then project construction will avoid disturbing the sites during the overwintering period. Outside of the overwintering period, Proposed Project construction may proceed without constraint at the overwintering location.</td>
<td>Implementing Party: Qualified Biologist and D-B Contractor Reporting Party: Qualified Biologist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Qualified Biologist will periodically monitor the project ROW for establishment of Monarch butterfly overwintering sites prior to and during construction throughout the overwintering period. Reporting: Monthly, if overwintering sites are</td>
<td>The D-B Contractor will be contractually bound to comply with this requirement.</td>
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<td><strong>BIO-1</strong>: Avoid nesting birds and bats during vegetation maintenance.</td>
<td>Implementing Party: Qualified Biologist, JPB, and Rail Operations Contractor Reporting Party: Qualified Biologist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Preconstruction surveys will be conducted prior to construction and annually if maintenance activities are scheduled between February 1 and August 31. Reporting: Following each survey, in the event maintenance activities are scheduled between February 1 and August 31 for the duration of construction; and following maintenance activities during operation of the project if maintenance activities are scheduled between February 1 and August 31.</td>
<td>Worker Environmental Awareness Training Program. Annual Vegetation Maintenance Plan prepared and maintained by JPB.</td>
</tr>
<tr>
<td><strong>BIO-2</strong>: Implement serpentine bunchgrass avoidance and revegetation measures.</td>
<td>Implementing Party: Qualified Botanist and D-B Contractor Reporting Party: Qualified Botanist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Qualified Botanist will survey alignment for serpentine bunchgrass prior to final design and will prepare Revegetation Plan, as necessary. Reporting: Prior to final design and throughout the duration of construction, as needed. If revegetation done, then post-planting reporting until success determined.</td>
<td>The D-B Contractor will be contractually bound to comply with this requirement. Qualified Botanist will establish and monitor revegetated serpentine bunchgrass grassland as needed.</td>
</tr>
<tr>
<td><strong>BIO-3</strong>: Avoid or compensate for impacts on wetlands and waters.</td>
<td>Implementing Party: Qualified Botanist in coordination with USACE and/or SFRWQCB Reporting Party: Qualified Botanist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Following completion of final design, JPB will compensate for any permanent losses prior to construction. Reporting: Following final design.</td>
<td>Permit requirements established by USACE and/or SFRWQCB. Compensation and/or Restoration Plan.</td>
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</table>

The plan will contain the following provisions.
Mitigation Measure | Implementing, Reporting and Monitoring Responsibilities | Mitigation Timing | Implementation and Reporting Schedule | Implementation Mechanism or Tool
--- | --- | --- | --- | ---
• The definition of what is and is not a “tree” for the purposes of this mitigation shall be the same definition used in Appendix F, Tree Inventory and Canopy Assessment, which is based on the “tree” definition in each municipality.
• During the design phase, JPB will assess the potential to modify OCS pole alignment and other facility designs to avoid and/or minimize the amount of tree removal or pruning necessary consistent with maintenance, operational, and safety requirements. This may include changes in horizontal alignment of OCS poles, changes in pole design (such as use of center poles, two-track cantilevers, portals, or offset insulator poles and placement of energized elements on the trackside of OCS poles where consistent with construction maintenance, operational, and safety requirements). JPB will consult with each jurisdiction (including the jurisdictions’ arborist as appropriate) along the route during the design phase to identify where tree removals can and cannot be avoided with project design measures and methods to minimize pruning.1
• Prior to construction, a professional arborist will assess the potential effects to non-removed individual tree roots, including root pruning due to trenching of underground utilities and soil compaction at TPFs, to determine if these activities may jeopardize the health of affected trees. If tree health for trees not planned for removal is compromised substantially such that the tree may die, mitigation would occur at the ratios specified in this measure.
• During construction, trees not scheduled for removal will be protected using barrier fencing.
• Tree pruning during construction will be done in accordance with arboricultural industry recommended practices. Pruning specifications will also follow American National Standards Institute (ANSI) A300 Standards and International Society of Arboriculture (ISA) Best Management Practices. Tree planning near walkways will be consistent with California Public Utilities Commission (CPUC) General Order 118.
• Special care will be taken to minimize construction period effects on El Palo Alto including minimization of any pruning. Pruning of El Palo Alto, if necessary, will be coordinated with the City of Palo Alto arborist, in advance.
• If pruning will result in the loss of 25 percent or more of an individual tree’s canopy, then JPB will consider the tree removed and it will be replaced consistent with the replacement requirements described below.
  o For trees removed outside of the Caltrain ROW:
    ▪ Where specific replacement ratios or specifications are provided in the local tree ordinance or guidance (in the Cities of South San Francisco, San Bruno, San Mateo, Belmont, San Carlos, Atherton, Menlo Park, Palo Alto, Sunnyvale and Santa Clara County), Caltrain will replace protected trees using the local requirements (as specifically described in Appendix F, Attachment 1).
    ▪ Where specific replacement ratios or specifications are not provided in local tree ordinances (in the Cities of San Francisco, Brisbane, Millbrae, Burlingame, Redwood City, Mountain View, Santa Clara, and

1 The JPB will work with the City of San Carlos to determine whether to include the trees to be planted at the Transit Village in replacement requirements. If the trees are not planted by the time of the PCEP construction or do not fall within the ESZ, then there would be no reason to include them in the tree count as these trees would not be removed or trimmed.
### Mitigation Measure

San Jose, and in San Mateo County, as specifically described in Appendix F, Attachment 1, Caltrain will replace protected trees on a 2:1 basis using 15-gallon trees (i.e., two 15-gallon trees would be planted for each protected tree removed).

- For non-protected trees in all locations outside the ROW, Caltrain will replace trees on a 1:1 basis using 15-gallon trees (i.e., one 15-gallon tree would be planted for each non-protected tree removed).
  - For trees within the Caltrain ROW, the following requirements will be followed:
    - Protected trees will be replaced on a 1:1 basis using 15-gallon trees (i.e., one 15-gallon tree would be planted for every tree removed), where feasible. Non-protected trees will be replaced on the same basis.
  - Trees will be replaced, wherever possible, to provide visual screening of the ROW at locations where tree removal or pruning occurs due to the project.
  - On-site replanting will be the first priority, where feasible and consistent with railroad operations, maintenance, and safety.
  - Trees will be replaced with a tree of the same species wherever possible, unless that species is a non-native invasive species (see discussion below).
  - Alternative species to the tree removed may be planted with concurrence of the landowner and local municipality. Within the Jules Francard Grove in Burlingame any replanting will consist of blue gum trees to be consistent with the historic plantings. Replacement eucalyptus species, with the exception of red river gum, can be utilized as part of this mitigation.
  - If on-site tree replacement cannot occur on the Caltrain ROW (where trees are removed from the ROW) or on adjacent property (where trees are removed outside of the ROW), then tree replacement will occur on other parts of the affected property (with concurrence of the local landowner) or other parts of the local area (with concurrence of the local municipality). Alternatively, JPB will pay into a local urban forestry fund to support local tree planting programs, provided JPB and local municipalities can agree on the appropriate fund and amount. The replacement requirements described above will apply in determining the equivalent funding amount.

- Consistent with Executive Order 13112 on invasive species, when JPB is replacing trees within its ROW, JPB will use native tree species insofar as it is practicable. Within the Caltrain ROW, JPB will not plant invasive tree species as defined by the Invasive Species Council of California (http://ice.ucdavis.edu/invasives/). For replacement of trees outside the Caltrain ROW, JPB will replant (or pay for others to replant) trees that are desired by the landowner or local municipality. Landowners may prefer that replacement trees be non-native trees to match non-native trees that were removed or to match surrounding vegetation.

- The JPB will be responsible to provide maintenance and monitoring of all replanted trees to assure their survival and/or remedial replanting in case they do not survive.
  - All replanted trees will be maintained for a minimum 5-year period and monitored on an annual basis by a professional arborist.
  - If at the end of 5 years, the tree is considered successfully established, then no

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- Peninsula Corridor Electrification Project
- Mitigation Monitoring and Reporting Program
- January 2015
### Implementation, Reporting and Monitoring Responsibilities

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<td><strong>Further measurement is required by the JPB. A professional arborist shall make the determination as to planting success.</strong></td>
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<td>o The JPB will be directly responsible for maintaining all trees within the JPB ROW.</td>
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<td>o For trees outside the JPB ROW, the JPB will be responsible for maintenance costs for the first five years. If individual tree plantings are determined to be unsuccessful after five years, then the JPB will be required to either replace the tree (and provide an additional 5 years of maintenance) and/or extend the maintenance period on a year to year basis until the tree is successfully established. If the tree planting is successfully established, then all further maintenance will be responsibility of the landowner.</td>
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### BIO-6: Pay Santa Clara Valley Habitat Plan land cover fee (if necessary).

If it is determined that the SCVHP applies to the Proposed Project, JPB will pay any required compensation fees prior to construction. It is expected that fee payment will only be required in relation to TPS2, Option 1 (burrowing owl fee) and the area along the alignment disturbed for OCC installation south of P57 (potential payment of land cover fee and serpentine fee).

**Implementation:**
- Implementing Party: Qualified Biologist and JPB
- Reporting Party: JPB
- Monitoring Party: JPB

**Implementation:** Qualified Biologist will determine if SCVHP applies to the Proposed Project prior to project construction.

**Reporting:** No reporting required following fee assessment and payment (if applicable).

### CUL-1a: Evaluate and minimize impacts on structural integrity of historic tunnels.

A structural investigation shall be conducted prior to the removal of any historic fabric to evaluate the probable effects on the structural integrity of the tunnel portal. Also prior to the removal of the historic material, depending upon the extent of the material to be removed, the portal may be recorded to the Historic American Engineering Record (HAER) standards level III (refer to http://www.nps.gov/historic/pdf). Additionally, also depending upon the extent of the material to be removed, the Secretary of the Interior’s standards (SOIS) for the rehabilitation of historic properties may be followed in the design and implementation of the adaptation of the tunnels to accommodate the larger rolling stock (refer to http://www.nps.gov/tps/standards.htm). A structural investigation shall be conducted to identify construction disturbance to the decorative portal. If it is determined that more than 4 inches of material must be removed from the portals of any of the tunnels, a visual simulation depicting the removal shall be prepared to assess the visual impacts and to determine if the portal(s) will need to be recorded according to HAER standards and if the SOIS need to be applied. If the maximum amount of material to be removed is 4 inches or less, removal of the decorative tunnel material shall be “feathered” from the maximum removal at the keystone to the sides of the tunnels, maintaining the round arch.

**Implementation:**
- Implementing Party: D-B-B Tunnel Contractor and Qualified Architectural Historian
- Reporting Party: Qualified Architectural Historian
- Monitoring Party: JPB

**Implementation:** D-B Tunnel Contractor will retain a qualified engineer to conduct a structural investigation prior to any removal of decorative tunnel portal material.

**Reporting:** Prior to final design and following construction.

### CUL-1b: Minimize impacts on historic decorative tunnel material.

Prior to any removal of decorative tunnel portal material during crown mining of historic Tunnels 1, 3, and 4, a structural investigation shall be conducted to evaluate the probable effects on the structural integrity of the tunnel portals. Also prior to the removal of the historic material, depending upon the extent of the material to be removed, the portal may be recorded to the Historic American Engineering Record (HAER) standards level III (refer to http://www.nps.gov/historic/pdf/). Additionally, also depending upon the extent of the material to be removed, the Secretary of the Interior’s standards (SOIS) for the rehabilitation of historic properties may be followed in the design and implementation of the adaptation of the tunnels to accommodate the larger rolling stock (refer to http://www.nps.gov/tps/standards.htm). A structural investigation shall be conducted to identify construction disturbance to the decorative portals. If it is determined that more than 4 inches of material must be removed from the portals of any of the tunnels, a visual simulation depicting the removal shall be prepared to assess the visual impacts and to determine if the portal(s) will need to be recorded according to HAER standards and if the SOIS need to be applied. If the maximum amount of material to be removed is 4 inches or less, removal of the decorative tunnel material shall be “feathered” from the maximum removal at the keystone to the sides of the tunnels, maintaining the round arch.

**Implementation:**
- Implementing Party: D-B-B Tunnel Contractor and Qualified Architectural Historian
- Reporting Party: Qualified Architectural Historian
- Monitoring Party: JPB

**Implementation:** D-B Tunnel Contractor will retain a qualified engineer to conduct a structural investigation prior to any removal of decorative tunnel portal material.

**Reporting:** Prior to final design and following construction.

**SOIS standards may be followed in the design and implementation of tunnel adaptation depending on the extent of material removed.**

The D-B Tunnel Contractor will be contractually bound to comply with these requirements.

### CUL-1c: Install project facilities in a way that minimizes impacts on historic tunnel interiors.

The OCC design for the tunnels shall minimize the removal of historic brick fabric as much as is practical.

**Implementation:**
- Implementing Party: D-B-B Tunnel Contractor and Qualified Architectural Historian

**Implementation:** D-B-B Tunnel Contractor Design will incorporate these requirements into the final design.

**The D-B-B Tunnel Contractor will be contractually bound to comply with these requirements.**
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<tr>
<td>Feasible. Power system supports for the Proposed Project inside Tunnels 1, 2, 3 and 4 shall be placed sufficiently far back to not be readily visible, and attached to the tunnels' interiors in shotcrete instead of historic brick. At Tunnels No. 1, 2, and 3, the OCS shall be attached to the interior roof surface of the tunnel by brackets inserted into shotcrete. In addition, pole sets shall be installed at the portals of each tunnel. For Tunnel Nos. 1-3, side poles at the portals shall be used with power systems over the individual tracks that the poles power. The brackets within the tunnel interiors shall be set inside the tunnel mouth sufficiently far back that they would not be readily visible to passers-by or to those standing on the passenger platforms. At Tunnel No. 4, the system shall also be attached to the interior roof surface of the tunnel by brackets inserted into shotcrete. In addition, pole sets shall be installed at the portals of each tunnel. The brackets within the tunnel interiors shall be set inside the tunnel mouth sufficiently far back that they will not be readily visible to passers-by or to those standing on the passenger platforms (particularly at Tunnel No. 4's southern portal, the Bayshore Station).</td>
<td>Reporting Party: Qualified Architectural Historian Monitoring Party: JPB</td>
<td>Reporting: Prior to final design and following construction.</td>
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<tr>
<td>C01-1d: Implement design commitments at historic railroad stations</td>
<td>Reporting Party: Qualified Architectural Historian Monitoring Party: JPB</td>
<td>Reporting: Prior to final design and following construction.</td>
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<tr>
<td>Millbrae Station</td>
<td>Reporting Party: Qualified Architectural Historian Monitoring Party: JPB</td>
<td>Reporting: Prior to final design and following construction.</td>
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<td>Burlingame Station</td>
<td>Reporting Party: Qualified Architectural Historian Monitoring Party: JPB</td>
<td>Reporting: Prior to final design and following construction.</td>
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<td>Atherton Station</td>
<td>Reporting Party: Qualified Architectural Historian Monitoring Party: JPB</td>
<td>Reporting: Prior to final design and following construction.</td>
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### Mitigation Measure

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<td><strong>Menlo Park Station</strong></td>
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<td>Side poles shall not be placed in front of or within 40 feet of historic station on the west side of the Caltrain ROW. In addition, to minimize the visual intrusion of the poles, one of the following arrangements will be used for areas along the alignment within 100 feet on either side of the historic station:</td>
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<td>- center pole/two-track cantilevers; or</td>
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<td>- single cantilevers in the median between the two tracks.</td>
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<td>Additionally, prior to the installation of the OCS, the station will be recorded to HABS level III standards from the track side of the building, from the opposite platform.</td>
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| **Palo Alto Station**                                   |                  |              |                   |           |
| Side poles shall not be placed in front of or within 40 feet of historic station on the west side of the Caltrain ROW. Given the separation between MT1 and MT2, single center poles are not feasible. Thus, to minimize visual impacts on the property, single pole/cantilevers will be placed in the median between MT1 and MT2. |                  |              |                   |           |
| Additionally, prior to the installation of the OCS, the station will be recorded to HABS level III standards from the track side of the building, from the opposite platform. |                  |              |                   |           |

| **Santa Clara Station and the Station Tower**           |                  |              |                   |           |
| Side poles shall not be placed in front of or within 40 feet of historic station or the other historic structures (control tower, etc.) on the west side of the Caltrain ROW. Poles in front of the historic station should be center pole single cantilevers for MT2 and MT3 where parallel to the historic station. Side poles can be used for MT1 and placed on the modern center platform. |                  |              |                   |           |
| Side poles on the western side of the ROW shall be located near non-historic features, to the extent feasible as follows: |                  |              |                   |           |
| - A pole at the northern end of the station can be located near the modern steel and glass passenger waiting shelter. |                  |              |                   |           |
| - A pole at the southern end of the station can be sited east of the old set of tracks nearest the historic station (retained as an example of the relationship of the station to the original line and no longer operative) set in the modern poured concrete passenger platform and located among the modern electroliners on this platform. |                  |              |                   |           |
| - Poles shall not be located near the speeder shed or the utility shed. |                  |              |                   |           |
| - Poles can be located to each side of the control tower, one between the tower and the stub of Benton Street, the other more than 50 feet to the north. |                  |              |                   |           |
| Additionally, prior to the installation of the OCS, the station will be recorded to HABS level III standards from the track side of the building, from the opposite platform. |                  |              |                   |           |

<p>| <strong>San Jose Diridon Station</strong>                            |                  |              |                   |           |</p>
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<tr>
<td><strong>CUL-1e: Implement specific tree mitigation considerations at two potentially historic properties and landscape recordation, as necessary.</strong>&lt;br&gt;Access to properties at 45 and 51 Mount Vernon Lane in Atherton needs to be gained and historic resources evaluation completed prior to the removal of vegetation. If either of the residences proves to be CRHR-eligible, and the trees requiring removed for the project are character-defining features from the historic period of significance, or if the removal of the vegetation has the potential to visually impact the historic property, the preparation of specific tree avoidance, minimization, and/or compensation plans pursuant to Mitigation Measure BIO-5 shall take into account the historic character of the properties. If avoidance or minimization is not feasible, then replanting shall be conducted on the properties, if feasible. Regardless of the tree mitigation implemented, if the properties are determined to be CRHR-eligible, then the JPB shall have a qualified architectural historian record the landscape using Historic American Landscape Survey Standards level 3 prior to any project vegetation removal.&lt;br&gt;<strong>Implementing Party:</strong> D-B Contractor and Qualified Architectural Historian&lt;br&gt;<strong>Reporting Party:</strong> Qualified Architectural Historian&lt;br&gt;<strong>Monitoring Party:</strong> JPB&lt;br&gt;<strong>Implementation:</strong> Qualified Architectural Historian will assess impacts to potential historic structures prior to construction.&lt;br&gt;<strong>Reporting:</strong> Prior to final design and following construction.&lt;br&gt;<strong>Design will be developed to comply with requirements.</strong></td>
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<td><strong>CUL-1f: Implement historic bridge and underpass design requirements.</strong>&lt;br&gt;This mitigation measure addresses the approach to installing Proposed Project facilities at nine historic bridges/underpasses to ensure that the power system supports are not attached to the historic fabric of the bridges/underpasses and avoid adverse impacts on their historic integrity and visual appearance. All modifications will be completed following the Secretary of the Interior’s standards for the treatment of historic properties.&lt;br&gt;<strong>Airport Boulevard Underpass or South San Francisco Subway</strong>&lt;br&gt;Rather than installing the power system directly onto the bridge, power cables shall be suspended parallel to and above it to ensure that the bridge will not be impacted.&lt;br&gt;<strong>San Francisquito Bridge, Palo Alto</strong>&lt;br&gt;The OCS cables shall be suspended from the upper portions of the San Francisquito Creek Bridge truss. The power cables shall use fasteners and brackets to support the power lines. The brackets shall be attached to the existing structure, but no part of the existing structure shall be removed as a part of the Proposed Project. Installation of the main support brackets shall require no permanent modification to the bridge structure and shall be completely removable. Installation of the static wire grounding brackets will require site drilling of eight 5/8 inch diameter clearance holes, with the brackets completely removable. No poles shall be set on the bridge itself.&lt;br&gt;<strong>Implementing Party:</strong> D-B Contractor and Qualified Architectural Historian&lt;br&gt;<strong>Reporting Party:</strong> Qualified Architectural Historian&lt;br&gt;<strong>Monitoring Party:</strong> JPB&lt;br&gt;<strong>Implementation:</strong> Requirements will be specified in design-build contracts and incorporated into final design.&lt;br&gt;<strong>Reporting:</strong> Prior to final design and following construction.&lt;br&gt;<strong>The D-B Contractor will be contractually bound to comply with these requirements.</strong></td>
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<td><strong>University Avenue Underpass, Embarcadero Underpass, Palo Alto</strong>&lt;br&gt;Power cables shall be suspended parallel to and above the University Avenue Underpass. The poles in this configuration shall be set at the side of the track they power. No poles shall be set on the bridges themselves. <strong>Alameda Underpass, San Jose</strong>&lt;br&gt;Power cables shall be suspended parallel to and above the Alameda Underpass. No poles shall be set on the bridge itself.</td>
<td><strong>COL-2a:</strong> Conduct an archaeological resource survey and/or monitoring of the removal of pavement or other obstructions to determine if historical resources under CEQA or unique archaeological resources under PRC 21083.2 are present. Prior to the start of construction or future construction activities, the JPB and/or the construction contractor shall retain qualified archaeologists to conduct a pedestrian archaeological survey to determine the prehistoric, ethnographic, and historic archaeological resources within areas proposed for disturbance within the Archaeological Study Area and within those areas outside of the Archaeological Study Area established for OCS pole placement and vegetation maintenance. In those areas covered with pavement or other obstructions, a qualified archaeologist shall monitor removal of the obstruction (and any underlying base, foundations, etc.) and inspect the ground for cultural materials.</td>
<td><strong>Implementation:</strong>&lt;br&gt;Implementing Party: Qualified Professional Archaeologist and JPB or the D-B Contractor&lt;br&gt;Reporting Party: Qualified Archaeologist&lt;br&gt;Monitoring Party: JPB</td>
<td><strong>Implementation and Reporting</strong>&lt;br&gt;X&lt;br&gt;Implementation: Qualified Professional Archaeologist will conduct a pedestrian archaeological survey prior to construction. Monitoring of any removals. Reporting: Prior to construction.</td>
<td>Pedestrian archaeological survey report.</td>
</tr>
<tr>
<td><strong>COL-2b:</strong> Conduct exploratory trenching or coring of areas where subsurface project disturbance is planned in those areas with “high” or “very high” potential for buried site. In those areas with “high” or “very high” potential for buried sites, a qualified archaeologist shall conduct exploratory trenching or coring of areas where subsurface project disturbance is planned prior to that disturbance. Any cultural resources discovered during exploratory trenching or coring shall be protected or evaluated. Evaluation shall follow the research design and recommendation presented in the Data Recovery and Late Discoveries Treatment Plan for the Caltrain Electrification Program Alternative: San Francisco, San Mateo, and Santa Clara Counties, California (Far Western Anthropological Research Group 2009).</td>
<td><strong>Implementation:</strong>&lt;br&gt;Implementing Party: Qualified Professional Archaeologist and the JPB or the D-B Contractor&lt;br&gt;Reporting Party: Qualified Archaeologist&lt;br&gt;Monitoring Party: JPB</td>
<td><strong>Implementation</strong>&lt;br&gt;X&lt;br&gt;Implementation: Qualified Professional Archaeologist will conduct exploratory trenching or coring of areas with “high” or “very high” potential for buried sites prior to construction. Reporting: Prior to construction.</td>
<td>D-B Contractor will be required to protect or evaluate any cultural resources discovered.</td>
<td><strong>Implementation Mechanism or Tool</strong>&lt;br&gt;D-B Contractor will be required to protect or evaluate any cultural resources discovered from limited subsurface testing within 50 meters of a known archaeological site.</td>
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<tr>
<td><strong>COL-2c:</strong> Conduct limited subsurface testing before performing ground-disturbing work within 50 meters of a known archaeological site. When avoidance of impacts is not feasible, a qualified professional archaeologist shall conduct limited subsurface testing before any ground-disturbing project work is done within 50 meters of a known archaeological site. The objectives of the testing shall be to delineate the extent and depth of the site within the Archaeological Study Area and within those areas outside of the Archaeological Study Area established for OCS pole placement and vegetation maintenance; determine whether human remains are present within the Archaeological Study Area; and assess the nature and potential significance of the archaeological deposit within the Archaeological Study Area. The work shall be guided by the Data Recovery and Late Discoveries Treatment Plan for the Caltrain Electrification Program Alternative: San Francisco, San Mateo, and Santa Clara Counties, California (Far Western Anthropological Research Group 2009). All testing within a prehistoric or ethnographic site (including Mission-era sites) shall include consultation with the local Native American community.</td>
<td><strong>Implementation:</strong>&lt;br&gt;Implementing Party: Qualified Professional Archaeologist in consultation from local Native American community and D-B Contractor&lt;br&gt;Reporting Party: Qualified Archaeologist&lt;br&gt;Monitoring Party: JPB</td>
<td><strong>Implementation</strong>&lt;br&gt;X&lt;br&gt;Implementation: Qualified Professional Archaeologist, in consultation with the local Native American community, will conduct limited subsurface testing before any ground-disturbing project work is done within 50 meters of a known archaeological site. Reporting: Archaeological sites will be identified and reported prior to construction.</td>
<td>D-B Contractor will be required to protect or evaluate any cultural resources discovered.</td>
<td><strong>Implementation Mechanism or Tool</strong>&lt;br&gt;D-B Contractor will be required to protect or evaluate any cultural resources discovered from limited subsurface testing within 50 meters of a known archaeological site.</td>
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<td>Mitigation Measure</td>
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<td>Hamilton shell mound zone, the vicinity of the Third Mission (San Clara, and Tamien Station), a qualified archaeologist shall conduct exploratory trenching or coring of areas where subsurface project disturbance is planned, prior to that disturbance. Any cultural resources discovered during exploratory trenching or coring shall be protected or evaluated. Archaeological investigations in the vicinity of the archaeological preserve at the Third Mission (CA-SCL-30/H) should be guided by the recommendations presented by Allen et al. (2003) or by anticipated updates to that document. Archaeological investigations in the other two zones of special sensitivity shall be guided by the Data Recovery and Late Discoveries Treatment Plan for the Caltrain Electrification Program Alternative: San Francisco, San Mateo, and Santa Clara Counties, California (Far Western Anthropological Research Group 2009).</td>
<td>Reporting Party: Qualified Archaeologist Monitoring Party: JPB</td>
<td>Pre-construction</td>
<td>Implementation is planned, prior to ground disturbance. Reporting: Report regarding findings of trenching and coring will be completed prior to ground disturbance.</td>
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<tr>
<td>CUL-2e: Stop work if cultural resources are encountered during ground-disturbing activities.</td>
<td>Implementing Party: Qualified Professional Archaeologist, local Native American representative, and D-B Contractor Reporting Party: Qualified Archaeologist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Work will stop if prehistoric or historic-period cultural materials are unearthed during ground-disturbing activities.</td>
<td>Upon discovery of any historic-period cultural materials, a treatment plan that could include site avoidance, capping, or data recovery will be developed by the Qualified Professional Archaeologist, in consultation with the local Native American representative.</td>
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<tr>
<td>CUL-2f: Conduct archaeological monitoring of ground-disturbing activities in areas as determined by JPB and SHPO. Even though data recovery would, in theory, collect all potentially significant materials and information from the impact zone, in practice it is not feasible to do archaeological excavation of the entire area. This is particularly true in highly urbanized areas such as this project corridor. Therefore, at the discretion of JPB and SHPO, it may be necessary to monitor project operations within recorded site boundaries. Activities to be monitored would include, but are not necessarily limited to, brushing, grading for stations, pavement removal, placement of electrification poles and utilities, and any activity involving subsurface excavation. The monitor(s), in consultation with the construction supervisor, would have authority to halt construction activities temporarily in the immediate vicinity of an unanticipated find to assess the significance of the find. Whether or not a monitor is present, the construction supervisor and work crews should be alert to the possibility of additional cultural or human remains being unearthed. If this occurs, all work should stop temporarily within 50 feet of the find until a qualified professional archaeologist can be called in to assess the find and determine the proper course of action.</td>
<td>Implementing Party: D-B Contractor and Archaeological Monitor Reporting Party: Qualified Archaeologist Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: Archaeological Monitor will monitor construction activities, as determined necessary by JPB and SHPO, and temporarily halt construction activities if potentially significant materials and information are uncovered. Reporting: Monthly during ground disturbing activities.</td>
<td>The D-B Contractor will be contractually bound to comply with these requirements.</td>
</tr>
<tr>
<td>CUL-3: Comply with state and county procedures for the treatment of human remains discoveries. Any human remains and related items discovered during the implementation of the terms of the PA prepared for this project shall be treated in accordance with the requirements of Section 7050.5(c) of the California Health and Safety Code. If, pursuant to Section 7050.5(c) of the California Health and Safety Code, the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with requirements of Section 7050.5(b) of the California Health and Safety Code if any discovered human remains are discovered during construction.</td>
<td>Implementing Party: D-B Contractor and JPB Reporting Party: D-B Contractor Monitoring Party: JPB</td>
<td>X</td>
<td>Implementation: D-B Contractor will comply with requirements of Section 7050.5(b) of the California Health and Safety Code if any discovered human remains are discovered during construction. Reporting: Monthly during construction.</td>
<td>The D-B Contractor will be contractually bound to comply with these requirements.</td>
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</table>
EMF-2: Minimize EMI effects during final design, Monitor EMI effects during testing, commission and operations, and Remediate Substantial Disruption of Sensitive Electrical Equipment.

The potential for EMI effects shall be minimized by ensuring that all electronic equipment is operated with a good electrical ground and that proper shielding is provided for electronic system cords, cables, and peripherals. Installing specialized components, such as filters, capacitors, and inductors, can also reduce EMI susceptibility of certain systems. The design of the system will consider and incorporate, where practicable, the latest standards relevant to minimizing the effects of EMI on other systems, including the Caltrain and BART signal systems.

During final design, detailed analyses shall be undertaken to determine the specific levels of any voltages that could be induced onto parallel longitudinal conductors and, if significant voltages were to be identified, mitigation measures shall be developed in accordance with the relevant industry accepted IEEE and/or MIL (Military) standards. The final design shall utilize proven technologies for catenary system components, and the technical specifications shall be written to assure that damage during construction to the conductors or hardware will be minimized to the greatest extent practicable.

Proven design standards have been developed and shall be followed to mitigate any identified effects. For instance, the NEC installed 25 kV electrification system, counter poise ground wires were installed in some locations, and additional bonding between the aerial ground conductors was used as well. The specific design features shall be developed during final design, in accordance with the published standards.

Union Pacific, SCVTA and BART operate sensitive electric equipment in or adjacent to the right-of-way. The following are required to ensure that significant EMI effects to the freight and passenger rail signal systems and operations are avoided:

- The JPB shall work with Union Pacific, SCVTA, BART and other rail operators during project design to ensure that signal systems and other sensitive electric equipment for other freight or passenger rail facilities are not disrupted by EMI from the PCEP OCS. The JPB shall provide plans for controlling EMI levels near Union Pacific, SCVTA, and BART facilities for review and input.
- EMI levels shall be evaluated during testing and commissioning period for the Project and the JPB shall coordinate with Union Pacific SCVTA and BART to evaluate whether any interference effects occur to sensitive electric equipment. Where interference is detected that disrupt operations of this equipment, the JPB shall remedy the disruption prior to revenue operations.
- After commissioning, EMI impacts shall be monitored during the first year of project operation on at least a quarterly and reporting shares with Union Pacific, SCVTA, and BART. If identified disruption of electric equipment shall be immediately remedied.
- If at any time, PCEP operation causes EMI interfering with signaling, automatic grade crossing warning devices, train control or other equipment necessary for safe and reliable operation of freight and passenger trains in the corridor, the JPB shall require shutdown and modification of the PCEP electrical system in the affected area and shall eliminate any disruption identified.

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<th>Mitigation Measure</th>
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<th>Implementation and Reporting Schedule</th>
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<td>Pre-Construction</td>
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<td>Post-Construction</td>
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<tr>
<td>EMF-2: Minimize EMI effects during final design, Monitor EMI effects during testing, commission and operations, and Remediate Substantial Disruption of Sensitive Electrical Equipment.</td>
<td>Implementing Party: D-B Contractor and JPB in coordination with local cities, BART, UCSF, France Telecom, Health Diagnostics, Valley Radiological, Palo Alto Medical Foundation, St. Jude Medical Center, Evans Analytical, Motorola and Intel Reporting Party: D-B Contractor Monitoring Party: JPB</td>
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### Mitigation Measure

#### Implementing, Reporting and Monitoring Responsibilities

- The JPB shall be responsible for all costs to evaluate, design, monitor, and remediate any project-related EMI disruption of sensitive electric equipment of other passenger or freight rail systems.

For non-rail systems, the following will be required:

- The JPB will make a good faith effort to coordinate with local cities, BART, UCSF, France Telecom, Health Diagnostics, Valley Radiological, Palo Alto Medical Foundation, St. Jude Medical Center, Evans Analytical, Motorola and Intel (and any other facilities located adjacent to the ROW with sensitive equipment and requesting such consultation) to determine whether their facilities would be susceptible to EMI effects.

- During final design, the JPB shall evaluate the specific EMI levels associated with the PCEP system at the identified sensitive facilities and determine the appropriate controls necessary to avoid disruption of sensitive equipment prior to testing and commissioning of the system.

- EMI levels shall be evaluated during testing and commissioning period for the Project and the JPB shall coordinate with the identified sensitive facilities to evaluate whether any substantial interference effects are occurring due to system operation. Where substantial interference is detected that disrupt operations of sensitive electric equipment, the JPB shall remedy the disruption prior to commissioning of electrified operations through EMI control and/or shall provide shielding of sensitive equipment.

- After commissioning, EMI impacts shall be monitored during the first year of project operation and reporting shared with any of the identified sensitive facilities. Any identified disruption of sensitive electric equipment shall be immediately remedied.

- If the PCEP operations causes substantial EMI interference with sensitive electric equipment during, the JPB shall identify and eliminate the substantial interference through additional EMI control measures and/or provide shielding for the sensitive equipment.

The JPB shall be responsible for all costs to evaluate, design, monitor, and remediate any project-related EMI disruption of sensitive electric equipment.

<table>
<thead>
<tr>
<th>Geo-1: Perform a site-specific geotechnical study for traction power facilities.</th>
<th>Implementing Party: D-B Contractor and Qualified Geologist</th>
<th>X</th>
<th>Implementation: The D-B Contractor and Qualified Geologist will prepare a design-level geotechnical investigation for all TPFs during the design phase and prior to construction.</th>
<th>Geotechnical investigation prepared by Qualified Geologist.</th>
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<tr>
<td>Prior to final design, the JPB will ensure that a qualified geologist will prepare a design-level geotechnical investigation for all TPFs. The investigation will include subsurface soil sampling, laboratory analysis of samples collected to determine soil characteristics (including identifying and defining the limits of unstable, compressible, and collapsible soils), and an evaluation of the laboratory testing results by a geotechnical engineer: Recommendations based on the results will be used in the design specifications for the proposed TPF structures. The report will include recommendations typical to avoid potential risks associated with seismic ground shaking and liquefaction, in accordance with the specifications of California Geological Survey’s Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California, and the requirements of the Seismic Hazards Mapping Act. This report will also identify thickness and distribution of compressible materials, anticipated amounts of total and differential settlement, and tolerance of the structure(s) for displacement of soils. Following identification and delineation of compressible and collapsible soils, the JPB and qualified geologists will identify recommendations for building on compressible soils, which may include the following measures.</td>
<td>Reporting Party: Qualified Geologist</td>
<td>Monitoring Party: JPB</td>
<td>Geotechnical investigation prepared by Qualified Geologist.</td>
<td>Geotechnical investigation prepared by Qualified Geologist.</td>
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<tr>
<td>Surcharging of compressible fine-grained soils prior to construction to reduce anticipated post-construction settlements to acceptable levels or use of deep</td>
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</table>
### Mitigation Measure

- **Foundations to support improvements in non-compressible soil strata.**
  - Removal and/or compaction of collapsible granular soils and non-compacted fills before placing fill to reduce anticipated post-construction settlements to acceptable levels.
  - Deep-dynamic compaction, rapid impact compaction, vibro-compaction or stone columns.

### GEO-4a: Identification of expansive soils.

**Before submission of final grading plans,** the JPB will retain a qualified geotechnical engineer and engineering geologist. The geologist/engineer will conduct field observations and testing of onsite soils and formations to identify and define the limits of expansive materials. A final report will be prepared and submitted to all appropriate agencies. This report will include identification of thickness and distribution of the expansive materials, anticipated depth of moisture variation, expansiveness of the earth materials, structure tolerance for displacement, and confirmation or modification of mitigation measures for expansive materials.

**Mitigation Timing**

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<td>Implementation and Reporting Schedule</td>
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| Implementation Mechanism or Tool | X | Implementation: Qualified Geotechnical Engineer and Qualified Geologist Report | Geotechnical Report on Expansive Soils. |

**Implementation:** Qualified Geotechnical Engineer and D-B Contractor

**Reporting:** Prior to grading.

**Monitoring:** JPB

### GEO-4b: Mitigation of expansive soils.

Following identification and delineation of expansive materials, the geologist/engineer will identify the most appropriate methods of mitigation. Mitigation measures can include the following measures.

- Excavation and replacement with non-expansive fill materials.
- Design building foundations to limit foundation deflections from expansive soil movement. This could include heavy conventional mat or post-tensioned slab foundations, heavy reinforced grid footings, or pair and grade beam foundations.

**Mitigation Timing**

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| Implementation Mechanism or Tool | X | Implementation: Qualified Geotechnical Engineer and D-B Contractor | Geotechnical Report on Expansive Soils. |

**Implementation:** Qualified Geotechnical Engineer and D-B Contractor

**Reporting:** Prior to foundation work and post-installation.

**Monitoring:** JPB

### HAZ-2a: Conduct a Phase II Environmental Site Assessment prior to construction.

Prior to construction, a Phase II Environmental Site Assessment (ESA) will be prepared for portions of the proposed Project located within areas with a high likelihood of contaminated media by a qualified environmental consultant. The Phase II ESA will include but not be limited to the following.

- A scope of work consisting of Pre-Field Activities, such as preparation of a Health and Safety Plan (HASP), marking boring locations and obtaining utility clearance, and Field Activities, such as identifying appropriate sampling procedures, health and safety measures, chemical testing methods, and quality assurance/quality control (QA/QC) procedures in accordance with the ASTM Standard.
  - The HASP will include, but is not limited to:
    - Potential project hazards analysis
    - Personal Protective Equipment (PPE) discussion
    - Exposure monitoring
    - Emergency response actions
    - Hospital route directions
  - Necessary permits for well installation and/or boring advancement.
  - A Sampling and Analysis Plan (SAP) in accordance with the scope of work.

**Mitigation Timing**

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**Implementation:** Qualified Environmental Consultant and D-B Contractor

**Reporting:** Prior to ground disturbance.

**Monitoring:** JPB
### Mitigation Timing

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#### Mitigation Measure

- Completion of a Risk Assessment if deemed necessary.
- Laboratory analyses conducted by a State-certified laboratory.
- Disposal process including transport by a State-certified hazardous material hauler to a State-certified disposal or recycling facility licensed to accept and treat hazardous waste.

**HAZ-2b:** Implement engineering controls and best management practices during construction.

During construction the contractor will employ use of engineering controls and BMPs to minimize human exposure to potential contaminants. Engineering controls and construction BMPs will include but not be limited to the following.

- Contractor employees working on site will be certified in OSHA's 40-hour Hazardous Waste Operations and Emergency Response [HAZWOPER] training.
- Contractor will monitor area around construction site for fugitive vapor emissions with appropriate field screening instrumentation.
- Contractor will water/mist soil as it's being excavated and loaded onto transportation trucks.
- Contractor will place any stockpiled soil in areas shielded from prevailing winds.
- Contractor will cover the bottom of excavated areas with sheeting when work is not being performed.

#### Implementation and Reporting Schedule

**HYD-1:** Implement construction dewatering treatment, if necessary.

If groundwater is encountered during excavation and trenching activities, then dewatering may be required. If dewatering activities require discharges to the storm drain system or other water bodies, the water shall be treated as necessary prior to discharge so that all applicable water quality objectives are met. As a performance standard, water treatment methods shall be selected to achieve the maximum removal of contaminants found in the groundwater and that represent the Best Available Technology (BAT) that is economically achievable. Implemented methods may include the retention of dewatering effluent until particulate matter has settled before it is discharged, the use of infiltration areas, filtration, or other means. The contractor shall perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained, conduct visual observations of the water (i.e., check for odors, discoloration, or an oily sheen on groundwater) and any other sampling and reporting activities prior to discharge. The final selection of water quality control measures shall be submitted to the Regional Water Board for approval prior to construction. If the groundwater is found to not meet water quality standards and the identified water treatment measures cannot ensure treatment to meet all receiving water quality standards, the water shall then be hauled offsite instead for treatment and disposal at an appropriate waste treatment facility permitted to receive such water.

#### Implementation and Reporting Schedule

**HYD-4:** Minimize floodplain impacts by minimizing new impervious areas for TPFs or relocating these facilities.

At PS3 (Option 1), PS6 (Option 1) and TPS2 (Option 3, at CEMOF), the design will minimize the amount of new impervious areas by using graveled or pervious pavement for all facility areas other than the foundations for new electric equipment and any other weight-bearing facilities. Currently unpaved areas not used to house new equipment shall remain unpaved or if paved shall...
### Mitigation Measure

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#### HYD-5: Provide for electrical safety at TPFs subject to periodic or potential flooding.

For new TPFs within the current 100-year floodplain (PS3 Option 1, PS5-2 Option 3, and PS6 – both options), the preferred method of avoiding damage would be to place all new electrical equipment on elevated pads above expected flood depths and/or protect such equipment with flood barriers. If equipment cannot be designed so that flood waters cannot contact the equipment, then sealed or capped moisture-resistant components are required. Ground Fault Circuit Interrupters (GCFIs) shall be utilized for all electrical circuits below the base flood elevation for the 100-year flood.

For all new traction power facilities subject to current flooding (for the current 100-year event), or with a potential for flooding due to levee or dam failure (PS2 [Option 1], PS5 [Option 2], PS6 [both options], PS2 [all options] and possibly PS7 and PS7 Variant A and B, if selected), Caltrain shall develop emergency response procedures to provide electrical safety including system shutdown during projected flood events. Due to the potential for gaps in current FEMA mapping of areas subject to flooding due to levee failures, Caltrain shall also investigate potential flooding risks due to levee failures for all new TPFs and apply emergency shutdown requirements to all additional facilities identified as at risk of flooding due to potential levee failures.

#### HYD-7: Implement sea level rise vulnerability assessment and adaptation plan.

The JPB will use State of California Sea Level Rise guidance (CO-CAT 2013), the California Adaptation strategy, as well as guidance from other agencies (i.e., BCDC), for the development of the vulnerability assessment and adaptation plan. Under CEQA, this assessment and plan is only mandatory for the new facilities associated with the Proposed Project; however, it is recommended that the JPB include analysis of all existing and new facilities subject to potential coastal flooding with predicted sea level rise.

### Sea Level Rise Vulnerability Assessment

The analysis in the EIR considers potential vulnerability based on broad USGS mapping of potential inundation areas using specific SLR increments. This preliminary assessment shall be supplemented by a more detailed evaluation of future flood risks taking into account the following:

- The range of SLR predictions based on current state guidance.
- The specific elevations of Caltrain facilities.
- Hydraulic connection of Caltrain facilities to San Francisco Bay and tidal channels.
- Protectiveness of other structures (levees, seawalls, other development) between Caltrain facilities and San Francisco Bay and tidal channels.

The vulnerability assessment shall describe the scenarios under which Caltrain facilities could become subject to flooding, the estimated duration of such flooding, and the potential damage that may result from such flooding scenarios.

The JPB shall complete the vulnerability assessment within 5 years of project approval (nominally

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**Report:** Prior to final design and prior to and during operation.

**Implementation:** Requirements will be specified in design-build contracts, and will be implemented by the D-B Contractor in the final design. JPB shall develop and adopt emergency response procedures.

**Implementation:** JPB in concert with other agencies (BART, VTA, etc.), jurisdictions (Millbrae, San Mateo, etc.), and landowners

**Implementation:** JPB will develop a SLR Vulnerability Assessment within 2 years of project approval. JPB will develop a SLR Adaptation Plan within 2 years of project approval and update every 5 years thereafter starting in 2021.

**Implementation:** JPB will develop a SLR Vulnerability Assessment within 2 years of project approval. JPB will develop a SLR Adaptation Plan within 2 years of project approval and update every 5 years thereafter starting in 2021.

**SLR Vulnerability Assessment. SLR Adaptation Plan.**
The Peninsula Corridor Electrification Project

### Mitigation Measure

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**Mitigation Measure:**

Early 2020, assuming project approval in early 2015. The JPB shall share the results of its vulnerability assessment with other local agencies potentially affected by sea level rise along the Caltrain corridor.

**Sea Level Rise Adaptation Plan**

Based on the vulnerabilities identified, the JPB shall prepare an SLR Adaptation Plan identifying measures that will be taken to protect the new project facilities as well as the existing Caltrain facilities from potential damage due to future flooding from SLR. The JPB will coordinate with other entities with facilities close to the San Francisco Bay with an equal or greater SLR vulnerability, such as cities along the northern portion of the route (San Francisco, Brisbane, South San Francisco, San Bruno, Millbrae, Burlingame, San Mateo, Belmont, San Carlos and Redwood City), the San Francisco International Airport, the California Department of Transportation (U.S. Highway 101 and Interstate 380), the Bay Area Rapid Transit District, VTA, SFMTA, and other agencies.

The requirements for development and implementation of this plan and updating over time are as follows:

- **2016:** The JPB shall complete the first SLR Adaptation Plan within 2 years of project approval (nominally end of 2016, assuming project approval in late 2014) including the following.
  - Review available scientific information on SLR data and projections for the subsequent 50 years. Where data and projections indicate different rates of SLR than previously applied, the JPB will adjust the vulnerability assessment and flood design criteria to reflect a median-point of then-current projections.
  - Review JPB system vulnerability for the subsequent 50 years in light of available data at that time and the adjusted flood design criteria.
  - Prepare a plan identifying improvements to meet the flood design criteria, as feasible and unconstrained by surrounding development not owned by JPB. The plan of improvements will be designed to meet the flood design criteria as predicted for the next 10 years and updated every 10 years thereafter.
  - The plan may include projects that the JPB implements on its own or in concert with other parties. The plan may also rely on flood improvements implemented separate from the JPB but that will also provide flooding benefits for Caltrain facilities provided such plans have a realistic funding and implementation schedule.
  - Where the JPB is a lead for improvements needed to address flooding risks expected within the next 10 years, the JPB shall complete all necessary environmental clearances and shall adopt such improvements as part of JPB’s capital funding plans and identify funding sources for their implementation.
  - The goal for all improvements is to provide 100-year flood protection for Caltrain facilities from coastal flooding at all times, wherever feasible. Where that is not feasible, the JPB shall identify alternative means to provide for safe system operations in the event of flooding.
  - Identify opportunities for partnership with other local and regional parties for SLR adaptation or where regional efforts will address flooding risks to Caltrain facilities.
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<td>• 2021 (and every 5 years thereafter): The JPB shall update the Adaptation Plan meeting the requirements described above.</td>
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<td>Pre-Construction</td>
<td>X</td>
<td>The D-B Contractor and D-B-B Tunnel Contractor will be contractually bound to comply with these requirements. Construction Noise Control Plan.</td>
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<tr>
<td>• Ongoing: Where JPB’s adaptation options are constrained because of adjacent infrastructure (such as adjacent roadways and structures not owned by JPB), JPB will work with adjacent landowners and infrastructure managers to identify opportunities to improve rail system protection in concert with other local or regional parties.</td>
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<td>Post-Construction</td>
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<td>• An active community liaison program shall be established. The community liaison program will keep residents informed about construction plans so residents may plan around noise or vibration impacts and will provide a conduit for residents to express any concerns or complaints. Construction contact information shall be provided to local residents and posted on construction sites adjacent to residential areas. Residents within 300 feet of upcoming construction shall be notified 10-days in advance of the start of construction in an area wherever possible.</td>
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<td>Operation</td>
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<td>• Contractor shall be required to use newer equipment fitted with the manufacturers’ recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding). Electric or “quiet” equipment shall be used for generators, compressors, and other construction equipment where feasible.</td>
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<td>• Contractor shall employ construction methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are suitable for the soil condition. The contractor shall be required to select construction processes and techniques that create the lowest noise levels.</td>
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<td>• Truck loading, unloading, and hauling operations shall be conducted so that noise and vibration are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent. Deliveries of materials and equipment shall be prioritized for daytime hours whenever feasible.</td>
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<td>• Ingress and egress to and from the staging area shall be on collector streets or higher street designations (preferred), and through routes for trucks will be designed to the extent feasible to minimize the frequency of backup alarm sound.</td>
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<td>• Idling equipment shall be turned off whenever feasible.</td>
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<td>• When practicable, temporary noise barriers will be used to protect sensitive receptors against excessive noise from construction activities. Partial enclosures around continuously operating equipment or temporary barriers along construction boundaries will be considered.</td>
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<td>• Construction activities within residential areas will be minimized during evening, nighttime, weekend, and holiday periods to the extent feasible.</td>
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<td>• Noise and vibration monitoring shall be conducted to verify compliance with the noise</td>
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NOI 1a: Implement Construction Noise Control Plan. A noise control plan that incorporates, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related noise on nearby noise sensitive receptors shall be prepared and implemented.

- Implementing Party: D-B Contractor and D-B-B Tunnel Contractor
- Reporting Party: D-B Contractor and D-B-B Tunnel Contractor
- Monitoring Party: JPB

Implementation: The D-B Contractor and D-B-B Tunnel Contractor will develop a Construction Noise Control Plan prior to final design and implement during construction.

Reporting: Prior to final design, weekly monitoring and reporting during construction.
<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
<th>Implementation and Reporting Schedule</th>
<th>Implementation Mechanism or Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOI 1b: Conduct site-specific acoustical analysis of ancillary facilities based on the final mechanical equipment and site design and implement noise control treatments where required.</td>
<td>Implemented, Reporting and Monitoring Responsibilities: Qualifying Acoustical Consultant and D-B Contractor.</td>
<td>Pre-Construction:</td>
<td>Implementation and Reporting Schedule:</td>
<td>Implementation: Qualifying Acoustical Consultant will work with the D-B Contractor to implement appropriate noise control treatments during final design. Reporting: Prior to final design, and following completion of construction.</td>
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<td>Construction:</td>
<td></td>
<td>The D-B Contractor will be contractually bound to comply with these requirements.</td>
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<td>Post-Construction:</td>
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<td>Operation:</td>
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</table>

- Implementation: The D-B Contractor will be contractually bound to comply with these requirements.

- The D-B Contractor and D-B-B Tunnel Contractor will develop a Construction Vibration Control Plan that includes, at a minimum, the following procedures:

  - Locate electrical noise-generating equipment farther away from the property lines of noise sensitive sites, if at all possible.
  - Consider the use of special enclosures for all transformers to mitigate the associated low frequency noise impacts.
  - Reduce potential noise impacts from the ventilation system for switchgear by using acoustical louvers, line duct silencers, and hoods on the vent openings, and/or by locating vents at the side of the building that is not facing residences.
  - At PS5, Option 2, compliance with the performance criteria may require relocation of the facility southward to place the transformer at least 25 feet (for an oil-filled transformer type) or 55 feet (for a dry-type transformer) from the mixed use project. The areas to the south of the mixed use project are commercial buildings set back farther from the JP8 ROW than the mixed use project and would be considered non-sensitive receptors. As shown in Figure 3.11-8, there are two potentially feasible locations south of PS5, Option 2 (referred to as PS5, Option 2B and PS5, Option 2C) that would be more than the required distances from the mixed use development and would avoid a significant noise impact.

- A Construction Vibration Control Plan that includes, at a minimum, the following procedures to:

  - Implementing Party: D-B Contractor and D-B-B Tunnel Contractor.
  - Reporting Party: D-B Contractor.

- Implementation: The D-B Contractor and D-B-B Tunnel Contractor will be contractually bound to comply with these requirements.
**Mitigation Measure**

- Minimize the potential for building damage from construction vibration shall be prepared:
  - Where feasible, avoid placing OCS poles within 25 feet of structures or use alternative construction methods for pile driving (such as augurs) to minimize potential vibration damage.
  - Where vibratory compacting/rolling is proposed within 15 feet of structures, utilize alternative equipment (such as non-vibratory rollers) to minimize potential vibration damage.
  - Where pile driving is proposed within 50 feet of structures or vibratory compacting/rolling within 25 feet, preconstruction surveys shall be conducted to document the existing condition of buildings in case damage is reported during or after construction.
  - Damaged buildings due to project construction shall be repaired or compensation paid.

The Construction Vibration Control Plan shall also include, at a minimum, the following procedures to minimize the potential for annoyance from construction vibration:

- When possible, limit the use of construction equipment that creates high vibration levels near residential structures.
- Require vibration monitoring during vibration-intensive activities.
- Where feasible, plan the hours of vibration-intensive equipment, such as vibratory pile drivers or vibratory rollers, so that impacts on residents are minimal (e.g., weekdays during daytime hours only, when as many residents as possible are away from home).

The JPB and/or the Design-Build contractor will coordinate with Caltrans during development of the construction vibration plan concerning construction vibration that may occur near Caltrans facilities.

<table>
<thead>
<tr>
<th>PSU-ll-a: Provide continuous coordination with all utility providers.</th>
<th>Implementing Party: D-B Contractor and JPB in coordination with utility providers</th>
<th>X</th>
<th>Implementation: D-B Contractor will coordinate with all utility providers and local jurisdictions to prevent damage to utility systems and minimize disruption or degradation of utility service to local customers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSU-ll-b: Adjust OCS pole foundation locations.</td>
<td>Implementing Party: D-B Contractor and JPB in coordination with utility providers</td>
<td>X</td>
<td>Implementation: D-B Contractor will develop plan for OCS pole locations that avoids utilities where feasible.</td>
</tr>
<tr>
<td>PSU-ll-c: Schedule and notify users about potential service interruptions.</td>
<td>Implementing Party: D-B Contractor and JPB in coordination with utility providers</td>
<td>X</td>
<td>Implementation: Users will be notified of service interruptions.</td>
</tr>
</tbody>
</table>

**Implementation and Reporting Schedule**

- Reporting: Prior to final design, monthly during construction.

**Implementation Mechanism or Tool**

- Vibration Control Plan prior to final design and implement during construction.
- Service interruption notices distributed by utility providers.
<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
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</tr>
</thead>
<tbody>
<tr>
<td>PSU-9: Require application of relevant construction mitigation measures to utility relocation and transmission line construction by others.</td>
<td>Monitoring Party: JPB</td>
<td>Pre-Construction, Construction, Post-Construction, Operation</td>
<td>Implementation: Requirements will be specified in design-build contracts, and will be implemented by the D-B Contractor for the duration of construction. Reporting: Monthly throughout duration of construction.</td>
<td>The D-B Contractor will be contractually bound to comply with these requirements. JPB will work with utilities concerning their project.</td>
</tr>
<tr>
<td>Implementing Party: JPB and D-B Contractor</td>
<td>Reporting Party: D-B Contractor</td>
<td>Monitoring Party: JPB</td>
<td>The D-B Contractor will be contractually bound to comply with these requirements. JPB will work with utilities concerning their project.</td>
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<tr>
<td>The JPB will require that all relevant construction mitigation measures identified in this EIR be applied to utility relocation and transmission line efforts. Within the Caltrain ROW or Caltrain-owned property, the JPB can mandate the implementation of such measures. Outside the Caltrain ROW, the JPB will recommend their use by utility owners and/or inclusion in any encroachment permits required by local jurisdictions.</td>
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<td>Implementing Party: JPB and D-B Contractor</td>
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<tr>
<td>Reporting Party: D-B Contractor</td>
<td>Monitoring Party: JPB</td>
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<td>Implementing Party: JPB and D-B Contractor</td>
<td>Reporting Party: D-B Contractor</td>
<td>Monitoring Party: JPB</td>
<td>The D-B Contractor will be contractually bound to comply with these requirements. Traffic Control Plan.</td>
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<td>Implementing Party: JPB</td>
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<tr>
<td>Table 3.14-17 summarizes the intersection impacts and the associated mitigation measures proposed to minimize localized traffic impacts. Detailed description for improvements at each impacted intersections are included in the transportation analysis report in Appendix D.</td>
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<tr>
<td>TRA-1c: Implement signal optimization and roadway geometry improvements at impacted intersections for the 2020 Project Condition.</td>
<td>Monitoring Party: JPB</td>
<td>X</td>
<td>X</td>
<td>Signal optimization and roadway changes.</td>
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<tr>
<td>Implementing Party: JPB</td>
<td>Reporting Party: JPB</td>
<td>Monitoring Party: JPB</td>
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<tr>
<td>Implementation: JPB will be responsible for implementing signal optimization and roadway geometry improvements at identified intersections following construction. Reporting: Following completion of signal</td>
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<td>Monitoring Party: JPB</td>
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### Transportation Analysis

Possible mitigation measures include signal optimization and roadway geometry improvements, as discussed below:

- **Signal optimization**: Signal timing optimization would be performed to reduce delay at signalized intersections. This can include optimizing the cycle time, splits, and phasing. In addition, for closely spaced intersections, optimizing the offset and better signal coordination will also reduce delay.

  - **Roadway geometry changes**: Changing the roadway geometry could help reduce intersection delay. This would include changing the roadway width by widening the street or changing the existing geometry configuration through restriping. Intersection #64 (El Camino Real and Alma Street and Sand Hill Road) is an example of where roadway geometry could be altered as a mitigation measure to reduce intersection delay.

- A review of the significantly affected intersections identified one location (7th/16th Street in San Francisco) where, with the proposed mitigation, there is a possibility of queues backing up to the grade crossing. Thus, this measure also includes pre-emption, pre-signals or queue cutters at this location to prevent an increase in potential queue back to the grade crossing.

- JPB will coordinate with the CPUC during the final design phase of the project concerning adjustment of traffic signals and road geometry adjacent to at-grade crossings through the GO 88-B process.

- JPB will coordinate with local jurisdictions during the design phase of roadway mitigation measures that affect roadways under local jurisdiction.

### TRA-2a: Implement construction railway disruption control plan.

The JPB will make the efforts to contain disruption to Caltrain, tenant passenger, and freight services during construction. Measures that will be implemented throughout the course of project construction, will include, but are not limited to, the following:

- The overall goal of this plan should be to minimize the overall duration of disruption of Caltrain, tenant passenger, and freight operations and maintain reasonable levels of service, while allowing for an expeditious completion of construction.

- Limit number of simultaneous track closures within each immediate vicinity, with closure time frame limited as much as feasible for each closure, unless bypass tracks are available.

- Provide safety measures for rail services to transit through construction zones safely.

- Require contractors to coordinate with rail dispatch to minimize disruption of rail service in the corridor.

- Where feasible, limit closure of any tracks for construction activities to off-peak periods and weekends, when service is less frequent or late night, when no passenger service is scheduled.

- Where feasible, maintain acceptable service access for passenger and freight service.

- Where one open track cannot be maintained for passenger or freight use, limit multi-track closures to one location at a time, as much as feasible.

- Where multi-track closures result in temporary elimination of transit rail service, work with local and regional transit providers to provide alternative transit service around.

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</table>
Implementing, Reporting and Monitoring Responsibilities

**Mitigation Measure**

-the closure area including increased bus and shuttle service.

-Where multi-track closures result in temporary elimination of freight rail service, work with Union Pacific and freight users to schedule alternative freight service timing to minimize disruption to freight customers.

-Where temporary cessation of freight rail service is necessary due to multi-track closures and would result in substantial diversion to truck modes, Caltrain or its construction contractor shall coordinate with local jurisdictions and freight operations to determine preferred truck routes to minimize the effect on local traffic conditions.

-Construction in and adjacent to BART facilities will be coordinated in advance and during construction with BART including any necessary BART safety monitors. If construction would result in any potential service disruption, Caltrain or its construction contractor shall coordinate with BART to avoid the disruption and/or minimize the extent and duration of disruption and provide information to commuters on alternative transit options during the disruption.

-Caltrain and/or its construction contractor shall coordinate with Union Pacific in advance and during any potential disruption to freight operations and/or Union Pacific facilities. Union Pacific’s emergency access will be maintained throughout construction.

**Mitigation Timing**

<table>
<thead>
<tr>
<th>Implementing Party</th>
<th>JPB in coordination with City and County of San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting Party</td>
<td>JPB</td>
</tr>
<tr>
<td>Monitoring Party</td>
<td>JPB</td>
</tr>
</tbody>
</table>

**Implementation:** JPB will conduct surface pedestrian facility improvements.

**San Francisco 4th and King Station Pedestrian Access Study.**

**Reporting:** JPB and the City and County of San Francisco will conduct a pedestrian access study during the PCFP design process. Reporting of pedestrian facility conditions will occur periodically throughout duration of project operations.

**TRA-3b: In cooperation with the City and County of San Francisco, implement surface pedestrian facility improvements to address the Proposed Project’s additional pedestrian movements at and immediately adjacent to the San Francisco 4th and King Station.**

The JPB, in cooperation with the City and County of San Francisco, will improve surface pedestrian facilities at the San Francisco 4th and King Station where needed to accommodate the Proposed Project’s increase in pedestrian volumes. This mitigation applies to increased pedestrian traffic under Proposed Project conditions that would occur within the impact window beginning in 2020 and ending when DTX/TTC is fully operational.

Both the JPB and the City and County of San Francisco will implement a pedestrian access study to identify the surface improvements necessary to accommodate the Proposed Project’s increased pedestrian demand during the impact window identified above. The JPB’s responsibility will be to implement mutually agreed upon improvements necessary to accommodate pedestrian demand within the Caltrain station and JPB-owned right-of-way. The City and County of San Francisco will be responsible for implementing improvements on City streets and the public right-of-way surrounding the 4th and King Station. Because there are multiple contributors to pedestrians to the station, including Caltrain, MUNI Metro J and T Lines, MUNI bus lines, the future Central Subway, and other transit line and local land use development, cost shall be shared on a fair-share basis as determined mutually by the JPB and the City and County of San Francisco.

The performance standard guiding specific measures selection is as follows:

- Pedestrian delay and illegal crossing activity shall be equivalent to or better than No Project conditions, and peak hour pedestrian sidewalk densities on primary access routes to the Fourth and King Station shall be less than or equal to projected No Project densities.

The following surface improvements to pedestrian facilities will address increased pedestrian demand caused by the Proposed Project. These improvements will be studied in detail in the

**Implementation:** JPB will conduct surface pedestrian facility improvements.

**San Francisco 4th and King Station Pedestrian Access Study.**

**Reporting:** JPB and the City and County of San Francisco will conduct a pedestrian access study during the PCFP design process. Reporting of pedestrian facility conditions will occur periodically throughout duration of project operations.
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| **pedestrian access study.** | • Widened curb waiting areas and added pedestrian bulbouts where high levels of demand cannot be accommodated by existing facilities.  
  • A pedestrian “scramble” at the intersection of 4th and Townsend Streets. A pedestrian scramble is an intersection that is striped and designed to allow pedestrians to cross diagonally in all directions during an all-way red signal at which all motor vehicles are stopped.  
  • Signalization improvements for both 4th and Townsend and 4th and King intersections. While a pedestrian scramble is not likely to be feasible at the intersection of 4th Street and King Street due intersection size, traffic volumes, and SMFTA at grade transit operations, all-way pedestrian signals at existing crosswalks are potentially feasible.  
  • Widened crosswalks to increase pedestrian volumes and improve pedestrian sidewalk widths on the immediate approaches to the intersections of 4th and Townsend and 4th and King Streets, as appropriate and feasible.  
  • Pedestrian safety countermeasures, such as pedestrian barriers and improved signage, as necessary to address safety issues that are directly related to increased pedestrian volumes at station access points. | **Pre-Construction** | **Post-Construction** | **Operation** | **Implementation and Reporting Schedule** | **Implementation Mechanism or Tool** |
| **The improvements identified in the access study shall be completed in a manner that does not interfere with SMTA bus operations, SMFTA Metro or bicycle facilities in and around the station area.** | | | | |
| **The JPB will also coordinate with the CPUC during the final design phase of the Project concerning signal adjustments at 4th Street / King Street to ensure light rail vehicle operational safety through this intersection.** | | | | |
| **This measure does not include any above- or below-ground pedestrian facilities, because the Proposed Project’s impact can be address through feasible surface treatments described above.** | | | | |

| TRA-4b: Continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available following guidance in Caltrain’s Bicycle Access and Parking Plan. | Implementing Party: JPB  
Reporting Party: JPB  
Monitoring Party: JPB | X | Implementation: Following completion of construction, JPB will work with local and regional bike share programs to improve bicycle facilities at Caltrain stations.  
Reporting: Bike facility and safety will be monitored and reported periodically following completion of construction. | Bicycle Access and Parking Plan.  
Bikeshare programs in partnership with local and regional providers. |
| Caltrain will improve bicycle facilities at Caltrain stations where needed to accommodate increased demand over time for such facilities including bike parking and bike lockers necessary to safely and securely park bikes that are not taken on the train. Caltrain will work local and regional bike share programs to provide opportunities for Caltrain riders to utilize bike share facilities located at Caltrain stations (where feasible) or nearby (where not). | | X | Implementation: Implementing parties will prioritize, develop and implement phased programs to reduce cumulative noise impacts prior to future major increases in rail operations (such as HSR, Capitol Corridor, ACE and freight expansion).  
Reporting: Following implementation of phased programs. | Technical studies evaluating the need for and effectiveness of phased programs to reduce cumulative noise impacts. |
| NOI-CUMUL-1: Implement a phased program to reduce cumulative train noise along the Caltrain corridor as necessary to address future cumulative noise increases over FTA thresholds. | Implementing Party: JPB in cooperation with other rail operators, local jurisdictions, transportation funding agencies, and state and federal agencies, will support incremental noise reduction measures at the locations of cumulative noise impacts over time as funding becomes available for the locations where the PCEP would contribute to cumulative noise impacts. Where the PCEP does not contribute to cumulative noise impacts or where it would lower existing noise levels, then the PCEP is not responsible to participate in mitigation, even if the cumulative noise impacts due to other rail service increase is significant. Caltrain will work with local, state, and federal partners to establish priorities for noise reduction measure to be implemented as funding becomes available. | X | Implementation: Implementing parties will prioritize, develop and implement phased programs to reduce cumulative noise impacts prior to future major increases in rail operations (such as HSR, Capitol Corridor, ACE and freight expansion).  
Reporting: Following implementation of phased programs. | Technical studies evaluating the need for and effectiveness of phased programs to reduce cumulative noise impacts. |
The costs for implementing the phased program shall be borne by all rail operators in proportion to their contributions to cumulative train noise increases over existing conditions. Given that there are multiple contributors to cumulative rail noise, the PJPB is only responsible to fund its fair share for necessary noise mitigation with other rail services responsible to fund their fair share as well. Fair share shall be determined by the noise contribution of each rail service increase over existing conditions (2013) to cumulative noise levels as determined using acceptable FTA noise modeling protocols.

As noted above, the Proposed Project would result in increased noise at four of the 49 study locations in the 2020 cumulative scenario (but only three locations would have cumulatively significant noise increases in 2020), but if Caltrain implements full electrification (e.g. 100 percent EMU service from San Jose to San Francisco), then the combined effect of the Proposed Project and full electrification would not result in noise increases at any of the 49 study locations and no fair-share contribution would be necessary from Caltrain.

Caltrain will also work with other rail operators to seek funding participation from multiple parties on a fair-share basis in proportion to their cumulative noise contributions.

This program is expected to be implemented over a period of decades. Improvements will be phased as needed to address changes in cumulative rail service over time and cumulative rail noise.

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Construction, Construction, Post-Construction, Operation</td>
<td>Implementation and Reporting Schedule</td>
</tr>
</tbody>
</table>

The first cumulative milestone is 2020. The PCEP would contribute to significant cumulative impacts at three locations with PCEP contributions ranging from 8 to 13 percent: San Mateo near the 9th Avenue grade crossing (Receptor #19); Redwood City near the Whipple Avenue grade crossing (Receptor #25); and Palo Alto near the W. Charleston Road grade crossing (Receptor #36). At these locations, the cumulative noise increases identified in the EIR are the combination of the PCEP, assumed freight increases, and potential Coast Daylight service. Caltrain will monitor freight levels as well Coast Daylight planning in the time leading up to 2020.

Caltrain will work with UPRR and Amtrak, as necessary, to coordinate fair-share contributions to cumulative mitigation and plan for implementation of feasible improvements by 2020 or by such period that cumulative noise at the three locations above is expected to exceed the FTA moderate threshold criteria. Since the PCEP increases are only a small portion of the cumulative impact in 2020, the fair-share contributions of other parties will need to be secured to implement potential mitigation. If the other parties are not willing to contribute their fair-share, then mitigation may not be feasible.

The second cumulative milestone is 2026 or after when HSR blended service first commences along the Caltrain corridor. If Caltrain replaces all remnant diesel equipment by that time, then the PCEP would make no contribution to cumulative noise increases and would have no further mitigation responsibilities (operating up to 79 mph). If Caltrain is still operating a similar amount of diesel locomotives in 2026 or after as in 2020, then it would contribute approximately 3 percent to the increases at these four locations: Burlingame near the Broadway grade crossing (Receptor #14); San Mateo near the 9th Avenue grade crossing (Receptor #19); Redwood City near the Whipple Ave. grade crossing (Receptor #25); and Palo Alto near the W. Charleston Road grade crossing (Receptor #36). These four locations would all be affected by the PCEP, HSR, freight, and the Coast Daylight and the Palo Alto location could also be affected by Dumbarton Rail Corridor service. The subsequent project-level analysis of blended HSR service may refine the noise increases due to HSR and blended service when project level design details are taken into account. Caltrain’s fair share responsibility for blended service with Caltrain EMUs operating up to 110 mph may exceed the PCEP’s noise...
### Residential Building Sound Insulation

The JPB, in cooperation with the other parties noted above, shall evaluate the potential to reduce cumulative noise impacts through the installation of building sound insulation improvements at residences projected to have a sound increase greater than the FTA moderate impact criteria. Building sound insulation methods may include extra wall insulation, window glazing and sealing of exterior surfaces.

If this option is selected, a technical study shall be completed to evaluate the effectiveness of reducing cumulative impacts to less than the FTA moderate impact threshold through these methods. If the study shows that it is feasible to reduce the impact to less than the threshold at a cumulatively affected sensitive noise receptor, then no additional mitigation at that location will be required. Building sound insulation measures shall only be installed to the extent necessary to meet the impact threshold at the receptor location and shall only be installed if building owners are willing to accept such measures.

### Quiet Zones

The lead agency for a quiet zone designation is the local jurisdiction (typically the City or County) that is responsible for traffic control and law enforcement on the roads at the at-grade crossings.

The JPB, in cooperation with the other parties noted above, and the affected local jurisdictions shall implement a phased program considering the potential establishment of quiet zones along the Caltrain corridor at all locations where cumulative train noise is predicted to exceed FTA moderate impact thresholds. The JPB and other cooperating railroad operators will work closely with local jurisdictions to prepare the engineering studies and coordination agreements to design, construct, and enforce potential quiet zones.

Options for establishing quiet zones could include implementation of the following FRA pre-approved supplemental safety measures (SSM):

- **Four-quadrant gate system.** This measure involves the installation of at least one gate for each direction of traffic to fully block vehicles from entering the crossing.
- **Gates with medians or channelization devices.** This measure keeps traffic in the proper travel lanes as it approaches the crossing, thus denying the driver the option of circumventing the gates by travelling in the opposite lane.
- **One-way street with gates.** This measure consists of one-way streets with gates installed so that all approaching travel lanes are completely blocked. This option may not be feasible or acceptable to local jurisdictions at all locations.
- **Road closure.** This measure consists of closing the road to through travel at the at-grade crossing. This option may not be feasible or acceptable to local jurisdictions at all locations.

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
<th>Implementation and Reporting Schedule</th>
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<td>Pre-Construction</td>
<td>Post-Construction Post-Construction</td>
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<td></td>
<td>Implementation</td>
<td>Operation</td>
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</table>

- contribution since the PCEP is limited to 79 mph. Projected freight and other passenger rail increases may or may not occur. Caltrain will monitor freight levels changes and will work with CHSRA, UP RR, and Amtrak (and DRC sponsors if DRC is advanced) as necessary, to coordinate fair-share contributions to cumulative mitigation and plan for implementation of feasible improvements by 2026 or by such period that cumulative noise at the four locations above will exceed the FTA moderate threshold criteria. Since the PCEP increases are only a small portion of the cumulative impact, the fair-share contributions of other parties will need to be secured to implement potential mitigation. If the other parties are not willing or able to contribute their fair-share, then mitigation may not be feasible, although it is assumed that CHSRA will be able to secure sufficient funding to support mitigation to address HSR noise fair-share impacts.
In addition to these pre-approved SSMs, the FRA also identifies a range of other measures that may be used to establish a quiet zone. These could be modified SSMs or non-engineering measures which might involve law enforcement or public awareness programs. Such alternative safety measures must be approved by the FRA based on the prerequisite that they provide an equivalent level of safety as the sounding of horns.

Wayside horns can also be utilized as part of a quiet zone. While not avoiding the sounding of a horn, wayside horns affect a smaller area than train-mounted horn. Wayside horns can be used when the other measures above are not adequate to avoid the use of a horn.

The lead agency for a quiet zone designation is the local public authority which is the only authority that can implement a quiet zone. Caltrain or the other rail operators cannot on their own designate the quiet zone. However, only with the implementation of the quiet zone can Caltrain, other tenant railroads and freight operators be relieved of the requirement to sound their horns when crossing at-grade crossings. One key aspect of local jurisdiction acceptance of a quiet zone is acceptance of potential liability in the event of accidents related to not sounding a horn at an at-grade crossing after the installation of any required SSMs. Thus, if a local city does not accept the quiet zone, then even if the required SSMs are present, Caltrain, freight and other rail operators would continue to use train horns as a safety device in compliance with FRA requirements.

**Grade Separations**

Caltrain, in cooperation with other rail operators, local jurisdictions, transportation funding agencies, and state and federal agencies, will support incremental grade separations at locations of cumulative noise impacts over time as funding becomes available. Caltrain will work with local, state, and federal partners to establish priorities for grade separations to be implemented as funding becomes available. Caltrain will also work with other rail providers to seek funding participation from multiple parties on a fair-share basis in proportion to noise contributions.

**Costs**

The specific costs are not known for this mitigation. As noted in the EIR, grade separations can cost $50 million to $100 million or more per location (42 locations could cost $2.1 to 4.2 billion) and quiet zone treatments can cost $1 million to $2 million per location (42 locations could cost $42 to $84 million). Building insulation costs have not been estimated.

**NOI-CUMUL-2: Conduct project-level vibration analysis for Blended System operations and implement vibration reduction measures as necessary and appropriate for the Caltrain corridor**

As noted above, the vibration analysis in this document uses worst-case assumptions. A project-level vibration analysis will be completed by CHSRA for both the San Jose to Merced segment and the Blended Service segment north of San Jose. If subsequent environmental evaluation by CHSRA shows that significant cumulative increases in vibration would not occur along the Caltrain ROW when considering the specific track improvements and HSR and Caltrain EMU design, then this mitigation would not be required or may only be required in certain locations.

A significant cumulative impact would only occur when the number of vibration events approaches a doubling of existing conditions. These measures are only necessary to be in place by the time Blended Service operates on the Caltrain corridor north of Santa Clara or when HSR operates on dedicated track south of Santa Clara (to 2 miles south of Tamiin Station).

Based on the 2014 Business Plan, the earliest date for HSR blended service operations on the Peninsula Corridor Electrification Project 44 January 2015
Implementing, Reporting and Monitoring Responsibilities

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Pre-Construction</th>
<th>Construction</th>
<th>Post-Construction</th>
<th>Operation</th>
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<tbody>
<tr>
<td>Caltrain corridor north of Santa Clara and south of Santa Clara on dedicated track would be 2026. Caltrain will coordinate with CHSRA during the subsequent environmental process for blended service to examine the actual potential for significant cumulative vibration impacts to actually occur and the need for mitigation. If the subsequent environmental evaluation shows significant cumulative vibration impacts taking into account the specific blended service track improvements, the JPB, in cooperation with CHSRA and other rail operators will support incremental train vibration reduction measures along the Caltrain ROW. Caltrain will work with CHSRA and other rail operators to establish priorities for vibration reduction measure to be implemented as funding becomes available. The timing for any necessary improvements should be combined with blended service track improvements and should occur prior to a doubling of vibration events. Based on the 2014 Business Plan, HSR operations would commence in 2026 which would double the vibration events and thus mitigation should be in place at that time.</td>
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<tr>
<td>Potential vibration reduction measures could include, but are not limited to, special track support systems, vehicle suspension (HSR vehicles only), building modifications, trenches (if feasible), and buffer zones. The costs for implementing the phased program should be borne by all rail operators in proportion to their contributions to increased vibration events and/or levels. Given that there are multiple contributors to cumulative rail vibration events, the JPB is only responsible to fund its fair share for necessary vibration reduction measures with other rail services responsible to fund their fair share as well. However, if there is no governmental approval that triggers an obligation to share such costs, it may be impossible to require other railroads to pay their fair-share. Fair-share shall be determined by the vibration train event increases over existing conditions (2013).</td>
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</table>

TRA-CUMUL-1: Implement a phased program to provide traffic improvements to reduce traffic delays near at-grade crossings and Caltrain stations

The proposed signalization and minor roadway mitigations in Table 4-18 will be fully funded by Caltrain as they are directly related to the Proposed Project impact compared to 2040 No Project conditions. The performance standard for the project impacts compared to the No Project conditions are the significance criteria used in this EIR.

Other long-term mitigation, such as grade separations, cannot be committed to by Caltrain at this time due to funding limitations, but Caltrain will work with local jurisdictions and funding partners to support such improvements as funding becomes available. Caltrain will coordinate with local jurisdictions during the design phase of roadway mitigation measures that affect roadways under local jurisdiction.

Caltrain, in cooperation with local agencies and other parties, will support a phased program seeking to improve local roadway conditions along the Caltrain corridor near at-grade crossings and Caltrain stations where cumulative impacts have been identified and where the Proposed Project makes an adverse contribution to traffic delays. Separate from the specific Table 4-18 mitigation, given that there are multiple contributors to cumulative traffic conditions, Caltrain is only responsible to fund its fair share for other necessary improvements with local jurisdictions, future land use development as well as other rail services responsible to fund their fair share as well. Fair share shall be determined by cumulative contributions to future traffic levels or delays at identified significant cumulatively affected intersections and roadways determined using traffic modelling.

In the long run, where adequate funding is available, there are a variety of technically feasible The following traffic improvements that would help to reduce cumulative traffic delays at

Implementing Party: JPB in cooperation with local agencies and other parties
Reporting Party: JPB
Monitoring Party: JPB

X Implementation: Implementing parties will evaluate phased programs to improve local roadway conditions along the project corridor as necessary to anticipate cumulative traffic increases.

Reporting: Minimum evaluation of need for mitigation every five years starting in 2020.

Traffic Improvement Program.
### Mitigation Measure

**Intersections near at-grade crossings and Caltrain stations including, but not limited to the following options:**

- **Traffic signal optimization:** Signal timing optimization can include optimizing the cycle time, splits, and phasing. In addition, for closely spaced intersections, optimizing the offset and better signal coordination can also reduce delay. Signal optimization is proposed as a mitigation measure at a number of study intersections as shown in Table 4-18. Caltrain will fund and implement the signalization in Table 4-18 as these impacts are directly related to Proposed Project impacts as they are identified relative to 2040 No Project conditions.

- **Roadway Geometry Changes:** Changing the roadway geometry can also help reduce intersection delay. This can include changing the roadway width by widening the street or changing the existing geometry configuration through restriping. Intersection #43 (Main Street and Middlefield Road) and Intersection #64 (El Camino Real and Alma Street and Sand Hill Road) are examples of where roadway geometry could be altered as a mitigation measure to reduce intersection delay. Roadway changes are proposed in Table 4-18. Caltrain will fund and implement the roadway improvements in Table 4-18 as these impacts are directly related to Proposed Project impacts as they are identified relative to 2040 No Project conditions.

- **Grade Separations:** Given the costs and disruption of major roadway widenings and grade separations, Caltrain cannot commit at this time to a comprehensive program of improvements that would address all cumulative impacts in the future, because it does not have the identified funding and does not expect to receive sufficient funding in the foreseeable future. However, Caltrain, in cooperation with local jurisdictions, transportation funding agencies, and state and federal agencies, will support incremental grade separations at locations of cumulative traffic impacts over time as funding becomes available. Caltrain will work with local, state, and federal partners to establish priorities for roadway improvements grade separations to be implemented as funding becomes available. Caltrain will also work with other rail parties to seek funding participation from multiple parties on a fair-share basis in proportion to traffic contributions or project contributions to traffic delays.

- **Road Closures:** One option for managing local traffic is to close roadways at grade crossings and reroute traffic via alternative roadways. This option may not be feasible or acceptable to local jurisdictions at many, if not all locations.

This mitigation is funding limited as it relates to major road widenings and grade separations and will likely take many decades to implement. As noted above, the JPB is committed to implementing the improvements shown in Table 4-18 in a phased program as needed to address the Proposed Project’s effects on local traffic.

<table>
<thead>
<tr>
<th>Mitigation Measurement</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
<th>Implementation and Reporting Schedule</th>
<th>Implementation Mechanism or Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Implementing Party: JPB/D-B Contractor in coordination with SFMTA</td>
<td>Pre-Construction</td>
<td>X</td>
<td>Technical solution to OCS conflicts prepared by JPB/D-B Contractor in cooperation with SFMTA.</td>
</tr>
<tr>
<td></td>
<td>Reporting Party: D-B Contractor</td>
<td>Construction</td>
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<td>Monitoring Party: JPB</td>
<td>Post-Construction</td>
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<td>Operation</td>
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2 While grade separations are a technically feasible way to reduce cumulative traffic impacts at the at-grade locations, it is a highly expensive mitigation strategy. As discussed above, Caltrain supports future efforts at grade separation where acceptable to local communities and where local, state, and federal funding can be obtained to fund these improvements. However, using an average assumed cost of $50 to $100 million per crossing (grade separations can cost much more sometimes), grade separating all existing 42 at-grade crossings would cost $2.1 to $4.2 billion. Grade separating only 17 locations that are nearest the 17 significant unavoidably impacted intersections noted above could cost $850 million to $1.7 billion. The budget for the Proposed Project is $1.225 billion by comparison. Thus, Caltrain cannot commit to a comprehensive program of grade separations at this time.
<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Implementing, Reporting and Monitoring Responsibilities</th>
<th>Mitigation Timing</th>
<th>Implementation and Reporting Schedule</th>
<th>Implementation Mechanism or Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two feasible options for the SFMTA at-grade trolley crossing at 16th Street underneath the I-280 viaduct have been identified, both of which would involve a short phase break of the Caltrain OCS. Both options would include a short gap in the Caltrain OCS to allow the ETB OCS to be installed through the intersection. The short section of the ETB OCS would not be energized to avoid any potential for contact between energized parts of the Caltrain OCS and the ETB OCS. The options for equipment to facilitate Caltrain operations through the Caltrain OCS gap are as follows:</td>
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<td>Reporting: Prior to final design.</td>
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<tr>
<td>- Option #1: Installation of a track-mounted transponder that automatically communicates with special on-board equipment to open the main circuit breaker and preclude current from reaching the car.</td>
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<td>o As a Caltrain consist approaches the 16th street crossing, the engineer would reduce the power draw and the track-mounted transponder would instruct the individual car to open its main breaker. Power drawn from pantographs outside the “zero-power zone” will allow the train to move through the crossing without slowing down. After clearing the crossing, the main breaker will close, and the power draw can be ramped up again.</td>
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<td>o Electric Trolley Buses will operate normally at the crossing, as the collector poles glide along the contact wires up to 6” above the 25kV Caltrain OCS wires. Buses will encounter a roughly 6-foot-long (the width of the Caltrain pantograph) non-energized portion of contact wire at the crossing of each track, but can coast through that gap on a continuous wire structure. This type of movement is a part of normal operations in San Francisco.</td>
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<td>o This type of OCS wire structure has been used previously in Seattle and in Europe.</td>
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<td>- Option #2: Installation of a vacuum circuit breaker (VCB), which removes the requirement for special on-board equipment.</td>
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<td>o The VCB solution has only been available for about 15 years and has not been implemented on a large scale yet. This solution has been utilized in newer installations in China.</td>
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</table>

Caltrain will need to obtain regulatory clearance from the CPUC for either of these solutions. The CPUC has not yet released regulations for 25kV traction power systems. The rulemaking process is ongoing. Caltrain, in cooperation with SFMTA will work with the CPUC to obtain approval of a technical solution for the 16th Street crossing.

The placement of the ETB overhead wires needs to be identified by SFMTA in coordination with Caltrain as the ETB needs to cross in the lane with the overhead wires in order to avoid any power interruption for the bus while crossing the rail line.

The following issues will be resolved during design of the improvement: wire height for the 22-Fillmore OCS, reliability of the Caltrain on-board (transponders), or off-board equipment, (vacuum circuit breakers), and emergency operating procedures in case of failure.

In addition, Caltrain will work with SFMTA to identify any design, maintenance, or emergency contingency considerations important to the design of the crossing system to minimize additional maintenance effort or materials for SFMTA during operations and to identify emergency response actions in the event of any wire entanglement at the crossing.

| Pre-Construction | Construction | Post-Construction | Operations | |
## Mitigation Measure

**TRA-CUMUL-3**: As warranted, Caltrain and freight operators will partner to provide Plate H clearance at the Lafayette Pedestrian Overpass location.

Caltrain and freight operators share responsibility for the potential constraints that may occur due to the combination of a change in freight operating equipment and the installation of the OCS. If freight operators identify a plan to operate freight railcars along the Caltrain corridor between MP 52.0 and the Butterhouse Spur (MP 41.4) that would be hindered by the OCS installation compared with existing conditions, then Caltrain and freight operators will implement site improvements to restore effective vertical height clearances where needed along the Caltrain corridor.

Based on current analysis, the only proposed improvement in addition to the Proposed Project tunnel notch/track lowering at the four San Francisco tunnels and the track lowering at Hedding Avenue (MP 46.15), San Carlos Avenue (MP 47.89), Curtner Avenue (MP 50.59), a private overpass (MP 51.08), would be track lowering at the Lafayette Pedestrian Overpass (MP 43.65).

Track lowering is a possible solution to rectify the reduction in clearance at constrained bridge overcrossings, but further study will be required to determine the condition of track subgrade in each specific area and to locate existing utilities that may impact the track lowering. If it is determined existing utilities are in the way of potential track lowering, the existing utilities will have to be relocated in order to achieve the desired clearance.

Caltrain and the freight operators shall apportion any cost pursuant to the existing agreement between the parties.

Presuming that any identified improvements will be implemented by an entity that is subject to CEQA, those improvements would need to be analyzed for their environmental impacts, as warranted, to determine if any additional significant impacts beyond those disclosed in this EIR for clearance improvements (e.g., those described in Chapter 2, Project Description). Environmental clearance shall be obtained, if necessary and required, prior to construction of any additional site improvements.

All relevant mitigation included in this EIR would apply to any additional construction necessary to implement this mitigation measure.

### Implementing, Reporting and Monitoring Responsibilities

- **Implementing Party**: JPB and freight operators
- **Reporting Party**: JPB
- **Monitoring Party**: JPB

### Mitigation Timing

<table>
<thead>
<tr>
<th>Pre-Construction</th>
<th>Construction</th>
<th>Post-Construction</th>
<th>Operation</th>
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<td><strong>X</strong></td>
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</table>

**Implementation and Reporting Schedule**

- **Implementation**: Timing/need for action to be determined in consultation between UPRR and JPB. Freight operations to identify their future freight needs. JPB and UPRR to study needs for improvement and resolve cost sharing. Improvements to be completed within 3 years of mutual agreement on improvements and cost arrangements.
- **Reporting**: As needed.

### Implementation Mechanism or Tool

- Periodic consultation between UPRR and JPB per the Trackage Rights Agreement.
REFERENCED TABLES
<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>California Distribution</th>
<th>Habitats</th>
<th>Blooming Period</th>
<th>Potential Occurrence in Project Corridor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acanthomintha duttonii</td>
<td>E/E/1B.1</td>
<td>Central Coast, San Francisco Bay Area: two occurrences in San Mateo County.</td>
<td>Annual grassland and open areas in chaparral and coastal scrub, on serpentinite vertisol clay soil, below 900 feet above mean sea level (MSL).</td>
<td>Apr–Jun</td>
<td>None—there is no suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Allium peninsulare var. franciscanum</td>
<td>+/-/1B.2</td>
<td>Central Coast, San Francisco Bay region: Santa Clara, San Mateo, and Sonoma Counties.</td>
<td>Clay and often serpentinite soils in cismontane woodland, valley and foothill grassland, below 1,000 feet above MSL.</td>
<td>May–Jun</td>
<td>Low—nine CNDDB occurrences within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Amsinckia lunaris</td>
<td>+/-/1B.2</td>
<td>Inner North Coast Ranges, San Francisco Bay Area, west-southern Sacramento Valley, and west-northern San Joaquin Valley.</td>
<td>Coastal bluff scrub, valley and foothill grasslands, cismontane woodlands, 101,645 feet above MSL.</td>
<td>Mar–Jun</td>
<td>Low—three CNDDB occurrences within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Arctostaphylos franciscana</td>
<td>P/-/1B.1</td>
<td>Historical occurrence in San Francisco; believed extinct in the wild.</td>
<td>Coastal scrub on serpentinite soils, below 990 feet above MSL.</td>
<td>Feb–Apr</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Arctostaphylos imbricata</td>
<td>+/-/1B.1</td>
<td>Western San Francisco Bay: San Bruno Mountain, San Mateo County.</td>
<td>Chaparral and coastal scrub on rocky outcrops.</td>
<td>Feb–May</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Arctostaphylos montana ssp. ravennii</td>
<td>E/E/1B.1</td>
<td>Presidio of San Francisco.</td>
<td>Chaparral, coastal prairie, coastal scrub, serpentinite soils.</td>
<td>Feb–Mar</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Arctostaphylos montanaeensis</td>
<td>+/-/1B.2</td>
<td>Endemic to San Mateo County, San Bruno Mountain, Montara Mountains.</td>
<td>Maritime chaparral, coastal scrub, 650–1,640 feet above MSL.</td>
<td>Jan–Mar</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Arctostaphylos regismontana</td>
<td>+/-/1B.2</td>
<td>Western San Francisco Bay region, northern Santa Cruz Mountains: Santa Cruz and San Mateo Counties.</td>
<td>Broadleaved upland forest, chaparral, North Coast coniferous forest, on granitic or sandstone soils.</td>
<td>Jan–Mar</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Arenaria paludicola</td>
<td>E/E/1B.1</td>
<td>Known only from three occurrence near Black Lake on Nipomo Mesa, San Luis Obispo County. Historically more wide ranging through Central and South Coast.</td>
<td>Boggy meadows, freshwater marshes, and swamps, below 1,000 feet above MSL.</td>
<td>May–Aug</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Astragalus tener var. tener</td>
<td>+/-/1B.2</td>
<td>Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area.</td>
<td>Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils, annual grassland on alkaline soil, seasonal wetlands; below 197 feet above MSL.</td>
<td>Mar–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Balsamorhiza macrolepis</td>
<td>+/-/1B.2</td>
<td>Scattered occurrences in the Coast Ranges and Sierra Nevada foothills.</td>
<td>Rocky annual grassland and fields, foothill woodland hillsides, sometimes serpentinite soils, below 4,600 feet above MSL.</td>
<td>Mar–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Calochortus hookeri</td>
<td>E/-/1B.1</td>
<td>Scattered occurrences in the Sacramento and San Joaquin Valleys, southern North Coast Ranges, San Francisco Bay Area, South Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges.</td>
<td>Grasslands, on friable clay soils.</td>
<td>Mar-May</td>
<td>Low—one CNDDB occurrence within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Carex comosa</td>
<td>+/-/2.1</td>
<td>Scattered occurrences throughout California, Oregon, and Washington.</td>
<td>Wet places and lake margins.</td>
<td>May–Sep</td>
<td>Low—one CNDDB occurrence within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Species</td>
<td>Status</td>
<td>California Distribution</td>
<td>Habits</td>
<td>Blooming Period</td>
<td>Potential Occurrence in Project Corridor</td>
</tr>
<tr>
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</tr>
<tr>
<td>Centromadia parryi ssp. congdonii</td>
<td>–/–/1B.1</td>
<td>Eastern San Francisco Bay Area, Salinas Valley, and Los Osos Valley.</td>
<td>Alkaline soils in annual grassland, on lower slopes, flats, and swales, sometimes on saline soils, below 755 feet above MSL.</td>
<td>May–Oct (Nov)</td>
<td>Low—five CNDDB occurrences within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Centromadia parryi ssp. parryi</td>
<td>–/–/1B.2</td>
<td>Butte, Colusa, Glenn, Lake, Napa, San Luis Obispo, San Mateo, Solano, and Sonoma Counties.</td>
<td>Often alkaline soils, chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic).</td>
<td>May–Nov</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Chloropyron maritimum ssp. palustre (Cordylanthus maritimus ssp. palustris)</td>
<td>–/–/1B.2</td>
<td>Coastal northern California from Humboldt to Santa Clara County.</td>
<td>Coastal salt marsh; below 33 feet above MSL.</td>
<td>Jun–Oct</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Chorizanthe robusta var. robusta</td>
<td>E/–/1B.1</td>
<td>Coastal central California from San Mateo to Monterey County.</td>
<td>Coastal bluff scrub, coastal dunes openings in cismontane woodland, on sandy soil.</td>
<td>May–Sep</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Cirsium andrewsii</td>
<td>–/–/1B.2</td>
<td>Coastal California from Sonoma County to San Mateo County.</td>
<td>Moist areas in coastal prairie, coastal scrub, and mixed evergreen forest, sometimes on serpentine soils, 0–440 feet above MSL.</td>
<td>Mar–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Cirsium fontinale var. campylon</td>
<td>–/–/1B.2</td>
<td>Mt. Hamilton Range, eastern San Francisco Bay Area: Alameda, Santa Clara, and Stanislaus Counties.</td>
<td>Freshwater seeps and streams on serpentine outcrops, chaparral, cismontane woodland, valley and foothill grassland, 1,000–2,500 feet above MSL.</td>
<td>Apr–Oct</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Cirsium fontinale var. fontinale</td>
<td>E/E/1B.1</td>
<td>Endemic to San Mateo County.</td>
<td>Seeps in chaparral and grassland, on serpentine soils.</td>
<td>Jun–Oct</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Cirsium occidentale var. compactum</td>
<td>–/–/1B.2</td>
<td>San Francisco and San Luis Obispo Counties.</td>
<td>Chaparral, coastal dunes, coastal prairie, coastal scrub.</td>
<td>Apr–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Clarkia franciscana</td>
<td>E/E/1B.1</td>
<td>San Francisco Bay, Presidio, Oakland hills: Alameda and San Francisco Counties.</td>
<td>Serpentine grassland, coastal scrub.</td>
<td>May–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Collinsia corymbosa</td>
<td>–/–/1B.2</td>
<td>North Coast and northern Central Coast from Del Norte County to Marin County.</td>
<td>Coastal dunes, below 65 feet above MSL.</td>
<td>Apr–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Collinsia multicolor</td>
<td>–/–/1B.2</td>
<td>Coastal California from San Francisco to Monterey County.</td>
<td>Closed-cone coniferous forest, coastal scrub.</td>
<td>Mar–May</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Diva occidentalis</td>
<td>–/–/1B.2</td>
<td>San Francisco Bay region: Alameda, Contra Costa, Marin, Santa Clara, San Mateo, and Sonoma Counties.</td>
<td>Moist areas in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland, 82–1394 feet above MSL.</td>
<td>Jan–Apr</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Dudleya abramsii ssp. setchellii</td>
<td>E/–/1B.1</td>
<td>Endemic to Santa Clara County.</td>
<td>Cismontane woodland, valley and foothill grassland, on rocky serpentine sites.</td>
<td>May–Jun</td>
<td>Low—nine CNDDB occurrences within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td>Eriophyllum latilobum</td>
<td>E/E/1B.1</td>
<td>One known occurrence in San Mateo County.</td>
<td>Open areas in coastal live oak woodland, often on roadsides, sometimes on serpentine soils, 150–500 feet above MSL.</td>
<td>May–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Species</td>
<td>Statusa</td>
<td>California Distribution</td>
<td>Habitats</td>
<td>Blooming Period</td>
<td>Potential Occurrence in Project Corridor(^b)</td>
</tr>
<tr>
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<tr>
<td><strong>Eryngium aristulatum var. hooveri</strong>&lt;br&gt;Hoover’s button-celery</td>
<td>–/-/1B.1</td>
<td>South San Francisco Bay Area, South Coast Ranges in Alameda, San Benito, Santa Clara, and San Luis Obispo Counties.</td>
<td>Vernal pool, 10–148 feet above MSL.</td>
<td>July</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Fritillaria biflora var. ineziana</strong>&lt;br&gt;Hillsborough chocolate lily</td>
<td>–/-/1B.1</td>
<td>Endemic to Hillsborough area in San Mateo County.</td>
<td>Serpentine grassland.</td>
<td>Mar–Apr</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Fritillaria lilacea</strong>&lt;br&gt;Fragrant fritillary</td>
<td>–/-/1B.2</td>
<td>Coast Ranges from Marin County to San Benito County.</td>
<td>Adobe soils of interior foothills, coastal prairie, coastal scrub, annual grassland, often on serpentine soils, below 1,350 feet.</td>
<td>Feb–Apr</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Gilia capitata ssp. chamissonis</strong>&lt;br&gt;Blue coast gilia</td>
<td>–/-/1B.1</td>
<td>Marin, San Francisco, and Sonoma Counties.</td>
<td>Coastal dunes and coastal scrub.</td>
<td>Apr–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Gilia millefoliata</strong>&lt;br&gt;Dark-eyed gilia</td>
<td>–/-/1B.2</td>
<td>Coastal California from Del Norte to San Francisco County.</td>
<td>Coastal dunes; 10–65 feet above MSL.</td>
<td>Apr–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Heliactinella castanea</strong>&lt;br&gt;Diablo helianthella</td>
<td>–/-/1B.2</td>
<td>San Francisco Bay Area: Alameda, Contra Costa, Marin(^1), San Francisco(^2), and San Mateo Counties.</td>
<td>At chaparral/oak woodland ecotone, often in partial shade, on rocky soils, 80–3,800 feet above MSL.</td>
<td>Apr–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Hemizonia congesta ssp. congesta</strong>&lt;br&gt;White seaside tarplant</td>
<td>–/-/1B.2</td>
<td>Mendocino, Marin, San Francisco, San Mateo, and Sonoma Counties.</td>
<td>Valley and foothill grassland, sometimes roadsides.</td>
<td>Apr–Nov</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Hesperoxis sparsiflora var. brevifolia</strong>&lt;br&gt;Short-leaved evax</td>
<td>–/-/1B.2</td>
<td>Humboldt, Mendocino, Marin, Santa Cruz, San Francisco, and Sonoma Counties.</td>
<td>Coastal dunes, sandy soils in coastal bluff scrub, below 700 feet above MSL.</td>
<td>Apr–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Hesperolinon congestum</strong>&lt;br&gt;Marin dwarf-flax (&lt;western flax&gt;)</td>
<td>T/T/1B.1</td>
<td>Marin, San Francisco, and San Mateo Counties.</td>
<td>Chaparral, serpentine grassland.</td>
<td>Apr–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Horkelia cuneata var. sericea</strong>&lt;br&gt;Kellogg’s horkelia</td>
<td>–/-/1B.1</td>
<td>Coastal California from Marin County to Santa Barbara County.</td>
<td>Openings in closed-cone coniferous forest, coastal scrub, maritime chaparral, on sandy or gravelly soils.</td>
<td>Apr–Sep</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Horkelia marinensis</strong>&lt;br&gt;Point Reyes horkelia</td>
<td>–/-/1B.2</td>
<td>Scattered occurrences in North Coast and northern Central Coast: Mendocino, Marin, Santa Cruz, and San Mateo Counties.</td>
<td>Coastal dunes, coastal scrub, perennial grassland on sandy soils, 15–1,150 feet above MSL.</td>
<td>May–Sep</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Lasthenia conjugens</strong>&lt;br&gt;Contra Costa goldfields</td>
<td>E/-/1B.1</td>
<td>Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley: Alameda, Contra Costa, Mendocino, Monterey, Napa, Santa Barbara(^3), Santa Clara(^1), and Solano Counties.</td>
<td>Alkaline or saline vernal pools and swales, below 700 feet above MSL.</td>
<td>Mar–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Leavenworthia ciliata</strong>&lt;br&gt;Beach leavenworthia</td>
<td>E/E/1B.1</td>
<td>Scattered occurrences along coastal California from Humboldt County to Santa Barbara County.</td>
<td>Coastal dunes, coastal scrub on sandy soil.</td>
<td>Mar–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Leptosiphon rosaceus</strong>&lt;br&gt;Rose leptosiphon</td>
<td>–/-/1B.1</td>
<td>Marin, San Francisco(^3), San Mateo, and Sonoma(^*) Counties.</td>
<td>Coastal bluff scrub.</td>
<td>Apr–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><strong>Lessingia arachnoidea</strong>&lt;br&gt;Crystal Springs lessingia</td>
<td>–/-/1B.2</td>
<td>San Mateo County, one location reported in Sonoma County.</td>
<td>Serpentine grassland and open grassy areas in serpentine chaparral, cismontane woodland.</td>
<td>Apr–Jul</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td>Species</td>
<td>Status</td>
<td>California Distribution</td>
<td>Habitats</td>
<td>Blooming Period</td>
<td>Potential Occurrence in Project Corridor</td>
</tr>
<tr>
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</tr>
</tbody>
</table>
| **Lessingia germanorum**  
San Francisco lessingia | E/E/1B.1 | San Francisco and San Mateo Counties. | Coastal scrub, on remnant dunes. | Jun-Nov | None—no suitable habitat within the project corridor. |
| **Malacothamnus aboriginum**  
Indian Valley bush mallow | –/-/1B.2 | Inner South Coast Ranges: San Benito, Fresno, and Monterey Counties. | Rocky areas in chaparral and oak woodland, often in burned areas, 492–5,577 feet above MSL. | Apr-Oct | None—no suitable habitat within the project corridor. |
| **Malacothamnus arcuatus**  
Arcuate bush-mallow | –/-/1B.2 | Santa Clara, Santa Cruz, and San Mateo Counties. | Chaparral, 49–1,165 feet above MSL. | Apr-Sep | None—no suitable habitat within the project corridor. |
| **Malacothamnus davidsonii**  
Davidson’s bush-mallow | –/-/1B.2 | Los Angeles, Monterey, and San Luis Obispo Counties. | Coastal scrub, chaparral, and riparian woodland in sandy washes, 900–2,300 feet above MSL. | Jun-Sep | None—no suitable habitat within the project corridor. |
| **Malacothamnus hallii**  
Hall’s bush-mallow | –/-/1B.2 | Alameda, Contra Costa, Merced, Santa Clara, and Stanislaus Counties. | Chaparral and coastal scrub, 30–2,500 feet above MSL. | May-Sep | None—no suitable habitat within the project corridor. |
| **Microseris paludosa**  
Marsh microseris | –/-/1B.2 | Coastal California from Mendocino County to San Luis Obispo County. | Grassland, coastal scrub, closed-cone-coniferous forest, cismontane woodland. | Apr-Jul | Low—one CNDDB occurrence within 5 miles of project corridor; low-quality suitable habitat present within project corridor. |
| **Monolopia gracilens**  
Woodland woollythreads | –/-/1B.2 | Contra Costa, Alameda (reported), Santa Clara, San Mateo, Santa Cruz, Monterey, San Luis Obispo Counties. | Cismontane woodland, openings in broadleaved forest, openings in chaparral, and serpentine valley and foothill grassland, 328–3,937 feet above MSL. | Mar-Jun (Feb) | None—no suitable habitat within the project corridor. |
| **Pentachaeta bellidiflora**  
White-rayed pentachaeta | E/E/1B.1 | One occurrence in San Mateo County, historically known also from Marin and Santa Cruz Counties. | Annual grassland, often on serpentine soils. | Mar-May | None—no suitable habitat within the project corridor. |
| **Plagiobothrys choristianus var. choristianus**  
Choris’ popcornflower | –/-/1B.2 | Southwest San Francisco Bay Area, northern Central Coast: Santa Cruz, San Francisco and San Mateo Counties. | Chaparral, coastal prairie, coastal scrub, in mesic areas. | Mar-Jun | None—no suitable habitat within the project corridor. |
| **Plagiobothrys diffusus**  
San Francisco popcornflower | –/-/1B.1 | Alameda and Santa Cruz County. | Coastal prairie, valley and foothill grassland. | Mar-Jun | None—not known to occur in the counties in which the project is located. |
| **Polemonium carneum**  
Oregon polemonium | –/-/2.2 | Alameda, Del Norte, Humboldt, Marin, San Francisco, Siskiyou, San Mateo, and Sonoma Counties. | Coastal prairie, coastal scrub, and lower montane coniferous forest. | Apr-Sep | None—no suitable habitat within the project corridor. |
| **Potentilla hickmanii**  
Hickman’s cinquefoil | E/E/1B.1 | Monterey, San Mateo, and Sonoma Counties. | Freshwater marshes, seeps, and small streams in open areas in coastal scrub or coniferous forest. | Apr-Aug | None—no suitable habitat within the project corridor. |
| **Sanicula maritima**  
Adobe sanicle | –/-/1B.1 | Coastal Monterey and San Luis Obispo Counties. Historically known from the San Francisco Bay area: Alameda and San Francisco Counties. | Moist clay or ultramafic soils, in meadows and grassland. | Feb-May | None—no suitable habitat within the project corridor. |
| **Silene verecunda ssp. verecunda**  
San Francisco campion | –/-/1B.2 | Northern Central Coast, San Francisco Bay Area: San Francisco, and San Mateo, Santa Cruz Counties; also Sutter County. | Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, in sandy areas, 100–2,100 feet above MSL. | Mar-Aug | Low—six CNDDB occurrences within 5 miles of the project and limited suitable habitat is present within the project corridor. |
| **Streptanthus albidos ssp. albidos**  
Metcalf Canyon jewel-flower | E/-/1B.1 | Endemic to Santa Clara County. | Valley and foothill grassland, on serpentine soils. | Apr-Jul | None—no suitable habitat within the project corridor. |
<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>California Distribution</th>
<th>Habitats</th>
<th>Blooming Period</th>
<th>Potential Occurrence in Project Corridor</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Streptanthus albidus ssp. peramoenus</em> (Most beautiful jewel-flower)</td>
<td>–/-1B.2</td>
<td>Eastern San Francisco Bay area, Central south coastal outer ranges: Alameda, Contra Costa, Monterey, and Santa Clara Counties.</td>
<td>Chaparral, annual grassland, on ridges and slopes on serpentine outcrops, 450–3,200 feet above MSL.</td>
<td>Apr–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><em>Stuckenia filiformis</em> (<em>Potamogeton filiformis</em>) (Slender-leaved pondweed)</td>
<td>–/-2.2</td>
<td>Scattered locations in Contra Costa, El Dorado, Lassen, Merced, Mono, Modoc, Mariposa, Placer, and Sierra Counties; presumed extirpated in Santa Clara County.</td>
<td>Freshwater marsh, shallow emergent wetlands and freshwater lakes, drainage channels; 984–7,654 feet above MSL.</td>
<td>May–July</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><em>Sueda californica</em> (California seablite)</td>
<td>E/-1B.1</td>
<td>Morro Bay, San Luis Obispo County, historically found in south San Francisco Bay.</td>
<td>Margins of tidal salt marsh, below 49 feet above MSL.</td>
<td>Jul–Oct</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><em>Trifolium amoenum</em> (Showy rancheria clover)</td>
<td>E/-1B.1</td>
<td>Coast Range foothills, San Francisco Bay region from Mendocino County to Santa Clara County.</td>
<td>Low elevation grasslands, including swales and disturbed areas, sometimes on serpentine soils.</td>
<td>Apr–Jun</td>
<td>Low—two CNDDB occurrences within 5 miles of project corridor; low-quality suitable habitat present within project corridor.</td>
</tr>
<tr>
<td><em>Trifolium hydrophilum</em> (Saline clover)</td>
<td>–/-1B.2</td>
<td>Sacramento Valley, central western California.</td>
<td>Salt marsh, mesic alkaline areas in grasslands, vernal pools.</td>
<td>Apr–Jun</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
<tr>
<td><em>Triquetrella californica</em> (Coastal triquetrella)</td>
<td>–/-1B.2</td>
<td>Scattered localities in Coastal California: Contra Costa, Mendocino, San Diego, and San Francisco Counties.</td>
<td>On soil in coastal bluff scrub and coastal scrub, 33–128 feet above MSL.</td>
<td>N/A</td>
<td>None—no suitable habitat within the project corridor.</td>
</tr>
</tbody>
</table>
a Status explanations:

**Federal**

- E  =  listed as endangered under the Endangered Species Act (ESA)
- P  =  proposed for listing under the ESA
- -  =  no listing

**State**

- E  =  listed as endangered under the California Endangered Species Act
- -  =  no listing

**California Rare Plant Rank (CRPR)**

- 1B  =  List 1B species: rare, threatened, or endangered in California and elsewhere
- 2   =  List 2 species: rare, threatened, or endangered in California but more common elsewhere

**CRPR Code Extensions:**

- 0.1 = seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 0.2 = fairly endangered in California (20–80% of occurrences threatened)

b Definitions of levels of potential occurrence:

- Moderate: Plant known to occur in the region from the CNDDB or other documents regarding the vicinity of the Proposed Project, or habitat conditions are of suitable quality.
- Low: Plant not known to occur in the region from the CNDDB or other documents regarding the vicinity of the Proposed Project; or habitat conditions are of poor quality.
- None: Plant not known to occur in the region from the CNDDB or other documents regarding the vicinity of the Proposed Project; or suitable habitat is not present in any condition.

c Species has not been observed here, but is expected to also occur at this location.

CNDDB = California Natural Diversity Database
# Peninsula Corridor Electrification Project

## Mitigation Monitoring and Reporting Program

### Table 3.14-17. Summary of Intersection Impacts and Mitigation Measures

<table>
<thead>
<tr>
<th>Int ID</th>
<th>City</th>
<th>Intersection</th>
<th>Impacted Peak Hour</th>
<th>Mitigation Strategies</th>
<th>Impact Significance after Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Signalized Intersections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>San Francisco</td>
<td>4th Street and King Street</td>
<td>PM</td>
<td>Revise signal timing and phasing to better coordinate with 4th Street and Townsend Street</td>
<td>Less than significant</td>
</tr>
<tr>
<td>2</td>
<td>San Francisco</td>
<td>4th Street and Townsend Street</td>
<td>PM</td>
<td>Revise signal timing and phasing to better coordinate with 4th Street and King Street</td>
<td>Less than significant</td>
</tr>
<tr>
<td>5</td>
<td>San Francisco</td>
<td>7th Street and 16th Street</td>
<td>AM</td>
<td>Widen northbound approach to lengthen left turn pocket</td>
<td>Less than significant</td>
</tr>
<tr>
<td>16</td>
<td>San Francisco</td>
<td>El Camino Real and Millbrae Avenue</td>
<td>AM and PM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>17</td>
<td>Millbrae</td>
<td>Millbrae Avenue and Rollins Road</td>
<td>PM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>18</td>
<td>Burlingame</td>
<td>California Drive and Broadway</td>
<td>AM and PM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>36</td>
<td>San Mateo</td>
<td>El Camino Real and El Camino Real</td>
<td>AM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>55</td>
<td>Menlo Park</td>
<td>El Camino Real and Glenwood Avenue</td>
<td>AM and PM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>56</td>
<td>Menlo Park</td>
<td>El Camino Real and Oak Grove Avenue</td>
<td>AM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>63</td>
<td>Palo Alto</td>
<td>Meadow Drive and Alma Street</td>
<td>AM and PM</td>
<td>Widen west leg of Sand Hill Road by adding one lane to allow southbound right turns on red</td>
<td>Less than significant</td>
</tr>
<tr>
<td>64</td>
<td>Palo Alto</td>
<td>El Camino Real and Alma Street and Sand Hill Road</td>
<td>AM</td>
<td>Widen west leg of Sand Hill Road by adding one lane to allow southbound right turns on red</td>
<td>Less than significant</td>
</tr>
<tr>
<td>66</td>
<td>Palo Alto</td>
<td>Alma Street and Churchill Avenue</td>
<td>AM and PM</td>
<td>Evaluate potential signal pre-emption with Caltrans and City of Palo Alto to manage traffic movements.</td>
<td>Significant and unavoidable</td>
</tr>
<tr>
<td>68</td>
<td>Palo Alto</td>
<td>Alma Street and Charleston Road</td>
<td>AM and PM</td>
<td>Significant and unavoidable</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Mt. View</td>
<td>Central Expressway and N Rengelstiff Avenue</td>
<td>PM</td>
<td>Significant and unavoidable</td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Mt. View</td>
<td>Central Expressway and Moffett Boulevard and Castro Street</td>
<td>AM and PM</td>
<td>Significant and unavoidable</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Sunnyvale</td>
<td>W Evelyn and S Mary Avenue</td>
<td>PM</td>
<td>Significant and unavoidable</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>San Jose</td>
<td>W Santa Clara Street and Calh Street</td>
<td>PM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td>81</td>
<td>San Jose</td>
<td>South Montgomery Street and W San Fernando Street</td>
<td>PM</td>
<td>Adjust signal timings to better serve traffic after project implementation</td>
<td>Less than significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stop-Controlled Intersections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Burlingame</td>
<td>Carolan Avenue and Oak Grove Avenue</td>
<td>AM and PM</td>
<td>Signalize intersection</td>
<td>Significantly and unavoidable</td>
</tr>
<tr>
<td>51</td>
<td>Atherton</td>
<td>El Camino Real and Watkins Avenue</td>
<td>AM and PM</td>
<td>Signalize intersection</td>
<td>Less than significant</td>
</tr>
<tr>
<td>54</td>
<td>Atherton</td>
<td>Glenwood Avenue and Middlefield Road</td>
<td>AM and PM</td>
<td>Signalize intersection</td>
<td>Less than significant</td>
</tr>
</tbody>
</table>

Source: Appendix D, Transportation Analysis

1. Addition of through lanes along Central Expressway and Alma Street may reduce the impact at this location, but the addition of through lanes is subject to ROW constraints and is, therefore, infeasible.
2. Implementation of a grade-separated crossing may reduce the impact but is subject to fiscal constraints. Therefore, this mitigation is considered infeasible for purposes of this document.
3. Intersection impacts would be less than significant after mitigation, but a secondary impact would be produced at Intersection #20 (California Drive and Oak Grove Avenue) with the signalization of Carolan Avenue/Oak Grove Avenue. After mitigation, average vehicle delay would increase by more than 4 seconds at Intersection #20.

---

**Peninsula Corridor Joint Powers Board**

**Mitigation Monitoring and Reporting Program**

**Peninsula Corridor Electrification Project**

**January 2015**

**Table 3.14-17. Summary of Intersection Impacts and Mitigation Measures**

**Int ID**

**City**

**Intersection**

**Impacted Peak Hour**

**Mitigation Strategies**

**Impact Significance after Mitigation**
Table 4-18. Summary of 2040 Cumulative Intersection Impacts and Mitigation Measures

<table>
<thead>
<tr>
<th>Int. ID</th>
<th>Intersection</th>
<th>Impacted Peak Hour(s)</th>
<th>Mitigation Strategies</th>
<th>Impact Significance after Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4th Street and King Street</td>
<td>AM</td>
<td>Adjust signal timings to better serve traffic after project implementation.</td>
<td>Significant and unavoidable (SU)</td>
</tr>
<tr>
<td>5</td>
<td>7th Street and 16th Street</td>
<td>AM and PM</td>
<td>Widen northbound approach to lengthen left turn pocket. Revise signal timing and phasing to better coordinate with 16th Street and Owens Street. Pre-emption, pre-signals or queue cutters to prevent an increase in potential queue back to the grade crossing.</td>
<td>Less-than-significant after mitigation (LTS)</td>
</tr>
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JPB

CORRESPONDENCE

Agenda Item # 10

PCEP EIR Certification and Project Approval

January 8, 2015
December 22, 2014

The Honorable Tom Nolan
Chairman
Peninsula Corridor Joint Powers Board
1250 San Carlos Avenue
San Carlos, CA 94070

Dear Chairman Nolan and Board Members:

On behalf of the Bay Area Council, I am pleased to share my strong support for the Peninsula Corridor Electrification Project (PCEP) and to encourage the Peninsula Corridor Joint Powers Board to approve the Final Environmental Impact Report and move towards implementation of the important project.

The Caltrain corridor from San Francisco through San Jose is the crown jewel of California’s economy, home to the world’s most innovative companies that are rapidly producing jobs, propelling our region’s economy, and generating local and state tax revenue. In order to sustain this prosperity, transportation systems must improve their capacity, reliability, and convenience. For this reason, the Bay Area Council was an early and forceful advocate of directing Proposition 1A funds to Caltrain modernization, and the Council is now convening employers in the Caltrain Commuter Coalition to support Caltrain improvement.

In recent years, growth of Caltrain ridership has outstripped that of all other Bay Area transit operators, reaching 60,000 daily trips with standing-room-only on many trains. The PCEP will allow Caltrain to accommodate rising demand, while also providing faster and better service. It will transform Caltrain from a diesel-based service to a modern rail system using high-performance electric trains and an advanced control system. With trains that can accelerate more quickly and run closer together, Caltrain will be able to provide faster travel times and more frequent service. Local residents will enjoy less noise, zero pollution from electric trains, and more service to more stations.

The PCEP will also provide substantial environmental benefits by reducing diesel pollution, greenhouse gases, and removing cars from our congested roads. By 2040, an electrified Caltrain system will improve daily corridor air quality by over 97 percent, reduce annual greenhouse gases by over 176,000 metric tons of CO2 equivalent, and take more than 600,000 daily vehicle miles off the region’s roadways.

The Bay Area Council offers our full support to the project and look forward to continuing to work with you to strengthen Caltrain and our region.

Sincerely,

Jim Wunderman
President and CEO
December 23, 2014

Tom Nolan
Chair
Peninsula Corridor Joint Powers Board of Directors
1250 San Carlos Ave.
San Carlos, CA 94070-1306

Dear Chair Nolan and Boardmembers,

On behalf of the Silicon Valley Leadership Group, I am pleased to express strong support for the Peninsula Corridor Electrification Project (PCEP) and encourage the Peninsula Corridor Joint Powers Board of Directors to adopt and certify the project.

By way of background, the Silicon Valley Leadership Group, founded in 1978 by David Packard of Hewlett-Packard, represents nearly 400 of Silicon Valley’s most respected employers on issues, programs and campaigns that affect the economic health and quality of life in Silicon Valley, including energy, transportation, education, housing, health care, tax policies, economic vitality and the environment. Leadership Group members collectively own nearly one of every three private sector jobs in Silicon Valley and have more than $3 trillion in annual revenue.

Our members depend on robust Caltrain service to efficiently transport workers through the congested 101 corridor. By transforming the rail infrastructure from a diesel-based service to a modernized, high-performance electric system, Caltrain will be able to enhance capacity and offer cleaner, quieter, faster and more frequent service for its growing constituency of daily riders. The fully-electrified San Jose-to-San Francisco corridor will allow Caltrain to increase weekday ridership, serve more riders at more stations and eventually integrate with California’s planned high-speed rail system.

Our members are able to attract and retain dynamic workers from around the world and expand economic opportunities for the region by virtue of the Bay Area’s first-rate quality of life. The PCEP is an important investment in maintaining and improving that quality of life to ensure our region continues growing responsibly well into the future.

We support the Peninsula Corridor Electrification Project (PCEP) and look forward to working with you on this project.

Sincerely,

[Signature]
Carl Guardino,
President & CEO
RESOLUTION NO. 2015 –

BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD
STATE OF CALIFORNIA

***

CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT
FOR THE PENINSULA CORRIDOR ELECTRIFICATION PROJECT

WHEREAS, in 2009, the Peninsula Corridor Joint Powers Board (JPB) completed a Final Environmental Assessment/Environmental Impact Report (EA/EIR) for the Peninsula Corridor Electrification Project (Project); and

WHEREAS, based upon that document, the Federal Transit Administration issued a Finding of No Significant Impact (FONSI), which completed the federal environmental review for the Project in accordance with the National Environmental Policy Act (NEPA); and

WHEREAS, the JPB deferred finalizing the 2009 EA/EIR under the California Environmental Quality Act (CEQA), in part due to concerns regarding the proper consideration of the impacts of the California High Speed Rail Project, which had proposed to construct high speed rail facilities on the JPB’s right of way; and

WHEREAS, the JPB has since entered into an agreement with the California High Speed Rail Authority (Authority), dated May 1, 2013, which clarifies the roles of the JPB as the lead agency for the Project, with the Authority continuing to serve as the lead agency for the statewide high speed rail project; and

WHEREAS, the JPB has prepared, in conformance with CEQA, a new Environmental Impact Report (EIR) for the Project; and

WHEREAS, the Project analyzed in the EIR consists of converting Caltrain from diesel-hauled to electrically-powered trains for service between the 4th and King Street
Station in San Francisco and the Tamien Station in San Jose, with the future impacts of the Authority’s project being treated as cumulative impacts; and

WHEREAS, a Notice of Preparation for the Peninsula Corridor Electrification Project EIR was issued on January 31, 2013; and

WHEREAS, the Draft EIR was released on February 28, 2104 for a 60-day public review and comment period; and

WHEREAS, the JPB received comments from interested individuals, organizations and agencies on the Draft EIR, both in writing and at four duly-noticed public meetings; and

WHEREAS, responses to comments on the Draft EIR, as well as the revised EIR were prepared and released to the public on December 4, 2014 and minor errata to the EIR were prepared prior to January 8, 2014; and

WHEREAS, the Draft EIR, as revised, together with the responses to comments, and the errata, constitute the Final EIR on the Project; and

WHEREAS, the JPB has reviewed and considered the Final EIR for the Project and desires to certify the FEIR for the Project in conformance with CEQA law and Guidelines; and

WHEREAS, the JPB is a federally regulated rail carrier, subject to the jurisdiction of the Surface Transportation Board (STB) of the U.S. Department of Transportation; and

WHEREAS, the STB’s jurisdiction derives from the provisions of the Interstate Commerce Commission Termination Act of 1995 (ICCTA). Under Section 10501(b) of that Act, the STB’s jurisdiction is exclusive for all transportation by rail carriers, including the facilities and structures that are an integral part of that transportation. Section 10501(b) also expressly states that “the remedies provided under this part with respect
to regulation of rail transportation are exclusive and preempt the remedies provided under Federal and State law." The scope of that preemption as relates to CEQA and passenger rail projects in California is currently under court review. The JPB makes this certification without waiving the JPB’s rights regarding the application of the ICCTA, including the defense that ICCTA and the STB’s jurisdiction preempt CEQA’s application to the Project and the JPB’s decision(s) regarding it.

NOW THEREFORE BE IT RESOLVED, that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby certifies the Final Environmental Impact Report for the Peninsula Corridor Electrification Project (hereinafter “Project”) based upon the following findings:

1. To the extent it is applicable to the Project, the Peninsula Corridor Joint Powers Board has complied with the requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Sections 21000 et seq., hereinafter “CEQA”) and the State CEQA Guidelines (Cal. Admin. Code Title 14, Sections 15000 et. seq., (hereinafter “CEQA Guidelines”).

2. Four duly-noticed public meetings were held on said Draft EIR in March and April, 2014, at which time opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on April 29, 2014.

3. The JPB prepared responses to comments on environmental issues received at the public meetings and in writing during the 60-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information, and corrected errors in the DEIR. This material was presented in a Final EIR document, published on December 4, 2014, which was distributed to the Board and to all parties who commented on the DEIR, and was made available to others upon request at the JPB’s offices. Minor errata to the EIR were prepared prior to January 8, 2014 and were also reviewed by the JPB.

4. The Final Environmental Impact Report, has been prepared by the JPB, as the lead agency, and consists of the DEIR, any comments received during the review process, any additional information that became available, and the responses to comments, all as required by law.
5. Project environmental files have been made available for review by the Board and the public. These files are available for public review at the Caltrain Headquarters in San Carlos, at 1250 San Carlos Avenue, and are part of the record before the Board.

6. At its meeting of January 8, 2015, the Board has reviewed and considered the Final EIR and hereby finds that the contents of said report and the procedures through which the Final EIR was prepared, publicized and reviewed are consistent with the provisions of CEQA and the CEQA Guidelines.

7. The Board has reviewed and considered the contents of the FEIR and hereby does find that the Final EIR reflects the independent judgment and analysis of the Peninsula Corridor Joint Powers Board, is adequate, accurate and objective, and that the Final EIR documents contain no significant new information to the DEIR that would require recirculation under CEQA Guideline Section 15088.5, and hereby does certify the completion of said Final Environmental Impact Report in compliance with CEQA and the CEQA Guidelines.

8. By this certification action, the Board does not waive the JPB’s rights to the application of the ICCTA and does not waive any available defenses associated with the ICCTA and STB’s jurisdiction, as discussed above.

Regularly passed and adopted this 8th day of January, 2015 by the following vote:

AYES:

NOES:

ABSENT:

Chair, Peninsula Corridor Joint Powers Board

ATTEST:

JPB Secretary
RESOLUTION NO. 2015 –

BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD
STATE OF CALIFORNIA

***

ADOPTING CEQA FINDINGS OF FACT, STATEMENT OF OVERRIDING CONSIDERATIONS AND MITIGATION MONITORING AND REPORTING PLAN AND APPROVAL OF THE PENINSULA CORRIDOR ELECTRIFICATION PROJECT

WHEREAS, pursuant to Resolution No. 2015- , the Peninsula Corridor Joint Powers Board (JPB) has certified, in conformance with the California Environmental Quality Act (CEQA), the Final Environmental Impact Report (FEIR) for the Peninsula Corridor Electrification Project (Project) and hereby incorporates by reference the defined terms and statements contained in that Resolution.

NOW THEREFORE BE IT RESOLVED, that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby takes the following actions:

1. The JPB Board has reviewed and considered the information contained in the FEIR and in the CEQA Findings of Fact attached hereto as Exhibit “A” and supporting documentation. The JPB determines that the CEQA Findings of Fact document identifies the significant environmental impacts and mitigation measures associated with the Project. The JPB further finds that the CEQA Findings of Fact have been completed in compliance with CEQA and the State CEQA Guidelines. The JPB hereby approves and adopts the CEQA Findings of Fact attached hereto as Exhibit “A.”

2. The JPB hereby finds that the Statement of Overriding Considerations was completed in accordance with Public Resources Code section 21081 and State CEQA Guidelines Section 15093, subdivision (a), which state that CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. The Statement of Overriding Considerations is included in the Findings of Fact attached hereto as Exhibit “A” and sets forth significant environmental effects that are found to be unavoidable but are acceptable due to the overriding considerations and benefits expected to result from implementing the Project. The JPB hereby approves and adopts the Statement of Overriding Considerations included in the Findings of Fact attached hereto as Exhibit “A.”
3. Pursuant to Public Resources Code section 21081.6, and State CEQA Guidelines Section 15091, subdivision (d), the JPB hereby adopts the Mitigation Monitoring and Reporting Program attached hereto as Exhibit “B,” which ensures that required mitigation is implemented for the Project.

4. Based on and in consideration of all of the foregoing, the JPB hereby approves the Project as described in more detail in the FEIR (incorporated herein), along with the project design features which have been incorporated into the project and the mitigation measures described in the Findings of Fact attached hereto as Exhibit A and reflected in the Mitigation Monitoring and Reporting Program (MMRP) attached hereto as Exhibit B, and which MMRP shall be a condition of the approved project.

5. By making the findings and taking the actions in this resolution, the Board does not waive its rights regarding application of the Interstate Commerce Commission Termination Act of 1995 (ICCTA) (for the reasons explained in Resolution No. 2015- ), including the defense that ICCTA and the Surface Transportation Board’s jurisdiction preempt CEQA’s application to the Project. Regardless of potential jurisdictional pre-emption of CEQA’s application to the Project, the mitigation measures included in the MMRP shall be a condition of the approved project.

6. The Board hereby directs staff to file a CEQA Notice of Determination with the State Clearinghouse and appropriate County Clerks and to take any other necessary steps to obtain all additional permits, approvals and rights that would allow construction and operation of the Project.

Regularly passed and adopted this 8th day of January, 2015 by the following vote:

AYES:

NOES:

ABSENT:

__________________________
Chair, Peninsula Corridor Joint Powers Board

ATTEST:

__________________________
JPB Secretary
AGENDA ITEM # 11
JANUARY 8, 2015

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: Joint Powers Board

THROUGH: Michael J. Scanlon
Executive Director

FROM: Gigi Harrington
Deputy CEO

SUBJECT: AUTHORIZING ACTIONS RELATED TO THE ISSUANCE, SALE AND DELIVERY OF 2015 BONDS, INCLUDING ADOPTION OF POST ISSUANCE TAX COMPLIANCE PROCEDURES

ACTION
Staff Coordinating Council recommends the Board:


2) Approve the forms of a Third Supplemental Trust Agreement and a Continuing Covenant Agreement and authorize execution and delivery thereof.

3) Authorize the taking of all other actions necessary in connection with the issuance, sale and delivery of 2015 Bonds, including adoption of post-issuance tax compliance procedures.

SIGNIFICANCE
The issuance of not to exceed $11 million of 2015 Bonds will provide financing for a portion of the costs of the acquisition and renovation of rail cars and related capital expenditures for the JPB Rail Car Capacity Expansion Project, the remainder of which will be funded from operating revenues.

The Rail Car Capacity Expansion Project will enable procurement of 16 railcars from Southern California Regional Rail Authority (SCRRA), the operator of the Metrolink commuter rail service in the Los Angeles Basin. The additional cars will be strategically deployed to increase capacity and replace capacity as other cars in the fleet are rotated through the state of good repair program (SOGR
BUDGETIMPACT
The issuance of the 2015 Bonds will result in an increase in annual debt service payable from farebox revenues. Assuming an initial fixed rate period with a term of four years, debt service will increase approximately $215,000 per fiscal year during the four year initial fixed rate period, assuming a fixed interest rate of 1.94 percent. The assumed fixed interest rate is based upon the fixed interest rate for a four year term set forth in the proposal submitted by Specialized Lending, LLC, which staff is recommending be selected as purchaser of the 2015 Bonds, assuming no change in the current ratings assigned to the JPB's farebox revenue bonds. Debt service subsequent to the end of the initial fixed rate period will depend upon market conditions at the end of the initial fixed rate period.

BACKGROUND
Caltrain has experienced record ridership growth in the past few years, leading to overcrowding and capacity constraints on many peak period trains, as well as making it difficult to remove railcars from service for maintenance as part of the JPB's SOGR Program.

In order to increase capacity and mitigate the potential impact to the SOGR Program, the JPB Board authorized the purchase of additional 11 railcars as part of the Rail Car Capacity Expansion Project on January 9th, 2014, per Resolution No. 2014-03, and subsequently increased the purchase to 16 railcars on September 4, 2014, per Resolution No. 2014-44.

The Board also authorized staff to proceed with the actions necessary to complete a debt issuance on October 2, 2014 to finance a portion of the costs of the acquisition and renovation and related expenditures, per Resolution No. 2014-49.

The 2015 Bonds will be issued as bonds that can be converted to different interest rate periods at the option of the JPB. The Third Supplemental Trust Agreement sets forth the various interest rate periods. The initial interest rate period will be a fixed rate period with a term which will not exceed four years. The 2015 Bonds will be purchased by Specialized Lending, LLC, an affiliate of Bank of America N.A. (the Purchaser), in a private placement sale pursuant to a Continuing Covenant Agreement to be entered into between the JPB and the Purchaser. The Continuing Covenant Agreement also sets forth certain covenants which the Purchaser requires the JPB to agree to comply with as consideration for the Purchaser's purchase of the 2015 Bonds. The Purchaser was selected based upon review of proposals submitted in response to a request for proposals distributed by the JPB's financial advisor, Public Financial
Management, Inc. The initial interest rate, to remain in effect for the initial interest rate period, subject to certain adjustments provided in the Third Supplemental Trust Agreement and the Continuing Covenant Agreement, will be set two business days prior to the bond closing date based on current market conditions.

The 2015 Bonds will be issued as tax-exempt bonds. Adoption of Post-Issuance Tax Compliance Procedures is designed to assure that the JPB complies with all requirements needed to maintain the tax-exempt status of interest on the 2015 Bonds.

Prepared By: Gigi Harrington, Deputy CEO 650.508.7950
THIRD SUPPLEMENTAL TRUST AGREEMENT

between

PENINSULA CORRIDOR JOINT POWERS BOARD

and

U.S. BANK NATIONAL ASSOCIATION,
as Trustee

Dated as of January 1, 2015

Authorizing the Issuance of
$11,000,000 Principal Amount of
Peninsula Corridor Joint Powers Board
Farebox Revenue Bonds, 2015 Series A

(Supplemental to the Trust Agreement dated as of October 1, 2007)
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Third Supplemental Trust Agreement  
(Supplemental to the Trust Agreement dated as of October 1, 2007)  
Authorizing the Issuance  
of  
$11,000,000 Principal Amount  
of  
Peninsula Corridor Joint Powers Board  
Farebox Revenue Bonds,  
2015 Series A

This Third Supplemental Trust Agreement, dated as of January 1, 2015 (this "Supplemental Trust Agreement"), between the Peninsula Corridor Joint Powers Board (the "Issuer") and U.S. Bank National Association, as trustee (the "Trustee");

W I T N E S S E T H:

WHEREAS, this Supplemental Trust Agreement is supplemental to the Trust Agreement, dated as of October 1, 2007 (as supplemented and amended from time to time pursuant to its terms, including as supplemented and amended by this Supplemental Trust Agreement, the "Trust Agreement"), between the Issuer and the Trustee;

WHEREAS, the Trust Agreement provides that the Issuer may issue farebox revenue bonds (as such term is more fully defined in the Trust Agreement, the "Bonds") from time to time as authorized by a supplemental trust agreement;

WHEREAS, in accordance with the Act (as such term is defined the Trust Agreement) and pursuant to Article III of the Trust Agreement, the Issuer has determined to issue the Peninsula Corridor Joint Powers Board Farebox Revenue Bonds, 2015 Series A (the "2015 Series A Bonds"), in the aggregate principal amount of $11,000,000, in order to finance the costs of a capital improvement project, consisting of the acquisition and renovation of certain passenger rail cars and related capital expenditures, including capital expenditures for platform modifications required to accommodate longer train sets made possible as a result of the passenger rail car acquisition, and related parts, including spare parts and new wheels (as more fully defined in Section 16.01 hereof, the "2015 Series A Project") to be used in connection with the commuter rail service known as Caltrain ("Caltrain") operated by the Issuer; and

WHEREAS, all acts, conditions and things required by law to exist, to have happened and to have been performed precedent to and in connection with the execution and the entering into of this Supplemental Trust Agreement do exist, have happened and have been performed in regular and due time, form and manner as required by law, and the parties hereto are now duly authorized to execute and enter into this Supplemental Trust Agreement;

NOW, THEREFORE, the parties hereto hereby agree as follows:
ARTICLE XVI

DEFINITIONS; ADDITIONAL DEFINITIONS

Section 16.01. Definitions. Unless otherwise specifically provided herein to the contrary or unless the context otherwise requires, all capitalized terms used and not otherwise defined herein shall have the meanings assigned to such terms in Section 1.02 of the Trust Agreement.

Section 16.02. Additional Definitions. Unless the context otherwise requires, the following terms shall, for all purposes of this Supplemental Trust Agreement, have the following meanings:

Additional Notice Parties means, as and to the extent applicable, the Calculation Agent, if any, the Index Agent, if any, and the Market Agent, if any, for the 2015 Series A Bonds.

Affiliate means, with respect to a specified Person, another Person that directly, or indirectly through one or more intermediaries, controls, or is controlled by or is under common control with, the Person specified.

Alternate Rate means, as of any date of determination, 110% of the SIFMA Index.

Amortization End Date has the meaning set forth in the applicable Continuing Covenant Agreement.

Amortization Interest Payment Date means the first Business Day of each calendar month.

Amortization Payment Date has the meaning set forth in the applicable Continuing Covenant Agreement.

Amortization Period means, in the event the 2015 Series A Bonds are not purchased or remarketed on the Initial Mandatory Purchase Date or other Mandatory Purchase Date, the period commencing on the Initial Mandatory Purchase Date or a later Mandatory Purchase Date, as the case may be, and ending on the first to occur of (i) the Amortization End Date, (ii) the immediately succeeding Conversion Date, and (iii) the date of payment or defeasance in full of the 2015 Series A Bonds.

Applicable Factor during a Bank Index Rate Period means 67% of the LIBOR Index or, with a Favorable Opinion of Bond Counsel, such other percentage as may be designated in writing by the Issuer as the Applicable Factor for such Bank Index Rate Period pursuant to Section 18.06(b)(i)(C).

Applicable Spread means, with respect to any Bank Index Rate Period, the number of basis points determined as the spread by the Market Agent on or before the first day of such Bank Index Rate Period and designated by the Issuer in accordance with Section 18.06(b)(i)(C) (which may include a schedule for the Applicable Spread based upon the ratings assigned to the long term unenhanced debt of the Issuer secured on a parity with the 2015 Series A Bonds) that,
when added to the SIFMA Index (and multiplied by the Margin Rate Factor) or the product of the LIBOR Index multiplied by the Applicable Factor (and multiplied by the Margin Rate Factor), as applicable, would equal the minimum interest rate per annum that would enable the Bonds to be sold on such date at a price equal to the principal amount thereof (without regard to accrued interest, if any, thereon).

**Applicable Index Bonds Spread** shall have the meaning specified in Section 18.06(a)(vi)(B).

**Authorized Denominations** means: (i) during a Daily Rate Period, Weekly Rate Period or Commercial Paper Rate Period, $100,000 and any integral multiple of $5,000 in excess thereof; (ii) during a Term Rate Period, an Index Rate Period or the Fixed Rate Period, $5,000 and any integral multiple thereof; (iii) during a Bank Index Rate Period, $250,000 and any integral multiple of $5,000 in excess thereof; and (iv) during a Bank Term Rate Period, $100,000 and any integral multiple of $5,000 in excess thereof; provided, however, that if as a result of a Conversion of the 2015 Series A Bonds from a Term Rate Period to another Interest Rate Determination Method, it is not possible to deliver all the 2015 Series A Bonds required or permitted to be Outstanding in a denomination permitted above, 2015 Series A Bonds may be delivered, to the extent necessary, in different denominations.

**Bank Index Interest Rate** means the LIBOR Index Rate or the SIFMA Index Rate, as applicable.

**Bank Index Rate Period** means any period during which the 2015 Series A Bonds bear interest at a Bank Index Interest Rate.

**Bank Term Rate** means (a) during the Initial Period, the Initial Bank Term Rate plus the Bank Term Rate Spread. As used herein, "Bank Term Rate Spread" means a rate per annum associated with the Level that contains the lowest long-term unenhanced rating assigned to Bonds or Parity Obligations by any Rating Agency (such ratings being hereinafter referred to as "Issuer Ratings"), which shall be adjusted upward or downward as follows should any Issuer Rating changes as set forth in the table below:

<table>
<thead>
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<th>Level</th>
<th>Credit Rating Moody's/Standard &amp; Poor's/Fitch</th>
<th>Bank Term Rate Spread</th>
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<tr>
<td>Level 1</td>
<td>A2/A/A or above</td>
<td>0.00%</td>
</tr>
<tr>
<td>Level 2</td>
<td>A3/A/-A-</td>
<td>0.15%</td>
</tr>
<tr>
<td>Level 3</td>
<td>Baa1/BBB+/BBB+</td>
<td>0.25%</td>
</tr>
<tr>
<td>Level 4</td>
<td>Below Baa1/BBB+/BBB+</td>
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<tr>
<td>Level 5</td>
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<td>Default Rate</td>
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For avoidance of doubt, upon the issuance of the 2015 Series A Bonds, Moody's and Standard & Poor's have assigned Issuer Ratings to the 2007 Series A Bonds, which are the only Bonds or Parity Obligations outstanding as of the Issue Date. As of the Issue Date, Issuer Ratings are [A1] by Moody's and [A] by Standard & Poor's. In the event of split Issuer Ratings (i.e. one Issuer Rating is at a different Level than one or more of the other Issuer Ratings), the...
Bank Term Rate Spread shall be based upon the Level in which the lowest Issuer Rating appears. Any change in the Bank Term Rate resulting from a change in an Issuer Rating shall be and become effective as of and on the date of the announcement of the change in such Issuer Rating. References set forth in this definition of Bank Term Rate are to rating categories as determined by each of Moody’s, Standard & Poor's and Fitch as of the Issue Date, and in the event of the adoption of any new or changed rating system or a “global” rating scale by any such Rating Agency subsequent to the Issue Date, the rating categories shall be adjusted accordingly to a new rating which most closely approximates the requirements as set forth in this definition.

(b) During any Bank Term Rate Period other than the Initial Period, the Bank Term Rate shall mean the Bank Term Rate determined by the Purchaser on or before the first day of such Bank Term Rate Period and approved by the Issuer, which Bank Term Rate may be adjusted based on a schedule of the type set forth in clause (a) of this definition, that for the amortization and final maturity would equal the minimum interest rate per annum at which a Person will agree to purchase the 2015 Series A Bonds on the applicable Conversion Date at a price equal to the principal amount thereof (without regard to accrued interest).

Bank Term Rate Period means any period during which the 2015 Series A Bonds bear interest at a Bank Term Rate.

Bank Term Rate Spread shall have the meaning specified in the definition of Bank Term Rate set forth above.

Book-Entry Form or Book-Entry System means a form or system, as applicable, under which physical bond certificates in fully registered form are registered only in the name of a Depository or its nominee as Holder, with the physical bond certificates held by and "immobilized" in the custody of the Depository and the Book-Entry System maintained by and the responsibility of others than the Issuer or the Trustee is the record that identifies and records the transfer of the interests of the owners of book-entry interests in those 2015 Series A Bonds.

Calculation Agent means any Person appointed by the Issuer to serve as calculation agent for the 2015 Series A Bonds.

Calendar Week means the period of seven (7) days from and including Thursday of any week to and including Wednesday of the next following week.

Commercial Paper Rate means, with respect to any 2015 Series A Bond, the interest rate on such 2015 Series A Bond established from time to time pursuant to Section 18.06(a)(iii).

Commercial Paper Rate Period means each period during which 2015 Series A Bonds bear interest at a Commercial Paper Rate determined pursuant to Section 18.06(a)(iii).

Commercial Paper Tender Bonds shall have the meaning set forth in Section 19.09(a).

Computation Date means with respect to 2015 Series A Bonds bearing interest at a Bank Index Interest Rate, (i) during each SIFMA Index Rate Period, Wednesday of each week, or if any Wednesday is not a Business Day, the next preceding Business Day, and (ii) during
each LIBOR Index Rate Period, the second London Business Day immediately preceding each
LIBOR Index Reset Date.

**Continuing Covenant Agreement** means, during the Initial Period, the Initial
Continuing Covenant Agreement, and during any Bank Term Rate Period other than the Initial
Period or during any Bank Index Rate Period, means any agreement between the Issuer and the
Purchaser which may be designated as the Continuing Covenant Agreement, such designation to
be provided by the Issuer in a Certificate delivered to the Trustee.

**Conversion** means any conversion of the 2015 Series A Bonds from one Interest Rate
Determination Method to another, which may be made from time to time in accordance with the
terms of Section 18.06(a) with respect to an election to continue in (i) an Index Rate Period or
(ii) a Term Rate Period or Section 18.06(b). For avoidance of doubt, an election by the Issuer to
convert the 2015 Series A Bonds to (i) another Index Rate Period upon the expiration of a then-
existing Index Rate Period, (ii) another Term Rate Period upon the expiration of a then-existing
Term Rate Period, (iii) another Bank Index Rate Period upon the expiration of a then-existing
Bank Index Rate Period or (iv) another Bank Term Rate Period upon the expiration of a then-
existing Bank Term Rate Period, as applicable, shall constitute a Conversion.

**Conversion Date** means the date any Conversion of 2015 Series A Bonds becomes
effective in accordance with Section 18.06(b) (or, with respect to notices, time periods and
requirements in connection with the proceedings for such Conversion, the day on which it is
proposed that such Conversion occur).

**Conversion Notice** shall have the meaning set forth in Section 18.06(b)(i)(A).

**Daily Put Bonds** shall have the meaning set forth in Section 19.09(a).

**Daily Rate** means the interest rate established from time to time pursuant to
Section 18.06(a)(i).

**Daily Rate Index** means, on any Business Day, the SIFMA Index or, if the SIFMA Index
is no longer published, an index or rate agreed upon by the Issuer and the Remarketing Agent;
provided, however, that if the Remarketing Agent advises the Trustee and the Issuer that the use
of such index would not result or no longer results in a market rate of interest on the 2015 Series
A Bonds, "Daily Rate Index" shall mean, subject to a Favorable Opinion of Bond Counsel, an
index agreed to by the Issuer and the Remarketing Agent that would result in a market rate of
interest on the 2015 Series A Bonds, which Daily Index Rate shall in no event exceed the
Maximum Rate.

**Daily Rate Period** means any period during which the 2015 Series A Bonds bear interest
at a Daily Rate.

**Default Rate** shall have the meaning assigned to such term in the applicable Continuing
Covenant Agreement.
Deferred Interest means interest payable as described in, and pursuant to the terms of, Section 18.06(a)(vii)(G) or Section 18.06(a)(viii)(F).

Electronic Means means facsimile transmission, email transmission or other similar electronic means of communication providing evidence of transmission, including a telephone communication confirmed by any other method set forth in this definition.

Eligible Account means an account that is either (a) maintained with a federal or state-chartered depository institution or trust company that has a Standard & Poor's short-term debt rating of at least "A-2" (or, if no short-term debt rating, a long-term debt rating of "BBB+"); or (b) maintained with the corporate trust department of a federal depository institution or state-chartered depository institution subject to regulations regarding fiduciary funds on deposit similar to Title 12 of the U.S. Code of Federal Regulation Section 9.10(b), which, in either case, has corporate trust powers and is acting in its fiduciary capacity.


Expiration (and other forms of "expire") means, when used with respect to a Liquidity Facility or Credit Enhancement, the expiration of such Liquidity Facility or Credit Enhancement in accordance with its terms.

Favorable Opinion of Bond Counsel means, with respect to any action requiring such an opinion, an Opinion of Bond Counsel delivered to the Trustee to the effect that such action will not, in and of itself, adversely affect any exclusion of interest on the 2015 Series A Bonds from gross income for purposes of federal income taxation.

Fixed Rate means the fixed rate or fixed rates borne by the 2015 Series A Bonds from the Fixed Rate Conversion Date, which rate or rates shall be established in accordance with Section 18.06(a)(v).

Fixed Rate Computation Date means any Business Day during the period from and including the date of receipt of a Conversion Notice relating to a Fixed Rate Conversion to and including the Business Day next preceding the proposed Conversion Date.

Fixed Rate Conversion Date means the Conversion Date on which the interest rate on the 2015 Series A Bonds shall be converted to a Fixed Rate.

Fixed Rate Period means the period from and including the Fixed Rate Conversion Date to and including the final maturity date or earlier date of redemption of a 2015 Series A Bond.

Holder means, with respect to a 2015 Series A Bond, the person in whose name such 2015 Series A Bond is registered; provided, that during any Bank Term Rate Period or Bank Index Rate Period, as applicable, if any 2015 Series A Bond is held pursuant to the Book-Entry System, "Holder" shall mean, with respect to such 2015 Series A Bond, the Beneficial Owner thereof.
Index Agent means such Person designated by the Issuer to act as such with respect to the 2015 Series A Bonds converted to bear interest at an Index Rate, as provided in Section 18.06(b)(i)(B)(3).

Index Bonds means 2015 Series A Bonds bearing interest at the Index Rate.

Index Rate means the interest rate established from time to time pursuant to Section 18.06(a)(vi), provided, however, that in no event may the Index Rate exceed the Maximum Rate.

Index Rate Continuation Notice shall have the meaning given to that term in Section 18.06(a)(vi)(D).

Index Rate Conversion Date means: (i) the Conversion Date on which the interest rate on the 2015 Series A Bonds shall be converted to an Index Rate; and (ii) the date on which a new Index Rate Period is to be established.

Index Rate Determination Date means a date that is two (2) London Banking Days preceding the date of a Conversion to the Index Rate Period, a date that is two (2) London Banking Days preceding each Purchase Date during the Index Rate Period, and a date that is two (2) London Banking Days preceding each Interest Payment Date during the Index Rate Period; provided, that if the Issuer obtains a Favorable Opinion of Bond Counsel, "Index Rate Determination Date" shall mean such other date as is determined by the Issuer in consultation with the Remarketing Agent in accordance with Section 18.06(b)(i)(B).

Index Rate Index means 67% of the Three-Month LIBOR Rate or, if the Three-Month LIBOR Rate is not available, 67% of the Treasury Rate; provided, that if the Issuer obtains a Favorable Opinion of Bond Counsel, "Index Rate Index" shall mean such other index as is determined by the Issuer in consultation with the Remarketing Agent at the commencement of an Index Rate Period in accordance with Section 18.06(b)(i)(B).

Index Rate Interest Accrual Period shall have the meaning given to that term in Section 18.06(a)(vi)(C).

Index Rate Period means any period during which 2015 Series A Bonds bear interest at an Index Rate.

Initial Bank Term Rate means __ % per annum.

Initial Continuing Covenant Agreement means the Continuing Covenant Agreement, dated as of January 1, 2015, between the Issuer and the Initial Purchaser, as the same may be amended, supplemented, restated or otherwise modified from time to time pursuant to its terms.

Initial Mandatory Purchase Date means January [14], 2019.

Initial Period means the initial Bank Term Rate Period commencing on the Issue Date and ending on the first to occur of (i) the Initial Mandatory Purchase Date, (ii) the Conversion
Date next succeeding the Issue Date, or (iii) the date of redemption, payment or defeasance in full of the 2015 Series A Bonds; provided, however, in the event the 2015 Series A Bonds are not purchased or remarketed on the Initial Mandatory Purchase Date, the Initial Period shall end on the first to occur of (w) the date such 2015 Series A Bonds are successfully remarketed, (x) the Amortization End Date, (y) the Conversion Date next succeeding the Initial Mandatory Purchase Date and (z) the date of payment in full of the 2015 Series A Bonds.

**Initial Purchaser** means Specialized Lending, LLC, the initial purchaser of the 2015 Series A Bonds.

**Interest Payment Date** means: (a) with respect to the 2015 Series A Bonds: (i) in the Daily Rate Period, the Weekly Rate Period, the Index Rate Period or the Bank Index Rate Period, the first Business Day of each calendar month; (ii) in the Commercial Paper Rate Period, the day immediately succeeding the last day of each Commercial Paper Rate Period for such 2015 Series A Bond; (iii) each Conversion Date and each date of mandatory tender pursuant to Section 19.05(a)(2)(B) if such date is not otherwise an Interest Payment Date; and (iv) in the Bank Term Rate Period, the Term Rate Period or the Fixed Rate Period, each Semi-Annual Interest Payment Date; (b) with respect to any Liquidity Facility Bonds, the dates specified as interest payment dates in the applicable Liquidity Facility; (c) with respect to the 2015 Series A Bonds during a Bank Term Rate Period or a Bank Index Rate Period, as applicable, a Mandatory Purchase Date; (d) with respect to any 2015 Series A Bond being amortized pursuant to a Continuing Covenant Agreement, each date for the payment of interest thereon set forth in the applicable Continuing Covenant Agreement; and (e) in all events, each redemption date, each Optional Purchase Date and the final maturity date of each 2015 Series A Bond.

**Interest Rate Determination Method** means any of the methods of determining the interest rate on the 2015 Series A Bonds from time to time as described in Section 18.06(a).

**Issue Date** means January [14], 2015.

**LIBOR Index** means the rate of interest per annum determined by the Calculation Agent based on the rate for United States dollar deposits for delivery on the applicable LIBOR Index Reset Date for a period equal to one month as reported on Reuters Screen LIBOR01 page (or any successor page) at approximately 11:00 a.m., London time, on each Computation Date (or if not so reported, then as determined by the Calculation Agent from another recognized source of interbank quotation).

**LIBOR Index Rate** means a per annum rate of interest equal to the product of (x) the sum of (a) the Applicable Spread plus (b) the product of (i) the LIBOR Index multiplied by the (ii) Applicable Factor and (y) the Margin Rate Factor.

**LIBOR Index Rate Conversion Date** means (a) the date on which the 2015 Series A Bonds in a Bank Index Rate Period begin to bear interest at the LIBOR Index Rate or (b) if the 2015 Series A Bonds in a Bank Index Rate Period have previously borne interest at the LIBOR Index Rate during a LIBOR Index Rate Period then ending, the Mandatory Purchase Date occurring at the end of the then ending LIBOR Index Rate Period.
LIBOR Index Rate Period means each period during a Bank Index Rate Period based on the LIBOR Index from and including a LIBOR Index Rate Conversion Date to but excluding the earliest of (i) the immediately succeeding Mandatory Purchase Date, (ii) the immediately succeeding Conversion Date and (iii) the Maturity Date.

LIBOR Index Reset Date means the first Business Day of each calendar month.

London Business Day means any day that is a day for trading by and between banks in Dollar deposits in the London interbank market.

Mandatory Purchase Date (a) during the Initial Period, means the Initial Mandatory Purchase Date; (b) during any Bank Term Rate Period other than the Initial Period and during any Bank Index Period means such date or dates designated by the Issuer in the Conversion Notice delivered in connection with conversion to such Rate Period; and (c) during the Initial Period, any other Bank Term Rate Period and any Bank Index Period, the fifth (5th) Business Day after receipt by the Trustee of written notice from the Purchaser which (x) advises the Trustee of the occurrence and continuance of an "Event of Default" under and as defined in the applicable Continuing Covenant Agreement and (y) directs the Trustee to cause a mandatory tender of the 2015 Series A Bonds by reason of such "Event of Default" as provided in Section 19.05(a)(7).

Mandatory Tender Bonds shall have the meaning specified in Section 19.09(c).

Mandatory Tender Purchase Price means an amount equal to 100% of the principal amount of the 2015 Series A Bonds subject to mandatory tender for purchase on a Mandatory Purchase Date and accrued interest thereon, if applicable.

Margin Rate Factor means the greater of (i) 1.0, and (ii) the product of (a) one minus the Maximum Federal Corporate Tax Rate multiplied by (b) 1.53846. The effective date of any change in the Margin Rate Factor shall be the effective date of the decrease or increase (as applicable) in the Maximum Federal Corporate Tax Rate resulting in such change.

Market Agent means the Purchaser or a third-party financial advisory firm, investment banking firm, commercial bank or any other financial institution with experience in pricing information for tax-exempt municipal securities, as selected by the Issuer to serve as market agent in connection with a conversion to a Bank Index Rate Period.

Maturity Date means October 1, [2033].

Maximum Federal Corporate Tax Rate means the maximum rate of income taxation imposed on corporations pursuant to Section 11(b) of the Code, as in effect from time to time (or, if as a result of a change in the Code, the rate of income taxation imposed on corporations generally shall not be applicable to the Purchaser, the maximum statutory rate of federal income taxation which could apply to the Purchaser).

Maximum Lawful Rate means the maximum rate of interest that may be legally paid on the 2015 Series A Bonds from time to time.
MSRB means the Municipal Securities Rulemaking Board or any successor thereto.

Notice or notice with respect to any notice to be delivered by the Issuer pursuant to this Supplemental Trust Agreement means a written notice signed in the name of the Issuer by an Authorized Representative.

Optional Purchase Date means each date on which the 2015 Series A Bonds are subject to purchase at the option of the Issuer pursuant to Article XX.

Optional Purchase Price shall have the meaning assigned to such term in Section 20.01(a).

Par Call Date shall have the meaning assigned to such term in Section 19.01(a)(5).

Participant means, with respect to a Depository, each participant listed in such Depository's book-entry system as having an interest in the 2015 Series A Bonds.

Principal Amount means the Outstanding principal amount of the 2015 Series A Bonds.

Purchase Date means any date on which any 2015 Series A Bond is purchased pursuant to Section 19.04 or Section 19.05.

Purchase Price means, with respect to any 2015 Series A Bond tendered or deemed tendered pursuant to Section 19.04 or Section 19.05, an amount equal to 100% of the principal amount of any 2015 Series A Bond tendered or deemed tendered to the Trustee for purchase pursuant to Section 19.04 or 19.05, provided that if any 2015 Series A Bond so tendered or deemed tendered bears interest at an Index Rate, is subject to payment of a Spread Premium and is purchased prior to its Par Call Date, then the Purchase Price shall be equal to 100% of the Spread Premium that would have been applicable to such 2015 Series A Bond had it been optionally redeemed on the Purchase Date. In addition, if the Purchase Date is not an Interest Payment Date, the Purchase Price for each 2015 Series A Bond tendered or deemed tendered shall be increased to include accrued interest thereon to but not including the Purchase Date; provided, however, if such Purchase Date occurs before an Interest Payment Date, but after the Record Date applicable to such Interest Payment Date, then the Purchase Price shall not include accrued interest, which shall be paid to the Holder as of the applicable Record Date.

Purchaser means, the Initial Purchaser or any successor thereto or assignee thereof permitted pursuant to Section 8.06 of the Initial Continuing Covenant Agreement for so long as the Initial Continuing Covenant Agreement shall remain in effect, and during any Bank Term Rate Period other than when the Initial Continuing Covenant Agreement is in effect or during any Bank Index Rate Period, shall have the meaning assigned to such term in the Continuing Covenant Agreement then in effect.

Purchaser Rate has the meaning set forth in the applicable Continuing Covenant Agreement.
**Rate** means, with respect to any 2015 Series A Bond, the interest rate applicable to such 2015 Series A Bond as provided in this Supplemental Trust Agreement.

**Rate Index** means the Daily Rate Index, the Weekly Rate Index, or both, as the context may require.

**Rate Period** means any Daily Rate Period, Weekly Rate Period, Commercial Paper Rate Period, Index Rate Period, Term Rate Period, Fixed Rate Period, Bank Term Rate Period or Bank Index Rate Period.

**Rating Confirmation** means written evidence from each rating agency then rating any 2015 Series A Bonds to the effect that, following the event which requires the Rating Confirmation, the then current rating for the 2015 Series A Bonds will not be lowered or withdrawn solely as a result of the occurrence of such event.

**Record Date** means: (a) for any Interest Payment Date in respect of any Daily Rate Period, Weekly Rate Period, Commercial Paper Rate Period, Index Rate Period, Bank Term Rate Period or Bank Index Rate Period, the Business Day preceding such Interest Payment Date; and (b) for any Interest Payment Date in respect of any Term Rate Period or Fixed Rate Period, the fifteenth (15th) day (whether or not a Business Day) of the month preceding the month in which such Interest Payment Date occurs.

**Redemption Price** means, with respect to any 2015 Series A Bond or a portion thereof, 100% of the principal amount thereof to be redeemed, plus the applicable premium, if any, payable upon redemption thereof pursuant to such 2015 Series A Bond or this Supplemental Trust Agreement; provided that if such 2015 Series A Bond is a 2015 Series A Bond bearing interest at an Index Rate, the Redemption Price for such Bond shall be determined pursuant to Section 19.01(a)(5).

**Remarketing Agent** means the one or more banks, trust companies or members of the National Association of Securities Dealers, Inc. meeting the qualifications set forth in Section 19.15 and appointed by the Issuer to serve as a Remarketing Agent for any 2015 Series A Bonds.

**Remarketing Agreement** means any agreement or agreements entered into by and between the Issuer and a Remarketing Agent for 2015 Series A Bonds.

**Semi-Annual Interest Payment Date** means April 1 and October 1.

**SIFMA** means the Securities Industry & Financial Markets Association (formerly the Bond Market Association).

**SIFMA Index** means, for any Computation Date, the level of the index which is issued weekly and which is compiled from the weekly interest rate resets of tax-exempt variable rate issues included in a database maintained by Municipal Market Data which meet specific criteria established from time to time by SIFMA and issued on Wednesday of each week, or if any Wednesday is not a Business Day, the preceding Business Day. If the SIFMA Index is no longer
published, then "SIFMA Index" shall mean the S&P Weekly High Grade Index. If the S&P Weekly High Grade Index is no longer published, then "SIFMA Index" shall mean the prevailing rate determined by the Calculation Agent for tax-exempt state and local government bonds meeting criteria determined in good faith by the Calculation Agent to be comparable under the circumstances to the criteria used by SIFMA to determine the SIFMA Index immediately prior to the date on which SIFMA ceased publication of the SIFMA Index.

**SIFMA Index Rate** means a per annum rate of interest equal to the product of (a) the sum of the Applicable Spread plus the SIFMA Index and (b) the Margin Rate Factor.

**SIFMA Index Rate Conversion Date** means (a) the date on which the 2015 Series A Bonds in a Bank Index Rate Period begin to bear interest at the SIFMA Index Rate or (b) if the 2015 Series A Bonds in a Bank Index Rate Period have previously borne interest at the SIFMA Index Rate during a SIFMA Index Rate Period then ending, the Mandatory Purchase Date occurring at the end of the then ending SIFMA Index Rate Period.

**SIFMA Index Rate Period** means each period during a Bank Index Rate Period based on the SIFMA Index from and including a SIFMA Index Rate Conversion Date to but excluding the earliest of (i) the immediately succeeding Mandatory Purchase Date, (ii) the immediately succeeding Conversion Date and (iii) the Maturity Date.

**SIFMA Rate Reset Date** means Thursday of each week.

**Spread Premium** shall have the meaning specified in Section 19.01(a)(5).

**Supplemental Trust Agreement** means this Third Supplemental Trust Agreement, dated as of January 1, 2015, between the Issuer and the Trustee, as originally executed, or as it may from time to time be supplemented, modified or amended in accordance with the terms of the Trust Agreement.

**S&P Weekly High Grade Index** means for a Computation Date, the level of the “S&P Weekly High Grade Index” (formerly known as the J.J. Kenny Index) maintained by Standard and Poor's Securities Evaluations Inc. for a one-week maturity as published each Wednesday, or if any Wednesday is not a Business Day, on the next succeeding Business Day.

**Standing Instructions** means standing instructions regarding (i) payment of principal, interest, Redemption Price and Purchase Price and (ii) delivery of 2015 Series A Bonds, delivered by a Holder to the Trustee and applicable during a Bank Term Rate Period or a Bank Index Rate Period or an Amortization Period.

**Taxable Date** has the meaning set forth in the applicable Continuing Covenant Agreement.

**Taxable Rate** has the meaning set forth in the applicable Continuing Covenant Agreement.
**Tax-Exempt** means, with respect to interest on any obligations of a state or local government, that such interest is excluded from the gross income of the holders thereof (other than any holder who is a "substantial user" of facilities financed with such obligations or a "related person" within the meaning of Section 147(a) of the Code) for federal income tax purposes, whether or not such interest is includable as an item of tax preference or otherwise includable directly or indirectly for purposes of calculating other tax liabilities, including any alternative minimum tax or environmental tax under the Code.

**Tax-Exempt Securities** means bonds, notes or other securities the interest on which is Tax-Exempt.

**Term Rate** means the rate of interest on 2015 Series A Bonds established in accordance with Section 18.06(a)(iv).

**Term Rate Computation Date** means any Business Day during the period from and including the date of receipt of a Conversion Notice relating to a Conversion to a Term Rate for the 2015 Series A Bonds to and including the Business Day next preceding the proposed Term Rate Conversion Date.

**Term Rate Conversion Date** means: (i) the Conversion Date on which the interest rate on the 2015 Series A Bonds shall be converted to a Term Rate; and (ii) the date on which a new Term Rate Period and Term Rate are to be established.

**Term Rate Continuation Notice** shall have the meaning given such term in Section 18.06(a)(iv)(B).

**Term Rate Period** means any period during which the 2015 Series A Bonds bear interest at the Term Rate.

**Termination** (and other forms of "terminate") means, when used with respect to any Liquidity Facility or Credit Enhancement, the replacement, removal, surrender or other termination of such Liquidity Facility or Credit Enhancement other than an Expiration or an extension or renewal thereof; provided, however, that Termination does not include immediate suspension or immediate termination events.

**Three-Month LIBOR Rate** means the rate for deposits in U.S. dollars with a three-month maturity that appears on Reuters Screen LIBOR01 Page (or such other page as may replace that page on that service, or such other service as may be nominated by ICE Benchmark Administration Ltd., for the purpose of displaying London interbank offered rates for U.S. dollar deposits) as of 11:00 a.m., London time, on the Index Rate Determination Date, except that, if such rate does not appear on such page on the Index Rate Determination Date, the Three Month LIBOR Rate means a rate determined on the basis of the rates at which deposits in U.S. dollars for a three-month maturity and in a principal amount of at least U.S. $1,000,000 are offered at approximately 11:00 a.m., London time, on the Index Rate Determination Date, to prime banks in the London interbank market by three major banks in the London interbank market (herein referred to as the "Reference Banks") selected by the Index Agent (provided, however, that if the Index Agent is the Trustee, the Trustee may appoint an agent to identify such Reference Banks).
The Index Agent or its agent is to request the principal London office of each of such Reference Banks to provide a quotation of its rate. If at least two such quotations are provided, the Three Month LIBOR Rate will be the arithmetic mean of such quotations. If fewer than two quotations are provided, the Three Month LIBOR Rate will be the arithmetic mean of the rates quoted by three (if three quotations are not provided, two or one, as applicable) major banks in New York City, selected by the Index Agent, at approximately 11:00 a.m., New York City time, on the Index Rate Determination Date for loans in U.S. dollars to leading European banks in a principal amount of at least U.S. $1,000,000 having a three-month maturity. If none of the banks in New York City selected by the Index Agent is then quoting rates for such loans, then the Three Month LIBOR Rate for the ensuing interest period will mean the Three Month LIBOR Rate then in effect in the immediately preceding Index Rate Period.

**Treasury Rate** means the interest rate applicable to 13-week United States Treasury bills determined by the Remarketing Agent on the basis of the average per annum discount rate at which such 13-week Treasury bills shall have been sold at the most recent Treasury auction.

**2015 Series A Bond Purchase Fund** means the 2015 Series A Bond Purchase Fund, established pursuant to Section 21.01(c).

**2015 Series A Costs of Issuance Fund** means the 2015 Series A Costs of Issuance Fund established pursuant to Section 21.01(a).

**2015 Series A Issuer Account** means the 2015 Series A Issuer Account established pursuant to Section 21.01(c).

**2015 Series A Liquidity Facility Purchase Account** means the 2015 Series A Liquidity Facility Purchase Account established pursuant to Section 21.01(c).

**2015 Series A Project** means the acquisition and renovation of certain passenger rail cars and related capital expenditures, including capital expenditures for platform modifications required to accommodate longer train sets made possible as a result of the passenger rail car acquisition, and related parts, including spare parts and new wheels, for Caltrain.

**2015 Series A Project Fund** means the fund by that name established pursuant to Section 21.01(b).

**2015 Series A Remarketing Account** means the 2015 Series A Remarketing Account, established pursuant to Section 21.01(c).

**Unremarketed 2015 Series A Bonds** has the meaning set forth in the applicable Continuing Covenant Agreement.

**USD-ISDA Swap Rate** shall have the meaning set forth in Section 19.01(a)(5).

**Variable Rate** means any of the Daily Rate, the Weekly Rate, the Commercial Paper Rate, the Index Rate, the Bank Index Rate, the Term Rate or the Bank Term Rate, as applicable.
Variable Rate Demand Bonds means the 2015 Series A Bonds bearing interest at a Daily Rate or a Weekly Rate.

Weekly Put Bonds shall have the meaning set forth in Section 19.09(b).

Weekly Rate means the variable interest rate on any 2015 Series A Bond established in accordance with Section 18.06(a)(ii).

Weekly Rate Index means, on any Business Day, the SIFMA Index or, if the SIFMA Index is no longer published, an index or rate agreed upon by the Issuer and the Remarketing Agent; provided, however, that if the Remarketing Agent advises the Trustee and the Issuer that the use of such index would not result or no longer results in a market rate of interest on the Bonds, "Weekly Rate Index" shall mean, subject to a Favorable Opinion of Bond Counsel, an index agreed to by the Issuer and the Remarketing Agent that would result in a market rate of interest on the Bonds, which Weekly Rate Index shall in no event exceed the Maximum Rate.

Weekly Rate Period means each period during which the 2015 Series A Bonds bear interest at Weekly Rates.

Section 16.03. Rules of Construction.

(a) Unless the context otherwise indicates, words expressed in the singular shall include the plural and vice versa and the use of the neuter, masculine or feminine gender is for convenience only and shall be deemed to mean and include the neuter, masculine or feminine gender, as appropriate.

(b) Headings of articles and sections herein and the table of contents hereof are solely for convenience of reference, do not constitute a part hereof and shall not affect the meaning, construction or effect hereof.

(c) All references herein to "Articles," "Sections" and other subdivisions are to the corresponding Articles, Sections or subdivisions of this Indenture; the words "herein," "hereof," "hereby," "hereunder" and other words of similar import refer to the Trust Agreement as a whole and not to any particular Article, Section or subdivision hereof.

Section 16.04. Book-Entry Tenders. Notwithstanding any other provision of the Trust Agreement to the contrary, all tenders for purchase pursuant to the provisions set forth in this Supplemental Trust Agreement during any period in which a Depository is in use with respect to the 2015 Series A Bonds shall be subject to the procedures for tenders specified by such Depository.

Section 16.05. New York City Time. All references herein to a particular time of day shall be to New York City time unless otherwise specified herein or the context clearly requires otherwise.
ARTICLE XVII

FINDINGS.

Section 17.01. Findings. The Issuer hereby finds and determines that the 2015 Series A Bonds shall be issued pursuant to Section 3.01 of the Trust Agreement.

ARTICLE XVIII

AUTHORIZATION OF 2015 SERIES A BONDS

Section 18.01. Principal Amount, Designation, Series and Issuance. The Issuer hereby authorizes the creation and issuance of an additional Series of Bonds in the principal amount of $11,000,000 in accordance with the Act and pursuant to the Trust Agreement for the purpose of financing the cost of the 2015 Series A Project. Said Series of Bonds shall be known as the "Peninsula Corridor Joint Powers Board Farebox Revenue Bonds, 2015 Series A". At any time after the execution and delivery of this Supplemental Trust Agreement, the Issuer may execute and the Trustee shall authenticate and deliver the 2015 Series A Bonds in an aggregate principal amount of $11,000,000 upon the Order of the Issuer.

Section 18.02. Application of Proceeds of the 2015 Series A Bonds. The proceeds of the sale of the 2015 Series A Bonds, $11,000,000.00 in aggregate principal amount, shall be held in trust and set aside or transferred by the Trustee as follows:

(a) The Trustee shall deposit in the 2015 Series A Costs of Issuance Fund, which is established pursuant to Section 21.01(a), $[COI Deposit] to pay Costs of Issuance of the 2015 Series A Bonds.

(b) The Trustee shall deposit in the 2015 Series A Project Fund, which is established pursuant to Section 21.01(b), $[Project Fund Deposit] to pay costs of the 2015 Series A Project.

Section 18.03. Form, Denomination, Numbers and Letters. The 2015 Series A Bonds shall be issued as fully registered bonds without coupons in definitive certificated form registered in the name of the Holder thereof or as otherwise directed by the Holder and in Authorized Denominations and shall be numbered from one upward in consecutive numerical order preceded by the letter "R" prefixed to the number. Each 2015 Series A Bond bearing interest at a Bank Term Rate or a Bank Index Interest Rate shall include a legend indicating that the transferability of such Bond is subject to the restrictions set forth in this Supplemental Trust Agreement. The 2015 Series A Bonds and the certificate of authentication shall be substantially in the form attached hereto as Exhibit A, with maturity dates and interest rates to be inserted therein in accordance with the provisions set forth in this Article XVIII, which form of 2015 Series A Bond may be modified subsequent to the Issue Date to reflect the terms of any Rate Period then applicable to the 2015 Series A Bonds.

Section 18.04. Date, Maturity Date, Initial Rate Period; Initial Interest Rate; Registration, Payment of Principal and Interest; Transferability. The 2015 Series A Bonds shall be dated their Issue Date. The 2015 Series A Bonds shall be issued in the aggregate
principal amount of $11,000,000 and shall mature and be payable on October 1, [2033]. The
initial Rate Period for the 2015 Series A Bonds shall be a Bank Term Rate Period commencing
on and including the Issue Date and ending on and including the Initial Mandatory Purchase
Date, subject to adjustment as provided in Section 19.05(h). On the Issue Date, the 2015 Series
A Bonds shall initially bear interest at the Initial Bank Term Rate.

Upon issuance and for so long as the Initial Continuing Covenant Agreement shall
remain in effect with respect to 2015 Series A Bonds, the 2015 Series A Bonds shall be
registered in the name of the Initial Purchaser or any assignee or transferee of the Initial
Purchaser permitted pursuant to the provisions of Section 8.06 of the Initial Continuing Covenant
Agreement, subject to the restrictions on transfer set forth below, and shall be in physical form.
Notwithstanding the foregoing, upon delivery to the Trustee and the Issuer of a written request
and direction executed by the Initial Purchaser or any assignee or transferee of the Initial
Purchaser permitted pursuant to the provisions of Section 8.06 of the Initial Continuing Covenant
Agreement, all 2015 Series A Bonds shall be held in Book-Entry Form in accordance with the
provisions set forth in Section 2.10.

For so long as the 2015 Series A Bonds shall bear interest in a Bank Term Rate Period or
in a Bank Index Interest Rate Period, any 2015 Series A Bond shall be registered solely in the
name of a "qualified institutional buyer" as defined in Rule 144A promulgated under the
Securities Act of 1933, as amended (the "Securities Act") or an "accredited investor" as defined
in Rule 501 of Regulation D promulgated under the Securities Act, which status shall be
confirmed in writing to the Trustee prior to transfer and which shall have delivered an investor
letter (an "Investor Letter") to the Issuer and to the Trustee, such Investor Letter to be in
substantially such form as is set forth in Attachment I hereto.

Upon conversion of the 2015 Series A Bonds from a Bank Term Rate Period to any Rate
Period other than another Bank Term Rate Period or a Bank Index Rate Period during which
Rate Periods the 2015 Series A Bonds shall be in physical form, (i) the 2015 Series A Bonds
shall be registered in the name of "Cede & Co.," as initial nominee of the Depository, (ii) shall
be evidenced by one 2015 Series A Bond certificate in the total aggregate principal amount of
the 2015 Series A Bonds of each maturity and (iii) registered ownership of the 2015 Series A
Bonds or any portion thereof, may not thereafter be transferred except as set forth in Section
2.10; provided, however, that upon delivery to the Trustee and the Issuer of a written request and
direction executed by the Purchaser or any assignee or transferee of the Purchaser permitted
pursuant to the provisions of the applicable Continuing Covenant Agreement, all 2015 Series A
Bonds shall be held in Book-Entry Form in accordance with the provisions set forth in Section
2.10.

The 2015 Series A Bonds shall bear interest payable from the Issue Date, at the rates
determined pursuant to this Article XVIII, which interest shall be payable on each Interest
Payment Date, commencing April 1, 2015, which is the first Interest Payment Date for the Initial
Period. Subject to Section 2.10, interest on the 2015 Series A Bonds shall be paid by check
mailed by first class mail on the applicable Interest Payment Date to the Holder thereof as of the
close of business on the applicable Record Date or upon the written request of any Holder of
$1,000,000 or more in aggregate principal amount of 2015 Series A Bonds who has provided
the Trustee with wire transfer instructions, by wire transfer to an account within the United States on each Interest Payment Date to the Holder thereof as the close of business on the applicable Record Date.

Notwithstanding the foregoing, during the Initial Period, any other Bank Term Rate Period or Bank Index Rate Period, interest on the 2015 Series A Bonds shall be payable in lawful money of the United States of America by the Trustee to the Holder thereof as of the close of business on the applicable Record Date, such interest to be paid by the Trustee to such Holder in immediately available funds (by wire transfer or by deposit to the account of the Holder if such account is maintained with the Trustee), according to the instructions (which may be in the form of Standing Instructions) given by such Holder to the Trustee at least one Business Day prior to the applicable Record Date or, in the event no such instructions have been given, by check mailed by first class mail to the Holder at such Holder's address as it appears as of the applicable Record Date on the bond registration books kept by the Trustee.

Subject to Section 2.10, principal on the 2015 Series A Bonds shall be payable when due in lawful money of the United States of America upon presentation and surrender thereof at the Corporate Trust Office of the Trustee. Notwithstanding the foregoing, during the Initial Period, any other Bank Term Rate Period or Bank Index Rate Period, principal shall be payable in lawful money of the United States of America by the Trustee to the Holder thereof as of the close of business on the Business Day preceding the applicable principal payment date, such principal to be paid by the Trustee to such Holder in immediately available funds (by wire transfer or by deposit to the account of the Holder if such account is maintained with the Trustee), according to the instructions (which may be in the form of Standing Instructions) given by such Holder to the Trustee at least one Business Day prior to the applicable principal payments date or, in the event no such instructions have been given, by check mailed by first class mail to the Holder at such Holder's address as it appears as of the applicable principal payments date on the bond registration books kept by the Trustee and no surrender or presentation of 2015 Series A Bonds shall be required for receipt of payment of principal prior to receipt of payment in full of the 2015 Series A Bonds.

Notwithstanding the foregoing, when the 2015 Series A Bonds are held under the Book-Entry System, transfers of beneficial ownership will be effected pursuant to rules and procedures established by the Depository.

Section 18.05. Interest Rates on 2015 Series A Bonds.

(a) Except for Liquidity Facility Bonds, which shall be Current Interest Bonds and bear interest at the rate or rates (but not in excess of the Maximum Rate), and be payable at the times, specified in the applicable Liquidity Facility, the 2015 Series A Bonds shall be Current Interest Bonds and, until converted to a Fixed Rate, the 2015 Series A Bonds shall constitute Variable Rate Indebtedness and shall bear interest at a variable rate determined as provided in this Supplemental Trust Agreement.

(b) The 2015 Series A Bonds shall bear interest as provided herein from and including the Issue Date to but excluding the date of payment in full of the 2015 Series A Bonds.
(such interest to be (i) computed on the basis of a 365/366-day year and actual days elapsed during any Daily Rate Period, Weekly Rate Period, Index Rate Period, Commercial Paper Rate Period or Bank Index Rate Period based on the SIFMA Index; (ii) computed on the basis of a 360-day year for the actual number of days elapsed during any Bank Index Rate Period based on the LIBOR Index; and (iii) computed on the basis of a 360-day year of twelve (12) 30-day months during any Bank Term Rate Period or Term Rate Period. Interest shall accrue on the 2015 Series A Bonds from one Interest Payment Date to, but not including, the next Interest Payment Date.

(c) Upon Conversion of the 2015 Series A Bonds to a Fixed Rate, the 2015 Series A Bonds shall bear interest from and including the Conversion Date to the date of payment in full of the 2015 Series A Bonds (computed on the basis of a 360-day year of twelve (12) 30-day months.

(d) The interest rates on the 2015 Series A Bonds shall be determined as provided in Section 18.06(a); provided, that no Rate as so determined shall exceed the Maximum Rate in effect on the date of determination thereof, subject to the provisions set forth in Section 18.06(a)(vii)(G) and Section 18.06(a)(viii)(F) providing for the payment of Deferred Interest.

(e) At any one time, the 2015 Series A Bonds shall have the same Interest Rate Determination Method and (except 2015 Series A Bonds that are Liquidity Facility Bonds, 2015 Series A Bonds during a Commercial Paper Rate Period, and 2015 Series A Bonds of different maturities bearing interest at a Fixed Rate) shall bear interest at the same interest rate. Upon issuance, the 2015 Series A Bonds shall bear interest at a Bank Term Rate.

Section 18.06. Interest Rate Determination Method; Conversion of Interest Rate Determination Method

(a) Interest Rate Determination Method.

(i) Daily Rate. Upon a successful Conversion of the 2015 Series A Bonds to bear interest at a Daily Rate pursuant to Section 18.06(b) and until the 2015 Series A Bonds are successfully converted to another Interest Rate Determination Method pursuant to said Section 18.06(b), the 2015 Series A Bonds shall bear interest at a Daily Rate. During each Daily Rate Period for the 2015 Series A Bonds, the Remarketing Agent shall set a Daily Rate by 10:00 a.m., New York City time, on each Business Day, which Daily Rate shall be the rate of interest which, if borne by the 2015 Series A Bonds in the Daily Rate Period, would, in the reasonable judgment of the Remarketing Agent, having due regard for the prevailing financial market conditions for Tax-Exempt Securities that are of the same general nature as the 2015 Series A Bonds, or Tax-Exempt Securities that are competitive as to credit and maturity (or period for tender) with the credit and maturity (or period for tender) of the 2015 Series A Bonds for which the Daily Rate is to be determined, be the lowest interest rate that would enable such Remarketing Agent to place the 2015 Series A Bonds at a price equal to 100% of
the aggregate principal amount of such 2015 Series A Bonds (plus accrued interest, if any) on such Business Day. The Daily Rate for any non-Business Day will be the rate for the last Business Day on which a Daily Rate was set.

(ii) **Weekly Rate.** Upon successful Conversion of the 2015 Series A Bonds to bear interest at a Weekly Rate and until any of the 2015 Series A Bonds are successfully converted to another Interest Rate Determination Method pursuant to Section 18.06(b), the 2015 Series A Bonds shall bear interest at a Weekly Rate. During each Weekly Rate Period, the Remarketing Agent shall set a Weekly Rate by 5:00 p.m., New York City time, on each Wednesday (or the immediately succeeding Business Day, if such Wednesday is not a Business Day) for the next Calendar Week; provided, that, the Weekly Rate for the first Calendar Week (or portion thereof) following a Conversion Date resulting in a change in the Interest Rate Determination Method to a Weekly Rate shall be set by such Remarketing Agent on the Business Day immediately preceding such Conversion Date. Each Weekly Rate shall be the rate of interest that, if borne by the 2015 Series A Bonds in the Weekly Rate Period, would, in the reasonable judgment of the Remarketing Agent, having due regard for the prevailing financial market conditions for Tax-Exempt Securities that are of the same general nature as the 2015 Series A Bonds for which the Weekly Rate is to be determined, or Tax-Exempt Securities that are competitive as to credit and maturity (or period for tender) with the credit and maturity (or period for tender) of the 2015 Series A Bonds for which the Weekly Rate is to be determined, be the lowest interest rate that would enable the Remarketing Agent to place such 2015 Series A Bonds at a price equal to 100% of the aggregate principal amount of the 2015 Series A Bonds (plus accrued interest, if any) on the first day of such Weekly Rate Period.

(iii) **Commercial Paper Rate.** Upon a successful Conversion of any 2015 Series A Bonds to bear interest at a Commercial Paper Rate pursuant to Section 18.06(b), and until such 2015 Series A Bonds are successfully converted to another Interest Rate Determination Method pursuant to said Section 18.06(b), such 2015 Series A Bonds shall bear interest at the Commercial Paper Rate or Commercial Paper Rates applicable to such 2015 Series A Bonds. The Remarketing Agent shall select the Commercial Paper Rate Period or Commercial Paper Rate Periods for each of such 2015 Series A Bonds on a Business Day selected by the Remarketing Agent not more than five (5) Business Days prior to the first day of such Commercial Paper Rate Period and not later than 12:30 p.m., New York City time, on the first day of such Commercial Paper Rate Period. Each Commercial Paper Rate Period shall be a period of not less than one (1) nor more than two hundred seventy (270) days determined in the reasonable judgment of the Remarketing Agent to yield the lowest overall interest expense on the applicable 2015 Series A Bonds, taking into account (A) all other Commercial Paper Rate Periods for all the 2015 Series A Bonds bearing interest at a Commercial Paper Rate, (B) general economic and market conditions relevant to such 2015 Series A Bonds and (C) such other facts, circumstances and conditions as such Remarketing Agent determines to be relevant. Notwithstanding the
foregoing, no Commercial Paper Rate Period for any 2015 Series A Bond shall be selected with a last day later than the fifth (5th) Business Day prior to the expiration date of any Liquidity Facility then in effect with respect to such 2015 Series A Bond while bearing interest at the Commercial Paper Rate. The last day of each Commercial Paper Rate Period shall be a day immediately preceding a Business Day. If the Interest Rate Determination Method with respect to any 2015 Series A Bonds is being converted from a Commercial Paper Rate to a new Interest Rate Determination Method, after receipt of the Conversion Notice delivered pursuant to Section 18.06(b), the Remarketing Agent shall determine the Commercial Paper Rate Periods with respect to such 2015 Series A Bonds in such manner that, as soon as possible, all Commercial Paper Rate Periods with respect to such 2015 Series A Bonds shall end on the same date, which date shall be the last day of the then-current Commercial Paper Rate Periods and, upon the establishment of such Commercial Paper Rate Periods, the day next succeeding the last day of all such Commercial Paper Rate Periods shall be the Conversion Date for the new Interest Rate Determination Method. The Remarketing Agent, promptly upon the determination of the last day of such Commercial Paper Rate Periods prior to Conversion to a new Interest Rate Determination Method, shall give written notice of such last day and such Conversion Date to each of the Notice Parties and the Additional Notice Parties.

The Remarketing Agent shall set a Commercial Paper Rate for each 2015 Series A Bond bearing interest at the Commercial Paper Rate not later than 12:30 p.m., New York City time, on the first day of each Commercial Paper Rate Period for such 2015 Series A Bonds. The Commercial Paper Rate applicable to each 2015 Series A Bond bearing interest at the Commercial Paper Rate will be the rate determined by the Remarketing Agent to be the lowest interest rate that would enable such Remarketing Agent to place such 2015 Series A Bond on the first day of the applicable Commercial Paper Rate Period at a price equal to 100% of the aggregate principal amount of such Bond.

The Commercial Paper Rate Period and the Commercial Paper Rate Period Rate for each 2015 Series A Bond need not be the same for any two 2015 Series A Bonds, even if determined on the same date.

(iv) **Term Rate**.

(A) Upon a successful Conversion of the 2015 Series A Bonds to bear interest at a Term Rate from another Interest Rate Determination Method pursuant to Section 18.06(b) or the establishment of a new Term Rate Period and a new Term Rate for the 2015 Series A Bonds then bearing interest at a Term Rate, and until the 2015 Series A Bonds are successfully converted to another Interest Rate Determination Method pursuant to Section 18.06(b) or Section 18.06(a)(iv)(F), the 2015 Series A Bonds shall bear interest at a Term Rate. The Issuer shall select the duration of each Term Rate Period for the 2015 Series A Bonds and shall include the
duration of the Term Rate Period in the Conversion Notice given with respect to such Term Rate Period pursuant to Section 18.06(b) or the Term Rate Continuation Notice given with respect to any new Term Rate and Term Rate Period for the 2015 Series A Bonds then bearing interest at a Term Rate. Each Term Rate Period shall commence on the Term Rate Conversion Date and end on a Business Day selected by the Issuer which is a minimum of one hundred eighty (180) days after the Term Rate Conversion Date, but in no event later than the maturity date of the 2015 Series A Bonds. With respect to each Term Rate Period, the Remarketing Agent will set the Term Rate for the 2015 Series A Bonds by 5:00 p.m., New York City time, on the applicable Term Rate Computation Date. Each Term Rate shall be the rate of interest that, if borne by the 2015 Series A Bonds in such Term Rate Period, would, in the judgment of the Remarketing Agent, having due regard for the prevailing financial market conditions for Tax-Exempt Securities that are of the same general nature as the 2015 Series A Bonds for which the Term Rate is to be determined, or Tax-Exempt Securities that are competitive as to credit and maturity (or period for tender) with the credit and maturity (or period for tender) of the 2015 Series A Bonds for which the Term Rate is to be determined, be the lowest interest rate that would enable such Remarketing Agent to place the 2015 Series A Bonds at a price equal to 100% of the aggregate principal amount of the 2015 Series A Bonds on the first day of such Term Rate Period.

(B) **Term Rate Continuation.** Unless the Issuer has delivered a Conversion Notice with respect to the Conversion of the 2015 Series A Bonds to another Interest Rate Determination Method pursuant to Section 18.06(b), the Issuer may establish a new Term Rate Period and Term Rate for the 2015 Series A Bonds, such new Term Rate Period and Term Rate to commence as of the day following the last day of the then existing Term Rate Period for the 2015 Series A Bonds, with such right to be exercised by delivery of a written notice (such notice being hereinafter referred to as a “Term Rate Continuation Notice”) to each of the Notice Parties and the Additional Notice Parties no less twenty (20) days prior to the effective date of the new Term Rate Period, such Term Rate Continuation Notice to be delivered by an Authorized Representative of the Issuer.

The Term Rate Continuation Notice shall be accompanied by a letter of Bond Counsel to the effect that Bond Counsel expects to be able to deliver a Favorable Opinion of Bond Counsel on the Term Rate Conversion Date.

(C) **Limitations.** Any establishment of a new Term Rate and Term Rate Period for the 2015 Series A Bonds pursuant to Section 18.06(a)(iv)(B) above must comply with the following limitations:
(i) the first day of such new Term Rate Period must be an Interest Payment Date on which the 2015 Series A Bonds are subject to mandatory tender pursuant to the applicable provisions of Section 19.05;

(ii) the first day of such new Term Rate Period must be a Business Day; and

(iii) no new Term Rate shall become effective unless the Favorable Opinion of Bond Counsel referred to in Section 18.06(a)(iv)(B) is delivered on the first day of the new Term Rate Period and all Outstanding 2015 Series A Bonds are successfully remarketed in the new Term Rate Period at the new Term Rate on the first day of the new Term Rate Period.

(D) Contents of Term Rate Continuation Notice. The Term Rate Continuation Notice shall specify the proposed new Term Rate Period.

(E) Notice to Holders. Upon receipt of a Term Rate Continuation Notice from the Issuer, as soon as possible, but in any event not less than fifteen (15) days prior to the first day of the proposed Term Rate Period, the Trustee shall give notice by first-class mail or by Electronic Means via the MSRB EMMA system to the Holders of the 2015 Series A Bonds which notice shall state in substance:

(i) that a new Term Rate Period and Term Rate is to be established for the 2015 Series A Bonds;

(ii) the first day of the new Term Rate Period, which date shall be the Term Rate Conversion Date with respect to such new Term Rate Period;

(iii) that all 2015 Series A Bonds are subject to mandatory tender for purchase on the Term Rate Conversion Date (whether or not the proposed new Term Rate Period becomes effective on such date) at the Purchase Price, which Purchase Price shall be specified in such notice;

(iv) that a new Term Rate Period and Term Rate for the 2015 Series A Bonds shall not be established unless the Issuer shall have delivered to the Trustee a Favorable Opinion of Bond Counsel relating to the new Term Rate Period on (and as of) the Term Rate Conversion Date, all the 2015 Series A Bonds are successfully remarketed in the new Term Rate Period and at the new Term Rate on the Term Rate Conversion Date; and all other conditions specified in the Trust Agreement are satisfied on or before the proposed Term Rate Conversion Date.
(v) the CUSIP numbers, if any, assigned to the 2015 Series A Bonds; and

(vi) that, to the extent that there shall be on deposit with the Trustee on the Term Rate Conversion Date an amount of money sufficient to pay the Purchase Price thereof, all 2015 Series A Bonds not delivered to the Trustee on or prior to such date shall be deemed to have been properly tendered for purchase and shall cease to constitute or represent a right on behalf of the Holder thereof to the payment of principal thereof or interest thereon and shall represent and constitute only the right to payment of the Purchase Price on deposit with the Trustee, without interest accruing thereon after such date.

(F) **End of Term Rate.** In the event the Issuer has not given a Term Rate Continuation Notice or a Conversion Notice with respect to 2015 Series A Bonds bearing interest at a Term Rate at the time required by Section 18.06(a)(iv)(B) or Section 18.06(b), as applicable, or if the conditions to the effectiveness of a new Term Rate Period and new Term Rate set forth in Section 18.06(a)(iv)(C) are not satisfied, including as a result of the Remarketing Agent failing to establish a Term Rate as herein provided, then on the day following the last day of the current Term Rate Period, a Weekly Rate Period shall automatically commence for the 2015 Series A Bonds; provided, however, that the 2015 Series A Bonds shall not be subject to optional tender during such Weekly Rate Period and shall bear interest as provided in Section 19.11(d) until such time as the 2015 Series A Bonds shall be converted to another Interest Rate Determination Method in accordance with the provisions hereof.

(G) **Sale at Premium or Discount.** Notwithstanding the provisions of Section 18.06(a)(iv)(A), the Term Rate may be the rate of interest per annum determined by the Remarketing Agent to be the interest rate which, if borne by the 2015 Series A Bonds, would enable the Remarketing Agent to sell the 2015 Series A Bonds at a price (without regard to accrued interest) which will result in the lowest net interest cost for the 2015 Series A Bonds, after taking into account any premium or discount at which the 2015 Series A Bonds are sold by the Remarketing Agent, provided that:

(i) the Remarketing Agent certifies to the Trustee and the Issuer that in its reasonable judgment it believes that the sale of the 2015 Series A Bonds at the interest rate and premium or discount specified by the Remarketing Agent is expected to result in the lowest net interest cost for the 2015 Series A Bonds on the Term Rate Conversion Date;
(ii) the Issuer consents in writing to the sale of the 2015 Series A Bonds by the Remarketing Agent at such premium or discount;

(iii) in the case of 2015 Series A Bonds to be sold at a discount, the Issuer agrees to transfer to the Trustee on the Term Rate Conversion Date an amount equal to such discount in immediately available funds for deposit in the 2015 Series A Issuer Account;

(iv) in the case of 2015 Series A Bonds to be sold at a premium, the Remarketing Agent shall transfer to the Trustee from the remarketing proceeds an amount equal to such premium to pay the specific costs of Conversion, which amount shall either be used to pay costs associated with the Conversion or deposited in the Revenue Fund as specified by the Issuer; and

(v) on or before the date of the determination of the Term Rate, the Issuer delivers to the Trustee and the Remarketing Agent a letter of Bond Counsel to the effect that Bond Counsel expects to be able to give a Favorable Opinion of Bond Counsel on the Term Rate Conversion Date; and

(vi) on or before the Term Rate Conversion Date, a Favorable Opinion of Bond Counsel shall have been received by the Trustee and confirmed to the Issuer and the Remarketing Agent.

(v) Fixed Rate.

(A) The Interest Rate Determination Method for the 2015 Series A Bonds may be converted from any Variable Rate to a Fixed Rate or Fixed Rates in accordance with the provisions of Section 18.06(b). After such Conversion, the 2015 Series A Bonds shall bear interest at the Fixed Rate or Fixed Rates and shall not be subject to Conversion to another Interest Rate Determination Method. The interest rate to be borne by the 2015 Series A Bonds of each maturity from the Fixed Rate Conversion Date shall be the rate determined by the applicable Remarketing Agent on the Fixed Rate Computation Date to be the rate that, if borne by such 2015 Series A Bonds, would, in the judgment of the Remarketing Agent having due regard for prevailing market conditions for Tax-Exempt Securities that are comparable to such 2015 Series A Bonds, be the lowest interest rate that would enable such Remarketing Agent to place such 2015 Series A Bonds of such maturity for which the Fixed Rate is to be determined at a price equal to 100% of the aggregate principal amount of such 2015 Series A Bonds on the Fixed Rate Conversion Date.

(B) If the Issuer obtains a Favorable Opinion of Bond Counsel with respect to such actions: (i) in determining the Fixed Rate for any 2015 Series A Bond, the applicable Remarketing Agent, subject to the approval
of the Issuer, may also determine on or before the Business Day next preceding the determination of the Fixed Rate for such 2015 Series A Bonds, redemption dates and redemption premiums, if any, to be paid upon the optional redemption of such 2015 Series A Bonds which differ from such redemption dates and premiums as are set forth in Section 19.01(a)(4), such redemption dates and redemption premiums, if any, to be, in the best judgment of the Remarketing Agent, consistent with then-current market conditions; and (ii) the Remarketing Agent, subject to the approval of the Issuer, may also determine, on or before the Business Day next preceding the determination of the Fixed Rate for such 2015 Series A Bonds, with respect to any 2015 Series A Bond constituting a Term Bond, a new maturity date for any portion of such 2015 Series A Bond; provided, however, that such new maturity date shall be a October 1 prior to the original maturity date; and provided further that such 2015 Series A Bond shall continue to be subject to mandatory redemption from Mandatory Sinking Account Payments established for such 2015 Series A Bond unless, on any Mandatory Sinking Account Payment due date for such 2015 Series A Bond, such Mandatory Sinking Account Payment is applied to the payment of that portion of such 2015 Series A Bond which now matures on such Mandatory Sinking Account Payment due date.

(C) **Sale at Premium or Discount.** Notwithstanding the provisions of Section 18.06(a)(v)(A), the Fixed Rate or Fixed Rates may be the rate or rates of interest per annum determined by the Remarketing Agent to be the interest rate which, if borne by the 2015 Series A Bonds, would enable the Remarketing Agent to sell such 2015 Series A Bonds at a price (without regard to accrued interest) which will result in the lowest net interest cost for the 2015 Series A Bonds, after taking into account any premium or discount at which such 2015 Series A Bonds are sold by the Remarketing Agent, provided that:

(i) the Remarketing Agent certifies to the Trustee and the Issuer that in its reasonable judgment it believes that the sale of the 2015 Series A Bonds at the interest rate and premium or discount specified by the Remarketing Agent is expected to result in the lowest net interest cost for such 2015 Series A Bonds on the Fixed Rate Conversion Date;

(ii) the Issuer consents in writing to the sale of the 2015 Series A Bonds by the Remarketing Agent at such premium or discount;

(iii) in the case of 2015 Series A Bonds to be sold at a discount, the Issuer agrees to transfer to the Trustee on the Fixed Rate Conversion Date an amount equal to such discount in immediately available funds for deposit in the 2015 Series A Issuer Account;
(iv) in the case of 2015 Series A Bonds to be sold at a premium, the Remarketing Agent shall transfer to the Trustee from remarketing proceeds an amount equal to such premium to pay the specific costs of Conversion, which amount shall either be used to pay costs associated with the Conversion or deposited in the Revenue Fund as specified by the Issuer;

(v) on or before the date of the determination of the Fixed Rate, the Issuer delivers to the Trustee and the Remarketing Agent a letter of Bond Counsel to the effect that Bond Counsel expects to be able to give a Favorable Opinion of Bond Counsel on the Fixed Rate Conversion Date; and

(vi) on or before the Fixed Rate Conversion Date, a Favorable Opinion of Bond Counsel shall have been received by the Trustee and confirmed to the Issuer and the Remarketing Agent.

(vi) Index Rate.

(A) Upon a successful Conversion of the 2015 Series A Bonds to an Index Rate Period pursuant to Section 18.06(b), or upon the continuation of the 2015 Series A Bonds in an Index Rate Period, and until the 2015 Series A Bonds are successfully converted to another Interest Rate Determination Method pursuant to Section 18.06(b), the 2015 Series A Bonds shall bear interest at the Index Rate applicable to the 2015 Series A Bonds, as determined by the Index Agent. The initial Index Rate for each Index Rate Period with respect to the 2015 Series A Bonds shall apply to the period commencing on the first day of such Index Rate Period and ending on the day immediately prior to the first Interest Payment Date and thereafter, each Index Rate shall apply to the period commencing on and including an Interest Payment Date (whether or not a Business Day) to but not including the following Interest Payment Date.

(B) Determination of Applicable Index Bonds Spread. The Index Rate for the 2015 Series A Bonds shall be based on the Index Rate Index, which shall be designated by the Issuer not less than five (5) Business Days prior to the applicable Conversion Date or applicable Purchase Date. The Remarketing Agent shall determine the Applicable Index Bonds Spread to be used in calculating the Index Rate on or before the Index Rate Determination Date preceding the Conversion Date or Purchase Date. The "Applicable Index Bonds Spread" shall be the amount that, when added to or subtracted from the Index Rate Index, will result in the minimum Index Rate that, in the judgment of the Remarketing Agent under then-existing market conditions, will result in the remarketing of the 2015 Series A Bonds on their Conversion Date or Purchase Date at a price equal to 100% of the principal amount thereof. The Remarketing Agent
shall provide notice by Electronic Means to the Index Agent, the Trustee (if the Trustee is not also the Index Agent) and the Issuer of the Applicable Index Bonds Spread. The Remarketing Agent shall offer for sale and use its best efforts to sell the 2015 Series A Bonds on the applicable Conversion Date at a price equal to 100% of the principal amount thereof, as provided herein and in the applicable Remarketing Agreement.

(C) Calculation of Index Rate. The Index Rate for the Index Bonds shall be calculated on each Index Rate Determination Date by the Index Agent and shall be equal to: (A) the Index Rate Index on the Index Rate Determination Date, as determined by the Index Agent, plus (B) the Applicable Index Bonds Spread that was determined pursuant to the preceding paragraph, and such Index Rate shall be rounded to the nearest one hundred thousandth of one percent (0.00001%). The initial Index Rate shall apply to the period commencing on the Conversion Date or the Purchase Date and ending on the day immediately prior to the first Interest Payment Date, and thereafter, each Index Rate, as determined above, shall apply to the period commencing on and including an Interest Payment Date (whether or not a Business Day) to but not including the following Interest Payment Date (each an "Index Rate Interest Accrual Period"). The Index Agent shall calculate the Index Rate for the Index Bonds as provided above and shall furnish such Index Rate to the Trustee (if the Trustee is not also the Index Agent) and the Issuer by Electronic Means no later than the Business Day next succeeding each Index Rate Determination Date. Upon the request of a Holder, the Trustee shall confirm by Electronic Means the Index Rate then in effect. In lieu of the notifications provided in the preceding sentences, the Trustee may make such information available by readily accessible Electronic Means.

The Trustee shall, no later than the third Business Day preceding each Interest Payment Date, notify the Issuer in writing of the total amount of interest payable with respect to the Index Bonds on such Interest Payment Date.

The determinations of the initial Index Rate and all subsequent Index Rates shall be conclusive and binding upon the Issuer, the Trustee, each Liquidity Facility Provider, the Remarketing Agent, the Index Agent and the Holders.

(D) Index Rate Continuation. The Issuer may establish a new Index Rate Period for the 2015 Series A Bonds, which new Index Rate Period shall commence (i) on the day following the Purchase Date for the then existing Index Rate Period unless the Issuer has given a Conversion Notice with respect to the Conversion of the 2015 Series A Bonds to another Interest Rate Determination Method pursuant to Section 18.06(b) or (ii) on any date the 2015 Series A Bonds in an Index Period are subject
to optional redemption, with such right to be exercised by delivery of a written notice (such written notice being herein referred to as an "Index Rate Continuation Notice") to the Trustee, the Index Agent (if the Trustee is not the Index Agent), and the Remarketing Agent for the 2015 Series A Bonds no less than twenty (20) days prior to the effective date of the new Index Rate Period, such Index Rate Continuation Notice to be delivered by an Authorized Representative of the Issuer. The Index Rate Continuation Notice shall specify the proposed effective date of the new Index Rate Period, which shall be the Index Rate Conversion Date, and shall be accompanied by a letter of Bond Counsel to the effect that Bond Counsel expects to be able to deliver a Favorable Opinion of Bond Counsel on the Index Rate Conversion Date.

The first day of such new Index Rate Period shall be a Purchase Date on which the 2015 Series A Bonds are subject to optional redemption or to mandatory tender pursuant to the applicable provisions of Section 19.05. The 2015 Series A Bonds shall be subject to mandatory tender on the first day of such new Index Rate Period pursuant to the applicable provisions of Section 19.05 for purchase at their Purchase Price. No new Index Rate Period shall become effective unless the Favorable Opinion of Bond Counsel referred to above is delivered on (and as of) the first day of the new Index Rate Period and unless all Outstanding 2015 Series A Bonds are successfully remarketed in the new Index Rate Period at the new Index Rate on the Index Rate Conversion Date.

(E) Notice to Holders. Upon receipt of an Index Rate Continuation Notice from the Issuer, as soon as possible, but in any event not less than fifteen (15) days prior to the first day of the proposed new Index Rate Period, the Trustee shall give notice by first-class mail or by Electronic Means via the MSRB EMMA system to the Holders of the 2015 Series A Bonds, the Index Agent (if the Trustee is not the Index Agent) and the Remarketing Agent, which notice shall state (1) that a new Index Rate Period is to be established for the 2015 Series A Bonds on the applicable Index Rate Conversion Date if the conditions specified in the Supplemental Trust Agreement are satisfied on or before such date and (2) that a new Index Rate Period shall not be established unless the Favorable Opinion of Bond Counsel referred to above is delivered to the Trustee on (and as of) the first day of the new Index Rate Period, all 2015 Series A Bonds are successfully remarkedeted in the new Index Rate Period and at the new Index Rate on the first day thereof and all other conditions specified in the Supplemental Trust Agreement are satisfied.

(F) End of Index Rate. In the event the Issuer has not given an Index Rate Continuation Notice or a Conversion Notice with respect to 2015 Series A Bonds bearing interest at an Index Rate at the time required by Section 18.06(a)(vi)(D) or Section 18.06(b), as applicable, or if the
conditions to the effectiveness of a new Index Rate Period and new Index Rate set forth in Section 18.06(a)(vi)(D) are not satisfied, then on the day following the last day of the current Index Rate Period, a new Index Rate Period of seven (7) days shall automatically commence for the 2015 Series A Bonds and the 2015 Series A Bonds shall bear interest as provided in Section 19.11(d) until they are successfully remarketed pursuant to the applicable provisions of Section 19.05.

(vii) **Bank Term Rates.**

(A) **Initial Period Bank Term Rate.** Upon their issuance, the 2015 Series A Bonds shall bear interest in a Bank Term Rate Period, which shall commence on the Issue Date and shall be in effect to but not including the Initial Mandatory Purchase Date. On the Date of Issue, the 2015 Series A Bonds shall bear interest at the Initial Bank Term Rate. The Initial Bank Term Rate is subject to adjustment as provided in the definition thereof and as hereinafter provided in Section 18.06(a)(vii)(D), Section 18.06(a)(vii)(E), and 18.06(a)(vii)(F).

(B) **Determination of Bank Term Rate for Subsequent Bank Term Rate Periods.** Prior to the Initial Mandatory Purchase Date and prior to any Mandatory Purchase Date established for any subsequent Bank Term Rate Period and within the time period therefore established in the applicable Continuing Covenant Agreement, if any, the Issuer may provide written notice to the Purchaser of its desire to convert the 2015 Series A Bonds to a new Bank Term Rate Period and may request that the Purchaser purchase the 2015 Series A Bonds upon conversion to the new Bank Term Rate Period, a copy of which written notice shall be provided to the Trustee. Such request shall propose one or more new Bank Term Rate Periods and shall request that the Purchaser provide a new Bank Term Rate, which may include a revised schedule of Bank Term Rate Spreads based upon Issuer Ratings as described in the definition of Bank Term Rate set forth in Section 16.02 shall be determined by the Purchaser based on the length of the Bank Term Rate Period applicable to the chosen Mandatory Purchase Date such that the applicable Bank Term Rate as of the Conversion Date to the new Bank Term Rate Period shall be the interest rate per annum (based upon Tax-Exempt Securities comparable, in the judgment of the Purchaser, to the 2015 Series A Bonds and known to the Purchaser to have been priced or traded under prevailing market conditions) to be the minimum interest rate at which a Person will agree to purchase the 2015 Series A Bonds on the proposed Conversion Date at a price (without regard to accrued interest) equal to the principal amount thereof.

The Purchaser will make reasonable efforts to respond to such request within sixty (60) days after receipt of all information necessary, in the
Purchaser's reasonable judgment, to permit the Purchaser to make an informed credit decision. The Purchaser may, in its sole and absolute discretion, decide to accept, reject or renegotiate any such request and no consent or approval with respect thereto shall become effective unless the Purchaser shall have consented thereto or approved thereof in writing. Any acceptance of such request shall be subject to the conditions that, on or before the applicable Conversion Date, the Issuer shall have delivered to the Trustee a Favorable Opinion of Bond Counsel, a copy of which shall be provided to the Purchaser. In the event the Purchaser rejects such request or fails to definitively respond to such request within such sixty (60) day period, the Purchaser shall be deemed to have rejected or refused to approve such request and the Issuer shall be required to cause the 2015 Series A Bonds to be purchased on the applicable Mandatory Purchase Date in accordance with Section 19.05(a)(7), for a purchase price equal to 100% of the par amount of the 2015 Series A Bonds plus accrued interest to such Mandatory Purchase Date, plus any amounts, if any, due and owing under the applicable Continuing Covenant Agreement. The consent or approval of the Purchaser, if granted, shall be conditioned upon the preparation, execution and delivery of documentation in form and substance satisfactory to the Purchaser.

(C) Notification of New Bank Term Rate and New Bank Term Rate Period. No later than 10:00 a.m., Pacific Time (daylight or standard, as applicable), on the commencement date of a new Bank Term Rate Period, the Purchaser shall notify the Issuer and the Trustee in writing of the new Bank Term Rate and the new Mandatory Purchase Date for the new Bank Term Rate Period. Each subsequent Bank Term Rate shall be subject to adjustment as hereinafter provided in Section 18.06(a)(vii)(D), Section 18.06(a)(vii)(E), and 18.06(a)(vii)(F).

(D) Amortization Period. Notwithstanding anything herein to the contrary, during the Amortization Period, the 2015 Series A Bonds shall bear interest at the Purchaser Rate.

(E) Taxable Rate. From and after any Taxable Date, the interest rate on 2015 Series A Bonds in a Bank Term Rate Period or Amortization Period shall be established at a rate at all times equal to the Taxable Rate.

(F) Default Rate. Notwithstanding the foregoing provisions of this Section 18.06(a)(vii), but subject to the provisions set forth in Section 18.06(a)(vii)(G), from and after an Event of Default (as such term is defined in the applicable Continuing Covenant Agreement) the interest rate for 2015 Series A Bonds in a Bank Term Rate Period or Amortization Period shall be established at a rate at all times equal to the greater of (i) the Default Rate and (ii) the interest rate that otherwise would be
applicable to the 2015 Series A Bonds but for the provisions of this paragraph.

(G) **Deferred Interest.** Notwithstanding anything in the Trust Agreement to the contrary, if during a Bank Term Rate Period or an Amortization Period, the rate of interest on the 2015 Series A Bonds exceeds the Maximum Rate for such 2015 Series A Bonds, then (i) such 2015 Series A Bonds shall bear interest at the Maximum Rate and (ii) interest on such 2015 Series A Bonds, calculated at the rate equal to the difference between (A) the rate of interest for such 2015 Series A Bonds as calculated pursuant to this Supplemental Trust Agreement and (B) the Maximum Rate, shall be deferred until such date as the rate of interest borne by such 2015 Series A Bonds is below the Maximum Rate, at which time that portion of the interest which was deferred shall be payable with respect to such 2015 Series A Bonds as will cause the rate of interest then paid thereon to equal the Maximum Rate, which payments shall continue until all interest with respect to the 2015 Series A Bonds which was deferred is fully paid.

(viii) **Bank Index Interest Rates.** Upon a successful conversion of the 2015 Series A Bonds to bear interest at a Bank Index Interest Rate, the Issuer may elect a Bank Index Interest Rate based on the SIFMA Index or based on the LIBOR Index.

(A) **Determination of SIFMA Index Rates.** During each SIFMA Index Rate Period, the 2015 Series A Bonds shall, subject to adjustment as set forth in Sections 18.06(a)(viii)(C), (D), (E) and (F), bear interest at the SIFMA Index Rate. The Calculation Agent shall determine the SIFMA Index Rate on each Computation Date during the SIFMA Index Rate Period, and such rate shall become effective on the SIFMA Rate Reset Date next succeeding such Computation Date. Interest at the applicable SIFMA Index Rate shall accrue each day during such SIFMA Index Rate Period, commencing on and including the first day of such period to but excluding the last day of such period. The SIFMA Index Rate shall be rounded upward to the second decimal place. Promptly following the determination of the SIFMA Index Rate, the Calculation Agent shall give notice thereof to the Trustee and the Issuer. If the SIFMA Index Rate is not determined by the Calculation Agent on a Computation Date, the rate of interest borne by such 2015 Series A Bonds as of the related SIFMA Rate Reset Date shall be the rate in effect for the immediately preceding SIFMA Rate Reset Date until the Calculation Agent next determines the SIFMA Index Rate as required hereunder.

(B) **Determination of LIBOR Index Rates.** During each LIBOR Index Rate Period, the 2015 Series A Bonds shall, subject to adjustment as set forth in Sections 18.06(a)(viii)(C), (D), (E) and (F), bear interest at the
LIBOR Index Rate. The Calculation Agent shall determine the LIBOR Index Rate on each Computation Date during the LIBOR Index Rate Period, and such rate shall become effective on the LIBOR Index Reset Date next succeeding the Computation Date. Interest at the applicable LIBOR Index Rate shall accrue each day during such LIBOR Index Rate Period, commencing on and including the first day of such period to but excluding the last day of such period. The LIBOR Index Rate shall be rounded upward to the fifth decimal place. Promptly following the determination of the LIBOR Index Rate, the Calculation Agent shall give notice thereof to the Trustee and the Issuer. If the LIBOR Index Rate is not determined by the Calculation Agent on a Computation Date, the rate of interest borne by such 2015 Series A Bonds as of the related LIBOR Index Reset Date shall be the rate in effect for the immediately preceding Interest Payment Period until the Calculation Agent next determines the LIBOR Index Rate as required hereunder.

(C) **Amortization Period.** Notwithstanding anything herein to the contrary, during an Amortization Period, the 2015 Series A Bonds shall bear interest at the Purchaser Rate.

(D) **Taxable Rate.** From and after any Taxable Date, the interest rate on 2015 Series A Bonds in an Index Interest Rate Period (including with respect to any Unremarketed 2015 Series A Bonds) shall be established at a rate at all times equal to the Taxable Rate.

(E) **Default Rate.** Notwithstanding the foregoing provisions of this Section 18.06(a)(viii), but subject to the provisions set forth in Section 18.06(a)(viii)(F), from and after an Event of Default (as such term is defined in the applicable Continuing Covenant Agreement), the interest rate for 2015 Series A Bonds in a Bank Index Rate Period and with respect to any Unremarketed 2015 Series A Bonds shall be established at a rate at all times equal to the greater of (i) the Default Rate and (ii) the interest rate that otherwise would be applicable to the 2015 Series A Bonds but for the provisions of this paragraph.

(F) **Deferred Interest.** Notwithstanding anything in the Trust Agreement to the contrary, if during a Bank Index Rate Period and/or at any time the 2015 Series A Bonds constitute Unremarketed 2015 Series A Bonds, the rate of interest on the 2015 Series A Bonds exceeds the Maximum Rate for such 2015 Series A Bonds, then (i) such 2015 Series A Bonds shall bear interest at the Maximum Rate and (ii) interest on such 2015 Series A Bonds, calculated at the rate equal to the difference between (A) the rate of interest for such 2015 Series A Bonds as calculated pursuant to this Supplemental Trust Agreement and (B) the Maximum Rate, shall be deferred until such date as the rate of interest borne by such 2015 Series A Bonds is below the Maximum Rate, at which
time that portion of the interest which was deferred shall be payable with respect to such 2015 Series A Bonds as will cause the rate of interest then paid thereon to equal the Maximum Rate, which payments shall continue until all interest with respect to the 2015 Series A Bonds which was deferred is fully paid.

(G) Subsequent Bank Index Rate Periods. Prior to any Mandatory Purchase Date established for any Bank Index Rate Period and within the time period therefore established in the applicable Continuing Covenant Agreement, if any, the Issuer may provide written notice to the Purchaser of its desire to convert the 2015 Series A Bonds to a new Bank Index Rate Period and may request that the Purchaser purchase the 2015 Series A Bonds upon conversion to the new Bank Index Rate Period, a copy of which written notice shall be provided to the Trustee. Such request shall propose one or more new Bank Index Rate Periods and shall request that the Purchaser provide the Applicable Factor and the Applicable Spread.

The Purchaser will make reasonable efforts to respond to such request within sixty (60) days after receipt of all information necessary, in the Purchaser's reasonable judgment, to permit the Purchaser to make an informed credit decision. The Purchaser may, in its sole and absolute discretion, decide to accept, reject or renegotiate any such request and no consent or approval with respect thereto shall become effective unless the Purchaser shall have consented thereto or approved thereof in writing. Any acceptance of such request shall be subject to the conditions that, on or before the applicable Conversion Date, the Issuer shall have delivered to the Trustee a Favorable Opinion of Bond Counsel, a copy of which shall be provided to the Purchaser. In the event the Purchaser rejects such request or fails to definitively respond to such request in writing within such sixty (60) day period, the Purchaser shall be deemed to have rejected or refused to approve such request and the Issuer shall be required to cause the 2015 Series A Bonds to be purchased on the applicable Mandatory Purchase Date in accordance with Section 19.05(a)(7), for a purchase price equal to 100% of the par amount of the 2015 Series A Bonds plus accrued interest to such Mandatory Purchase Date, plus any amounts, if any, due and owing under the applicable Continuing Covenant Agreement. The consent or approval of the Purchaser, if granted, shall be conditioned upon the preparation, execution and delivery of documentation in form and substance satisfactory to the Purchaser.

(ix) Failure to Determine Rate for Certain Rate Periods.

(A) If, for any reason, the Daily Rate or the Weekly Rate on the 2015 Series A Bonds is not established as provided herein by the Remarketing Agent pursuant to Sections 18.06(a)(i) or (ii) or no Remarketing Agent shall be serving as such hereunder for the 2015 Series A Bonds or any
Rate so established is held to be invalid or unenforceable with respect to any such Rate Period, then the interest rate for such Rate Period shall be equal to the Alternate Rate determined on such date.

(B) If for any reason the Remarketing Agent fails to set the length of any Commercial Paper Rate Period or to establish any Commercial Paper Rate for any 2015 Series A Bond or a court holds any Commercial Paper Rate Period or Commercial Paper Rate for any 2015 Series A Bond to be invalid or unenforceable, a Commercial Paper Rate Period for such 2015 Series A Bond lasting through the next day immediately preceding a Business Day (or until the earlier stated maturity thereof) and the interest rate applicable to such 2015 Series A Bond shall be equal to the Alternate Rate determined on such date.

(C) If, for any reason the Calculation Agent fails to determine a Bank Index Interest Rate, the Bank Index Interest Rate then in effect shall remain in effect.

(x) Notice of Rates. In a timely fashion following the determination of any Rate by a Remarketing Agent, the Remarketing Agent establishing such Rate shall give written notice or notice by Electronic Means thereof to the Issuer and the Trustee. Such notice shall also include details as to the principal amount of the 2015 Series A Bonds and the Interest Rate Determination Method at the time applicable.

(xi) Absence of Remarketing Agent; Binding Determinations. If no Remarketing Agent shall be serving hereunder with respect to the 2015 Series A Bonds bearing interest in a Daily Rate Period or a Weekly Rate Period, the determination of the applicable Rate Index shall be made by the Issuer. The determination of any Rate or Rate Index or Commercial Paper Rate Period or Applicable Index Bonds Spread determined by a Remarketing Agent or, as aforesaid, the Issuer, with respect to any 2015 Series A Bond, shall be conclusive and binding upon the Issuer, the Trustee, the Remarketing Agent, the Liquidity Facility Provider and the Holder of such 2015 Series A Bond. The determination of any Bank Term Rate by a Purchaser shall be conclusive and binding upon the Issuer, the Trustee, the Holders and such Purchaser. The determination of any Bank Index Interest Rate by a Calculation Agent shall be conclusive and binding upon the Issuer, the Trustee, the Holders and the Remarketing Agent. The determination of any Applicable Spread by a Market Agent shall be conclusive and binding upon the Issuer, the Trustee, the Holders and the Remarketing Agent. The determination of any Index Rate by an Index Agent shall be conclusive and binding upon the Issuer, the Trustee, the Holders and the Remarketing Agent.
(b) **Conversion of Interest Rate Determination Method.**

(i) (A) **Right of Conversion.** The Interest Rate Determination Method for any Outstanding 2015 Series A Bonds is subject to Conversion from time to time by the Issuer, with such right to be exercised by delivery of a written notice of an Authorized Representative, such written notice to include the information specified in Section 18.06(b)(iii) (each such notice being herein referred to as a "Conversion Notice") to each of the Notice Parties and the Additional Notice Parties as follows:

1. at least one (1) Business Day prior to the fifteenth (15th) day preceding the effective date of such proposed Conversion, in the event of a Conversion to a Daily Rate Period, Weekly Rate Period, Commercial Paper Rate Period, Index Rate Period or Bank Index Rate Period; and

2. at least two (2) Business Days prior to the fifteenth (15th) day preceding the effective date of such proposed Conversion, in the event of a Conversion to a Bank Term Rate, a Term Rate or a Fixed Rate.

Each Authorized Representative is hereby authorized to execute and deliver a Conversion Notice to change the Interest Rate Determination Method at such times or times as the Authorized Representative executing the Conversion Notice determines to be in the best interests of the Issuer, such determination to be conclusively evidenced by such execution.

The Conversion Notice must be accompanied by a letter of Bond Counsel to the effect that Bond Counsel expects to be able to deliver a Favorable Opinion of Bond Counsel on the applicable Conversion Date.

(B) **Conversion to Index Rate Period.** The following provisions shall apply to the Conversion of the 2015 Series A Bonds to an Index Rate Period:

1. If the Issuer obtains a Favorable Opinion of Bond Counsel with respect to such actions: (i) in determining the initial Index Rate and Applicable Index Bonds Spread for the 2015 Series A Bonds, the Remarketing Agent, subject to the approval of the Issuer, may also determine, on or before the Business Day next preceding the determination of an initial Index Rate for the 2015 Series A Bonds, redemption dates and redemption premiums, if any, to be paid upon the optional redemption of the 2015 Series A Bonds which differ from such redemption dates and premiums as are set forth in Section 19.01(a)(5), such redemption dates and
redemption premiums, if any, to be, in the best judgment of the Remarketing Agent, consistent with then-current marketing conditions; (ii) the Issuer, in consultation with the Remarketing Agent, may determine that the Index Rate Index applicable to an Index Rate Period shall be an index other than 67% of the Three-Month LIBOR Rate, may determine that the Index Rate Interest Accrual Period will differ from the period described in Section 18.06(a)(vi)(C), may determine that the Interest Payment Dates for the 2015 Series A Bonds shall be on periodic dates other than the first Business Day of each month, may determine that the Index Rate Determination Date applicable to an Index Rate Period shall be a date other than two (2) London Banking Days preceding each Interest Payment Date, and may designate a Purchase Date prior to maturity for the 2015 Series A Bonds; and (iii) the Issuer may elect to provide Credit Enhancement with respect to the 2015 Series A Bonds.

(2) The Trustee shall give notice by first-class mail or by Electronic Means via the MSRB EMMA system of a proposed conversion of the 2015 Series A Bonds to the Index Rate Period to the Holders of the 2015 Series A Bonds, as provided in Section 18.06(b)(iv). Such notice shall state: (A) that the interest rate on the 2015 Series A Bonds shall be converted to the Index Rate; (B) the proposed Conversion Date, (C) that the 2015 Series A Bonds are subject to mandatory tender for purchase on the proposed Conversion Date; and (D) all additional information required by Section 18.06(b)(iv). Such notice shall also set forth the Purchase Price and the place of delivery for the purchase of the 2015 Series A Bonds.

(3) Prior to the time the Trustee is required to give the notice required by Section 18.06(b)(iv) with respect to the 2015 Series A Bonds to be converted to an Index Rate Period, the Issuer shall designate an Index Agent for the 2015 Series A Bonds and shall give notice of such designation to the Trustee and the Remarketing Agent.

(C) **Conversion to a Bank Index Rate Period.** If the 2015 Series A Bonds are being converted to a Bank Index Rate Period, the Conversion Notice delivered by the Issuer shall state: (i) whether such Bank Index Interest Rate shall be a SIFMA Index Rate or a LIBOR Index Rate; (ii) the Mandatory Purchase Date applicable to such Bank Index Rate Period; (iii) the Applicable Spread applicable to such Bank Index Rate Period as determined by the Market Agent; and, (iv) if such Bank Index Interest Rate shall be a LIBOR Index Rate, the Applicable Factor applicable to such Bank Index Rate Period. On or prior to the Conversion Date, the
Market Agent shall determine the Applicable Spread as hereinafter provided in this Section. The Applicable Spread shall be determined by the Market Agent such that the applicable Bank Index Interest Rate shall be the interest rate per annum (based upon tax exempt obligations comparable, in the judgment of the Market Agent, to the 2015 Series A Bonds and known to the Market Agent to have been priced or traded under then prevailing market conditions) to be the minimum interest rate at which a Person will agree to purchase the 2015 Series A Bonds on the Conversion Date at a price (without regard to accrued interest) equal to the principal amount thereof. During each Bank Index Rate Period commencing on a date so specified and ending on the day immediately preceding the effective date of the next succeeding Rate Period, the interest rate borne by the 2015 Series A Bonds shall be a Bank Index Interest Rate. No Bank Index Rate Period shall become effective unless a Favorable Opinion of Bond Counsel is delivered on (and as of) the first day of the Bank Index Rate Period.

(D) **Conversion to a New Bank Index Rate Period from a Bank Index Rate Period.** Notwithstanding anything to the contrary in this Supplemental Trust Agreement, including, without limitation, Section 18.06(b)(i)(C), in the event that (i) the 2015 Series A Bonds are bearing interest in a Bank Index Rate Period and (ii) the Issuer and the Purchaser wish to convert the 2015 Series A Bonds to new Rate Period which is another Bank Index Rate Period, all in accordance with the terms of the applicable Continuing Covenant Agreement, the Issuer and such Purchaser may cause the 2015 Series A Bonds to be converted to such a new Bank Index Rate Period by delivering a notice to the Trustee not less than fifteen (15) days prior to the last day of the then existing Bank Index Rate Period. To the extent applicable, such notice shall include the information to be provided in connection with Conversion to a Bank Index Rate Period described in Section 18.06(b)(i)(C) above and shall include the information described in Section 18.06(b)(iii) which relates to conversion of the 2015 Series A Bonds to a Bank Index Rate Period.

(E) **Conversion to a New Bank Term Rate Period from a Bank Term Rate Period.** Notwithstanding anything to the contrary in this Supplemental Trust Agreement, in the event that (i) the 2015 Series A Bonds are bearing interest in a Bank Term Rate Period and (ii) the Issuer and the Purchaser wish to convert the 2015 Series A Bonds to new Rate Period which is another Bank Term Rate Period, all in accordance with the terms of the applicable Continuing Covenant Agreement, the Issuer and such Purchaser may cause the 2015 Series A Bonds to be converted to such a new Bank Term Rate Period by delivering a notice to the Trustee not less than fifteen (15) days prior to the last day of the then existing Bank Term Rate Period.
(F) **Conversion from an Index Rate Period, a Bank Index Rate Period or a Bank Term Rate Period on a Redemption Date.**

Notwithstanding anything herein to the contrary, upon receipt of a Favorable Opinion of Bond Counsel, the Issuer may, on any date the 2015 Series A Bonds are subject to redemption, convert the 2015 Series A Bonds to another Interest Rate Determination Method. Each Conversion Notice delivered in connection with a Conversion pursuant to this Section shall include the information required by Section 18.06(b)(iii) and shall specify the proposed Purchase Date. The 2015 Series A Bonds shall be subject to mandatory tender on such Conversion Date pursuant to the applicable provisions of Section 19.05 at their Purchase Price.

(ii) **Limitations** Any Conversion pursuant to this Section 18.06(b) must comply with the following:

(A) the Conversion Date must be a date on which the 2015 Series A Bonds are subject to mandatory tender pursuant to the applicable provisions of Section 19.05;

(B) the Conversion Date must be a Business Day and, if the Conversion is from the Commercial Paper Rate, shall be a date determined in accordance with Section 18.06(a)(iii);

(C) the Liquidity Facility for the 2015 Series A Bonds to be in effect upon Conversion to a Daily Rate Period, a Weekly Rate Period or a Commercial Paper Rate Period must cover principal plus accrued interest (computed at the Maximum Rate then in effect on the basis of a 365-day year and actual days elapsed or a 360 day year of twelve 30-day months, as applicable) for the maximum number of days between Interest Payment Dates permitted under the applicable Interest Rate Determination Method, plus such additional number of days, if any, as shall be required by each Rating Agency then rating the 2015 Series A Bonds at the request of the Issuer; provided that if the number of days of interest coverage provided by the Liquidity Facility is being changed from the number of days previously covered, the Trustee shall have also received a Rating Confirmation from each of the Rating Agencies then rating the 2015 Series A Bonds; and

(D) no Conversion shall become effective unless the Favorable Opinion of Bond Counsel referred to in Section 18.06(b)(i) is delivered on (and as of) the Conversion Date and all Outstanding 2015 Series A Bonds are successfully purchased or deemed purchased and remarketed in the new Interest Rate Determination Method on the Conversion Date.

(iii) **Contents of Conversion Notice.** The Conversion Notice must specify:

(i) the proposed Conversion Date; (ii) the new Interest Rate Determination
Method to take effect; and (iii) that the Issuer has received a letter of Bond Counsel to the effect that Bond Counsel expects to be able to deliver a Favorable Opinion of Bond Counsel on the proposed Conversion Date. In addition, if a Remarketing Agent is required in connection with a mandatory tender for purchase of the 2015 Series A Bonds in connection with the proposed Conversion or if the 2015 Series A Bonds are being converted to a Daily Rate Period, a Weekly Rate Period, a Commercial Paper Rate Period or an Index Rate Period, the Issuer shall appoint a Remarketing Agent for the 2015 Series A Bonds, if the 2015 Series A Bonds are being converted to an Index Rate Period, the Issuer shall appoint an Index Agent for the 2015 Series A Bonds, and if the 2015 Series A Bonds are being converted to a Bank Index Rate Period, the Issuer shall appoint an Calculation Agent and a Market Agent for the 2015 Series A Bonds.

(iv) Notice to Holders. Upon receipt of a Conversion Notice, an Index Rate Continuation Notice or a Term Rate Continuation Notice from the Issuer, as soon as possible, but in any event not less than fifteen (15) days prior to the proposed Conversion Date, the Trustee shall give notice by first-class mail or by Electronic Means via the MSRB EMMA system to the Holders of the 2015 Series A Bonds, which notice shall state in substance:

(A) that the Interest Rate Determination Method for the 2015 Series A Bonds shall be converted to the specified Variable Rate or the Fixed Rate, as the case may be, on the applicable Conversion Date if the conditions specified in the Supplemental Trust Agreement are satisfied on or before such date;

(B) the applicable Conversion Date;

(C) that the Issuer has delivered to the Trustee a letter of Bond Counsel to the effect that Bond Counsel expects to be able to deliver a Favorable Opinion of Bond Counsel relating to the Conversion on the Conversion Date;

(D) that the Interest Rate Determination Method for the 2015 Series A Bonds shall not be converted unless the Favorable Opinion of Bond Counsel referred to above is delivered to the Trustee on (and as of) the Conversion Date and all 2015 Series A Bonds are successfully purchased and remarkeeted in the new Interest Rate Determination Method on the Conversion Date;

(E) the CUSIP numbers, if any, assigned to the 2015 Series A Bonds;

(F) that all 2015 Series A Bonds (other than 2015 Series A Bonds being converted from an Index Rate Period) are subject to mandatory tender for purchase on the Conversion Date at the applicable Purchase Price, which Purchase Price shall be specified in such notice, such
mandatory tender for purchase to occur whether or not the proposed Conversion becomes effective on the proposed Conversion Date; and

(G) that, to the extent that there shall be on deposit with the Trustee on the applicable Conversion Date an amount of money sufficient to pay the Purchase Price thereof, all 2015 Series A Bonds to be converted on the Conversion Date not delivered to the Trustee on or prior to the Conversion Date shall be deemed to have been properly tendered for purchase and shall cease to constitute or represent a right on behalf of the Holder thereof to the payment of principal thereof or interest thereon and shall represent and constitute only the right to payment of the Purchase Price on deposit with the Trustee, without interest accruing thereon after the Conversion Date;

(H) such additional matters, if any, as are required by Section 18.06(b)(i)(B)(2), if applicable.

If the 2015 Series A Bonds are being converted from an Index Rate Period, such notice shall also state that the mandatory tender for purchase will be cancelled if the conditions specified in the Trust Agreement are not met and the proposed Conversion does not occur on the proposed Conversion Date.

(v) **Failure of Conditions to be Met.** If the Issuer fails to deliver the Favorable Opinion of Bond Counsel required by Section 18.06(b)(ii)(D) to the Trustee on or before the Conversion Date or if the Trustee receives written notice to the effect that the Remarketing Agent has not successfully remarketed all of the Outstanding 2015 Series A Bonds to the new Interest Rate Determination Method on the Conversion Date, or, with respect to the 2015 Series A Bonds to be converted to bear interest at an Index Rate, if the Issuer shall fail to designate an Index Agent as required by Section 18.06(b)(i)(B)(3), the Interest Rate Determination Method shall not be converted, but the 2015 Series A Bonds (other than 2015 Series A Bonds being converted from an Index Rate Period) shall be deemed to have been tendered for purchase on the Conversion Date specified in the Conversion Notice and shall be purchased on the Conversion Date specified in the Conversion Notice and, except as otherwise provided in Section 18.06(a)(iv)(F) with respect to 2015 Series A Bonds bearing interest in a Term Rate Period, the 2015 Series A Bonds shall continue to bear interest at the Interest Rate Determination Method in effect prior to the proposed Conversion Date specified in the Conversion Notice. In the event of a failed Conversion from an Index Rate Period, the 2015 Series A Bonds shall not be purchased but shall continue in an Index Rate Period with a Purchase Date on the seventh day after such failed Conversion Date (or the next succeeding Business Day if such seventh day is not a Business Day) and shall bear interest at the Maximum Rate as provided in Section 19.11(d).
Notwithstanding anything to the contrary provided in this Section 18.06, the rate of interest on the 2015 Series A Bonds shall be determined on the proposed Conversion Date and, if sufficient funds are not available for the purchase of the 2015 Series A Bonds, the 2015 Series A Bonds shall bear interest at the Maximum Rate from the date of such failed purchase until all such 2015 Series A Bonds are purchased as required pursuant to this Supplemental Trust Agreement as provided in Section 19.11(d). In such event, the Issuer and the Holders of the 2015 Series A Bonds that were to be converted to another Interest Rate Determination Method shall be restored (except as aforesaid with respect to the purchase of 2015 Series A Bonds) to their former positions and rights hereunder with respect to the 2015 Series A Bonds, and all rights of the Issuer hereunder shall continue as if no such proceedings for the Conversion of the Interest Rate Determination Method on the 2015 Series A Bonds had taken place.

The Trustee shall immediately notify each of the Notice Parties and the Additional Notice Parties of such failed Conversion, such notice to be provided by Electronic Means.

(vi) **Failure of Holder to Receive Notice No Bar.** Failure of a Holder of a 2015 Series A Bond to receive the notice described in Section 18.06(b)(iv), or any defect therein, shall not affect the validity of any Rate or any continuation of or change in the Interest Rate Determination Method for any of the 2015 Series A Bonds or extend the period for tendering any of the 2015 Series A Bonds for purchase, and the Trustee shall not be liable to any Holder of a 2015 Series A Bond by reason of the failure of such Holder to receive such notice or any defect therein.

(vii) **No Conversion During Continuance of Event of Default.** No Conversion shall occur under this Section 18.06(b) if at the time of such Conversion an Event of Default shall have occurred and be continuing. The Trustee and the Remarketing Agent may conclusively rely upon a certificate of the Issuer that no such Event of Default exists.

(viii) **Issuer Rescission of Election to Convert.** Notwithstanding anything herein to the contrary, the Issuer may rescind any Conversion Notice given pursuant to this Section 18.06(b) prior to the proposed Conversion Date set forth in the Conversion Notice by giving written notice thereof to each of the Notice Parties and the Additional Notice Parties at least two (2) Business Days prior to such proposed Conversion Date. If the Trustee receives notice of such rescission prior to the time the Trustee has given notice to the Holders of the 2015 Series A Bonds pursuant to Section 18.06(b)(iv), then the Conversion Notice previously delivered by the Issuer shall be of no force and effect. Except with respect to 2015 Series A Bonds in an Index Rate Period which shall not be subject to mandatory tender if the Issuer rescinds a Conversion Notice, if the Trustee receives notice from the Issuer of rescission of the Conversion Notice after the Trustee has given notice to the Holders of the 2015 Series A Bonds pursuant to
Section 18.06(b)(iv), then the 2015 Series A Bonds shall continue to be subject to mandatory tender for purchase on the Conversion Date specified in the Conversion Notice. If a rescission is not timely made, the 2015 Series A Bonds (other than 2015 Series A Bonds in an Index Rate Period prior to such proposed Conversion Date) shall automatically adjust to, or continue in, a Weekly Rate Period on the Conversion Date specified in the Conversion Notice. No Opinion of Bond Counsel shall be required in connection with any automatic adjustment to a Weekly Rate Period. If a rescission is not timely made and the 2015 Series A Bonds were in an Index Rate Period prior to such proposed Conversion Date, the 2015 Series A Bonds shall continue in the Index Rate Period in effect prior to the proposed Conversion Date.

(c) Conversion of Liquidity Facility Bonds. Notwithstanding anything to the contrary contained in the Trust Agreement, if all of the Outstanding 2015 Series A Bonds are Liquidity Facility Bonds, the 2015 Series A Bonds may be converted to a Fixed Rate on such Conversion Date as shall be acceptable to the Liquidity Facility Provider, the Trustee, the Remarketing Agent and the Issuer, provided that on such Conversion Date the Issuer shall deliver to the Trustee a Favorable Opinion of Bond Counsel relating to the Conversion.

ARTICLE XIX

REDEMPTION AND PURCHASE OF 2015 SERIES A BONDS

Section 19.01. Optional Redemption of 2015 Series A Bonds.

(a) Optional Redemption of 2015 Series A Bonds.

(1) Commercial Paper Rate Period. The 2015 Series A Bonds bearing interest at a Commercial Paper Rate are subject to redemption at the option of the Issuer in whole or in part on the day following the end of any Commercial Paper Rate Period at a redemption price equal to the principal amount thereof plus accrued interest, if any, without premium.

(2) Daily Rate Period and Weekly Rate Period. The 2015 Series A Bonds bearing interest at a Daily Rate or a Weekly Rate are subject to redemption, at the option of the Issuer, in whole or in part, in Authorized Denominations on any Business Day, at a redemption price equal to the principal amount thereof, plus accrued interest, if any, without premium.

(3) Term Rate Period. The 2015 Series A Bonds bearing interest at a Term Rate are subject to redemption, at the option of the Issuer, in whole or in part, in Authorized Denominations, on the day following the last day of any Term Rate Period at a Redemption Price equal to the principal amount thereof, plus accrued interest, if any, without premium. Subject to modification as provided in Section 18.06(a)(v)(B), the 2015 Series A Bonds bearing interest at a Term Rate are also subject to redemption in whole or in part, and on such other dates and at such Redemption Prices as would apply to the 2015 Series A Bonds if the 2015
Series A Bonds were bearing interest at a Fixed Rate, which provisions are set forth below under Section 19.01(a)(4). For purposes of applying the provisions set forth below under Section 19.01(a)(4) to 2015 Series A Bonds bearing interest at a Term Rate, references to the Fixed Rate Conversion Date shall be read as references to the Term Rate Conversion Date and references to the Fixed Rate shall be read as references to the Term Rate.

(4) **Fixed Rate Period.** Subject to modification as provided in Section 18.06(a)(v)(B), the 2015 Series A Bonds bearing interest at a Fixed Rate are subject to redemption in whole or in part (and if in part, in such order of maturity and Mandatory Sinking Account Payment dates as the Issuer shall specify and within a maturity or Mandatory Sinking Account Payment date by lot or by such other method as the Trustee determines to be fair and reasonable and in Authorized Denominations), at the option of the Issuer, on any date, at such times and at such Redemption Prices as follows:

(a) If, on the Fixed Rate Conversion Date, the remaining term of the 2015 Series A Bonds is greater than eight years, then the 2015 Series A Bonds will not be subject to optional redemption until the first April 1 or October 1 (whichever is earlier) to follow the eighth (8th) anniversary of the conversion of the 2015 Series A Bonds to a Fixed Rate. On such first April 1 or October 1, the 2015 Series A Bonds will be subject to redemption at 102% of the principal amount thereof, plus accrued interest, if any, to the date of redemption, which Redemption Price will decline by one percent (1%) per annum on each succeeding anniversary of such first April 1 or October 1 until reaching a Redemption Price of 100% of the principal amount thereof, plus accrued interest, if any, to the date of redemption, and thereafter at a Redemption Price of 100% of the principal amount thereof, plus accrued interest, if any, to the date of redemption.

(b) If, on the Fixed Rate Conversion Date, the remaining term of the 2015 Series A Bonds is less than eight years, then the 2015 Series A Bonds will not be subject to optional redemption following Conversion.

(5) **Index Rate Period.** 2015 Series A Bonds bearing interest at an Index Rate are subject to redemption prior to their respective stated maturity dates, at the option of the Issuer, in whole or in part, in Authorized Denominations and in such amounts as may be specified by the Issuer (i) on any Business Day prior to the first Business Day of the April next succeeding the date which is nine years after the Conversion Date of the 2015 Series A Bonds to the Index Rate Period (herein referred to as the "Par Call Date"), at a Redemption Price equal to the hereinafter defined Spread Premium for the 2015 Series A Bonds and (ii) on any Business Day on or after the Par Call Date, at a Redemption Price equal to the principal amount of the 2015 Series A Bonds called for
redemption, without premium, plus in each case accrued interest to the date fixed for redemption.

For purposes of this Section 19.05(a)(5), "Spread Premium" shall be calculated as follows:

(A) A hypothetical cash flow schedule shall be prepared by the Index Agent by assuming that principal of the 2015 Series A Bonds called for redemption would be payable on the Par Call Date and that interest on the 2015 Series A Bonds would be payable on each monthly Interest Payment Date until the Par Call Date at an interest rate per annum equal to the sum of (a) 67% of the hereinafter defined USD-ISDA-Swap Rate plus (b) the spread, if any, above the percentage of the Three-Month LIBOR Rate at which the 2015 Series A Bonds bear interest on the calculation date.

(B) Each principal and interest payment in the hypothetical cash flow schedule determined in accordance with the preceding paragraph shall be discounted as of each monthly Interest Payment Date to the date of redemption by the Index Agent at a discount rate equal to the sum of (1) 67% of the USD-ISDA-Swap Rate plus (2) 0.25% per annum.

(C) The sum of the present values as of the date of redemption determined by the Index Agent pursuant to the preceding paragraph shall be the Spread Premium.

For purposes of this calculation,

"USD-ISDA-Swap Rate" means the rate for U.S. dollars swaps maturing on the Par Call Date expressed as a percentage, that appears on the Reuters Money 3000 Service on the page designated ISDAFIX1 (or such other page as may replace that page on such service for the purpose of displaying comparable rates) at 11:00 a.m., New York City time, on the day which is two (2) Business Days prior to such date. If such rate does not appear on such page on such date, then USD-ISDA-Swap Rate for such maturity and date means the percentage determined on the basis of mid-market semiannual swap rate quotations provided by five leading swap dealers in the New York City interbank market (as selected by the Index Agent) at approximately such time on such day as the mean of the bid and offered rates for the semiannual fixed leg, calculated on a 30/360 day count basis of a fixed-for-floating U.S. dollar interest rate swap transaction with an effective date of the relevant early termination date and a termination date equal to such maturity, in an account that is representative for a single transaction in such market at such time, with an acknowledged dealer of good credit in such market, where the floating
rate, calculated on the basis of a 360-day year for actual days elapsed, is equal to the Three-Month LIBOR Rate.

Notwithstanding the optional redemption provisions set forth above, on or prior to the effective date of an Index Rate Period for the 2015 Series A Bonds, the Issuer may specify alternate redemption provisions for the 2015 Series A Bonds in such Index Rate Period as provided in Section 18.06(b)(i)(B) if the Issuer obtains a Favorable Opinion of Bond Counsel.

(6) Bank Term Rate Period. During the Initial Period, 2015 Series A Bonds are subject to redemption at the option of the Issuer, in whole or in part, in Authorized Denominations, on any date on or after [insert date which is six (6) months prior to Initial Mandatory Purchase Date] at a Redemption Price equal to the principal amount thereof, plus accrued interest thereon, if any, without premium. Notice of optional redemption during the Initial Period and any other Bank Term Rate Period shall be provided by the Issuer to the Purchaser no less than four-five (45) days prior to the date of redemption (or such lesser number of days as shall be acceptable to the Purchaser in its sole discretion), such notice to be in writing. A copy of such notice shall be provided to the Trustee by the Issuer. Subject to any limitations, conditions or requirements set forth in the applicable Continuing Covenant Agreement, during any Bank Term Rate Period commencing subsequent to the Initial Period, 2015 Series A Bonds bearing interest at a Bank Term Rate shall be subject to redemption at the option of the Issuer, in whole or in part, in Authorized Denominations, on any date, at a redemption price equal to the principal amount thereof, plus accrued interest thereon, if any, without premium. Notwithstanding the foregoing or any other provision in this Supplemental Trust Agreement to the contrary, if the Issuer shall deliver a Favorable Opinion of Bond Counsel to the Trustee, during any Bank Term Rate Period commencing subsequent to the Initial Period, 2015 Series A Bonds bearing interest at a Bank Term Rate shall be subject to redemption at the option of the Issuer, in whole or in part, in Authorized Denominations, on any date permitted under the applicable Continuing Covenant Agreement and/or at such redemption price as shall be specified in the applicable Continuing Covenant Agreement. The Issuer shall not be required to deliver any notice of redemption for any redemption made on an Amortization Payment Date notwithstanding anything is this Section 19.06(a)(6) or any other provision in this Supplemental Trust Agreement to the contrary.

(7) Bank Index Rate Period. Notice of optional redemption during any Bank Index Rate Period shall be provided by the Issuer to the Purchaser no less than forty-five (45) days prior to the date of redemption (or such lesser number of days as shall be acceptable to the Purchaser in its sole discretion), such notice to be in writing. A copy of such notice shall be provided to the Trustee by the Issuer. Subject to any limitations, conditions or requirements set forth in the applicable Continuing Covenant Agreement, 2015 Series A Bonds bearing
interest at a Bank Index Interest Rate are subject to redemption at the option of the Issuer, in whole or in part, in Authorized Denominations, on any date, at a redemption price equal to the principal amount thereof, plus accrued interest thereon, if any, without premium. Notwithstanding the foregoing or any other provision in this Supplemental Trust Agreement to the contrary, if the Issuer shall deliver a Favorable Opinion of Bond Counsel to the Trustee, during any Bank Index Rate Period, 2015 Series A Bonds bearing interest at a Bank Term Rate shall be subject to redemption at the option of the Issuer, in whole or in part, in Authorized Denominations, on any date permitted under the applicable Continuing Covenant Agreement and/or at such redemption price as shall be specified in the applicable Continuing Covenant Agreement. The Issuer shall not be required to deliver any notice of redemption for any redemption made on an Amortization Payment Date notwithstanding anything is this Section 19.06(a)(7) or any other provision in this Supplemental Trust Agreement to the contrary.

(b) Selection of Bonds for Optional Redemption. The Issuer shall designate which maturities of the 2015 Series A Bonds are to be called for optional redemption pursuant to Section 19.01(a), provided that Liquidity Facility Bonds shall be redeemed prior to any other 2015 Series A Bonds. If less than all 2015 Series A Bonds maturing by their terms on any one date are to be redeemed at any one time, the Trustee shall select the 2015 Series A Bonds of such maturity date to be redeemed by lottery and shall promptly notify the Issuer in writing of the numbers of the 2015 Series A Bonds so selected for redemption, provided that Liquidity Facility Bonds shall be redeemed prior to any other 2015 Series A Bonds. For purposes of such selection, 2015 Series A Bonds shall be deemed to be composed of multiples of minimum Authorized Denominations and any such multiple may be separately redeemed. In the event Term Bonds are designated for redemption, the Issuer may designate the Mandatory Sinking Account Payments under Section 19.02(a), or portions thereof, that are to be reduced and allocated to such redemption.

(c) Sufficient Funds Required for Optional Redemption. Any optional redemption of 2015 Series A Bonds shall be conditional upon receipt by the Trustee on or prior to the date fixed for such redemption of amounts sufficient to pay the principal of, premium, if any, and interest on, the 2015 Series A Bonds to be redeemed.

(d) Notice of Optional Redemption; Rescission. Excluding 2015 Series A Bonds in a Bond Term Rate Period or a Bank Index Rate Period or an Amortization Period, notice of optional redemption of which shall be provided in accordance with the provisions set forth in Section 19.01(a)(6) or Section 19.01(a)(7), as applicable, notice of optional redemption of the 2015 Series A Bonds shall be delivered by the Trustee to the Holders and the MSRB EMMA system not less than twenty (20) nor more than sixty (60) days prior to the redemption date by first class mail or by Electronic Means via the MSRB EMMA system and otherwise in accordance with Section 4.02. Notice of optional redemption may be rescinded as provided in Section 4.02.
Section 19.02. **Mandatory Sinking Account Redemption; Mandatory Redemption of Liquidity Facility Bonds; Mandatory Redemption During Bank Term Rate Period; Mandatory Redemption During Bank Index Rate Period.**

(a) **Mandatory Sinking Account Redemption.** Except as otherwise provided in Section 18.06(a)(v)(B), the 2015 Series A Bonds are comprised of one Term Bond and are subject to mandatory redemption (or payment at maturity as the case may be) at a Redemption Price equal to the principal amount thereof, plus accrued interest to the date of redemption, without premium by application of Mandatory Sinking Account Payments in the following amounts and on the following redemption dates:

<table>
<thead>
<tr>
<th>Mandatory Redemption Date (October 1)</th>
<th>Mandatory Sinking Account Payment</th>
<th>Mandatory Redemption Date (October 1)</th>
<th>Mandatory Sinking Account Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>$1,020,000</td>
<td>2017</td>
<td>$650,000</td>
</tr>
<tr>
<td>2020</td>
<td>915,000</td>
<td>2028</td>
<td>680,000</td>
</tr>
<tr>
<td>2021</td>
<td>795,000</td>
<td>2029</td>
<td>715,000</td>
</tr>
<tr>
<td>2022</td>
<td>675,000</td>
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<td>2032</td>
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<tr>
<td>2025</td>
<td>605,000</td>
<td>2033†</td>
<td>850,000</td>
</tr>
<tr>
<td>2026</td>
<td>630,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Final Maturity

(b) **Selection of 2015 Series A Bonds for Mandatory Sinking Account Redemption.** If less than all 2015 Series A Bonds maturing by their terms on any one date are to be redeemed at any one time from Mandatory Sinking Account Payments, the Trustee shall select the 2015 Series A Bonds of such maturity date to be redeemed by lot in any manner that it deems appropriate, provided that Liquidity Facility Bonds shall be redeemed prior to any other 2015 Series A Bonds. For purposes of such selection, 2015 Series A Bonds shall be deemed to be composed of multiples of minimum Authorized Denominations and any such multiple may be separately redeemed.

(c) **Redemption of Liquidity Facility Bonds.** Liquidity Facility Bonds are subject to redemption in accordance with the terms of the Liquidity Facility at a Redemption Price equal to the principal amount thereof plus interest accrued thereon to the date of redemption.

Section 19.03. **Purchase In Lieu of Redemption.** The Issuer reserves the right at all times to purchase any of its 2015 Series A Bonds on the open market. In lieu of mandatory redemption, the Issuer may surrender to the Trustee for cancellation 2015 Series A Bonds purchased on the open market, and such 2015 Series A Bonds shall be cancelled by the Trustee. If any 2015 Series A Bonds are so cancelled, the Issuer may designate the Mandatory Sinking Account Payments or portions thereof within the 2015 Series A Bonds so purchased that are to be reduced as a result of such cancellation.
Section 19.04. **Holder's Option to Tender 2015 Series A Bonds for Purchase.**

(a) During any Daily Rate Period, any 2015 Series A Bond or (subject to subsection (c) of this Section) a portion thereof, may be tendered for purchase on any Business Day at the applicable Purchase Price, payable in accordance with Section 19.11 in immediately available funds, upon (A) delivery by the Holder or Beneficial Owner of such 2015 Series A Bond to the Remarketing Agent and to the Trustee at its Corporate Trust Office of an irrevocable written notice or notice by Electronic Means by 11:00 a.m. (New York City time) on the Purchase Date, which states the principal amount of such 2015 Series A Bond to be tendered for purchase and the Purchase Date, and (B) delivery of such 2015 Series A Bond to the Trustee on the Purchase Date in accordance with Section 19.06. The Trustee shall keep a written record of the notice described in clause (A) of this subsection (a).

(b) During any Weekly Rate Period, any 2015 Series A Bond or (subject to subsection (c) of this Section) a portion thereof, may be tendered for purchase on any Business Day at the applicable Purchase Price, payable in accordance with Section 19.11 in immediately available funds, upon (A) delivery by the Holder or Beneficial Owner of such 2015 Series A Bond to the Remarketing Agent and to the Trustee at its Corporate Trust Office of an irrevocable written notice or notice by Electronic Means by 5:00 p.m. (New York City time) on any Business Day at least seven (7) days prior to the Purchase Date, which states the principal amount of such 2015 Series A Bond to be tendered for purchase and the Purchase Date, and (B) delivery of such 2015 Series A Bond to the Trustee on the Purchase Date in accordance with Section 19.06. The Trustee shall keep a written record of the notice described in clause (A) of this subsection (b).

(c) If any 2015 Series A Bond is to be purchased in part pursuant to subsection (a) or subsection (b) of this Section, the amount so purchased and the amount not so purchased must each be an Authorized Denomination.

(d) Any instrument delivered to the Trustee in accordance with this Section shall be irrevocable with respect to the purchase for which such instrument was delivered and shall be binding upon the Depository and any subsequent Holder or Beneficial Owner of the 2015 Series A Bond to which it relates, including any 2015 Series A Bond issued in exchange therefor or upon the registration of transfer thereof, and as of the date of such instrument, the Holder or Beneficial Owner of the 2015 Series A Bonds specified therein shall not have any right to optionally tender for purchase such 2015 Series A Bonds prior to the date of purchase specified in such notice. The Issuer, the Remarketing Agent and the Trustee may conclusively assume that any person (other than a Holder) providing notice of optional tender pursuant to subsection (a) or subsection (b) of this Section is the Beneficial Owner of the 2015 Series A Bond to which such notice relates, and none of the Issuer, the Remarketing Agent or the Trustee shall assume any liability in accepting such notice from any person whom it reasonably believes to be a Beneficial Owner of 2015 Series A Bonds.
Section 19.05. **Mandatory Tender of 2015 Series A Bonds for Purchase.**

(a) The 2015 Series A Bonds shall be subject to mandatory tender for purchase at the applicable Purchase Price, at the following times and upon the occurrence of any of the events stated below:

1. on the Conversion Date to a new Interest Rate Determination Method specified in a Conversion Notice (whether or not the proposed Conversion becomes effective on such date, unless converting from an Index Rate Period and the proposed Conversion does not occur, in which case the mandatory tender will be cancelled);

2. with respect to 2015 Series A Bonds bearing interest at a Daily Rate, a Weekly Rate or a Commercial Paper Rate: (A) on the fifth (5th) Business Day preceding (i) the scheduled Expiration of a Liquidity Facility or (ii) the Termination of a Liquidity Facility, at the election of the Issuer as permitted by such Liquidity Facility; or (B) on the date of the provision of an Alternate Liquidity Facility for such 2015 Series A Bonds pursuant to Section 19.14 and the resultant Termination of the existing Liquidity Facility; provided, however, that, notwithstanding any other provision of this Supplemental Trust Agreement to the contrary, no mandatory tender for purchase shall be required pursuant to this subsection if a Rating Confirmation shall be delivered by each Rating Agency then rating the 2015 Series A Bonds with respect to which an Alternate Liquidity Facility is being provided pursuant to Section 19.14 on the date of the provision of the Alternate Liquidity Facility pursuant to Section 19.14 and the resultant Termination of the existing Liquidity Facility;

3. with respect to each 2015 Series A Bond bearing interest at a Commercial Paper Rate, on each Interest Payment Date immediately following each Commercial Paper Rate Period for such 2015 Series A Bond;

4. with respect to the 2015 Series A Bonds bearing interest at a Term Rate, on the Interest Payment Date immediately following each Term Rate Period for the 2015 Series A Bonds;

5. with respect to 2015 Series A Bonds bearing interest at a Daily Rate, a Weekly Rate or a Commercial Paper Rate, upon receipt by the Trustee of written notice from the Liquidity Facility Provider for the 2015 Series A Bonds that an event of default or an event of termination (other than an immediate termination or suspension) has occurred under the Liquidity Facility with the effect that the obligations of the Liquidity Facility Provider to purchase such 2015 Series A Bonds or otherwise provide for the Purchase Price of the 2015 Series A Bonds under such Liquidity Facility shall terminate on the date specified in such notice, in which event the 2015 Series A Bonds shall be subject to purchase on a Business Day selected by the Trustee which date shall be not more than five (5) Business Days after receipt of such notice, but in no event later than
the Business Day preceding the termination date specified in the notice received from such Liquidity Facility Provider;

(6) with respect to 2015 Series A Bonds bearing interest at an Index Rate, on the Purchase Date designated by the Issuer pursuant to Section 18.06(a)(vi)(D) or Section 18.06(b)(i)(C); and

(7) with respect to 2015 Series A Bonds bearing interest at a Bank Term Rate or a Bank Index Interest Rate, on each Mandatory Purchase Date.

(b) Notice of mandatory tender for purchase on the Conversion Date shall be given by the Trustee to the Holders as provided in Section 18.06(b)(iv).

(c) The Trustee shall give notice by first class mail or by Electronic Means via the MSRB EMMA system to the Holders of the 2015 Series A Bonds of each Termination of a Liquidity Facility and each Expiration of a Liquidity Facility making 2015 Series A Bonds subject to mandatory tender pursuant to Section 19.05(a)(2), which notice shall (i) state the date of such Termination, substitution or Expiration; (ii) state that unless a Rating Confirmation is received with respect to the substitution (in which event no mandatory tender for purchase shall occur), the 2015 Series A Bonds shall be subject to mandatory tender for purchase on the specified Purchase Date at the applicable Purchase Price (which shall be specified in such notice); and (iii) be delivered by the Trustee not later than the fifteenth (15th) day prior to such Termination, substitution or expiration.

(d) No notice need be given to the Holders of any 2015 Series A Bond bearing interest at a Commercial Paper Rate of the mandatory tender for purchase of such 2015 Series A Bond on an Interest Payment Date for such 2015 Series A Bond.

(e) Upon the expiration of the then current Term Rate Period for the 2015 Series A Bonds, the Trustee shall give notice by first class mail or by Electronic Means via the MSRB EMMA system to the Holder of the 2015 Series A Bonds not later than the fifteenth (15th) day prior to the date on which the 2015 Series A Bonds are subject to mandatory tender for purchase pursuant to Section 19.05(a)(4), which notice shall state that the 2015 Series A Bonds are subject to mandatory tender on the specified Purchase Date at the applicable Purchase Price (which shall be specified in such notice).

(f) The Trustee shall give notice by first class mail or by Electronic Means via the MSRB EMMA system within two (2) Business Days of receipt of a notice from a Liquidity Facility Provider pursuant to Section 19.05(a)(5), to the Holders of the 2015 Series A Bonds at their addresses shown on the bond registration books maintained by the Trustee which notice shall: (1) state such 2015 Series A Bonds are subject to mandatory tender for purchase pursuant to Section 19.05(a)(5) at the applicable Purchase Price (which shall be specified in such notice); and (2) state the Purchase Date.

(g) With respect to the 2015 Series A Bonds in an Index Rate Period, the Trustee shall give notice by first-class mail or by Electronic Means via the MSRB EMMA system, not
later than the fifteenth (15th) day prior to the date on which such 2015 Series A Bonds are subject to mandatory tender pursuant to Section 19.05(a)(6), which notice shall state that such 2015 Series A Bonds are subject to mandatory tender for purchase on the specified Purchase Date at the applicable Purchase Price (which Purchase Price shall be specified in such notice).

(h) Notwithstanding anything to the contrary in the Trust Agreement, in the event the Purchaser has not received the Mandatory Tender Purchase Price on a Mandatory Purchase Date, then the 2015 Series A Bonds shall be subject to the following terms: (i) the Bonds shall bear interest at the Purchaser Rate (subject to Section 18.06(a)(vii)(E), (F) and (G) or Section 18.06(a)(viii)(D), (E), and (F), as applicable), (ii) interest shall be payable on each Amortization Interest Payment Date, and (iii) the Principal Amount shall be redeemed in installments payable on each Amortization Payment Date, with the final installment in an amount equal to the entire then-Outstanding principal amount of such 2015 Series A Bonds to be redeemed on the Amortization End Date. No Event of Default shall occur under the Trust Agreement solely for failure to pay the Mandatory Tender Purchase Price or remarket the 2015 Series A Bonds on the Mandatory Purchase Date. Notwithstanding anything herein to the contrary, during the Amortization Period, the 2015 Series A Bonds may be subject to optional redemption or purchase at the sole option of the Issuer at any time upon five (5) Business Days' prior written notice to the Purchaser.

Section 19.06. Delivery of Tendered 2015 Series A Bonds. With respect to any 2015 Series A Bond that is registered in Book-Entry Form with a Depository, delivery of such 2015 Series A Bond to the Trustee in connection with any optional or mandatory tender for purchase pursuant to Section 19.04 or 19.05 shall be effected by the making of, or the irrevocable authorization to make, appropriate entries on the books of the Depository for such 2015 Series A Bond or any Participant of such Depository to reflect the transfer of the beneficial ownership interest in such 2015 Series A Bond to the account of the Trustee, or to the account of a Participant of such Depository acting on behalf of the Trustee. With respect to any 2015 Series A Bond in a Bank Term Rate Period or a Bond Index Rate Period or an Amortization Period that is not registered in Book-Entry Form with a Depository, delivery of such 2015 Series A Bond to the Trustee in connection with any optional or mandatory tender for purchase pursuant to Section 19.04 or 19.05 shall be effected in accordance with the provisions of the Standing Instructions. Excluding 2015 Series A Bonds in a Bank Term Rate Period or a Bond Index Rate Period or an Amortization Period, with respect to any 2015 Series A Bond that is not registered in Book-Entry Form with a Depository, delivery of such 2015 Series A Bond to the Trustee in connection with any optional or mandatory tender for purchase pursuant to Section 19.04 or 19.05 shall be effected by physical delivery of such 2015 Series A Bond to the Trustee at its Corporate Trust Office, by 1:00 p.m. (New York City time) on the Purchase Date, accompanied by an instrument of transfer thereof, in a form satisfactory to the Trustee, executed in blank by the Holder thereof with the signature of such Holder guaranteed in accordance with the guidelines set forth by one of the nationally recognized medallion signature programs.

Section 19.07. 2015 Series A Bonds Deemed Purchased.

(a) If moneys sufficient to pay the Purchase Price of 2015 Series A Bonds to be purchased pursuant to Section 19.04 or 19.05 shall be held by the Trustee on the applicable
Purchase Date, such 2015 Series A Bonds shall be deemed to have been purchased for all purposes of the Trust Agreement, irrespective of whether or not such 2015 Series A Bonds shall have been delivered to the Trustee or transferred on the books of a Depository for such 2015 Series A Bonds, and neither the former Holder or Beneficial Owner of such 2015 Series A Bonds nor any other person shall have any claim thereon, under the Trust Agreement or otherwise, for any amount other than the Purchase Price thereof.

(b) Excluding 2015 Series A Bonds in a Bank Term Rate Period or a Bond Index Rate Period or an Amortization Period, delivery and payment of Purchase Price of which shall be effected in accordance with the provisions of the Standing Instructions, in the event of non-delivery of any 2015 Series A Bond to be purchased pursuant to Section 19.04 or 19.05, the Trustee shall segregate and hold uninvested the moneys for the Purchase Price of such 2015 Series A Bond in trust, without liability for interest thereon, for the benefit of the former Holders or Beneficial Owners of such 2015 Series A Bond, who shall, except as provided in the following sentence, thereafter be restricted exclusively to such moneys for the satisfaction of any claim for the Purchase Price of such 2015 Series A Bond. Any moneys that the Trustee shall segregate and hold in trust for the payment of the Purchase Price of any 2015 Series A Bond and remaining unclaimed for one (1) year after the date of purchase shall be paid to the Issuer. No Request or Order of the Issuer shall be required to be delivered in connection with any such payment. After the payment of such unclaimed moneys to the Issuer, the former Holder or Beneficial Owner of such 2015 Series A Bond shall look only to the Issuer for the payment thereof.

Section 19.08. Deposit of 2015 Series A Bonds. The Trustee agrees to accept and hold all 2015 Series A Bonds delivered to it pursuant to Section 19.04 or 19.05 in trust for the benefit of the respective Holders or Beneficial Owners which shall have so delivered such 2015 Series A Bonds until the Purchase Price of such 2015 Series A Bonds shall have been delivered to or for the account of or to the order of such Holders or Beneficial Owners pursuant to Section 19.11. Any 2015 Series A Bonds registered for transfer to new purchasers and delivered to the Trustee as described in Section 19.12 shall be held in trust by the Trustee for the benefit of such new purchasers until delivery to such new purchasers.


(a) Daily Put or Commercial Paper Tender Bonds.

(i) Not later than 11:00 a.m. (New York City time) on each Business Day on which the Trustee receives a notice from a Holder or Beneficial Owner of a 2015 Series A Bond to be tendered pursuant to Section 19.04(a) (herein referred to as the "Daily Put Bonds"), and on each day any 2015 Series A Bonds bearing interest at a Commercial Paper Rate are subject to mandatory tender pursuant to Section 19.05(a)(3) (herein referred to as the "Commercial Paper Tender Bonds"), the Trustee shall give notice by Electronic Means to the Remarketing Agent and the Issuer, specifying the principal amount of 2015 Series A Bonds for which it has received such notice and the names of the Holder or Holders thereof. The Remarketing Agent shall thereupon offer for sale and use its best efforts to find
purchasers for such Daily Put Bonds or Commercial Paper Tender Bonds, other than Liquidity Facility Bonds, which shall be remarketed pursuant to Section 19.13.

(ii) Not later than 11:30 a.m. (New York City time) on the Purchase Date described in subparagraph (i) above, the Trustee shall give notice by Electronic Means to the Remarketing Agent and the Issuer of the accrued amount of interest payable with respect to the Daily Put Bonds or Commercial Paper Tender Bonds, as applicable, as of such Purchase Date and confirming the aggregate principal amount of the Daily Put Bonds or Commercial Paper Tender Bonds.

(iii) Not later than 11:30 a.m. (New York City time) on any Purchase Date for Daily Put Bonds or Commercial Paper Tender Bonds, the Remarketing Agent shall give notice by Electronic Means to the Issuer, the Trustee and the applicable Liquidity Facility Provider of the principal amount of any Daily Put Bonds or Commercial Paper Tender Bonds, as applicable, which have not been remarketed in accordance with the applicable Remarketing Agreement and its confirmation of funds on hand and its commitment to deliver funds (versus delivery of Daily Put Bonds or Commercial Paper Tender Bonds that have been remarketed) from the Daily Put Bonds or Commercial Paper Tender Bonds that have been remarketed to the Trustee by 2:00 p.m. (New York City time) on such day pursuant to Section 19.10.

(iv) If a Remarketing Agent's notice pursuant to subparagraph (iii) above indicates that such Remarketing Agent has remarketed less than all the Daily Put Bonds or Commercial Paper Tender Bonds to be purchased on any Purchase Date or if the Trustee does not receive such notice from the Remarketing Agent, the Trustee shall demand payment under the applicable Liquidity Facility then in effect with respect to the tendered 2015 Series A Bonds in sufficient time (as set forth by the terms of the Liquidity Facility) so as to provide by 2:30 p.m. (New York City time) on such Purchase Date an amount sufficient, together with the remarketing proceeds to be available for such purchase, calculated solely on the basis of the notice given by the Remarketing Agent pursuant to subparagraph (iii) above or, if no such notice is received on the assumption that there are no remarketing proceeds, to pay the Purchase Price of the Daily Put Bonds or Commercial Paper Tender Bonds, as applicable. The Trustee shall immediately after such demand for payment give notice by Electronic Means to the Issuer of the amount, if any, of such demand. Notwithstanding the foregoing, the Trustee will only request funds under the Liquidity Facility for payment of the Purchase Price of the Daily Put Bonds or the Commercial Paper Tender Bonds to the extent the Liquidity Facility applies to 2015 Series A Bonds bearing interest of such Interest Rate Determination Method.
(b) **Weekly Put Bonds.**

(i) Not later than 10:30 a.m. (New York City time) on each Business Day succeeding a day on which the Trustee receives a notice from a Holder or Beneficial Owner of 2015 Series A Bonds to be tendered pursuant to Section 19.04(b) (herein referred to as the "Weekly Put Bonds"), the Trustee shall give notice by Electronic Means to the Remarketing Agent and the Issuer, specifying the principal amount of 2015 Series A Bonds for which it has received such notice, the names of the Holder or Holders thereof and the Purchase Date. The Remarketing Agent shall thereupon offer for sale and use its best efforts to find purchasers for such Weekly Put Bonds, other than Liquidity Facility Bonds, which shall be remarketed pursuant to Section 19.13.

(ii) Not later than 11:00 a.m. (New York City time) on the Business Day immediately preceding the Purchase Date described in subparagraph (i) above, the Trustee shall give notice by Electronic Means to the Remarketing Agent and the Issuer of the accrued amount of interest payable with respect to the Weekly Put Bonds as of such Purchase Date and confirming the aggregate principal amount of the Weekly Put Bonds.

(iii) Not later than 11:30 a.m. (New York City time) on any Purchase Date for Weekly Put Bonds, the Remarketing Agent shall give notice by Electronic Means to the Issuer, the Trustee and the applicable Liquidity Facility Provider of the principal amount of Weekly Put Bonds that have not been remarketed in accordance with the applicable Remarketing Agreement and its confirmation of funds on hand and its commitment to deliver funds (versus delivery of Weekly Put Bonds that have been markeded) from the Weekly Put Bonds that have been remarketed to the Trustee by 2:00 p.m. (New York City time) on the Purchase Date pursuant to Section 19.10.

(iv) If a Remarketing Agent's notice pursuant to subparagraph (iii) above indicates that such Remarketing Agent has remarked less than all the Weekly Put Bonds to be purchased on any Purchase Date or if the Trustee does not receive such notice from the Remarketing Agent, the Trustee shall demand payment under the Liquidity Facility then in effect with respect to the Weekly Put Bonds in sufficient time (as set forth by the terms of the Liquidity Facility) so as to provide by 2:30 p.m. (New York City time) on such Purchase Date an amount sufficient, together with the remarketing proceeds to be available for such purchase, calculated solely on the basis of the notice given by the Remarketing Agent pursuant to subparagraph (iii) above or, if no such notice is received, on the assumption that there are no remarketing proceeds, to pay the Purchase Price of the Weekly Put Bonds. The Trustee shall immediately after such demand for payment give notice by Electronic Means to the Issuer of the amount, if any, of such demand.
(c) **Mandatory Tender Bonds.**

(i) Not later than 9:30 a.m. (New York City time) on each Purchase Date occurring pursuant to Section 19.05 with the exception of subsection 19.05(a)(3), the Trustee shall give notice by Electronic Means to the Remarketing Agent and the Issuer specifying the principal amount of all Outstanding 2015 Series A Bonds that are subject to mandatory tender (herein referred to as the “Mandatory Tender Bonds”) on such Purchase Date pursuant to any subsection of Section 19.05 except subsection 19.05(a)(3) and the names of the registered Holder or Holders thereof. The Remarketing Agent shall thereupon offer for sale and use its best efforts to find purchasers for such Mandatory Tender Bonds (if there is still an obligation to remarket), other than Liquidity Facility Bonds, which shall be remarked pursuant to Section 19.13.

(ii) Not later than 10:00 a.m. (New York City time) on each Purchase Date described in subparagraph (i) above, the Trustee shall give notice by Electronic Means to the Remarketing Agent and the Issuer of the accrued amount of interest payable with respect to the Mandatory Tender Bonds as of the Purchase Date and confirming the aggregate principal amount of the Mandatory Tender Bonds. With respect to Mandatory Tender Bonds that are in an Index Rate Period, the Trustee shall also give notice by Electronic Means to the Remarketing Agent and the Issuer of the premium, if any, payable with respect to such Mandatory Tender Bonds as of the Purchase Date.

(iii) Not later than 11:30 a.m. (New York City time) on any Purchase Date with respect to Mandatory Tender Bonds, the Remarketing Agent shall give notice by Electronic Means to the Issuer, the Trustee and the applicable Liquidity Facility Provider of the principal amount of Mandatory Tender Bonds that have not been remarkedeted in accordance with the Remarketing Agreement and its confirmation of funds on hand and its commitment to deliver funds (versus delivery of Mandatory Tender Bonds that have been remarkedeted) from the Mandatory Tender Bonds that have been remarkedeted to the Trustee by 2:00 p.m. (New York City time) on the Purchase Date pursuant to Section 19.10.

(iv) If a Remarketing Agent’s notice pursuant to subparagraph (iii) above indicates that such Remarketing Agent has remarkedeted less than all the Mandatory Tender Bonds to be purchased on such Purchase Date or if the Trustee does not receive such notice from the Remarketing Agent, the Trustee shall demand payment under the applicable Liquidity Facility then in effect with respect to the Mandatory Tender Bonds in sufficient time (as set forth by the terms of the Liquidity Facility) so as to provide by 2:30 p.m. (New York City time) on such Purchase Date an amount sufficient, together with the remarketing proceeds to be available for such purchase, calculated solely on the basis of the notice given by the Remarketing Agent pursuant to subparagraph (iii) above or, if no such notice is received, on the assumption that there are no remarketing proceeds, to pay the Purchase Price of the Mandatory Tender Bonds. The Trustee
shall immediately after such demand for payment give notice to the Issuer of the amount, if any, of such demand.

(d) **Optional Issuer Deposit.** If a Remarketing Agent's notice pursuant to subparagraph (a)(iii), (b)(iii) or (c)(iii) above indicates that such Remarketing Agent has remarketed less than all the Daily Put Bonds, Commercial Paper Tender Bonds, Weekly Put Bonds, or Mandatory Tender Bonds to be purchased on any Purchase Date and the Trustee does not receive sufficient funds from, or has received notice from a Liquidity Facility Provider that it will not provide sufficient funds from, draws on the applicable Liquidity Facility to pay the Purchase Price of all such 2015 Series A Bonds that have not been remarketed by 2:00 p.m. (New York City time) on the Purchase Date, the Trustee shall immediately (but in no event later than 2:30 p.m. (New York City time)) give notice by Electronic Means to the Issuer specifying the principal amount and the Purchase Price of such 2015 Series A Bonds for which moneys will not be available in the 2015 Series A Bond Purchase Fund and requesting the Issuer to deposit with the Trustee as soon as possible on such Purchase Date, preferably by 3:00 p.m. (New York City time), an amount sufficient to pay that portion of the Purchase Price for which moneys will not be available in the 2015 Series A Bond Purchase Fund, such notice to be confirmed immediately by telephone to the Issuer. Such deposit by the Issuer shall be at the sole option of the Issuer.

(e) **Remarketing Limitation.** If a Liquidity Facility is in effect with respect to the 2015 Series A Bonds, the Remarketing Agent with respect to the 2015 Series A Bonds shall not remarket any tendered 2015 Series A Bonds to the Issuer or any Affiliate of the Issuer, without the written consent of the applicable Liquidity Facility Provider. Each Remarketing Agent shall remarket the 2015 Series A Bonds, as provided herein, at not less than the Purchase Price thereof, except for Liquidity Facility Bonds, which shall be remarketed pursuant to Section 19.13.

(f) **Issuer Deposit of Premium with respect to Index Bonds.** On any date when 2015 Series A Bonds in an Index Rate Period are being purchased and are subject to payment of a Spread Premium as a component of the Purchase Price, the Issuer shall deposit with the Trustee as soon as possible on such date, but in no event later than 2:00 p.m. (New York City time) on such date, an amount that, when combined with the proceeds of remarketing of such 2015 Series A Bonds, will be sufficient to pay the Purchase Price payable with respect to such 2015 Series A Bonds, such amount to be deposited by the Trustee in the 2015 Series A Issuer Account established within the 2015 Series A Bond Purchase Fund, receipt of such deposit by the Trustee to be confirmed immediately by Electronic Means to the Issuer. Notwithstanding any other provision of the Trust Agreement, any failure by the Issuer to make such a deposit shall not constitute an Event of Default.

Section 19.10. **Deposits into Accounts in the 2015 Series A Bond Purchase Fund.**

(a) The terms of any sale by a Remarketing Agent of any 2015 Series A Bond tendered or deemed tendered for purchase pursuant to Section 19.04 or 19.05 shall provide for the payment of the Purchase Price for such tendered or deemed tendered 2015 Series A Bond by such Remarketing Agent to the Trustee for deposit in the 2015 Series A Remarketing Account of
the 2015 Series A Bond Purchase Fund in immediately available funds at or before 2:00 p.m. (New York City time) on the Purchase Date. Each Remarketing Agent shall cause to be paid to the Trustee on each Purchase Date for tendered or deemed tendered 2015 Series A Bonds all amounts representing proceeds of the remarketing of such 2015 Series A Bonds, based upon the notice given by such Remarketing Agent pursuant to Section 19.09(a)(iii), 19.09(b)(iii), 19.09(c)(iii), as the case may be. All such amounts shall be deposited in the 2015 Series A Remarketing Account.

(b) The Trustee shall deposit in the 2015 Series A Liquidity Facility Purchase Account all amounts received under a Liquidity Facility pursuant to Section 19.09(a)(iv), 19.09(b)(iv) or 19.09(c)(iv), as the case may be, and related to the 2015 Series A Bonds.

(c) Upon receipt of any notice from the Trustee pursuant to Section 19.09(d) that insufficient funds will be on deposit in the 2015 Series A Bond Purchase Fund to pay the full Purchase Price of all 2015 Series A Bonds to be purchased on a Purchase Date, the Issuer shall, at its sole option, deliver or cause to be delivered to the Trustee immediately available funds in an amount equal to such deficiency prior to 3:00 p.m. (New York City time) on the applicable Purchase Date. All such funds shall be deposited in the 2015 Series A Issuer Account.

(d) All funds received from the Issuer pursuant to Section 19.09(f) shall be deposited in the 2015 Series A Issuer Account.

(e) The Trustee shall hold amounts in the 2015 Series A Bond Purchase Fund uninvested.

Section 19.11. Disbursements from the 2015 Series A Bond Purchase Fund.

(a) Application of Moneys. Moneys in the 2015 Series A Bond Purchase Fund (other than the proceeds of any remarketing of Liquidity Facility Bonds, which shall be paid to the applicable Liquidity Facility Provider on the remarketing date) shall be applied at or before 3:00 p.m. (New York City time) to the purchase of 2015 Series A Bonds as provided herein by the Trustee, on each Purchase Date, as follows:

First – Moneys constituting funds in any 2015 Series A Remarketing Account shall be used by the Trustee on any Purchase Date to purchase 2015 Series A Bonds tendered or deemed tendered for purchase pursuant to Section 19.04 or 19.05 at the Purchase Price thereof.

Second – In the event such moneys in any 2015 Series A Remarketing Account on any Purchase Date are insufficient to purchase all 2015 Series A Bonds, moneys, if any, in the 2015 Series A Liquidity Facility Purchase Account on such Purchase Date shall be used by the Trustee at that time to purchase such remaining 2015 Series A Bonds of such Series at the Purchase Price thereof.

Third – If the amount of money in any 2015 Series A Remarketing Account and 2015 Series A Liquidity Facility Purchase Account on any Purchase Date is insufficient to pay in full the Purchase Price of all 2015 Series A Bonds of such Series tendered or deemed tendered for purchase pursuant to Section 19.04 or 19.05 on such Purchase Date, moneys in the 2015
Series A Issuer Account on such Purchase Date, if any, shall be used by the Trustee at that time to purchase such remaining 2015 Series A Bonds of such Series at the Purchase Price thereof.

Notwithstanding anything to the contrary in this Section, if the 2015 Series A Bonds tendered or deemed tendered for purchase pursuant to Section 19.04 or 19.05 are registered in Book-Entry Form, payment of the Purchase Price of such 2015 Series A Bonds shall be made in accordance with the rules and procedures of the Depository.

(b) **Nondeliveries.** The Trustee shall, as to any 2015 Series A Bonds that are not registered in Book-Entry Form and that have not been delivered to it as required by Section 19.06, (i) notify the Remarketing Agent in writing of such nondelivery and (ii) place a stop transfer against an appropriate amount of 2015 Series A Bonds registered in the name of the Holder of such 2015 Series A Bonds on the bond registration books maintained by the Trustee. The Trustee shall place and maintain such stop transfer commencing with the lowest serial number 2015 Series A Bond registered in the name of such Holder until stop transfers have been placed against an appropriate amount of 2015 Series A Bonds until the appropriate 2015 Series A Bonds are delivered to the Trustee as required by Section 19.06. Upon such delivery, the Trustee shall make any necessary adjustments to such bond registration books.

(c) **Limitation on Use of Proceeds from Remarketing to the Issuer.** Notwithstanding anything contained herein to the contrary, while any Liquidity Facility is in effect with respect to the 2015 Series A Bonds, the Trustee shall only use proceeds obtained by remarketing any such 2015 Series A Bonds to the Issuer or any Affiliate of the Issuer to pay any portion of the Purchase Price of the tendered 2015 Series A Bonds, if funds are unavailable under the Liquidity Facility for such purchase.

(d) **Insufficient Funds.** If sufficient funds are not available for the purchase of all the 2015 Series A Bonds tendered or deemed tendered and required to be purchased on any Purchase Date, all 2015 Series A Bonds shall bear interest at the Maximum Rate from the date of such failed purchase until all such 2015 Series A Bonds are purchased as required in accordance with this Supplemental Trust Agreement, and all tendered 2015 Series A Bonds shall be returned to their respective Holders. Notwithstanding any other provision of the Trust Agreement, such failed purchase and return shall not constitute an Event of Default. Thereafter, the Trustee shall continue to take all such action available to it to obtain remarketing proceeds from the Remarketing Agent and sufficient other funds from the Liquidity Facility Provider, if any, for the 2015 Series A Bonds.

Section 19.12. **Delivery of 2015 Series A Bonds.**

(a) If the 2015 Series A Bonds are not registered in Book-Entry Form, a principal amount of 2015 Series A Bonds equal to the amount of 2015 Series A Bonds successfully remarketed by each Remarketing Agent shall be delivered to the Trustee for registration or transfer to such persons as shall be designated by the Remarketing Agent. Such 2015 Series A Bonds shall be held available at the office of the Trustee and shall be picked up at a location designated by the Trustee to the Remarketing Agent at or after 1:00 p.m. (New York City time) on the Purchase Date against delivery of funds for deposit into the 2015 Series A Remarketing
Account of the 2015 Series A Bond Purchase Fund equal to the Purchase Price of the 2015 Series A Bonds that have been remarketed. If the 2015 Series A Bonds are registered in Book-Entry Form, transfer of ownership of the remarked 2015 Series A Bonds shall be effected in accordance with the procedures of the Depository against delivery of funds for deposit into the 2015 Series A Remarketing Account of the 2015 Series A Bond Purchase Fund equal to the Purchase Price of the 2015 Series A Bonds that have been remarked.

(b) Any 2015 Series A Bonds purchased with funds in any 2015 Series A Liquidity Facility Purchase Account of the 2015 Series A Bond Purchase Fund shall be delivered and held in accordance with Section 19.13. Any 2015 Series A Bonds purchased with funds in any 2015 Series A Issuer Account of the 2015 Series A Bond Purchase Fund shall be delivered and held in accordance with the instructions of the Issuer furnished to the Trustee. Such 2015 Series A Bonds shall be held available for registration of transfer and delivery by the Trustee in such manner as may be agreed between the Trustee and the Liquidity Facility Provider or the Issuer, as the case may be.

Section 19.13. Liquidity Facilities; Liquidity Facility Bonds.

(a) Unless all the Outstanding 2015 Series A Bonds are Liquidity Facility Bonds or are in an Index Rate Period, a Bank Index Rate Period, a Term Rate Period, a Bank Term Rate Period or a Fixed Rate Period, the Issuer shall provide, or cause to be provided, to the Trustee a Liquidity Facility for the 2015 Series A Bonds. The Issuer shall not reduce the amount of a Liquidity Facility or permit a substitution of a Liquidity Facility Provider thereunder without obtaining a Rating Confirmation with respect to such action unless such action is considered a substitution of a Liquidity Facility subjecting the 2015 Series A Bonds affected thereby to mandatory purchase pursuant to Section 19.05(a)(2). The Issuer shall have the right at any time to provide, pursuant to Section 19.14, an Alternate Liquidity Facility for any Liquidity Facility then in effect. If there shall have been delivered to the Trustee (i) an Alternate Liquidity Facility meeting the requirements of Section 19.14 and (ii) the opinions and documents required by Section 19.14, then the Trustee shall accept such Alternate Liquidity Facility and, if so directed by the Issuer, on or after the effective date of such Alternate Liquidity Facility, the Trustee shall promptly surrender the Liquidity Facility being so substituted in accordance with its terms for cancellation; provided the Trustee shall not surrender any Liquidity Facility until all draws or requests to purchase 2015 Series A Bonds made under such Liquidity Facility have been honored in accordance with the terms thereof, including all draws required to be made in connection with such substitution. In the event that the Issuer elects to provide an Alternate Liquidity Facility for the 2015 Series A Bonds, the 2015 Series A Bonds shall be subject to the mandatory tender provisions of Section 19.05(a)(2). Notwithstanding the foregoing, if at any time there shall cease to be any 2015 Series A Bonds Outstanding or if all the Outstanding 2015 Series A Bonds have been converted to a Fixed Rate Period, an Index Rate Period, a Bank Index Rate Period, a Term Rate Period or a Bank Term Rate Period for which the Liquidity Facility does not apply, or a Liquidity Facility shall be terminated pursuant to its terms, the Trustee shall promptly surrender such Liquidity Facility in accordance with its terms for cancellation. The Trustee shall comply with the procedures set forth in each Liquidity Facility relating to the termination thereof.
(b) In the event that a Liquidity Facility is in effect with respect to the 2015 Series A Bonds, the Trustee shall make a demand for payment under such Liquidity Facility, subject to and in accordance with its terms, in order to receive payment thereunder on each Purchase Date for the 2015 Series A Bonds as provided in Section 19.09(a)(iv), Section 19.09(b)(iv) or Section 19.09(c)(iv), as applicable.

(c) Each such demand for payment shall be made pursuant to and in accordance with this Supplemental Trust Agreement and the applicable Liquidity Facility. The Trustee shall give notice of each such demand for payment to the Issuer at the time of each such demand. The proceeds of each such demand shall be deposited in the 2015 Series A Liquidity Facility Purchase Account within the 2015 Series A Bond Purchase Fund and used in the order of priority established by Section 19.11. At the time of making any demand under a Liquidity Facility pursuant to Section 19.13(b), the Trustee shall direct the Liquidity Facility Provider to pay the proceeds of such demand directly to the Trustee for deposit in the 2015 Series A Liquidity Facility Purchase Account. The Trustee shall comply with all provisions of each Liquidity Facility in order to realize upon any demand for payment thereunder, and will not demand payment under any Liquidity Facility of any amounts for payment of: (i) Liquidity Facility Bonds; or (ii) 2015 Series A Bonds held by the Issuer or held by any Affiliate of the Issuer or any nominee of the Issuer unless such Liquidity Facility specifically permits such demand.

(d) Any 2015 Series A Bonds purchased with payments made under a Liquidity Facility pursuant to Section 19.13(b) shall constitute Liquidity Facility Bonds and shall be registered in the name of, or as otherwise directed by, the applicable Liquidity Facility Provider and delivered to or upon the order of, or as otherwise directed by, such Liquidity Facility Provider. At the option of the Issuer, the Issuer may provide funds to the Liquidity Facility Provider to purchase Liquidity Facility Bonds, in which event such 2015 Series A Bonds shall be held by the Trustee in accordance with instructions by the Issuer.

(e) Unless otherwise provided in a Liquidity Facility, Liquidity Facility Bonds shall be remarketed by the Remarketing Agent prior to any other 2015 Series A Bonds tendered for purchase pursuant to Section 19.04 or 19.05 and shall be remarketed in accordance with the terms of the Remarketing Agreement. Upon (i) receipt by the Issuer and the Trustee of written notification from a Liquidity Facility Provider that a Liquidity Facility has been fully reinstated with respect to principal and interest (unless such Liquidity Facility provides for automatic reinstatement); and (ii) release by the Liquidity Facility Provider of any Liquidity Facility Bonds that the Remarketing Agent has remarketed, such 2015 Series A Bonds shall be made available to the purchasers thereof and shall no longer constitute Liquidity Facility Bonds for purposes of this Supplemental Trust Agreement. The proceeds of any remarketing of Liquidity Facility Bonds shall be paid to the Liquidity Facility Provider by the Trustee on such remarketing date in immediately available funds with interest on the sale price being calculated as if such 2015 Series A Bond were not a Liquidity Facility Bond; provided, however, if all such 2015 Series A Bonds are Liquidity Facility Bonds, at the principal amount thereof plus accrued interest, and the remarketing date will be considered an Interest Payment Date.
(f) The Trustee agrees that it will, promptly upon receipt, send to the Liquidity Facility Provider (by Electronic Means) a copy of every notice received by it hereunder relating to any Liquidity Facility Bonds.

(g) Notwithstanding anything to the contrary herein or in the 2015 Series A Bonds, all obligations of the Issuer under or in connection with any Liquidity Facility (including, without limitation, the payment of any reimbursement obligations to any Liquidity Facility Provider and the payment of any Liquidity Facility Bonds) shall be governed by the terms of the applicable Liquidity Facility.

(h) The Trustee shall provide to the Remarketing Agent and to each Rating Agency then rating the 2015 Series A Bonds at the request of the Issuer written notice of the extension of any Liquidity Facility in effect with respect to the 2015 Series A Bonds.

Section 19.14. **Alternate Liquidity Facilities.**

(a) So long as any 2015 Series A Bonds bear interest at a Variable Rate (other than 2015 Series A Bonds in an Index Rate Period, a Bank Index Rate Period, a Term Rate Period or a Bank Term Rate Period for which no Liquidity Facility is required), on or prior to the Expiration or termination of any existing Liquidity Facility, including any renewals or extensions thereof (other than an Expiration of such Liquidity Facility at the final maturity of the 2015 Series A Bonds to which such Liquidity Facility relates), the Issuer shall provide to the Trustee (with a copy to the applicable Remarketing Agent) a renewal or extension of the term of the existing Liquidity Facility for the 2015 Series A Bonds or an Alternate Liquidity Facility for the 2015 Series A Bonds meeting the requirements set forth in subsection (b) of this Section.

(b) The Issuer may at any time provide an Alternate Liquidity Facility for the 2015 Series A Bonds in accordance with the provisions hereof and upon delivery to the Trustee of the items specified in subsection (c) of this Section.

Any such Alternate Liquidity Facility must meet the following conditions:

(i) The obligations of a Liquidity Facility Provider under an Alternate Liquidity Facility to purchase 2015 Series A Bonds or otherwise provide for the Purchase Price of 2015 Series A Bonds tendered or deemed tendered pursuant to Section 19.04 or Section 19.05 shall not be subject to suspension or termination on less than fifteen (15) days’ notice to the Issuer and the Trustee; provided, however, that the obligations of a Liquidity Facility Provider to purchase 2015 Series A Bonds or otherwise provide for the Purchase Price of such 2015 Series A Bonds may be immediately suspended or terminated (A) without such notice upon the occurrence of such events as may be provided in a Liquidity Facility and which are disclosed to the Holders of such 2015 Series A Bonds in connection with the provision of such Liquidity Facility or, (B) if applicable, upon the remarketing of such 2015 Series A Bonds upon the mandatory tender thereof as a result of provision of such Alternate Liquidity Facility pursuant to Section 19.05(a)(2);
(ii) such Alternate Liquidity Facility must take effect on or before the Purchase Date for the 2015 Series A Bonds established pursuant to Section 19.05(a)(2);

(iii) such Alternate Liquidity Facility shall provide for the purchase of all Liquidity Facility Bonds held by the Liquidity Facility Provider being replaced by the Alternate Liquidity Facility on the date of delivery of such Alternate Liquidity Facility; and

(iv) such Alternate Liquidity Facility must be in an amount sufficient to pay the maximum Purchase Price of the 2015 Series A Bonds which will be applicable during the Rate Period commencing on such substitution.

(c) Prior to the date of the delivery of such Alternate Liquidity Facility to the Trustee pursuant to subsection (b) of this Section, the Issuer shall cause to be furnished to the Trustee (i) a Favorable Opinion of Bond Counsel addressed to the Trustee relating to the delivery of such Alternate Liquidity Facility to the Trustee and (ii) an opinion or opinions of counsel to the Liquidity Facility Provider for such Alternate Liquidity Facility addressed to the Trustee, to the effect that such Alternate Liquidity Facility has been duly authorized, executed and delivered by the applicable Liquidity Facility Provider and constitutes the valid, legal and binding obligation of such Liquidity Facility Provider enforceable against such Liquidity Facility Provider in accordance with its terms and (iii) if the 2015 Series A Bonds are not subject to mandatory tender for purchase, the Rating Confirmation required by Section 19.05(a)(2).

(d) The Trustee shall give notice by first class mail or by Electronic Means via the MSRB EMMA system to the Holders of the 2015 Series A Bonds of the proposed substitution of a Liquidity Facility not later than the fifteenth (15th) day prior to the substitution date.

Section 19.15. Remarketing Agents for the 2015 Series A Bonds; References to Remarketing Agents. The Issuer shall appoint and employ one or more Remarketing Agents for 2015 Series A Bonds (i) in a Daily Rate Period, a Weekly Rate Period and a Commercial Paper Rate Period, (ii) in connection with a conversion of the 2015 Series A Bonds to an Index Rate Period, a Term Rate Period and a Fixed Rate Period and, to the extent applicable, (iii) in connection with conversion of the 2015 Series A Bonds from a Bank Term Rate Period or a Bank Index Rate Period.

All references in this Supplemental Trust Agreement to the term "Remarketing Agent" shall mean the one or more banks, trust companies or members of the National Association of Securities Dealers Inc. appointed by the Issuer to perform the duties and obligations of the Remarketing Agent hereunder; provided that any such bank, trust company or member of the National Association of Securities Dealers, Inc. so appointed shall be organized and doing business under the laws of any state of the United States of America.

The Issuer shall execute and deliver to each Remarketing Agent a Remarketing Agreement, which shall designate the Remarketing Agent's principal office and in which such Remarketing Agent shall agree: (i) to perform the duties and comply with the requirements imposed upon it by such Remarketing Agreement and this Supplemental Trust Agreement; and
(ii) to keep such books and records with respect to its activities as Remarketing Agent as shall be consistent with prudent industry practice and to make such books and records available for inspection by each of the Issuer and the Trustee at all reasonable times upon reasonable notice.

Any resignation or removal of any Remarketing Agent where one is required shall not become effective until the earlier of (a) appointment and acceptance thereby of a successor Remarketing Agent or (b) the end of the 60th day following receipt by the Issuer and the Trustee of such notice of resignation or removal.

ARTICLE XX

MANDATORY TENDER FOR PURCHASE OF 2015 SERIES A BONDS AT DIRECTION OF ISSUER; LIMITATIONS ON 2015 SERIES A BONDS OWNED BY ISSUER

Section 20.01. Mandatory Tender for Purchase of 2015 Series A Bonds at Direction of Issuer; Right of Rescission.

(a) Subject to subsection (e) of this Section 20.01, in addition to the provisions relating to the mandatory tender for purchase of 2015 Series A Bonds set forth in Section 19.05, the 2015 Series A Bonds, or any of them, shall be subject to mandatory tender for purchase by the Issuer, in whole or in part (such that the portion that is subject to mandatory tender for purchase pursuant to this Section 20.01 and the portion not subject to such mandatory tender shall each be in an Authorized Denomination), on any date the 2015 Series A Bonds are subject to optional redemption as described in Article XIX of this Supplemental Trust Agreement, such 2015 Series A Bonds to be purchased at a purchase price equal to the then applicable Redemption Price of such 2015 Series A Bonds (such purchase price being herein referred to as the "Optional Purchase Price"). In the event that the Issuer determines to purchase any 2015 Series A Bonds on any Optional Purchase Date, the Issuer shall provide the Trustee with written notice of such determination at least twenty (20) days prior to the Optional Purchase Date, which notice shall specify the 2015 Series A Bonds and the principal amount of such 2015 Series A Bonds of each maturity that are to be purchased, the Optional Purchase Date on which such purchase is to occur and the Optional Purchase Price. A copy of such written notice shall be provided to the Notice Parties and the Additional Notice Parties. Subject to the Issuer's rights of rescission, such 2015 Series A Bonds shall be purchased at the applicable Optional Purchase Price on the applicable Optional Purchase Date. No Holder may elect to retain a 2015 Series A Bond subject to mandatory tender for purchase pursuant to this Section 20.01.

(b) Subject to subsection (e) of this Section 20.01, when the Trustee shall receive notice from the Issuer of its determination to purchase 2015 Series A Bonds pursuant to subsection (a) of this Section, the Trustee shall give notice, in the name of the Issuer, of the mandatory tender for purchase of such 2015 Series A Bonds, which notice shall be delivered by first class mail or by Electronic Means via the MSRB EMMA system not more than sixty (60) nor less than fifteen (15) days before the Optional Purchase Date to the Holders of any 2015 Series A Bonds to be purchased, a copy of which shall be provided to each of the Notice Parties and the Additional Notice Parties. Such notice shall specify the maturities of the 2015 Series A Bonds subject to mandatory tender for purchase.
Bonds to be purchased, the Optional Purchase Date, the Optional Purchase Price and the place or places where the Optional Purchase Price due upon such tender for purchase shall be payable. Such notice shall further state that, subject to the right of the Issuer to rescind such optional purchase, on such Optional Purchase Date there shall become due and payable upon each 2015 Series A Bond to be purchased, the Optional Purchase Price thereof, or the Optional Purchase Price of the specified portions of the principal amount thereof to be purchased in the case of 2015 Series A Bonds to be purchased in part only, and that from and after such Optional Purchase Date interest on such 2015 Series A Bond for the benefit of the current Holder of such 2015 Series A Bond or the portion of such 2015 Series A Bond to be purchased shall cease to accrue and be payable.

Receipt of such notice of mandatory tender for purchase shall not be a condition precedent to the mandatory tender for purchase of the 2015 Series A Bonds and failure of any Holder of a 2015 Series A Bond to receive any such notice or any defect in such notice shall not affect the validity of the proceedings for the mandatory tender for purchase of the 2015 Series A Bonds pursuant to this Section.

(c) The Issuer may rescind any optional purchase permitted pursuant to this Section 20.01 by delivery of a notice of rescission, such notice of rescission to be delivered to the Trustee and each of the Notice Parties and the Additional Notice Parties on or prior to 10:00 a.m., New York City time, on the Business Day preceding the applicable Optional Purchase Date. If the Issuer elects to rescind the optional purchase, no purchase of the 2015 Series A Bonds identified in the above-described notice of mandatory tender for purchase shall be made and the Trustee shall, within a reasonable time thereafter, give notice, in the same manner and to the same Persons, as the notice of mandatory tender for purchase was given pursuant to Section 20.01(b). Such failure to purchase 2015 Series A Bonds shall not constitute an Event of Default.

(d) If less than all of the Outstanding 2015 Series A Bonds are to be called for mandatory tender for purchase pursuant to this Section, the principal amount and maturity of such 2015 Series A Bonds to be purchased shall be selected by the Issuer in its sole discretion; provided that any Liquidity Facility Bonds shall be purchased prior to any other 2015 Series A Bonds. If less than all of the 2015 Series A Bonds of like maturity shall be called for mandatory tender for purchase pursuant this Section, except as otherwise provided by the Depository, the particular 2015 Series A Bonds or portions of 2015 Series A Bonds to be purchased shall be selected at random by the Trustee in such manner as the Trustee in its discretion may deem fair and appropriate; provided, however, that in selecting portions of 2015 Series A Bonds for purchase, the Trustee shall treat each 2015 Series A Bond as representing that number of 2015 Series A Bonds of the minimum Authorized Denomination for the 2015 Series A Bonds which is obtained by dividing the principal amount of such 2015 Series A Bond by the minimum Authorized Denomination for the 2015 Series A Bonds.

(e) Anything herein to the contrary notwithstanding, during any Bank Term Rate Period or Bank Index Rate Period, the 2015 Series A Bonds shall not be subject to mandatory tender for purchase at the direction of the Issuer as provided for in this Article XX without the prior written consent of the Purchaser.
Section 20.02. **Delivery of Tendered 2015 Series A Bonds.** With respect to any 2015 Series A Bond that is registered in Book-Entry Form, delivery of such 2015 Series A Bond to the Trustee in connection with any mandatory tender for purchase pursuant to Section 20.01 shall be effected by the making of, or the irrevocable authorization to make, appropriate entries on the books of the Depository for such 2015 Series A Bond or any Participant thereof to reflect the transfer of the beneficial ownership interest in such 2015 Series A Bond to the account of the Trustee, on behalf of the Issuer, or to the account of a Participant acting on behalf of the Issuer. With respect to any 2015 Series A Bond that is not registered in Book-Entry Form, delivery of such 2015 Series A Bond to the Trustee in connection with any mandatory tender for purchase pursuant to Section 20.01 shall be effected by physical delivery of such 2015 Series A Bond to the Trustee at its Corporate Trust Office, by 1:00 p.m. (New York City time) on the Optional Purchase Date, accompanied by an instrument of transfer thereof, in a form satisfactory to the Trustee, executed in blank by the Holder thereof with the signature of such Holder guaranteed in accordance with the guidelines set forth by one of the nationally recognized medallion signature programs.

Section 20.03. **2015 Series A Bonds Deemed Purchased.**

(a) If moneys sufficient to pay the Optional Purchase Price of 2015 Series A Bonds to be purchased pursuant to Section 20.01 on an Optional Purchase Date shall be held by the Trustee on such Optional Purchase Date, such 2015 Series A Bonds shall be deemed to have been purchased for all purposes of the Trust Agreement, irrespective of whether or not such 2015 Series A Bonds shall have been delivered to the Trustee or transferred on the books of the Depository for the 2015 Series A Bonds, and neither the former Holder or former Beneficial Owner of such 2015 Series A Bonds nor any other person shall have any claim thereunder, under the Trust Agreement or otherwise, for any amount other than the Optional Purchase Price thereof.

(b) In the event of non-delivery of any 2015 Series A Bond to be purchased pursuant to Section 20.01, the Trustee shall segregate and hold uninvested the moneys for the Optional Purchase Price of such 2015 Series A Bond in trust, without liability for interest thereon, for the benefit of the former Holders or Beneficial Owners of such 2015 Series A Bond, who shall, except as provided in the following sentence, thereafter be restricted exclusively to such moneys for the satisfaction of any claim for the Optional Purchase Price of such 2015 Series A Bond. Any moneys that the Trustee shall segregate and hold in trust for the payment of the Optional Purchase Price of any 2015 Series A Bond remaining unclaimed for one (1) year after the Optional Purchase Date shall be paid to the Issuer. No Request or Order of the Issuer shall be required to be delivered in connection with any such payment. After the payment of such unclaimed moneys to the Issuer, the former Holder or former Beneficial Owner of such 2015 Series A Bond shall look only to the Issuer for the payment thereof.

Section 20.04. **Deposit of 2015 Series A Bonds.** The Trustee agrees to accept and hold all 2015 Series A Bonds delivered to it pursuant to Section 20.01 in trust for the benefit of the respective Holders or Beneficial Owners which shall have so delivered such 2015 Series A Bonds until the Optional Purchase Price of such 2015 Series A Bonds shall have been delivered to or for the account of or to the order of such Holders or Beneficial Owners pursuant to
Section 20.05. Any 2015 Series A Bonds purchased pursuant to Section 20.01 and registered for transfer to the Trustee shall be held in trust by the Trustee for the benefit of the Issuer in accordance with the instructions of the Issuer.

Section 20.05. **Payment of Optional Purchase Price of 2015 Series A Bonds.**

(a) Moneys held by the Trustee for the payment of the Optional Purchase Price of 2015 Series A Bonds subject to mandatory tender for purchase pursuant to this Section 20.01 shall be applied at or before 3:00 p.m. (New York City time) to the purchase of such 2015 Series A Bonds. Except as otherwise provided with respect to 2015 Series A Bonds that are registered in book-entry from, payment of the Optional Purchase Price of 2015 Series A Bonds tendered for purchase pursuant to Section 20.01 shall be made only upon the surrender of such 2015 Series A Bonds to the Trustee. Notwithstanding anything to the contrary in this Section, if the 2015 Series A Bonds to be tendered for purchase pursuant to Section 20.01 are registered in Book-Entry Form, payment of the Optional Purchase Price for tendered 2015 Series A Bonds shall be made in accordance with the rules and procedures of the Depository.

(b) The Trustee shall, as to any 2015 Series A Bonds that are not registered in Book-Entry Form and that have not been delivered to it as required by Section 20.02, place a stop transfer against an appropriate amount of 2015 Series A Bonds registered in the name of the Holder of such 2015 Series A Bonds on the bond registration books maintained by the Trustee. The Trustee shall place and maintain such stop transfer commencing with the lowest serial number 2015 Series A Bond registered in the name of such Holder until stop transfers have been placed against an appropriate amount of 2015 Series A Bonds until the appropriate 2015 Series A Bonds are delivered to the Trustee. Upon such delivery, the Trustee shall make any necessary adjustments to such bond registration books.

Section 20.06. **2015 Series A Bonds Owned by Issuer.**

(a) Any 2015 Series A Bonds purchased by the Issuer pursuant to Section 20.01 shall not be cancelled by the Trustee unless such cancellation is directed by the Issuer but shall remain Outstanding for all purposes of the Trust Agreement.

(b) The Issuer covenants and agrees that it shall not transfer or cause the transfer of any 2015 Series A Bond purchased by the Issuer pursuant to Section 20.01 unless the Issuer delivers to the Trustee a Favorable Opinion of Bond Counsel with respect to such transfer.

**ARTICLE XXI**

**ESTABLISHMENT OF FUNDS AND ACCOUNTS AND APPLICATION THEREOF**

Section 21.01. **Funds and Accounts.** The following funds and accounts are hereby established in connection with the 2015 Series A Bonds:

(a) There is hereby established the 2015 Series A Costs of Issuance Fund which fund shall be held by the Trustee.
(b) There is hereby established the 2015 Series A Project Fund which fund shall be held by the Trustee.

(c) To ensure proper application of funds to be applied to the purchase of 2015 Series A Bonds tendered or deemed tendered for purchase pursuant to Section 19.04 or 19.05, there is hereby established the 2015 Series A Bond Purchase Fund, such fund to be held by the Trustee. There shall also be created and established three (3) separate accounts in the 2015 Series A Bond Purchase Fund designated the "2015 Series A Remarketing Account," the "2015 Series A Liquidity Facility Purchase Account" and the "2015 Series A Issuer Account."

Section 21.02. Funding and Application of the 2015 Series A Costs of Issuance Fund and the 2015 Series A Project Fund. The monies set aside and placed in the 2015 Series A Costs of Issuance Fund shall remain therein until from time to time disbursed by the Trustee to pay for Costs of Issuance incurred in connection with issuance of the 2015 Series A Bonds upon Requisition of the Issuer, such Requisition to be in substantially such form as is set forth in Exhibit B hereto. Each Requisition shall be numbered sequentially and shall be sufficient evidence to the Trustee of the facts stated therein and the Trustee shall have no duty to confirm the accuracy of such facts. Any amounts remaining in the 2015 Series A Costs of Issuance Fund one hundred eighty (180) days after the date of issuance of the 2015 Series A Bonds shall be transferred to the Revenue Fund, and the 2015 Series A Costs of Issuance Fund shall be closed.

The monies set aside and placed in the 2015 Series A Project Fund shall remain therein until from time to time disbursed by the Trustee to pay costs of the 2015 Series A Project upon Requisition of the Issuer, such Requisition to be in substantially such form as is set forth in Exhibit C hereto. Each Requisition shall be numbered sequentially and shall be sufficient evidence to the Trustee of the facts stated therein and the Trustee shall have no duty to confirm the accuracy of such facts. When the Issuer determines that the 2015 Series A Project has been completed, a Certificate of the Issuer (hereinafter referred to as the "Completion Certificate") shall be delivered to the Trustee by the Issuer stating: (i) the fact and date of such completion; (ii) that all of the costs thereof have been determined and paid (or that all of such costs have been paid less specified claims which are subject to dispute and for which a retention in the 2015 Series A Project Fund is to be maintained in the full amount of such claims until such dispute is resolved); and (iii) that the Trustee is to transfer the remaining balance in the 2015 Series A Project Fund, less the amount of any such retention, to the Revenue Fund.

Section 21.03. 2015 Series A Bond Purchase Fund. Moneys in the 2015 Series A Bond Purchase Fund shall be applied as provided in this Section 21.03.

(a) 2015 Series A Remarketing Account. All moneys received by the Trustee on behalf of purchasers of 2015 Series A Bonds pursuant to Section 19.10(a) (other than the Issuer) shall be (i) deposited in the 2015 Series A Remarketing Account within the 2015 Series A Bond Purchase Fund, (ii) held in trust in accordance with the provisions hereof and (iii) paid out in accordance with Section 19.11.

(b) 2015 Series A Liquidity Facility Purchase Account. All moneys received by the Trustee as payments under any Liquidity Facility for the purchase of 2015 Series A Bonds
pursuant to Section 19.09(a)(iv), Section 19.09(b)(iv) or Section 19.09(c)(iv) shall be (i) deposited in the 2015 Series A Liquidity Facility Purchase Account within the 2015 Series A Bond Purchase Fund, (ii) held in trust in accordance with the provisions hereof and (iii) paid out in accordance with Section 19.11.

(c) **2015 Series A Issuer Account.** All moneys received by the Trustee from the Issuer for the purchase of 2015 Series A Bonds pursuant to Section 19.10(c) shall be (i) deposited in the 2015 Series A Issuer Account within the 2015 Series A Bond Purchase Fund, (ii) held in trust in accordance with the provisions hereof and (iii) paid out in accordance with Section 19.11.

The 2015 Series A Bond Purchase Fund shall be held in trust only for the benefit of the Holders of 2015 Series A Bonds tendered or deemed tendered for purchase pursuant to Section 19.04 and Section 19.05 who shall thereafter be restricted exclusively to the moneys held in such fund for the satisfaction of any claim for the Purchase Price of tendered 2015 Series A Bonds (provided that any amounts held in a 2015 Series A Remarketing Account that are derived from the remarketing of Liquidity Facility Bonds shall be held in trust for the benefit of the Liquidity Facility Provider).

Moneys provided from payments made under a Liquidity Facility not required to be used in connection with the purchase of tendered 2015 Series A Bonds shall be returned to the Liquidity Facility Provider. Moneys provided by the Issuer not required to be used in connection with the purchase of tendered 2015 Series A Bonds shall be returned to the Issuer.

The Issuer shall not have any right, title or interest in any of the funds held on deposit in the 2015 Series A Remarketing Account or in the 2015 Series A Liquidity Facility Purchase Account nor in any remarketing proceeds held for any period of time by a Remarketing Agent.

Section 21.04. **Credit Enhancement Accounts.** If the Issuer provides Credit Enhancement for the 2015 Series A Bonds, additional accounts (each, a "Credit Enhancement Account") may be created at the written direction of the Issuer to provide for the deposit and application of funds derived from such Credit Enhancement.

Section 21.05. **Investment Securities; Investments Investment Earnings.** For so long as any 2007 Series A Bonds shall remain Outstanding, "Investment Securities" shall have the meaning assigned to such term in Section 13.03 of the Trust Agreement.

The Trustee shall invest funds on deposit in the 2015 Series A Costs of Issuance Fund and the 2015 Series A Project Fund in accordance with the provisions set forth in Section 5.11 of the Trust Agreement, shall retain all investment earnings with respect to the 2015 Series A Project Fund in the 2015 Series A Project Fund and shall deposit all investment earnings with respect to the Revenue Fund, the Interest Fund, the Principal Fund, and the 2015 Series A Costs of Issuance Fund in the 2015 Series A Project Fund, unless and to the extent directed by the Issuer to deposit such moneys in the Rebate Fund. Upon delivery of the Completion Certificate of the Issuer described in the second paragraph of Section 21.02, all investment earnings shall be
transferred to the Revenue Fund in accordance with the provisions set forth in Section 5.11 of the Trust Agreement.

Moneys in the 2015 Series A Bond Purchase Fund shall be held, in Eligible Accounts, uninvested pending application thereof as provided in Section 21.03. Moneys in any Credit Enhancement Account shall be held in Eligible Accounts, uninvested, pending application thereof as provided in the written direction provided by the Issuer pursuant to Section 21.04. In the event that an account required to be an "Eligible Account" no longer complies with the requirement, the Trustee shall promptly (and, in any case, within not more than thirty (30) calendar days) move such account to another financial institution such that the Eligible Account requirement will again be satisfied.

ARTICLE XXII

MISCELLANEOUS

Section 22.01. Terms of 2015 Series A Bonds Subject to the Trust Agreement. Except as in this Supplemental Trust Agreement expressly provided, every term and condition contained in the Trust Agreement shall apply to this Supplemental Trust Agreement and to the 2015 Series A Bonds with the same force and effect as if the same were herein set forth at length, with such omissions, variations and modifications thereof as may be appropriate to make the same conform to this Supplemental Trust Agreement.

This Supplemental Trust Agreement and all the terms and provisions herein contained shall form part of the Trust Agreement as fully and with the same effect as if all such terms and provisions had been set forth in the Trust Agreement. The Trust Agreement is hereby ratified and confirmed and shall continue in full force and effect in accordance with the terms and provisions thereof, as supplemented and amended hereby.

Section 22.02. Notices to Rating Agencies. The Trustee shall provide notice of the following events with respect to the 2015 Series A Bonds to each Rating Agency then maintaining a rating on the 2015 Series A Bonds at the request of the Issuer: (i) change in Trustee or Remarketing Agent; (ii) amendments to the Trust Agreement or any Liquidity Facility; (iii) provision, Expiration, Termination, substitution or extension of a Liquidity Facility or replacement any Liquidity Facility Provider; (iv) provision, Expiration, Termination, substitution or extension of a Credit Enhancement or replacement of any Credit Enhancement Provider; (v) Conversion of the 2015 Series A Bonds from one Interest Rate Determination Method to another Interest Rate Determination Method; (vi) redemption or defeasance of any 2015 Series A Bonds; and (vii) mandatory tender of any 2015 Series A Bonds.

Section 22.03. Continuing Covenant Agreement Provisions and References. All provisions herein relating to a Continuing Covenant Agreement shall be of no force and effect and shall be disregarded if such Continuing Covenant Agreement has been terminated in accordance with its terms and there is no Continuing Covenant Agreement then in effect.

Section 22.04. Effective Date of Third Supplemental Trust Agreement. This Supplemental Trust Agreement shall take effect upon its execution and delivery.
Section 22.05. **Execution in Counterparts.** This Supplemental Trust Agreement may be executed in several counterparts, each of which shall be deemed an original, and all of which shall constitute but one and the same instrument.
IN WITNESS WHEREOF, the parties hereto have executed this Third Supplemental Trust Agreement by their officers thereunto duly authorized as of the day and year first written above.

PENINSULA CORRIDOR JOINT POWERS BOARD

By______________________________
   Executive Director

Attest:

By______________________________
   Secretary

U.S. BANK NATIONAL ASSOCIATION, as Trustee

By _____________________________
   Authorized Officer
SCHEDULE I

Notice Addresses

To the Issuer:
Peninsula Corridor Joint Powers Board
c/o San Mateo County Transit District
1250 San Carlos Avenue
San Carlos, California 94070-1306
Attention: Chief Financial Officer
Telephone: (650) 508-7950
Email: harrington@samtrans.com

To the Trustee:
U.S. Bank National Association
One California Street, Suite 1000
San Francisco, California 94111
Attention: Global Corporate Trust Services
Telephone: (415) 677-3599
Email: myrna.presto-choroski@usbank.com

To the Purchaser:
Specialized Lending, LLC
[Copy to Come]
ATTACHMENT I

Form of Investor Letter
EXHIBIT A

Form of 2015 Series A Bond

This Bond Is Subject To Transfer Restrictions As Described Herein.
Any Attempt To Transfer This Bond Without Compliance With Such Restrictions Will
Render This Bond Void.

No. R-_______ $______________

PENINSULA CORRIDOR JOINT POWERS BOARD
FAREBOX REVENUE BOND,
2015 SERIES A

Maturity Interest Rate Issue Date [CUSIP]
October 1, ______

Registered Holder:

Principal Amount:

PENINSULA CORRIDOR JOINT POWERS BOARD, a public entity duly organized
and existing as a joint exercise of powers agency under and by virtue of the laws of the State of
California (the "Issuer"), for value received, hereby promises to pay to the registered holder
named above or registered assigns, on the maturity date specified above, the principal amount
specified above (unless this Bond shall have previously been called for redemption and payment
of the redemption price made or provided for), but only out of the hereinafter defined Farebox
Revenues and other assets pledged therefor as specified in the Trust Agreement, dated as of
October 1, 2007, as supplemented and amended from time to time pursuant to its terms,
including as supplemented by the Third Supplemental Trust Agreement thereto, dated as of
January 1, 2015 (hereinafter collectively referred to as the "Trust Agreement"), between the
Issuer and U.S. Bank National Association, as trustee (together with any successor trustee, the
"Trustee"), and to pay interest on the balance of said principal amount from time to time
remaining unpaid from and including the Issue Date until payment of such principal amount has
been made or duly provided for, at the variable rates of interest and on the dates determined as
provided in the Trust Agreement, such principal and interest to be computed and paid at the
times and in the manner set forth in the Trust Agreement. All capitalized terms used and not
otherwise defined herein shall have the meanings assigned to such terms in the Trust Agreement.

This Bond is one of a duly authorized issue of Peninsula Corridor Joint Powers Board
Farebox Revenue Bonds (the "Bonds") issued pursuant to the provisions of Act and the Trust
Agreement. Said authorized issue of Bonds is not limited in aggregate principal amount, except
as otherwise provided in the Trust Agreement, and consists or may consist of one or more Series
of varying denominations, dates, maturities, interest rates and other provisions, as in the Trust
Agreement provided, all issued or to be issued pursuant to the Trust Agreement. This Bond is a
Current Interest Bond of the Series and designation indicated above (each, a "2015 Series A
Bond"), which Series of Bonds is limited in aggregate principal amount to eleven million dollars
($11,000,000).
The 2015 Series A Bonds are being issued on a parity with certain Bonds previously issued under the Trust Agreement. Additional Bonds may be issued, and additional indebtedness may be incurred, on a parity with the 2015 Series A Bonds and the Bonds previously issued under the Trust Agreement, but only subject to the conditions and limitations contained in the Trust Agreement.

Reference is hereby made to the Trust Agreement and to the Act for a description of the terms on which the Bonds are issued and to be issued, the provisions with regard to the nature and extent of the Farebox Revenues, and the rights of the registered holders of the Bonds, and all the terms of the Trust Agreement are hereby incorporated herein and constitute a contract between the Issuer and the registered holder from time to time of this Bond, and to all the provisions thereof the registered holder of this Bond, by its acceptance hereof, consents and agrees.

The Bonds and the interest thereon (to the extent set forth in the Trust Agreement), together with any Parity Obligations heretofore or hereafter issued or incurred by the Issuer, and the interest thereon, are payable from, and are secured by a charge and lien on, the amounts generated and collected by the Issuer in connection with the operation of the commuter rail service known as Caltrain, including all passenger fares, parking, shuttle and pass revenues and other revenues from operations and certain other funds held by the Trustee under the Trust Agreement (as more fully defined in the Trust Agreement, the "Farebox Revenues") and certain other funds held by the Trustee under the Trust Agreement. All Bonds and Parity Obligations are equally secured by a pledge of, and charge and lien upon, all of the Farebox Revenues, and the Farebox Revenues constitute a trust fund for the security and payment of the interest on and principal of the Bonds; but nevertheless out of Farebox Revenues certain amounts may be applied for other purposes as provided in the Trust Agreement.

The Bonds are limited obligations of the Issuer and are payable, both as to principal and interest, out of the Farebox Revenues. The general fund of the Issuer is not liable, and the credit of the Issuer (other than as described above) is not pledged, for the payment of the Bonds or their interest. The Issuer has no taxing power. The Bonds are not secured by a legal or equitable pledge of, or charge, lien or encumbrance upon, any of the property of the Issuer or any of its income or receipts, except the Farebox Revenues.

This Bond is subject to optional and mandatory redemption prior to maturity at the times, in the amounts, under the circumstances, with the notice and at the redemption prices, upon the other terms and conditions and with the effect set forth in the Trust Agreement.

This Bond is also subject to optional and mandatory tender at the times, in the amounts, under the circumstances, with the notice, at the purchase prices, upon the other terms and conditions and with the effect set forth in the Trust Agreement.

The Bonds of the Series designated above are issuable as fully registered bonds and are transferable or exchangeable solely as provided in the Trust Agreement, subject to the restriction on transfer set forth below.
For so long as this Bond shall bear interest in a Bank Term Rate Period or in a Bank Index Interest Rate Period, any Bond of the Series designated above shall be registered solely in the name of a "qualified institutional buyer" as defined in Rule 144A promulgated under the Securities Act of 1933, as amended (the "Securities Act") or an "accredited investor" as defined in Rule 501 of Regulation D promulgated under the Securities Act], which status shall be confirmed in writing to the Trustee.

The Issuer, the Trustee and any paying agent may deem and treat the registered holder hereof as the absolute owner hereof for all purposes, and the Issuer, the Trustee and any paying agent shall not be affected by any notice to the contrary.

The rights and obligations of the Issuer and of the registered holders of the Bonds may be modified or amended at any time in the manner, to the extent, and upon the terms provided in the Trust Agreement, which provide, in certain circumstances, for modifications and amendments without the consent of or notice to the registered holders of bonds.

It is hereby certified and recited that any and all acts, conditions and things required to exist, to happen and to be performed, precedent to and in the incurring of the indebtedness evidenced by this Bond, and in the issuing of this Bond, do exist, have happened and have been performed in due time, form and manner, as required by the Act and by the Constitution and statutes of the State of California, and that this Bond, together with all other indebtedness of the Issuer pertaining to the Farebox Revenues, does not exceed any debt or other limit prescribed by the Act or by the Constitution and the statutes of the State of California, and is not in excess of the amount of Bonds permitted to be issued under the Trust Agreement.

This Bond shall not be entitled to any benefit under the Trust Agreement, or become valid or obligatory for any purpose, until the certificate of authentication hereon endorsed shall have been manually signed by the Trustee.
IN WITNESS WHEREOF, the PENINSULA CORRIDOR JOINT POWERS BOARD
has caused this Bond to be executed in its name and on its behalf by the facsimile signature of
the Executive Director of the Issuer and countersigned by the facsimile signature of the Chief
Financial Officer of the Issuer and this Bond to be dated the Issue Date specified above.

PENINSULA CORRIDOR JOINT POWERS
BOARD

By ______________________________
Executive Director

Countersigned:

________________________________________
Chief Financial Officer

[Form of Certificate of Authentication]

This is one of the Bonds described in the within-mentioned Trust Agreement and
authenticated on the date set forth below.

Dated: ____________________.

U.S. BANK NATIONAL ASSOCIATION,
as Trustee

By: ______________________________
Authorized Officer
[Form of DTC Legend]

[Unless this Bond is presented by an authorized representative of The Depository Trust Company to the issuer or its agent for registration of transfer, exchange or payment, and any Bond issued is registered in the name of Cede & Co. or such other name as requested by an authorized representative of The Depository Trust Company and any payment is made to Cede & Co., ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL since the registered owner hereof, Cede & Co., has an interest herein.]

[Form of Assignment]

For value received ___________________, whose taxpayer identification number is ____________, does hereby sell, assign and transfer unto ________________ the within Bond and hereby irrevocably constitute and appoint ________________ attorney, to transfer the same on the books of the Issuer at the office of the Trustee, with full power of substitution in the premises.

NOTE: The signature to this Assignment must correspond with the name on the face of the within Registered Bond in every particular, without alteration or enlargement or any change whatsoever.

Dated: _________________
Signature Guaranteed by:

NOTE: Signature guarantee shall be made by a guarantor institution participating in the Securities Transfer Agents Medallion Program or in such other guarantee program as shall be acceptable to the Trustee.
Exhibit B

[Form of Requisition – 2015 Series A Costs of Issuance Fund]

REQUISITION NO. __

2015 Series A Costs of Issuance Fund

The undersigned, ____________________, hereby certifies as follows:

1. I am _______________________ of the Peninsula Corridor Joint Powers Board, a public entity duly organized and existing as a joint exercise of powers agency under and by virtue of the laws of the State of California (the "Issuer").

2. Pursuant to the provisions of that certain Trust Agreement, dated as of October 1, 2007, as heretofore supplemented and amended and as further supplemented and amended by that certain Third Supplemental Trust Agreement, dated as of January 1, 2015 (hereinafter collectively referred to as the "Trust Agreement"), between the Issuer and U.S. Bank National Association, as trustee (the "Trustee"), I am an Authorized Representative (as such term is defined in the Trust Agreement) of the Issuer and am delivering this Requisition on behalf of the Issuer.

3. The undersigned hereby requests that the Trustee pay from the 2015 Series A Costs of Issuance Fund (the "Costs of Issuance Fund") established pursuant to Section 21.01(a) of the Trust Agreement the amounts specified in Schedule I hereto to the persons identified in Schedule I.

4. The undersigned hereby certifies that: (i) obligations in the amounts stated in Schedule I have been incurred by the Issuer and are presently due and payable; (ii) each item is a proper charge against the Costs of Issuance Fund; and (iii) each item has not been previously paid from said Costs of Issuance Fund.

Dated: ____________________.

Peninsula Corridor Joint Powers Board

By: ________________________________

Authorized Representative
## Schedule I

2015 Series A Costs of Issuance Fund

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OHSUSA:759150581.3
Exhibit C

[Form of Requisition – 2015 Series A Project Fund]

REQUISITION NO. ___

2015 Series A Project Fund

The undersigned, ______________, hereby certifies as follows:

1. I am the ________________ of the Peninsula Corridor Joint Powers Board, a public entity duly organized and existing as a joint exercise of powers agency under and by virtue of the laws of the State of California (the "Issuer").

2. Pursuant to the provisions of that certain Trust Agreement, dated as of October 1, 2007, as heretofore supplemented and amended and as further supplemented and amended by that certain Third Supplemental Trust Agreement, dated as of January 1, 2015 (hereinafter collectively referred to as the "Trust Agreement"), between the Issuer and U.S. Bank National Association, as trustee (the "Trustee"), I am an Authorized Representative (as such term is defined in the Trust Agreement) of the Issuer and am delivering this Requisition on behalf of the Issuer.

3. The undersigned, acting on behalf of the Issuer, does hereby request disbursement of funds from the 2015 Series A Project Fund (the "Project Fund") created pursuant to Section 21.01(b) of the Trust Agreement (the "Project Fund") in connection with the payment of the costs of the Project (as such term is defined in the Trust Agreement) being financed with the proceeds of the Peninsula Corridor Joint Powers Board Farebox Revenue Bonds, 2015 Series A.

TOTAL DISBURSEMENT AMOUNT REQUESTED: $__________

4. The undersigned, acting on behalf of the Issuer, hereby certifies that: (a) the costs of the Project in the amount set forth herein have been incurred by the Issuer and are presently due and payable; and (b) that each item is a proper charge against the Project Fund and has not been previously paid from the Project Fund.

5. The undersigned, acting on behalf of the Issuer, hereby certifies that there has not been filed with or served upon the Issuer notice of any lien, right to lien, or attachment upon, or claim affecting the right to receive payment of, any of the amounts payable to any of the parties identified on Schedule I to this Requisition, which has not been released or will not be released simultaneously with the payment of such obligation, other than materialmen's or mechanics' liens accruing by mere operation of law.
6. Payment should be made in accordance with the instructions set forth on Schedule I hereto.

Dated: ________________.

Peninsula Corridor Joint Powers Board

By: ___________________________________________

Authorized Representative
## Schedule I

**2015 Series A Project Fund**

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CONTINUING COVENANT AGREEMENT

between

PENINSULA CORRIDOR JOINT POWERS BOARD

and

SPECIALIZED LENDING, LLC

Dated as of January 1, 2015

$11,000,000

Peninsula Corridor Joint Powers Board
Farebox Revenue 2015 Series A Bonds, 2015 Series A
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SCHEDULES

SCHEDULE 8.02(a)  –  ADDRESSES
This CONTINUING COVENANT AGREEMENT dated as of January 1, 2015 (as amended, modified or restated from time to time, this “Agreement”), between PENINSULA CORRIDOR JOINT POWERS BOARD, a public entity duly organized and existing as a joint exercise of powers agency under and by virtue of the laws of the State of California (the “Issuer”), and SPECIALIZED LENDING, LLC, a Delaware limited liability company (the “Initial Purchaser”).

RECATALS

WHEREAS, the Issuer intends to issue the Peninsula Corridor Joint Powers Board Farebox Revenue Bonds, 2015 Series A (the “2015 Series A Bonds”) pursuant to the Trust Agreement, dated as of October 1, 2007 (the “Original Trust Agreement”), as supplemented and amended by the First Supplemental Trust Agreement, dated as of October 1, 2007 (the “First Supplement”), as further amended by the Second Supplemental Trust Agreement, dated as of September 1, 2010 (the “Second Supplement”), and as further supplemented by the Third Supplemental Trust Agreement, dated as of January 1, 2015 (the “Third Supplement”; the Original Trust Agreement, the First Supplement, the Second Supplement and the Third Supplement, collectively, the “Trust Agreement”), each by and between the Issuer and U.S. Bank National Association, in its capacity as trustee; and

WHEREAS, the Initial Purchaser desires to purchase the 2015 Series A Bonds.

NOW, THEREFORE, to induce the Initial Purchaser to purchase the 2015 Series A Bonds, and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the Issuer and the Purchaser hereby agree as follows:

ARTICLE I

DEFINITIONS AND ACCOUNTING TERMS

Section 1.01. Defined Terms. In addition to the terms defined in the recitals and elsewhere in this Agreement, the Third Supplement and the Original Trust Agreement, the following terms shall have the meanings set forth below:

“Affiliate” means, with respect to any Person, any Person that directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such first Person. A Person shall be deemed to control another Person for the purposes of this definition if such first Person possesses, directly or indirectly, the power to direct, or cause the direction of, the management and policies of the second Person, whether through the ownership of voting securities, common directors, trustees or officers, by contract or otherwise.

“Agreement” has the meaning set forth in the introductory paragraph hereof.
“Amortization End Date” means the earliest to occur of (a) the third (3rd) anniversary of the Trigger Date, (b) the date on which the interest rate on all of the 2015 Series A Bonds has been converted to an interest rate other than the Bank Term Rate and (c) the date on which all 2015 Series A Bonds are redeemed, defeased, repaid, remarketed, prepaid or cancelled in accordance with the terms of the Trust Agreement.

“Amortization Payment” has the meaning set forth in Section 2.02(b) hereof.

“Amortization Payment Date” means (a) the Initial Amortization Payment Date and each Principal Payment Date occurring thereafter which occurs prior to the Amortization End Date and (b) the Amortization End Date.

“Amortization Period” has the meaning set forth in Section 2.02(b) hereof.

“Audited Financial Statements” means, with respect to any Fiscal Year, the audited statements of net position of the Issuer for such Fiscal Year, and the related statements of revenues, expenses and changes in net position and statements of cash flows for such Fiscal Year, including the notes thereto.

“Authorized Representative” means any person authorized from time to time in writing by the Issuer to the Purchaser to perform a designated act or execute a designated document.

“Automatic Event of Default” means an Event of Default of the type described in Sections 7.01(f) and 7.01(g) hereof.

“Bank Term Rate” has the meaning set forth in the Third Supplement.

“Base Rate” means, for any day, a fluctuating rate of interest per annum equal to the greatest of (i) the Prime Rate in effect at such time plus one percent (1.00%), (ii) the Federal Funds Rate in effect at such time plus two percent (2.00%), (iii) the LIBOR Rate in effect at such time plus two percent (2.00%), and (iv) seven percent (7.00%).

“Bond Counsel” means Orrick, Herrington & Sutcliffe LLP, or any other firm of attorneys nationally recognized on the subject of tax-exempt municipal finance selected by the Issuer.

“Business Day” means a day which is not (a) a Saturday, Sunday or legal holiday on which banking institutions in New York, New York or the states where the principal corporate office of the Issuer or the principal corporate trust office of the Trustee is located are authorized by law to close, (b) a day on which the New York Stock Exchange or the Federal Reserve Bank is closed or (c) a day on which the principal office of the Purchaser is closed.

“Caltrain” has the meaning set forth in the Original Trust Agreement.

“Change in Law” means the occurrence, after the Effective Date, of any of the following: (a) the adoption or taking effect of any law, rule, regulation or treaty, (b) any change in any law,
rule, regulation or treaty or in the administration, interpretation, implementation or application thereof by any Governmental Authority or (c) the making or issuance of any request, rule, guideline or directive by any Governmental Authority; provided that notwithstanding anything herein to the contrary, (i) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (ii) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to be a “Change in Law”, regardless of the date enacted, adopted or issued.


“Debt” of any Person means at any date, without duplication, (a) all obligations of such Person for borrowed money, (b) all obligations of such Person evidenced by bonds, debentures, notes, loan agreements or other similar instruments, (c) all obligations of such Person to pay the deferred purchase price of property or services (other than trade accounts payable arising in the ordinary course of business and not past due for more than 60 days after the date on which such trade account was created), (d) all obligations of such Person as lessee under capital leases, (e) all Debt of others secured by a lien on any asset of such Person, whether or not such Debt is assumed by such Person, (f) all Guarantees by such Person of Debt of other Persons, (g) the maximum amount of all direct or contingent obligations of such Person arising under letters of credit (including standby and commercial), bankers’ acceptances, bank guaranties, surety bonds and similar instruments and (h) all net obligations of such Person under any Swap Contract.

“Debtor Relief Laws” means the Bankruptcy Code of the United States, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief Laws of the United States or other applicable jurisdictions from time to time in effect.

“Default” means any event or condition that, with the giving of any notice, the passage of time, or both, would be an Event of Default.

“Default Mandatory Tender Date” mean the date on which the 2015 Series A Bonds are required to be tendered for purchase by the 2015 Series A Bondholders pursuant to Section 19.05(a)(7) of the Third Supplement as a result of the receipt by the Trustee of a notice from the Purchaser delivered pursuant to Section 7.02(b) hereof.

“Default Notice” has the meaning set forth in Section 7.02(a) hereof.

“Default Rate” means, for any day, a rate of interest per annum equal to the sum of the Base Rate in effect on such day plus four percent (4.00%).

“Designated Jurisdiction” means any country or territory to the extent that such country or territory itself is the subject of any Sanction.
“Determination of Taxability” means and shall be deemed to have occurred on the first to occur of the following:

(i) on the date when the Issuer files any statement, supplemental statement or other tax schedule, return or document which discloses that an Event of Taxability has occurred;

(ii) on the date when a 2015 Series A Bondholder or any former 2015 Series A Bondholder notifies the Issuer that it has received a written opinion by a nationally recognized firm of attorneys of substantial expertise on the subject of tax-exempt municipal finance to the effect that an Event of Taxability shall have occurred unless, within one hundred eighty (180) days after receipt by the Issuer of such notification from such 2015 Series A Bondholder or such former 2015 Series A Bondholder, as applicable, the Issuer shall deliver to such 2015 Series A Bondholder or such former 2015 Series A Bondholder, as applicable, a ruling or determination letter issued to or on behalf of the Issuer by the Commissioner or any District Director of the Internal Revenue Service (or any other governmental official exercising the same or a substantially similar function from time to time) to the effect that, after taking into consideration such facts as form the basis for the opinion that an Event of Taxability has occurred, an Event of Taxability shall not have occurred;

(iii) on the date when the Issuer shall be advised in writing by the Commissioner or any District Director of the Internal Revenue Service (or any other governmental official or agent exercising the same or a substantially similar function from time to time) that, based upon filings of the Issuer, or upon any review or audit of the Issuer or upon any other ground whatsoever, an Event of Taxability shall have occurred; or

(iv) on the date when the Issuer shall receive notice from a 2015 Series A Bondholder or any former 2015 Series A Bondholder that the Internal Revenue Service (or any other governmental official or agency exercising the same or a substantially similar function from time to time) has assessed as includable in the gross income of such 2015 Series A Bondholder or such former 2015 Series A Bondholder the interest on the 2015 Series A Bonds due to the occurrence of an Event of Taxability;

provided, however, no Determination of Taxability shall occur under subparagraph (iii) or (iv) hereunder unless the Issuer has been afforded the reasonable opportunity, at its expense, to contest any such assessment, and, further, no Determination of Taxability shall occur until such contest, if made, has been finally determined; provided further, however, that upon demand from a 2015 Series A Bondholder or former 2015 Series A Bondholder, the Issuer shall promptly reimburse such 2015 Series A Bondholder or former 2015 Series A Bondholder for any payments, including any taxes, interest, penalties or other charges, such 2015 Series A Bondholder (or former 2015 Series A Bondholder) shall be obligated to make as a result of the Determination of Taxability.
“Effective Date” means January [__], 2015, subject to the satisfaction or waiver by the Purchaser of the conditions precedent set forth in Article IV hereof.

“EMMA” means Electronic Municipal Market Access as provided by the Municipal Securities Rulemaking Board.

“Environmental Laws” means any and all Federal, state, local, and foreign statutes, laws, regulations, ordinances, rules, judgments, orders, decrees, permits, concessions, grants, franchises, licenses, agreements or governmental restrictions relating to pollution and the protection of the environment or the release of any materials into the environment, including those related to hazardous substances or wastes, air emissions and discharges to waste or public systems.


“Event of Default” with respect to this Agreement has the meaning set forth in Section 7.01 of this Agreement and, with respect to any Related Document, has the meaning assigned therein.

“Event of Taxability” means a (i) change in Law or fact or the interpretation thereof, or the occurrence or existence of any fact, event or circumstance (including, without limitation, the taking of any action by the Issuer, or the failure to take any action by the Issuer, or the making by the Issuer of any misrepresentation herein or in any certificate required to be given in connection with the issuance, sale or delivery of the 2015 Series A Bonds) which has the effect of causing interest paid or payable on the 2015 Series A Bonds to become includable, in whole or in part, in the gross income of a 2015 Series A Bondholder or any former 2015 Series A Bondholder for federal income tax purposes or (ii) the entry of any decree or judgment by a court of competent jurisdiction, or the taking of any official action by the Internal Revenue Service or the Department of the Treasury, which decree, judgment or action shall be final under applicable procedural law, in either case, which has the effect of causing interest paid or payable on the 2015 Series A Bonds to become includable, in whole or in part, in the gross income of such 2015 Series A Bondholder or such former 2015 Series A Bondholder for federal income tax purposes with respect to the 2015 Series A Bonds.

“Excess Interest Amount” has the meaning set forth in Section 2.05(b) hereof.

“Excluded Taxes” means, with respect to the Purchaser or any other 2015 Series A Bondholder, (a) taxes imposed on or measured by its overall net income (however denominated), and franchise taxes imposed on it (in lieu of net income taxes), by the jurisdiction (or any political subdivision thereof) under the laws of which the Purchaser or such other 2015 Series A Bondholder is organized or in which its principal office is located, and (b) any branch profits taxes imposed by the United States of America or any similar tax imposed by any other jurisdiction in which the Issuer is located.

“Farebox Revenues” has the meaning set forth in the Original Trust Agreement.
“Federal Funds Rate” means, for any day, the rate per annum equal to the weighted average of the rates on overnight federal funds transactions with members of the Federal Reserve System arranged by federal funds brokers on such day, as published by the Federal Reserve Bank of New York on the Business Day next succeeding such day; provided that (a) if such day is not a Business Day, the Federal Funds Rate for such day shall be such rate on such transactions on the next preceding Business Day as so published on the next succeeding Business Day, and (b) if no such rate is so published on such next succeeding Business Day, the Federal Funds Rate for such day shall be the average rate (rounded upward, if necessary, to a whole multiple of 1/100 of 1%) charged to the Purchaser (or an Affiliate thereof) on such day on such transactions as determined by Purchaser (or an Affiliate thereof).

“First Supplement” has the meaning set forth in the recitals hereof.

“Fiscal Year” means the twelve month period from July 1 through the following June 30, or any other twelve-month period hereafter selected and designated as the official fiscal year period of the Issuer.

“Fitch” means Fitch, Inc., and any successor rating agency.

“FRB” means the Board of Governors of the Federal Reserve System of the United States, together with any successors thereof.

“Fuel Swap Contract” means a fuel price cap agreement or similar Swap Contract entered into from time to time by the Issuer in the ordinary course of its business pursuant to which the Issuer hedges its exposure to increased fuel costs.

“GAAP” means generally accepted accounting principles in effect from time to time in the United States and applicable to governmental entities.

“Government Acts” means any act or omission to act, whether rightful or wrongful, of any present or future de jure or de facto government or Governmental Authority.

“Governmental Approval” means an authorization, consent, approval, license, or exemption of, registration or filing with, or report to any Governmental Authority.

“Governmental Authority” means the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank).

“Guarantee” means, as to any Person, (a) any obligation, contingent or otherwise, of such Person guaranteeing or having the economic effect of guaranteeing any Debt or other obligation payable or performable by another Person (the “primary obligor”) in any manner, whether directly or indirectly, and including any obligation of such Person, direct or indirect,
(i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Debt or other obligation, (ii) to purchase or lease property, securities or services for the purpose of assuring the obligee in respect of such Debt or other obligation of the payment or performance of such Debt or other obligation, (iii) to maintain working capital, equity capital or any other financial statement condition or liquidity or level of income or cash flow of the primary obligor so as to enable the primary obligor to pay such Debt or other obligation, or (iv) entered into for the purpose of assuring in any other manner the obligee in respect of such Debt or other obligation of the payment or performance thereof or to protect such obligee against loss in respect thereof (in whole or in part), or (b) any Lien on any assets of such Person securing any Debt or other obligation of any other Person, whether or not such Debt or other obligation is assumed by such Person (or any right, contingent or otherwise, of any holder of such Debt to obtain any such Lien). The amount of any Guarantee shall be deemed to be an amount equal to the stated or determinable amount of the related primary obligation, or portion thereof, in respect of which such Guarantee is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by the guaranteeing Person in good faith. The term “Guarantee” as a verb has a corresponding meaning.

“Indemnified Taxes” means Taxes other than Excluded Taxes.

“Indemnitee” has the meaning set forth in Section 8.04(b) hereof.

“Initial Amortization Payment Date” means the first Principal Payment Date following the Trigger Event Date.

“Initial Mandatory Purchase Date” has the meaning set forth in the Third Supplement.

“Initial Period” has the meaning set forth in the Third Supplement.

“Interest Payment Date” shall mean with respect to the 2015 Series A Bonds (i) during the Initial Period, April 1 and October 1 of each calendar year, (ii) during the Amortization Period, the first Business Day of each calendar month and (iii) any date on which all of the 2015 Series A Bonds are paid, redeemed, converted to bear interest at a rate other than the Bank Term Rate and defeased.

“Investment Policy” has the meaning set forth in Section 4.01(a)(v) hereof.

“Investor Letter” has the meaning set forth in Section 8.06(c) hereof.

“Issuer” has the meaning set forth in the introductory paragraph of this Agreement.

“Joint Powers Agreement” means the Joint Powers Agreement Peninsula Corridor Project entered into on October 3, 1996 among the Santa Clara County Transit District, the City and County of San Francisco and the San Mateo County Transit District (each a “Member Agency”) together with all amendments, modifications and supplements thereto and restatements thereof.
“Laws” means, collectively, all international, foreign, federal, state and local statutes, treaties, rules, regulations, ordinances, codes and administrative or judicial precedents or authorities, including the interpretation or administration thereof by any Governmental Authority charged with the enforcement, interpretation or administration thereof, and all applicable administrative orders of any Governmental Authority.

“LIBOR Rate” means, for any interest calculation with respect to clause (iii) of the definition of Base Rate for any date, the rate per annum equal to the London Interbank Offered Rate, or a comparable or successor rate which rate is approved by the Purchaser (or an Affiliate thereof), as published by Bloomberg (or other commercially available source providing such quotations of such rate as may be designated by the Purchaser (or an Affiliate thereof) from time to time) at or about 11:00 a.m., London time, two London Banking Days prior to such date for U.S. Dollar deposits with a term of one month commencing that day. If such rate is not available at such time for any reason, then the rate for that one month term will be determined by such alternate method as reasonably selected by the Purchaser (or an Affiliate thereof).

“Lien” means any mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or other), charge, or preference, priority or other security interest or preferential arrangement in the nature of a security interest of any kind or nature whatsoever (including any conditional sale or other title retention agreement, any easement, right of way or other encumbrance on title to real property, and any financing lease having substantially the same economic effect as any of the foregoing).

“London Banking Day” means any day on which dealings in U.S. Dollar deposits are conducted by and between banks in the London interbank eurodollar market.

“Majority 2015 Series A Bondholder” means 2015 Series A Bondholders owning more than 50% of the aggregate principal amount of 2015 Series A Bonds from time to time. As of the Effective Date, the Purchaser shall be the Majority 2015 Series A Bondholder.

“Mandatory Tender Purchase Price” means an amount equal to 100% of the principal amount of the 2015 Series A Bonds subject to mandatory tender for purchase and accrued interest thereon, if applicable.

“Margin Stock” has the meaning ascribed to such term in Regulation U promulgated by the FRB, as now and hereafter from time to time in effect.

“Material Adverse Effect” means: (a) a material impairment of the ability of the Issuer to timely perform its obligations under any Related Document to which it is a party; or (b) a material adverse effect upon the legality, validity, binding effect or enforceability against the Issuer of any Related Document to which it is a party or upon the rights, security, interests or remedies of the Purchaser hereunder or under any other Related Document.

“Maximum Lawful Rate” has the meaning set forth in the Third Supplement.
“Member Agency” has the meaning set forth in the defined term “Joint Powers Agreement”.

“Moody’s” means Moody’s Investors Service, Inc. and any successor rating agency.

“1933 Act” means the Securities Act of 1933, as amended.

“Non-Purchaser Transferee” has the meaning set forth in Section 8.06(c) hereof.

“Obligations” means all amounts payable by the Issuer, and all other obligations to be performed by the Issuer, pursuant to this Agreement and the other Related Documents (including, without limitation, all obligations of the Issuer to pay principal of and interest on the 2015 Series A Bonds when due and to pay any amounts to reimburse the Purchaser for any advances or expenditures by it under any of such documents).

“OFAC” means the Office of Foreign Assets Control of the United States Department of the Treasury.

“Original Trust Agreement” has the meaning set forth in the recitals hereof.

“Other Taxes” means any and all present or future stamp or documentary taxes or any other excise or property taxes, charges or similar levies arising from any payment made hereunder or under any Related Document or from the execution, delivery or enforcement of, or otherwise with respect to, this Agreement or any Related Document.

“Parity Bonds” has the same meaning as the term “Bonds” set forth in the Original Trust Agreement but shall exclude the 2015 Series A Bonds (as defined in this Agreement).

“Parity Obligations” has the meaning set forth in the Original Trust Agreement.


“Pension Plan” means any “employee pension benefit plan” which is (a) maintained by the Issuer or (b) maintained by any other Person and to which the Issuer contributes (or permits any other Person to contribute) or has an obligation to contribute, or has made contributions at any time during the immediately preceding six (6) plan years.

“Permit” means any permit, approval, authorization, certification, license, variance or permission required from a Governmental Authority under an applicable law.

“Person” means any natural person, corporation, limited liability company, trust, joint venture, association, company, partnership, Governmental Authority or other entity.
“Prime Rate” means on any day, the rate of interest in effect for such day as publicly announced from time to time by the Purchaser (or an Affiliate thereof) as its “prime rate.” The “prime rate” is a rate set by Purchaser (or an Affiliate thereof) based upon various factors including the Purchaser’s (or an Affiliate’s thereof) costs and desired return, general economic conditions and other factors, and is used as a reference point for pricing some loans, which may be priced at, above, or below such announced rate. Any change in such rate announced by the Purchaser (or an Affiliate thereof) shall take effect at the opening of business on the day specified in the public announcement of such change.

“Principal Payment Date” means October 1 of each calendar year or, if any such day is not a Business Day, the next succeeding Business Day.

“Property” means any interest in any kind of property or asset, whether real, personal or mixed, or tangible or intangible, whether now owned or hereafter acquired.

“Purchase Price” has the meaning set forth in Section 2.01(a) hereof.

“Purchaser” means, initially, the Initial Purchaser and its successors and assigns, and upon the receipt from time to time by the Trustee and the Issuer of a notice described in Section 8.06(a) from time to time means the Person designated in such notice as the Purchaser, as more fully provided in Section 8.06(a) hereof.

“Purchaser Rate” means a fluctuating interest rate per annum which, for each day, shall equal (i) the Default Rate if, on the Trigger Event Date, (A) an Event of Default has occurred and is continuing, (B) the representations and warranties of the Issuer set forth in Article V hereof that are qualified by “materiality” (including Material Adverse Effect) if made on the Trigger Event Date would not be accurate in all respects or (C) the representations and warranties of the Issuer set forth in Article V hereof that are not qualified by “materiality” (including Material Adverse Effect) if made on the Trigger Event Date would not be accurate in all material respects or (ii) if clause (i) does not apply, (A) for the period from and including the Trigger Event Date to and including the ninetieth (90th) day immediately succeeding the Trigger Event Date, the Base Rate from time to time in effect and (B) from the period from and after the ninety-first (91st) day immediately succeeding the Trigger Event Date, the Base Rate from time to time in effect plus one percent 1.00%; provided, however, that if an Event of Default occurs after the Trigger Event Date, the Purchaser Rate shall equal the Default Rate for so long as such Event of Default continues.

“Purchaser Transferee” has the meaning set forth in Section 8.06(b) hereof.

“Rating Documentation” has the meaning set forth in Section 4.01(d)(iv) hereof.

“Refunding Bonds” has the meaning set forth in the Original Trust Agreement.

“Related Documents” means this Agreement, the Original Trust Agreement, the Third Supplement, the 2015 Series A Bonds, and any and all future renewals and extensions or
restatements of, or amendments or supplements to, any of the foregoing permitted hereunder and thereunder.

“Related Parties” means, with respect to any Person, such Person’s Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of such Person and of such Person’s Affiliates.

“S&P” means Standard & Poor’s Ratings Services, a Standard & Poor’s Financial Services LLC business, and any successor rating agency.

“Sanction(s)” means any international economic sanction administered or enforced by the United States Government (including, without limitation, OFAC), the United Nations Security Council, the European Union, Her Majesty’s Treasury or other relevant sanctions authority.

“Second Supplement” has the meaning set forth in the recitals hereof.

“Solvent” means, with respect to any Person, that as of the date of determination (without duplication) both (i) (a) the sum of such Person’s debt (including contingent liabilities) does not exceed all of its property, at a fair valuation; (b) the Person is able to pay the probable liabilities on such Person’s then existing debts as they become absolute and matured; (c) such Person’s capital is not unreasonably small in relation to its business or any contemplated or undertaken transaction; and (d) such Person does not intend to incur, or believe (nor should it reasonably believe) that it will incur, debts beyond its ability to pay such debts as they become due; and (ii) such Person is “solvent” within the meaning given that term and similar terms under applicable laws relating to fraudulent transfers and conveyances. For purposes of this definition, the amount of any contingent liability at any time shall be computed as the amount that, in light of all of the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability (discounted to present value at rates believed to be reasonable by such Person acting in good faith).

“State” means the State of California.

“Subordinate Obligations” has the meaning set forth in the Trust Agreement.

“Swap Contract” means (a) any and all rate swap transactions, basis swaps, credit derivative transactions, forward rate transactions, commodity swaps, commodity options, forward commodity contracts, equity or equity index swaps or options, bond or bond price or bond index swaps or options or forward bond or forward bond price or forward bond index transactions, interest rate options, forward foreign exchange transactions, cap transactions, floor transactions, collar transactions, currency swap transactions, cross-currency rate swap transactions, currency options, spot contracts, or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), whether or not any such transaction is governed by or subject to any master agreement, and (b) any and all transactions of any kind, and the related confirmations, which are subject to the terms and conditions of, or governed by, any form of master agreement published by the
International Swaps and Derivatives Association, Inc., any International Foreign Exchange Master Agreement, or any other master agreement (any such master agreement, together with any related schedules, a “Master Agreement”), including any such obligations or liabilities under any Master Agreement.

“Taxable Date” means the date on which interest on the 2015 Series A Bonds is first includable in gross income of the 2015 Series A Bondholder (including, without limitation, any previous 2015 Series A Bondholder) thereof as a result of an Event of Taxability as such date is established pursuant to a Determination of Taxability.

“Taxable Period” has the meaning set forth in Section 2.04(a) hereof.

“Taxable Rate” means, with respect to a Taxable Period, the product of (i) the average interest rate on the 2015 Series A Bonds during such period and (ii) 1.54.

“Taxes” means all present or future taxes, levies, imposts, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, fines, additions to tax or penalties applicable thereto.

“Third Supplement” has the meaning set forth in the recitals hereof.

“Trigger Event” means the first to occur of the following: (i) the Initial Mandatory Purchase Date (unless the 2015 Series A Bonds are purchased in full on such date), (ii) the Default Mandatory Tender Date (unless the 2015 Series A Bonds are purchased in full on such date), (iii) an Automatic Event of Default or (iv) the receipt by the Trustee of a Default Notice.

“Trigger Event Date” means the date on which the Trigger Event occurs.

“Trust Agreement” has the meaning set forth in the recitals hereof.

“Trust Estate” has the meaning set forth in Section 5.17 hereof.

“Trustee” has the meaning set forth in the Original Trust Agreement.

“2015 Series A Bondholder” means the Purchaser and each Purchaser Transferee or Non-Purchaser Transferee pursuant to Section 8.06 hereof so long as such Purchaser Transferee or Non-Purchaser Transferee is an owner of 2015 Series A Bonds, or, with respect to Sections 2.04, 8.04 and 8.05 hereof and Article III hereof, was a 2015 Series A Bondholder during the relevant period of time.

“2015 Series A Bonds” has the meaning set forth in the recitals hereof.

“Unfunded Pension Liability” means the excess of a Pension Plan’s benefit liabilities over the current value of that Pension Plan’s assets, determined in accordance with the assumptions used for funding the Pension Plan for the applicable plan year.
“Unremarketed 2015 Series A Bonds” means 2015 Series A Bonds with respect to which the Purchaser has not received payment of the Mandatory Tender Purchase Price, if any, on the Initial Mandatory Purchase Date.

Section 1.02. Other Interpretive Provisions. With reference to this Agreement, unless otherwise specified herein:

(a) The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words “include,” “includes” and “including” shall be deemed to be followed by the phrase “without limitation.” The word “will” shall be construed to have the same meaning and effect as the word “shall.” Unless the context requires otherwise, (i) any definition of or reference to any agreement, instrument or other document shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or in any other Related Document), (ii) any reference herein to any Person shall be construed to include such Person’s successors and assigns, (iii) the words “hereto,” “herein,” “hereof” and “hereunder,” and words of similar import when used herein, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof and (iv) any reference to any law shall include all statutory and regulatory provisions consolidating, amending, replacing or interpreting such law and any reference to any law or regulation shall, unless otherwise specified, refer to such law or regulation as amended, modified or supplemented from time to time.

(b) In the computation of periods of time from a specified date to a later specified date, the word “from” means “from and including;” the words “to” and “until” each mean “to but excluding;” and the word “through” means “to and including.”

(c) Article and Section headings herein are included for convenience of reference only and shall not affect the interpretation of this Agreement.

Section 1.03. Accounting Terms. All accounting terms not specifically or completely defined herein shall be construed in conformity with GAAP applied on a consistent basis, as in effect from time to time, applied in a manner consistent with that used in preparing the most recent Audited Financial Statements delivered to the Purchaser, except as otherwise specifically prescribed herein.

Section 1.04. Times of Day. Unless otherwise specified, all references herein to times of day shall be references to Pacific time (daylight or standard, as applicable).
ARTICLE II

PURCHASE OF 2015 SERIES A BONDS AND THE ISSUER’S OBLIGATIONS

Section 2.01. Purchase of 2015 Series A Bonds.

(a) Purchase Price. Upon the satisfaction of the conditions set forth in Article IV hereof and based on the representations, warranties and covenants of the Issuer set forth herein, the Initial Purchaser hereby agrees to purchase from the Issuer, and the Issuer hereby agrees to sell to the Initial Purchaser, all, but not less than all, of the 2015 Series A Bonds at the purchase price of $11,000,000 representing the aggregate principal amount of the 2015 Series A Bonds (the “Purchase Price”).

(b) Closing. On the Effective Date, the Issuer shall deliver to the Initial Purchaser the documents described in and otherwise satisfy the conditions described in Article IV hereof. Upon the satisfaction of such conditions, the Initial Purchaser will pay the Purchase Price for the 2015 Series A Bonds in immediately available federal funds payable to the Trustee on behalf of the Issuer. One fully registered 2015 Series A Bond, in the aggregate principal amount equal to the Purchase Price, shall be issued to, registered in the name of, and delivered to the Initial Purchaser.

Section 2.02. Payment Obligations.

(a) The Issuer hereby unconditionally, irrevocably and absolutely agrees to make prompt and full payment of all payment obligations owed to the 2015 Series A Bondholders under the Related Documents and to pay any other Obligations owing to the 2015 Series A Bondholders whether now existing or hereafter arising, irrespective of their nature, whether direct or indirect, absolute or contingent, with interest thereon at the rate or rates provided in such Related Documents and under such other Obligations.

(b) In the event a Trigger Event occurs, the Issuer shall cause the 2015 Series A Bonds (including Unremarketed 2015 Series A Bonds) to be redeemed in installments payable on each Amortization Payment Date (each such payment, an “Amortization Payment”), with the final installment in an amount equal to the entire then-outstanding principal amount of such 2015 Series A Bonds to be redeemed on the Amortization End Date (the period commencing on the Trigger Event Date and ending on the Amortization End Date is herein referred to as the “Amortization Period”). Each Amortization Payment shall be that amount of principal which will result in equal (as nearly as possible) aggregate Amortization Payments over each Principal Payment Date during the Amortization Period. During the Amortization Period, interest on the 2015 Series A Bonds shall accrue at the Purchaser Rate, be payable in arrears on each Interest Payment Date and be calculated on the basis of a 360-day year and actual days elapsed.

(c) Without limiting the Issuer’s obligations under Section 8.04(a) hereof, the Issuer shall pay within thirty (30) days after demand, which demand shall include an invoice:
(i) a fee for each amendment to this Agreement or waiver or any consent by the Purchaser with respect to any Related Document, in each case, in a minimum amount of $3,500 plus the reasonable fees and expenses of counsel to the Purchaser and whether or not such amendment, waiver or consent is executed and delivered or granted, as applicable; and

(ii) any amounts advanced by or on behalf of the Purchaser to the extent required to cure any Default, Event of Default or event of nonperformance hereunder or any Related Document, together with interest at the Default Rate; provided that the Purchaser making such advance shall give the Issuer reasonably prompt notice of any such advances and, upon demand for payment, shall provide the Issuer with documentation of the specific amounts advanced and the specific purposes for which such amounts were advanced.

Section 2.03. Default Rate. Upon the occurrence and during the continuance of an Event of Default, the 2015 Series A Bonds shall bear interest at the Default Rate, which shall be payable by the Issuer to each 2015 Series A Bondholder (or, if applicable, the Purchaser) upon each Interest Payment Date and be calculated on the basis of a 360-day year and actual days elapsed. Upon the occurrence and during the continuance of an Event of Default, all other Obligations shall bear interest at the Default Rate, which shall be payable by the Issuer to each 2015 Series A Bondholder (or, if applicable, the Purchaser) upon demand therefor and be calculated on the basis of a 360-day year and actual days elapsed. Amounts not paid when due hereunder shall accrue interest on a daily basis at the Default Rate and shall be payable upon demand.

Section 2.04. Determination of Taxability.

(a) In the event a Determination of Taxability occurs, to the extent not payable to each 2015 Series A Bondholder under the terms of the Trust Agreement and the 2015 Series A Bonds, the Issuer hereby agrees to pay to each 2015 Series A Bondholder on demand therefor (i) an amount equal to the difference between (A) the amount of interest that would have been paid to such 2015 Series A Bondholder on the 2015 Series A Bonds during the period for which interest on the 2015 Series A Bonds is included in the gross income of such 2015 Series A Bondholder if the 2015 Series A Bonds had borne interest at the Taxable Rate, beginning on the Taxable Date (the “Taxable Period”), and (B) the amount of interest actually paid to the 2015 Series A Bondholder (or, if applicable, the Purchaser) during the Taxable Period, and (ii) an amount equal to any interest, penalties or charges owed by such 2015 Series A Bondholder as a result of interest on the 2015 Series A Bonds becoming included in the gross income of such 2015 Series A Bondholder, together with any and all attorneys’ fees, court costs, or other out-of-pocket costs incurred by such 2015 Series A Bondholder in connection therewith;

(b) Subject to the provisions of paragraph (c) below, such 2015 Series A Bondholder shall afford the Issuer the reasonable opportunity, at the Issuer’s sole cost and expense, to contest (i) the validity of any amendment to the Code which causes the interest on the 2015 Series A Bonds to be included in the gross income of such 2015 Series A Bondholder or (ii) any challenge to the validity of the tax exemption with respect to the interest on the 2015 Series A Bonds,
including the right to direct the necessary litigation contesting such challenge (including
administrative audit appeals); and

(c) As a condition precedent to the exercise by the Issuer of its right to contest set forth
in paragraph (b) above, the Issuer shall, on demand, immediately reimburse such 2015 Series A
Bondholder for any and all expenses (including attorneys’ fees for services that may be required
or desirable, as determined by such 2015 Series A Bondholder (in its sole discretion) that may be
incurred by the 2015 Series A Bondholder in connection with any such contest, and shall, on
demand, immediately reimburse the 2015 Series A Bondholder for any payments, including any
taxes, interest, penalties or other charges payable by such 2015 Series A Bondholder for failure
to include such interest in its gross income.

Section 2.05. Maximum Interest Rate.

(a) If the amount of interest payable for any period in accordance with the terms hereof
or the 2015 Series A Bonds exceeds the amount of interest that would be payable for such period
had interest for such period been calculated at the Maximum Lawful Rate, then interest for such
period shall be payable in an amount calculated at the Maximum Lawful Rate.

(b) Any interest that would have been due and payable for any period but for the
operation of the immediately preceding paragraph (a) shall accrue and be payable as provided in
this paragraph (b) and shall, less interest actually paid to each 2015 Series A Bondholder for
such period, constitute the “Excess Interest Amount.” If there is any accrued and unpaid Excess
Interest Amount as of any date, then the principal amount with respect to which interest is
payable shall bear interest at the Maximum Lawful Rate until payment to each 2015 Series A
Bondholder of the entire Excess Interest Amount.

(c) Notwithstanding the foregoing, on the date on which no principal amount with
respect to the 2015 Series A Bonds remains unpaid, the Issuer, to the extent permitted by
applicable law, shall pay to each 2015 Series A Bondholder a fee equal to any accrued and
unpaid Excess Interest Amount.

Section 2.06. Obligations Absolute. The payment obligations of the Issuer under this
Agreement shall be unconditional and irrevocable and shall be paid strictly in accordance with
the terms of this Agreement under all circumstances, including without limitation the following:

(a) any lack of validity or enforceability of this Agreement, the 2015 Series A
    Bonds or any of the other Related Documents;

(b) any amendment or waiver of or any consent to departure from any or all of
    the provisions of all or any of the Related Documents;

(c) the existence of any claim, set-off, defense or other right which the Issuer
    may have at any time against the Purchaser, any other 2015 Series A Bondholder or any
    other person or entity, whether in connection with this Agreement, the other Related
Documents, the transactions contemplated herein or therein or any unrelated transaction; or

(d) any other circumstance or happening whatsoever, whether or not similar to any of the foregoing.

Section 2.07. Purchaser Consent to Subsequent Bank Term Rate Period. (a) So long as the Initial Purchaser or an Affiliate thereof is the 2015 Series A Bondholder, the Issuer may no sooner than one hundred eighty (180) days prior to the Initial Mandatory Purchase Date and not less than ninety (90) days prior to the Initial Mandatory Purchase Date provide written notice to the Purchaser of its desire to change the interest rate mode of the 2015 Series A Bonds (including conversion to a new Bank Term Rate Period) and requesting the Purchaser to purchase such 2015 Series A Bonds in such new Bank Term Rate Period. The Purchaser will make reasonable efforts to respond to such request within sixty (60) days after receipt of all information necessary, in the Purchaser’s reasonable judgment, to permit the Purchaser to make an informed credit decision. The Purchaser may, in its sole and absolute discretion, decide to accept or reject any such request and no consent shall become effective unless the Purchaser shall have consented thereto in writing. In the event the Purchaser fails to definitively respond to such request within such sixty (60) day period, the Purchaser shall be deemed to have refused to grant such request. The consent of the Purchaser, if granted, shall be conditioned upon the preparation, execution and delivery of documentation in form and substance satisfactory to the Purchaser (which may include, but not be limited to the delivery to the Purchaser of a “no adverse effect opinion” of 2015 Series A Bond Counsel with respect to the tax-exempt status of the 2015 Series A Bonds as a result of such conversion and interest rate setting). In the event the Issuer and the Purchaser fail to document in writing their agreement of the proposed rate(s) and terms of the succeeding period(s), the Issuer shall continue to be required to repurchase the 2015 Series A Bonds on the Initial Mandatory Purchase Date for a purchase price of 100% of the par amount plus accrued interest to the Initial Mandatory Purchase Date.

Section 2.08. Subordinate Pledge. In order to secure the timely payment of all Obligations (other than the obligation to pay the principal of and interest on the 2015 Series A Bonds, including Unremarketed 2015 Series A Bonds) and to secure the performance and observance of all of the covenants, agreements and conditions contained in this Agreement and the Related Documents to which the Issuer is a party, the Issuer, in accordance with Section 3.05(E) of the Original Trust Agreement, hereby irrevocably pledges the Farebox Revenues to the Purchaser (for the benefit of the Purchaser, 2015 Series A Bondholders, Participants and any Affiliate of the Purchaser to whom any such Obligation is at any time owed), which Obligations (other than the obligation to pay the principal of and interest on the 2015 Series A Bonds, including Unremarketed 2015 Series A Bonds) are payable from and secured by a pledge of and lien on the Farebox Revenues on a basis subordinate only to the payment of the principal of and interest on the 2015 Series A Bonds, including Unremarketed 2015 Series A Bonds, the Parity Bonds, the Parity Obligations and the Subordinate Obligations. The pledge of and lien on the Farebox Revenues provided for herein shall constitute a valid pledge of and charge and lien upon the Farebox Revenues, shall immediately attach and be effective, binding and enforceable against the Issuer, its successors, creditors and all others asserting rights therein to the extent set forth in, and in accordance with, the Trust Agreement, irrespective of whether those parties have
notice of the pledge of and lien on the Farebox Revenues and without the need for any physical
delivery, recordation, filing or further act.

ARTICLE III

TAXES AND YIELD PROTECTION

Section 3.01. Taxes.

(a) Any and all payments by or on account of any obligation of the Issuer hereunder or
with respect to the 2015 Series A Bonds shall be made free and clear of and without reduction or
withholding for any Indemnified Taxes or Other Taxes; provided that if the Issuer shall be
required by applicable Law to deduct any Indemnified Taxes (including any Other Taxes) from
such payments, then (i) the sum payable shall be increased as necessary so that after making all
required deductions (including deductions applicable to additional sums payable under this
Section) the Purchaser or other 2015 Series A Bondholder receives an amount equal to the sum it
would have received had no such deductions been made, (ii) the Issuer shall make such
deductions and (iii) the Issuer shall timely pay the full amount deducted to the relevant
Governmental Authority in accordance with applicable Law.

(b) Without limiting the provisions of subsection (a) above, the Issuer shall timely pay
any Other Taxes to the relevant Governmental Authority in accordance with applicable Law.

(c) The Issuer shall, to the maximum extent permitted by law, indemnify the Purchaser
and the other 2015 Series A Bondholders, within thirty (30) days after demand therefor, for the
full amount of any Indemnified Taxes or Other Taxes (including Indemnified Taxes or Other
Taxes imposed or asserted on or attributable to amounts payable under this Section) paid by the
Purchaser or such other 2015 Series A Bondholder and any penalties, interest and reasonable
expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes or
Other Taxes were correctly or legally imposed or asserted by the relevant Governmental
Authority; provided, however, that the Issuer shall not be obligated to reimburse the Purchaser or
any other 2015 Series A Bondholder for any penalties, interest or expenses related to
Indemnified Taxes or Other Taxes arising from such indemnified party’s own gross negligence
or willful misconduct. A certificate stating in reasonable detail the amount of such payment or
liability delivered to the Issuer by the Purchaser or such other 2015 Series A Bondholder shall be
conclusive absent manifest error. In addition, the Issuer shall, to the maximum extent permitted
by law, indemnify the Purchaser and the other 2015 Series A Bondholders, within thirty (30)
days after demand therefor, for any incremental Taxes that may become payable by the
Purchaser as a result of any failure of the Issuer to pay any Taxes when due to the appropriate
Governmental Authority.

(d) No later than thirty (30) days after any payment of Indemnified Taxes or Other
Taxes by the Issuer to a Governmental Authority, the Issuer shall deliver to the Purchaser and
such other 2015 Series A Bondholder, as applicable, the original or a certified copy of a receipt
issued by such Governmental Authority evidencing such payment, a copy of the return reporting
such payment or other evidence of such payment reasonably satisfactory to the Purchaser or such other 2015 Series A Bondholder, as applicable.

Section 3.02. Increased Costs.

(a) If any Change in Law shall:

(i) impose, modify or deem applicable any reserve, special deposit, compulsory loan, insurance charge or similar requirement against assets of, deposits with or for the account of, or credit extended or participated in by, a 2015 Series A Bondholder;

(ii) subject a 2015 Series A Bondholder to any taxes on its loans, loan principal, letters of credit, commitments, or other obligations, or its deposits, reserves, other liabilities or capital attributable thereto (excluding Indemnified Taxes and Excluded Taxes); or

(iii) impose on a 2015 Series A Bondholder any other condition, cost or expense affecting this Agreement;

and the result of any of the foregoing shall be to increase the cost to any such 2015 Series A Bondholder with respect to this Agreement, the 2015 Series A Bonds, or the making, maintenance or funding of the purchase price of the 2015 Series A Bonds, or to reduce the amount of any sum received or receivable by such 2015 Series A Bondholder (whether of principal, interest or any other amount) then, upon request of such 2015 Series A Bondholder, such additional amount or amounts as will compensate such 2015 Series A Bondholder, for such additional costs incurred or reduction suffered. Such increased compensation shall be reduced or eliminated if, but only to the extent that, the event causing such increase is modified or ceases to exist.

(b) If a 2015 Series A Bondholder determines that any Change in Law affecting such 2015 Series A Bondholder or any such 2015 Series A Bondholder’s holding company, if any, regarding capital or liquidity requirements has or would have the effect of reducing the rate of return on such 2015 Series A Bondholder’s capital or liquidity or on the capital or liquidity of such 2015 Series A Bondholder’s holding company, if any, as a consequence of this Agreement or the 2015 Series A Bonds to a level below that which such 2015 Series A Bondholder or such 2015 Series A Bondholder’s holding company could have achieved but for such Change in Law (taking into consideration such 2015 Series A Bondholder’s policies and the policies of such 2015 Series A Bondholder’s holding company with respect to capital adequacy), then from time to time all as set forth in subsection (c) below), the Issuer shall pay to such 2015 Series A Bondholder, such additional amount or amounts as will compensate such 2015 Series A Bondholder or such 2015 Series A Bondholder’s holding company for any such reduction suffered. Such increased compensation shall be reduced or eliminated if, but only to the extent that, the event causing such increase is modified or ceases to exist.
(c) A certificate of a 2015 Series A Bondholder setting forth the amount or amounts necessary to compensate such 2015 Series A Bondholder or its holding company, as the case may be, as specified in subsection (a) or (b) of this Section and delivered to the Issuer shall be conclusive absent manifest error. The Issuer shall pay such 2015 Series A Bondholder the amount shown as due on any such certificate within thirty (30) days after receipt thereof.

(d) Failure or delay on the part of a 2015 Series A Bondholder to demand compensation pursuant to the foregoing provisions of this Section shall not constitute a waiver of such 2015 Series A Bondholder’s right to demand such compensation; provided that the Issuer shall not be required to compensate such 2015 Series A Bondholder pursuant to the foregoing provisions of this Section for any increased costs incurred or reductions suffered more than one hundred eighty (180) days prior to the date that such 2015 Series A Bondholder notifies the Issuer of the Change in Law giving rise to such increased costs or reductions and of such 2015 Series A Bondholder’s intention to claim compensation therefor (except that, if the Change in Law giving rise to such increased costs or reductions is retroactive, then the one hundred eighty (180) day period referred to above shall be extended to include the period of retroactive effect thereof).

Section 3.03. Survival. All of the Issuer’s obligations under this Article III shall survive the termination of this Agreement and the repayment, satisfaction or discharge of all other Obligations.

ARTICLE IV

CONDITIONS PRECEDENT TO PURCHASE OF 2015 SERIES A BONDS

The obligation of the Initial Purchaser to purchase the 2015 Series A Bonds on the Effective Date is subject to the satisfaction of the conditions set forth in this Article IV.

Section 4.01. Documentary Requirements. The Initial Purchaser shall have received, on or before the Effective Date, the items listed below in this Section, each in form and substance satisfactory to the Initial Purchaser.

(a) The following Issuer documents:

(i) copies of the resolutions of the governing body of the Issuer approving the execution and delivery of the Related Documents to which the Issuer is a party, and the other matters contemplated hereby, certified by an Authorized Representative as being true and complete and in full force and effect on the Effective Date;

(ii) the Joint Powers Agreement certified to be complete and in full force and effect on the Effective Date by an Authorized Representative;

(iii) a copy of each notice of a joint powers agreement filed by the Issuer with the Office of the California Secretary of State;
(iv) a copy of the Audited Financial Statements for the Fiscal Years ended June 30, 20[13] and June 30, 20[14], together with the report of Maze & Associates;

(v) a copy of the Issuer’s investment policy in effect as of the Effective Date (the “Investment Policy”); and

(vi) a certificate dated the Effective Date and executed by an Authorized Representative certifying the names, titles, offices and signatures of the persons authorized to sign, on behalf of the Issuer, the Related Documents to which it is a party and the other documents to be delivered by it hereunder or thereunder.

(b) The following financing documents:

(i) an executed original or certified copy, as applicable, of each of the Related Documents (other than the 2015 Series A Bonds); and

(ii) the original executed and authenticated 2015 Series A Bond.

(c) The following opinions, dated the Effective Date and addressed to the Purchaser or on which the Purchaser is otherwise expressly authorized to rely:

(i) from counsel to the Issuer, opinions as to its legal existence and authority, capacity, due authorization of transactions, due execution and delivery of documents, enforceability of this Agreement and of the other Related Documents to which it is a party, no conflicts with law, the Related Documents or other agreements and documents to which it is a party, no litigation, no consents required, perfection of security interests in favor of the Trustee and such other customary matters as the Initial Purchaser may reasonably request; and

(ii) from 2015 Series A Bond Counsel, opinions to the effect that the interest on the 2015 Series A Bonds is excludable from gross income for federal income tax purposes and such other customary matters as the Purchaser may reasonably request.

(d) The following documents and other information:

(i) a certificate dated the Effective Date and executed by an Authorized Representative certifying (A) that there has been no event or circumstance since June 30, 20[14], that has had or could be reasonably expected to have, either individually or in the aggregate, a Material Adverse Effect, (B) that the representations and warranties contained in Article V hereof that are not qualified by concepts of materiality are true and correct in all material respects on the Effective Date, (C) that the representations and warranties contained in Article V hereof that are qualified by concepts of materiality (including Material Adverse Effect) are true and correct in all respects on the Effective Date, (D) no event has occurred and is continuing, or would result from entry into this Agreement, which would constitute a Default or Event of Default and (D) since the dated
date of the Rating Documentation, the unenhanced long-term debt ratings assigned to any
Parity Bonds has not been withdrawn, suspended or reduced;

(ii) true and correct copies of all Governmental Approvals, if any, necessary
for the Issuer to execute, deliver and perform the Related Documents to which it is a
party;

(iii) a copy of the most recent staff report to the governing body of the Issuer
describing the Caltrain insurance program;

(iv) recent evidence that the unenhanced long-term debt rating assigned by
Moody’s and S&P to the Peninsula Corridor Joint Powers Board Farebox Revenue
Bonds, 2007 Series A is at least “A2” and “A”, respectively (the “Rating
Documentation”); and

(v) a CUSIP number for the 2015 Series A Bonds.

Section 4.02. Litigation. The Initial Purchaser shall have received a written description of
all actions, suits or proceedings pending or threatened against the Issuer in any court or before
any arbitrator of any kind or before or by any governmental or non-governmental body which
could reasonably be expected to result in a Material Adverse Effect, if any, and such other
statements, certificates, agreements, documents and information with respect thereto as the Initial
Purchaser may reasonably request.

Section 4.03. Other Matters. All other legal matters pertaining to the execution and
delivery of this Agreement and the Related Documents shall be satisfactory to the Initial
Purchaser and its counsel, and the Initial Purchaser shall have received such other statements,
certificates, agreements, documents and information with respect to the Issuer and the other
parties to the Related Documents and matters contemplated by this Agreement as the Initial
Purchaser may reasonably request.

Section 4.04. Payment of Counsel Fees and Expenses. On or prior to the Effective Date,
McGuireWoods LLP shall have received payment of its fees and expenses.

Section 4.05. No Offering Document. No offering document or official statement shall
have been prepared for use in connection with the issuance and sale of the 2015 Series A Bonds.
For the avoidance of doubt, the Initial Purchaser has not requested and does not require that such
an offering document be prepared.

Section 4.06. Absence of Events. The Initial Purchaser shall have determined, in its sole
discretion, that since September 26, 2014, (a) no Material Adverse Effect has occurred and no
event or change in circumstances (or any combination thereof) has occurred which could
reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect,
(b) there has been no change in Laws (or in the Initial Purchaser’s interpretation or
administration of any Law) that may adversely affect the consummation of the transactions
contemplated by this Agreement and the other Related Documents and (c) no Event of Taxability has occurred.

ARTICLE V

REPRESENTATIONS AND WARRANTIES

The Issuer hereby makes the following representations and warranties to each 2015 Series A Bondholder:

Section 5.01. Existence and Power. The Issuer is a joint exercise of powers agency duly organized and validly existing under and by virtue of the laws of the State. The Issuer has the power and authority to own its properties and to carry on its businesses as now being conducted and as currently contemplated to be conducted hereafter.

Section 5.02. Due Authorization; Approvals. The Issuer has the right, power and authority and has taken all necessary action to authorize the execution, delivery and performance of this Agreement and each of the Related Documents to which it is a party in accordance with their respective terms. All authorizations, consents and approvals (including, without limitation, Governmental Approvals) necessary for the Issuer to enter into this Agreement and the Related Documents to which it is a party and perform the transactions contemplated hereby and thereby have been obtained and remain in full force and effect and are subject to no further administrative or judicial review. No other authorization or approval or other action by, and no notice to or filing with, any Governmental Authority or other Person is required for the due execution, delivery and performance by the Issuer of this Agreement and each of the Related Documents to which it is a party.

Section 5.03. Valid and Binding Obligations. This Agreement and each of the other Related Documents to which the Issuer is a party has been duly executed and delivered by one or more duly authorized officers of the Issuer and is a legal, valid and binding obligation of the Issuer enforceable in accordance with its terms, except as such enforceability may be limited by (a) the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or similar law affecting creditors’ rights generally, and (b) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

Section 5.04. Noncontravention. The execution, delivery and performance of this Agreement and each of the other Related Documents in accordance with their respective terms do not and will not (i) contravene the Joint Powers Agreement, (ii) require any consent or approval of any Member Agency (other than those that have been obtained), (iii) violate any Laws (including, without limitation, Regulations T, U or X of the FRB, or any successor regulations), (iv) conflict with, result in a breach of or constitute a default under any contract to which the Issuer is a party or by which it or any of its Property may be bound which could reasonably be expected to result in a Material Adverse Effect or (v) result in or require the creation or imposition of any Lien upon or with respect to the Farebox Revenues, except such Liens, if any, expressly created by any Related Document.
Section 5.05. Compliance with Laws. To the knowledge of the Issuer, the Issuer is in compliance in all material respects with the requirements of all Laws applicable to it and all orders, writs, injunctions and decrees applicable to it or to its Properties, except in such instances in which (i) such requirement of Law or order, writ, injunction or decree is being contested in good faith by appropriate proceedings diligently conducted and appropriate reserves have been established in the financial records of the Issuer in accordance with GAAP or (ii) the failure to comply therewith could not reasonably be expected to have a Material Adverse Effect.

Section 5.06. Pending Litigation and Other Proceedings. There is no action, suit or proceeding pending in any court, with any other Governmental Authority with jurisdiction over the Issuer or in any arbitration in which service of process has been completed against the Issuer or, to the knowledge of the Issuer, any other action, suit or proceeding pending or threatened in any court, by any other Governmental Authority with jurisdiction over the Issuer or by any arbitrator, in either case against the Issuer or any of its Properties or the Farebox Revenues, or any of the Related Documents to which it is a party which could reasonably be expected to result in a Material Adverse Effect.

Section 5.07. Financial Statements. The Audited Financial Statements for the Fiscal Years ended June 30, 20[13] and June 30, 20[14], which financial statements, accompanied by the audit report of Maze & Associates, independent public accountants, heretofore furnished to the Purchaser, fairly present the financial condition of the Issuer in all material respects as of such dates and the results of its operations for the periods then ended in conformity with GAAP. Since the date of the Audited Financial Statements most recently delivered to the Purchaser, there has been no material adverse change in the financial condition or operations of the Issuer that could reasonably be expected to result in a Material Adverse Effect.

Section 5.08. Pension Plans. The Issuer has no Pension Plan.

Section 5.09. No Defaults. No default by the Issuer has occurred and is continuing in the payment of the principal of or premium, if any, or interest on any Subordinate Obligations. No bankruptcy, insolvency or other similar proceedings pertaining to the Issuer is pending or presently contemplated. No Default or Event of Default has occurred and is continuing hereunder. No “default” or “event of default” under, and as defined in, any of the other Related Documents or any Swap Contract has occurred and is continuing. The Issuer is not presently in default under any material agreement to which it is a party which default could reasonably be expected to have a Material Adverse Effect. The Issuer is not in violation of any material term of the Joint Powers Agreement applicable to it or any material term of any bond indenture, trust agreement or other agreement to which it is a party which could reasonably be expected to result in a Material Adverse Effect. To the knowledge of the Issuer, no Member Agency is in violation of any material term of the Joint Powers Agreement applicable to it.

Section 5.10. Insurance. The Issuer currently maintains insurance coverage with insurance companies believed by the Issuer to be capable of performing their obligations under the respective insurance policies issued by such insurance companies to Issuer and/or maintains self-insurance and is in full compliance with Section 6.10 of the Original Trust Agreement and Section 6.04 hereof.
Section 5.11. Title to Assets. The Issuer has good and marketable title to its assets (other than Farebox Revenues) except where the failure to have good and marketable title to any of its assets would not have a Material Adverse Effect. The Farebox Revenues are free and clear of all Liens except for those permitted by Section 3.05 of the Original Trust Agreement and Section 6.15 hereof.

Section 5.12. Incorporation by Reference. The representations and warranties of the Issuer contained in the other Related Documents to which the Issuer is a party, together with the related definitions of terms contained therein, are hereby incorporated by reference in this Agreement as if each and every such representation and warranty and definition were set forth herein in its entirety, and the representations and warranties made by the Issuer in such Sections are hereby made for the benefit of the Purchaser. No amendment to or waiver of such representations and warranties or definitions made pursuant to the relevant Related Document or incorporated by reference shall be effective to amend such representations and warranties and definitions as incorporated by reference herein without the prior written consent of the Purchaser.

Section 5.13. Correct Information. All written information, reports and other papers and data furnished by the Issuer to the Purchaser were, at the time the same were so furnished, correct in all material respects. No fact is known to the Issuer which has had or in the reasonable judgment of the Issuer may in the future have a Material Adverse Effect which has not been set forth in the most recent Audited Financial Statements furnished to the Purchaser or disclosed in writing to the Purchaser prior to the Effective Date. The documents furnished to the Purchaser in connection with the negotiation, preparation or execution of this Agreement, the Third Supplement and the 2015 Series A Bonds do not contain untrue statements of material facts or omit to state material facts necessary to make the statements contained therein, in light of the circumstances under which they were made, not misleading.

Section 5.14. Margin Stock. The Issuer is not engaged in the business of extending credit for the purpose of purchasing or carrying Margin Stock, and no part of the proceeds from the issuance of the 2015 Series A Bonds will be used to purchase or carry any such Margin Stock or extend credit to others for the purpose of purchasing or carrying any such Margin Stock.

Section 5.15. Tax-Exempt Status. Neither the Issuer nor, to the knowledge of the Issuer, any Member Agency has taken any action or omitted to take any action, and the Issuer has no actual knowledge of any action taken or omitted to be taken by any other Person, which action, if taken or omitted, would adversely affect the exclusion of interest on the 2015 Series A Bonds from gross income for federal income tax purposes or the exemption of interest on the 2015 Series A Bonds from State personal income taxes.

Section 5.16. Usury. Assuming that the Purchaser is an exempted class of persons within the meaning of Article 15 of the California Constitution, the terms of this Agreement and the other Related Documents regarding the calculation and payment of interest and fees do not contravene any applicable usury laws.

Section 5.17. Security. The Issuer’s obligation to pay the principal of and interest on the 2015 Series A Bonds, including Unremarketed 2015 Series A Bonds, as and when due are
payable from and secured by a pledge of and lien on the Farebox Revenues and the other funds, assets and security described in Section 5.01 of the Original Trust Agreement (collectively, the “Trust Estate”) on a parity with all Parity Bonds and all Parity Obligations, without the need for any physical delivery, recordation, filing or further act.

Section 5.18. Pending Legislation and Decisions. As of the Effective Date, to the knowledge of the Issuer, there is no proposed amendment to the Constitution of the State or any State law or any legislation that has passed either house of the legislature of the State, or any judicial decision interpreting any of the foregoing, the effect of which could reasonably be expected to result in a Material Adverse Effect.

Section 5.19. No Sovereign Immunity. The Issuer is subject to claims and to suit for damages in connection with its obligations under this Agreement and the other Related Documents pursuant to and in accordance with the procedural laws of the State.

Section 5.20. Trustee. U.S. National Bank is the duly appointed and acting bond trustee for the 2015 Series A Bonds.

Section 5.21. Environmental Matters. The operations of the Issuer are in material compliance with all of the requirements of applicable federal, state and local environmental, health and safety statutes and regulations and are not the subject of any governmental investigation evaluating whether any remedial action is needed to respond to a release of any toxic or hazardous waste or substance into the environment, where a failure to comply with any such requirement or the need for any such remedial action could reasonably be expected to result in a Material Adverse Effect.

Section 5.22. Solvency. The Issuer is Solvent.

Section 5.23. Taxes. All material taxes, assessments, fees and other governmental charges (other than those presently payable without penalty or interest) upon the Issuer or upon any of its Property thereof, which are due and payable, have been paid and no material claims are being asserted with respect to any past due taxes, assessments, fees or other governmental charges against the Issuer or any of its Properties, except, in each case, as are being contested in good faith by appropriate proceedings for which adequate reserves are being maintained in accordance with GAAP.

Section 5.24. Swap Contracts. The Issuer has not entered into any Swap Contract (a) wherein any termination payment thereunder is senior to or on a parity with the payment of the 2015 Series A Bonds (including Unreremarketed 2015 Series A Bonds) or, (b) aside from Fuel Swap Contracts, which requires the Issuer to post cash collateral to secure its obligations thereunder.

Section 5.25. Labor Matters. As of the Effective Date, the Issuer has no knowledge of any existing or pending strike, walkout or work stoppage.
Section 5.26. Sanctions. To the knowledge of the Issuer, the Issuer (a) is not currently the subject of any Sanctions, (b) is not located, organized or residing in any Designated Jurisdiction, or (c) is not nor has been (within the previous five (5) years) engaged in any transaction with any Person who is now or was then the subject of Sanctions or who is located, organized or residing in any Designated Jurisdiction. The Issuer has no Related Parties.

ARTICLE VI

COVENANTS

The Issuer covenants and agrees that, until the full and final payment and satisfaction of all of the Obligations, unless the Purchaser shall otherwise consent in writing:

Section 6.01. Existence, Etc. The Issuer shall use its best efforts to maintain its existence as a public entity duly organized and existing as a joint exercise of powers agency and shall take all reasonable action to maintain all Permits necessary for the normal conduct of its business, unless the failure to maintain any such Permit could not reasonably be expected to result in a Material Adverse Effect.

Section 6.02. Maintenance of Properties. The Issuer shall (a) maintain, preserve and protect all of its material Properties and equipment necessary in the operation of its business in good working order and condition, ordinary wear and tear excepted; (b) make all necessary repairs thereto and renewals and replacements thereof except where the failure to do so could not reasonably be expected to result in a Material Adverse Effect; and (c) use commercially reasonable efforts to operate and maintain Caltrain in a manner believed by the Issuer to be consistent with prevailing industry standards, except to the extent failure to do so could not reasonably be expected to result in a Material Adverse Effect.

Section 6.03. Compliance with Laws; Payment of Debts; Government Approvals. The Issuer shall comply with all Laws applicable to it and its Property, except where non-compliance could not reasonably be expected to result in a Material Adverse Effect, such compliance to include, without limitation, paying all taxes, assessments and governmental charges imposed upon it or its Property before the same become delinquent, unless and to the extent that the same are being contested in good faith and by appropriate proceedings and reserves are provided therefor that in the opinion of the Issuer are adequate. The Issuer will timely pay all of its Debts secured by Farebox Revenues in accordance with the terms thereof. The Issuer shall at all times maintain in effect, renew and comply with all material terms and conditions of all consents, licenses, approvals, authorizations and other Governmental Approvals which are necessary or appropriate under applicable Law to conduct its businesses and activities as of the Effective Date and thereafter and for the execution, delivery and performance of this Agreement and the Related Documents to which it is a party.

Section 6.04. Insurance. The Issuer shall (a)(i) maintain insurance with reputable insurance companies or associations believed by the Issuer at the time of purchase of such insurance to be financially sound and in such amounts and covering such risks as are usually carried by organizations engaged in the same or a similar business and similarly situated, which
insurance may provide for reasonable deductibles from coverage and/or (ii) self-insure and (b) maintain insurance in accordance with the terms of the Original Trust Agreement. The Issuer shall upon request of the Purchaser furnish a certificate setting forth in summary form the nature and extent of the insurance maintained pursuant to this Section 6.04.

Section 6.05. Reports. The Issuer shall furnish to the Purchaser in form and detail satisfactory to the Purchaser:

(a) Annual Report; Auditor Opinion. As soon as available, and in any event within two hundred ten (210) days after the end of the Fiscal Year, the Audited Financial Statements for such Fiscal Year prepared in the usual and customary format utilized by the Issuer (and previously delivered to the Purchaser) accompanied by a report thereon of a firm of independent public accountants of recognized national standing, selected by the Issuer and reasonably satisfactory to the Purchaser, to the effect that such Audited Financial Statements have been prepared in accordance with the accounting practice used by the Issuer in its immediately preceding Fiscal Year and present fairly in accordance with GAAP the financial condition of the Issuer as of the close of such Fiscal Year and the results of its operations and cash flows for the Fiscal Year then ended and that an examination of such accountants in connection with such financial statements has been made in accordance with generally accepted auditing standards and, accordingly, such examination included such tests of the accounting records and such other auditing procedures as were considered necessary in the circumstances or to similar effect, and such report shall contain no material qualifications or reservations.

(b) Unaudited Quarterly Financials. As soon as available, and in any event within sixty (60) days after each quarter of each Fiscal Year, the unaudited financial statements of the Issuer prepared in the usual and customary format presented to the governing body of the Issuer, including a statement of net position of the Issuer for such fiscal quarter, and the related statement of revenues, expenses and changes in net position and statement of cash flows for such fiscal quarter, all in reasonable detail and certified, subject to year-end adjustment, by an Authorized Representative.

(c) Budgets. As soon as available, and in any event within sixty (60) days after the commencement of each Fiscal Year, a copy of the Issuer’s operating budget and the capital budget for such Fiscal Year as approved by the Issuer’s governing body.

(d) Trustee Notices. As soon as available all notices, certificates, instruments, letters and written commitments in connection with the 2015 Series A Bonds provided to the Trustee other than those notices, certificates, instruments, letters and written commitments that relate solely to the routine issuance and payment of the 2015 Series A Bonds.

(e) Notices of Resignation of the Trustee. As promptly as practicable, written notice to the Purchaser of any resignation of the Trustee.
(f) **Offering Documents and Material Event Notices.** (i) Within thirty (30) days after the issuance of any Parity Bonds or Parity Obligations secured by Farebox Revenues with respect to which a final official statement or other offering or disclosure document has been prepared by the Issuer, (A) a copy of such official statement or other offering or disclosure document or (B) notice that such information has been filed with EMMA and is publicly available; and (ii) during any period of time the Issuer is subject to continuing disclosure requirements under Rule 15c2-12 promulgated pursuant to the Securities Exchange Act of 1934, as amended (17 C.F.R. Sec. 240-15c2-12), or any successor or similar legal requirement, immediately following any dissemination, distribution or provision thereof to any Person, (A) a copy of any reportable event notice (as described in b(5)(i)(C) of Rule 15c2-12) disseminated, distributed or provided in satisfaction of or as may be required pursuant to such requirements or (B) notice that such event notice has been filed with EMMA and is publicly available.

(g) **Notice of Default or Event of Default.** (i) Promptly upon obtaining knowledge of any Default or Event of Default, or notice thereof, and in any event within five (5) Business Days thereafter, a certificate signed by an Authorized Representative specifying in reasonable detail the nature and period of existence thereof and what action the Issuer has taken or proposes to take with respect thereto and (ii) promptly following a written request of the Purchaser, a certificate of an Authorized Representative as to the existence or absence, as the case may be, of a Default or an Event of Default under this Agreement.

(h) **Notice of Material Adverse Change.** Promptly upon learning thereof, notice of the occurrence of any event, occurrence or change in circumstance that could reasonably be expected to result in a Material Adverse Effect.

(i) **Notice of Event of Taxability.** Promptly upon learning thereof, notice of an Event of Taxability.

(j) **Litigation; Investigations; Labor Notices.** As promptly as practicable, written notice of (i) all actions, suits or proceedings pending or, to the knowledge of the Issuer, threatened against the Issuer before any arbitrator of any kind or before any court or other Governmental Authority which if determined adversely to the Issuer could reasonably be expected to result in a Material Adverse Effect, (ii) any significant investigation or proceeding against the Issuer or any of its securities by the Securities and Exchange Commission, the Department of Justice or the Internal Revenue Service, (iii) any significant criminal investigation or proceeding by a Governmental Authority involving the Issuer or any member of its governing board or officer of the Issuer and (iv) any communication from any labor union of an intent to strike the Issuer or cause a labor stoppage at a future date with such notice to include a description of the action or actions that the Issuer proposes to take with respect thereto.

(k) **Ratings.** As soon as practicable, notice of any change in, or the suspension, withdrawal or unavailability of, any unenhanced long-term rating on any Parity Bonds.
(l) **Amendments.** Promptly after the adoption thereof and to the extent is not required to receive and make notice of the same, copies of any amendments to the Related Documents.

(m) **Other Information.** Such other information regarding the business affairs, financial condition and/or operations of the Issuer as the Purchaser may from time to time reasonably request.

**Section 6.06. Maintenance of Books and Records.** The Issuer shall keep proper books of record and account in which complete and correct entries will be made in accordance with GAAP reflecting all financial transactions of the Issuer and Caltrain. All financial statements delivered by the Issuer to the Purchaser under this Agreement will be complete and accurate and will fairly present the financial condition of the Issuer and Caltrain as at the dates thereof and for the periods covered thereby, and all of same will be prepared in accordance with generally accepted accounting principles consistently applied.

**Section 6.07. Access to Books and Records.** The Issuer shall permit any Person designated by the Purchaser (at the expense of the Purchaser, unless and until a Default or Event of Default has occurred, at which time such expenses shall be borne by the Issuer) to visit any of the offices of the Issuer to examine the books and financial records (except books and financial records the examination of which by the Purchaser is prohibited by Law or by attorney client privilege), including minutes of meetings of any relevant governmental committees or agencies, and make copies thereof or extracts therefrom, and to discuss the affairs, finances and accounts of the Issuer with its officers, employees and independent public accountants, all at such reasonable times and upon reasonable notice and as often as the Purchaser may reasonably request.

**Section 6.08. Compliance With Documents.** The Issuer shall perform and comply with each and every covenant and agreement required to be performed or observed by it in the Related Documents (other than this Agreement) to which it is a party, which provisions, as well as related defined terms contained therein, are hereby incorporated by reference herein with the same effect as if each and every such provision were set forth herein in its entirety all of which shall be deemed to be made for the benefit of the Purchaser and shall be enforceable against the Issuer. To the extent that any such incorporated provision permits the Issuer to waive compliance with such provision or requires that a document, opinion or other instrument or any event or condition be acceptable or satisfactory to the Issuer, for purposes of this Agreement, such provision shall be complied with unless it is specifically waived by the Purchaser in writing and such document, opinion or other instrument and such event or condition shall be acceptable or satisfactory only if it is acceptable or satisfactory to the Purchaser which shall only be evidenced by the written approval by the Purchaser of the same. Except as permitted by Section 6.14 hereof, no termination or amendment to such covenants and agreements or defined terms or release of the Issuer with respect thereto shall be effective to terminate or amend such covenants and agreements and defined terms or release the Issuer with respect thereto in each case as incorporated by reference herein without the prior written consent of the Purchaser. Notwithstanding any termination or expiration of any Related Document to which the Issuer is a party, the Issuer shall continue to observe the covenants therein contained and incorporated
herein for the benefit of the Purchaser until the termination of this Agreement and the payment in full of the 2015 Series A Bonds (including Unremarketed 2015 Series A Bonds) and all other Obligations. All such incorporated covenants shall be in addition to the express covenants contained herein and shall not be limited by the express covenants contained herein nor shall such incorporated covenants be a limitation on the express covenants contained herein.

Section 6.09. Further Assurances. The Issuer shall execute, acknowledge where appropriate, and deliver, and cause to be executed, acknowledged where appropriate, and delivered, from time to time promptly at the request of the Purchaser, all such instruments and documents as in the reasonable opinion of the Purchaser are necessary to effectuate the provisions of this Agreement and the other Related Documents.

Section 6.10. No Impairment. The Issuer shall not take or omit to take any action, or cause the Trustee to take or omit to take any action, under the Third Supplement or any other Related Document which would materially adversely affect the rights, interests, remedies or security of the Purchaser under this Agreement or any other Related Document or which could reasonably be expected to result in a Material Adverse Effect.

Section 6.11. Application of 2015 Series A Bond Proceeds. The Issuer shall not take or omit to take any action, which action or omission will in any way result in the proceeds from the issuance of the 2015 Series A Bonds being applied in a manner other than as provided in the Third Supplement. To the knowledge of the Issuer, the proceeds from the sale of the 2015 Series A Bonds to the Purchaser will not be used, directly or indirectly, to lend, contribute, provide or otherwise be made available to fund any activity or business in any Designated Jurisdiction or to fund any activity or business of any Person located, organized or residing in any Designated Jurisdiction or who is the subject of any Sanctions, or in any other manner that will result in any violation by any Person of Sanctions.

Section 6.12. [Reserved].

Section 6.13. Limitation on Additional Parity Debt. The Issuer shall not issue or incur any additional Debt secured by a pledge of Farebox Revenues (other than Refunding Bonds) on parity with the pledge of Farebox Revenues securing the 2015 Series A Bonds unless (a) after the issuance or incurrence thereof no Default or Event of Default shall have occurred and be continuing, and (b) such Debt is issued or incurred solely in accordance with the terms of Sections 3.02 and 3.03 of the Original Trust Agreement; provided, however, that for purposes of determining compliance this Section 6.13, the reference to “2.0 times Maximum Annual Debt Service” set forth in Section 3.02(D) of the Original Trust Agreement shall be deemed to be “4.0 times Maximum Annual Debt Service”. The Issuer may issue Refunding Bonds only in accordance with the terms of Section 3.04 of the Original Trust Agreement.

Section 6.14. Amendment of Related Documents. The Issuer shall not amend or modify, or permit to be amended or modified in any manner whatsoever any Related Document in a manner which could reasonably be expected to materially adversely affect the security for the 2015 Series A Bonds (including Unremarketed 2015 Series A Bonds) and the other Obligations or the Issuer’s ability to repay when due the 2015 Series A Bonds (including Unremarketed 2015
Series A Bonds) or the other Obligations or the interests, security, rights or remedies of the Purchaser without the prior written consent of the Purchaser.

Section 6.15. Liens. The Issuer shall not create, incur or permit to exist any Lien of any kind on the Trust Estate, except in accordance with the terms of the Original Trust Agreement.

Section 6.16. Redemptions and Conversions. Prior to the date that is one hundred eighty (180) days prior to the Initial Mandatory Purchase Date (the “No-Call/Conversion Date”), the Issuer shall not redeem all or any portion of the 2015 Series A Bonds or convert the interest rate on all or any portion of the 2015 Series A Bonds from the Bank Term Rate to another rate. Following the No-Call/Conversion Date the Issuer may redeem all or any portion of the 2015 Series A Bonds or convert the interest rate on all or any portion of the 2015 Series A Bonds from the Bank Term Rate to another rate without premium. The Issuer shall provide the Purchaser with forty five (45) days (or such shorter period as the Purchaser may agree) prior written notice of each such redemption or conversion. During the Amortization Period 2015 Series A Bonds shall be redeemed by the Issuer on the dates and in the amounts described in Section 2.02(b) hereof.

Section 6.17. Disclosure to Participants, Purchaser Transferees and Non-Purchaser Transferees. The Issuer shall permit the Purchaser to disclose the financial information received by it pursuant to this Agreement to each participant of the Purchaser, each Purchaser Transferee and each Non-Purchaser Transferee pursuant to Section 8.06 of this Agreement, subject to confidentiality restrictions and use restrictions customary for financial institutions.

Section 6.18. Swap Contracts. The Issuer shall not enter into any Swap Contracts relating to Debt (i) wherein termination payments constitute Parity Obligations or (ii) which requires the Issuer to post cash collateral to secure its obligations thereunder. For the avoidance of doubt, nothing contained in this Section 6.18 shall prevent the Issuer from entering into any Fuel Swap Contract.

Section 6.19. Use of Purchaser’s Name. Except for such use (i) as may be required by applicable Law (including, but not limited to, federal and state securities laws), (ii) in the Issuer’s staff reports to the governing body of the Issuer, (iii) the Issuer’s financial statements, (iv) in presentations to the rating agency made by the Issuer and (v) as may be consented to by the Initial Purchaser in writing, the Issuer shall not use the following names in any published materials: Specialized Lending, LLC, Bank of America or any entity listed on the list of subsidiaries filed by Bank of America Corporation with the Securities and Exchange Commission in its most recent Form 10-K or annual report.

Section 6.20. Maintenance of Tax-Exempt Status of 2015 Series A Bonds. The Issuer shall not take any action or omit to take any action which, if taken or omitted, would adversely affect the tax-exempt status of the 2015 Series A Bonds.

Section 6.21. Investments. The Issuer shall not make any investments except as permitted by its Investment Policy or by applicable Law.
Section 6.22. Environmental Laws. The Issuer shall, comply with all applicable Environmental Laws and cure any material defect (or cause other Persons to cure any such defect) to the extent necessary to bring such real property owned, leased, occupied or operated by the Issuer back into material compliance with Environmental Laws and to comply in all material respects with any cleanup orders issued by a Governmental Authority having jurisdiction thereover. The Issuer shall at all times use commercially reasonable efforts to render or maintain any real property owned, leased, occupied or operated by the Issuer safe and fit for its intended uses.

Section 6.23. Federal Reserve Board Regulations. The Issuer shall not use any portion of the proceeds of the 2015 Series A Bonds for the purpose of carrying or purchasing any Margin Stock.

Section 6.24. Pension Plans. In the event the Issuer adopts a Pension Plan, the Issuer shall maintain such Pension Plan in compliance in all material respects with the applicable provisions of the Code and other applicable Law and shall make all required contributions to any Pension Plan. In the event the Issuer adopts a Pension Plan, the Issuer shall not permit, at any time, such Pension Plan to: (a) engage in any nonexempt “prohibited transaction” (as defined in Section 503 of the Code); (b) fail to comply with applicable Laws; (c) incur any material increase in its Unfunded Pension Liability; or (d) terminate in any manner; which, in the case of any such event, has resulted, or could reasonably be expected to result, in a Material Adverse Effect.

Section 6.25. [Reserved].

Section 6.26. [Reserved].

Section 6.27. Waiver of Immunity. If as a result of a Change in Law the defense of sovereign immunity in respect of contract claims becomes available to the Issuer, the Issuer agrees, to the fullest extent permitted by law, not to assert the defense of sovereign immunity in any proceeding to enforce any of the obligations of the Issuer under this Agreement or any other Related Document in any court of competent jurisdiction.

Section 6.28. [Reserved].

Section 6.29. Filing of the Agreement. In the event the Issuer elects to file a copy of this Agreement and/or the Third Supplement with EMMA, the Issuer shall file only a complete copy of this Agreement and/or the Third Supplement, as the case may be, containing such redactions as directed by the Purchaser in its sole discretion.
ARTICLE VII

EVENTS OF DEFAULT

Section 7.01. Events of Default. The occurrence of any of the following events (whatever the reason for such event and whether voluntary, involuntary, or effected by operation of Law) shall be an “Event of Default” hereunder, unless waived in writing by Purchaser:

(a) the Issuer shall fail to pay the principal of or interest on any 2015 Series A Bond (including any Unremarketed 2015 Series A Bond) when due (whether by scheduled maturity, required redemption or otherwise); provided, however, that the failure of the Issuer to pay the Mandatory Tender Purchase Price on the Initial Mandatory Purchase Date shall not constitute an Event of Default;

(b) the Issuer shall fail to pay any Obligation when due (other than the obligation to pay when due the principal of or interest on the 2015 Series A Bonds or Unremarketed 2015 Series A Bonds) and such failure shall continue for five (5) Business Days;

(c) (i) any representation or warranty made by the Issuer in this Agreement or in any other Related Document or in any certificate or statement delivered hereunder or thereunder that is not qualified by the concept of “materiality” shall be incorrect or untrue in any material respect when made or deemed to have been made or delivered or (ii) any representation or warranty made by the Issuer in this Agreement or in any other Related Document or in any certificate or statement delivered hereunder or thereunder that is qualified by the concept of “materiality” shall be incorrect or untrue in any respect when made or deemed to have been made or delivered;

(d) the Issuer shall default in the due performance or observance of any of the covenants set forth in Section 6.01, 6.05(a), 6.05(g), 6.07, 6.10, 6.11, 6.13, 6.14, 6.15, 6.18, 6.19, 6.23 or 6.29 hereof; or

(e) the Issuer shall default in the due performance or observance of any other term, covenant or agreement contained in this Agreement or any other Related Document and such default shall remain unremedied for a period of sixty (60) days after the occurrence thereof;

(f) the Issuer shall (i) have entered involuntarily against it an order for relief under the United States Bankruptcy Code, as amended, (ii) become insolvent or shall not pay, or be unable to pay, or admit in writing its inability to pay, its debts generally as they become due, (iii) make an assignment for the benefit of creditors, (iv) apply for, seek, consent to, or acquiesce in, the appointment of a receiver, custodian, trustee, examiner, liquidator or similar official for it or any substantial part of its Property, (v) institute any proceeding seeking to have entered against it an order for relief under the United States Bankruptcy Code, as amended, to adjudicate it insolvent, or seeking dissolution, winding up, liquidation, reorganization, arrangement, marshalling of assets, adjustment or
composition of it or its debts under any law relating to bankruptcy, insolvency or reorganization or relief of debtors or fail to file an answer or other pleading denying the material allegations of any such proceeding filed against it, (vi) take any action in furtherance of any matter described in parts (i) through (v) above, or (vii) fail to contest in good faith any appointment or proceeding described in Section 7.01(g) of this Agreement;

(g) a custodian, receiver, trustee, examiner, liquidator or similar official shall be appointed for the Issuer or any substantial part of its Property, or a proceeding described in Section 7.01(f)(v) shall be instituted against the Issuer and such proceeding continues undischarged or any such proceeding continues undismissed or unstayed for a period of sixty (60) or more days;

(h) a debt moratorium, debt restructuring (other than a refinancing or refunding in the ordinary course of the Issuer’s business), debt adjustment or comparable restriction is imposed on the repayment when due and payable of the principal of or interest on any Debt of the Issuer by the Issuer or any Governmental Authority with appropriate jurisdiction; or

(i) (i) The Issuer shall in writing claim, or repudiate its obligations under, or initiate any legal proceedings to seek an adjudication that, any of the provisions that provide for the payment of principal of or interest on the 2015 Series A Bonds, the Parity Bonds or Parity Obligations or that establish the pledge of the Trust Estate in the Related Documents is not valid or binding on the Issuer; or

(ii) Any court of competent jurisdiction or other Governmental Authority with appropriate jurisdiction to rule on the validity of this Agreement or the Related Documents shall find or rule that any of the provisions that provide for the payment of principal of or interest on the 2015 Series A Bonds, the Parity Bonds or Parity Obligations or that establish the pledge of the Trust Estate in the Related Documents is not valid or binding on the Issuer; or

(iii) Except as provided in clauses (i) and (ii) above, any material provision of this Agreement or any of the Related Documents shall cease to be valid and binding or shall be declared null and void; or the Issuer or any Governmental Authority with appropriate jurisdiction shall contest any such provision; or the Issuer or any agent or trustee on behalf of the Issuer shall deny that it has any further liability under any provision of this Agreement or any of the other Related Documents; or the Issuer shall (A) claim that this Agreement or any of the other Related Documents is not valid or binding on it, (B) repudiate any material obligation under this Agreement or any of the other Related Documents, and/or (C) initiate any legal proceedings to seek an adjudication that this Agreement or any of the other Related Documents is not valid or binding on it; or

(j) the Issuer shall (i) default on the payment of the principal of or interest on any Parity Bond or Parity Obligation including, without limitation, any regularly
scheduled payments on any Swap Contract which constitutes a Parity Obligation, beyond the period of grace, if any, provided in the instrument or agreement under which such Parity Bond or Parity Obligation was created or incurred; or (ii) default in the observance or performance of any agreement or condition relating to any Parity Bond or Parity Obligation or contained in any instrument or agreement evidencing, securing or relating thereto, or any other default, event of default or similar event shall occur or condition exist, the effect of which default, event of default or similar event or condition is to cause (determined without regard to whether any notice is required) any such Parity Bond or Parity Obligation to become immediately due and payable in full as the result of the acceleration, mandatory redemption or mandatory tender of such Parity Bond or Parity Obligation or to terminate in the case of any Swap Contract that is a Parity Obligation;

(k) (i) there shall be entered against the Issuer any final uninsured judgment (or insured judgment if the insurer has disputed coverage in writing) which, singly or with any other final uninsured judgment or judgments (or insured judgment or insured judgments if the insurer has disputed coverage in writing) against the Issuer, exceeds $5,000,000, is payable from Farebox Revenues and remains unpaid for a period of thirty (30) calendar days or, if longer, when due, or (ii) any of the Trust Estate shall become subject to any stay, writ, judgment, warrant of attachment, execution or similar process by any of the creditors of the Issuer and such stay, writ, judgment, warrant of attachment, execution or similar process shall not be released, vacated or stayed within sixty (60) calendar days after its issue or levy; or

(l) any “event of default” under any Related Document (as defined respectively therein) other than this Agreement shall have occurred and, if permitted to be cured under the terms thereof, shall not have been cured within such permitted cure period; or

(m) any of Fitch, Moody’s and S&P shall have downgraded its rating of any long-term unenhanced Parity Bonds to below “BBB+” (or its equivalent), “Baa1” (or its equivalent) or “BBB+” (or its equivalent) respectively, or suspended or withdrawn its rating of the same; or

(n) (i) a Member Agency declares in writing its intent to withdraw as a “member agency” under the Joint Powers Agreement; (ii) the Issuer shall cease to exist as a joint exercise of powers agency; (iii) the Issuer shall merge, dissolve, liquidate, consolidate with or into another Person, or dispose of (whether in one transaction or in a series of transactions) all or substantially all of its Property (whether now owned or hereafter acquired) to or in favor of any Person; or (iv) the Issuer shall engage in any line of business other than the ownership and operation of Caltrain or businesses incidental thereto.

Section 7.02. Consequences of an Event of Default. If an Event of Default specified in Section 7.01 hereof shall occur and be continuing, the Purchaser may take one or more of the following actions at any time and from time to time (regardless of whether the actions are taken at the same or different times):
(a) deliver written notice to the Issuer and the Trustee to the effect that an Event of Default has occurred and is continuing (a “Default Notice”) whereupon the Initial Period shall end the Amortization Period shall commence;

(b) deliver a written notice to the Trustee to the effect that an Event of Default has occurred and is continuing and directing the Trustee to cause a mandatory tender for purchase of the 2015 Series A Bonds at the Mandatory Tender Purchase Price pursuant to Section 19.05(a)(7) of the Third Supplement;

(c) pursue any other rights and remedies the Purchaser may have hereunder or under the other Related Documents;

(d) at the expense of the Issuer, cure any Default, Event of Default or event of nonperformance hereunder or under any Related Document; provided, however, that the Purchaser shall have no obligation to effect such a cure; and

(e) pursue any other action available at law or in equity.

Section 7.03. Solely for the Benefit of Purchaser. The rights and remedies of the Purchaser specified herein are for the sole and exclusive benefit, use and protection of the Purchaser, and the Purchaser is entitled, but shall have no duty or obligation to the Issuer, the Trustee or any other Person or otherwise, to exercise or to refrain from exercising any right or remedy reserved to the Purchaser hereunder or under any of the other Related Documents.

Section 7.04. Discontinuance of Proceedings. In case the Purchaser shall proceed to invoke any right, remedy or recourse permitted hereunder or under the Related Documents and shall thereafter elect to discontinue or abandon the same for any reason, the Purchaser shall have the unqualified right so to do and, in such event, the Issuer and the Purchaser shall be restored to their former positions with respect to the Obligations, the Related Documents and otherwise, and the rights, remedies, recourse and powers of the Purchaser hereunder shall continue as if the same had never been invoked.

ARTICLE VIII

MISCELLANEOUS

Section 8.01. Amendments, Etc. No amendment or waiver of any provision of this Agreement, and no consent to any departure by the Issuer therefrom, shall be effective unless in writing signed by the Purchaser and the Issuer, and each such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given. In the case of any such waiver or consent relating to any provision hereof, any Default or Event of Default so waived or consented to shall be deemed to be cured and not continuing, but no such waiver or consent shall extend to any other or subsequent Default or Event of Default or impair any right consequent thereto.
Section 8.02. Notices; Effectiveness; Electronic Communication.

(a) Except in the case of notices and other communications expressly permitted to be given by telephone (and except as provided in subsection (b) below), all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by fax transmission or e-mail transmission as follows, and all notices and other communications expressly permitted hereunder to be given by telephone shall be made to the applicable telephone number, if to the Issuer, the Purchaser or the Trustee, to the address, fax number, e-mail address or telephone number specified for such Person on Schedule 8.02(a). Notices and other communications sent by hand or overnight courier service, or mailed by certified or registered mail, shall be deemed to have been given when received; notices and other communications sent by fax transmission or e-mail transmission shall be deemed to have been given when sent (except that, if not given during normal business hours for the recipient, shall be deemed to have been given at the opening of business on the next Business Day for the recipient). Notices and other communications delivered through electronic communications to the extent provided in subsection (b) below, shall be effective as provided in such subsection (c).

(b) Notices and other communications to the Purchaser hereunder may be delivered or furnished by electronic communication (including e-mail and Internet or intranet websites) pursuant to procedures approved by the Purchaser. The Purchaser or the Issuer may each, in its discretion, agree to accept notices and other communications to it hereunder by electronic communications pursuant to procedures approved by it provided that the approval of such procedures may be limited to particular notices or communications.

(c) Unless the Purchaser otherwise prescribes, (i) notices and other communications sent to an e-mail address shall be deemed received upon the sender’s receipt of an acknowledgement from the intended recipient (such as by the “return receipt requested” function, as available, return e-mail or other written acknowledgement), and (ii) notices or communications posted to an Internet or intranet website shall be deemed received upon the deemed receipt by the intended recipient at its e-mail address as described in the foregoing clause (i) of notification that such notice or communication is available and identifying the website address therefor; provided that, for both clauses (i) and (ii), if such notice, email or other communication is not sent during the normal business hours of the recipient, such notice, email or communication shall be deemed to have been sent at the opening of business on the next business day for the recipient.

(d) Each of the Issuer, the Purchaser and the Trustee may change its address, fax number or telephone number or e-mail address for notices and other communications hereunder by notice to the other parties hereto.

(e) The Purchaser shall be entitled to rely and act upon any notices (including telephonic or electronic notices) purportedly given by or on behalf of the Issuer even if (i) such notices were not made in a manner specified herein, were incomplete or were not preceded or followed by any other form of notice specified herein, or (ii) the terms thereof, as understood by the recipient, varied from any confirmation thereof. The Issuer shall, to the maximum extent
permitted by law, indemnify the Purchaser from all losses, costs, expenses and liabilities resulting from the reliance by the Purchaser on each notice purportedly given by or on behalf of the Issuer, unless the Purchaser was grossly negligent in such reliance or such reliance constituted willful misconduct on the part of the Purchaser, in each case as determined by a final, non-appealable order of a court of competent jurisdiction. All telephonic notices to and other telephonic communications with the Purchaser may be recorded by the Purchaser, and each of the parties hereto hereby consents to such recording.

Section 8.03. No Waiver; Cumulative Remedies. No failure by the Purchaser to exercise, and no delay by the Purchaser in exercising, any right, remedy, power or privilege hereunder or under any other Related Document shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights, remedies, powers and privileges herein provided, and provided under each other Related Document, are cumulative and not exclusive of any rights, remedies, powers and privileges provided by law.

Section 8.04. Costs and Expenses; Indemnification; Damage Waiver.

(a) The Issuer shall pay (i) all reasonable out-of-pocket expenses incurred by the Purchaser and its Affiliates (including the reasonable fees, charges and disbursements of counsel for the Purchaser), in connection with the preparation, negotiation, execution and delivery of this Agreement, provided that the fees and expenses of counsel to the Purchaser in connection with the preparation, negotiation, execution and delivery of this Agreement and the other Related Documents shall not exceed the amount set forth in the Summary of Terms and Conditions of Bank of America Merrill Lynch submitted to the Issuer on September 26, 2014 and shall be payable on the Effective Date, (ii) all fees and expenses payable to the California Debt Investment and Advisory Commission and any other Person (including 2015 Series A Bond Counsel) in connection with the issuance of the 2015 Series A Bonds, (iii) all reasonable out-of-pocket expenses incurred by the Purchaser in connection with the purchase of the 2015 Series A Bonds and (iv) all out-of-pocket expenses incurred by the Purchaser (including the reasonable fees, charges and disbursements of any counsel for the Purchaser), and all fees and time charges for attorneys who may be employees of the Purchaser, in connection with the enforcement or protection of its rights (A) in connection with this Agreement and the other Related Documents, including its rights under this Section, or (B) in connection with the purchase of the 2015 Series A Bonds, including all such out-of-pocket expenses incurred during any workout, restructuring or negotiations in respect of such purchase.

(b) To the maximum extent permitted by law, the Issuer shall indemnify the Purchaser and each 2015 Series A Bondholder and each Related Party of the Purchaser or such 2015 Series A Bondholder (each such Person being called an “Indemnitee”) against, and hold each Indemnitee harmless from, any and all losses, claims, damages, liabilities and related expenses (including the reasonable fees, charges and disbursements of any counsel for any Indemnitee), and shall indemnify and hold harmless each Indemnitee from all reasonable fees and time charges and disbursements for attorneys who may be employees of any Indemnitee, incurred by any Indemnitee or asserted against any Indemnitee by any Person (including the Issuer or any
Member Agency) other than such Indemnitee and its Related Parties arising out of, in connection with, or as a result of (i) the execution or delivery of this Agreement, any other Related Document or any agreement or instrument contemplated hereby or thereby, the performance by the parties hereto of their respective obligations hereunder or thereunder, the consummation of the transactions contemplated hereby or thereby, or, in the case of the Purchaser and its Related Parties only, the administration of this Agreement and the other Related Documents, (ii) the issuance and sale of the 2015 Series A Bonds, (iii) the use or proposed use of the proceeds therefrom, (iv) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, and (v) any Government Acts, in each case whether based on contract, tort or any other theory, whether brought by a third party or by the Issuer, and regardless of whether any Indemnitee is a party thereto; provided that such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses are determined by a court of competent jurisdiction by final and nonappealable judgment to have resulted from the gross negligence or willful misconduct of such Indemnitee.

(c) To the fullest extent permitted by applicable law, the Issuer shall not assert, and hereby waives, and acknowledges that no other Person shall have, any claim against any Indemnitee, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Related Document or any agreement or instrument contemplated hereby, the transactions contemplated hereby or thereby, the purchase of the 2015 Series A Bonds or the use of the proceeds thereof. No Indemnitee referred to in subsection (b) above shall be liable for any damages arising from the use by unintended recipients of any information or other materials distributed to such unintended recipients by such Indemnitee through telecommunications, electronic or other information transmission systems in connection with this Agreement or the other Related Documents or the transactions contemplated hereby or thereby other than for direct or actual damages resulting from the gross negligence or willful misconduct of such Indemnitee as determined by a final and nonappealable judgment of a court of competent jurisdiction.

(d) Unless otherwise provided in this Section 8.04, all amounts due under this Section shall be payable not later than thirty (30) days after demand therefor.

(e) The agreements in this Section shall survive the payment in full of the 2015 Series A Bonds, the repayment, satisfaction or discharge of all the other Obligations and the termination of this Agreement.

Section 8.05. Payments Set Aside. To the extent that any payment by or on behalf of the Issuer is made to the Purchaser, or the Purchaser exercises its right of setoff, and such payment or the proceeds of such setoff or any part thereof is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Purchaser in its discretion) to be repaid to a trustee, receiver or any other party, in connection with any proceeding under any Debtor Relief Law or otherwise, then to the extent of such recovery, the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such setoff had not occurred.
Section 8.06. Successors and Assigns.

(a) This Agreement is a continuing obligation and shall be binding upon the Issuer, its successors, transferees and assigns and shall inure to the benefit of the 2015 Series A Bondholders and their respective permitted successors, transferees and assigns. The Issuer may not assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of the Purchaser. Each 2015 Series A Bondholder may, in its sole discretion and in accordance with applicable Law, from time to time assign, sell or transfer in whole or in part, this Agreement, its interest in the 2015 Series A Bonds and the Related Documents in accordance with the provisions of paragraph (b) or (c) of this Section. Each 2015 Series A Bondholder may at any time and from time to time enter into participation agreements in accordance with the provisions of paragraph (d) of this Section. Each 2015 Series A Bondholder may at any time pledge or assign a security interest subject to the restrictions of paragraph (e) of this Section. The Initial Purchaser shall be the Purchaser hereunder until such time as the Majority 2015 Series A Bondholder designates an alternate Person to serve as the Purchaser hereunder by delivery of written notice to the Issuer and the Trustee and such Person accepts and agrees to act as the Purchaser hereunder and under the Related Documents by delivery of a written notice to the Issuer and the Trustee. The Majority 2015 Series A Bondholder may so designate an alternate Person to act as the Purchaser from time to time. Upon acceptance and notification thereof to the Issuer and the Trustee, the successor to the Purchaser for such purposes shall thereupon succeed to and become vested with all of the rights, powers, privileges and responsibilities of the Purchaser, and the Initial Purchaser or any other Person being replaced as the Purchaser shall be discharged from its duties and obligations as the Purchaser hereunder.

(b) Without limiting the provisions of Section 8.06(a), a 2015 Series A Bondholder may at any time sell or otherwise transfer to one or more transferees all or a portion of the 2015 Series A Bonds to a Person that is (i) an Affiliate of the Purchaser, (ii) a trust or other custodial arrangement established by the Purchaser or an Affiliate of the Purchaser, the owners of any beneficial interest in which are limited to “qualified institutional buyers” as defined in Rule 144A promulgated under the 1933 Act, or “accredited investors” as defined in Rule 501 of Regulation D under the 1933 Act or (iii) a secured party, custodian or other entity in connection with a pledge by the Purchaser to secure public deposits or other obligations of the Purchaser or one of its Affiliates to state or local governmental entities (each, a “Purchaser Transferee”). From and after the date of such sale or transfer, the Initial Purchaser (and its successors) shall continue to have all of the rights of the Purchaser hereunder and under the other Related Documents as if no such transfer or sale had occurred; provided, however, that (A) no such sale or transfer referred to in clause (b)(i), (b)(ii) or (b)(iii) hereof shall in any way affect the obligations of the Purchaser hereunder nor shall result in the Purchaser being an “underwriter” within the meaning of the 1933 Act, (B) the Issuer and the Trustee shall be required to deal only with the Purchaser with respect to any matters under this Agreement and (C) in the case of a sale or transfer referred to in clause (b)(i), (b)(ii) or (b)(iii) hereof, only the Purchaser shall be entitled to enforce the provisions of this Agreement against the Issuer.

(c) Without limiting the provisions of Section 8.06(a), a 2015 Series A Bondholder may at any time sell or otherwise transfer to one or more transferees which are not Purchaser Transferees but each of which constitutes a “qualified institutional buyer” as defined in Rule
144A promulgated under the 1933 Act or an “accredited investor” as defined in Rule 501 of Regulation D under the 1933 Act (each a “Non-Purchaser Transferee”) all or a portion of the 2015 Series A Bonds if (A) written notice of such sale or transfer, including that such sale or transfer is to a Non-Purchaser Transferee, together with addresses and related information with respect to the Non-Purchaser Transferee, shall have been given to the Issuer, the Trustee and the Purchaser (if different than the 2015 Series A Bondholder) by such selling 2015 Series A Bondholder and Non-Purchaser Transferee, and (B) the Non-Purchaser Transferee shall have delivered to the Issuer, the Trustee and the selling 2015 Series A Bondholder, an investment letter in substantially the form attached as Attachment I to the Third Supplement (the “Investor Letter”). From and after the date the Issuer, the Trustee and the selling 2015 Series A Bondholder have received written notice and an executed Investor Letter, (A) the Non-Purchaser Transferee thereunder shall be a party hereto and shall have the rights and obligations of a 2015 Series A Bondholder hereunder and under the other Related Documents, and this Agreement shall be deemed to be amended to the extent, but only to the extent, necessary to effect the addition of the Non-Purchaser Transferee, and any reference to the assigning 2015 Series A Bondholder hereunder and under the other Related Documents shall thereafter refer to such transferring 2015 Series A Bondholder and to the Non-Purchaser Transferee to the extent of their respective interests, and (B) if the transferring 2015 Series A Bondholder no longer owns any 2015 Series A Bonds, then it shall relinquish its rights and be released from its obligations hereunder and under the Related Documents.

(d) Each 2015 Series A Bondholder shall have the right to grant participations in all or a portion of such 2015 Series A Bondholder’s interest in the 2015 Series A Bonds, this Agreement and the other Related Documents to one or more other banking or financial institutions; provided, however, that (i) no such participation by any such participant shall in any way affect the obligations of the Purchaser hereunder and (ii) the Issuer and the Trustee shall be required to deal only with the Purchaser, with respect to any matters under this Agreement, the 2015 Series A Bonds and the other Related Documents and no such participant shall be entitled to enforce any provision hereunder against the Issuer. The Issuer agrees that each participant shall be entitled to the benefits of Sections 3.01, 3.02 and 8.04 hereof to the same extent as if it were a 2015 Series A Bondholder hereunder; provided, however, that a participant shall not be entitled to receive any greater payment under Sections 3.01 and 3.02 than such 2015 Series A Bondholder would have been entitled to receive with respect to the participation sold to such participant, unless the sale of the participation to such participant is made with the Issuer’s prior written consent.

(e) Each 2015 Series A Bondholder may at any time pledge or grant a security interest in all or any portion of its rights under the 2015 Series A Bonds, this Agreement and the Related Documents to secure obligations of the Purchaser, including any pledge or assignment to secure obligations to a Federal Reserve Bank; provided that no such pledge or assignment shall release the Purchaser or such 2015 Series A Bondholder from any of its obligations hereunder or substitute any such pledgee or assignee for the Purchaser as a party hereto.

Section 8.07. Right of Setoff. If an Event of Default shall have occurred and be continuing, each 2015 Series A Bondholder and their respective Affiliates are hereby authorized at any time and from time to time, to the fullest extent permitted by applicable law, to set off and,
subject to rights (if any) of the holders of Parity Bonds and Parity Obligations, apply any and all deposits (general or special, time or demand, provisional or final, in whatever currency) at any time held and other obligations (in whatever currency) at any time owing by such 2015 Series A Bondholder or any such Affiliate to or for the credit or the account of the Issuer against any and all of the obligations of the Issuer now or hereafter existing under this Agreement or any other Related Document to such 2015 Series A Bondholder or its Affiliates, irrespective of whether or not such 2015 Series A Bondholder or its Affiliates shall have made any demand under this Agreement or any other Related Document and although such obligations of the Issuer may be contingent or unmatured or are owed to a branch, office or Affiliate of such 2015 Series A Bondholder different from the branch, office or Affiliate holding such deposit or obligated on such indebtedness. The rights of each 2015 Series A Bondholder and its Affiliates under this Section are in addition to other rights and remedies (including other rights of setoff) that such 2015 Series A Bondholder or its Affiliates may have. Each 2015 Series A Bondholder agrees to notify the Issuer promptly after any such setoff and application, provided that the failure to give such notice shall not affect the validity of such setoff and application.

Section 8.08. Counterparts; Integration; Effectiveness. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. This Agreement and the other Related Documents constitute the entire contract among the parties relating to the subject matter hereof and supersede any and all previous agreements and understandings, oral or written, relating to the subject matter hereof including the Summary of Terms and Conditions of Bank of America Merrill Lynch submitted to the Issuer on September 26, 2014. This Agreement shall become effective when it shall have been executed by the Purchaser and when the Purchaser shall have received counterparts hereof that, when taken together, bear the signatures of each of the other parties hereto. Delivery of an executed counterpart of a signature page of this Agreement by fax transmission or e-mail transmission (e.g., “pdf” or “tif”) shall be effective as delivery of a manually executed counterpart of this Agreement. Without limiting the foregoing, to the extent a manually executed counterpart is not specifically required to be delivered under the terms of any Related Document, upon the request of any party, such fax transmission or e-mail transmission shall be promptly followed by such manually executed counterpart.

Section 8.09. Survival of Representations and Warranties. All representations and warranties of the Issuer made hereunder or other document delivered pursuant hereto or thereto by the Issuer or in connection herewith shall survive the execution and delivery hereof. Such representations and warranties have been or will be relied upon by the Purchaser, regardless of any investigation made by the Purchaser or on its behalf and notwithstanding that the Purchaser may have had notice or knowledge of any Default at the time of the purchase of the 2015 Series A Bonds, and shall continue in full force and effect as long as any Obligation hereunder shall remain unpaid or unsatisfied.

Section 8.10. Severability. If any provision of this Agreement is held to be illegal, invalid or unenforceable, (a) the legality, validity and enforceability of the remaining provisions of this Agreement shall not be affected or impaired thereby and (b) the parties shall endeavor in good faith negotiations to replace the illegal, invalid or unenforceable provisions with valid provisions.
the economic effect of which comes as close as possible to that of the illegal, invalid or
unenforceable provisions. The invalidity of a provision in a particular jurisdiction shall not
invalidate or render unenforceable such provision in any other jurisdiction.

Section 8.11. Governing Law. This Agreement and the other Related Documents
and any claims, controversy, dispute or cause of action (whether in contract or tort
or otherwise) based upon, arising out of or relating to this Agreement or any other
Related Document (except, as to any other Related Document, as expressly set forth
therein) and the transactions contemplated hereby and thereby shall be governed
by, and construed in accordance with, the Law of the State of New York; provided
that the obligations of the Issuer hereunder shall be governed by, and construed in
accordance with, the Law of the State.


(a) Each party hereto hereby irrevocably waives, to the fullest extent
permitted by applicable Law, any right it may have to a trial by jury in any legal
proceeding directly or indirectly arising out of or relating to this Agreement or any
other Related Document or the transactions contemplated hereby or thereby
(whether based on contract, tort or any other theory). Each party hereto
(a) certifies that no representative, agent or attorney of any other person has
represented, expressly or otherwise, that such other person would not, in the event
of litigation, seek to enforce the foregoing waiver and (b) acknowledges that it and
the other parties hereto have been induced to enter into this Agreement and the
other Related Documents by, among other things, the mutual waivers and
certifications in this section.

(b) If any action or proceeding is filed in a court of the State by or against
any party hereto in connection with any of the transactions contemplated by this
Agreement or any other Related Document, (a) the court shall, and is hereby
directed to, make a general reference pursuant to California Code of Civil
Procedure Section 638 to a referee (who shall be a single active or retired judge) to
hear and determine all of the issues in such action or proceeding (whether of fact or
of law) and to report a statement of decision, provided that at the option of any
party to such proceeding, any such issues pertaining to a “provisional remedy” as
defined in California Code of Civil Procedure Section 1281.8 shall be heard and
determined by the court, and (b) without limiting the generality of Section 8.04, the
Issuer shall be solely responsible to pay all fees and expenses of any referee
appointed in such action or proceeding.

Section 8.13. No Advisory or Fiduciary Relationship. In connection with all aspects
of the transactions contemplated hereby (including in connection with any amendment, waiver or
other modification hereof or of any other Related Document), the Issuer acknowledges and
agrees, and acknowledges its Affiliates’ (if any) understanding, that: (a) (i) the services
regarding this Agreement provided by the Purchaser and any Affiliate thereof are arm’s-length
commercial transactions between the Issuer and its Affiliates (if any), on the one hand, and the
Purchaser and its Affiliates, on the other hand, (ii) the Issuer has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate, and (iii) the Issuer is capable of evaluating, and understands and accepts, the terms, risks and conditions of the transactions contemplated hereby and by the other Related Documents; (b) (i) the Purchaser and its Affiliates each is and has been acting solely as a principal and, except as expressly agreed in writing by the relevant parties, has not been, is not, and will not be acting as an advisor, agent or fiduciary, for the Issuer or any other Person and (ii) neither the Purchaser nor any of its Affiliates has any obligation to the Issuer with respect to the transactions contemplated hereby except those obligations expressly set forth herein and in the other Related Documents; and (c) the Purchaser and its Affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Issuer, and neither the Purchaser nor any of its Affiliates has any obligation to disclose any of such interests to the Issuer. To the fullest extent permitted by law, the Issuer hereby waives and releases any claims that it may have against the Purchaser or any of its Affiliates with respect to any breach or alleged breach of agency or fiduciary duty in connection with any aspect of any transactions contemplated hereby.

Section 8.14. Electronic Execution of Certain Documents. The words “execute,” “execution,” “signed,” “signature,” and words of like import in any Related Document (including waivers and consents) shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Purchaser, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

Section 8.15. USA Patriot Act. The Purchaser is subject to the Patriot Act and hereby notifies the Issuer that pursuant to the requirements of the Patriot Act, it is required to obtain, verify and record information that identifies the Issuer, which information includes the name and address of the Issuer and other information that will allow the Purchaser to identify the Issuer in accordance with the Patriot Act. The Issuer shall, promptly following a request by the Purchaser, provide all documentation and other information that the Purchaser requests in order to comply with its ongoing obligations under applicable “know your customer” and anti-money laundering rules and regulations, including the Patriot Act.

Section 8.16. Time of the Essence. Time is of the essence of the Related Documents.

Section 8.17. No Third-Party Rights. Nothing in this Agreement, whether express or implied, shall be construed to give to any Person other than the parties hereto and the 2015 Series A Bondholders any legal or equitable right, remedy or claim under or in respect of this Agreement, which is intended for the sole and exclusive benefit of the parties hereto.

[SIGNATURES BEGIN ON THE FOLLOWING PAGE.]
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered as of the Effective Date.

SPECIALIZED LENDING, LLC

By ______________________________
Name: Eric Kosmin
Title: Senior Vice President

PENINSULA CORRIDOR JOINT POWERS BOARD

By ______________________________
Name: Virginia A. Harrington
Title: Deputy CEO, Finance and Administration
SCHEDULE 8.02(a)

ADDRESSES

The Issuer: Peninsula Corridor Joint Powers Board
[_________________]
[_________________]
Attention: [_________________]
Facsimile: ( ) [_______]
Telephone: ( ) [_______]

The Purchaser: Specialized Lending, LLC

[_________________]
[_________________]
Attention: [_________________]
Facsimile: (___) ____-_____
Telephone: (___) ____-_____

The Trustee: U.S. Bank National Association
[_________________]
[_________________]
Attention: [_________________]
Facsimile: ( ) [_______]
Telephone: ( ) [_______]
Post-Issuance Tax Compliance Procedures  
For Tax-Exempt Bonds

The purpose of these Post-Issuance Tax Compliance Procedures is to establish policies and procedures in connection with tax-exempt bonds ("Bonds") issued by the Peninsula Corridor Joint Powers Board (the "Issuer") so as to ensure that the Issuer complies with all applicable post-issuance requirements of federal income tax law needed to preserve the tax-exempt status of the Bonds.

General

Ultimate responsibility for all matters relating to Issuer financings and refinancings rests with the Deputy CEO, Finance and Administration (the "Deputy CEO").

Post-Issuance Compliance Requirements

External Advisors / Documentation

The Deputy CEO and other appropriate Issuer personnel shall consult with bond counsel and other legal counsel and advisors, as needed, throughout the process of issuing Bonds to identify requirements and to establish procedures necessary or appropriate so that the Bonds will continue to qualify for the appropriate tax status. Those requirements and procedures shall be documented in an Issuer resolution(s), Tax Certificate(s) and/or other documents finalized at or before issuance of the Bonds. Those requirements and procedures shall include future compliance with applicable arbitrage rebate requirements and all other applicable post-issuance requirements of federal tax law throughout (and in some cases beyond) the term of the Bonds.

The Deputy CEO and other appropriate Issuer personnel also shall consult with bond counsel and other legal counsel and advisors, as needed, following issuance of the Bonds to ensure that all applicable post-issuance requirements in fact are met. This shall include, without limitation, consultation in connection with contracts with respect to the use of Bond-financed assets entered into or amended subsequent to the issuance of the Bonds.

Whenever necessary or appropriate, the Issuer shall engage expert advisors (each a "Rebate Service Provider") to assist in the calculation of arbitrage rebate payable in respect of the investment of Bond proceeds.

Role of the Issuer as Bond Issuer

Unless otherwise provided by Issuer documentation, investment of Bond proceeds shall be managed by the Deputy CEO. The Deputy CEO shall maintain records regarding the investment of, and transactions involving, Bond proceeds.

If Issuer documentation provides for Bond proceeds to be administered by a trustee, the trustee shall provide regular, periodic (monthly) statements regarding the investments and transactions involving Bond proceeds.
Arbitrage Rebate and Yield

Unless a Tax Certificate documents that bond counsel has advised that arbitrage rebate will not be applicable to an issue of Bonds:

• the Issuer shall engage the services of a Rebate Service Provider, and the Issuer or the trustee shall deliver periodic statements concerning the investment of Bond proceeds to the Rebate Service Provider on a prompt basis;

• upon request, the Deputy CEO and other appropriate Issuer personnel shall provide to the Rebate Service Provider additional documents and information reasonably requested by the Rebate Service Provider;

• the Deputy CEO and other appropriate Issuer personnel shall monitor efforts of the Rebate Service Provider and assure payment of required rebate amounts, if any, no later than 60 days after each 5-year anniversary of the issue date of the Bonds, and no later than 60 days after the last Bond of each issue is redeemed; and

• during the construction period of each capital project financed in whole or in part by Bonds, the Deputy CEO and other appropriate Issuer personnel shall monitor the investment and expenditure of Bond proceeds and shall consult with the Rebate Service Provider to determine compliance with any applicable exceptions from the arbitrage rebate requirements during each 6-month spending period up to 6 months, 18 months or 24 months, as applicable, following the issue date of the Bonds.

The Issuer shall retain copies of all arbitrage reports and trustee statements as described below under "Record Keeping Requirements."

Use of Bond Proceeds

The Deputy CEO and other appropriate Issuer personnel shall:

• monitor the use of Bond proceeds and the use of Bond-financed assets (e.g., facilities or equipment) throughout the term of the Bonds (and in some cases beyond the term of the Bonds) to ensure compliance with covenants and restrictions set forth in applicable Issuer documentation, including Tax Certificates;

• maintain records identifying the assets or portion of assets that are financed or refinanced with proceeds of each issue of Bonds;

• consult with bond counsel and other professional expert advisers in the review of any contracts or arrangements involving use of Bond-financed facilities to ensure compliance with all covenants and restrictions set forth in applicable Issuer documentation, including Tax Certificates;
• maintain records for any contracts or arrangements involving the use of Bond-financed facilities as might be necessary or appropriate to document compliance with all covenants and restrictions set forth in applicable Issuer documentation and Tax Certificates; and

• meet at least annually with personnel responsible for Bond-financed assets to identify and discuss any existing or planned use of Bond-financed assets to ensure that those uses are consistent with all covenants and restrictions set forth in applicable Issuer documentation, including Tax Certificates.

All relevant records and contracts shall be maintained as described below.

**Record Keeping Requirements**

Unless otherwise specified in applicable Issuer documentation or Tax Certificates, the Issuer shall maintain the following documents for the term of each issue of Bonds (including refunding Bonds, if any) plus at least three years:

• a copy of the Bond closing transcript(s) and other relevant documentation delivered to the Issuer at or in connection with closing of the issue of Bonds;

• a copy of all material documents relating to capital expenditures financed or refinanced by Bond proceeds, including (without limitation) construction contracts, purchase orders, invoices, trustee requisitions and payment records, as well as documents relating to costs reimbursed with Bond proceeds and records identifying the assets or portion of assets that are financed or refinanced with Bond proceeds;

• a copy of all contracts and arrangements involving private use of Bond-financed assets; and

• copies of all records of investments, investment agreements, arbitrage reports and underlying documents, including trustee statements.

Date of Adoption: _______________________.

OHSUSA:759376081.1
RESOLUTION NO. 2015 –

PENINSULA CORRIDOR JOINT POWERS BOARD
STATE OF CALIFORNIA

* * *

AUTHORIZING THE ISSUANCE OF NOT TO EXCEED $11,000,000 AGGREGATE PRINCIPAL AMOUNT OF PENINSULA CORRIDOR JOINT POWERS BOARD FAREBOX REVENUE BONDS, 2015 SERIES A, APPROVING THE FORMS OF A THIRD SUPPLEMENTAL TRUST AGREEMENT AND A CONTINUING COVENANT AGREEMENT AND AUTHORIZING THE EXECUTION AND DELIVERY THEREOF AND AUTHORIZING THE TAKING OF ALL OTHER ACTIONS NECESSARY IN CONNECTION WITH THE ISSUANCE, SALE AND DELIVERY OF SUCH FAREBOX REVENUE BONDS, INCLUDING ADOPTION OF POST-ISSUANCE TAX COMPLIANCE PROCEDURES

WHEREAS, pursuant to Article 4 of Chapter 5 of Division 7 of Title 1 of the Government Code of the State of California (the "Act") and the Joint Exercise of Powers Agreement-Peninsula Corridor Project, made and entered into as of October 3, 1996, among the Santa Clara Valley Transportation Authority, formerly known as the Santa Clara County Transit District, the City and County of San Francisco and the San Mateo County Transit District (each, a "Member Agency," and, hereinafter collectively referred to as the "Member Agencies"), creating the Peninsula Corridor Joint Powers Board (the "JPB"), the JPB is authorized to issue bonds, including revenue bonds, from time to time to finance the costs of public capital improvements, including mass transit facilities and vehicles, whenever there are significant public benefits (as such term is defined in the Act) from doing so; and

WHEREAS, the JPB proposes to finance the costs of certain capital improvements consisting of the acquisition and renovation of certain passenger rail cars and certain related capital expenditures, including the costs of platform modifications required to accommodate longer train sets made possible as a result of the rail car acquisition and the costs of acquiring wheels and spare parts (such capital improvements being hereinafter referred to as the "Project") to be used in connection with the Caltrain commuter rail service operated by the JPB; and

WHEREAS, the capital improvements which comprise the Project will be utilized to provide Caltrain commuter rail service within the geographic boundaries of each of the Member Agencies and will constitute public capital improvements which will result in significant public benefits, including more efficient delivery of transit services to
residential and commercial development within the geographic boundaries of the Member Agencies; and

WHEREAS, on October 31, 2007, the JPB issued $23,140,000 aggregate principal amount of Peninsula Corridor Joint Powers Board Farebox Revenue Bonds, 2007 Series A (the "2007 Series A Bonds"), all of which remain outstanding, to finance the costs of certain other public capital improvements to be used in connection with the Caltrain commuter rail service; and

WHEREAS, the 2007 Series A Bonds were issued pursuant to a Trust Agreement, dated as of October 1, 2007, as supplemented and amended by a First Supplemental Trust Agreement, dated as of October 1, 2007, and a Second Supplemental Trust Agreement, dated as of September 1, 2010 (hereinafter collectively referred to as the "Existing Trust Agreement"), between the JPB and U.S. Bank National Association, as trustee (the "Trustee"); and

WHEREAS, in order to facilitate financing of costs of the Project, the JPB proposes to authorize the issuance of an additional series of farebox revenue bonds, in an aggregate principal amount not to exceed 11 million dollars ($11,000,000) pursuant to the provisions of the Act, such farebox revenue bonds to be designated "Peninsula Corridor Joint Powers Board Farebox Revenue Bonds, 2015 Series A" (such additional series of farebox revenue bonds being hereinafter referred to as the "2015 Series A Bonds"); and

WHEREAS, the 2015 Series A Bonds will be issued pursuant to the Existing Trust Agreement, as supplemented by a Third Supplemental Trust Agreement thereto (the "Third Supplemental Trust Agreement," and, together with the Existing Trust Agreement, hereinafter collectively referred to as the "Trust Agreement"), which is proposed to be entered into between the JPB and the Trustee; and

WHEREAS, there has been prepared and presented to the JPB a proposed form of Third Supplemental Trust Agreement; and

WHEREAS, the proceeds of the 2015 Series A Bonds will be applied pursuant to the provisions of the Third Supplemental Trust Agreement as finally executed and
delivered to finance the costs of the Project and may be applied to pay certain costs
incurred in connection with the issuance of the 2015 Series A Bonds; and

WHEREAS, the 2015 Series A Bonds will be sold via private sale to Specialized
Lending, LLC (the “Purchaser”), which was selected through a request for proposal
process; and

WHEREAS, to induce the Purchaser to purchase the 2015 Series A Bonds and to
provide for the purchase of the 2015 Series A Bonds by the Purchaser, the JPB proposes
to enter into a Continuing Covenant Agreement (the “Continuing Covenant
Agreement”) with the Purchaser; and

WHEREAS, there has been prepared and presented to the JPB a proposed form
of Continuing Covenant Agreement; and

WHEREAS, in order to comply with requirements established by the Internal
Revenue Service applicable to issuers of tax-exempt bonds, the JPB proposes to adopt
post-issuance tax compliance policies and procedures (hereinafter referred to as the
"Post-Issuance Compliance Procedures"); and

WHEREAS, there has been prepared and presented to the JPB a proposed form
of Post-Issuance Compliance Procedures; and

WHEREAS, in order to accomplish the foregoing, it will be necessary for the JPB to
enter into or approve and deliver the following agreements and procedures, forms of
which have been prepared and presented to this meeting:

(1) Third Supplemental Trust Agreement;

(2) Continuing Covenant Agreement; and

(3) Post-Issuance Compliance Procedures; and

WHEREAS, the JPB desires to authorize and direct the execution and delivery of
each of the above-identified agreements, to authorize the issuance and sale of the
2015 Series A Bonds pursuant thereto, to approve and adopt the Post-Issuance
Compliance Procedures, and to authorize the taking of such other actions as shall be
necessary to consummate the financing described in the above-identified agreements
OHSUSA:756329641.2

and herein (hereinafter referred to as the "Financing") and to authorize the taking of various actions in connection therewith; and

WHEREAS, each of the Member Agencies within whose geographic boundaries the Caltrain commuter rail service operates, has scheduled and conducted a public hearing, each of which public hearing was duly noticed, concerning the Financing described herein for purposes of Section 6586.5 of the Government Code of the State of California (the "Government Code"); and

WHEREAS, subsequent to the applicable public hearing, the governing body of each of the Member Agencies adopted a resolution approving the Financing described herein for purposes of Section 6586.5 of the Government Code, each of which resolutions also made a finding of significant public benefit in accordance with the criteria specified in Section 6586.5 of the Government Code.

NOW THEREFORE, BE IT RESOLVED by the governing body of the Peninsula Corridor Joint Powers Board as follows:

Section 1. Findings. The JPB hereby finds and determines that the foregoing recitals are true and correct.

Section 2. Authorization of Issuance of the 2015 Series A Bonds. The issuance by the JPB of the 2015 Series A Bonds, such 2015 Series A Bonds to be issued in an aggregate principal amount not to exceed 11 million dollars ($11,000,000), is hereby authorized and approved. The 2015 Series A Bonds shall be executed by the manual or facsimile signature of the Executive Director of the JPB (the "Executive Director") and shall be countersigned by the manual or facsimile signature of Deputy CEO, Finance and Administration of the JPB (herein referred to as the "Deputy CEO"), who functions as the chief financial officer and the treasurer of the JPB.

Section 3. Approval of Third Supplemental Trust Agreement. The proposed form of Third Supplemental Trust Agreement presented to this meeting is hereby approved. The Chair of the governing body of the JPB or the Vice Chair of the governing body of the JPB or the Executive Director or the Deputy CEO, each acting alone, is hereby authorized and directed, for and in the name and on behalf of the JPB, to execute and deliver, and the Secretary of the governing body of the JPB (the
"Secretary") is hereby authorized and directed, for and in the name and on behalf of the JPB, to acknowledge and deliver, a Third Supplemental Trust Agreement, in substantially said form, with such changes therein as the officer executing the same, may require or approve, such approval to be conclusively evidenced by the execution and delivery thereof. The date, maturity date or dates (not to exceed 25 years from the date of issuance of such 2015 Series A Bonds), methods of determining interest rate or rates, which interest rate or rates shall not exceed the Maximum Rate (as such term is defined in the Trust Agreement), interest payment dates or method of determining the same, denominations, forms, registration and exchange privileges, place or places of payment, tender provisions, terms of redemption and other terms of the 2015 Series A Bonds shall be as provided in the Third Supplemental Trust Agreement, as finally executed and delivered, the approval by the JPB of said final form of Third Supplemental Trust Agreement to be conclusively evidenced by the execution and delivery thereof.

Section 4. **Application of Proceeds.** The proceeds of the 2015 Series A Bonds shall be applied to finance the costs of the Project and may be applied to pay certain costs incurred in connection with the issuance of the 2015 Series A Bonds, all in accordance with the provisions of the Third Supplemental Trust Agreement as finally executed and delivered.

Section 5. **Approval of Continuing Covenant Agreement.** The proposed form of Continuing Covenant Agreement presented to this meeting is hereby approved. The sale of the 2015 Series A Bonds to the Purchaser at the principal amount thereof in accordance with said form of Continuing Covenant Agreement, is hereby approved. The Executive Director or the Deputy CEO (each, an "Authorized Representative") is hereby authorized and directed, for and in the name and on behalf of the JPB, to execute and deliver a Continuing Covenant Agreement, in substantially said form, with such changes therein as the officer executing the same, may require or approve, such approval to be conclusively evidenced by the execution and delivery thereof.

Section 6. **Approval and Adoption of Post-Issuance Compliance Procedures.** The proposed form of Post-Issuance Compliance Procedures presented to this meeting is hereby approved and adopted.
Section 7  Ratification of Actions. All actions heretofore taken by the officers and agents of the JPB with respect to the Financing and the issuance and sale of the 2015 Series A Bonds are hereby ratified, confirmed, and approved.

Section 8.  Completion of Financing. Each Authorized Representative, the Secretary and other appropriate officers of the JPB are each hereby authorized and directed, for and in the name and on behalf of the JPB, to do any and all things and to take any and all actions and to execute and deliver any and all agreements, certificates, documents and instruments, including, without limitation, signature certificates, no-litigation certificates, disclosure certificates, tax certificates, certificates concerning the representations in the Continuing Covenant Agreement and contracts for rebate compliance services, and to do any and all things and take any and all actions which may be necessary or advisable to effectuate the actions which the JPB has approved in this Resolution and to carry out, consummate and perform the duties of the JPB set forth in the Trust Agreement, the Continuing Covenant Agreement and all other documents executed in connection with the issuance of the 2015 Series A Bonds.

Section 9.  Authorized Representative; Subsequent Actions. All approvals, consents, directions, notices, orders, requests and other actions permitted or required by the Trust Agreement or by any of the other documents authorized by this Resolution or by the Post-Issuance Compliance Procedures, including, without limitation, any of the foregoing which may be necessary or desirable in connection with any investment of the proceeds of the 2015 Series A Bonds, any investment or reinvestment of the amounts held on deposit in any of the funds and accounts established under the Trust Agreement, any amendment of any agreements, certificates or documents authorized by this Resolution, any amendment of the Post-Issuance Compliance Procedures or the tender, redemption, refunding or defeasance of any 2015 Series A Bonds, may be given or taken or made, as applicable, by any Authorized Representative without further authorization or direction by the governing body of the JPB, and each Authorized Representative is hereby authorized and directed to give any such approval, consent, direction, notice, order or request and to take any such action which such Authorized Representative may deem necessary or desirable to further the purposes of this Resolution.
Section 10. **Severability of Invalid Provisions.** If any section, paragraph, clause or provision of this Resolution shall for any reason be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this Resolution which shall continue in full force and effect.

Section 11. **Effective Date.** This Resolution shall take effect immediately upon its passage.

Regularly passed and adopted this 8th day of January, 2015 by the following vote:

- **AYES:**
- **NOES:**
- **ABSENT:**

___________________________________________
Chair, Peninsula Corridor Joint Powers Board

ATTEST:

___________________________________________
JPB Secretary
AGENDA ITEM # 12
JANUARY 8, 2015

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: Joint Powers Board
THROUGH: Michael J. Scanlon
Executive Director

FROM: Gigi Harrington            C.H. (Chuck) Harvey
Deputy CEO                        Deputy CEO

SUBJECT: AUTHORIZE AWARD OF CONTRACT TO PROVIDE CONTRACTED SHUTTLE SERVICES

ACTION
Staff Coordinating Council recommends the Board:

1. Award a contract to MV Transportation, Inc. (MV) of Dallas, Texas to provide Contracted Shuttle Services for a base term of five years and five months, including transition and mobilization, at an estimated amount of $14,716,754.

2. Authorize the Executive Director or designee to execute a contract with MV in full conformity with the terms and conditions of the solicitation documents and negotiated agreement.

3. Authorize the Executive Director or designee to exercise up to five additional one-year option terms with MV, for an estimated amount of $16,103,395 for the five-year period, if it is in the best interest of the Peninsula Corridor Joint Powers Board (JPB). The option terms may be exercised in one-year or multi-year increments at the sole discretion of the JPB.

SIGNIFICANCE
Award of a contract to MV will continue to provide the JPB with a shuttle service contractor to provide last mile connections for train passengers to their final destinations.

BUDGET IMPACT
Funding for these services will be available under approved and projected operating budgets. Awarding a contract base term of five years and five months serves the purpose of aligning the contract years with the JPB’s fiscal years.

BACKGROUND
The Contracted Shuttle Services (Shuttle Program) was initiated by the California State Department of Transportation in September of 1988 as a one-year feeder bus demonstration program operated by a third-party contractor to transport train patrons...
for the last mile of their trips. Since that time, the Shuttle Program has grown from its modest beginning into a robust transportation solution offering one million annual last mile connections, primarily to local employers’ work sites and residential neighborhoods. To accommodate this evolution in demand, the current fleet of vehicles for operating the service has increased to include 25 peak vehicles. Due to this continuing increase in demand, two additional routes are projected to commence under the new contract.

The JPB, the San Mateo Transit District (District) and the Peninsula Traffic Congestion Relief Alliance (Alliance) (collectively referred to as “Agencies”) determined that material benefits would be gained by collaborating on a joint solicitation process. Consequently, the Agencies signed a Memorandum of Understanding directing staff to prepare a joint procurement for the Contracted Shuttle Services.

Prior to the current procurement, a Request for Proposals (RFP) to identify a firm to provide the desired services was jointly developed and staff received five proposals from interested firms. However, after firms were notified of the evaluation results and recommendation of award of contract to MV Transportation, the Agencies received a protest from Parking Company of America Management (PCAM) alleging MV Transportation’s staffing plan was inadequate. California Labor Code 1070 et seq. requires agencies soliciting public transit services to award preference points to each proposer that agrees to retain the current contractor’s employees. In furtherance of this requirement, the Agencies issued with the RFP a roster provided by PCAM of its then-current employees. As part of its due diligence in evaluating PCAM’s protest, staff concluded that inconsistent staffing information was provided to the proposers. In the interest of fostering a fair, full and transparent solicitation process, staff recommended that the Board reject all proposals. At its January 2014 meeting, the Board rejected all proposals and directed staff to re-solicit the services.

On May 28, 2014, a new RFP to provide Contracted Shuttle Services was issued. The solicitation was advertised in a newspaper of general circulation and on the Agencies’ websites. Notifications went out to interested proposers, including disadvantaged business enterprises (DBEs) that were registered in the procurement database.

An Evaluation Committee (Committee) composed of qualified staff and representatives from the Alliance with experience in managing contracted public transportation services reviewed and ranked proposals according to the following weighted criteria set forth in the RFP:

- Approach to Scope of Services 30 points
- Qualifications and Experience of Firm 20 points
- Financial Condition of Firm 15 points
- Qualifications and Experience of Management Team and Key Personnel 15 points
- Cost Proposal 20 points
- Preference Points 10 points
As required by California Labor Code 1070 et seq., preference points were awarded to firms that agreed to retain the employees of the contractor currently providing contracted shuttle services.

Staff received proposals from two companies, neither of which are small business enterprises (SBEs) or DBEs. After review, evaluation, and initial scoring of proposals, the Committee invited the two firms for interviews. Following site visits and interviews, the Committee completed the final evaluation and consensus ranking. The firms are listed below in order of their final consensus ranking:

- MV Transportation, Inc., Dallas, Texas
- Parking Company of America Management, Los Angeles, CA

MV Transportation is one of the nation’s largest passenger transportation companies. Additionally, it has more than 14 years of successful experience operating services for the District. MV’s operations team assigned to the JPB’s account has in-depth knowledge of State and Federal regulatory requirements as well as extensive experience managing public transportation programs. MV also will be providing a new fleet of lower emissions, contractor-owned vehicles.

MV has the requisite experience and qualified operations team for the successful operation of the JPB’s Shuttle Program. Staff therefore recommends award of a contract to this company. Additionally, MV confirmed as part of its proposal that it will immediately recognize the Teamsters Local 665 as the bargaining unit representing the employees that provide the Contracted Shuttle Services. This is the existing bargaining unit for the current contractor’s employees. While MV intends to perform this contract with its own labor force, MV plans to procure operators uniforms from a DBE supplier.

After contract award, there will be a five-month transition and mobilization period to allow the new Contractor to coordinate affairs with the incumbent Contractor as well as to purchase a new fleet of vehicles required to operate the Shuttle Services. Therefore, the first term of the base contract will commence on February 1, 2015 and conclude on June 30, 2016. All subsequent terms will begin on July 1 and end on June 30 of the following year.

Parking Company of America Management currently provides Contracted Shuttle Services to the JPB at the annual price of $3.4 million. The Board approved in July 2014 a month-to-month time extension amendment with PCAM to continue to provide Shuttle Services until June 30, 2015.

Contract Officer: Adwoa Oni 650.508.6411
Project Manager: Mike Stevenson, Associate Operations Contract Administrator 650.508.7979
RESOLUTION NO. 2015 -

BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD
STATE OF CALIFORNIA

*   *   *

AUTHORIZING AWARD OF CONTRACT TO MV TRANSPORTATION, INC.
TO PROVIDE CONTRACTED SHUTTLE SERVICES FOR
AN ESTIMATED AMOUNT OF $14,716,754 A FOR FIVE-YEAR AND FIVE-MONTH BASE TERM

WHEREAS, the Peninsula Corridor Joint Powers Board (JPB), the San Mateo County District (District) and the Peninsula Traffic Congestion Relief Alliance (Alliance) (collectively referred to as "Agencies") previously issued a joint procurement to solicit competitive proposals to provide contracted shuttle services and received proposals from five firms in response to the solicitation; and

WHEREAS, after firms were notified of the evaluation results and recommendation of award of contract to MV Transportation, Inc. (MV Transportation), the Agencies received a protest regarding the award of the contract from Parking Company of America Management (PCAM); and

WHEREAS, staff undertook a thorough evaluation of PCAM's protest, including its allegation that MV Transportation's staffing plan was inadequate; and

WHEREAS, following staff's evaluation and conclusion that inaccurate staffing information had been provided to the proposers, and in the interest of fostering a fair, full and transparent solicitation process, staff recommended that all proposals be rejected, which rejection was authorized by the Board at its January 2014 meeting, at which time the Board also directed staff to re-solicit the services; and

WHEREAS, on May 28, 2014, a new Request for Proposals (RFP) to provide Contracted Shuttle Services was issued; and
WHEREAS, the solicitation was advertised in a newspaper of general circulation, on the Agencies’ websites, and notifications were sent out to interested proposers, including disadvantaged business enterprises (DBEs) that were registered in the procurement database; and

WHEREAS, in response to the Agencies' solicitation, two firms submitted proposals; and

WHEREAS, an Evaluation Committee (Committee) has reviewed proposals and conducted interviews and site visits, and ranked the proposers' proposals according to the evaluation criteria set forth in the RFP; and

WHEREAS, the Committee has determined that MV Transportation, Inc. is the highest consensus-ranked firm; and

WHEREAS, legal counsel has reviewed MV Transportation, Inc.’s proposal and determined that it complies with the requirements of the solicitation documents; and

WHEREAS, the Executive Director recommends that a five-year and five-month base contract for contracted shuttle services be awarded to MV Transportation, Inc., for an estimated amount of $14,716,754.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors (Board) of the Peninsula Corridor Joint Powers Board hereby awards a contract for contracted shuttle services to MV Transportation, Inc. of Dallas, Texas for a base term of five years and five months for an estimated amount of $14,716,754; and

BE IT FURTHER RESOLVED that the Board authorizes the Executive Director or designee to execute a contract on behalf of the JPB with MV Transportation, Inc. in full conformity with all of the terms and conditions of the RFP and negotiated agreement, and in a form approved by legal counsel; and
BE IT FURTHER RESOLVED that the Board authorizes the Executive Director, or his designee, to exercise up to five additional, one-year option terms with MV Transportation, Inc. in the total estimated amount of $16,103,395 for the five-year period, if it is in the best interest of the JPB, with the understanding that the option terms may be exercised in one-year or multi-year increments at the sole discretion of the JPB.

Regularly passed and adopted this 8th day of January, 2015 by the following vote:

AYES:

NOES:

ABSENT:

______________________________
Chair, Peninsula Corridor Joint Powers Board

ATTEST:

______________________________
JPB Secretary
AGENDA ITEM # 13
JANUARY 8, 2015

PENINSULA CORRIDOR JOINT POWERS BOARD
STAFF REPORT

TO: Joint Powers Board

THROUGH: Michael J. Scanlon
Executive Director

FROM: April Chan
Executive Officer, Planning and Development

SUBJECT: INFORMATION ON CALTRAIN SUSTAINABILITY EFFORTS

ACTION
This report is for information only. No Board action is required.

SIGNIFICANCE
Staff will provide an informational presentation on Caltrain’s sustainability efforts, including:

- Working definition of sustainability
- Program framework, including recent activities
- Next steps

Staff will provide updates on Caltrain’s sustainability efforts to the Board on a regular basis.

BUDGET IMPACT
There is no impact on the budget.

BACKGROUND
The San Mateo County Transit District put in place a District-wide Sustainability program in 2009, which included establishing an overarching sustainability policy. For its SamTrans bus service, the District developed a baseline greenhouse gas emissions inventory in 2010 and received Sustainability Commitment Bronze level recognition from the American Public Transportation Association in 2011. The District’s sustainability policies and practices extend to facilities and employees that support the management of Caltrain’s service.

As part of the FY2015-2024 Caltrain Strategic Plan, which was approved by the Board at the September 4, 2014 meeting, the JPB identified developing a more sustainable future and supporting environmental stewardship as integral components of the agency’s long-range goals and objectives.

Prepared By: Michelle Senatore, Principal Planner, Sustainability 650.508.6384
TO: Joint Powers Board

THROUGH: Michael J. Scanlon
Executive Director

FROM: Mark Simon
Executive Officer, Public Affairs

SUBJECT: STATE AND FEDERAL LEGISLATIVE UPDATE

ACTION
This report is for information only. No Board action is required.

SIGNIFICANCE
Staff will provide regular updates to the Board in accordance with the approved Legislative Program.

STATE ISSUES
On December 1, State lawmakers were sworn into office with 27 new members in the Assembly and ten new members in the Senate.

Assembly member Toni Atkins was selected to be the new Assembly Speaker and Assembly member Kevin Mullin was named Speaker Pro Tem, replacing Assembly member Nora Campos. Assembly member Jim Frazier will serve as the Chair of the Assembly Transportation Committee.

Senator Kevin de Leon has been selected to serve as Senate President Pro Tem and Senator Jim Beall will serve as Chair of the Senate Transportation and Housing Committee.

Several bills have already been introduced prior to the Legislature reconvening on January 5, 2015. Most of the bills introduced so far bills recycled from last session that failed to win approval. Some bills of interest are:

Fuel Exemptions Under Cap and Trade
Assembly Bill (AB) 23 and Senate Bill (SB) 5 would exempt oil and gas from being included in the Cap and Trade program. As of January 1, producers of transportation fuels will be required to buy permits for the emissions they put into the air. These bills would keep oil and gas out of the program permanently. Both bills are backed by the Republican caucuses in each house.
Cap and Trade Extension
SB 32 would extend the cap and trade program past 2020 into 2050. The current cap and trade program requires greenhouse gas emissions levels to be reduced to the levels they were in 1990 by the year 2020. This bill would require further reductions to levels that are 80 percent below the 1990 level by 2050.

Transit and Intercity Rail Program Changes
SB 9 would prohibit the Transit and Intercity Rail Cap and Trade program from providing operational funds and instead would provide funds for large capital improvements with a total cost exceeding $100 million.

FEDERAL ISSUES
Tax Extenders
In 2014, Congress let pre-tax commute benefits for transit riders fall from $245 to $130, even though the benefit for drivers remained at the higher level. Nearly a year later, Congress approved a tax extenders bill (H.R. 5771, The Tax Increase Prevention Act) that restores parity for transit riders, but that parity will expire again on January 1, 2015 unless another extension is approved.

The bill technically allows transit riders to retroactively collect the benefit at the higher level, but administrative and funding challenges may prevent the agencies responsible for managing the benefit to process retroactive claims.

Staff will continue to work with APTA and other organizations to advocate for the permanent restoration of mass transit commuter tax benefits that are on par with those that drivers receive.

Appropriations
On December 13, Congress approved an omnibus appropriations bill that avoids a government shutdown and funds most government programs through the end of September 2015. The bill funds formula transportation programs at the fully authorized amount and includes $500 million for the TIGER multimodal discretionary grant program, which is $100 million less than in 2014.

Prepared By: Seamus Murphy, Director, Government and Community Affairs
<table>
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<tr>
<th>Bill ID/Topic</th>
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<th>Summary</th>
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<td>SB 9 Beall D</td>
<td>S. PRINT 12/2/2014-From printer. May be acted upon on or after January 1.</td>
<td>Existing law requires all moneys, except for fines and penalties, collected by the State Air Resources Board from the auction or sale of allowances as part of a market-based compliance mechanism relative to reduction of greenhouse gas emissions, to be deposited in the Greenhouse Gas Reduction Fund. This bill would modify the purpose of the program to delete references to operational investments and instead provide for the funding of large, transformative capital improvements with a total cost exceeding $100,000,000. The bill would require the Transportation Agency, in prioritizing and selecting projects for funding, to consider the extent to which a project reduces greenhouse gas emissions, and would add additional factors to be considered in evaluating applications for funding. The bill would require the Transportation Agency to develop, by July 1, 2016, an initial 5-year estimate of revenues reasonably expected to be available for the program, with subsequent estimates to be made every other year for additional 5-year periods, and would require the agency to adopt 5-year programs of projects consistent with those estimates. The bill would require the agency to make a multiyear funding commitment for a project proposed to be funded over more than one fiscal year, and would authorize the California Transportation Commission to approve a letter of no prejudice that allow an applicant to expend its own funds on a project in the adopted program of projects, subject to future reimbursement from program funds for eligible expenditures. This bill contains other existing laws.</td>
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