AGENDA

PENINSULA CORRIDOR JOINT POWERS BOARD

Technology, Operations, Planning, and Safety (TOPS)
Committee Meeting

July 24, 2024, 1:30 pm

Bacciocco Auditorium, 2nd Floor
1250 San Carlos Ave., San Carlos, CA

Committee Members: Rico E. Medina (Chair), Pat Burt, Shamann Walton

Members of the public may participate remotely via Zoom at **https://us06web.zoom.us/j/81186731470?pwd=OUE3b0ZiY3ZoYzRCN280UG5Gbi9WZz09** or by entering Webinar ID: **811 8673 1470,** Passcode: **274739**, in the Zoom app for audio/visual capability or by calling 1-669-219-2599 (enter webinar ID and press **#** when prompted for participant ID) for audio only. The video live stream will be available after the meeting at https://www.caltrain.com/video-board-directors.

Members of the public also may participate in person at: San Mateo County Transit District, Bacciocco Auditorium - Second Floor, 1250 San Carlos Ave., San Carlos, CA, or any other noticed location.

Public Comments: Public comments may be submitted to publiccomment@caltrain.com prior to the meeting's call to order so that they can be sent to the Board as soon as possible, while those received during or after an agenda item is heard will be included into the Board's weekly correspondence and posted online at: https://www.caltrain.com/about-caltrain/meetings.

Verbal public comments will also be accepted during the meeting in person and through Zoom* or the teleconference number listed above. Public comments on individual agenda items are limited to one per person PER AGENDA ITEM. Participants using Zoom over the Internet should use the Raise Hand feature to request to speak. For participants calling in, dial *67 if you do not want your telephone number to appear on the live broadcast. Callers may dial *9 to use the Raise Hand feature for public comment. Each commenter will be recognized to speak, and callers should dial *6 to unmute themselves when recognized to speak.

Each public comment is limited to two minutes. The Board Chair has the discretion to manage the Public Comment process in a manner that achieves the purpose of public communication and assures the orderly conduct of the meeting.

July 24, 2024 - Wednesday **1:30 pm**

All items to which Government Code section 84308 applies have been marked with an asterisk.

A double asterisk indicates that one or more Directors of the JPB serve on the governing board of a public agency with which the JPB proposes to contract. Under Government code section 1091(a)((9), this relationship is considered to be a noninterest but it must be disclosed.

1. Call to Order / Pledge of Allegiance

2. Roll Call

3. Public Comment on Items Not on the Agenda
   Comments by each individual speaker shall be limited to two (2) minutes. Items raised that require a response will be deferred for staff to reply.

4. Meeting Minutes of May 29, 2024

5. Award Pre-Construction Contract for Construction Manager General Contractor (CMGC) Services for Rengstorff Avenue Grade Separation Project* — Motion

6. Adopt Revised Policy Regarding Trees on or Adjacent to the Caltrain Right of Way — Motion

7. Receive Update on Caltrain Safety Performance — Motion

8. Receive Update on Rail Activation Management Program — Informational

9. Committee Member Requests — Informational

10. Date/Time of Next Regular TOPS Committee Meeting: August 28, 2024 at 1:30 pm.
    The meeting will be accessible via Zoom and in person at the San Mateo County Transit District, Bacciocco Auditorium, 2nd Floor, 1250 San Carlos Avenue, San Carlos, CA 94070.

11. Adjourn

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

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. Communications to the Board of Directors can be e-mailed to board@caltrain.com. *Free translation is available; Para traducción llama al 1.800.660.4287; 如需翻译 请电1.800.660.4287*

Date and Time of Board and Committee Meetings

JPB Board: First Thursday of the month, 9:00 am; JPB Technology, Operations, Planning, and Safety (TOPS) Committee: Two Wednesdays before the Board meeting, 1:30pm. The date, time, and location of meetings may be changed as necessary. Meeting schedules for the Board and committees are available on the website.

Location of Meeting

Members of the Public may attend this meeting in person or remotely via Zoom. *Should Zoom not be operational, please check online at https://www.caltrain.com/about-caltrain/meetings for any updates or further instruction.

Public Comment*

Members of the public are encouraged to participate remotely or in person. Public comments may be submitted by comment card in person and given to the JPB Secretary. Prior to the meeting's call to order, public comment may be sent to publiccomment@caltrain.com so that they can be sent to the Board as soon as possible, while those received during or after an agenda item is heard will be included into the Board's weekly correspondence and posted online at: https://www.caltrain.com/about-caltrain/meetings .

Oral public comments will also be accepted during the meeting in person or through Zoom or the teleconference number listed above. Public comments on individual agenda items are limited to one per person PER AGENDA ITEM. Each commenter will be automatically notified when they are unmuted to speak for two minutes or less. The Board Chair shall have the discretion to manage the Public Comment process in a manner that achieves the purpose of public communication and assures the orderly conduct of the meeting.

Accessible Public Meetings/Translation

Upon request, the JPB will provide 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 and provide comments at/related to public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, auxiliary aid, service or alternative format requested at least 72 hours in advance of the meeting or hearing. Please direct requests for disability-related modification and/or interpreter services to the Title VI Administrator at San Mateo County Transit District, 1250 San Carlos Avenue, San Carlos, CA 94070-1306; or email titlevi@samtrans.com; or request by phone at 650-622-7864 or TTY 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 is 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.

Peninsula Corridor Joint Powers Board
Technology, Operations, Planning, and Safety (TOPS) Committee
1250 San Carlos Avenue, San Carlos, CA 94070
DRAFT Minutes of May 29, 2024

Members Present: Pat Burt, Shamann Walton, Rico E. Medina (Chair)

Staff Present: R. Barnard, M. Bouchard , D. Chazan, J. Harrison, L. Leung, G. Rogers, D. Seamans, N. Soultanov, M. Tseng

1. **Call to Order/Pledge of Allegiance**
   Chair Medina called the meeting to order at 1:30 pm and led the Pledge of Allegiance.

2. **Roll Call**
   District Secretary Dora Seamans called the roll and confirmed a Board quorum was present.

3. **Public Comment on Items not on the Agenda -** There were none.

4. **Meeting Minutes of April 24, 2024**

   Motion/Second: Walton/Burt
   Ayes: Burt, Walton, Medina
   Noes: None

5. **Authorize the Fourth Amendment of the Use, Operating and Maintenance (UOM) Agreement for the Millbrae Intermodal Station (with BART)***
   Lawrence Leung, Rail Contracts and Budget Manager, provided a presentation of the following:
   - Background on the BART (Bay Area Rapid Transit) and JPB shared property agreement effective February 18, 2005 - annual increase in fiscal costs
   - Extend current agreement to fiscal year (FY) 2028; update to cost-sharing schedule and Exhibit G-1 (add column for contacts and maintenance schedule/frequency), and clause allowing cost deduction for repairs/maintenance
   - Cost of $1.037 million below estimated budget of $1.1 million

   Motion/Second: Walton/Burt
   Ayes: Burt, Walton, Medina
   Noes: None

6. **Authorize the Executive Director to Execute a Memorandum of Understanding (MOU) With the City of Menlo Park for Activities Undertaken in Support of the Middle Avenue Undercrossing Project***
   Robert Barnard, Chief of Rail Design and Construction, provided a presentation of the following:

- Project background - sponsored by City of Menlo Park to improve connectivity
- $2 million in funding for investing in resources (scope, schedule, costs)
- Future amendments for final design, advancing enabling work/utility relocations, and full instructions
- Project breakdown: re-assessment of cost and design through on-call general engineering consultants, clearance from on-call environmental bench, construction schedule and evaluation of constructability/risks/pricing using pre-construction services, evaluation by an independent contractor to review details obtained by pre-construction services

The Committee Members had a discussion and staff provided further clarification in response to the Committee's comments and questions, which included the following:

- Need to review policies and objectives for project guidance - prompted by concerns from residents about increasing project costs

Motion/Second: Walton/Burt
Ayes: Burt, Walton, Medina
Noes: None

7. Receive Fiscal Year 2024 Quarter 3 Capital Program Quarterly Report

Robert Barnard, Chief of Rail Design and Construction, provided a presentation on the following:

- Scheduled variances for 43 percent out of 29 projects – 6 of 10 slipped projects were schedule related
- Mixed results: increase in growth, volume, complexity, and financial portfolio, but ongoing staffing difficulties - increase in on-call consulting firms and JPB staff but 50 percent vacancy for engineering positions
- Forecast increased (in-house) staffing with additional assistant project managers and project managers, open entry level positions, and use resident and office engineers
- Evaluating cost effectiveness through budgeting, competitive pricing, bundling work and services, and risk allocation - locally and nationwide cost index increase of more than 50 percent
- Upcoming CMGC targets- pricing for Broadway Burlingame Project in July, Board Approval for Rengstorff Project contract execution and pricing in August, issuance of a RFP (Request for Proposal) for Middle Avenue Project contract and pricing

8. Receive Update on Caltrain Capital Improvement Plan

Nicole Soultanov, Deputy Director of Capital Program Planning, provided a presentation of the following:

- Significant progress made since last update in July 2023
- CIP (Capital Improvement Plan) deliverables to be published starting Summer 2024 - wrapping up draft prioritization framework, and publish Caltrain 10-Year CIP and 4-Year Rolling Plan in late Fall 2024

- Filtering of projects through finances, project readiness, and organizational capacity
- Over 140 capital projects and programs in CIP list to span the next 10 years emphasizing safety and service improvements
- Unconstrained Projects - importance ranking based on safety, reliability, accessibility, and sustainability whereas mandate, compliance, and emergency projects importance based on deadlines

The Committee Members had a discussion and staff provided further clarification in response to the Committee's comments and questions, which included the following:

- Confirmed level boarding is on refined capital projects list
- Frequency of updates to CIP- based on business plan and future assumptions updates. Staff addressed current efforts taken to update the business plan that serves as a framework
- Disruption of workforce by COVID-19 and economic recession with adjustments entailed to current environment

9. Receive Update on Rail Activation Management Program

Graham Rogers, Project Manager, provided a presentation that included the following:

- On schedule with no deviations
- Additional risk added of unauthorized access causing unusable systems and the need for redevelopment of systems
- Weekly preparations for soft launch - improve trackability, organization, and usability compared to current systems
- Ongoing efforts to ensure safety information and documentation is up to standards
- Use of marketing (outreach events, ads, media, etc.) to increase public knowledge of upcoming changes in service
- Soft launch in mid-August to introduce first train into existing schedule. VIP (Very Important Person) celebration and first train ride for electeds and officials. Gradually introduce EMUs (electric multiple units) to service every week and ramp up over four-to-six-week period leading to September
  Last weekend shutdown on June 8 and9 for eight train power contingency testing

10. Committee Member Requests

There were none.

11. Date/Time of Next Regular TOPS Committee Meeting: Wednesday, July 24, 2024 at 1:30 pm.

12. Adjourn – The meeting adjourned at 2:29 pm

Peninsula Corridor Joint Powers Board
Staff Report

To:	Technology, Operations, Planning, and Safety (TOPS) Committee
Through:	Michelle Bouchard, Executive Director
From:	David Covarrubias, Deputy Chief Financial Officer
Subject:	**Award Pre-Construction Contract for Construction Manager General Contractor (CMGC) Services for Rengstorff Avenue Grade Separation Project**

☐ Finance Committee Recommendation ☐ Technology, Operations, Planning, and Safety Committee Recommendation ☐ Advocacy and Major Projects Committee Recommendation

Purpose and Recommended Action

The Rengstorff Avenue Grade Separation Project (Project) was conceived to address safety and traffic operational issues at the Project site. The Project will eliminate the at-grade crossing at Rengstorff Avenue, which creates congestion, trip delays, air quality impacts, impacts on local and regional businesses, and unsafe situations that arise at the crossing on a daily basis, and replace it with a grade separation to separate the railroad from all vehicular, pedestrian, and bicycle traffic.

Rengstorff Avenue is a major arterial connecting several business districts to US-101 and the Central Expressway. Currently, 104 Caltrain commuter trains pass through the Rengstorff Avenue at-grade crossing daily. The Peninsula Corridor Joint Powers Board (JPB) requires a qualified firm to provide Construction Manager General Contractor (CMGC) Pre-Construction Services (Services) for the final design of the Project.

Staff recommends that the Board of Directors (Board) of the JPB:

1. Award a contract to Atkinson/Clark Joint Venture of San Francisco, California (Atkinson/Clark) to serve as the CMGC and provide the Services for the Project for an amount of $2,314,429.
2. Authorize the Executive Director or designee to execute a contract with Atkinson/Clark in full conformity with the terms and conditions set forth in the solicitation documents and negotiated agreement, and in a form approved by legal counsel.

Discussion

The CMGC will work closely with JPB staff and other consultants to perform pre-construction services to assist in the development of the Project's final design and prepare for the construction phase. These efforts will include working with the final designer, AECOM Technical Services, Inc. (Designer), reviewing the design and construction documents to promote constructability and efficiency, and participating in design decisions by providing expertise, estimates, plans and recommendations regarding construction materials, means and methods, systems, phasing, and costs within the budget and schedule for the Project.

More specifically, during the pre-construction services phase, the CMGC will work closely with the JPB, Santa Clara Valley Transportation Authority (VTA), the City of Mountain View (City) and Designer to:

- Assist in decision making;
- Conduct constructability reviews;
- Present and assess design and construction phasing and schedule recommendations and innovations to meet the Project schedule and budget requirements;
- Support and participate in formal value engineering (VE) workshops;
- Provide innovative Project delivery approaches;
- Analyze innovation or VE proposals and provide potential design and construction related modifications;
- Provide input to construction phasing and maintenance of traffic during construction; and
- Support scope, budget, and schedule control.

On May 4, 2023, pursuant to Resolution 2023-31, the JPB adopted CMGC Findings and authorized the use of CMGC project delivery method pursuant to Public Utilities Code Section 103395 for the Rengstorff Avenue Grade Separation Project.

On January 31, 2024, the JPB issued Request for Proposals (RFP) No. 24-J-C-071 for the Services, which was advertised in a newspaper of general circulation and on the JPB's procurement website. Staff held a pre-proposal video conference on February 7, 2024, and nine potential proposers attended.

By the April 2, 2024, due date, the JPB received four proposals as follows:

1. Atkinson/Clark Joint Venture, San Francisco, CA
2. Flatiron West, Inc., Concord, CA
3. Kiewit Infrastructure West Co., Fairfield, CA
4. Stacy and Witbeck/Myers Joint Venture, Alameda, CA

A Selection Committee (Committee), composed of qualified staff from the JPB's Capital Program Delivery and Engineering Departments, VTA, and the City, reviewed and scored the proposals in accordance with the following weighted criteria:

Item #	Evaluation Criteria	Max Points
B	SBE Preference	5
C-1	Team Organization and Management	5
C-2	Company Qualifications, Experience, and References	20
C-3	Qualifications and Experience of Key Personnel	20

Item #	Evaluation Criteria	Max Points
C-4	Understanding the Required Scope of Services	30
C-5	Traffic Management and Staging Plan to Maintain Two Lanes each way of Traffic on Central Expressway	30
C-6	Construction Scheduling Utilizing P6 to Complete the Construction Phase within Two Years	30
C-7	Plans	20
D	Cost Proposal	40
	Total Possible Points	**200**

After the initial scoring of the proposals, the Committee determined Atkinson/Clark to be the highest-ranked firm for the Services. Atkinson/Clark possesses the requisite experience and qualifications as defined in the RFP. Atkinson/Clark and its key subcontractors have experience with the CMGC delivery process and have worked on similar projects, including:

- CSX Virginia Avenue Tunnel, Jacksonville, FL;
- East Link E-335 Bellevue Light Rail, Seattle, WA;
- Dulles Corridor Metro Phase 2, Washington, D.C.; and
- San-Ysidro Land Port of Entry Phase 3, San Francisco, CA.

Staff successfully negotiated prices for the pre-construction services phase with Atkinson/Clark, conducted a price analysis for the base contract and optional services, and determined the prices to be fair, reasonable, and consistent with those paid by other public agencies in the Bay Area for similar services. Staff will provide Project updates to the Board at future meetings and will seek Board approval for the award of the construction phase.

Budget Impact

The Project was approved by the Board in Fiscal Year (FY) 2019 for $3.5 million, funded by the City of Mountain View. Amendments in FY 2023 increased the Project's budget by $18.5 million, funded by VTA's Measure B, resulting in a total project budget of $22 million. The proposed contract to Atkinson/Clark will be covered by this approved Project budget.

Prepared By:	Ehab Azab	Procurement Administrator III	650.508.7732
	Arul Edwin	Project Manager	650.339.8845

Resolution No. 2024-

Board of Directors, Peninsula Corridor Joint Powers Board
State of California

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Awarding a Contract to Atkinson/Clark Joint Venture for Construction Manager General Contractor Pre-Construction Services for the Rengstorff Avenue Grade Separation Project for $2,314,429

Whereas, on May 4, 2023, pursuant to Resolution No. 2023-31, the Board of Directors (Board) of the Peninsula Corridor Joint Powers Board (JPB) authorized the use of the Construction Manager General Contractor (CMGC) project delivery method for the Rengstorff Avenue Grade Separation Project (Project); and

Whereas, on January 31, 2024, the JPB issued Request for Proposals (RFP) No. 24-J-C-071 for CMGC Pre-Construction Services for the Project; and

Whereas, on February 7, 2024, the JPB held a pre-proposal conference, and nine potential proposers attended; and

Whereas, in response to the RFP, the JPB received four proposals; and

Whereas, a Selection Committee (Committee), composed of qualified staff from the JPB's Capital Program Delivery and Engineering Departments, Santa Clara Valley Transportation Authority, and the City of Mountain View, scored and ranked the proposals in accordance with the weighted evaluation criteria set forth in the RFP; and

Whereas, the Committee completed its evaluation process and determined Atkinson/Clark Joint Venture of San Francisco, California (Atkinson/Clark) to be the highest-ranked proposer, and that Atkinson/Clark possesses the necessary qualifications and requisite experience to successfully perform the scope of services defined in the RFP; and

Whereas, staff completed negotiations with Atkinson/Clark, conducted a price analysis for the base contract and optional services, and determined that Atkinson/Clark's prices are fair, reasonable, and consistent with those paid by other public agencies in the Bay Area for similar services; and

Whereas, staff and legal counsel have reviewed Atkinson/Clark's proposal and have determined that it complies with the requirements of the RFP; and

Whereas, staff recommends that the Board award a contract to Atkinson/Clark for CMGC pre-construction services for the Project for an amount of $2,314,429.

Now, Therefore, Be It Resolved that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby awards a contract to Atkinson/Clark Joint Venture of San Francisco, California for Construction Manager General Contractor Pre-Construction Services for the Rengstorff Avenue Grade Separation Project for an amount of $2,314,429; and

Be It Further Resolved that the Board authorizes the Executive Director or designee to execute a contract with Atkinson/Clark in full conformity with the terms and conditions set forth in the solicitation documents and negotiated agreement, and in a form approved by legal counsel; and

Be It Further Resolved that the Board authorizes the Executive Director or designee to file any other required documentation and to take any other actions necessary to give effect to this Resolution.

Regularly passed and adopted this 1st day of August, 2024 by the following vote:

Ayes:

Noes:

Absent:

_____
Chair, Peninsula Corridor Joint Powers Board

Attest:

_____
JPB Secretary

Peninsula Corridor Joint Powers Board
Staff Report

To:	Technology, Operations, Planning and Safety Committee
Through:	Michelle Bouchard, Executive Director
From:	Michael Meader, Chief Safety Officer
Subject:	Adopt Policy Regarding Trees on or Adjacent to the Caltrain Right of Way

☐ Finance Committee Recommendation ☐ Technology, Operations, Planning, and Safety Committee Recommendation ☐ Advocacy and Major Projects Committee Recommendation

Purpose and Recommended Action

In 2023 and 2024, winter storms caused at least 30 trees and dozens of branches to fall on Caltrain's Right of Way (ROW), damaging Caltrain's infrastructure and threatening the safety of the railroad's staff and the public. This safety risk will be more pronounced as Caltrain transitions to electrified service, due to the potential damage to the overhead catenary system (OCS). To address the risk, Caltrain has assessed the health of trees along its Corridor and undertaken a program to mitigate the risk from trees in its right of way (ROW) that threaten Caltrain service and public safety.

Caltrain has also worked with municipalities and the owners of private property adjacent to Caltrain's ROW to identify trees on their property that present a dangerous condition. In line with these efforts, staff recommend that the Board of Directors (Board) of the JPB adopt a policy regarding trees on property adjacent to the Caltrain ROW that present a dangerous condition, included as Attachment 1 to this report and discussed in greater detail below. The policy provides regular tree assessments, notification to adjacent property owners of trees that pose a risk to public safety, and coordination with municipalities to prune or remove dangerous trees, including an incentive to plant replacement trees.

Discussion

Background and Necessity for Adoption of Policy

Intense winter storms in 2023 and 2024 presented unprecedented challenges to Caltrain. These storms caused trees along the ROW to fall, resulting in construction and service delays and damage to Caltrain infrastructure. Large trees with shallow root systems and unhealthy trees present the greatest risk of falling.

Falling trees along the ROW present inherent risks to the transit riding public, particularly when considering Caltrain's transition to an electrified system. For example, during a February 2024 storm, a tree fell across two tracks and took down the OCS wires as a train was arriving near Burlingame Station. The wires wrapped around the train and necessitated the safe evacuation of all passengers and crew. Caltrain had to make immediate repairs to the OCS, the train, and

other infrastructure, and also had to pay to remove the fallen tree from the ROW. Similar damage to the OCS wires would create a safety hazard and result in service delays when electric trains are in operation.

Accordingly, Caltrain has undertaken a tree risk assessment and maintenance program along the ROW, including the pruning or removal of trees that Caltrain's arborist determined presented a high risk to public safety. Caltrain plans to conduct regular assessments, including a Corridor-wide assessment by an arborist every three years and staff have identified a need to have regular inspections from arborists. In addition, at Caltrain's direction, TASI has established an on-call bench of emergency tree removal contractors in the event a tree falls.

While Caltrain has the authority to assess and mitigate risk from trees on its own property as needed for public safety, it may not do so on private and municipal property adjacent to the ROW without the coordination or consent of the property owners. Thus, staff have engaged with municipalities to coordinate tree assessments and the removal of dangerous trees adjacent to the ROW. Staff anticipate meeting with all 18 municipalities on the alignment by the end of summer 2024. These meetings create relationships and foster dialogue regarding the respective tree polices of Caltrain and each city. Moreover, Caltrain Government Affairs staff are working with the cities to conduct outreach and inform the public regarding the need to assess, prune, and potentially remove dangerous trees adjacent to Caltrain's ROW.

Proposed Policy

The main purpose of the policy is to address potential safety risks posed by trees on property adjacent to Caltrain's property that present a dangerous condition and threaten Caltrain service and public safety by coordinating with municipalities and private property owners to assess tree risk along the Corridor and ensure that dangerous trees are pruned or removed, providing notice of dangerous trees to adjacent property owners, and offering an incentive to plant replacement trees.

First, the policy provides that Caltrain will contract with arborists to continue its ongoing efforts to assess trees along the corridor as well as those outside the ROW that could impact the ROW or other facilities, with a primary focus on tree species that pose the greatest risk. These assessments will occur every three years and comply with Caltrain's August 2023 Vegetation Management Plan. To address trees outside of the ROW, Caltrain arborists will also coordinate with the arborists of municipalities or other government entities along the ROW to identify high risk trees. Thereafter, Caltrain will work with local governments and private landowners to develop joint mitigation plans that include identified trees, responsible party, and target dates for removal or pruning.

Second, Caltrain will notify local governments and private owners in writing regarding trees determined to pose a high risk to Caltrain's infrastructure, including the potential for liability for damage to Caltrain's infrastructure and public safety, if the property owner fails to address those risks.

Third, Caltrain will work with landowners to safely remove such trees, including through incentives for replacing trees at Caltrain's request in the amount of $250 per tree. This incentive will only be available if the replacement trees comply with Electrical Safety Zone

requirements in the Vegetation Management Plan and are planted in a location that does not pose a risk to Caltrain infrastructure. Adjacent property owners will be responsible for removing and pruning trees on their property, including complying with state and federal law. Caltrain will coordinate with local governments and private property owners to mitigate risk of harm to Caltrain infrastructure and public safety and may subsidize the cost of removal or mitigation when necessary to reduce risk to Caltrain and public safety.

Budget Impact

Regular tree assessment and maintenance efforts are included in Caltrain's existing operating budget. The proposed policy would authorize Caltrain to offer a $250 incentive for tree replacement for each tree removed at Caltrain's request on property adjacent to the ROW. The budget impact will turn on: (1) the number of trees on property adjacent to the ROW that are identified as posing a risk to public safety; (2) of those trees that are deemed to pose a safety risk, the number of trees that Caltrain requests be removed, rather than pruned; and (3) of the trees that are removed, the number of replacement trees planted that comply with the tree policy.

In addition, the proposed policy authorizes Caltrain to subsidize the pruning or removal of trees where necessary to ensure public safety. Staff estimate that total removal costs could be $5,000 to $10,000 per tree. Because Caltrain does not have data regarding tree replacement or tree pruning or replacement subsidies, staff propose an initial budget cap of $100,000 for FY 2025 for incentives and subsidies, to be re-evaluated based on data collected after the first year the policy is in effect.

Prepared By:	Mike Meader	Chief Safety Officer	650.632.6821
	Robert Scarpino	Director, Rail Maintenance	650.508.7780

Resolution No. 2024-

Board of Directors, Peninsula Corridor Joint Powers Board
State of California

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Adopt Policy Regarding Trees Adjacent to the Caltrain Right of Way

Whereas, intense winter storms in 2023 and 2024 presented unprecedented challenges to Caltrain; and

Whereas, these storms caused trees along the Right of Way (ROW) to fall, resulting in construction and service delays and damage to Caltrain infrastructure. Caltrain's transition to an electrified system heightens the risks to the transit riding public; and

Whereas, a February 2024 storm exposed this safety risk, when extreme rain and wind caused a tree to fall across two tracks and take down the Overhead Catenary System (OCS) wires as a train was arriving near Burlingame Station. The wires wrapped around the train and necessitated the safe evacuation of all passengers and crew; and

Whereas, similar damage to the OCS wires could result in dayslong service delays when electric trains are in operation; and

Whereas, Caltrain has undertaken a tree risk assessment and maintenance program along the ROW, including the pruning or removal of trees that Caltrain's arborist determined presented a high risk to public safety; and

Whereas, Caltrain plans to conduct regular assessments, including a Corridor-wide assessment by an arborist every three years and staff have identified a need to have regular inspections from arborists. In addition, at Caltrain's direction, TASI has established an on-call bench of emergency tree removal contractors in the event a tree falls; and

Whereas, Caltrain may not assess, maintain, or remove trees as needed for public safety on private or municipal property adjacent to the ROW without the coordination or consent of the property owners; and

Whereas, staff have engaged with municipalities to coordinate tree assessments and the removal of dangerous trees adjacent to the ROW; and

Whereas, staff anticipate meeting with all 18 municipalities on the alignment will have met with Caltrain staff by the end of summer 2024; and

Whereas, Caltrain Government Affairs staff are working with the cities to inform the public regarding the need to assess, prune, and potentially remove dangerous trees adjacent to Caltrain's ROW; and

Whereas, staff have drafted a proposed policy (Attachment 1), formalizing this proactive approach and providing greater detail on how Caltrain will address potential safety risks posed by trees adjacent to the ROW; and

Whereas, Caltrain shall provide written notice to property owners regarding risks trees on adjacent property pose to the public; and

Whereas, Caltrain will contract with arborists to continue to assess trees along the corridor and outside of the ROW that could impact Caltrain infrastructure. Such assessments will be on a minimum of a three-year cycle and shall comply with Caltrain's August 2023 Vegetation Management Plan; and

Whereas, Caltrain arborists will also coordinate with the arborists of municipalities or other government entities along the ROW to identify high risk trees; and

Whereas, Caltrain will work with local governments and private landowners to develop joint mitigation plans that include identified trees, responsible party, and target dates for removal or pruning; and

Whereas, Caltrain will notify local governments and private owners in writing regarding trees determined to be a high risk to Caltrain's infrastructure, and will work with landowners to safely remove such trees; and

Whereas, Caltrain may use incentives to encourage removal of trees that pose a risk, in the amount of $250 for replacement trees for each tree removed at Caltrain's request, so long as the replacement trees comply with Electrical Safety Zone requirements in the Vegetation Management Plan and are planted in a location that does not pose a risk to Caltrain infrastructure; and

Whereas, adjacent property owners will be responsible for removing and pruning trees on their property and compliance with state and federal law; and

Whereas, Caltrain will coordinate with local governments to mitigate risk of harm to Caltrain infrastructure, and may subsidize the cost of removal or mitigation when necessary to reduce risk to Caltrain; and

Whereas, the budget impact of this policy will turn on several factors, namely the number of trees needing replacement and pruning and the number of removals that will require replacement subsidies. However, staff estimate that total removal costs could be $5,000 to $10,000 per tree; and

Whereas, because Caltrain does not have the necessary data to effectively budget for the tree replacement incentives or subsidies, staff propose an initial budget cap of $100,000 for

FY 2025 for incentives and subsidies, to be re-evaluated based on data collected after the first year the policy is in effect.

Now, Therefore, Be It Resolved that the Board of Directors of the Peninsula Corridor Joint Powers Board adopt the proposed policy regarding trees adjacent to the Caltrain Right of Way, attached to this resolution as Attachment 1.

Be it Further Resolved that an initial budget cap of $100,000 shall apply for FY 2025 for incentives and subsidies, to be re-evaluated based on data collected after the first year the policy is in effect.

Regularly passed and adopted this 1st day of August, 2024 by the following vote:

Ayes:

Noes:

Absent:

_____
Chair, Peninsula Corridor Joint Powers Board

Attest:

_____
JPB Secretary

Purpose of Policy – Safety First and Always

Safety first and always is one of Caltrain's core values. To ensure the safety of Caltrain's employees, contractors, and passengers, Caltrain will conduct ongoing assessments of the risk posed by trees on property adjacent to the Right of Way ROW and address those risks pursuant to the policy set forth below.

The purpose of this policy is to address the potential safety risk posed by trees adjacent to Caltrain's property and over which Caltrain does not have jurisdiction. Caltrain will work proactively with municipalities and private property owners, including by using financial incentives, to eliminate the risk posed by trees falling on Caltrain's electrification infrastructure. Caltrain will also protect itself against potential liability by providing written notice to property owners regarding the risks posed by trees on property adjacent to Caltrain's ROW if the property owner fails to address those risks.

I. Tree Risk Assessment and Evaluation

Caltrain will contract with licensed, experienced arborists to conduct assessments of the trees along the Caltrain corridor on Caltrain property and outside Caltrain's ROW if the trees have the potential to impact Caltrain's ROW or facilities. Caltrain will initially schedule tree risk assessments on a three-year cycle. The Caltrain-contracted arborist will conduct the assessment in accordance with section 2.2.2 of Caltrain's Vegetation Management Plan dated August 2023 (Attachment A). The arborist will also coordinate with the designated arborists of any municipalities or other relevant government entities along the ROW to identify high risk trees. Once these assessments are completed, Caltrain will work with local governments and private landowners to develop joint mitigation plans that include identified trees, responsible party, and target dates for removal or pruning. Caltrain's primary focus will be on eucalyptus, gum, and acacia trees, as they pose the greatest risk.

II. Removal and Pruning of Trees

Caltrain will notify local governments and private parties in writing regarding trees determined by the contracted arborist to pose a high risk to Caltrain's infrastructure. Caltrain will work with adjacent landowners to safely remove high risk trees, including through incentives for replacing trees, discussed below.

Adjacent property owners, including local governments and municipalities, will be responsible for the removal or pruning of trees on their property, and Caltrain will coordinate with local governments to mitigate the risk of trees harming Caltrain infrastructure. Adjacent property owners are responsible for ensuring that any removal or pruning complies with all applicable state and federal laws, including environmental and permitting requirements. Where necessary to reduce risk to public safety, Caltrain may subsidize the cost of tree removal or mitigation.

III. Tree Replacement

Caltrain will communicate with the owners of property adjacent to Caltrain's ROW to identify the trees that pose a significant risk to Caltrain's infrastructure and safe operations. In order to incentivize adjacent property owners to address trees that pose a significant risk to Caltrain's ROW, Caltrain will offer $250 to replace each tree that is removed at Caltrain's request.

For the subsidy to apply, replacement trees shall comply with Electrical Safety Zone requirements in Section 5 of the Vegetation Management Plan, Tree Planting for a Resilient ROW. In addition, replacement trees must be planted in a location determined not to pose a risk to Caltrain infrastructure.

Attachment A: Caltrain Vegetation Management Program (August 2023)

Draft Caltrain Vegetation Management Program

Caltrain Right-of-way
San Francisco to San Jose

PREPARED FOR:
Caltrain & ICF Jones and Stokes

PREPARED BY:
HortScience | Bartlett Consulting
2550 Ninth Street Suite #112
Berkeley, CA

August 2023

Revision 2

HORT SCIENCE
BARTLETT CONSULTING
A Division of The I.A. Bartlett Tree Expert Company

Draft Caltrain Vegetation Management Program

Table of Contents

Appendix

DRAFT Caltrain Tree Risk Management Program

Introduction and Overview

ICF Jones and Stokes (ICF) is working with the Peninsula Corridor Joint Powers JPB to implement environmental work throughout the ROW as it relates to the electrification project. HortScience | Bartlett Consulting, Divisions of The F.A. Bartlett Tree Expert Company (H|BC), is a subcontractor to ICF.

As a part of the environmental work, it became apparent that the JPB needed to develop a framework for tree risk assessment and mitigation for trees along 52 miles of track from San Francisco to San Jose. IFC and H|BC were asked to lead this work. The corridor encompasses 17 municipal jurisdictions and two unincorporated county jurisdictions and thousands of trees. Trees of certain species and/or sizes may be protected by local ordinances and specific rules vary by jurisdiction. Any tree, no matter its location, that could either fall into the ROW or onto energized conductors is subject to risk assessment and management. Trees of concern may be located 1) within the Caltrain ROW, 2) on private property, or 3) on public land.

Purpose

This Vegetation Management Plan includes guidelines for planting, pruning, and removal of trees and shrubs along the ROW owned or operated by Caltrain.

1. Scope of Work – Vegetation Management

1.1 Policy Statement

Caltrain strives to operate safely along its ROW. The vegetation management program employs best management practices as defined in the American National Standards Institute A300 (Part 9) Tree Risk Assessment and Utility Tree Risk Assessment manage vegetation that is within or has the potential to fail on to the tracks or Overhead Contact System (OCS) lines.

1.2 Inspection Interval

Caltrain will initially schedule tree risk assessments on a three-year cycle. Inspections shall assess the need for: a) scheduled maintenance for ESZ clearance; b) enhanced tree risk-based management; and c) mid-cycle pruning. The inspectors must consider the variables including tree species, condition, growth rate, and location.

Definitions

Term	Definition
ROW	Caltrain owned right-of-way.
OCS	Overhead Contact System
ESZ	Electrical Safety Zone. 10 ft. from an electrified component
Side Clearance	10 feet side clearance shall be measured from the conductor
Downward Vertical Clearance	No branches shall be below the ESZ
Brush and Vine Clearance	Remove any vines growing up poles or guy wires. Remove any brush exceeding 4 feet in height within a 5-foot-zone of any pole footing, guy wire footing, or other infrastructure
Overhead Vertical Clearance	No branches shall be above the ESZ

Arboriculturally Sound Tree Management	Remove trees if live foliage removal from obtaining required clearance cannot comply with the most recent edition of ANSI A300 Standard Part 1: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning).
Cycle Breaking Non-compliant Trees	Pruning for 3-year clearance may not be possible for all trees, particularly those prone to vigorous watersprout or sucker growth following pruning. Trees that cannot hold compliance shall be removed or scheduled for mid-cycle pruning (see section 2.3.1 *Mid-Cycle Pruning*).

2.1 Scheduled Maintenance Pruning

2.1.1 – Electrical Safety Zone (ESZ) Clearance

The Electrical Safety Zone clearance relative to the typical line position is shown in Figure 1. Branches within the clearance zone shall be removed. Watersprouts and suckers shall be removed back to the parent branch and not sheared. Trees shall be pruned so that new growth will not encroach within the ESZ clearance within the 3-year inspection interval.

All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).

All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

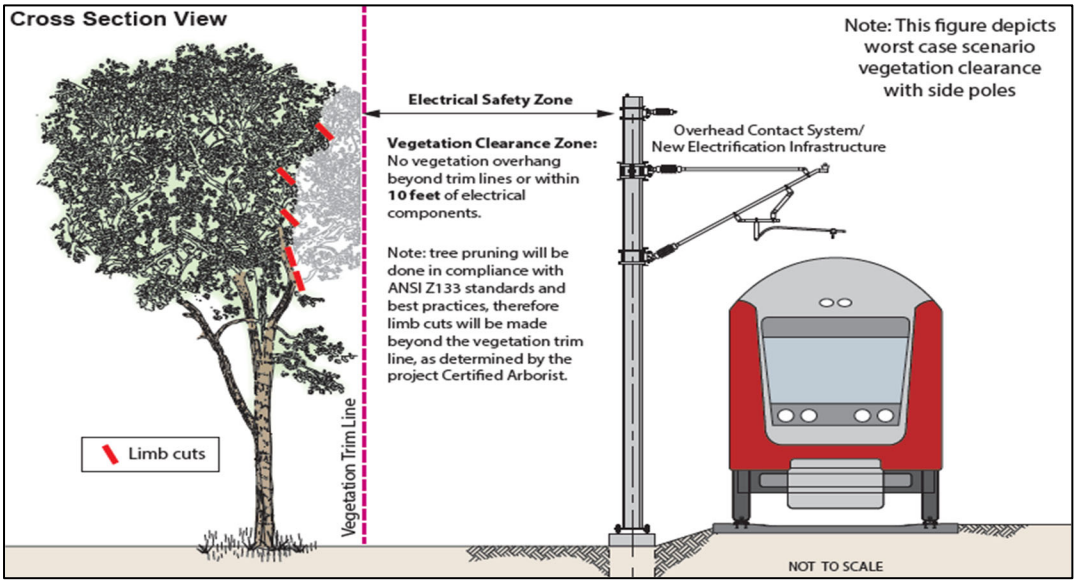

Figure 1: Cross-section view of Electrical Safety Zone clearance (*Peninsula Corridor Electrification project*).

2.2 Enhanced Tree Risk-Based Management

2.2.1 Tree Risk Policy Statement

Caltrain conducts risk-based hazard analysis as a regular part of every operation's safety approach. A risk-based tree management program is vital to Caltrain's effective and safe management of the 52 miles of track.

The JPB recognizes the inherent risk that trees pose to the right-of-way and acknowledges the importance of managing the tree resource to maintain the resilience of the Caltrain system. The JPB also recognizes the inherent benefits that the tree resource provides to the communities that Caltrain services including but not limited to noise and emission screening, carbon sequestration, aesthetic value, and ambient cooling. The JPB is committed to working with a combination of staff and contractors to manage the trees to lower the risk they pose while preserving the benefits they provide.

Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Rain can saturate soils, reducing its ability to hold roots. When coupled with strong winds, the saturated soil may cause defect-free trees to blow over. Although it is not possible to predict all tree failures, identifying those trees with observable defects is a critical component of enhancing public safety and safety throughout the ROW.

2.2.2 Risk Assessment Methodology

Tree Risk Assessments shall follow the methodology described in the current editions of the International Society of Arboriculture's Tree Risk Assessment Manual and the ISA Best Management Practices: Tree Risk Assessment and the recent edition of the ANSI A300 Standard Part 9: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Tree Risk Assessment a. Tree Failure).

A level 1 limited visual shall be performed from the Caltrain right-of-way (ROW). Assessment of risk shall be limited to trees with the potential to impact the ROW or Caltrain's facilities. Both trees outside of the ROW and trees inside of the ROW shall be assessed. Level 1 limited visual assessment of the trees from the Caltrain right-of-way will identify observable tree parts with a probable or imminent likelihood of failure and a moderate or high likelihood of impact to tracks or electrical lines.

If the level 1 inspection reveals an important defect in structure, a basic level 2 inspection shall be performed. During the Level 2 basic assessment for the identified trees, the consequences of a failure and impact will be evaluated to determine the risk associated with a certain tree part. The reference document for our assessment was the **Tree Risk Assessment Best Management Practices** (2nd Ed., International Society of Arboriculture, 2017). For both level 1 and level 2 risk assessments, the time frame shall be three years.

Tree risk assessment considers the likelihood of a tree failure striking people or property and the consequences of that failure. For each assessment, the following shall be performed:

1. Identifying the tree species.
2. Measuring the trunk diameter at a point 54 inches above grade.
3. Evaluating the health and structural condition using a scale of 1 – 5:

   5 - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.

   4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.

3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.

2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.

1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.

4. Commenting on the presence of defects in structure, insects or diseases and other aspects of development.
5. Identify the part of the tree most likely to fail and rate the likelihood for failure (improbable, possible, probable, imminent).
6. Identify what would be struck if that part failed (targets: Caltrain facilities).
7. Rate the likelihood that a target (Caltrain facilities) would be present at the time of failure (very low, low, medium, and high). This assessment considers the frequency with which a target is present, i.e., occupancy rate. Electrical conductors and the tracks themselves are considered to have a constant occupancy rate. The likelihood that the lines would be present at the time of a failure is high.
8. Assess the likelihood of the tree failure impacting the specific target (unlikely, somewhat likely, likely, very likely). **See Figure 2.**
9. Rate the consequences if a target were struck by that tree part (negligible, minor, significant, severe).
10. Assess tree risk by combining ratings for likelihood of failure and striking the target with those for the consequences of the failure (low, moderate, high, extreme). **See Figure 3.**
11. Describe treatments (i.e., pruning, tree removal) that would reduce the risk and assess the residual risk that would remain if that treatment were applied.
12. Where appropriate, recommend advanced assessments to inspect tree conditions that were not visible from a ground survey. Possible advanced treatments include internal decay detection, aerial inspection, and root collar excavation and inspection.

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Figure 2: Matrix for assessing likelihood of failure and impact as a function of likelihood of failure (rows) and likelihood of impact (columns).

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Figure 3: Matrix for assessing tree risk rating as a function of likelihood of failure & impact (rows) and consequences of failure (columns).

Abatement work to reduce assessed tree risk may be combined with Scheduled Maintenance Pruning (*see section 2.1*), or Mid-Cycle Pruning (*see section 2.3*). Abatement work timelines, described below, will supersede scheduled or mid-cycle timelines.

2.2.2.1 Management of Low-Risk Trees

Trees with *low* assessed risk may still require Scheduled Maintenance Pruning (*see section 2.1*), or Mid-Cycle Pruning (*see section 2.3*).

2.2.2.2 Management of Moderate-Risk Trees

Trees with *moderate* assessed risk must be abated to bring the residual risk to *low*. Abatement must be completed within a specified timeframe from the time reported. They may still require Scheduled Maintenance Pruning (*see section 2.1*), or Mid-Cycle Pruning (*see section 2.3*).

If required work to reduce the residual risk to *low* cannot comply with the most recent edition of ANSI A300 Standard Part 1: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning), the tree must be removed.

2.2.2.3 Management of High-Risk Trees

Trees with *high* assessed risk must be abated to bring the residual risk to *low*. Abatement must be completed within 1 month of reporting. They may still require

Scheduled Maintenance Pruning (*see section 2.1*), or Mid-Cycle Pruning (*see section 2.3*).

If required work to reduce the residual risk to *low* cannot comply with the most recent edition of ANSI A300 Standard Part 1: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning), the tree must be removed.

2.2.2.4 Management of Extreme-Risk Trees

Trees with *extreme* assessed risk must be abated to bring the residual risk to *low*. Abatement must be completed as soon as possible. The assessor may not leave the site until the risk is abated or Caltrain personnel arrive to monitor the situation. They may still require Scheduled Maintenance Pruning (*see section 2.1*), or Mid-Cycle Pruning (*see section 2.3*).

If required work to reduce the residual risk to *low* cannot comply with the most recent edition of ANSI A300 Standard Part 1: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning), the tree must be removed.

2.2.3 Dead and Dying Trees

Dead and dying trees tall enough to strike Caltrain facilities may present an elevated risk. Regardless of assessed risk level, dead and dying trees with line or track strike potential shall be removed or reduced to a height where the strike potential is eliminated.

2.3 Mid-Cycle Pruning

2.3.1 Vigorous Resprouting Trees

Pruning for 3-year clearance may not be possible for all trees, particularly those prone to vigorous watersprout or sucker growth. Trees that cannot hold compliance for 3 years shall either be removed or scheduled for mid-cycle pruning.

2.3.1.1 Inspection

Inspect and assess conditions of identified trees along the entire track 3 years into the Scheduled Maintenance Pruning Cycle (*see section 2.1*). Prioritize pruning and removals based on tree conditions or assessed risk.

2.3.1.2 Vigorous Resprouting Trees

Prune trees that will not hold ESZ clearance compliance until the next scheduled pruning cycle to the clearances defined in section 2.1.

2.3.1.3 Moderate, High, or Extreme Risk Trees

If a tree is identified during the Mid-Cycle Pruning Inspection that may present an elevated level or risk, a Tree Risk Assessment shall be conducted in accordance with the most recent standard of ANSI A300 Standard Part 9: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Tree Risk Assessment a. Tree Failure).

Abate any *extreme*, *high*, or *moderate*, risk trees as described in section 2.2 *Enhanced Risk Based Management.*

2.4 New Business, Electrification, and Capital Construction

2.4.1 New Construction for Electrification

Caltrain is expanding the electrification infrastructure along the 52 miles of track. Expansion of infrastructure has required pruning for clearance during installation and subsequently Scheduled Maintenance Pruning.

2.4.1.1 New Construction

Prune all branches for equipment clearance during construction. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).

Pruning shall not be conducted by construction personnel.

2.4.1.2 Scheduled Maintenance Pruning

Prune trees near new construction hold ESZ clearance compliance (if applicable) until the next scheduled pruning cycle to the clearances defined in section 2.1 or schedule for Mid-Cycle Pruning as described in section 2.3.

2.4.1.3 Moderate, High, or Extreme Risk Trees

If a tree is identified during construction that may present an elevated level or risk, a Tree Risk Assessment shall be conducted in accordance with the most recent standard of ANSI A300 Standard Part 9: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Tree Risk Assessment a. Tree Failure).

Abate any *extreme*, *high*, or *moderate*, risk trees as assessed to lower the residual risk to *low* as described in section 2.2 *Enhanced Risk Based Management.*

2.5 Tree Removal

2.5.1 Tree Removal

Remove trees where prescribed pruning cannot comply with the most recent edition of ANSI A300 Standard Part 1: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning).

Trees to be removed shall be felled to fall away from Caltrain infrastructure, nearby trees, and to avoid pulling or breaking roots of trees to remain.

2.6 Stump Management

2.6.1 Stump Height

All stumps shall be cut as close to the ground as safely possible. Stump faces shall be cut parallel to the ground to avoid sharp points on the stumps.

2.6.2 Wildlife Snags

Snags are important habitat for wildlife and can be aesthetically incorporated into a landscape. Where they pose low risk to Caltrain infrastructure, neighboring property, and people, trees identified for removal may be preserved as snags. Wildlife snags must be approved by a Caltrain representative and monitored over time.

2.6.3 Herbicide Use on Resprouting Trees
Some species resprout from the base following tree removal. These sprouts are weakly attached, and may have a higher likelihood of failure in the future as the sprouts grow.

Vigorous resprouting cut stumps (all E*ucalyptus* species, all *Acacia* species, *Ailanthus altissima*, and vines) shall be treated with a Caltrain and JMP approved herbicide mixture in accordance with label directions and the most recent regulatory requirements.

3. Substation Perimeter Clearing

This section describes how vegetation will be managed around substations.

3.1 Brush Removal

3.1.1 Non-visually sensitive or non-landscaped substations
Remove all brush within 10 feet of the substation fence.

3.1.2 Visually sensitive or landscaped substations
Clear as far from the fence as practical as directed by a representative of Caltrain.

3.2 Tree pruning
Prune all branches to a minimum of 10 feet from the fence. Follow ESZ clearance guidelines for electrified equipment (*see section 2.1*).

3.3 Ornamental Screens and Landscaping
Ornamental trees and shrubs planted to provide visual screening shall not be removed.

4. Wood and Chip Disposal

4.1 Policy Statement
The contractor shall make every effort to minimize the amount of wood and wood chip disposal that requires hauling away from the site. This can be accomplished by; making agreements with property owners to leave logs and larger limbs at the site for use as firewood, blowing chips onto the ground in rural and unimproved natural locations with approval, and offering chips to property owners for use as mulch. All debris shall be disposed of in accordance with all local laws and regulations.

The tree contractor shall not sell any unwanted logs or chips.

4.2 Chips
Smaller limbs, branches, or cut brush shall be chipped, normally by chipping into a truck mounted chip box. In unimproved natural locations, chips may be blown on the ground to a depth no greater than 3 inches. Brush too small to be chipped may be lopped and scattered by cutting it into small pieces (less than 12 inches in length and 3 inches in diameter) and distributing it widely over the ground to a depth no greater than 12 inches. Lopped and scattered brush shall not present access issues to trees or infrastructure after distribution.

4.3 Logs
Logs from the tree trunks and larger limbs shall be cut into convenient handling lengths. No logs shall be split.

4.4 Debris Disposal
The tree owner shall be given first preference to utilize logs and / or chips. This agreement shall be made when work is scheduled.

4.4.1 Chips
Where chips cannot be left on-site, they shall be delivered to the nearest appropriate disposal site.

4.4.2 Logs
Logs shall be left at the work site in a safe location, not to pose a hazard to anyone, for a maximum of seven days. Any logs remaining after seven days shall be delivered to the appropriate disposal site.

5. Tree Planting for a Resilient ROW

5.1 Policy Statement
As Caltrain moves forward in creating and implementing the vision for the ROW, there is an opportunity to install trees better matched with the site and infrastructure. These trees will benefit the ROW in several ways including decreasing overall maintenance costs, complying with Caltrain's goal of a low-risk ROW, and providing benefits to the local communities in which they grow.

A key aspect in building a resilient urban tree population is a diverse plant palette composed of a wide range of species. Future planting efforts for the ROW must carefully select species, focusing on diversity and matching the trees with the program goals for the site itself. Caltrain will plant based on the following criteria (Illustrated in Figures 4, 5, and 6 and in the **Appendix**).

1. No tree planting within or under the ESZ.
    a. The ESZ encompasses a 10-foot zone around any electrified element, including 10 feet horizontal on the ground, and all overhanging space within that area.
    b. No trees shall be planted within 10 horizontal feet of the electrified element of OCS poles.
    c. Where OCS poles are on the opposite side of the tracks, the limit would be defined by the 10 feet from the overhead power line over the track.
2. No tree planting where the mature tree height would fall on the OCS lines or the tracks.
    a. Nominally, this means a tree 30 feet from the edge of the track should be 30 feet or less at maturity.
    b. Functionally, this is defined as a 45-degree angle from the edge of track.
    c. Since the track is often elevated above ground at various heights, the height of the zone defined by the 45-degree standard varies along the route.
    d. Tree species should be selected that are compatible with the maximum height of the zone at their location.

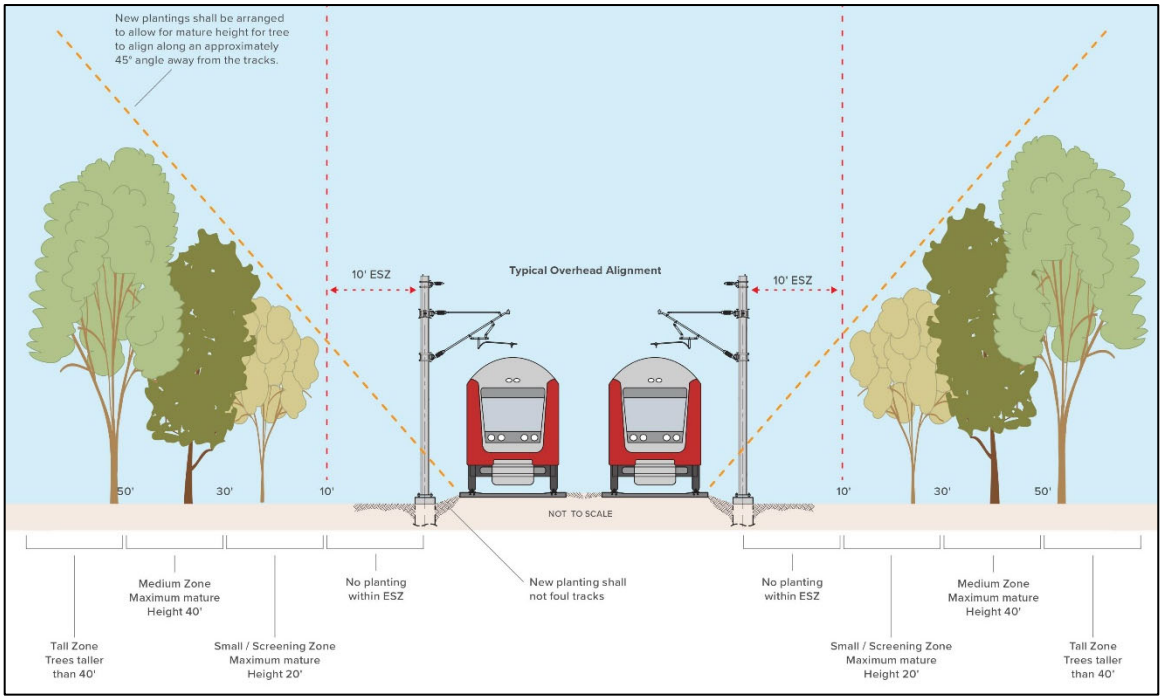

Figure 4. Cross-section view of Electrical Safety Zone planting distances and mature tree heights.

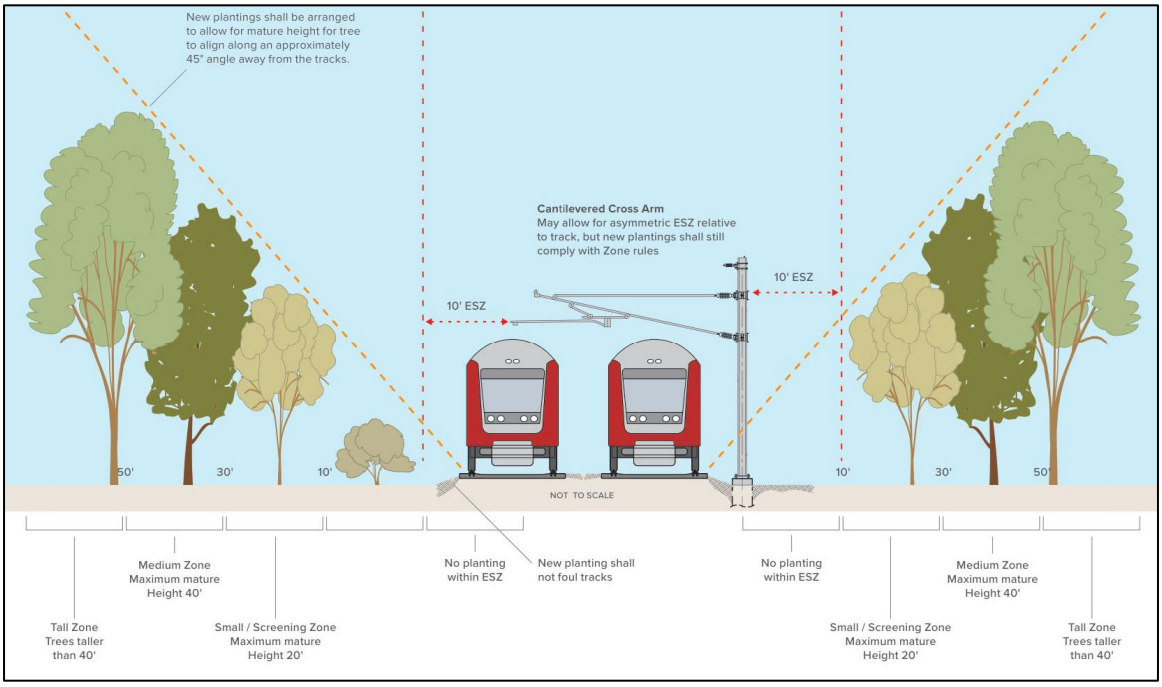

Figure 5: Visualization of ESZ and proposed mature planting heights near cantilevered crossarm alignment. Note asymmetric ESZ.

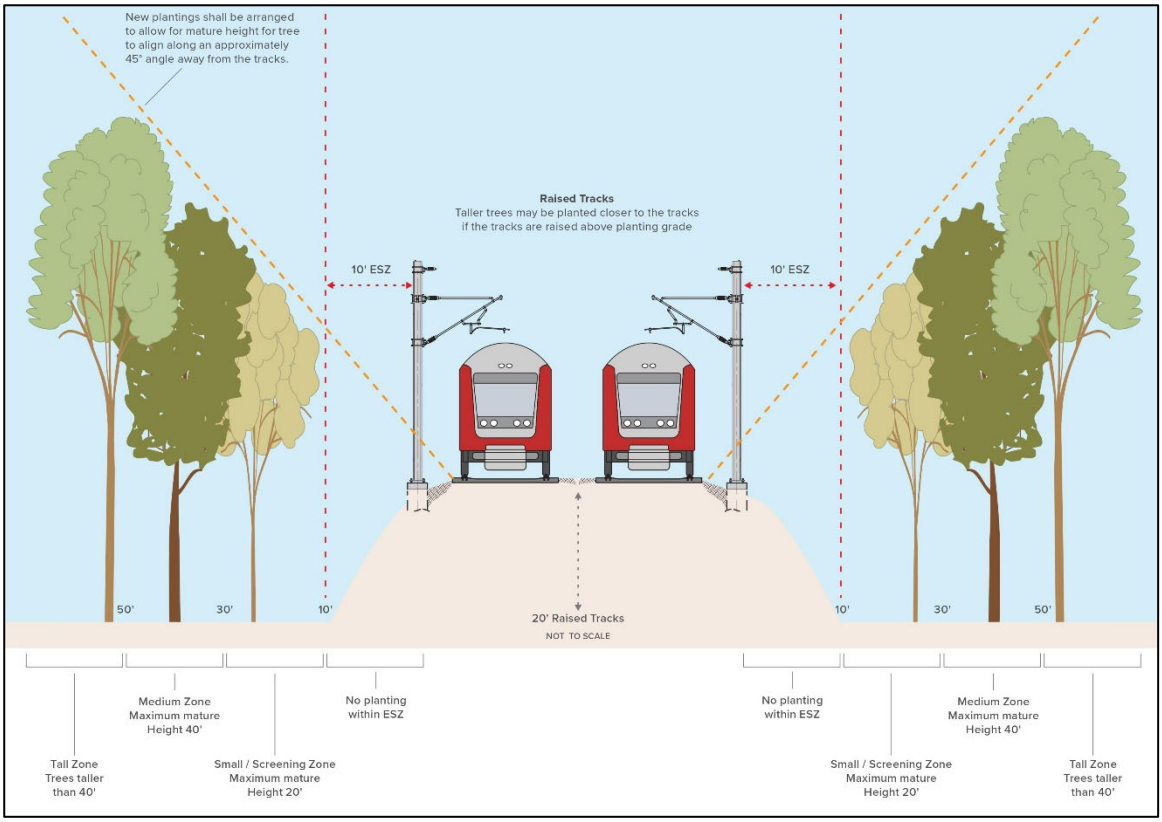

Figure 6. Cross-section view of Electrical Safety Zone planting distances and mature tree heights near raised tracks. Note that taller trees may be permitted near raised tracks.

A sustainable landscape is designed to be harmonious with its environment, resulting in a healthy ecosystem that supports social interaction and wildlife. Selection must match the mature size, species characteristics, and cultural requirements to the space available for their growth.

5.1.1 Tree Size

Choosing a species that will be too large for its space results in extensive pruning to control growth, large amounts of green waste, and a higher potential for conflict with nearby infrastructure. Common species in the ROW now, such as blue gum, red ironbark, or red river gum, are examples of species that are too large and should not be replanted.

Selecting a species too small for the available space misses an opportunity to have large trees and limits the benefits the tree will provide. There are several places along the ROW that may accommodate medium or large-maturing trees.

5.1.2 Species Characteristics and Cultural Requirements

Tree species selected for each planting location in the ROW should consider species characteristics and cultural requirements, including the following:

- Heat and cold
- Exposure (sun and shade)
- Soil drainage and aeration
- Soil pH, salinity
- Water requirements and drought tolerance

- Pest resistance
- Maintenance needs, especially pruning and irrigation
- Objectionable fruit/seed litter
- Invasiveness potential

Caltrain's ROW is a part of a dynamic urban forest over the entire extent of the San Francisco Peninsula, the needs of which are in flux and changing over time. Observing changes in how plants are performing over time and responding to those changes is fundamental to urban forest management. As new species are chosen for planting in the ROW, periodic monitoring will help tree managers to make key decisions regarding the success of the plantings.

6. Public Engagement

Caltrain is committed to cooperation with public and private stakeholders in the management of the trees in and near the ROW. Stakeholders include people who live and work in the communities and local government agencies. The following list provides options for consideration regarding public engagement.

- Engage with community members to educate on the need for tree removal and replacement and to gain an understanding of the process. This will help to build community support.
- Respond to maintenance inquiries.
- Provide information to neighbors on how to help care for trees near the ROW; allow them to lend a hand to a tree in need.
- Make information on the ROW management available on the web.
- Link to trees are good where general tree care information is available, and qualified arborists can be found.

These strategies may enhance participation in and commitment to maintaining risk associated with trees in and near the ROW into the future.

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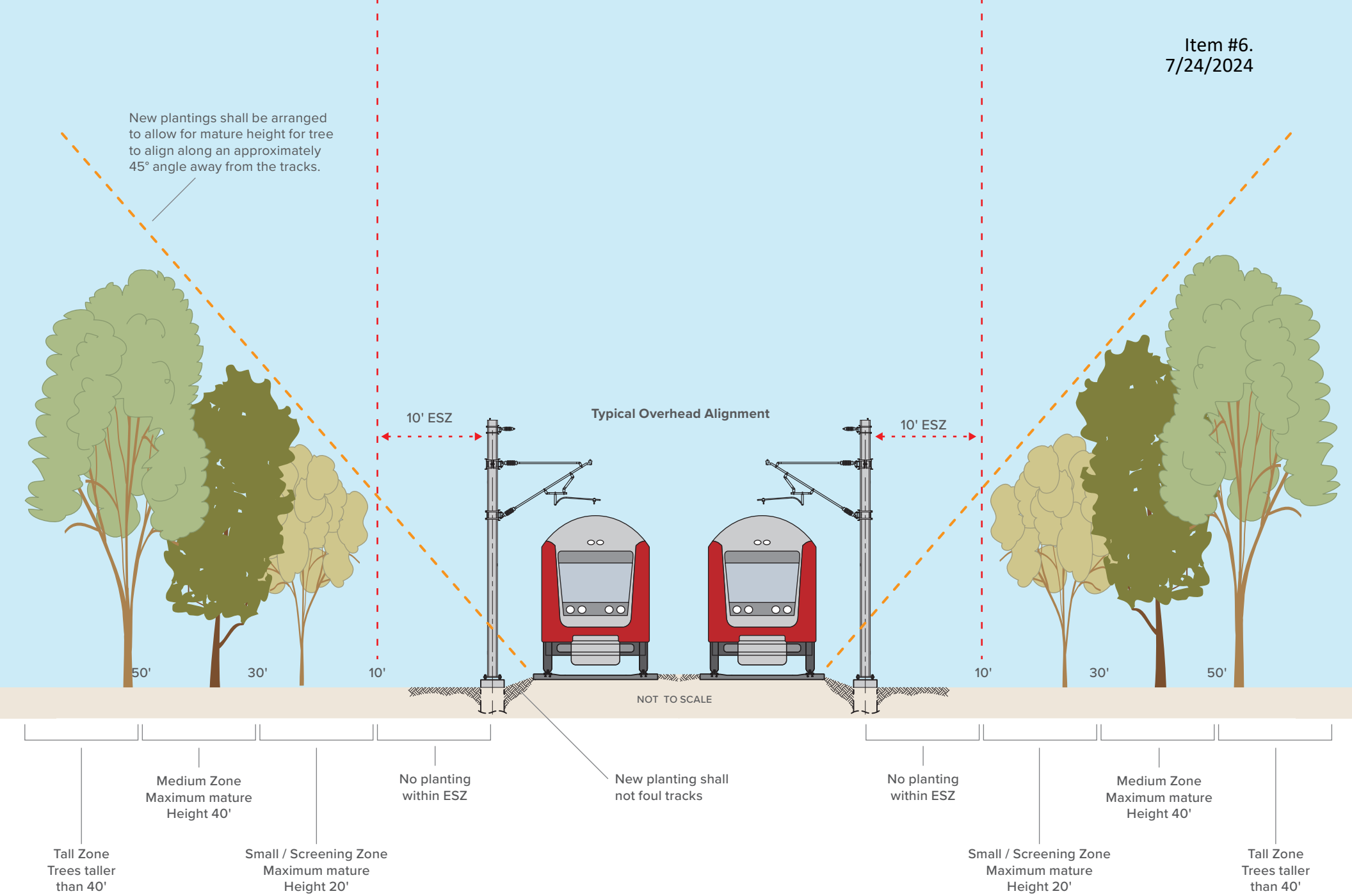
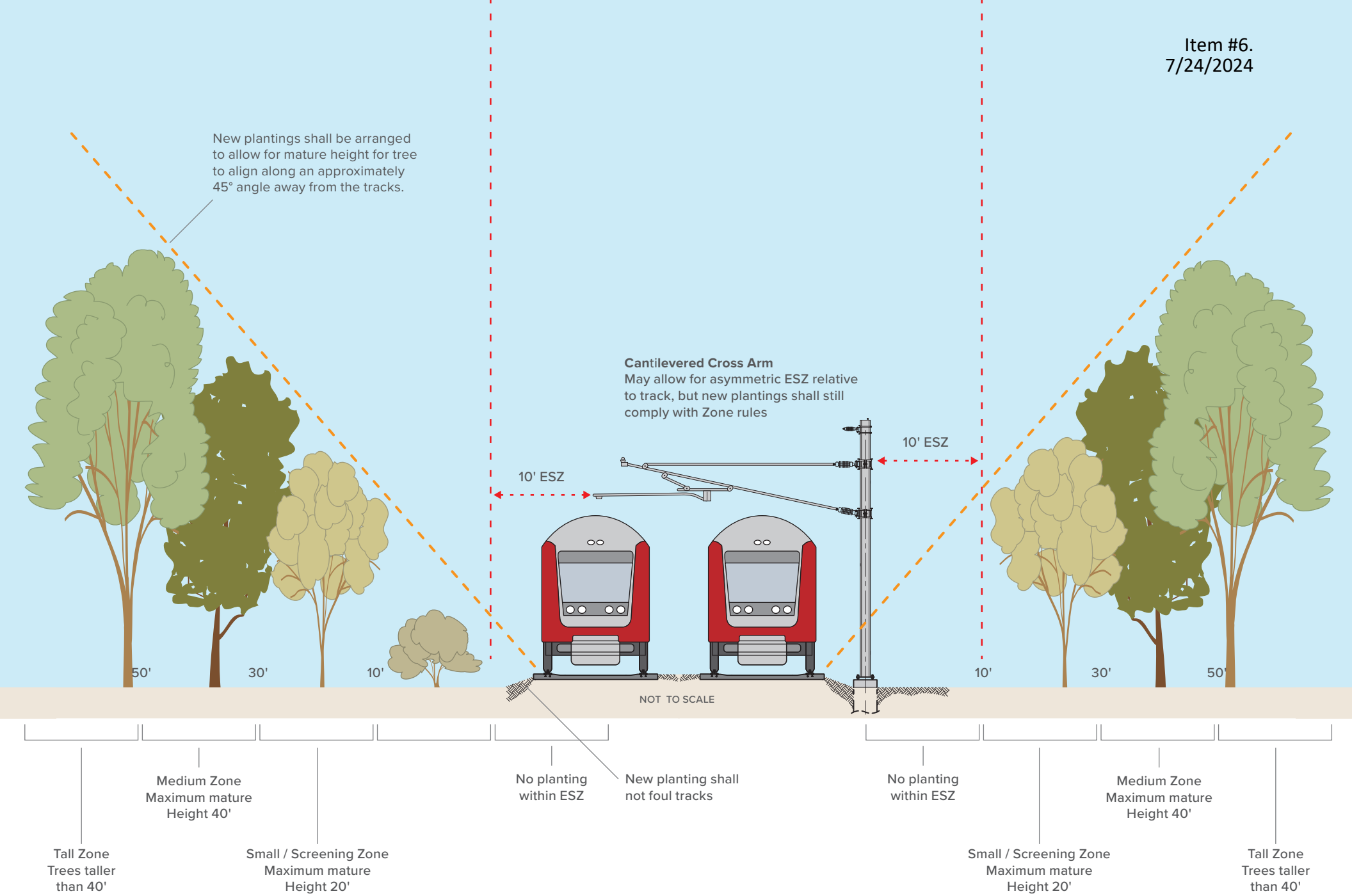
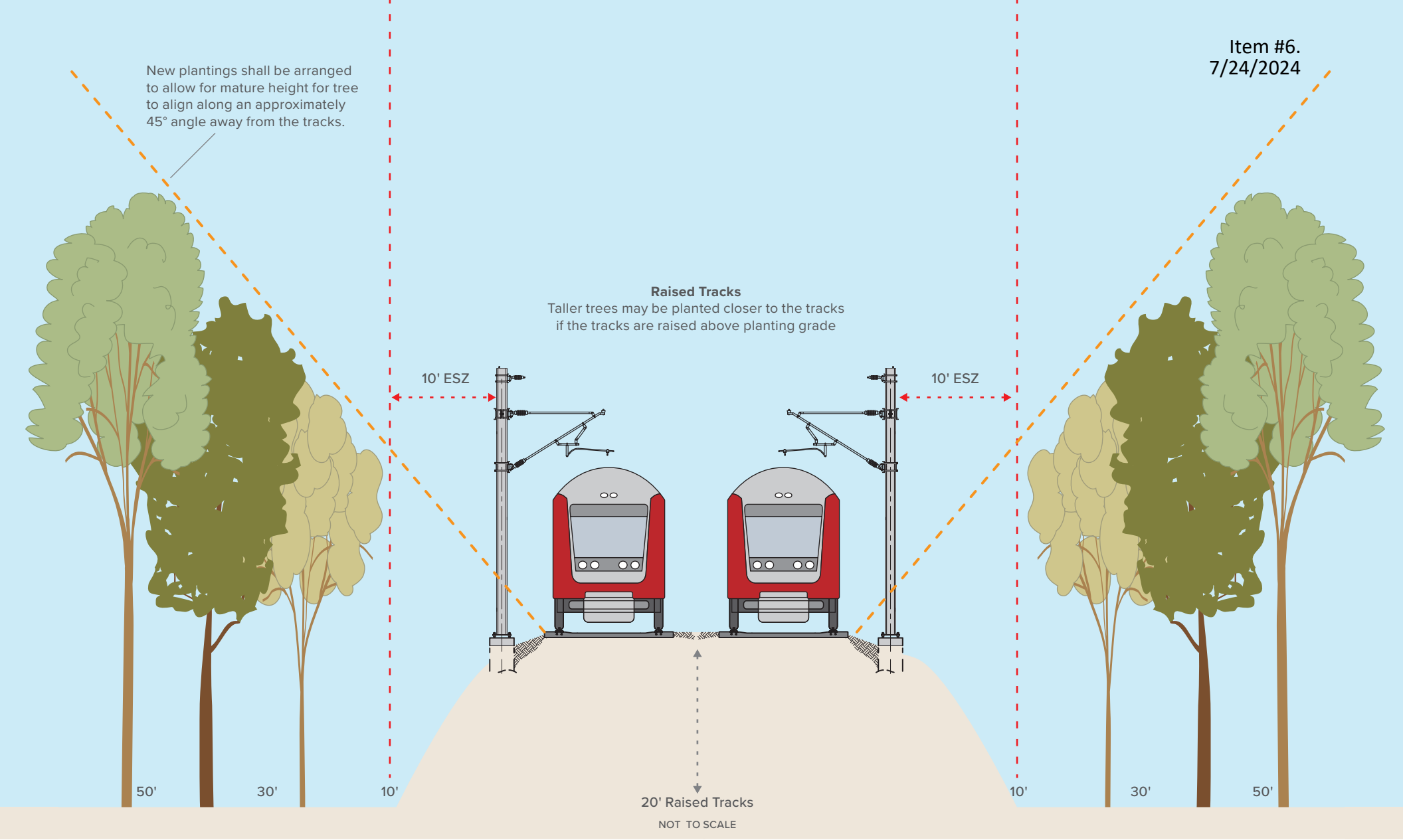
Attachments

Vegetation Illustrations

Tree Pruning Specifications


New plantings shall be arranged to allow for mature height for tree to align along an approximately 45° angle away from the tracks.
10' ESZ
Typical Overhead Alignment
10' ESZ
50'
30'
10'
10'
30'
50'
NOT TO SCALE
Tall Zone
Trees taller than 40'
Medium Zone
Maximum mature
Height 40'
Small / Screening Zone
Maximum mature
Height 20'
No planting
within ESZ
New planting shall
not foul tracks
No planting
within ESZ
Small / Screening Zone
Maximum mature
Height 20'
Medium Zone
Maximum mature
Height 40'
Tall Zone
Trees taller than 40'


New plantings shall be arranged to allow for mature height for tree to align along an approximately 45° angle away from the tracks.
Cantilevered Cross Arm
May allow for asymmetric ESZ relative to track, but new plantings shall still comply with Zone rules
10' ESZ
10' ESZ
50'
30'
10'
10'
30'
50'
NOT TO SCALE
Tall Zone
Trees taller than 40'
Medium Zone
Maximum mature Height 40'
Small / Screening Zone
Maximum mature Height 20'
No planting within ESZ
New planting shall not foul tracks
No planting within ESZ
Small / Screening Zone
Maximum mature Height 20'
Medium Zone
Maximum mature Height 40'
Tall Zone
Trees taller than 40'


New plantings shall be arranged to allow for mature height for tree to align along an approximately 45° angle away from the tracks.
Raised Tracks
Taller trees may be planted closer to the tracks if the tracks are raised above planting grade
10' ESZ
10' ESZ
50'
30'
10'
10'
30'
50'
20' Raised Tracks
NOT TO SCALE
Tall Zone Trees taller than 40'
Medium Zone Maximum mature Height 40'
Small / Screening Zone Maximum mature Height 20'
No planting within ESZ
No planting within ESZ
Small / Screening Zone Maximum mature Height 20'
Medium Zone Maximum mature Height 40'
Tall Zone Trees taller than 40'

HORT SCIENCE
BARTLETT CONSULTING
Divisions of The F.A. Bartlett Tree Expert Company

Tree Pruning Guidelines
Caltrain Vegetation Management Plan
August 2023

Qualifications
An ISA (International Society of Arboriculture) Certified Arborist or Tree Worker is to perform or supervise the pruning and must be present at all times. Tree care contractors must have a State of Calif. Contractor's License for Tree Service (C61-D49) and provide proof of workman's compensation and general liability insurance. Employees working in the Caltrain right-of-way must be RWP qualified and be wearing Caltrain-approved PPE.

Objectives
The following are general objectives:

1. Establish clearance from the Electrical Safety Zone (ESZ), defined as:
    a. **ESZ**: Ten (10) feet in all directions from any electrified equipment.
    b. **Side Clearance**: Ten (10) feet side clearances shall be measured from the electrified component.
    c. **Downward Vertical Clearance**: No branches shall be below the ESZ.
    d. **Overhead Vertical Clearance**: No branches shall be above the ESZ.
2. Maintain clearance described in item #1 for three years until the next inspection cycle. Actual clearance distances pruned must factor in response growth of trees, which may require additional clearance. If a three-year clearance is not obtainable while observing the below specifications, the tree must either be identified for mid-cycle pruning (*see Vegetation Management Plan section 2.3 Mid-cycle Pruning*) or removed.
3. Abate an elevated assessed level of risk to Caltrain facilities (*moderate, high,* or *extreme*) to a residual risk level of *low*. If residual risk is unable to be reduced to *low*, the tree must be removed.

Refer to the Caltrain Vegetation Management Program for additional information.

Specifications

1. All pruning shall be in accordance with the most recent editions of the Best Management Practices for Pruning (International Society of Arboriculture) and the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300). The natural pruning system shall be used.
2. Interior branches shall not be stripped out, commonly known as lion's tailing.
3. Pruning of more than 25% of live foliage is discouraged, as that can cause damage to the tree. If more than 25% of the crown must be removed to clear the ESZ, the tree can be preserved if it does not present an elevated risk to Caltrain facilities.
4. Trees shall not be climbed with spurs for clearance or risk abatement pruning. Spurs may only be used when a tree will be removed.
5. Branch removal or reduction cuts are to be employed rather than heading cuts. Trees shall not be topped. Heading cuts shall only be employed in two situations:

a. When removal or reduction cuts require entering a property in which permission to enter has been denied.
b. Removal or reduction cuts would require the removal of a tree.

6. Pruning operations shall be conducted in a manner that does not damage surrounding understory plants and structures.

7. Brush and logs shall be disposed of as described in the Caltrain Vegetation Management Program (*see section 4. Wood and Chip Disposal*).

8. Vehicles and equipment such as chain saws will be serviced and fueled only on paved surfaces, not on turf or other landscape material.

9. Where possible while in the tree, the arborist shall perform an aerial inspection to identify any defects in structure that require treatment. Any additional work needed shall be reported to Caltrain.

Peninsula Corridor Joint Powers Board
Staff Report

To:	Technology, Operations, Planning, and Safety Committee
Through:	Michelle Bouchard, Executive Director
From:	Mike Meader, Caltrain Safety
Subject:	**Receive Update on Caltrain Safety Performance**

☐ Finance Committee Recommendation ☐ Technology, Operations, Planning, and Safety Committee Recommendation ☐ Advocacy and Major Projects Committee Recommendation

Purpose and Recommended Action

This item is for informational purposes only.

Discussion

This report and accompanying presentation are submitted to keep the Board advised as to the Safety Performance of Caltrain based upon measurement of Key Performance Indicators (KPIs or metrics). Caltrain is committed to providing a safe work environment for our employees and contractors, and safe and efficient train service for our customers. Caltrain is also committed to continuous improvement through the capture and analysis of KPIs. Regularly reviewing these metrics will enable staff to identify areas needing improvement and focus our activities to achieve improved safety performance.

Caltrain will provide quarterly safety reports to the board and will be sharing this same information with employees as we work to build a stronger Safety Culture consistent with our #1 Core Value – **Safety** – First and Always as well as our System Safety Program Plan (SSPP). These reports will include both lagging safety performance indicators reported to the Federal Railroad Administration (FRA) and leading safety performance indicators. While lagging indicators can alert you to a failure in your safety program or to the existence of a hazard, leading indicators allow an organization to take preventive action to address that failure or hazard before it turns into an incident.

Budget Impact

There is no impact on the budget associated with receiving this informational update. Caltrain's ability to further enhance its safety program is contingent on the availability of funding dedicated to that purpose.

Prepared By: Mike Meader Caltrain Safety Chief 650.632.6821

Peninsula Corridor Joint Powers Board
Staff Report

To:	Technology, Operations, Planning, and Safety (TOPS) Committee
Through:	Michelle Bouchard, Executive Director
From:	John Hogan, Chief Operating Officer
Subject:	**Receive Update on Rail Activation Management Program**

☐ Finance Committee Recommendation ☐ Technology, Operations, Planning, and Safety Committee Recommendation ☐ Advocacy and Major Projects Committee Recommendation

Purpose and Recommended Action

This report is an informational item that provides an update on Caltrain's Rail Activation Management Program (RAMP), which is an ongoing effort to manage all revenue start-up activities for the transition from electrification construction to operations. It requires no action by the Board of Directors. The purpose of this month's report is to review the updated RAMP scorecard, which tracks progress of critical activities essential for start of electric train service in Fall 2024, and to provide an update on the new Passenger Information System.

Discussion

1. *Rail Activation Background and Scope:*

The Peninsula Corridor Electrification Project (PCEP) will upgrade 51 miles of diesel service to electrified service from San Francisco to San Jose (Tamien Station). The PCEP scope of work includes design and construction of an overhead contact system, traction power facilities, modification of the existing signaling and grade crossing protection system to make it compatible with the electrified railroad, improvements at Pacific Gas and Electric (PG&E) substations, and modifications at existing tunnels and Caltrain's maintenance facility. It also includes the design, manufacturing, assembly, testing, and delivery of the Electric Multiple Units (EMUs).

A Rail Activation Committee (RAC) has been established to manage the successful launch of electrified revenue service following PCEP substantial completion by developing a guiding program for commissioning, systems integration, safety certification, testing, training, and overall resource planning. The RAC meets on a weekly basis, and its purpose is to:

- establish clear goals, roles and responsibilities to ensure readiness for electrified passenger service;
- develop a comprehensive understanding of all necessary start-up activities for revenue service; and
- ensure buy-in from full organization for the transition from construction to operations and maintenance.

The weekly RAC meetings also include a 2 to 4 week lookahead of upcoming activities to ensure items remain on track and deadlines do not slip.

Key RAMP focus areas included, but are not limited to:

- Safety and Security
    - System safety certification
    - Vehicle storage and disposition plans
    - Emergency preparedness
    - First responder training
    - Isolation protection services
- Revenue Service Readiness
    - Training, certification, and hiring
    - Operations & Maintenance plans
    - Legacy fleet retirement
    - Service planning
- Community Outreach
    - Public tours
    - Safety campaigns
    - Marketing
- Financial Plan
    - Start-up costs
    - Energy procurement strategy

2. *Rail Activation Roles:*

The RAC is led by a Director of Rail Activation and Transition with dedicated engineering and project management support.

Caltrain's Operations and Maintenance (O&M) department along with the JPB's rail service contractor, TransitAmerica Services, Inc. (TASI), are also heavily involved in the start-up efforts to ensure that the Electrification Program, once in revenue service, meets all Caltrain's benchmarks for safe, reliable, and efficient operations. To that end, Caltrain O&M staff participate in the RAC and work closely with the PCEP project team and contractors on development of the Overhead Contact System (OCS)/Traction Power System (TPS) maintenance program, training, and pre-revenue service planning.

Rail Activation is a collective effort that includes support from nearly every department and shared service function throughout the organization. These include Caltrain Planning, Design and Construction, Safety and Security, Human Resources, Finance, Budgets, Contracts and Procurement, Communications, Government and External Affairs, Information Technology, People and Culture and Real Estate and Grants.

3. *Next Steps:*

Upcoming RAMP activities include:

- Implementing mitigation strategies for identified Rail Activation risks.
- Establishing warranty administration program and process.
- Operationalizing the Passenger Information System to provide on-board, real-time travel information including announcements, schedules, and other relevant details.
- Calibrating Automated Passenger Counters and establishing data transfer connection.
- Implementing soft launch plans to gradually introduce EMUs into revenue service before September 2024.

Budget Impact

Funds to support OCS and TPS maintenance and additional personnel hiring are included in JPB's Fiscal Year 2024 and 2025 adopted operating budgets. As with most major construction projects that will provide a new form of operating service, a "start-up" budget is typically established to cover one-time costs associated with the transition from construction and commissioning to operations. On June 6, 2024, the JPB Board of Directors approved a Fiscal Year 2025 capital budget amendment including approximately $20 million of Rail Activation start-up costs, which are summarized in the table below.

Category	Cost	
Enterprise Asset Management System	$	5,000,000.00
Maintenance of Way Projects	$	6,000,000.00
Maintenance of Equipment Projects	$	4,143,903.00
Traction Electrification System Vehicles	$	2,500,000.00
Overhead Catenary System Improvements	$	2,288,000.00
Total	**$**	**19,931,903.00**

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