Pre-Development Report

Cable Car Barn Rehabilitation and Upgrades

CIP Project #: FC077
FSP Project #: 10036559

SFMTA

Developed By:
Capital Programs and Construction Unit (CP&C)
Date: July 07, 2023
Version #: 0

Revisions

Version	Date	Author(s)	Revision Notes
0.0	July 07, 2023	Quon Chin, Project Manager Christian Kalinowski, Deputy Project Manager	Issue for Review
1.0			

Table of Contents

List of Figures

List of Tables

0.0 Definitions

Acronym	Definition
ADA	The Americans with Disabilities Act
APD	Advance and Preliminary Design
CCB	Cable Car Barn
CCBQI	Cable Car Barn Quick Implementation
CCCTR	Cable Car Curved Track Replacement
CCGR	Cable Car Gearbox Rehabilitation
CEQA	California Environmental Quality Act
CM	Construction Management
CMAR	Construction Manager At-Risk
CMGC	Construction Manager/General Contractor
CP&C	Capital Programs & Construction
CRF	Comment Resolution Form
DB	Design-Build
DBB	Design-Bid-Build
DBI	Department of Building Inspection
DD	Detailed Design
ERO	Environmental Review Office
EWP	Early Work Package
FIT	Finance & Information technology
FS	Facility Study
HVAC	Heating, Ventilation, Air Conditioning
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NOI	Notice of Intent
PA	Project Architect
PDB	Progressive Design Build
PDR	Pre-Development Report
PE	Preliminary Engineering
PER	Preliminary Engineering Report
PG&E	Pacific Gas & Electric Company
POETS	Public Outreach and Engagement Team Strategy
POM	Project Operations Manual
RACI	Responsible, Accountable, Consulted, Informed
RFP	Request for Proposals
RFQ	Request of Qualifications
SA	Service Agreement
SB	Senate Bill
SF	San Francisco
SFAC	San Francisco Arts Commission
SFFD	San Francisco Fire Department

SFMTA	San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SFPW	San Francisco Public Works
SHR	Seismic Hazard Rating
SIS	System Impact Study
SSI	Soil Structure Interaction
WDT	Wholesale Distribution Tariff

1.0 Summary

The Cable Car Barn Rehabilitation and Upgrades Project is a San Francisco Municipal Transportation Agency (SFMTA) capital improvement project located at the Cable Car Barn (CCB) at 1201 Mason Street and is bounded by Jackson Street, Washington Street, Taylor Street, and Mason Street in the Nob Hill neighborhood of San Francisco. The purpose of the project is to make critical capital improvements to the center of cable car operations, including 12kV electrical power upgrades, maintenance crane upgrades, accessibility improvements, office and work area renovations, elevator replacement, roof replacement, seismic retrofitting, and exterior repairs. The project work is planned to be split across eight (8) phases (1A, 1B, 2, 3A, 3B, 4, 5, and Other), which allows the construction work to be either concurrent or sequential. The final order of phases will be based on need and construction dependencies.

The project will include planning, preliminary engineering, detailed design, contracting, construction, and closeout phases. The project scope of work will be further defined in the preliminary engineering and detailed design phases, with the final scope of work developed into a construction document package that will be released to a contractor to complete the construction work. Following construction substantial completion, the upgrades will undergo final testing and commissioning before acceptance by the end user.

Outreach will be conducted during the design and construction phases of the project to both notify the CCB operations team, transit operators, and the public of upcoming improvements and to provide an opportunity for input regarding the facility upgrades. Additionally, the scope of work includes electrical power upgrades that will affect the Cable Car operations. While power shutdowns are anticipated for non-revenue hours, the SFMTA staff, transit planning, transit operators, and the public will be made aware of potential service outages, delays, and alternative means of transportation.

2.0 Project Purpose

The CCB and the cable car fleet it houses are each registered as historic landmarks, both nationally and in the State of California, and work must conform to the Secretary of the Interior's Standards for Treatment of Historic Properties. The building was originally built in 1888 but was severely damaged in the 1906 Great Earthquake. The most recent rehabilitation in 1984 included substantial renovations and additions.

The purpose of this project is to complete a variety of critical capital improvements that are needed at the CCB to improve working conditions at the facility and modernize the electrical operations of the cable car fleet. After a series of scoping meetings were held with internal stakeholders in June and July of 2019, it was concluded that conversion to 12kV electrical power is the top priority at the facility. Other critical capital improvements include, but are not limited to, crane replacement, restroom and office upgrades, accessibility improvements, passenger and freight elevator replacement, roof replacement, and seismic retrofitting.

3.0 Project Objectives

The main objective of the project is to improve working conditions at the CCB, including the museum, and to modernize the electrical operations of the cable car fleet through a variety of critical capital improvements. This is directly related to the SFMTA Strategic Plan Goals:

- Goal 5 *Deliver reliable and equitable transportation services,*
- Goal 9 *Fix things before they break, and modernize systems and infrastructure*, and
- Goal 10 *Position the agency for financial success.*

See link to Strategic Plan: *https://www.sfmta.com/reports/sfmta-strategic-plan-2021-2024*

4.0 Limits of Work

The CCB is located at 1201 Mason Street in the Nob Hill neighborhood and is bounded by Jackson Street to the north, Mason Street to the east, Washington Street to the south, and Taylor Street to the west. The project site is located on a 39,643 square-foot parcel on Assessor's Block/Lot 0190/005 and encompasses the historic Cable Car pulley system and maintenance shops in an existing approximately 81,294 gross-square-foot, 54.5 foot tall, two-story, brick masonry industrial building.

Figure A: Cable Car Barn Location
Source: Assessor's Parcel Number Map

The building has a brick masonry façade with a predominantly flat roof profile. The interior is organized by the storage and machinery vaults in the basement, cable systems on the first floor (Level 1), a museum on the first-floor mezzanine (Level 1M), cable car maintenance and operations on the second floor (Level 2), and office spaces on the second-floor mezzanine (Level 2M). Most of the project work is anticipated to be completed within the facility. However, accessibility improvements, such as path of travel slope softening, and ordinary maintenance and repairs, such as removal of general soiling and brick repointing, are planned for the facility's public-facing facade and immediately adjacent sidewalks and entrances.

The scope of work outside of the facility is primarily focused on providing accessible access but also includes the installation of electric vehicle charging stations and ordinary maintenance and repairs. The accessibility upgrades include, but are not limited to, modifying the slopes of the existing ramps, landings, and handrails to meet accessibility requirements; repainting the existing steel railings; and cleaning and refinishing bronze railings.

Currently, there is no cable car track replacement work for the tracks that enter and exit the facility and there is no concrete or pavement work for the streets, sidewalks, or curb ramps outside of the facility. However, this is subject to change upon design advancement in the Preliminary Engineering and Detailed Design Phases.

5.0 Scope of Work

The project scope of work was developed as part of the project's Master Planning efforts through input from stakeholder workshops, design coordination meetings with consultants, end user responses to questionnaires, and the existing and preferred program requirements. The input was used to develop an improvement priority list with the highest priority given to the modernization of the electrical equipment that powers the facility and the cable car pulley system. Other facility upgrades were prioritized and follow behind the electrical work based on facility or functional need and the opportunity to perform the construction work while the major electrical upgrades take place.

The project Master Plan, which details the conceptual scope of work and its design basis, is included in this document in Appendix A1. The Master Plan breaks down the scope of work into Phases 1A, 1B, 2, 3A, 3B, 4, 5, and Other based on importance, enabling the project to proceed with phases sequentially or concurrently. The phases are described in a high-level summary below. Some of the phases enumerated may not have all scope of work items covered for simplification and construction dependencies, such as the completion of seismic retrofit work, may result in adjustments in the order of phase completion. The phases as outlined from the Master Plan are as follows:

<u>Phase 1A – 12kV Switchgear Upgrade</u>

- **Level 2**: Construct new electrical room to house the new low voltage switchboard with drawdown breaker, medium voltage transformers, and medium voltage Pacific Gas and Electric Company (PG&E) switchgear for the 12kV electrical upgrade, and all electrical power improvements. The new electrical room includes a clean agent fire suppression system installation and plumbing improvements.

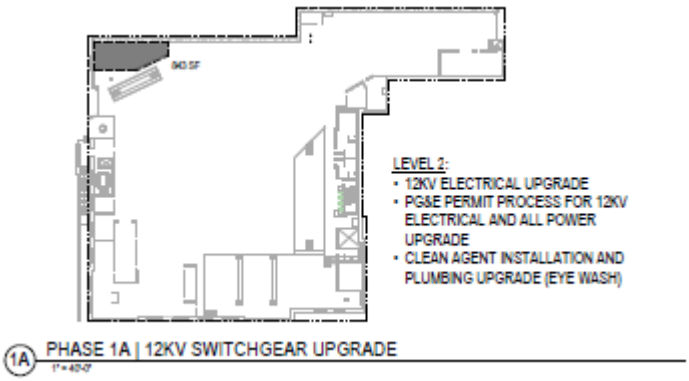


Figure B: Phase 1A Work Location Diagram

<u>Phase 1B – 20 Ton Bridge Crane Upgrade</u>

- **Level 1**: Existing 10-ton bridge crane upgrade to a 20-ton bridge crane and the crane rail is extended to cover entire track length, and a new code compliant connecting stairway between first floor shop and first floor mezzanine including structural work.
- **Level 1M**: Relocation of the first floor offices to the northwest mezzanine area with new elevated walkways on the mezzanine level including structural, mechanical, electrical, plumbing, fire alarm, and fire sprinkler improvements.

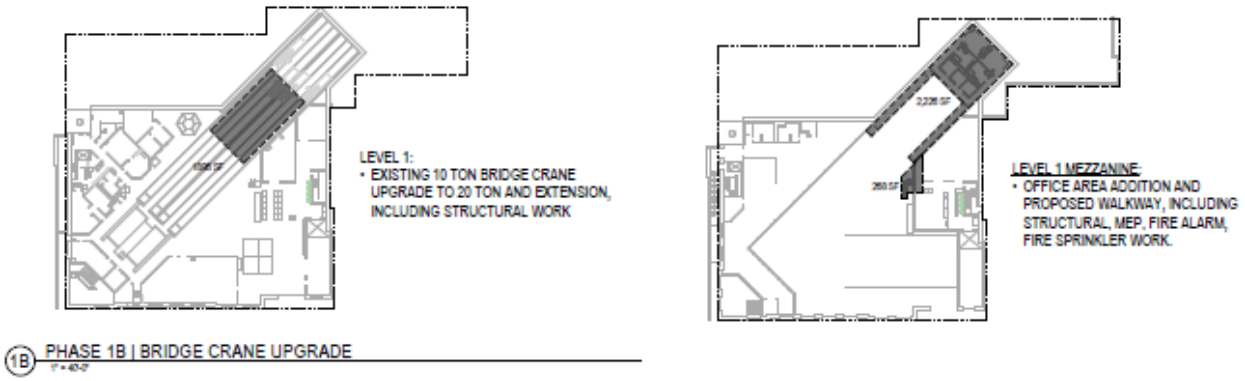


Figure C: Phase 1B Work Location Diagram

Phase 2 – Office Improvements

- **Level 1**: Accessibility upgrades to restrooms and showers, new all gender restroom and locker room, upgrades to existing locker rooms, and office improvements including mechanical, electrical, and plumbing work, and fire suppression system replacement.
- **Level 1M**: Full height glass partitions along the guardrails, storefront, museum entry, and stairways; heating, ventilation, and air conditioning system installation; and Museum's public restroom accessibility improvements; and new all gender restroom addition including mechanical, electrical, and plumbing work.
- **Level 2**: Restroom improvements and new all gender restroom addition, including mechanical, electrical, and plumbing work, and a bike storage room addition.
- **Level 2M**: Office renovations including office, gym, all gender restroom, operator's break room, union representative office, locker room, kitchen, lactation room, and new accessibility compliant restrooms. The interior renovations include mechanical, electrical, and plumbing work.
- **All Levels**: Passenger and freight elevator replacements, including structural work for guide rails.

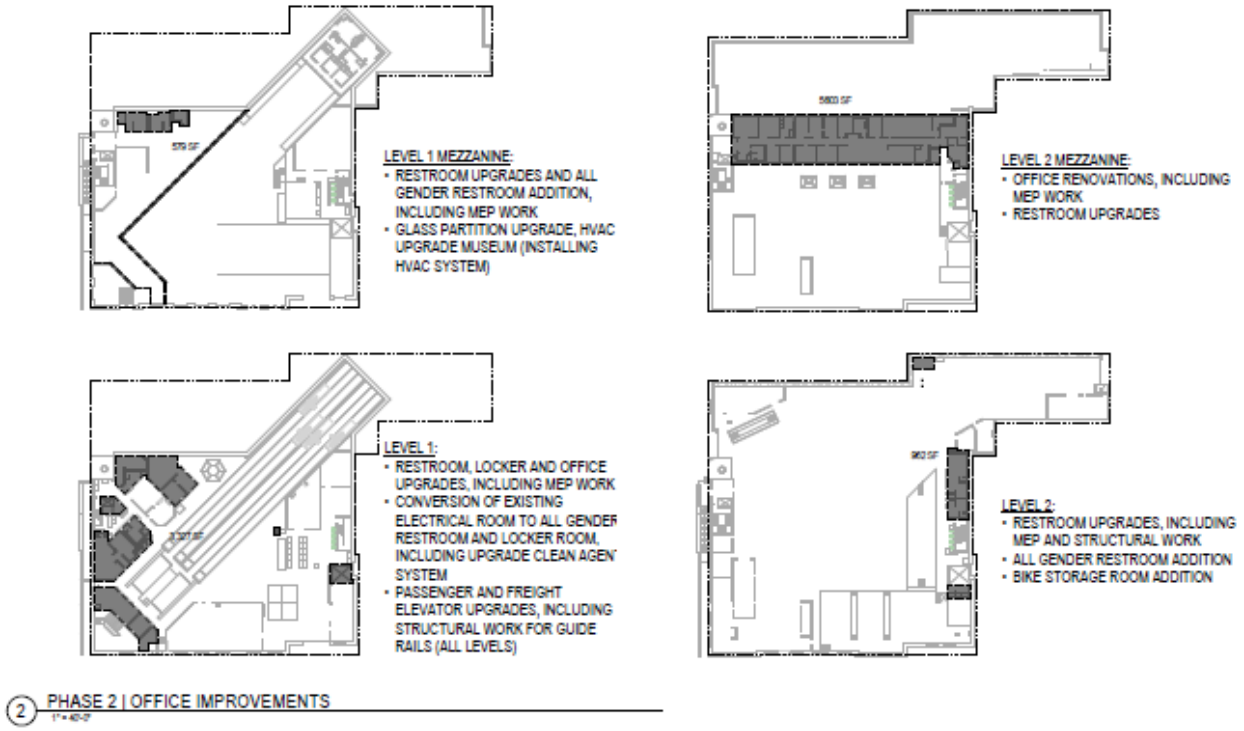


Figure D: Phase 2 Work Location Diagram

Phase 3A – Programming Restructuring

- **Level 1**: Relocation of weld room to northeast corner and new inspection room. The existing shops are upgraded with new equipment layout for the pulley assembly area, steam cleaning shop, and machine shop; 2-ton bridge crane addition; conversion of existing grip building area to new storage area with compact storage system and related mechanical, electrical, and plumbing work.
- **Level 1M**: New parts storage room with compact storage installation including structural work.
- **Level 2**: Relocation of grip building room to northwest corner of CCB from Level 1, including mechanical, electrical, plumbing, and structural work and installation of a 1-ton jib crane.

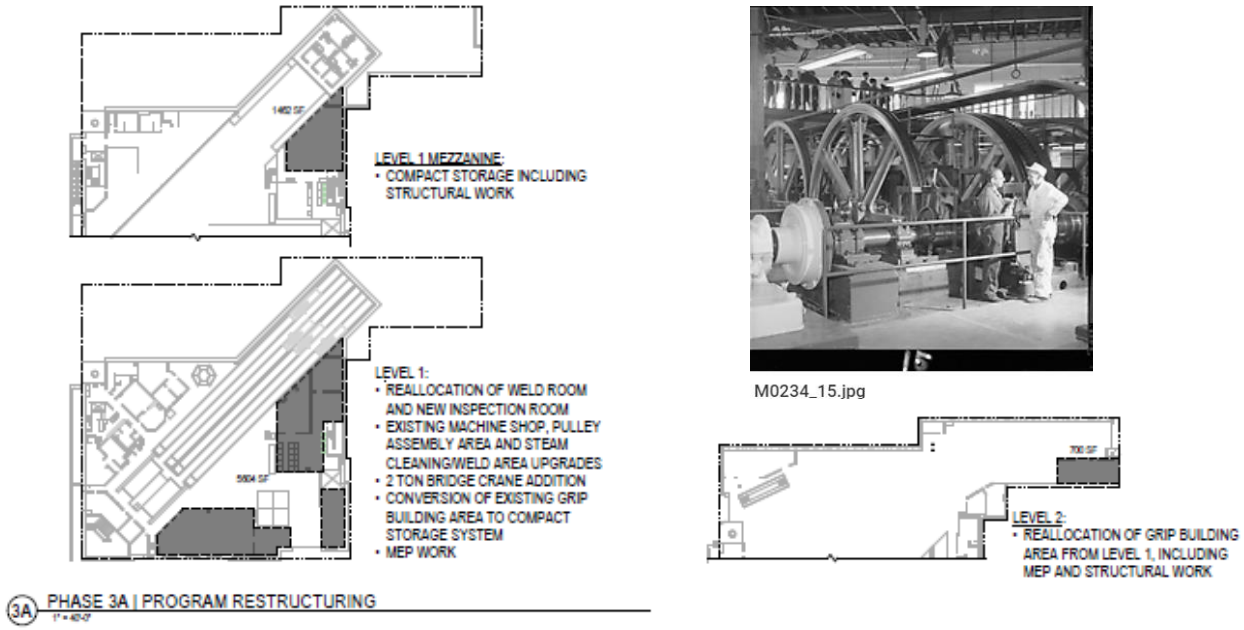


Figure E: Phase 3A Work Location Diagram

Phase 3B – Carpentry Shop Upgrades

- **Level 2**: Renovation of the carpentry shop and paint shop with new equipment and a new paint booth with an exhaust system and a spray booth for small parts paint jobs. Replacement of heating units in inspection pits, and related mechanical, electrical, and plumbing work. Demolition of existing break room.

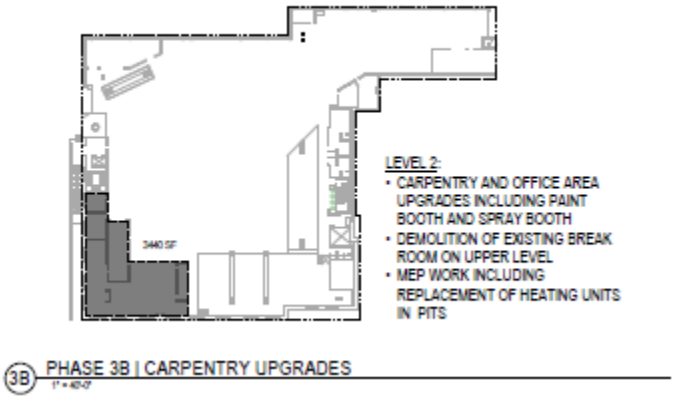


Figure F: Phase 3B Work Location Diagram

Phase 4 – Roof Replacement

- Entire roof replacement.
- New skylights.
- Remaining mechanical, electrical, and plumbing upgrades.

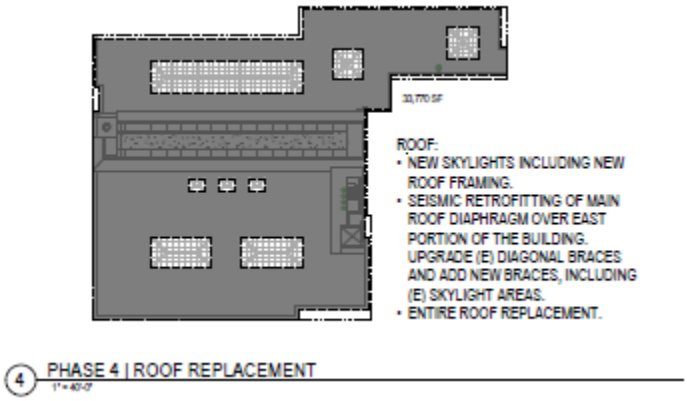


Figure G: Phase 4 Work Location Diagram

Phase 5 – Seismic Improvements

- South and east wall strengthening with replacement of existing shotcrete wall.
- North wall bracing from foundation to Level 2M to continue existing bracing.
- Addition of shear wall from foundation to Level 2M near north wall to reinforce existing wall.
- Addition of concrete or steel plate shear wall at the east side of passenger elevator.
- Roof diaphragm strengthening, including diagonal bracing and new braces.
- Chimney separation through introduction of an expansion joint between the chimney and the south exterior wall.

Other Improvements & Upgrades

Other facility rehabilitation and upgrades include, but is not limited to, the following:

- Exterior accessibility improvements, such as path of travel slope softening to the building entrance.
- Handrailing improvements to comply to accessibility requirements.
- Ordinary maintenance and repairs, such as removal of general soiling and brick repointing in accordance with SF Planning and Secretary of Interior's Standards Treatment of Historic Properties
- Winding motor upgrades.

The scope of work will be further developed throughout the design process and design submissions and may change based on the level of effort needed, the impact to the facility operators, engineer's estimate of construction cost, and/or mitigations for risk management. A revised phasing plan will be prepared during each design stage, incorporating a constructability review with the construction management (CM) team and stakeholders, and a final phasing plan will be presented at the end of the Detailed Design Phase.

The project phases are established as follows:

- **Pre-Development (Planning) Phase** with Pre-Development Report (PDR).

- **Preliminary Engineering (PE) Phase** with a Preliminary Engineering Report (PER) including 30% Design Criteria, Drawings, Specifications, Construction Schedule, and Construction Cost Estimate. Permit pre-applications will be prepared, the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental clearance work will begin, and an Environmental

Determination will be made by the Environmental Review Team. If an alternative project delivery method is considered over design-bid-build (DBB), the various project delivery methods will be evaluated and selected during the PE Phase to incorporate a request for qualifications (RPQ) and request for proposals (RFP) period concurrent with completion of 30% Design. The 30% submission will align with the delivery methods that will be evaluated.

- **Detailed Design (DD) Phase** with a 65% design that is progressed to full 100% construction documents including plans, specifications, design criteria, schedule, and engineer's cost estimate. Pre-construction permits, such as Department of Building Inspection, and other permits will be obtained for construction. DD will be subject to change dependent upon the selected project delivery method. Potential delivery methods are detailed in Section 10 and Appendix A2.

- **Contracting Phase** that is dependent on the selected contract delivery method, weighing factors, such as procurement, construction schedule, construction duration, budget, and risk. If an alternative project delivery method is selected during the PE phase, then contracting, including a RFQ and RFP from prospective contractors, is assumed to be concurrent with the design phase. For example, if an alternate delivery method is selected, the contractor may be selected prior to the DD Phase via a procurement period in the PE Phase.
- **Construction Phase** including the execution of the construction contract and implementation of the final design. During this phase, project staff will provide construction administration support to the selected Construction Manager and Resident Engineer. At the end of this phase a notice of substantial completion will be issued.

  If an alternative project delivery method is employed, early work packages (EWP) may be issued while the 100% construction documents are still in progress. For example, procurement of long lead items, such as the 12 kV electrical switchgear, or enabling work, such as site preparation, excavation, or foundation work, may begin prior to construction document completion.
- **Closeout Phase** that includes reconciliation of final claims, submission of as-built drawings, testing and commissioning reports, procurement of operational and maintenance manuals, end user training before hand-over, and a final budget revision to close project finances.

Other Deliverables include the following but not limited to:

- Laboratory and field testing to verify existing material properties
- Geotechnical study with recommendations based on soil conditions
- SF Planning Department - CEQA Review
- NEPA Environmental Review
- Soil Structure Interaction (SSI) analysis
- SFMTA Public Outreach and Engagement Team Strategy (POETS) – Outreach Plan
- SF Public Utility Commission (SFPUC) – PG&E coordination
- SF Department of Building Inspections (DBI) – Permits
- SF Arts Commission (SFAC) - Art Enrichment Allocation
- SFAC – Civic Design Review
- SFMTA Stakeholder review of design documents at each design level including a Comment Resolution Form (CRF) for comments and responses.
- PG&E Electrical Service – System Impact Study (SIS) & Facility Study (FS) Reports and PG&E Engineering and construction for the electrical upgrade to Cable Car Barn site from PG&E designated substation(s)
- SF Fire Department (SFFD) approval through DBI plan check and permit

6.0 Scope Exclusions

The following items were identified by the project team as scope to be excluded from the Master Plan; and will continue to be not included in the Cable Car Barn Rehabilitation and Upgrades Project - unless otherwise directed. However, if these items become necessary for the completion of the project, they may be reassessed and incorporated, as needed with scope, schedule, and budget considerations.

- No modifications to existing or construction of cable car tracks.
- No cable or cable alarm work outside of the Cable Car Barn.
- Any scope of work that would trigger a shutdown of transit (outside of the planned transit shutdowns for construction).
- No modifications to the existing sidewalk curb line, curb ramps, tracks, sewer pipeline, water pipeline, or landscaping.
- No roadway paving, except where necessary to repair damage caused by the scope of work noted above or where required to accommodate a new PG&E 12kV electrical power feeder in the right-of-way.

7.0 Uncertain Scope

The following items were identified by the project team as scopes or work that are currently uncertain. These items will be reassessed during the Preliminary Engineering and Detailed Design phases.

- A seismic evaluation will be needed for the building's basement. The seismic evaluation may result in additional seismic retrofit requirements.
- The seismic design is based on an initial seismic evaluation that was produced as a high-level review of seismic forces within the building. However, a more detailed seismic evaluation is needed to develop the final assessment.
- The structural foundation and footing designs are uncertain until a geotechnical investigation and soil analysis is completed. There are no existing geotechnical reports describing the soils under and around the CCB.
- The scope of the electrical work outside the CCB is indeterminate until the SIS Report is prepared by PG&E. The SIS will determine the origin and cost of PG&E's service feed to the Cable Car Barn from the SFMTA's service application. It is PG&E's discretion on the requirement of a FS to be performed.

8.0 Key Issues, Risks, Constraints

The project team identified the following key issues, risks, and constraints for this project and ordered them below based on highest to lowest risk.

1. Historical Resource Establishment
2. PG&E Electrical Power Feeder Relocation
3. PG&E Energization and Application Process
4. CEQA Clearance
5. NEPA Clearance
6. Project Budget
7. Project Delivery Method
8. Existing Cable Car Museum Usability During Construction
9. Cable Car Operations and Unforeseen Electrical Power Shutdowns
10. Seismic Activity
11. Power Resiliency

The following paragraphs expand on the items noted above:

1. Historical Resource Establishment

Since 1964, the CCB has been recognized as a historic resource at the national, state, and local level, primarily as a contributor to the broader San Francisco Cable Car system. In 1971, the CCB was designated San Francisco Landmark No. 43 due to its significance as "the only surviving cable car barn and powerhouse in the city." In 1978, the CCB was included in the National Register of Historic Places, and in 1981 the Historic American Engineering Record further documented the significance of the CCB as a contributing feature to the historic cable car system. Thus, the property is a historical resource under CEQA and is currently classified by the San Francisco Planning Department as "Category A – Historic Resource Present."

The historical designation is a significant limitation, as the scope of work includes improvements to the inside and outside of the building. Careful consideration is needed due to the historic aspect of the building, especially during major upgrades. A historic resource evaluation was completed as part of the Master Planning process and additional historic evaluations may be needed based on the extent of modifications to the building's historic aspects. This additional consideration will be a required part of both the CEQA and NEPA work for this project and may extend the timeline to complete the required environmental documentation.

2. PG&E Electrical Power Feeder Relocation

The main electrical distribution equipment will undergo upgrades as part of Phase 1, which means PG&E will play a large role in the completion of power distribution upgrades to the CCB. How PG&E's construction schedule fits into the CCB's project schedule will either add or ideally prevent delays to future phases.

The layout of the 12kV electrical equipment and the equipment specifications must follow the PG&E Green Book rules and regulations as well as the National Electrical Code. Additionally, the CCB facility is a 24/7 facility and power to the facility cannot be shutoff for extended periods of time. To meet these requirements, the consensus with stakeholders was to construct a new electrical room on the second floor of the building so that the existing equipment will not be disturbed and impacted as the new equipment is installed.

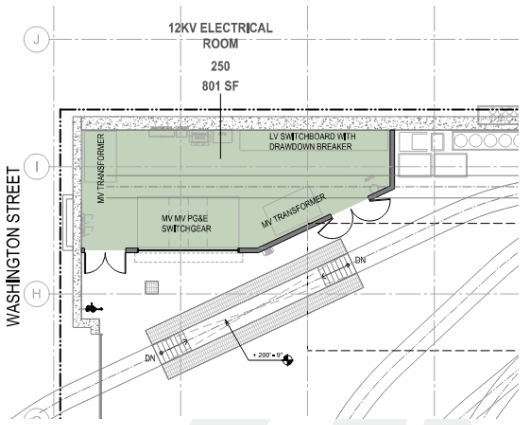


Figure H: Proposed Electrical Room

However, PG&E will still need to energize the new equipment and then cut-over the electrical power from the old system to the new system. This will require that the electrical power feeders are rerouted to the new electrical room and special access to be granted for the first and second floors of the building. To facilitate the energization of the new equipment, the design may need to include improvements in the areas surrounding the CCB to accommodate the reroute of electrical conduits or duct banks and to include associated work, such as sidewalk and/or pavement restoration.

3. PG&E Energization and Application Process

Prior to energizing the new equipment, a PG&E wholesale distribution tariff (WDT) application will need

to be completed and submitted to PG&E via SFPUC. The process starts with the submission of a Service Application Package and follows the steps outlined in *Figure I*.

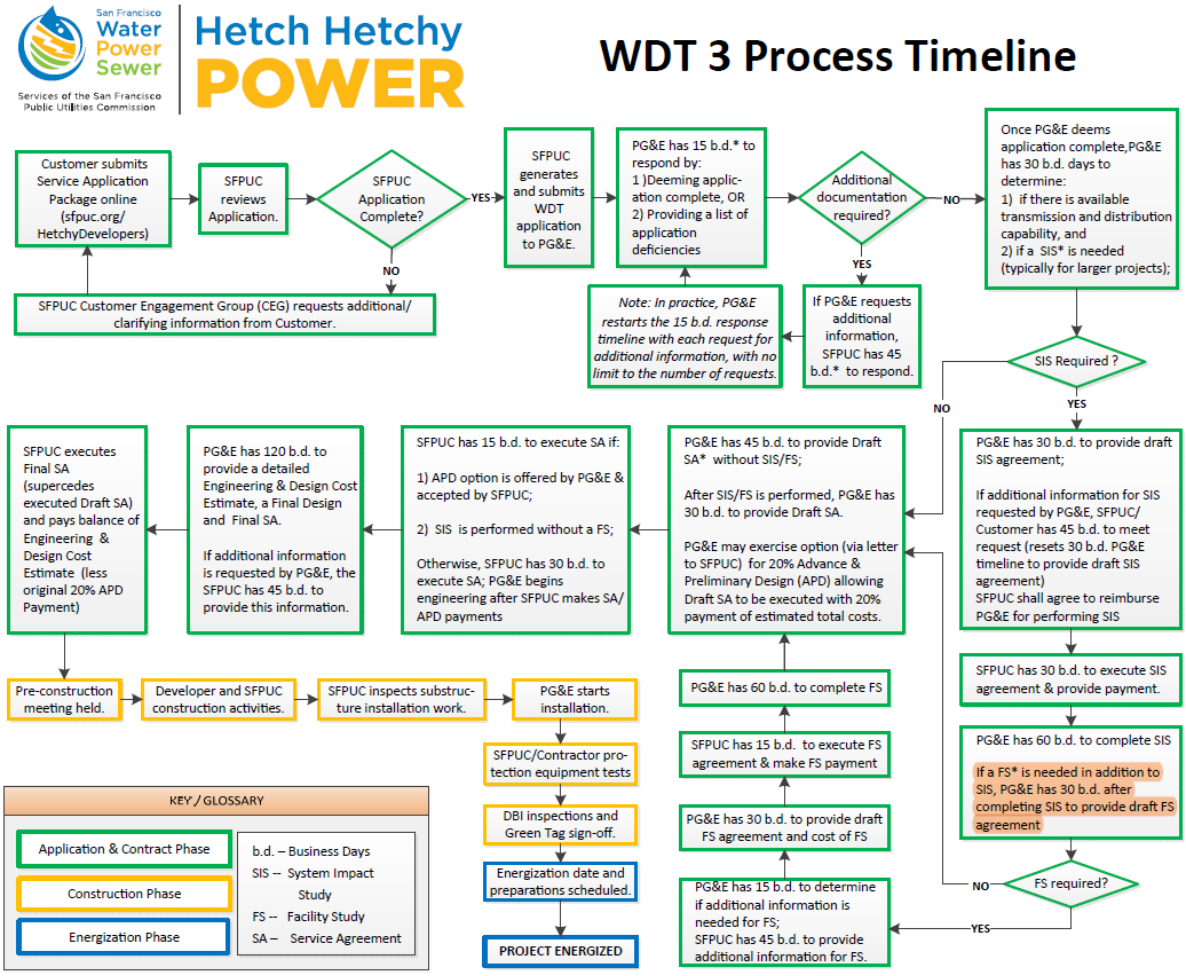


Figure I: WDT 3 Process Flow Chart and Timeline

Due to the nature of work, it is anticipated that PG&E will need to prepare a SIS that will indicate the routing, substation source, location of service vault on site, and rough estimate of the electrical service infrastructure cost. After a SIS is completed and received, PG&E will determine if a FS is required. After the SIS and FS is performed, PG&E will provide a draft Service Agreement (SA) to the SFMTA with a 20% Advance and Preliminary Design (APD) fee.

SFMTA has experienced timelines for this process of about 5 years from the submission of the application to energization and costs of PG&E's work exceeding $10 million. To start the process, the project needs a firm understanding of the future building electrical loads. However, the process may be started prior to this knowledge by including an electrical load contingency over the expected future building loads. However, this proses the risk that if the final building loads are greater than what is submitted in the application, the process will need to be restarted and the application's position in PG&E's queue will be lost.

Furthermore, if PG&E finds issue with the existing electrical system feeder configuration, the project may incur additional costs and witness delays to meet the PG&E baseline requirements. This represents a significant risk to the project budget and schedule that is beyond the SFMTA's control.

4. CEQA Clearance

The project is required to undergo CEQA clearance work, with major emphasis on the preservation of the CCB's historical resources. The Environmental Review Office (ERO) is working with the Project Manager and the Planning Department to assess the level for effort for CEQA clearance work. However, the clearance work duration is unknown and will remain so until the level of effort is determined.

There is potential for the project to be determined to be exempt from CEQA requirements and the team is exploring both Categorical Exemptions and Statutory Exemptions for the project. Categorical exemptions are defined by the State Resources Agency and include 32 exemption classes that are defined in 14 California Code of Regulations Section 15300-15331. Statutory exemptions are defined by the State Legislature, such as Senate Bill (SB) 922.

The project team is primarily targeting a Class 1 categorical exemption and secondarily targeting a SB-922 statutory exemption. Additionally, the project schedule assumes a clearance timeline of one (1) year. However, the timeline may be shortened if the categorical exemption is approved.

5. NEPA Clearance

The project will be required to go through the NEPA process due to the use of federal funding. The NEPA clearance risk lies in the unknown scope and duration for the federal clearance, as there is a history of untimely responses and long schedules associated with projects that must complete the NEPA process. The project team assumed a NEPA clearance timeline of three (3) years based on previous project clearance timelines. An environmental consultant is planned to be retained to assist with the NEPA clearance process, with consultant contracts forecast to be executed in May/June 2023.

6. Project Budget

The preliminary construction hard cost was estimated to be about $100 million, including cost escalation to the halfway point of construction. This estimate is broken down by phase to become more digestible but remains an overall significant amount. Section 13 of this document contains a planning level breakdown of project costs. As the design progresses, the project programming will need to identify funding sources for all identified hard and soft costs. Failure to provide adequate funding will severely hinder design and construction. It is assumed that this project is a priority in the Capital Improvement Program for the SFMTA and funding will be made available to meet the project needs.

7. Project Delivery Method

The project delivery method has not been determined. The selected delivery method will affect the design and construction scopes of work and timeline for project completion. Delivery methods will be analyzed during the PE Phase with delivery options, such as DBB, Design Build (DB), Progressive Design Build (PDB), and Construction Manager/General Contractor (CMGC) or Construction Manager At-Risk (CMAR), included in the analysis. The selected delivery method will affect the design and construction scopes of work and timeline for project completion.

8. Existing Cable Car Museum Usability During Construction

The CCB contains a free cable car museum on first floor and first floor mezzanine that is open to the public Tuesday through Thursday from 10 AM to 4 PM and Friday to Sunday from 10 AM to 5 PM. As part of the museum experience, the patrons can view and read about historical items from the building as well as view the cable system and tension run operations on the first floor of the building. Special consideration will be needed to maintain museum access and usability throughout the duration of work meaning that prior to construction, significant outreach will be needed to inform the management team

and prospective patrons of noise, closures, and other construction effects. Additionally, the selected contractor will need to be cognizant of the historical aspects of the project and will need to protect historical items prior to starting work.

9. Cable Car Operation and Unforeseen Electrical Power Shutdowns

A significant portion of the project work revolves around the 12kV switchgear upgrade. This work will require upgrades to the electrical system that powers the CCB and the systems that are used to operate the cable cars. System shutdowns will be required to maintain a safe working environment while conducting this scope of work. Shutdowns are typically conducted during non-revenue hours, but remains a significant risk, as prolonged shutdowns or unforeseen shutdowns will have an immediate effect on cable car operation. This also poses a budget risk, as non-revenue hours are typically overnight and include premium labor rates.

The number of allowable shutdowns and potential working hours for shutdowns will need to be carefully coordinated with PG&E, the contractor, the construction management team, Transit Operations (for bus substitution), and the facility and cable car operations team. Furthermore, operation or power shutdowns that must be conducted during typical operations hours will require special clearance that could present delays if a proper schedule and documentation is not provided in a timely manner. Transit has identified a total allowable electrical shutdown period of up to 8 weeks as part of the project, but the shutdown duration and specific dates will be further defined in the DD and Construction phases.

10. Seismic Activity

The conceptual design work for this project included a seismic evaluation of the building, which confirmed that the existing building is susceptible to seismic activity. The seismic evaluation, included in the Master Plan, proposes a building Seismic Hazard Rating (SHR) of 3.0, which is categorized as poor performance (major damage) that would pose appreciable life hazards to occupants. The seismic retrofit work will be substantial and requires additional investigation before understanding the full scope of work.

11. Power Resiliency

Power resiliency is the capacity to recover from power disruption. The CCB is classified as a non-critical, non-emergency response facility, and does not house hazardous materials. Thus, power resiliency is not critical for emergency response. However, power resiliency should be considered for general operations.

The CCB facility currently has two (2) electrical feeders from PG&E that provide power to the building. Each feeder supplies 2.4 MW of power has the capability to power the building separately and only one feeder is used at a time. As part of the electrical system upgrade process, a PG&E application will be submitted. During that time, PG&E will have the opportunity to request the removal of one of the feeders. Removing a feeder will remove the existing power resiliency.

A project specific risk register has been prepared and will be considered a living document that receives updates over the lifetime of the project. The risk register is attached as Appendix A3.

9.0 Other Projects to Consider/Integration

The work within the CCB is anticipated to be the only construction work within the facility. Other projects may have work around the facility, but the coordination work will be minimal, as this project is focused on work inside of the building except for the exterior façade repair work and new roofing. Coordination may be needed

for sidewalk scaffolding, pedestrian protection, site access, and storage locations around the facility.

There are other planned projects in and around the CCB facility. The most notable project that will require integration is **the Cable Car Barn Quick Implementation (CCBQI) project**. This project is managed by SFMTA Capital Programs & Construction staff, allowing seamless coordination between the Project Managers. The CCBQI project is primarily focused on the replacement of the building doorways. The work for this project is currently ongoing but is anticipated to be completed before construction for this project begins.

Figure J: Powell Street Cable Car in Storage at Washington/Mason Cable Car Barn, August 2021

A second project focused on the cable cars is the **Cable Car Gearbox Rehabilitation (CCGR) project**. This project is also managed by Capital Programs & Construction staff, which again allows for seamless coordination and integration. The CCGR project is focused on rehabilitating the existing gearboxes, including inspecting the equipment; performing repairs on the idler shafts, sheaves, and related components; and replacing internal gaskets and oil fluids as needed.

The CCGR project is anticipated to be substantially completed and closed out in 2024. The CCGR work is focused on immediate rehabilitation work required to maintain the use of the cable cars and is not included in the larger rehabilitation project.

Figure K: Completed Gearbox Works at Cable Car Barn and Powerhouse, January 2023

The third project focused on cable car work is the **Cable Car Curved Track Replacement (CCCTR) project**. This project will be replacing curved rails that were installed in 1982 and are reaching the limit of allowable wear. In addition to replacing the curved tracks, the project is also replacing pulley box covers and frames, replacing slot rails, and restoring pre-emption signaling systems. The work limits for this project include Powell St/Washington St, Powell St/Jackson St, Mason St/Washington St, Hyde Mason St/Jackson St, Hyde St/Washington St, Hyde St/Jackson St, and St/Beach St and it is not expected to affect this project's work. However, the CCCTR project will need to shut down the cable car lines while the sections of the track way are replaced, providing the opportunity to "piggyback" on the shutdown to do work on the CCB that would typically require its own shutdown.

Figure L: Cable Car Track Repairs at Washington and Powell Streets, October 1979

A Notice of Intent (NOI) will be issued to all utility companies within the project limits during the Preliminary Engineering phase using Dotmaps. The result of the utility composite map or underground utility matrix of utility locations and depth will be included in the PER.

10.0 Project Delivery Methods

The project is investigating and evaluating various project delivery methods for the design and construction of the Cable Car Barn Rehabilitation and Upgrades project. Project delivery options that are under consideration include DBB, DB, PDB, CMGC or CMAR, and Turnkey. A simple matrix outlining the pros and cons of each alternative contract delivery method is included in Appendix A2 for comparison and evaluation purposes.

Traditionally, the SFMTA has conducted business through a DBB approach for its capital projects. The SFMTA is gaining valuable exposure to alternative contracting methods on other major capital projects and while it has limited experience with these alternative methods, they should all be considered. In the planning phase, the objective is to identify all the viable options for project delivery and enumerate the advantages and disadvantages in consideration of what is the most appropriate application for the project taking into key factors, such as scope, schedule, and budget. The project delivery method matrix will be used as a starting point in the PE phase, where it is anticipated that a delivery recommendation will be presented. This timeline would align with the DB, PDB, and CMGC methods but will not preclude a Turnkey method, as a well-defined scope, design criteria, and reference documents are essential bridging documents for all project delivery alternatives.

It is assumed that a major benefit of using an alternative project delivery method is a quicker delivery and completion of the project. Hence, theoretically, the schedule for the Construction and Closeout Phases would be moved up, barring unforeseen delays.

11.0 Project Team/Resources

The following table details the agencies that will be part of the project team and the associated scope of work. During the PE and DD phases of the project, additional agency divisions will be engaged to ensure the project meets current regulations and stakeholder requirements. Internal and external agencies that were identified as project stakeholders include, but are not limited to, those detailed in *Table 1* and *Table 2* below.

Table 1: San Francisco Project Team Agencies and Related Scopes of Work

Agency	Scope
SFMTA Capital Programs & Construction	Fire Alarm and Suppression, Heating/Ventilation/Air Conditioning (HVAC), Lighting, Medium Voltage Equipment, Communication, Misc. Electrical, Plumbing, Power, Project Funding and Financial Analysis, Project Management
SFMTA Finance & Information Technology/Real Estate/Building Progress	Real Estate Development
SFMTA Information Technology	Closed Caption Television, Fiber, Radio, Networking, Security
SFMTA POETS	Internal and External Outreach
SFMTA Security, Investigations, and Enforcement	Access Control, Security
SFMTA Transit Operations	Operational Staging, Work Clearances
SFMTA Transportation Engineering	Pedestrian and Vehicular Traffic Control
SFPW Bureau of Architecture	ADA Compliance, Building Architecture, Building Surveying
SFPW Bureau of Streets and Mapping	Site Surveying
SFPW Infrastructure Design & Construction	Geotechnical Survey and Report, Hydraulic Analysis and Sewer Design, Sidewalk, Ramp, and Trench Design, Structural Supports and Seismic Retrofit Design, Utility Investigation
SFPW Regulatory Affairs	Regulatory Compliance
SFPW Site Assessment and Remediation	Hazardous Materials Testing and Handling
SFPUC Power Enterprise & PG&E	Electrical Service Application, Energization
SF Arts Commission	Art Enrichment and Civic Design Review Programs
SF Department of Building Inspection	Building Permitting
SF Department of the Environment	Construction and Demolition Debris Management
SF Planning	CEQA assessment and approval

Table 2: Proposed Consultant Design Disciplines and Related Scopes of Work

Consultant Design Discipline	Scope
Acoustics	Building and Office Acoustic Design
Building Codes	Building Code Review
Cost Estimation	Project Hard and Soft Cost Estimation
Elevator	Elevator Design
Environmental	CEQA and NEPA Assessment and Documentation
Historic Resources	Historic Resource Evaluation
Industrial / Shop Equipment	Industrial Equipment Inventory and Staging
Landscape	Planting and Sidewalk Features
Risk Review & Mitigation	Project Risk Determination and Abatement
Scheduling	Construction Schedule Estimation and Review
Technical Specifications	Project Technical Specification Preparation
Waterproofing	Roof Waterproofing

The team members, design disciplines, and organizations are subject to change as the project scope of work and

resource needs are developed.

12.0 Roles and Responsibilities

The SFMTA project team members' roles and responsibilities will be dictated per the SFMTA Project Operations Manual's (POM) Responsible, Accountable, Consulted, Informed (RACI) matrix. *Figure M* below displays the project's general organization chart followed by a breakdown of roles and responsibilities between City Agencies.

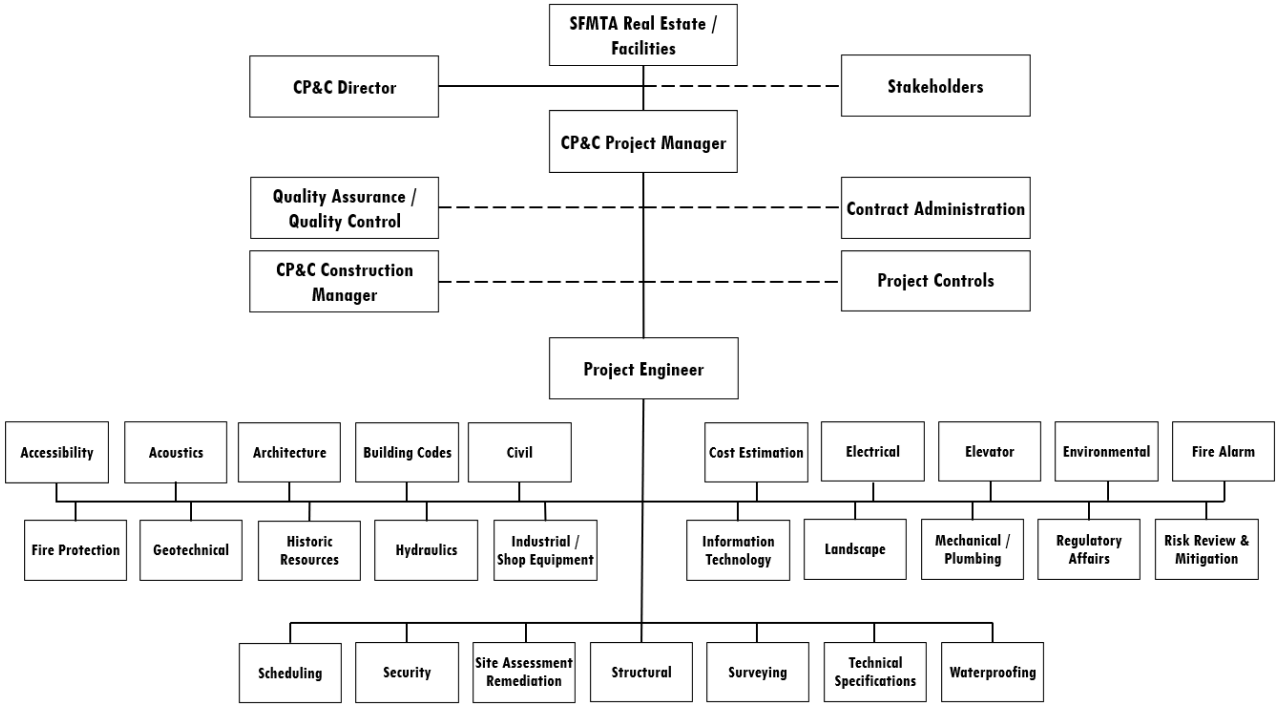


Figure M: Project Organization Chart

Project Delivery

- The project delivery method has not yet been defined and each delivery method has a different breakdown of roles and responsibilities. For example, the team organization under a DB delivery method will include a 3rd party contractor and design responsibilities may shift from in-house (City) staff to the contractor's staff. Project delivery responsibilities will be determined after an analysis of delivery methods has been conducted and a delivery method chosen.

A memorandum of understanding (MOU) will be prepared at the start of each phase of the project. These roles and responsibilities are subject to change per established MOUs.

13.0 Project Cost Estimate

The project team developed the project cost estimate detailed in the table below. This estimate includes a rough order of magnitude construction cost estimate as prepared by cost estimating consultant M Lee Corporation, which is included in the project's Master Plan document. For the purposes of developing a budget, the high construction cost estimate and standard cost estimating templates were used to develop the cost estimate detailed in *Table 3* below.

Table 3: Estimated Project Budget

Phase	Estimate	Remarks
1.0 Preliminary Engineering	$7,657,000	
1.1 Architecture / Engineering / Project Management	$4,900,000	Includes Consultant Work
1.2 Misc. Cost -Surveys, Studies, etc.	$980,000	
1.3 Community Outreach and IT Support	$10,000	
1.4 Contingency	$1,767,000	30% Contingency
2.0 Detailed Design	$25,545,000	
2.1 Architecture / Engineering / Project Management	$14,700,000	Includes Consultant Work
2.2 Design Support - SSD, Operations, Maintenance, etc.	$4,900,000	
2.3 Community Outreach and IT Support	$50,000	
2.4 Contingency	$5,895,000	30% Contingency
3.0 Construction	$173,043,000	
3.1 Construction Contract	$98,000,000	
3.2 Construction Management and Project Management	$14,700,000	
3.3 Engineering Support	$4,900,000	
3.4 Muni Operation Services - Service Substitution	$560,000	
3.5 Other Cost - Permits, SSD, etc.	$14,700,000	
3.6 QA Testing	$50,000	
3.7 Community Outreach and IT Support	$200,000	
3.8 Construction Contingency	$39,933,000	30% Contingency
4.0 Escalation (6% per Year to Middle of Construction)	$72,421,803	
Total Project Cost	**$245,464,803**	

14.0 Project Funding

Table 4 below contains current project funding sources. Funding sources may be modified as the project is developed.

Table 4: Project Funding Source Breakdown

Name in EcoSys	Cable Car Barn Rehabilitation and Upgrades	
CIP ID / PeopleSoft ID	FC077 / 10036559	
Contributing Funding Sources	Caltrans-SB1-SGR-FY18	$2,452,060
	Caltrans-SB1-SGR-FY19	$285,071
	FTA TIG-Community Project Funding-FY22	$2,000,000
Total Funded	**Planning & Preliminary Engineering Phases**	**$4,737,131**

15.0 Preliminary Project Schedule

The project team developed an estimated project schedule based on the project's capital improvement plan, experience on similar facility projects, and feedback from the design team. The schedule detailed in *Table 5* may be subject to change based on the selected project delivery method as detailed in Section 10.

Table 5: Estimated Project Schedule[0]

Task	Begin Date	End Date	Duration (Months)
Planning Phase			
Pre-Development Report Complete	January 16, 2023	June 30, 2023	32
Preliminary Engineering Phase			
Environmental Clearance	January 16, 2023	July 5, 2024	16
Preliminary Engineering Report (50%)	June 30, 2023	October 27, 2023	4
Preliminary Engineering Report (95%)	October 30, 2023	March 29, 2024	5
Preliminary Engineering Report Complete (30% design)	April 1, 2024	July 5, 2024	3
Detail Design Phase[1]			
Environmental Clearance (Continued)	July 8, 2024	November 28, 2025	17
Detail Design (65% design)	July 8, 2024	March 7, 2025	8
Detail Design (100% design)	March 10, 2025	November 28, 2025	9
Permitting	December 1, 2025	January 30, 2026	2
Contracting Phase			
Advertise Construction	February 2, 2026	May 1, 2026	3
Award Construction Contract	May 4, 2026	July 3, 2026	2
Construction Management Phase			
Construction Notice to Proceed	July 6, 2026		
Substantial Completion		August 1, 2031	61
Administrative Closure Phase			
Contract Closeout	August 4, 2031	October 31, 2031	3
Project Closeout	November 3, 2031	February 6, 2032	3

[0] The schedule is based on a traditional Design-Bid-Build Contract Delivery Method.
[1] In an alternative contract delivery method, the Detail Design Phase is concurrent with Advertising, Bid and but requires the overall 24 months for design by the contractor.

16.0 POETS/Community Engagement

The objective of the engagement plan is to provide an avenue for residents, businesses, community groups, and stakeholders to get involved with the decisions of the project. This plan will aid in involving community members

in activities, such as identifying relevant issues, problem solving issues, evaluating alternatives, and communicating project progress.

The POETS team prepared a public outreach and engagement plan, Appendix A4, that will be further developed in the PE phase as the list of key stakeholders is refined. The project and POETS teams have identified the stakeholders who reside, work, or travel through the Project Area including, but not limited to, those detailed in *Table 6*.

Table 6: Public Outreach Stakeholders

Category	Identified Groups
Residential - Construction	Residents within two-block radius on Washington, Taylor, Jackson, and Mason Streets
Residential - Service Shutdowns	Fisherman's Wharf, Chinatown, Downtown, Civic Center, Financial District, Nob Hill, North Beach, Russian Hill
Business District	Union Square, Financial District, Fisherman's Wharf, Chinatown, Downtown, Civic Center, North Beach
People Who Drive	Motorists
People Who Walk	Pedestrians, Tourists, SF Walk
People Who Ride Bicycles	SF Bicycle Coalition
People Who Ride Transit	Cable car commuters, tourists
Other	For service impacts: SF Tourism Improvement District, Hotel Council, SF Travel, Information Center, Convention Center, Golden Gate Restaurant Association, SF Chamber of Commerce, Salesforce Transit Center, AC Transit, BART, Golden Gate Transit, SamTrans and CalTrain, SF Port, SFO, Moscone Expansion District, Tourism Improvement District
Neighborhood Organizations	Fisherman's Wharf Merchants, North Beach, Tenderloin, Van Ness, Chinatown, Union Street
Merchant Groups	SF Transit Riders, Chinatown Community Development Center (CCDC), Civic Center CBD, Discover Polk CBD, Downtown CBD, The East Cut CBD, Fisherman's Wharf CBD, Lower Polk CBD, Mid Market CBD, Noe Valley CBD, North of Market & Tenderloin CBD, SoMa West CBD, Union Square CBD, Yerba Buena CBD, JapanTown CBD, Castro CBD SFMTA's Small Business Working Group, Fisherman's Wharf Merchants Association, North Beach Business Association, Hotel Council of San Francisco, Union Square Merchants Association, SF Chamber of Commerce, North Beach Merchants Association, Nob Hill Neighbors, Russian Hill Neighbors, North Beach Business Association, SF Travel Association, Golden Gate Restaurant Association, SF Entertainment Commission, Film SF
Community Groups	Chinatown Community Development Center (CCDC)
Interest/Advocacy Groups	Market Street Railway, Hotel Council, SF Travel, Golden Gate Restaurants, Fisherman's Wharf Community Benefit District, CCDC, Transit Riders, Hotel Council of San Francisco, SF Travel Associations, SF Visitors Center, Golden Gate Restaurant Association, Market Street Association, SF Port Maritime Marketing (to notify cruise lines), Moscone Expansion District, Tourism Improvement District
Faith-Based Groups	SF Interfaith Council, Grace Cathedral, Old St. Mary's Cathedral
Schools	Academy of Art University, SFUSD
Senior Centers, Disabled Services	Self Help for the Elderly, On-Lok Senior Center, SF Light House for the Blind
Media (local and citywide)	Sing Tao Daily (Chinese), SF Examiner, World Journal (Chinese), Wind (English & Chinese), El Tecolote (Spanish), Hoodline, Next Door, Ktsati (Russian), Local media outlets, TV stations, Radio - PSA, KIQI (Spanish), KVTO (Chinese), KVVN (Vietnamese), KEST (Chinese)
Hotels	Fairmont Hotel, Grand Hyatt San Francisco, Taj Compton Place San Francisco, The Inn at Union Square, Kensington Park Personality Hotels, JW Marriott Union Square, Marquis, Wyndham Vacation Ownership, The Westin St. Francis, Hotel Fusion San Francisco, Hotel Abri, Hilton, Hotel Nikko San Francisco, Axiom Hotel, Kimpton Hotel, Hotel Stratford, Herbert Hotel, Chancellor Hotel, Huntington Hotel, Stanford Court San Francisco, InterContinental Mark Hopkins San Francisco, Cornell Hotel de France, The Ritz Carlton, Westin St. Francis

17.0 Approvals

Role	Name	Initials/Signature	Date
Capital Programs & Construction Deputy Project Manager	Christian Kalinowski		
Capital Programs & Construction Project Manager	Quon Chin		
Capital Programs & Construction Acting Deputy Director of Engineering	Jane Wang		
Capital Programs & Construction Director of Capital Programs & Construction	Aidin Sarabi		
SFMTA Fleet Maintenance Chief Maintenance Officer	Louis Guzzo		
SFMTA Maintenance of Way Chief Maintenance Officer	Charles Drane		
Capital Program Manager Strategic Real Estate Manager	Kerstin Magary		
Capital Program Manager Chief Strategy Officer	Jonathan Rewers		
SFMTA Transit Operations Director of Transit	Julie Kirschbaum		

18.0 Appendix

A1 - Master Plan Report

Hyperlink to the Cable Car Barn Master Plan

CCB Master Plan Report – Final May 2023

A2 - Risk Register

Hyperlink to the Cable Car Barn Risk Register

CCB Risk Register

Risk Register

Project Name Cable Car Barn Rehabilitation and Upgrades
CIP ID FC077
Date Prepared 1/3/2022
Date Updated

Risk & Impact Legend	
4-5	High
3	Moderate
1-2	Low

PM	Project Manager
PL	Project Lead
CM	Construction Manager
CON	Contractor

All	All team members

Item #	Risk Category	Risk Item	Potential Likelihood Level (1-5)	Potential Impact Level (1-5)	RISK	Mitigation Strategy	Responsible Person	Schedule Impact (days)	Cost Impact($)	Current Risk Status: Active/ Retired
1	**Safety**									
1.01	**Safety**	The worksite will need special barricades to prevent the public from accessing the site. The public museum may need to remain operational during construction work.	5	1	5	Special consideration to be given to blocking off work zones from the Museum area. The museum views to be maintained during work to allow patrons to continue use of the facilities. Special shutdown periods to be coordinated with the site and public outreach to be conducted to notify prospective patrons.	CON	0	$ 5,000	Active
1.02	**Safety**	A power shutdown may be required but not available, especially during revenue hours.	1	2	2	Schedule required shutdowns with a minimum 1 week notice.	CM / CON	7	$ -	Active
1.03	**Safety**	Contractors need additional safety training due to the proximity of the work to the trackway and high voltage electrical equipment.	5	1	5	Include safety requirements in the project contract. Discuss project safety requirements in the pre-construction meeting.	CM / PM	14	$ -	Active
1.04	**Safety**	The storage location will need to be kept graffiti free and blocked off from the general public.	3	2	6	Contractor to regularly remove graffiti from work equipment and materials per the contract documents.	CM / CON	0	$ 5,000	Active
1.05	**Safety**	Onsite construction injury due to negligence	2	5	10	Contractor to hold safety tailgate meetings at the start of the work day and when starting new tasks. Discuss safety at each construction meeting.	CON	30	$ -	Active
1.06	**Safety**									
1.07	**Safety**									
1.08	**Safety**									
1.09	**Safety**									
1.10	**Safety**									
2	**Contract**									
2.01	**Contract**	Contract procurement method is undetermined. Contract may be design-bid-build, CM/GC, CM/AR, etc.	5	2	10	Contracting method to be discussed with upper level management and project management team during preliminary engineering phase to determine the best method.	PM	0	$ -	Active
2.02	**Contract**									
2.03	**Contract**									
2.04	**Contract**									
2.05	**Contract**									
2.06	**Contract**									
2.07	**Contract**									
2.08	**Contract**									
2.09	**Contract**									
2.10	**Contract**									
3	**Schedule**									
3.01	**Schedule**	The project design timeline is estimated. The project timeline needs to be revise during the next project phase to account for the detailed design work.	5	2	10	Discuss design requirements at the Preliminary Engineering and Detailed Design phases initiation. Revise the project schedule to match design proposals.	PM	0	$ -	Active
3.02	**Schedule**	Project phases are currently scheduled to be concurrent. During actual construction work, the project phases may be sequential instead of concurrent, thereby extending the project duration.	5	5	25	Discuss actual phase sequencing during detailed design. Establish the optimal sequencing and preparing a construction timeline based on the sequencing.	PM	0	$ -	Active
3.03	**Schedule**	CEQA/NEPA clearance timelines are currently unknown.	5	5	25	Start CEQA/NEPA work early and anticipate a long duration for clearance. Engage with the ERO and Planning Department as soon as possible to start understanding the time needed to complete the tasks.	PM	365	$ -	Active
3.04	**Schedule**									
3.05	**Schedule**									
3.06	**Schedule**									
3.07	**Schedule**									
3.08	**Schedule**									

Risk Register

Project Name Cable Car Barn Rehabilitation and Upgrades
CIP ID FC077
Date Prepared 1/3/2022
Date Updated

Risk & Impact Legend	
4-5	High
3	Moderate
1-2	Low

PM	Project Manager
PL	Project Lead
CM	Construction Manager
CON	Contractor

All	All team members

Item #	Risk Category	Risk Item	Potential Likelihood Level (1-5)	Potential Impact Level (1-5)	RISK	Mitigation Strategy	Responsible Person	Schedule Impact (days)	Cost Impact($)	Current Risk Status: Active/ Retired
3.09	**Schedule**									
3.10	**Schedule**									
4	**Procurement**									
4.01	**Procurement**	Long-lead items, such as switchgears, may not ready by the time construction starts. Switchgear manufacturing is estimated at 14 weeks and reportedly longer than 14 weeks at industry events.	3	3	9	Swift submittal review will help the contractor with ordering materials with enough float in the timeline to prevent project delays.	CM	0	$ -	Active
4.02	**Procurement**									
4.03	**Procurement**									
4.04	**Procurement**									
4.05	**Procurement**									
4.06	**Procurement**									
4.07	**Procurement**									
4.08	**Procurement**									
4.09	**Procurement**									
4.10	**Procurement**									
5	**Budget**									
5.01	**Budget**	The construction cost estimate is based on preliminary design details. The cost estimate requires update as the design is established. The work may become cost prohibitive.	2	2	4	Prepare revised project cost estimates at the start/end of each project phase, especially during the end of the Detailed Design phase.	PM	0	$ -	Active
5.02	**Budget**	Value engineering (VE) to be conducted to reduce extraneous costs if the cost estimate becomes too large.	3	2	6	Value engineering to be discussed during the detailed design phase of the project if the cost estimates are becoming larger than manageable. Value engineering may be established for later project phases that do not have REQUIRED improvements.	PM	0	$ -	Active
5.03	**Budget**	Federal funding is required to complete this project. Local funding may not be available to complete the project work due to the large volume of work and timeline to receive funding.	5	1	5	Discuss project funding with upper management, FIT, and project analysts early to understanding how funding will be established. Check the CIP for the funding projections.	PM	0	$ -	Active
5.04	**Budget**	The project does not have funding for the full projected project costs. Additional funding sources will need to be identified at each project stage to ensure proper funding for design and construction work.	5	4	20	Continue funding discussions with the finance team and program manager. Ensure the program manage is aware of funding shortages or when funding reaches 80% of max.	PM	0	$ -	Active
5.05	**Budget**									
5.06	**Budget**									
5.07	**Budget**									
5.08	**Budget**									
5.09	**Budget**									
5.10	**Budget**									
6	**Site/Logistics**									
6.01	**Site/Logistics**	Patrons may attempt to access the construction zone from the museum.	2	1	2	The work site itself needs to be locked shut. Barricades will be required.	CON	0	$ 5,000	Active
6.02	**Site/Logistics**	The cable car barn will be active during construction. Work will need to be conducted around the active station. Work near the cables or tracks can cause system delays.	5	2	10	Conduct pre-construction surveys of existing utilities. Discuss the work with stakeholders and the station maintenance team to protect utilities. Install proper facility projection and barricades.	CM / CON	0	$ -	Active
6.03	**Site/Logistics**	There is limited onsite storage along Mason Street and virtually none on the side streets Washington and Jackson Streets. The contractor will need to store materials in the work zone and equipment must be kept in the allocated space.	5	1	5	Contractor to review project documents and requirements. CM to discuss this during the pre-construction meeting.	CM / CON	0	$ -	Active
6.04	**Site/Logistics**									
6.05	**Site/Logistics**									
6.06	**Site/Logistics**									
6.07	**Site/Logistics**									

Risk Register

Project Name Cable Car Barn Rehabilitation and Upgrades
CIP ID FC077
Date Prepared 1/3/2022
Date Updated

Risk & Impact Legend	
4-5	High
3	Moderate
1-2	Low

PM	Project Manager
PL	Project Lead
CM	Construction Manager
CON	Contractor
All	All team members

Item #	Risk Category	Risk Item	Potential Likelihood Level (1-5)	Potential Impact Level (1-5)	RISK	Mitigation Strategy	Responsible Person	Schedule Impact (days)	Cost Impact($)	Current Risk Status: Active/ Retired
6.08	Site/Logistics									
6.09	Site/Logistics									
6.10	Site/Logistics									
7	Environmental									
7.01	Environmental	Force Majeure due to earthquake or other natural disaster.	1	5	5	Prepare emergency plans.	All	0	$ -	Active
7.02	Environmental	Hazardous materials are not expected but may present themselves during the excavation around the station.	1	3	3	SAR to conduct pre-construction hazardous materials survey to determine presence of hazardous materials. Prepare hazardous materials handling plan.	PM / PL	0	$ 50,000	Active
7.03	Environmental	CEQA/NEPA clearance timelines are unknown. CEQA/NEPA requirements are unknown.	5	5	25	Engage with ERO and Planning Department early to understand requirements. Prepare a realistic timeline of work during discussions.	PM / PL	365	$ -	Active
7.04	Environmental	CEQA may not receive a categorical exemptions. Pursuing a Statutory Exemption through SB-922 may result in the need for project labor agreement or skilled and trained work force requirements.	3	3	9	Engage with ERO and Planning Department as soon as possible. If a Categorical Exemption is not possible, ensure that SB-922 Statutory Exemption is possible. If not, proceed with CEQA work immediately	PM	365	$ -	Active
7.05	Environmental	The introduction of a glass partition between the wheel room and the Level 1 Mezzanine may create a historic sight line issue.	1	1	1	Historic resource consultant to confirm that the glass partition will not create a historic resource issue. Re-design may be needed or alternatives need to be discussed with stakeholders.	PL	0	$ 2,000	Active
7.06	Environmental									
7.07	Environmental									
7.08	Environmental									
7.09	Environmental									
7.10	Environmental									
8	3rd Party Impacts									
8.01	3rd Party Impacts	The site currently has two (2) 12kV feeders that provided 2.4MW each. One feeder is the primary feeder and the other provides backup power. The project will submit an application to PG&E for the switchgear replacement and relocation. PG&E may respond with request to remove the second feeder cable, thereby removing electrical power resiliency.	3	5	15	Ensure SFMTA's position on requiring system resiliency is known to PG&E. If feeder removal is required, Project Team to work with PG&E to determine power resiliency options.	PM / PL	0	$ 500,000	Active
8.02	3rd Party Impacts	PG&E / PUC response time for facility studies can be greater than 1 year depending on the queue of projects. Failure to submit payment to PG&E will also result in a loss of position in the project queue.	2	5	10	Maintain communication with PG&E/PUC about the process. Ensure on time payment to PG&E through scheduling to maintain the position in project review queue.	PM	90	$ -	Active
8.03	3rd Party Impacts	The PG&E WDT3 application, study, and approval process can take up to 5 years to complete. Based on the timeline of the project, if the application is submitted during the detailed design phase, the application will not be approved by the time the new electrical equipment is installed.	4	2	8	If the equipment energization is not approved by PG&E by the time the equipment is ready, the facility will continue to use the existing electrical equipment.	PM	0	$ -	Active
8.04	3rd Party Impacts									
8.05	3rd Party Impacts									
8.06	3rd Party Impacts									
8.07	3rd Party Impacts									
8.08	3rd Party Impacts									
8.09	3rd Party Impacts									
8.10	3rd Party Impacts									
9	Labor									
9.01	Labor	Market uncertainty may change available contractors and vendors to support the project.	1	1	1	Advertise early and extend timeline for contractor bids to allow for as many contractors to view and bid on the project as possible.	PM	0	$ -	Active
9.02	Labor									
9.03	Labor									

Risk Register

Project Name Cable Car Barn Rehabilitation and Upgrades
CIP ID FC077
Date Prepared 1/3/2022
Date Updated

Risk & Impact Legend	
4-5	High
3	Moderate
1-2	Low

PM	Project Manager
PL	Project Lead
CM	Construction Manager
CON	Contractor
All	All team members

Item #	Risk Category	Risk Item	Potential Likelihood Level (1-5)	Potential Impact Level (1-5)	RISK	Mitigation Strategy	Responsible Person	Schedule Impact (days)	Cost Impact($)	Current Risk Status: Active/ Retired
9.04	**Labor**									
9.05	**Labor**									
9.06	**Labor**									
9.07	**Labor**									
9.08	**Labor**									
9.09	**Labor**									
9.10	**Labor**									
10	**Design**									
10.01	**Design**	Change orders will be requested during construction. The design drawings may need revisions by SFPW-BOA to resolve design issues.	3	2	6	Respond to RFIs as soon as possible and clarify design issues before they become debilitating. Conduct field meetings to discuss issues before resorting to change orders.	CM / PL	7	$ -	Active
10.02	**Design**	Design details are conceptual and the details are not fully established. Design work may be conducted and found to be cost prohibitive in the future.	3	1	3	As designs change, the increasing cost of work would need to be discussed to prevent work from continuing that is fiscally unapproved.	PM	0	$ 50,000	Active
10.03	**Design**	Stakeholders change and may request different upgrades to the facility.	2	2	4	Engage stakeholders early and maintain engagement through the Preliminary Engineering and Detailed Design phases to keep the project on track. Maintain a comment resolution form to document changes and requests.	PM / PL	0	$ 50,000	Active
10.04	**Design**	The new electrical equipment is planned to be installed in a different room than the existing electrical equipment. The PG&E feeders are currently supplying power on to the existing electrical room and will need to be rerouted to the new electrical room. The design changes will need approval from PG&E.	5	3	15	Engage with PG&E early. Ask questions about how the relocation work will be done, including if the feeder relocation will need to be completed by PG&E or if it can be rerouted within the facility.	PM / PL	90		Active
10.05	**Design**	Relocation of PG&E feeders ducts may trigger street work, such as paving or concrete work, on the streets surrounding the cable car barn. This work will increase design time and costs.	3	2	6	Engage with PG&E to determine what work will be needed to provide electrical power to the new equipment room. If trenching work is needed, work with the Project Lead to determine the full extent of street work.	PM / PL	0	$ 50,000	Active
10.06	**Design**									
10.07	**Design**									
10.08	**Design**									
10.09	**Design**									
10.10	**Design**									
11	**QA/QC**									
11.01	**QA/QC & Comm**	3rd party testing is required for the project. The 3rd party tester may not be available at the time of the required testing.	2	1	2	Testing to be scheduled 48 hours in advance.	CM / CON	0	$ -	Active
11.02	**QA/QC & Comm**									
11.03	**QA/QC & Comm**									
11.04	**QA/QC & Comm**									
11.05	**QA/QC & Comm**									
11.06	**QA/QC & Comm**									
11.07	**QA/QC & Comm**									
11.08	**QA/QC & Comm**									
11.09	**QA/QC & Comm**									
11.10	**QA/QC & Comm**									
12	**Personnel**									
12.01	**Personnel**	Onsite staff not available to shutdown equipment/power when needed.	1	3	3	Schedule required shutdowns with a minimum 48 hours notice.	CM / CON	2	$ -	Active
12.02	**Personnel**	Safety requirements are not met by the contractor prior to attempting to start work. Subcontractors may not be aware of safety requirements.	1	2	2	Discuss safety requirements with the contractors during the pre-construction meeting and construction meetings. Safety tailgates to be conducted by the contractor.	CON	14	$ -	Active

Risk Register

Project Name Cable Car Barn Rehabilitation and Upgrades
CIP ID FC077
Date Prepared 1/3/2022
Date Updated

Risk & Impact Legend	
4-5	High
3	Moderate
1-2	Low

PM	Project Manager
PL	Project Lead
CM	Construction Manager
CON	Contractor

All	All team members

Item #	Risk Category	Risk Item	Potential Likelihood Level (1-5)	Potential Impact Level (1-5)	RISK	Mitigation Strategy	Responsible Person	Schedule Impact (days)	Cost Impact($)	Current Risk Status: Active/ Retired
12.03	**Personnel**	3rd party testing agency not available to conduct QAQC testing.	2	1	2	Testing to be scheduled 48 hours in advance.	CM / CON	2	$ -	Active
12.04	**Personnel**	Inspection personnel not available to conduct daily inspection of construction work.	1	5	5	Schedule testing personnel with a minimum 48 hours notice.	CM / CON	2	$ -	Active
12.05	**Personnel**									
12.06	**Personnel**									
12.07	**Personnel**									
12.08	**Personnel**									
12.09	**Personnel**									
12.10	**Personnel**									
13	**Reputation**									
13.01	**Reputation**	Construction delays may negatively impact SFMTA reputation in the eyes of the nearby public.	3	1	3	Maintain a record of project impacts and justification if there are changes to the project timeline. Ensure a public information officer is involved with public communication.	PM / CM	0	$ -	Active
13.02	**Reputation**	Storage around the site will need to be kept tidy. Otherwise, public complaints may result from unmanaged graffiti. Materials/Equipment may be vandalized.	5	1	5	Contractor to regularly remove graffiti from work equipment and materials per the contract documents.	CON / CM	0	$ 5,000	Active
13.03	**Reputation**	Interruption of the active Muni service in the station will cause issues with the Muni and Maintenance of Way teams.	1	5	5	Contractor to be properly safety trained. Muni shutdowns and work that could impact Muni service to be schedule to reduce potential impacts.	CON / CM	0	$ 50,000	Active
13.04	**Reputation**									
13.05	**Reputation**									
13.06	**Reputation**									
13.07	**Reputation**									
13.08	**Reputation**									
13.09	**Reputation**									
13.10	**Reputation**									
14	**Relationships**									
14.01	**Relationships**	The issue resolution ladder has not been setup.	1	2	2	Setup the issue resolution ladder during a partnering meeting, pre-construction meeting, or the first construction progress meeting.	PM / CM / CON	0	$ -	Active
14.02	**Relationships**	Conflict resolution to follow the resolution ladder and roles and responsibilities.	2	2	4	Prepare the issue resolution ladder with stakeholder involvement.	PM / CM / CON	0	$ -	Active
14.03	**Relationships**	Contractor does not take ownership of issues and instead blames the design or management team.	2	3	6	Ensure construction events and issues are well documented in daily reports and with photos.	CM / CON	0	$ -	Active
14.04	**Relationships**									
14.05	**Relationships**									
14.06	**Relationships**									
14.07	**Relationships**									
14.08	**Relationships**									
14.09	**Relationships**									
14.10	**Relationships**									

Total Risk Provision $	1353	$ 772,000
Total Project Days / Value $	3463.00	$ -
% Risk Contingency	0.39	#DIV/0!

A3 - Project Delivery Methods

Hyperlink to the Cable Car Barn Project Delivery Methods

Project Delivery Methods

Design-Bid-Build (DBB)

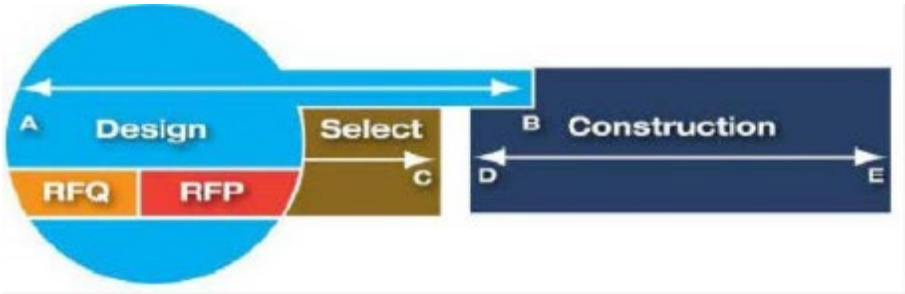
Description: DBB	Pro	Con
• Design team works directly with Owner and produces construction documents used for bidding. • Based upon "competitive bid" or "competitive sealed bid". - *Competitive Bid* - contractors (pre-qualified or not) submit bids responding to a request for proposals and lowest bidder usually chosen. - *Competitive Sealed Bid* - contractors submit proposals including fees and present their qualifications. Lowest bidder is chosen, provided their references and qualifications indicate positive performance.	• Lowest total construction cost. • Owner has more control. Owns more of the risk on scope, schedule, and budget.	• Contractor primarily chosen on price, second to qualifications. • Lowest bidder may not be most qualified. • General Contractor is not on-board during design process. • Susceptible to change orders. • Delay in General Contractor procurement until construction documents are 100% complete poses a longer transition to the construction phase.

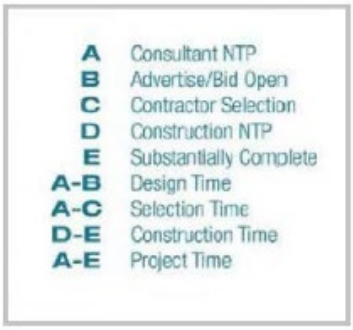
Sources:

(1) [*https://www.fgmarchitects.com/post/pros-cons-of-design-bid-build-vs-construction-manager-at-risk-vs-design-build*](https://www.fgmarchitects.com/post/pros-cons-of-design-bid-build-vs-construction-manager-at-risk-vs-design-build)

(2) A Guidebook for Construction Manager/General Contractor I(CMGC) for Contracting Highway Project by Texas A&M Transportation Institute

Design Build (DB)





Description: DB	Pro	Con
• Single point of responsibility for whole construction process. • Contractor is point of contact, who subcontracts various trades and entire scope of design services. • Depending upon contract terms, may have to self-perform a % of the contract work. • Contractor assumes all responsibility for design outcome, cost, and schedule.	• Minimal time and effort from Owner throughout process. • Shift scope, schedule, and budget management to the Contractor. • Potential for quicker project delivery and completion. • Minimize owner involvement if conflict arises between Contractor and design team. • Accelerated project delivery and completion.	• Owner gives up control of project to the DB Contractor who now owns the risk on schedule and budget. • Design team working with Contractor now works to the DB's expressed goals and cost drivers. *No longer the traditional process complying to Owner's end product & satisfaction.* • Design team is in difficult position advocating for client, as they report directly to the DB Contractor. • Limits number of small and/or local contractors from submitting proposal. • Lack of competitive bidding may drive up cost.

Sources:
(1) *https://www.fgmarchitects.com/post/pros-cons-of-design-bid-build-vs-construction-manager-at-risk-vs-design-build*
(2) *https://www.solutionsgc.com/benefits-of-construction-manager/*
(3) A Guidebook for Construction Manager/General Contractor I(CMGC) for Contracting Highway Project by Texas A&M Transportation Institute

Progressive Design Build (PDB)

Description: PDB	Pro	Con
• Design is developed by Owner and PDB Contractor. Design team is selected and works under the PDB Contractor. • Uses qualifications-based or best value selection. PDB is retained by Owner early in project design. • PDB delivers in two phases: - *Phase 1* includes budget level design development, preconstruction services, and negotiate a firm contract price or guaranteed maximum price (GMP). - *Phase 2* includes final design, construction, and commissioning.	• One contract: PDB Contractor assumes the risk. Owner's risk for increased cost due to change orders and construction delay are eliminated for the base scope. • Owner controls the budget because Owner controls the design. • If parties cannot reach agreement on Phase 2, the owner may consider "off-ramp" option where Owner can use the design and move forward with another Contract Strategy. • Flexibility and collaboration throughout design. • Some Phase 2 work can start before a proposal has been agreed upon.	• Qualification-based selection (QBS) may not be permissible under restrictive procurement regulation. • If QBS is used, may not have competitive pricing. • Procurement regulation may require subcontractors to be procured competitively, thus limiting collaboration. • Owner may be uncomfortable using "off-ramp" option.

Sources:

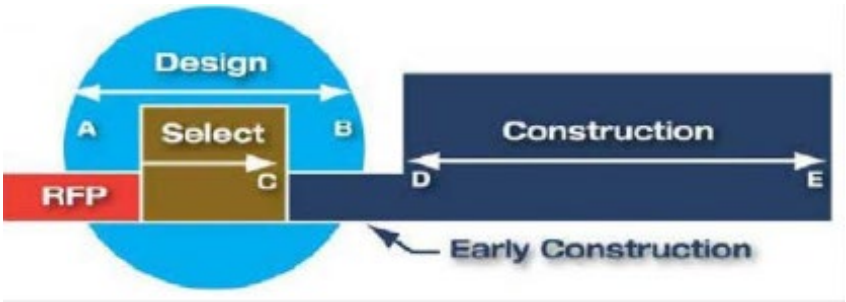
(1) *https://www.performanceservices.com/resources/5-reasons-to-use-progressive-design-build-for-corrections-and-municipal-projects*

(2) DBIA Primer on Progressive Design-Build

(3) *https://dbia.org/wp-content/uploads/2018/05/Primer-Progressive-Design-Build.pdf*

(4) *http://www.newea.org/wp-content/uploads/2018/06/Spr18_TMoline_5.pdf*

Construction Manager/General Contractor (CMGC)/Construction Manager at Risk (CMAR)



Description: CMGC / CMAR	Pro	Con
• CMGC construction managers are professionals hired by project leader or Owner of construction manager to provide feedback throughout construction phase (permit, sitework, commercial cost, and finishing). • Construction Manager is on-board at beginning of the project. • *Design Phase*: Contractor works with project owner and Owner's designer early on to identify risk, provide estimated construction cost, and finalize project schedule. Both the Owner and Contractor negotiates Construction's total Contract Cost. If both parties agree, proceed to Construction phase. • *Construction Phase*: General Contractor oversees the construction. Construction Management is part of the project from conception to completion.	• Promotes innovation: Encourages the Contractor and Owner to collaborate all possible options. • Reduce Risk: Contractor feedback in design can reduce construction cost because the Owner the understands process and starts to mitigate identified risk early. • Constructability: CMGC provides feedback by reviewing designs and answering constructability questions so cost and schedule are improved. • Collaboration: more time for owner, design team, and contractor to develop understanding and trust. • Faster transition from design to construction. • CMGC chosen primarily on qualification and secondarily on price. • More time for the contractor to understand the scope of work.	• Owner reluctant to choose CMGC before design since they have no idea of total construction cost. So, the Owner misses out on Contractor experience and feedback in early design. • Owner needs to cooperate and coordinate with CMGC manager on scope, schedule, and budget**.** • Requires multiple bids from subcontractors for all disciplines (to ensure competitive bidding). • Requires open-book policy from CMAR, so Owner can see line-item overhead cost, markups, and contingencies.

Source:

(1) https://www.solutionsgc.com/benefits-of-construction-manager/

(2) https://www.fgmarchitects.com/post/pros-cons-of-design-bid-build-vs-construction-manager-at-risk-vs-design-build

(3) A Guidebook for Construction Manager/General Contractor I(CMGC) for Contracting Highway Project by Texas A&M Transportation Institute

Turnkey

Description: Turnkey	Pro	Con
• A Contractor works with Owner under a single contract to complete all stages of a project from detailed engineering through construction at fixed price and fixed date.	• Consistent quality expectation across phases. • Reduced management effort. One company to contact. • Price certainty. Bid fixed cost. Owner is responsible for lump sum agreed amount during contract negotiation.	• Requires strong scope definition. • Dependent on trust of full scope. • Design cost contingency required.

Sources:

(1) https://kibitec.com/turnkey-projects/advantages-and-disadvantages-of-turnkey-projects/
(2) https://www.hm-ec.com/blog-posts/turnkey-project-advantages-and-disadvantages-what-to-know-before-signing-a-contract-hm
(3) https://wakefield.co.ke/turnkey-projects/
(4) https://www.globalnegotiator.com/blog_en/turnkey-contract-construction-project-definition-epc/

A4 - POETS Public Outreach and Engagement Plan Outline

Hyperlink to Cable Car Barn
POETS Public Outreach & Engagement Plan

Cable Car Barn Rehabilitation Project

Project Overview

Project Description

The proposed project would rehabilitate, upgrade, and seismically retrofit the existing two-story historic Cable Car Barn building and chimney at 1201 Mason Street to provide critical infrastructure improvements to maintain operations of the San Francisco Municipal Transportation Agency's (SFMTA) cable car system resulting in much more improved services to the riding public. The iconic cable cars running on San Francisco hilly and scenic streets draw millions of people from all over the world to come the City for a once-in-a-life-time ride. The Cable Car Barn providing the electric and power sources serves as the heart and blood of the cable car system. Once complete, the facility and its infrastructure will have modernized safety and operation features to serve local riders as well as tourists.

The proposed project would take approximately five years to complete, with construction anticipated to start in 2026 and end in 2031. The project would include minor excavation within the footprint of the existing building for structural footings. It would implement standard construction measures as part of the project, such as seismic and geotechnical studies, air quality, water quality, traffic, noise, hazardous materials, vibration monitoring, biological resources, visual and aesthetic considerations, and cultural resources, archeological resources, and historic resources.

Outreach will focus on informing all affected stakeholders about the upcoming rehabilitation of the Cable Car Barn building, cable car infrastructure upgrades and the related benefits. While efforts will be made to minimize service impacts by working during non-revenue hours to conduct track and power system work, bus substitution service will be required on the Powell-Hyde, Powell-Mason and California Cable Car lines, especially when we switchover from the existing, older electrical equipment to the new electrical equipment. The initial plan allows a shutdown of up to eight weeks, but the team will be seeking alternatives to the shutdown by working more during non-revenue hours and phasing the work such that shutdowns will only take place when necessary.

For the bus substitution, a robust customer outreach will be implemented using various media channels, including social media platforms and traditional media outlets, to inform community stakeholders, Muni customers as well as tourists traveling from land, air or on the sea. The target audience will also include interested groups in the travel and tourism sectors such as SF Travel, SF Hotel Council, SFO and port authority as well as neighbors and local merchants, etc.

Project Purpose

The purpose of the project is to make critical capital improvements to the center of cable car operations, including 12kV electrical power upgrades, maintenance crane upgrades, accessibility improvements, office and work area renovations, elevator replacement, roof replacement, seismic retrofitting, and exterior repairs

Project Benefits

• Rehabilitate, upgrade, and seismically retrofit the existing two-story historic Cable Car Barn building

• The project proposes the exterior alterations, including on the roof, skylights, brick masonry, windows, doors and accessible access.

• The project proposes the interior alterations, including upgrading the existing 12kV electrical power supply machinery, replacing the existing 10-ton bridge crane to a 20-ton bridge crane with an extension, adding a 3-ton free standing jib crane and a 2-ton bridge crane and replacing the fire suppression system, etc.

• Mid-rise urban setting along Mason, Washington, and Jackson streets;

• Museum entrance located on the corner of Mason and Washington streets;

• Connection with the cable car tracks and cable system with circulation patterns extending from Mason, Washington and Jackson streets;

• Integration into the hillside that provides cable cars access to the maintenance facilities on the second floor from the slopes of Washington and Jackson streets.

• Proposed improvements to the existing building structure as part of the seismic retrofit work

Project Start and End Dates

- Project preliminary Schedule
  - Pre-Development Report Complete – July 2020– March 2023
  - Environmental Clearance – March 2023 – March 2024
  - Detail Design - November 2024 – September 2025
  - Bid and award – March 2026 – May 2026
  - Notice to proceed – May 2026
  - Construction completion – August 2031
  - Project closeout – November 2031

Decision Constraints (What has already been determined or decided?)

- Scope of work
- Construction timeline
- Cable car barn inaccessible for a period of time, potentially up to eight weeks, requiring bus substitution for cable car service.
- Consideration will be given to low tourist season when scheduling the service impact work.
- Measures will be taken to minimize construction impacts, including noise and dust control, providing reroutes for street closures, and ambassador service to help with wayfinding during bus substitution service.

Project Needs Assessment

STAKEHOLDER ANALYSIS

Stakeholders Who Reside, Work or Travel through the Project Area

ü	Category: Type of Stakeholder	Names: Specific Individuals or Groups	Classification: Primary, Secondary, Partner
☒	Residential Area	For construction - areas within a two-block radius of the Barn on Washington, Taylor, Jackson and Mason streets For service shutdowns - Fisherman's Wharf, Chinatown, Downtown/Civic Center, Financial District, Nob Hill, North Beach, Russian Hill	Primary
☒	Business District	Union Square, Financial District, Fisherman's Wharf, Chinatown, Downtown, Civic Center, North Beach	Primary
☒	People who drive	Motorists	Secondary
☒	People who walk	Pedestrians, tourists on foot, SF Walk	Secondary
☒	People who ride bicycles	SF Bicycle Coalition	Secondary
☒	People who ride transit	Cable car commuters, tourists	Primary

☒	Other	For service impacts: SF Tourism Improvement District, Hotel Council, SF Travel, Information Center, Convention Center, Golden Gate Restaurant Association, SF Chamber of Commerce, Salesforce Transit Center, AC Transit, BART, Golden Gate Transit, SamTran and CalTrain, SF Port, SFO BID Moscone Expansion District Tourism Improvement District	Primary

Community Organizations Located in the Project Area

✓	Category: Type of Stakeholder	Names: Specific Individuals or Groups	Classification: Primary, Secondary, Partner
☒	Neighborhood Organizations	Fisherman's Wharf CBD Merchants Associations: Fisherman's Wharf Merchants, North Beach, Tenderloin, Van Ness, Chinatown, Union Street	Partner

☒	Merchant Groups	SF Transit Riders, Chinatown Community Development Center (CCDC) Civic Center CBD Discover Polk CBD Downtown CBD The East Cut CBD Fisherman's Wharf CBD Lower Polk CBD Mid Market CBD Noe Valley CBD North of Market & Tenderloin CBD SoMa West CBD Union Square CBD Yerba Buena CBD JapanTown CBD Castro CBD SFMTA's Small Business Working Group Fisherman's Wharf Merchants Association, North Beach Business Association, Hotel Council of San Francisco, Union Square Merchants Association, SF Chamber of Commerce, North Beach Merchants Association, Nob Hill Neighbors, Russian Hill Neighbors, North Beach Business Association, SF Travel Association, Golden Gate Restaurant Association, SF Entertainment Commission, Film SF	Partner
x	Community Groups	Chinatown Community Development Center (CCDC),	Primary

☒	Interest/Advocacy Groups	Market Street Railway Hotel Council, SF Travel, Golden Gate Restaurants, Fisherman's Wharf Community Benefit District, CCDC, Transit Riders, Hotel Council of San Francisco, SF Travel Associations, SF Visitors Center, Golden Gate Restaurant Association, Market Street Association (SF Port Maritime Marketing to notify cruise lines.) *Moscone Expansion District, Tourism Improvement District*	Primary
☐	Faith-Based Groups	SF Interfaith Council Grace Cathedral Old St. Mary's Cathedral	Primary
☐	Schools	Academy of Art University SFUSD	Secondary
☐	Senior Centers, Disabled Services	Self Help for the Elderly, On-Lok Senior Center, SF Light House for the Blind	Secondary
☒	Media (local and citywide)	Sing Tao Daily (Chinese) SF Examiner World Journal (Chinese) Wind (English & Chinese) El Tecolote (Spanish) Hoodline Next Door Ktsati (Russian) Local media outlets, TV stations Radio - PSA KIQI (Spanish), KVTO (Chinese), KVVN (Vietnamese), KEST (Chinese)	Partner

☒	Hotels	Fairmont Hotel Grand Hyatt San Francisco Taj Compton Place San Francisco The Inn at Union Square Kensington Park Personality Hotels JW Marriott Union Square, Marquis Wyndham Vacation Ownership The Westin St. Francis Hotel Fusion San Francisco Hotel Abri Hilton Hotel Nikko San Francisco Axiom Hotel Kimpton Hotel Hotel Stratford Herbert Hotel Chancellor Hotel Huntington Hotel Stanford Court San Francisco InterContinental Mark Hopkins San Francisco Cornell Hotel de France The Ritz Carlton Westin St. Francis	Primary

Internal Stakeholders and Influencers

✓	**Category:** **Type of Stakeholder**	**Names:** **Specific Individuals or Groups**	**Classification:** **Primary, Secondary, Partner**
☒	SFMTA Internal Stakeholders (other projects that intersect with yours)	Cable Car Division, CP&C, Media Relations, Transit, Accessible Services, Special Events, Transit Workers Union Local 250A	Partner
☐	SFMTA Board of Directors	Christine Silva – Board Secretary	Partner
☒	San Francisco Board of Supervisors	SFMTA Government Affairs (Janet Martinsen and Joel Ramos)	Partner

☒	Local Elected Officials (Supervisorial District)	Aaron Peskin D-3, Matt Dorsey D-6, Dean Preston D-5	Partner
☒	City Agencies (Public Works, Public Utilities Commission, Planning, Police, etc.)	SF Fire, SFPD, SF Entertainment, SF Film, Mayor's Office of Neighborhood Services (MONS), SF PORT, SFFD	Partner
☒	SFMTA Committees (Citizens' Advisory Council, Multimodal Accessibility Advisory Council, Paratransit Coordinating Council)	Citizens' Advisory Council (CAC), Multimodal Accessibility Advisory Council (MAAC) – Matt West	Partner
☒	Planning/Funding Organizations (County Transportation Authority, Metropolitan Transportation Commission, etc.)	Transportation Authority (TA) Metropolitan Transportation Commission	Partner
☐	State and Federal Elected Officials (Delegation offices)	Newly elected senator & Rep. Pelosi offices	Choose an item.
☐	Local schools and district	SFUSD Gavin Academy, Notre Dame Des Victoires New School of San Francisco Saint Peter and Paul School Cathedral School for Boys	Secondary

IMPACT AND INTEREST ANALYSIS

INSTRUCTIONS: Think about the ways that the project will affect residents, merchants, those who ride transit, and those who walk and ride bicycles on city streets. List the main impacts anticipated throughout all phases of the project. Note that the impacts identified in your plan are distinct from those detailed in an Environmental Impact Report or Environmental Impact Statement. While those documents might inform your analysis, the focus here is impacts on the local community.

After listing the project impacts, use the following table

Impact and Interest Analysis Calculation

to calculate a score that represents the overall level of impact and interest. There is no hard and fast rule for translating the score into a particular plan, but it is an indicator of the public's likely expectations around outreach and engagement. It is intended to serve as a starting point for discussion among the project team in developing the Public Outreach and Engagement Plan.

To find your project score, answer each question by putting a number 1 in the appropriate box in each row. The table will add the numbers in each column and then multiply the total in each column by the column weight (very low = 1, low = 2, moderate = 3, high = 4, very high = 5). The table will then calculate an average score across all questions. Write the impact and interest analysis average score below.

Impact and Interest Analysis Average Score: 4

Project Impacts

List the main impacts anticipated from the project (service changes, traffic changes, parking changes, construction, etc.)

- Cable Car as an attraction will be unavailable
- Systemwide bus substitution on all three lines is required for up to eight weeks (due to inaccessibility of the Cable Car Barn, all cable car lines will stop running)
- Potential equipment staging on near-by streets
- Parking removal – Temporary in the neighborhoods
- Lane/Street Closures
- Sidewalk inaccessibility
- Traffic reroutes
- Construction noise/dust
- Possible night and weekend work

DECISION SPACE ANALYSIS

What aspects of the project can potentially be influenced by public input?

- Engage stakeholders regarding:
- Staging area if any
- Work schedule
- Construction mitigation plans

What aspects of the project are NOT open to change based on public input, and what are the constraints that limit public influence (financial, legal, legislative, etc.)?

- Contract is subject to Board approval
- Scope of work

- Construction timeline
- Bus substitution

Goals and Objectives

PROJECT PHASE: Communications for Pre-Construction, Construction, Construction Closeout

GOAL / OBJECTIVE	DATA SOURCES
Goal #1 **Inform key stakeholders, partners and primary audiences of the overall project objectives and key project information and impacts:** The rehabilitation is needed to make seismic improvements, modernize Muni facility and keep the cable car system in the state of good repair. The project will make critical capital improvements to the center of cable car operations, including 12kV electrical power upgrades, maintenance crane upgrades, accessibility improvements, office and work area renovations, elevator replacement, roof replacement, seismic retrofitting, and exterior repairs	Dissemination of mailers within a certain distance of the project area. Number of website visits on the project page and/or related blogs. Number of presentations as attendees to the community meetings. Earned Media clippings. Project update subscribers.
Objective 1.1 **Communicate with the public using multiple media channels about project benefits**: • Upgrading the Barn's aging building and infrastructure will improve the safety and reliability of the cable car system and diminish the need for maintenance work to improve the quality ride for the cable cars • Overall project is part of the State of Good Repair initiative supporting Capital Programs and Construction CP&C and Transit Divisions	Completion ceremony and media tours, public tours, press release, media inquiries and clippings. Social media posts, website and direct mail

Objective 1.2 **Inform the public about construction impacts and educate customers on alternate services:** • Construction for five years • Phasing bus substitution added up to eight weeks on three or partial cable car lines. • Take F Market & Wharf between downtown and Fisherman's Wharf • The California 1 provides the parallel service for California Cable Car between Market and Drumm and Van Ness • Use other bus routes	Dissemination of mailers within a certain distance of the project area. Number of website visits. Number of community meetings attended by staff. Earned media clippings. Project update subscribers. Adequate wayfinding signage at key locations for motorists, neighbors and Muni customers. Complaints received.
Goal #2 **Effectively communicate to stakeholders, elected officials and community partners of the project benefits to the community and support cable car services.** • Upgrading the aging building and infrastructure and will improve the safety and reliability of the cable car system and diminish the need for maintenance work to improve the quality ride for the cable cars. • Supplement bus substitution service for cable car lines in support of power switchover. • Using F streetcar service and other enhanced bus service to and from Fisherman's Wharf.	Project briefs and presentations provided, complaints received.
Objective 2.1 **Inform public of the project benefits** • Modernizing Muni system and keeping the cable car infrastructure in the state-of-good-repair. • Diminishing the need for maintenance work to improve the quality ride for the cable cars.	Dissemination of mailers within a certain distance of the project area. Number of website visits on the project page and/or related blogs. Number of presentations or meetings held and attendees. Media clippings. Project update subscribers.

Objective 2.2 **Outreach to local merchants will emphasize:** • Local businesses, restaurants and hotels will remain open during construction • Project will not remove parking permanently • Minimizing parking removals during construction • Local access and delivery will be allowed • Traffic reroute for street closures	A corridor audit will be conducted to inventory and assess the number and types of businesses along the project area. Audit to include business operating hours, delivery/loading needs and other access needs of the merchants. Project announcements, updates, meetings/briefs by requests. Incorporating feedback for project schedule and staging areas. Working through concerns and complaints that come up during construction. Ensuring adequate wayfinding signage in place for neighbors, motorists and pedestrians.

Key Messages

Messages for General Audience:

Cable cars symbolize our great city. San Francisco is one of the few places in the world people can ride on a national historic landmark. The cable cars are the world's last manually operated cable car system with cars pulled along by cables embedded in the street.

The Cable Car Barn Rehabilitation Project is part of the state-of-good-repair initiative with added components of the Capital Programs and Construction (CP&C).

Upgrading the aging Cable Car Barn building and infrastructure and will improve the safety and reliability of the cable car system and diminish the need for maintenance work to improve the quality ride for the cable cars.

The SFMTA is working on minimizing the service interruptions by putting more work into non-revenue hours and phasing the bus substitution services of potentially eight weeks.

Bus shuttles will serve all cable car spots while cable cars are not running.

Take F Market & Wharf between downtown and Fisherman's Wharf

The California 1 provides the parallel service for California Cable Car between Market and Drumm and Van Ness

Use other bus routes

Specific Audience Messages (Stakeholder: Primary Audience)

To keep San Francisco's iconic cable car system in the state-of-good-repair, the SFMTA will rehabilitate, upgrade, and seismically retrofit the existing two-story historic Cable Car Barn building and chimney at 1201 Mason Street to provide critical infrastructure improvements to maintain operations of the cable car system that will better serve the riding public.

The project is part of the Capital Programs and Construction (CP&C), State-of-Good-Repair Program.

The project will also make critical capital improvements to the center of cable car operations, including 12kV electrical power upgrades, maintenance crane upgrades, accessibility improvements, office and work area renovations, elevator replacement, roof replacement, seismic retrofitting, and exterior repairs

The long-term benefits will offset the short-term inconveniences mitigating track maintenance.

Specific Audience Messages (Stakeholder: Partner)

The SFMTA is seeking for collaboration with our partners and community stakeholders in an outreach campaign to inform the public about the project benefits and educate potential cable car customers on how to use alternate service during the bus substation service.

Your support is needed to help us get the word out.

To keep San Francisco's iconic cable car system in the state-of-good-repair, the SFMTA will rehabilitate, upgrade, and seismically retrofit the existing two-story historic Cable Car Barn building and chimney at 1201 Mason Street to provide critical infrastructure improvements to maintain operations of the cable car system that will better serve the riding public.

Specific Audience Messages (Stakeholder: Primary Audience)

Tourists: Welcome to San Francisco. Cable cars symbolize our great city. San Francisco is one of the few places in the world people can ride on a national historic landmark. The cable cars are the world's last manually operated cable car system with cars pulled along by cables embedded in the street.

The rehabilitation is needed to make seismic improvements, modernize Muni facility and keep the cable car system in the state of good repair. The project will make critical capital improvements to the center of cable car operations, including 12kV electrical power upgrades, maintenance crane upgrades, accessibility improvements, office and work area renovations, elevator replacement, roof replacement, seismic retrofitting, and exterior repairs.

During power switchover, there is be temporary service disruptions, during which time bus shuttles will serve you in place of the cable cars and provide transportation with the same cable car stops to take you to your destination. The F Market & Wharf historic streetcars are a great alternative and provide a delightful ride from downtown to Fisherman's Wharf along the Embarcadero and beautiful waterfront.

Specific Audience Messages (Stakeholder: Secondary Audience)

Motorists: The SFMTA encourages you to take alternate transportation along the cable car lines. See signs for detours around the street closures while driving.

Specific Audience Messages (Stakeholder: Secondary Audience)

Cyclists: The SFMTA encourages you to ride your bike around construction sites. See signs for possible detours around the street closures.

Specific Audience Messages (Stakeholder: Secondary Audience)

Pedestrians: Sidewalks may be temporarily closed around the Barn. Please use the sidewalk on the other side of the street. Your safety is important.

Outreach and Engagement Techniques

Project Phase: Pre-construction and Construction

ONGOING (For communication and relationship-building throughout the phase)

- **Develop and define the communications goals so that project works toward shared and predetermined goals**
- **Keep partners informed of project milestones**
- **Ask partners for support with messaging to certain stakeholders**
- **Demonstrate agency/project team's credibility, especially when it comes to ability to deliver a project.**

DISCRETE (At specific points to inform, compile feedback or convene people)

Tactics:

Pre-Construction Communications and Outreach

- Street audit to identify public impacts to neighbors, merchants, schools, churches, hotels, etc.
- Two open houses, one during the day and one at night (potential venue Cable Car Museum)
- Presentations at community meetings hosted by neighborhood, merchants and community groups
- Project briefings to supervisors and their staff
- DOT talking points about the outreach before the start of construction
- Provide information to BOS, MONS and MOD
- Briefing CAC and MAAC
- Distribute notifications and updates to merchants and business associations
- Continuously update community groups and stakeholders as the project progresses
- One-on-one meetings with individual stakeholders or small groups as needed
- Blog
- Provide a project page on SFMTA.com which will be linked transit page
- Media tours
- Public tours
- A ribbon cutting event

Construction Communications and Outreach

- Set up webpage with a sign up feature for receiving updates
- Use Marketing Clouds to send email updates to subscribers
- Notify 311 on service change
- Use street ambassadors for bus substitution service
- Use social media to reach out to cable car customers and tourists
- Send flyers, postcards (Print Media) to hotels, travel agencies, cruise lines, neighbors and community stakeholders
- Leaflet the neighborhoods
- Use social media posts
- Post signs at affected cable car stops
- Use signs to direct customers
- Send Muni Alerts on service changes
- Use *"In the Know" for* internal communications to SFMTA and City employees.
- Post blog stories
- Weekly traffic advisory on service changes during bus substitution
- Leverage newsletters sent out by BOS, merchant, neighborhood and advocacy groups

Post Construction Communications and Outreach

- Plan on holding a completion ceremony attended by the mayor, district supervisors and community partners
- Media tours
- Public tours

Schedule and Responsibilities

INSTRUCTIONS: Create an action plan – a summary of the schedule and responsibilities for public outreach and engagement activities and tasks.

PUBLIC OUTREACH & ENGAGEMENT ACTION PLAN

Date	Activities/Tasks	Person(s) Responsible
3/10/2023	Developed a communications plan	Jay Lu
3/10/2023	Developed the messaging and outreach budged	Jay Lu
	Detail Design- November 2024 – September 2025 **Bid and award – March 2026 – May 2026** **Notice to proceed – May 2026** **Construction completion – August 2031** **Project closeout – November 2031**	
TBD	Brief the Board as part of DOT report	DOT
TBD	Memo to SF Supervisors - Aaron Peskin D-3, Matt Dorsey D-6, Dean Preston D-5	Government Relations
TBD	Brief other supervisors if required	Government Relations
TBD	Email the flyer to community stakeholders - BOS and MONS - SF Transit Riders - Chinatown CDC - Market Street Association - SoMa Leadership Council - SF Bicycle Coalition - SF Visitor Information Center - SF Convention and Visitors Bureaus - Hotel Council of San Francisco - Golden Gate Restaurants - Walk SF	PRO
TBD	Presentation at Fisherman's Wharf CBD	Project team

TBD	Presentations at request to neighborhood meetings	Project team
TBD	A blog story	PRO With Media Relations
TBD	Pre-Construction Outreach	PRO
TBD	Post on Web - four weeks prior to construction	PRO
TBD	Disseminate a fact sheet to hotels and travel agencies through SF Hotel Council – four weeks prior to bus substitution	PRO
TBD	Blanket the neighborhood aroud the Barn - three weeks prior	PRO
TBD	Place ads with community newspapers - two weeks prior bus substitution	PRO
TBD	Salesforce Marketing Cloud messages, monthly	PRO
TBD	Press Release - two weeks prior bus substitution	Media Relations
TBD	**During Construction**	Click here to enter text.
TBD	Post Customer Alerts at cable car stops	PRO
TBD	Deploy Ambassadors at critical stops	PRO
TBD	Include update in the weekly traffic advisory	PRO
TBD	Email notifications to 311, MONS, MOD and other community stakeholders	PRO
TBD	Post on social media including Twitter, Facebook and SFMTA Blog	PRO
TBD	Send Muni Alert	PRO
TBD	Update NextMuni messaging	PRO

TBD	Share info with 311 and 511	PRO
TBD	**Construction Completion**	Click here to enter text.
TBD	Completion ceremony (Ribbon cutting)	Team
TBD	Media tours	Team
TBD	Public tours	Team

Budget

(See attached spreadsheet)

Plan Review (Upon project completion)

INSTRUCTIONS: Check which of the following people and agencies need to be contacted and informed about your plan. Which SFMTA projects intersect with yours? What other agencies will you need to work with? Who needs to be kept informed within the City? Indicate in the Notes the nature of the relationship.

✓	Target:	Notes:
☒	SFMTA Public Relations Officer	PRO
☒	Other SFMTA Projects in your Project Area	Check with Streets Division
☒	District Liaison for your Project Area	Check with D-3, D-6 and D-5 for upcoming projects
☒	POETS Division Lead	Click here to enter text.
☐	Project Management Office	Click here to enter text.
☐	Other City Departments	DPW, PUC, PORT, SF Planning

☐	Other non-City Agencies	PG&E

Plan Evaluation (Upon project completion)

INSTRUCTIONS: At the end of each phase of the project (or every six months, whichever comes first), answer the following questions and submit an updated version of your plan (one that includes the completed section below and any revisions to other parts of the plan for future phases of the project) to the POETS page on the SFMTA intranet here. If the Plan Evaluation along with any revisions to the Public Outreach and Engagement Plan.

Project Phase: Closeout Phase

Was the plan implemented as intended? How did it change? Click here to enter text.
To what extent did the plan achieve its goals and objectives? Click here to enter text.
What were the main lessons learned during implementation? Click here to enter text.
How would you modify the plan as the project moves to the next phase? Click here to enter text.
How did you document public input and how it was considered (if applicable)? Click here to enter text.

Report Back to Stakeholders (Upon project completion)

INSTRUCTIONS: At the end of each phase of the project, complete the "feedback loop" with stakeholders who were contacted or engaged. Use the Template to provide the key information that will be provided to stakeholders, and to document when, how and to whom it was provided.

Project Phase: Update as-needed

What aspects of the project were open to public input? **The project falls under the Capital Programs and Construction Division and supports Transit Service.**
What were the techniques used to receive public input? (meetings, website, surveys, etc.) **Website, electronic updates to stakeholders**
What input did the project team receive from the public? Click here to enter text.
How was public input conveyed to decision-makers (if applicable)? Click here to enter text.
How did public input influence the project? Click here to enter text.
What are next steps for the project and any opportunities for further public input? Click here to enter text.
List the stakeholders who received a follow-up report (written or verbal):

Stakeholder	Method	Date
Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".

Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".
Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".
Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".
Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".

Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".
Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".
Click here to enter text.	Click here to enter text.	Click down arrow to enter a date; to enter approx. date or range, click inside cell, right click & choose "Remove Content Control".

Last Page

Intentionally Left Blank