FEDERAL TRANSIT ADMINISTRATION

PROJECT MANAGEMENT OVERSIGHT PROGRAM

FTA Region IX

BART Silicon Valley Phase II Project

Santa Clara Valley Transportation Authority
San José, CA
Status as of January 22, 2024

FTA/PMOC Scope, Cost, Schedule, Risk, and Contingency Review Report

OP 32C Project Scope Review
OP 33 Capital Cost Estimate Review
OP 34 Project Schedule Review
OP 40 Risk and Contingency Review

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Third Party Disclaimer

This Project Management Oversight Contractor (PMOC) report and all supporting reports and back up materials contain the findings, conclusions, professional opinions and recommendations stemming from a risk-informed evaluation and assessment, prepared solely for the Federal Transit Administration (FTA). This report shall not be relied upon by any party, except FTA or the project Sponsor, in accordance with the purposes of the evaluation and assessment as described below. For projects funded through FTA's Major Capital Investment (New Starts) program, FTA and its PMOCs use a risk-informed process to review and reflect upon a Sponsor's scope, schedule, and cost, and to analyze the Sponsor's project development and management. This process is iterative in nature. The results represent a "snapshot in time" for a particular project under the conditions known at that point. The evaluation or assessment and related results may subsequently change due to new information, changes in circumstances, additional project development, specific measures a Sponsor may take to mitigate risks, Sponsor's selection of strategies for project execution, etc.

EXECUTIVE SUMMARY

Purpose

The Federal Transit Administration (FTA) engaged AtkinsRéalis as the Project Management Oversight Contractor (PMOC) for the Santa Clara Valley Transportation Authority (VTA) Bay Area Rapid Transit (BART) Silicon Valley Phase II Project (BSVII). AtkinsRéalis PMOC Team has been assigned to review the BSVII project management, scope, cost estimate, schedule, and perform a risk assessment. BSVII has requested the risk assessment prior to applying for Entry to Engineering Phase of the FTA Capital Investment Grants (CIG) Program. The reviews are being performed in accordance with the applicable FTA Oversight Procedures (OP).

- OP 20: Project Management Plan
- OP 21: Management Capacity and Capability Review
- OP 32C: Project Scope Review
- OP 33: Capital Cost Estimate Review
- OP 34: Project Schedule Review
- OP 40: Risk and Contingency Review

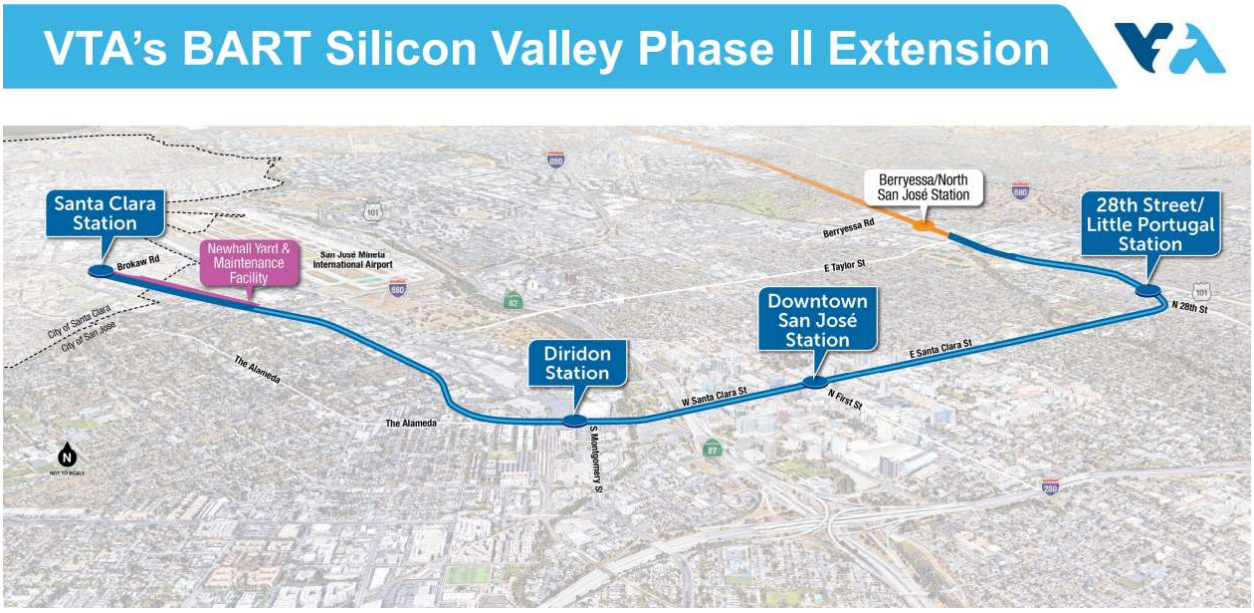
The purpose of this Baseline Oversight Spot Report is to provide the FTA with the PMOC's assessment of BSVII Risk and Contingency Management, including risk assessment, project scope, capital cost estimate, and schedule reviews. These assessments will inform PMOC's upcoming OP 51 Readiness to Enter Engineering. FTA will use PMOC's OP 51 report as one input to any recommendations regarding VTA's New Starts Entry to Engineering and potential future funding commitments.

Project Description

BSVII is an approximately 6.0-mile extension of the BART system from the existing terminus at the Berryessa / North San José BART Station through downtown San José to the proposed Santa Clara Station in the City of Santa Clara, as shown in Figure 1. Approximately five miles will be tunnel and one mile at grade. BSVII includes a total of four stations: three below-grade (28th Street / Little Portugal Station, Downtown San José Station, and Diridon Station) and one at grade (Santa Clara Station). BSVII also includes parking garages at the 28th Street / Little Portugal and Santa Clara Stations, 48 heavy rail vehicles and the Newhall Storage Yard and Maintenance Facility (NYMF).

VTA has requested that FTA perform a risk assessment prior to VTA's official request to Enter Engineering is submitted. The new baseline includes a proposed budget of $12.237 Billion (Year of Expenditure [YOE]) has been approved by the VTA board and was included in the application. VTA's proposed revenue service date is October 2036.

Figure 1 Project Area



This PMOC report has a status date of January 22, 2024, meaning documents received after that date have not been included in this assessment. Key documents made available to the PMOC and which the PMOC has reviewed in part or whole in developing this review report are listed in **Appendix B**.

Synthesis of Findings

This section presents highlights of each review in support of the risk assessment or Risk and Contingency Review for this BSVII project.

Project Management Plan Review

Although PMOC has noted deficiencies in the BSVII Project Management Plan (PMP) documentation, it is PMOC's opinion these documents sufficiently define BSVII management to support the PMOC cost and schedule reviews and risk assessment.

Management Capacity and Capability Review

The current BSVII organizational framework is staffed with transit professionals who possess qualifications and experience at the executive and senior technical management positions.

The frequent turnover of the Program Chief position for BSVII poses a concern. With each Chief, there have been noticeable changes in project organization, project delivery, management styles, and levels of expertise in delivering transit projects.

It is the PMOC's opinion that the current key vacant positions (Program Director and Construction Director) may be difficult to fill with highly qualified transit individuals due to the high demand for transit professionals in the country and especially in the California market.

The Rail Systems Organization (RSO) includes BART staff, VTA staff and VTA consultants. The PMOC's interviews of key BSVII staff from BART and VTA indicated that VTA and BART staff intend to work together to achieve a successful implementation of BSVII, but they also revealed that there are some differences in BART and VTA understanding of BART staff role and authority in the review and approval process during (Engineering, Construction, Testing and Start-up).

While VTA lacks the experience of implementing a PDB project delivery as an organization, their consultant team has exposure to it and their project consultant team has used this delivery system on other projects of lesser size and complexity.

Project Scope Review

It is the PMOC's opinion that the BSVII project scope is reasonably well defined for this Entry to Engineering milestone risk review. The project quantities are consistently defined across the contracts and in total. The project has been divided into four Contract Packages (CP) as follows:

1. Contract Package 1 (CP1) - Systems - Design Bid Build (DBB)
2. Contract Package 2 (CP2) – Tunnel and Trackway - Progressive Design-Build (PDB)
3. Contract Package 3 (CP3) – Newhall Yard and Santa Clara Station - DBB
4. Contract Package 4 (CP4) – Underground Stations – DBB

Design maturity varies across the packages, but PMOC assessed the composite designs used to develop the new cost baseline were approximately 40% level of design maturity.

Capital Cost Estimate Review

The PMOC finds that the BSVII Cost Estimate has been developed to the necessary level of detail for this phase of the project moving from Project Development to Engineering. The estimate has the cost basis and build up process suitable for cost tracking as the project moves into the Engineering phase. The PMOC's cost review highlights that there are issues in the cost estimate that need to be improved but do not affect the cost basis to this risk review and risk model inputs. The recommended adjustments to the cost estimate are for an increase to the escalation rates and for costs associated with schedule extensions.

Project Schedule Review

The PMOC finds that the BSVII schedule is developed to a reasonable detail for this phase of the project. The schedule is not resource loaded but is suitable for project management and tracking as VTA proceeds into the Engineering phase.

Risk and Contingency Review

The updated VTA Risk and Contingency Management Plan (RCMP), dated September 14, 2023, was prepared to guide the project risk functions. **Table 1** presents risk model results and recommended contingencies.

Table 1 Risk Model Results and Recommended Contingencies

Executive Summary	Cost Risk Results ($M)		Contingency
VTA – BSVII Heavy Rail Extension Project	Grantee Cost Estimate	$11,756.5	$2,878.0
	P-value of Grantee Cost	P52	
Risk Workshop Date: January16-18, 2024	FTA/PMOC P65 Cost (RECOMMENDED)	$12,355.6	$2,759
Project Phase: Entry to Engineering	**Schedule Risk Results**		
Project Type: HRT	Grantee RSD Date	10/22/2036	25 months (p50)
Project Delivery Method:	P-value of Grantee Date	P25	
Progressive Design-Build	P65 Date	5/12/2037	15 months
Design-Bid-Build	125% remaining duration (RECOMMENDED)	2/28/2039	36 months

Top Risks and Recommended Actions

The PMOC, reviewed the project management, scope, schedule, cost, and VTA's Risk Register (last updated 11/30/23). The risks identified by VTA indicate various aspects of the project development, but several of these and additional PMOC Team risks noted below will have an even greater impact on future project schedule and cost. VTA highest risks as per the BSVII Risk Register updated November 30, 2023:

- Timely readiness and cost of the West Portal Tunnel-Boring Machine (TBM) launch facility
- Unanticipated damage to historic buildings, critical utility & other structures
- VTA financial capacity / funding plan to finance potential future project cost increases
- General construction labor shortage / labor premiums resulting in delays or increased cost
- Testing and Commissioning delays due to various factors
- Program staffing capacity and continuity to support long program timeline
- Kiewit Shea Traylor joint venture (KST) proposed Stage 2 Lump Sum price increase to the VTA CP2 budget
- East Portal - Complicated Right-of-Way (ROW) acquisitions
- Delays in Temporary Power high voltage substation construction and long-lead transformer procurement
- KST (PDB Contractor) Overall Design approach leading to higher project cost and potential for delays due to redesign to fit within budget
- Uncertainty in PDB process resulting in changes to project definition impacting CP2 construction schedule
- Failure to secure a lump-sum price with KST resulting in off-ramp
- Potential for litigation on approved National Environmental Policy Act (NEPA) Re-evaluation and California Environmental Quality Act (CEQA) Addendum

PMOC Team added the following risks to those identified by VTA.

- Escalation rates are below the California and Engineering News Record (ENR) construction and building cost indices for the San Francisco region – Higher rates from VTA plans are recommended closer to these California rates.

- The large number of transit projects under development in California are creating a high demand for transit design and construction firms – this continued higher demand level is part of these high inflationary rates, especially in California.
- Management Capacity and Capability (MCC) risks will likely introduce inconsistent policy priorities and project development directions due to senior staff changeover and unfilled positions. This will likely continue due to the excessive demand for transit development staff.
- The VTA BSVII Project RCMP does not include secondary risk mitigation options. The preparation for these options is beneficial as contracts are finalized for each contract package since secondary options can be included as options in the contract packages.

In addition to the above-noted incremental risks, PMOC believes that the West Portal preparation for TBM activation, multiple contractor interfaces, failure to reach CP2 lump-sum price with the Progressive Design Builder, and exercise of the BART vehicle contract option are significant VTA risks that could have measurable impacts on the project cost.

PMOC Conclusions

The PMOC is of the opinion the schedule contingency based on the P50 in the Sponsor's RCMP is insufficient for this complex mega-project. Extension of the schedule requires additional budget for professional services.

PMOC found the designs used to develop the new cost baseline were approximately 40% level of design maturity. VTA has demonstrated further design progress since those Preliminary Engineering milestone plans. However, some disciplines and elements have regressed in design maturity due to value engineering initiatives and the cost estimate has not been revised to reflect these developments.

PMOC Recommendations

In light of the conclusions as summarized above:

1. PMOC recommends VTA use an escalation rate of 3.5% for the duration of the project supported by recent trends and to better reflect the local market conditions.
2. PMOC recommends the P65 cost is adopted at $12,356 M (not including financing), an increase of $599 M over the VTA new cost baseline of $11,757 M (not including financing).
3. PMOC recommends the Revenue Service Date (RSD) including contingency be adopted as the Stripped and Adjusted Base Schedule (SABS) plus 25% of remaining duration, equating to a revised RSD of February 28, 2039, an additional 28 months over the new schedule baseline proposed.

TABLE OF CONTENTS

Executive Summary i
Purpose i
Project Description i
Synthesis of Findings ii
PMOC Conclusions v
PMOC Recommendations v
1.0 Introduction 1
1.1 Purpose 1
1.2 Project Background 1
1.3 Project Description 2
1.4 Project Purpose 3
1.5 Project Stakeholders 3
1.6 PMOC Review Activities 3
1.6.1 Methodology and Objectives 3
2.0 OP 40: Risk and Contingency Review 6
2.1 Summary of Status from other OPs 6
2.1.1 Project Management Plan Review 6
2.1.2 Management Capacity and Capability Review 7
2.1.3 Project Scope Review 8
2.1.4 Capital Cost Estimate Review 9
2.1.5 Project Schedule Review 9
2.2 Risk Identification 10
2.2.1 Top Risks and Recommended Actions 10
2.3 Risk Assessment 11
2.4 VTA BSVII Risk and Contingency Management Plan 12
2.4.1 VTA Risk Register 13
2.4.2 PMOC Risk Register Additions 15
2.4.3 Risk Mitigation 16
2.4.4 Primary Mitigation 16
2.4.5 Secondary Mitigation 16
2.5 Schedule Risk Analysis 17

2.5.1 Baseline for Schedule Risk Assessment 17
2.5.2 Overview of Modeling Technique and Software 19
2.5.3 Quantitative Schedule Risk Analysis 20
2.5.4 Schedule Risk Analysis Results 21
2.5.5 Schedule Extension Cost Impacts 24
2.6 Escalation and Inflation Review 25
2.6.1 SCC Escalation [Inflation worksheet] 25
2.6.2 Escalation rate for BSVII Program Memorandum 26
2.6.3 Recent Construction Inflation Rate Experience -- ENR 27
2.6.4 Recent Construction Inflation Rate Experience -- CCCI 29
2.6.5 Recent Construction Inflation Rate Experience – AtkinsRéalis Construction Cost Index 30
2.6.6 PMOC Inflation Rate Conclusions and Recommendations 31
2.7 Cost Risk Analysis 32
2.8 Contingency 33
2.9 Conclusion and Recommendations 33
3.0 OP 32C: Project Scope Review 35
3.1 PMOC Review 35
3.1.1 Project Sponsor Submittals and Information for Review 35
3.2 PMOC Observations 35
3.2.1 Description of Scope 35
3.2.2 Changes in Project Scope 36
3.2.3 Potential Changes to Project Scope 36
3.2.4 Unknown or Uncertain Conditions 37
3.2.5 Level of Design Accomplished 37
3.2.6 Project Delivery Methods 38
3.2.7 Third Party Agreements 39
3.2.8 SCC 10 Guideway and Track Elements 39
3.2.9 SCC 20 Stations, Stops, Terminals, Intermodal 39
3.2.10 SCC 30 Support Facilities: Yards, Shops, Administration Buildings 40
3.2.11 SCC 40 Sitework and Special Conditions 40
3.2.12 SCC 50 Systems 40
3.2.13 SCC 60 ROW, Land, Existing Improvements 40

3.2.14 SCC 70 Vehicles 41
3.3 Findings 41
3.4 Recommendations 41
4.0 OP 33: Capital Cost Estimate Review 43
4.1 Introduction 43
4.2 Estimate Status 43
4.3 Methodology 44
4.4 PMOC Observations 45
4.5 PMOC Review 46
4.5.1 Characterization or Stratification of Cost Items 48
4.5.2 Structure, Quality, and Level of Detail 49
4.5.3 Mechanical Check of Estimate 51
4.5.4 Comparison to Industry Standards 52
4.5.5 Correspondence with Scope Review 53
4.5.6 Contract Package Elements 53
4.5.7 Cost Associated with General and Supplementary Conditions 56
4.5.8 Contingencies 56
4.5.9 Escalation and Inflation Review 59
4.6 Conclusions and Recommendations 59
5.0 OP 34: Project Schedule Review 0
5.1 PMOC Review 0
5.2 Schedule Management Review 0
5.2.1 Organization 0
5.2.2 Systems, Tools, and Software 0
5.2.3 Project Control Plans, Procedures, and Contractual Requirements 1
5.3 Technical Schedule Review 1
5.3.1 Mechanical Soundness Check 3
5.3.2 Fundamental and Reasonable Soundness Check 4
5.4 Schedule Contingency 7
5.5 Readiness to Perform OP 40 Schedule Risk Analysis 7
5.6 Conclusions and Recommendations 7
6.0 Conclusions 0

6.1 Risk 0
6.2 Scope 0
6.3 Cost 0
6.4 Schedule 1
7.0 Recommendations 0
7.1 Risk 0
7.2 Scope 1
7.3 Cost 2
7.4 Schedule 2

LIST OF TABLES

Table 1 Risk Model Results and Recommended Contingencies iv
Table 2 Top Risks and Mitigation Strategies 13
Table 3 Qualitative Scoring 19
Table 4 PMOC Schedule Risk Analysis Results 21
Table 5 Contingency Comparison 23
Table 6 Schedule Extension Base Cost Adjustments 24
Table 7 Latent Schedule Contingency Correction Cost Adjustment 25
Table 8 RSD Extension SCC80 Costs 25
Table 9 Engineering New Record National Cost Index 28
Table 10 Engineering New Record National Cost Index 29
Table 11 California Construction Cost Index 30
Table 12 Summary of the Cost Risk Analysis of the BSVII Project 32
Table 12 AACE Cost Estimating Classification System 44
Table 13 Potential Range of Cost 46
Table 14 Sponsor Estimate Stratification 50
Table 15 Allocated Contingency by SCC Category (BY Dollars X000) 57

LIST OF FIGURES

Figure 1 Project Area ii
Figure 2 Project Area 2
Figure 3 Schedule Risk Analysis 21
Figure 4 Summary Schedule Results 22
Figure 5 Duration Sensitivity of Risks 24
Figure 6 Estimate Breakdown Structure in Sponsor's Basis of Estimate 49
Figure 7 Project Estimate Classification 51
Figure 8 Screenshot of Radio System, 1, LS; Fiber Optic Infrastructure, 1, LS 52
Figure 9 FTEs Planned in Sponsor's Basis of Estimate 55

Figure 10 Screenshot of Line Items of Division 1 for CP3 56
Figure 11 Unallocated Contingency Applied to SCC 10-50 58
Figure 12 Summary of Program Cost 58

LIST OF APPENDICES

Appendix A: Table of Acronyms

Appendix B: List of Documents Reviewed

Appendix C: One Page Summary of Risk Assessment

Appendix D: VTA SCC Workbook

Appendix E: Risk Workshop Agenda, Presentation, and Attendees

Appendix F: OP32C Checklist

Appendix G: PMOC Evaluation Team Member and qualifications

Appendix H: BSVII Risk Register

Appendix I: Risk Mapping to Schedule Activities

Appendix J: Project Cost Estimate Classification

Appendix K: PMOC SABCE

Appendix L: VTA Proposed Work Sequence Changes

Appendix M: Status Between New Baseline and November 2023 Schedule Update

Appendix N: Fundamental Corrections to Schedule

1.0 INTRODUCTION

1.1 Purpose

The Federal Transit Administration (FTA) engaged AtkinsRéalis as the Project Management Oversight Contractor (PMOC) for the Santa Clara Valley Transportation Authority (VTA) Bay Area Rapid Transit (BART) Silicon Valley Phase II Extension Project (BSVII). AtkinsRéalis PMOC Team has been assigned to review the BSVII project management, scope, cost estimate, schedule, and perform a risk assessment. BSVII has requested the risk assessment prior to applying for Entry to Engineering Phase of the FTA Capital Investment Grants (CIG) Program. The reviews are being performed in accordance with the applicable FTA Oversight Procedures (OP).

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1.2 Project Background

VTA selected the locally preferred alternative (LPA) in November 2001. The project originally entered the Capital Investment Grants (CIG) program Project Development phase in March 2016. The LPA was approved into the region's fiscally constrained long range transportation plan in July 2017. VTA began pursuing FTA's Expedited Project Delivery (EPD) Pilot Program in early 2018. In April 2018, FTA agreed to extend CIG Project Development while VTA pursued funding through the EPD Pilot Program and stated the Project would be allowed to return to CIG Project Development without penalty should the EPD Pilot Program be determined to no longer be a good fit. VTA completed the environmental review process with receipt of a Record of Decision from FTA in June 2018. In April 2021, VTA submitted an EPD Pilot Program application to FTA. In October 2021, FTA issued a Letter of Intent (LOI) indicating it would obligate funds under the EPD Pilot Program on the condition that VTA demonstrate local funding commitment and readiness to receive a grant within two years.

In October 2022, VTA submitted a letter to FTA requesting the BSVII project be allowed to re-enter the New Starts Project Development phase of the Capital Investment Grants (CIG) program and seeking a Letter of No Prejudice (LONP). On December 1, 2022, FTA agreed to move the project from the (EPD) Pilot Program back into the Project Development phase as a New Starts project. FTA also approved a LONP covering expenses VTA incurred when it started in New Starts

Project Development in March 2016, through the Project's migration to the EPD Pilot Program, as well as for all remaining work on the project, thereby matching the pre-award authority VTA had been given while it was in the EPD Pilot Program for the New Starts Basis total project cost of $9.318 Billion.

BSVII is in the New Starts Project Development phase. The project new baseline cost and schedule estimates for a New Starts Entry to Engineering review and risk assessment were submitted to FTA/PMOC on October 11, 2023. The project new baseline cost and schedule estimates are total project cost of $12.237B and Revenue Service Date in October of 2036.

1.3 Project Description

BSVII is an approximately 6.0-mile extension of the BART system from the existing terminus at the Berryessa / North San José BART Station through downtown San José to the proposed Santa Clara Station in the City of Santa Clara (**Figure 2**). Approximately five miles will be tunnel and one mile at grade. BSVII includes a total of four stations: three below-grade (28th Street / Little Portugal Station, Downtown San José Station, and Diridon Station) and one at grade (Santa Clara Station). BSVII also includes parking garages at the 28th Street / Little Portugal and Santa Clara Stations, 48 heavy rail vehicles, and the Newhall Storage Yard and Maintenance Facility (NYMF).

Figure 2 Project Area

Service is planned to operate from 4:00 AM to 1:00 AM on weekdays and from 6:00 AM to 1:00 AM on weekends, with trains every seven and a half (7.5) minutes during the weekday peak period, every 7.5 to 15 minutes off-peak during the weekday, and every 20 minutes on weekday evenings and weekends.

Current year (2019) ridership forecast is 14,200 daily linked trips and 4,113,600 annual linked trips. Horizon year (2040) ridership forecast is 32,900 daily linked trips and 9,513,300 annual linked trips.

1.4 Project Purpose

The project allows for a one seat ride on BART from San José and Santa Clara to destinations all around the Bay Area. The project is intended to enhance connectivity of regional transit services, promote economic development in the Silicon Valley, improve mobility for transportation-disadvantaged populations, and support local and regional land use plans. The project creates a ring of rail around the San Francisco Bay and connects with multiple regional and intercity transportation services including San Francisco and Oakland International Airports via BART, VTA light rail, local bus, and regional express bus services; Caltrain commuter rail service; Altamont Corridor Express commuter rail service; Capitol Corridor rail service; Amtrak; and future California High-Speed Rail.

1.5 Project Stakeholders

VTA is the BSVII Program Sponsor and proposed FTA grant recipient. Other entities involved in the planning, design, construction, and commissioning of BSVII include:

- BART, Program partner and BSVII operating agency
- VTA's consultant team
    - Program Management Consultant
    - General Engineering Consultant
    - Construction Management Services Consultant
- Progressive Design Builder
- Construction Contractors
- City of San José
- City of Santa Clara

1.6 PMOC Review Activities

The PMOC is performing in parallel a PMP Review (OP 20), Capacity and Capability Review (OP 21), Safety and Security Management Review (OP 22), Right of Way Review (OP 23), Quality Assurance and Quality Management Review (OP 24), Scope Review (OP 32C), a Cost Review (OP 33), a Schedule Review (OP 34), Fleet Management Review (OP 37), and Third-Party Agreements Management Review (OP 39) which together form the key inputs into the Risk and Contingency Review that will provide guidance to the FTA and VTA regarding project risk and adequacy of cost and schedule contingency. The PMOC is tasked to conduct a Risk and Contingency Review in compliance with OP 40.

1.6.1 Methodology and Objectives

1.6.1.1 OP 40: Risk and Contingency Review Objectives

The goal of the Risk and Contingency Review is to evaluate a Sponsor's risk identification and assessment process and to evaluate the Sponsor's Contingency Management Plan. Based on the evaluation, the PMOC recommends any necessary changes to the Sponsor for risk identification, assessment, and mitigation. The PMOC may also recommend changes to the Sponsor's RCMP.

The PMOC shall independently develop a risk analysis to provide a thorough analysis of the Sponsor's project.

1.6.1.2 OP 32C: Project Scope Review Objectives

The purpose of the OP 32C review is to verify that the scope of the project represented by the totality of all documentation, including environmental documents, basis of design (BOD) and design criteria, third-party agreements, Real Estate Acquisition and Management Plan (RAMP), and contract plans and specifications is internally consistent, defined to a level appropriate for the project development phase and applicable project delivery method, consistent with the estimated cost and schedule.

The objective of the OP 32C review is to assess the Sponsor's definition of the project scope for adequacy and completeness given the phase; for internal consistency; for compliance with applicable laws regulations, policies, etc.; bid-ability and constructability.

PMOC assessment considers the following requirements. The Civil, Structural, Architectural, Electrical, Mechanical, Power, Signal and Communications, Trackwork, Sitework and other plan documents must possess a comparable level of definition, clarity, presentation, and cross-referencing. Design, construction, system, and vehicle interfaces must be well known and defined. Design Reports, Concept of Operations Report, and configuration studies must be adequate and complete. Work descriptions and definitions used in designs and specifications must be consistent and uniformly applied. The project phasing must be adequate, and the project must be constructible. Adequate construction access and staging areas must be defined.

1.6.1.3 OP 33: Capital Cost Estimate Review Objectives

Congress and FTA's good stewardship require that a Sponsor's cost estimates be reliable before entry into FFGA. PMOC is conducting this review at the request of FTA, providing an evaluation of the scope, schedule, and cost to confirm the estimate's reliability.

FTA's objective is to assess the consistency of cost estimating information, understand its characteristics, evaluate the methodologies, and confirm that the estimate adequately reflects the overall project scope, the estimated quantities shown on the design documents, the anticipated market conditions, the risk elements associated with the project, and the project schedule. This procedure is applicable to Design-Bid-Build, Design-Build, and other delivery methods. The review results should help the Sponsor with decisions regarding the level of cost control measures, appropriateness and reasonableness of contingency provisions, and mitigations required; in addition, the results will assist FTA with decisions regarding project advancement and funding.

1.6.1.4 OP 34: Project Schedule Review Objectives

Competent schedule management is necessary for sound project planning and control of time, costs and risks. Congress and FTA's good stewardship require that a Sponsor's schedule be reliable prior to FFGA. PMOC is conducting this review at the request of FTA, providing an evaluation of the scope, schedule, and cost to confirm schedule reliability.

FTA's objective is to determine whether the Sponsor's schedule management and project schedule are sufficient to plan and control the project time at the programmatic and contract level and complement the management of scope, cost, and risk.

1.6.1.5 Documents Reviewed

Documents received after January 22, 2024 (closure of the action items from the Risk Workshop) have not been reviewed or accounted for in the PMOC's evaluation. Items provided after that cutoff date may be considered for detailed review in next steps of PMOC oversight of the program as appropriate to facilitate moving the project toward a Full Funding Grant Agreement in the future. A complete list of documents received and reviewed may be found in **Appendix B**.

2.0 OP 40: RISK AND CONTINGENCY REVIEW

The review of risk and contingency in the VTA BSVII project plans focused on the results of the functional management, scope, schedule, and cost reviews, and combined that with this review of the VTA risk and contingency plans. This analysis followed the FTA OP 40 guidelines. The analysis took the findings of these functional reviews to compare with the VTA risk register. The combination of which was used to measure the cost and contingency requirements for the project within the FTA Cost Risk Model.

A VTA Risk Register Review was held monthly with the PMOC project team over the last three months of 2023. These were conducted in preparation of the risk workshop on January 16-18, 2024. The OP 40 Risk and Contingency review to evaluate VTA's management of risks and contingencies is detailed in Section 2.2.

2.1 Summary of Status from other OPs

Please refer to the appropriate sections of this spot report for more detailed information about PMOC review of the Project Scope (Section 3.0, OP 32C), Project Capital Cost Estimate (Section 4.0, OP 33), and Project Schedule (Section 5.0, OP 34). Parallel OP 20 and OP 21 reviews have been conducted of the Sponsor's PMP and MCC which are briefly summarized here but will be maintained under separate cover.

2.1.1 Project Management Plan Review

The PMOC's review of the PMP provides a major input to FTA to facilitate determination of the adequacy of the Sponsor's legal and administrative capabilities as well as the management capacity and capability to effectively and efficiently execute the planning, design, construction, testing and start-up of the project. As such, this PMP review provides key input to this OP 40 review.

The current BSVII organizational framework is staffed with transit professionals who possess qualifications and experience at the executive and senior technical management positions. The frequent turnover of the Chief position for BSVII poses a concern. With each Chief, there have been noticeable changes in project organization, project delivery, management styles, and levels of expertise in delivering transit projects. Two currently vacant key positions (Program Director and Construction Director) may be difficult to fill with highly qualified transit individuals due to the high demand for transit professionals in the U.S. and especially in the California market.

While VTA lacks the experience of implementing a PDB project delivery as an organization, their consultant team has exposure to it and their project consultant team has used this delivery system on multiple occasions on other projects of comparable size and complexity. Geotechnical and materials investigation before and during design and during construction not addressed in the PMP and sub-plans.

Although PMOC has noted deficiencies in the BSVII Project Management Plan (PMP) documentation, it is PMOC's opinion these documents sufficiently define BSVII management to support the PMOC cost and schedule reviews and risk assessment.

2.1.2 Management Capacity and Capability Review

The current BSVII Program organization is headed by the Chief Megaprojects Officer (CMPO) that reports directly to the VTA's General Manager/Chief Executive Officer (CEO) with an indirect report to the VTA Board of Directors. The Chief Megaprojects Officer is supported by 1) Director of External Affairs, 2) Deputy Director – Program Administration, 3) Program Director, 4) Construction Director, 5) Quality Manager, and 6) Safety and Security Lead. The Chief Megaprojects Officer, Director of External Affairs, Deputy Director – Program Administration, Program Director, and Construction Director are VTA positions supported by their own team of practitioners (VTA, BART, and consultants) with their own specific roles and responsibilities.

There are two key lead functional positions responsible for project progress – design and construction. The Program Director position is the key design position in charge of overseeing the Engineering Management, Project Controls, and ROW and Utilities coordination. VTA is currently recruiting to fill this position. The Construction Director position is a key position initially in charge of overseeing the Construction Management of the Tunnel and Trackwork Contract (CP2). This position will also be responsible for construction management oversight of the remaining systems and facilities design bid build contract packages. VTA is currently recruiting to fill this position.

Since Fall 2022, the Chief position for BSVII has been filled by three individuals, with the current Chief Megaprojects Officer assuming the role in mid-November 2023. With each Chief, there has been noticeable changes in project organization, project delivery, management styles, and levels of expertise in delivering transit projects. There was limited transition and succession planning in dealing with the frequent turnover of the chief BSVII position.

Roles and responsibilities are described in the VTA plan, but there are no stated protocols as to how each design and construction unit interface with each other, or the Executive Management team. The Rail Systems Organization (RSO) includes BART staff, however the BART staff roles in the review and approval process in not clearly defined in the MCCP. Similarly, BART staff integration and authority in the BSVII Program Organization are not clearly described in the MCCP.

The Staffing Plan is presented in a summary form without labor hour distribution over the life of the project in the MCCP. Decision-making authority is not described in the MCCP for Agency Leadership, Executive Staff, or BSVII Program Leadership.

The PMOC conclusions and recommendations from this MCC Review highlight the concerns with the senior staff turnover, organizational weaknesses, and lack of clear direction stated in the project management documents. Given the large BSVII organization, there is a need for defining organizational interfaces among VTA, BART, and consultants and the rest of the project and VTA organizational divisions.

The Program Management Services Contract is set to expire on October 31, 2024, and a recompete was planned to begin before the end of 2023. There has been no progress reported by VTA on that procurement to maintain program management services.

The MCC Review recommendations are the improvements necessary to meet the challenges of project implementation through the Engineering phase and into construction. VTA should update their MCC documentation to address all recommendations. Suggested improvements include, but are not limited to:

- Retain adequate qualified staff for key roles and implement succession planning and adequate transition periods to deal with attrition and turnover.
- BSVII leadership to establish clear expectations and goals for the BSVII organization (VTA and Consultants).
- BSVII leadership to encourage teamwork and cooperation within the BSVII organization (VTA, BART, and Consultants).
- BART role in the delivery of the BSVII Program should be clearly defined and implemented.
- BSVII leadership should encourage transparency in reporting and exchanging information.
- With a large organization, BSVII should develop a robust responsibility matrix regarding interfaces among VTA, BART, their respective consultants, and the rest of the project and VTA organizational divisions.
- Clearly describe decision-making authority for Agency Leadership, Executive Staff, and BSVII Program Leadership.
- The MCCP need to be revised to present Staff Project Labor Distribution over project life in Tabular and graphical formats.

2.1.3 Project Scope Review

This section includes a summary of the PMOC's OP 32C review as it factored into the risk review. Please refer to Section 3.0, OP 32C: Project Scope Review, of this report for additional details. The VTA contracting strategy has taken precedence in this review due to the size and complexity of the project scope. The project quantities are consistently defined across the contracts and in total. The project has been divided into four major contracts as follows:

1. Contract Package 1 (CP1) – Systems
2. Contract Package 2 (CP2) – Tunnel and Trackway
3. Contract Package 3 (CP3) – Newhall Yard and Santa Clara Station
4. Contract Package 4 (CP4) – Underground Stations

The 800-stall parking garage at 28th Street and Little Portugal Station is planned to be a design-build procurement and is likely to remain a part of CP4 but is sometimes referred to as a separate package in the Sponsor's project documents.

CP2 is a PDB Contract that affects the other three contracts. The Sponsor has determined that packaging the other three contracts as Design Bid Build (DBB) provides the greatest flexibility for maintaining scope, cost, and schedule. The General Engineering Consultant (GEC) will develop the final designs and contract packages for the three DBB contracts. The Contract packaging used for this project is appropriate for this type of heavy construction. Sponsor's Contract Implementation Plan, which may break the Design Bid Build contract packages further to address

market conditions, is a draft in progress. Therefore, design and construction interfaces are still being defined.

It is the PMOC's opinion that the Project Scope is sufficiently defined, and design progressed to approximately 40% at the time the Sponsor's new baseline cost and schedule were established.

2.1.4 Capital Cost Estimate Review

The most current Cost Estimate and Standard Cost Categories, (SCC) Workbook revision is dated November 17, 2023 (file SCC-New_Starts-Programwide_CY_11-17-2023). This section includes a summary of the PMOC's OP 33 review as it factored into the risk review. Please refer to Section 4.0, OP 33: Capital Cost Estimate Review, of this report for additional details.

GEC's estimating team comprises estimating professionals who have performed bottom-up, production-based estimates as contractors. They used estimating software common to the construction industry and prepared the estimate in a manner consistent with that of a contractor preparing a bid. The estimators prepared the bottom-up construction cost estimate by establishing quantity takeoffs based on the design and by applying production rates based on industry documented experience.

Several Value Engineering (VE) initiatives have been incorporated to the project since the new baseline cost and schedule were established. The design is progressing based upon the adopted VE proposals, but they were not sufficiently developed to include as base adjustments in PMOC's risk analysis.

The PMOC finds that the BSVII Cost Estimate has been developed past the expected level of detail for this phase of the project to Enter Engineering. The estimate has the cost basis and build-up process suitable for cost tracking as the project moves into the Engineering phase. The PMOC's cost review identified improvements to the cost estimate within the next engineering phase that will not affect the cost basis to this risk review and risk model inputs. The PMOC recommended adjustments to the cost estimate for the cost risk model are described below in this Risk and Contingency Review section.

2.1.5 Project Schedule Review

The PMOC finds that the BSVII Schedule is developed to a reasonable detail for this phase of the project. The summary of schedule recommendations are as follows:

- The Sponsor should increase the level of detail in the schedule to eliminate the large number of long duration activities.
- The schedule is not resource loaded; moving into the next phase of engineering this will be necessary to adequately monitor and manage the planned and actual expenditures against physical progress.
- The schedule should be maintained to identify delays or improvements and to be used as a management tool with major contract bids being received in the near future.

2.2 Risk Identification

The Sponsor's Risk Register was last updated 11-30-2023 prior to the risk workshop. This version (BSVII-ProjectRiskRegister NOV-2023 Clean Draft 12-22-2023.xlsx) was provided to PMOC on 12/25/2023 with the November 2024 regular monthly reporting and can be found in **Appendix H**.

2.2.1 Top Risks and Recommended Actions

PMOC reviewed the project management, scope, schedule and cost, and VTA's Risk Register (updated November 30, 2023) identifying the following risks, which may have a significant impact on the project design, cost, and schedule. The risks identified by VTA indicate various aspects of the project development, but several of these and additional PMOC Team risks noted below will have an even greater impact on future project schedule and cost.

VTA Highest Cost Impact Risks as per Risk Register updated 11-30-2023.

- Timely readiness and cost of the West Portal TBM launch facility
- Unanticipated damage to historic buildings, critical utility & other structures
- VTA financial capacity / funding plan to finance potential future project cost increases
- General construction labor shortage / labor premiums resulting in delays or increased cost
- Testing and Commissioning delays due to various factors
- Program staffing capacity and continuity to support long program timeline
- KST proposed Stage 2 Lump Sum price increase VTA CP2 budget
- East Portal - Complicated ROW acquisitions
- Delays in Temporary Power; high voltage substation (SNH) construction and long-lead transformer procurement
- KST Overall Design approach leading to higher project cost and potential for delays due to redesign to fit within budget
- Uncertainty in PDB process resulting in changes to project definition impacting CP2 construction schedule
- Failure to secure a lump-sum price with KST resulting in off-ramp
- Potential for litigation on approved NEPA Re-evaluation and CEQA Addendum

PMOC Team added the following risks to those identified by VTA that have been reflected in the FTA Cost Risk Model.

- Escalation rates are below the California construction and building cost indices – Higher rates are recommended for both near term closer to these California rates and slightly higher for the longer-term portion of the project development schedule to reflect a continued higher inflationary rate period.
- MCC risks will likely introduce inconsistent policy priorities and project development directions due to senior staff changeover and unfilled positions. This staffing issue will likely continue due to the excessive demand for transit development staff, especially in the State of California, and the continuing high turnover that those conditions create.
- The large number of transit projects under development in California are creating a high demand for transit design and construction firms – this continued higher demand level for contractor construction and engineering firms has been at the heart of the relatively

higher inflationary rates for these services and materials, especially in California. The upcoming transit capital project development plans will exacerbate the staffing turnover, salary and benefit costs, and related materials costs for these projects. This high transit capital project development market has been contributing to even higher escalation rates, beyond national industry inflationary rates, to the California cost index values.

- The tunnelling strategy is to deploy a large diameter tunnel boring machine to combine the need for parallel single track, smaller diameter tunnels. The larger bore machine has the potential for slower mining speeds and greater maintenance schedules according to tunnel boring machine research. This has the risk of cost escalation for schedule delays due to the tunneling on the project schedule critical path.

PMOC notes that the VTA BSVII Project RCMP does not include secondary risk mitigation options. These are prudent to deploy as a response to cost escalation beyond remaining contingency funds during construction. Although the lack of secondary mitigation was not valued as cost impact in PMOC's cost risk model, secondary mitigations are important to all projects, especially mega-projects such as BSVII. The early preparation for these mitigation options is prudent as contracts are finalized for each contract package so associated bid options can be defined.

In addition to the above-noted incremental risks, PMOC believes that the multiple contractor interfaces and failure to reach lump-sum price with KST are significant VTA risks that could have measurable impacts on the project cost. As such, these risks have been accounted for in the FTA Cost Risk Model beta risk factors values for these individual costs. These critical risks are current as of January 2024 and the risk workshop, and will likely change as risks are mitigated, transferred, accepted, or avoided during the Engineering Phase of the project. The recommendations of the OP 40 review are as follows:

- Escalation Rates – $524.6M YOE cost adjustment to account for likely rate increases
- VTA Management Capacity and Capability – $80M
- Management Turnover and Impact on project direction – included in above
- Contractor Interfaces - $30M
- Property Protection – Buildings and Utilities – $40M
- CP2 Contract Price Negotiations or Potential Off Ramp – Risk Transfer

These incremental risks were valued in the FTA OP 40 Cost Risk Model. The beta risk factors contribute to these values in combination with the size of the affected functional budgets. The escalation rate was separately estimated based on cost indexes specific to the San Francisco/San José market. In addition to the above-noted incremental risks, PMOC believes that the West Portal preparation for TBM activation and exercise of the BART vehicle contract option are VTA risks that have measurable risk impacts already included in the VTA risk register and contingency estimates.

2.3 Risk Assessment

VTA began pursuing FTA's Expedited Project Delivery (EPD) Pilot Program in early 2018. In support of the EPD application, a risk assessment review per FTA OP 40 Guidance was conducted

in 2021. The findings from that review were that the most important inputs were not well defined at that time. These included the project staffing plan, the roles and responsibilities of each contributing party and the interfaces of these parties.

There have been several senior level staffing changes that changed project strategic directions. This raised questions as to how their replacements would impact the plans, especially the roles and responsibilities and contractor/third party interface management. Without these inputs within a formalized and approved organizational project management plan, the risk beta values were increased to account for these unknowns. This increased the calculated project contingency amounts to account for this increase in risk elements. The contingency outputs from the FTA Cost Risk Model increased the VTA contingency requirements and thereby the project budgetary levels for the FTA Grant. Eventually, in October 2022, VTA requested to withdraw from the Expedited Project Delivery process and re-enter CIG Project Development. FTA re-admitted the project into CIG Project Development in December 2022.

This current risk assessment of the BSVII Project followed the OP 40 Guidance and included contributing reviews of the project management plan, management capacity and capability, scope, schedule and cost, which were summarized above. The risk assessment details are presented with the results of the review, conclusions and recommendations, as well as the cost and schedule contingency estimates.

2.4 VTA BSVII Risk and Contingency Management Plan

The PMOC reviewed the VTA's BART Silicon Valley Phase II Extension Project RCMP, Revision No. B dated September 14, 2023. While the PMOC found the document to be thorough and complete, there were several recommendations to improve the RCMP and transition it from a risk process document to an BSVII specific project development document that includes the implementation of this process within the project management plan during project development.

- The proposed mitigations in the risk register appear to be methods to manage risks rather than mitigate to resolve or minimize the risk impacts. Mitigations should be developed for each risk and initiate efforts to minimize their impact.
- Risk Manager responsibilities do not include reporting status to project management meetings. VTA should better integrate the risk management process during design and construction with the ongoing project management process.
- The risk register uses generalized cost and schedule impact categories. This is fine for a risk register at this point prior to Engineering, but impacts should have cost and schedule basis from this point. VTA should then incorporate baseline cost and schedule-based impact estimates within the risk register to support project tracking, contingency allocation and mitigation judgements. The impact categories are effective for the general management process to establish priorities, but the implementation of mitigation efforts and their decisions need clearer cost and schedule estimates. VTA should prepare action plans within the risk register higher risks with more detailed cost and schedule impact and mitigation estimates that are more oriented toward risk mitigation. These estimates should have a basis within the cost and schedule estimates to support the mitigation decisions.

- The RMCP does not have a clear plan for the use of contingency. VTA should develop drawdown curves and prioritized process to assign contingency and incorporate the funds into the RCMP to match project mitigation goals. VTA should update the RCMP to include cost contingency monitoring on a regularly scheduled basis.
- Cost and schedule contingency management should be performed regularly, ideally monthly but at a minimum, quarterly.
- The management of contingency funds within the project development process needs to be clearly stated in the plan. Cost and schedule contingency draw down requires further analysis once the recommendations in the PMOC's risk assessment have been further considered. Potential uses for contingency funds need to be clarified. Priorities set on this process. Contingency drawdown curves should be established by project milestone with minimum values to maintain risk protection. Provision for budgeting contingency funds to mitigate risk has not been included. This should be included in the risk register as an approach to fund the mitigation plans with contingency funds can reduce risks.

These RCMP improvements are not essential for this Entry to Engineering phase but will become more essential for the next steps within engineering and especially the further design efforts, the early works packages and the preparations for the initial construction.

2.4.1 VTA Risk Register

The VTA RCMP Risk Register includes 101 active risks, 13 of which are measured with the highest cost and schedule potential impact. These were highlighted in the Executive Summary and are included in Table 2 with more of the basis and impacts. VTA Highest Impact Risks as per Risk Register last updated 11-30-2023.

Table 2 Top Risks and Mitigation Strategies

Risk ID	Risk Title	Program Element	Risk Type	Risk Score	Primary Risk Mitigation
BSV-203	Timely readiness and cost of the West Portal TBM launch facility	CP2 - Tunnel & Trackwork	Design	20	KST finalize design of EWP 3C (SOE) construction. CP2 to finalize scope and make a Go/No Go decision. Develop documentation for VTA Nov Board approval EWP Budgets. Start Caterpillar Shaft const. by Jan 24
BSV-005	Unanticipated damage to historic buildings, critical utility & other structures	CP2 - Tunnel & Trackwork	Design	12	KST to develop instrumentation and monitoring program for the sensitive structures.
BSV-029	VTA financial capacity / funding plan to finance potential future project cost increases	Program-Wide	Market	12	Update the financial plan following completion of cost estimates and agreement with FTA on project cost.

Risk ID	Risk Title	Program Element	Risk Type	Risk Score	Primary Risk Mitigation
BSV-036	General construction labor shortage / labor premiums resulting in delays or increased cost	Program-Wide	Market	12	Perform an update of Market Saturation Study to include assessment of the post-COVID economic cycle as related to labor market.
BSV-096	Testing and Commissioning delays due to various factors	CP1 - Systems	Testing and Start-Up	12	Elicit and define requirements from stakeholders and capture in the contract documents. Establish joint testing and commissioning organization, under an experienced systems integration manager.
BSV-132	Program staffing capacity and continuity (VTA/ PM/CM/ Design) to support long program timeline	Program-Wide	Construction	12	Develop succession plan for each key personnel. Extend this plan to VTA, VTA's consultant team and BART.
BSV-170	KST proposed Stage 2 Lump Sum price increase VTA CP2 budget	CP2 - Tunnel & Trackwork	Market	12	Review KST's Configuration Design estimate to identify potential areas of major difference between VTA and KST. Identify secondary mitigations to relieve pressure on VTA budget.
BSV-201	East Portal - Complicated ROW acquisitions with Kolander and A&B properties	Program-Wide	Design	12	VTA to work with property owner to redesign access, obtain city permits and reconstruct new access Aug 2025. VTA to acquire Kolander property and relocate business by Aug 2025.
BSV-204	Delays in Temporary Power SNH construction and long-lead transformer procurement	CP2 - Tunnel & Trackwork	Requirements	12	Execute early works package #11 to avoid delay to TBM assembly. Direct KST to expedite step-down transformer procurement.
BSV-208	KST Design approach leading to higher project cost and potential for delays to fit within budget	CP2 - Tunnel & Trackwork	Design	12	Explore risk sharing with KST. Direct KST to obtain competitive price on packages. Conduct constructability meetings. Bring on resources to support negotiations and bring estimate within ICE range. Explore alt. design concepts in price negotiation.
BSV-209	Uncertainty in PDB process changes to project definition impacting CP2 construction schedule	CP2 - Tunnel & Trackwork	Design	12	Explore negotiating Stage 1 KST Contract to have a target price and schedule by a certain date. Explore means to share risks and contingencies. Change contractual approach.

Risk ID	Risk Title	Program Element	Risk Type	Risk Score	Primary Risk Mitigation
BSV-196	Failure to secure a lump-sum price with KST resulting in Off-ramp.	CP2 - Tunnel & Trackwork	Market	10	Utilize early items i.e. West Portal development as early construction items during Stage 1 to lessen impacts/delays of implementing an off-ramp. Identify secondary mitigations to relieve pressure on VTA budget.
BSV-205	Potential for litigation on approved NEPA Re-evaluation and CEQA Addendum	Program-Wide	Requirements	10	Outreach and structure environmental documents by repackaging critical elements to avoid delays to FFGA.

These risks are being used to guide the VTA engineering efforts and prepare for the next steps in the project development process. As noted above in the improvement areas, these cost and schedule impact valuations are presently based on reasonable approximations. As the project moves forward, these valuations need to be based on the cost and schedule estimation methodologies. This will better support the risk-based decision-making process.

2.4.2 PMOC Risk Register Additions

The PMOC Team added the following risks to those identified by VTA. Both these VTA risks and those added by the PMOC team have been reflected in the FTA Cost Risk Model analysis.

- Escalation rates are below the California construction and building cost indices – Higher rates are recommended for both near term closer to these California rates and slightly higher than the VTA plans for the longer-term portion of the project development schedule to reflect a continued higher inflationary rate period.
- MCC risks will likely introduce inconsistent policy priorities and project development directions due to senior staff changeover and unfilled positions. This staffing issue will likely continue due to the excessive demand for transit development staff, especially in the State of California, and the continuing high turnover that those conditions create.
- The large number of transit projects under development in California is creating a high demand for transit design and construction firms. This continued higher demand level for contractor construction and engineering firms has been at the heart of the relatively higher inflationary rates for these services and materials, especially in California. The upcoming transit capital project development plans will exacerbate the staffing turnover, salary and benefit costs, and related materials costs for these projects. This high transit capital project development market has been contributing to even higher escalation rates, beyond national industry inflationary rates, to the California cost index values.
- The tunnelling strategy is to deploy a large diameter tunnel boring machine. The large bore has the potential for slower mining speeds and greater maintenance schedules according to tunnel boring machine research. This has the risk of cost escalation for schedule delays due to the tunneling on the project schedule critical path.

- The VTA BSVII Project RCMP does not include secondary risk mitigation options. These are prudent to deploy as a response to cost escalation beyond remaining contingency funds during construction. These secondary mitigation options are valuable to all projects, especially mega-projects such as BSVII. The preparation for these options is essential as contracts are finalized for each contract package since secondary options can best be included as options in the contract packages. From this secondary mitigation option perspective, the consideration of these is prudent at this point in project development to be included in the contract packages.

In addition to the above-noted incremental risks, PMOC believes that the multiple contractor interfaces and failure to reach lump-sum price with KST are significant VTA risks that could have measurable impacts on the project cost. This lump sum agreement will actualize the related CP2 Contract risks with the price agreement and transfer them to the contractor, KST. As such, these risks have been accounted for in the FTA Cost Risk Model beta risk factor values for these individual risk cost impacts. These critical risks are current as of Q1 2024, and will likely change as risks are mitigated, transferred, accepted, or avoided during the Engineering Phase of the project.

2.4.3 Risk Mitigation

The VTA RCMP includes a risk register with risk mitigation noted for each risk. These are the primary mitigation plans identified for each risk with an individual responsible for the mitigation plans. These mitigations are defined to be actions or strategies to lessen the probability and/or severity of each risk's impact.

2.4.4 Primary Mitigation

Primary mitigation, as defined by the VTA RCMP, is a continuous process occurring throughout each Program phase resulting in planned actions or strategies to lessen the probability and/or severity of each risk's impact. These strategies are to be identified and completed during the earliest possible Program phase. A specific mitigation plan has been developed for each identified risk. The VTA RCMP has defined primary mitigation actions for their individual risks. These are well developed, but focus more on the management of the risks, rather than a focus on risk resolution. This priority direction helps to generate more positive outcomes in risk mitigation.

2.4.5 Secondary Mitigation

VTA has not defined specific secondary mitigation measures in its RCMP. Several risk mitigation plans refer to secondary mitigation, but a specific plan with options has not been initiated. With the size of the project in dollar value and the tunnelling approach taken for the alignment, secondary mitigation would be prudent. Since the main design bid build contracts have not been initiated yet and the Progressive Design-Build procurement strategy for the tunneling contract is not in final price agreement, the timing is advantageous to identify options for the contracts that can serve as secondary mitigation opportunities should cost escalation exceed the contingency levels. It is suggested that VTA develop a secondary mitigation strategy with designated options for each of the construction contracts.

2.5 Schedule Risk Analysis

2.5.1 Baseline for Schedule Risk Assessment

As a basis for the schedule risk model, the PMOC utilized the Sponsor's new baseline schedule. The first iteration of this native schedule data (.xer) did contain some fundamental technical errors that were not acceptable for modeling. PMOC provided a listing of the issues that needed to be addressed. Subsequently, PMOC and Sponsor discussed the errors, and their resolution, during SME-to-SME meetings. A revised new baseline data file was then provided by the Sponsor on December 11, 2023, which was used as the basis for schedule modeling (MPS_July 2023 Updates_11-29-2023.xer).

2.5.1.1 Sponsor Schedule Contingency

The Sponsor presented multiple stripped RSD in the provided documents. The RCMP (Revision B, dated September 14, 2023) identifies 3Q 2034, 4Q 2034, and November 15, 2034 between the tables, graphics and text. The RCMP also includes the RCMP model results showing a deterministic (p0) date of September 5, 2034. Allocated schedule contingency was identified by the Sponsor in Appendix D of the Basis of Schedule (Revision A, dated September 19, 2023), however, the Basis of Schedule did not identify the resulting RSD if the identified contingency activities were dissolved.

Prior to modeling the Sponsor's new baseline schedule for schedule related risk, PMOC removed allocated contingency per the Sponsor's Basis of Schedule (Revision A, dated September 19, 2023), Appendix D. The resulting PMOC stripped RSD date was April 24, 2035.

In the table below is a comparison of the stripped RSD date and source as compared to the VTA p0 confidence interval. The PMOC has utilized the stripped RSD date of 4/24/2035 for calculating the associated additional costs to the program.

Stripped RSD	Source	Delta from VTA RCMP P0 (months)
9/5/2034	VTA RCMP Risk Model Results	0
11/15/2034	VTA email stated SABS RSD	2.4
2034-Q3	VTA RCMP Figure 4 and Table 12	0
Nov-2034	VTA RCMP Table 13	2
4/24/2035	PMOC stripped RSD (for reference)	7.7
6/7/2035	VTA stripping of contingency from fixed new baseline schedule	9.2

Considering the Sponsor's own discrepancies noted above, PMOC requested the Sponsor attempt to replicate the stripping of contingency from the same (MPS_July 2023 Updates_11-29-2023.xer) schedule and Sponsor's result was a stripped RSD in June 2035. Upon further analysis and

discussion between the PMOC and sponsor it was determined there were subsequent logic changes (**Appendix L**) the Sponsor proposed to remove activities that presented on the critical path and thereby pulling the stripped RSD to November 2034. Logic changes are not considered contingency by the PMOC for the analysis herein, but rather fundamental changes of work sequencing to deliver the program. Therefore, these logic changes were not applied by PMOC in the baseline risk schedule and PMOC proceeded with the risk schedule having a stripped RSD of April 24, 2035.

PMOC determined this variance between the Sponsor's RCMP risk model deterministic (p0) date of September 5, 2034, and PMOC's stripped RSD date of April 24, 2035 to represent an over-stripping of contingency by the Sponsor. The resulting cost impact of the resulting schedule extension is addressed in a later section of this report.

According to the RCMP (Revision B, dated September 14, 2023) VTA have calculated and adopted a schedule contingency at 50% confidence of 23-months which when added to their stripped baseline schedule RSD of November 2034, results in an RSD of October 2036.

In the PMOC's opinion the contingency currently presented in the VTA schedule, is insufficient to buffer schedule uncertainty and the identified risks.

2.5.1.2 Stripped and Adjusted Base Schedule (SABS)

Another step taken by the PMOC to prepare the risk schedule for use in risk modeling was application of BSVII status for time passed between the baseline data date of August 1, 2023 and the latest monthly schedule update (prior to the risk assessment) with a data date of December 1, 2023. The PMOC conducted an analysis identifying changes in activity status between August 1 and December 1, 2023, and reflected this with expected finish dates to capture Sponsor provided progress. This was necessary because of the numerous other changes made to the monthly schedule update that would not accurately reflect if PMOC merely moved the data date in the risk schedule. PMOC notes that this is a strong indication that the logic in the baseline schedule needed more attention from the Sponsor before it was submitted and certainly before it is adopted for Entry to Engineering. Monthly status updates to a newly defined baseline should include recording progress for activities underway and attributing actual start and finish dates.

PMOC assigned actual start and finish dates in the risk schedule based on the data from the BSVII monthly update schedule falling between August 1, 2023 and December 1, 2023. For any activity started but not completed during that time, PMOC applied the projected finish date from the monthly update schedule. For any activity in the new baseline that was no longer included in the monthly update schedule, PMOC applied a remaining duration of 1 day to limit the impact to the risk schedule and subsequent analysis. Please see **Appendix M** for the table of activities and status comparison between VTA's baseline schedule and the monthly schedule update (with data date of December 1, 2023). The resulting PMOC SABS date was identified as February 11, 2036 which served as the basis for the schedule risk modeling.

PMOC did not apply any base schedule adjustments once the risk schedule reflected the most recent project status.

PMOC recommends that the RCMP be updated to reflect a consistent stripped RSD before VTA's request for Entry to Engineering. PMOC further recommends before the request for FFGA that the Sponsor baseline schedule not be referred to as the Stripped and Adjusted Baseline Schedule, as their schedule represents the Baseline that PMOC receives. During the milestone risk and readiness reviews, PMOC will identify any stripping or adjustments that are required to generate the SABS.

2.5.2 Overview of Modeling Technique and Software

Schedule and Risk simulation software used for the analysis is Oracle Primavera Risk Analysis. Primavera Risk Analysis is a simulation tool which reads the probabilistic data (activity risk ranges, probabilities of risks occurring and correlations) from the Primavera schedule and runs multiple iterations on the data to calculate float and critical paths. The software program summarizes the input data providing various graphical and tabular reports including the most familiar cumulative 'S' curve, providing varying confidence levels against associated start and/or completion dates.

The PMOC schedule risk model has risks assigned per the VTA risk register to activities within the schedule. A key showing risk assignments together with their risk reference number is shown in **Appendix I**. Some risks are assigned to more than one schedule activity. Where more than one risk is assigned to a single activity it indicates these risks can happen at the same time and will not be cumulative in their impact.

The PMOC has adopted the VTA based qualitative scoring (probability and impact) for each risk as defined in the BSVII November 2023 risk register provided below.

Table 3 Qualitative Scoring

Severity	Probability Range	Cost Range	Schedule Range	Level
Very High	> 90%	> 50 M	> 6 months	5
High	75% - 90%	20 M - 50 M	4 - 6 months	4
Medium	50% - 75%	10 M - 20 M	2 - 4 months	3
Low	10% - 50%	5 M - 10 M	1 - 2 months	2
Very Low	< 10%	< 5 M	< 1 month	1
None	0%	0	0	0

2.5.2.1 Notes and Assumptions

- Fundamental VTA master schedule errors were identified and fixed, and schedule resubmitted. Logic changes to the baseline (VTA re-sequencing of work) were considered

fundamental baseline revisions and therefore not considered latent contingency by PMOC, leading to the over-stripping.

- Contingency stripped per VTA Basis of Schedule (which was inconsistent with RCMP deterministic RSD).
- PMOC forecasted status updates for reconciliation of time passed. PMOC used projected finish dates (based on Nov-2023 monthly update) maintaining baseline schedule logic.
- Excluded impact of low scored (and below) risks.
- Excluded VTA Summary Schedule activities from modeling.
- Ran analysis 1,000 times (iterations).
- Evaluated Risk-Informed Completion at 65th Percentile (Unmitigated) per OP40.
- Reconciliation of PMOC identified risk to VTA risks.
- ROW buffer for tunnel acquisitions confirmed to not impact new baseline critical path so not removed.
- Opportunities were not modeled.
- PMOC disregarded schedule status impact (approximately 4 years) of ROW parcels un-actualized in VTA update but no longer needed for Downtown San José Station secondary headhouse.

2.5.3 Quantitative Schedule Risk Analysis

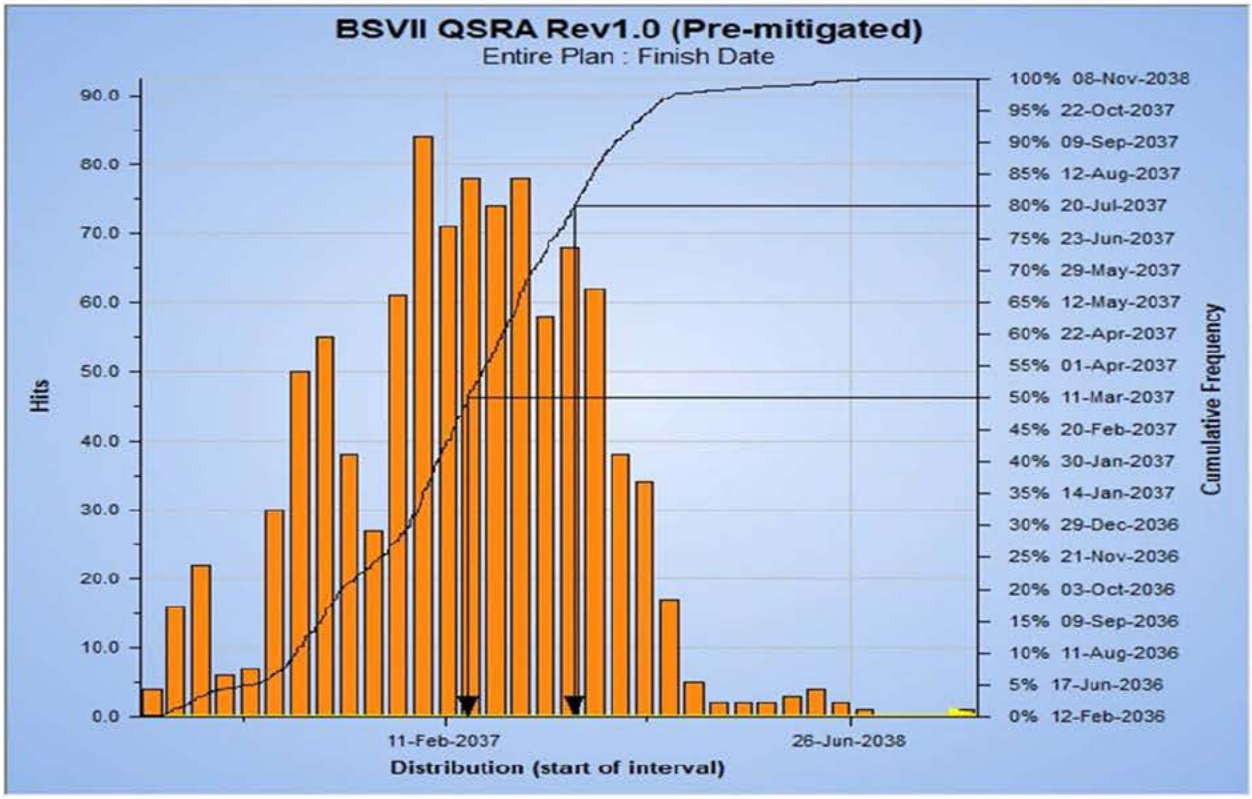
The PMOC utilized the revised new baseline master schedule (MPS_July 2023 Updates_11-29-2023) from VTA (Data Date August 1, 2023) for schedule risk modeling and assigned uncertainty and risks to schedule activities and perform a Monte-Carlo Quantitative Schedule Risk Analysis (QSRA). The schedule was reviewed for a health check in the context of the Defense Contract Management Agency (DCMA) 14-point check to ensure a proper basis for modeling and prevent issues that may adversely impact the risk modeling.

The schedule risk analysis below presents the modeled RSD finish date at varying levels of confidence (P-value) with risk uncertainly applied to the SABS.

The risk model is designed to focus on the risk in not achieving the overall RSD. The schedule model shows the assignment of risks impacting the same activity at the same time, avoiding duplication of risk impact. Some risks are assigned to schedule activities to create ‘independence’ and therefore reliability in schedule risk prediction is assured at the RSD.

However, because some risks that may impact the schedule at any time have to be assigned more generally the risk profile of any one schedule activity extracted from the risk model in isolation may not be representative of that activity’s true risk. All risk analysis results reported below are aligned to the collective impact on the RSD only.

Figure 3 Schedule Risk Analysis



2.5.4 Schedule Risk Analysis Results

The table below presents the PMOC schedule risk analysis results at the P40, P50, P65, and P80 intervals as compared to the sponsor model results as provided in their RCMP (Revision B, dated, September 14, 2023).

Table 4 PMOC Schedule Risk Analysis Results

Confidence Interval	Sponsor RCMP model	FTA/PMOC model	Delta between Sponsor RCMP model and FTA/PMOC model	Delta between Sponsor RSD (10/22/2036) to FTA/PMOC model
40%	8/1/2036	1/30/2037	6.0	3.3
50%	10/23/2036	3/11/2037	4.6	4.6
65%	2/20/2037	5/12/2037	2.7	6.6
80%	7/1/2037	7/20/2037	0.6	8.9
125% of remaining duration on critical path				
	Based on Sponsor SABS	Based on PMOC SABS	Delta between Sponsor and PMOC 125%	Delta between Sponsor RSD (10/22/2038) and PMOC 125%
PMOC Recommended	8/11/2037	**2/28/2039**	18.6	28.3

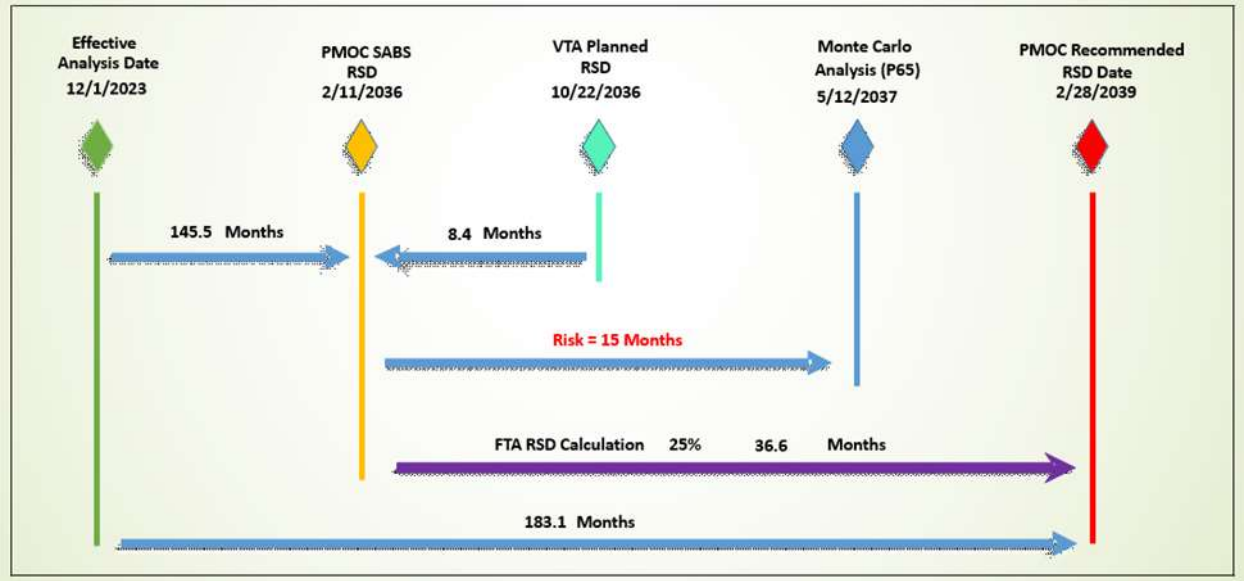
In accordance with OP 40 guidance, PMOC recommends the use of 125% of the remaining critical path SABS duration to establish the projected RSD of February 28, 2039. This is an extension of 28 months compared to the Sponsor's baseline RSD of October 22, 2035, which was adopted based on the P50 from their RCMP model.

The PMOC has carefully considered the issues described in this report with specific focus on the allowances for these primary driving risks.

- Testing and commissioning delays
- General construction labor shortage
- Additional real estate full take or easements identified during final design
- Program staffing capacity and continuity for complete program delivery
- Multiple contract interfaces
- Aggregate planned TBM advance rate

Captured below are the summary schedule results based on RSD Finish Date.

Figure 4 Summary Schedule Results



The PMOC has also compared the calculated contingency at varying thresholds to present the alignment in magnitude of contingency between the PMOC and VTA data as it relates to the recommended project RSD date, as shown in Table 5.

Table 5 Contingency Comparison

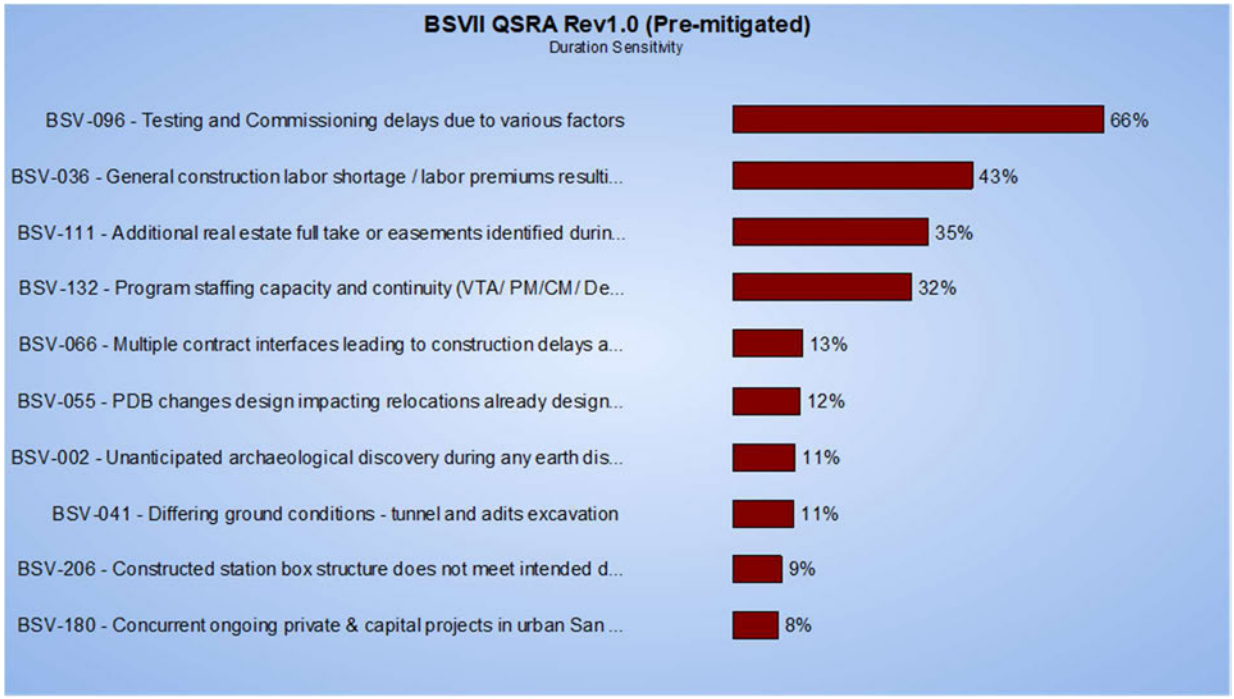
Metric / Confidence Interval	Source	Projected RSD	Contingency
VTA 125% SABS (P0 = 9/5/2034)	VTA RCMP P0 date	5/2037	32 months
VTA 125% SABS (P0 = 11/15/2034)	VTA RCMP SABS RSD date	8/2037	33 months
VTA 125% SABS (P0 = 6/7/2035)	VTA stripped contingency from corrected new baseline schedule	4/2038	35 months
VTA P50	VTA RCMP	10/2036	25 months
VTA P65	VTA RCMP	2/2037	29 months
PMOC 125% SABS		2/2039	36 months

PMOC would also note that by combining VTA's P65 based contingency (29 months) to the VTA SABS P0 date of 6/2035, the RSD date is 11/2038 which is within 4 months of PMOC's 125% SABS recommendation of 2/2039.

The following figure presents the duration sensitivity of individual assigned risks to the overall schedule risk assessment (e.g., not specific to the P65 confidence interval). The top four to five risks are generally the main drivers relating to schedule finish date variance. In comparison to the Sponsor's sensitivity analysis provided in their RCMP there is corroboration of top risks schedule drivers as it relates to the following risks:

- BSV-096 - Testing and Commissioning delays due to various factors
- BSV-036 - General construction labor shortage / labor premiums resulting in delays or increased cost
- BSV-066 - Multiple contract interfaces leading to construction delays and risk of disputes.

Figure 5 Duration Sensitivity of Risks



2.5.5 Schedule Extension Cost Impacts

PMOC has identified two schedule extension cost impacts resulting from the over-stripped contingency as well as an extended RSD finish date based on the 125% SABS calculation. These recommended base cost adjustments are summarized in Table 6 below and further explained in the following report sections.

Table 6 Schedule Extension Base Cost Adjustments

	Latent Schedule Contingency Correction	RSD Extension
PMOC Base Cost Adjustment ($M)	$179.1	$118.7

2.5.5.1 Latent Schedule Contingency Correction Cost Adjustment

As noted above in section 2.5.1.1, after contingency was stripped there was a disconnect between the PMOC stripped RSD date versus the Sponsor's stripped RSD date of 7.7 months. The PMOC has calculated the associated cost adjustment shown in Table 7 to be included in the top-down cost risk model.

[redacted]

[redacted]

2.5.5.2 RSD Extension Cost Adjustment

As noted in section 2.5.4, the PMOC recommends using 125% of the remaining critical path SABS duration for a revised RSD of February 28, 2039. This PMOC-recommended RSD is 28.6 months longer than VTA's new baseline RSD of October 22, 2036. However, 7.7 months of professional services were already accounted for in the Latent Schedule Contingency Correction Cost Adjustment leaving 20.9 months of additional SCC80 costs shown in Table 8 to include in a base cost adjustment in the top-down cost risk model.

[redacted]

PMOC used a monthly cost derived as an average of year 2034, based on the planned cost spread in BSVII cost documentation, since 2034 reflected a year when the bulk of construction activity would be complete and SCC80 expenditures decreasing.

2.6 Escalation and Inflation Review

Project cost estimates are prepared with a base year dollar value (in this case, the Sponsor used 2023). These estimates are then escalated to year of expenditure values as the basis to project budgeting. Escalation of the base year dollar estimates is based on individual inflation rates for each year. The following describes the VTA approach and the PMOC recommendations to improve this process.

2.6.1 SCC Escalation [Inflation worksheet]

The PMOC reviewed the SCC workbook dated October 5, 2023 that was subsequently modified to a calendar year basis dated November 17, 2023. The Inflation worksheet was analyzed for the annual rates used in the calculation of the escalation estimates for the project. The BSVII cost estimates include annual expenditures for the years 2016 to 2037. Expenditures for the years 2016 through 2023 are for actual costs incurred and do not include any escalation. The Inflation worksheet applies annual escalation rates from the year 2024 through the project completion of year 2037. These annual rates vary from the year 2024 at 3.2% and year 2025 at 2.9% onward to year 2026 at 2.3% and then increasing by 0.1% every couple of years to year 2037 at 2.9%.

2.6.2 Escalation rate for BSVII Program Memorandum

The basis for these escalation rates was from a project memorandum entitled Escalation Rate for BSVII Program, dated August 22, 2023. This memorandum recommended Base rates for Years 2023 – 2036 that average 2.66%. The individual annual inflation rates calculate a Year of Expenditure (YOE) project value that is close to the 2.66% escalation rate recommended in the memorandum. The difference is only $17.7 M with the memorandum average of 2.66% escalation rate slightly higher than the individual and variable rate basis to the BSVII cost estimate provided in FTA SCC Format entitled SCC-New_Starts-10-5-23_CY_11-17-23.

The memorandum also recommended VTA create a new risk register item related to escalation with a low probability assuming it to be a threat in the event the Compound Annual Growth Rate (CAGR) increases during latter part of the Program. The recommendation stated that the schedule impact should be zero, but the cost impact will be calculated based the difference between the CAGR-developed based on Risk-adjusted 75% percentile (~2.91%) and the escalation being used in the Base Cost Estimate (BCE). If a fixed 2.91%, the 75% percentile escalation rate, is applied to the project BCE inflation worksheet, the total YOE increased $165.9 M to a total of $12,403 M.

The VTA Risk Register includes risk BSV-143 that corresponds to this recommendation for higher-than-expected cost escalation. The risk states that “the cost estimate has used an annual escalation factor as per updated Market Saturation Study analyzing post-pandemic trends. Since construction spans over 8-10 years, chances of demand and commodity price fluctuation (steel and concrete) may impact the project cost or lead to claims if the contract is not properly structured. Also, there is a risk that the actual annual escalation percentage may be higher than currently assumed resulting in additional costs.”

The risk is valued at a minimum cost impact of greater than $50 M and a 30% probability of occurrence. The most likely cost impact is valued at $75 M and the maximum cost impact is valued at $100 M. The net increase in project cost exceeds these risk-based cost impacts. If the recommended 75% percentile escalation rate of 2.91% is applied to the BSVII BCE inflation worksheet, a cost increase of $165.9 M should be expected in the YOE project cost escalation cost. This is $65.9 M greater than the risk maximum impact value. This higher impact value can be compared to potential cost escalation at rates above those in the project cost escalation memorandum.

The VTA Risk Register mitigation for this higher escalation rate risk is to review Market Saturation Study updates for deviation from 3.5% midpoint and incorporate changes in cost

estimate. This mitigation reflects a higher escalation rate that may better reflect the construction cost escalation experience of the San Francisco metropolitan area.

2.6.3 Recent Construction Inflation Rate Experience -- ENR

Engineering News Record (ENR) publishes both a CCI and Building Cost Index (BCI) that are widely used in the construction industry for historical cost changes and pricing for near term future estimating. Both indexes have a materials and labor component. The calculation of each index uses a fixed approach to the individual labor and materials expenditures included in each bucket every month. ENR publishes these CCI and BCI values monthly for 20 large cities (metropolitan areas) and the national average for these 20 large cities. The content enclosed in each index varies and reflects the following descriptions from ENR.

- CCI History - 200 hours of common labor at the 20-city average of common labor rates, plus 25 hundredweight (CWT) of standard structural steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of portland cement at the 20-city price, plus 1,088 board-ft of 2 x 4 lumber at the 20-city price.
- BCI History - 68.38 hours of skilled labor at the 20-city average of bricklayers, carpenters and structural iron workers rates, plus 25 cwt of standard structural steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of portland cement at the 20-city price, plus 1,088 board ft of 2 x 4 lumber at the 20-city price.

According to ENR, the building and construction cost indexes for ENR's individual cities use the same components and weighting as those for the 20-city national indexes. The city indexes use local prices for portland cement and 2 X 4 lumber and the national average price for structural steel. The city's BCI uses local union wages, plus fringes, for carpenters, bricklayers and iron workers. The city's CCI uses the same union wages for laborers.

The difference between the two ENR Indexes is in their labor component. The CCI uses 200 hours of common labor, multiplied by the 20-city average rate for wages and fringe benefits. The BCI uses 68.38 hours of skilled labor, multiplied by the 20-city wage and fringe average for three trades–bricklayers, carpenters and structural ironworkers. For their materials component, both indexes use 25 cwt of fabricated standard structural steel at the 20-city average price, 1.128 tons of bulk portland cement priced locally and 1,088 board ft of 2x4 lumber priced locally. The ENR indexes measure how much it costs to purchase this hypothetical package of goods compared to what it was in the base year. The two indexes can both apply to general construction costs. The CCI can be used where labor costs are a higher proportion of total costs than the BCI. The BCI is more applicable for construction of structures where labor and material costs are closer in proportion of total project costs.

Recent nationwide experience with ENR valued construction costs had been trending downward from February through June 2023. The monthly cost index values are presented in Table 9 below for the two-year period from November 2021 through November 2023. The main difference between ENR's CCI and BCI is in their labor component. CCI uses 200 hours of common labor, multiplied by the 20 US cities average rate for wages and fringe benefits, BCI uses only 68.38

hours of skilled labor. Materials used in both construction and building works are then added to reach the index values.

Table 9 Engineering New Record National Cost Index

	Engineering New Record			
	Monthly Index Values		Annual Change	
	National		National	
Date	BCI	CCI	BCI	CCI
11/1/2023	8,268.2	13,510.7	3.92%	2.66%
10/1/2023	8,255.6	13,498.0	3.62%	2.45%
9/1/2023	8,240.6	13,485.7	3.46%	2.36%
8/1/2023	8,227.4	13,472.6	3.38%	2.27%
7/1/2023	8,179.9	13,425.0	2.86%	1.93%
6/1/2023	8,095.3	13,345.0	1.82%	1.35%
5/1/2023	8,054.4	13,288.3	2.08%	1.36%
4/1/2023	8,000.9	13,229.6	2.76%	1.73%
3/1/2023	8,000.6	13,176.3	4.21%	2.15%
2/1/2023	7,989.8	13,176.0	5.61%	3.01%
1/1/2023	7,976.7	13,175.0	7.11%	3.87%
12/1/2022	7,956.5	13,160.3	8.12%	4.82%
11/1/2022	7,967.0	13,175.0	9.29%	5.55%
10/1/2022	7,965.0	13,174.9	9.78%	5.68%
9/1/2022	7,958.3	13,173.4	9.85%	5.68%
8/1/2022	7,952.5	13,170.6	10.23%	5.66%
7/1/2022	7,950.4	13,167.8	10.41%	5.65%
6/1/2022	7,890.0	13,110.5	12.60%	7.13%
5/1/2022	7,785.6	13,004.5	13.21%	7.37%
4/1/2022	7,677.4	12,899.0	13.66%	7.58%
3/1/2022	7,565.1	12,791.4	14.41%	7.95%
2/1/2022	7,446.9	12,684.0	13.78%	7.95%
1/1/2022	7,359.1	12,555.6	13.34%	7.32%
12/1/2021	7,289.6	12,481.8	12.84%	7.34%
11/1/2021	7,255.7	12,467.3	12.58%	7.24%

The annual change in the ENR Indexes show a declining trend on a monthly basis from highs in early 2022 through June 2023. Since June, the CCI has been increasing steadily to 2.0% and then up to 2.66% for the latest November value. The BCI has followed a similar trend downward and then back up to 3.92%. These results indicate a continuing trend of construction cost increases that are trending upward. The latest December 2023 updates show a turn toward lower rates, so a value of 3.5% would represent a reasonable inflation rate forecast.

A look at the more localized construction cost trends illustrates the same trend, but with slightly higher rates. Table 10 illustrates the same construction cost trends for the San Francisco metropolitan area, an area that includes the San José project area. These San Francisco rates are 30.4% higher for the BCI rate and 14.9% higher for the CCI rate than the US national cost index.

Table 10 Engineering New Record National Cost Index

	Engineering New Record			
	Monthly Index Values		Annual Change	
	San Francisco, CA		San Francisco, CA	
Date	BCI	CCI	BCI	CCI
11/1/2023	10,778.5	15,526.3	11.30%	3.66%
10/1/2023	10,725.6	15,473.4	9.22%	2.38%
9/1/2023	10,741.9	15,489.7	9.08%	2.30%
8/1/2023	10,657.2	15,404.9	8.86%	2.13%
7/1/2023	10,622.0	15,369.8	8.86%	2.12%
6/1/2023	10,619.5	15,367.3	2.64%	-1.74%
5/1/2023	10,847.5	15,595.4	7.80%	1.56%
4/1/2023	10,026.4	15,319.9	-0.07%	-0.05%
3/1/2023	10,068.8	15,362.3	2.63%	1.71%
2/1/2023	10,125.9	15,419.9	2.97%	1.94%
1/1/2023	10,205.3	15,498.8	12.12%	7.66%
12/1/2022	9,684.5	14,977.9	7.51%	4.73%
11/1/2022	9,820.0	15,113.5	9.91%	6.22%
10/1/2022	9,847.9	15,141.4	7.89%	5.00%
9/1/2022	9,789.7	15,083.3	6.89%	4.37%
8/1/2022	9,757.7	15,051.2	17.70%	10.80%
7/1/2022	10,346.6	15,640.1	21.38%	13.19%
6/1/2022	10,062.9	15,356.3	18.83%	11.58%
5/1/2022	10,033.6	15,327.0	22.88%	13.88%
4/1/2022	9,810.4	15,103.8	20.65%	12.50%
3/1/2022	9,833.4	15,126.8	25.05%	14.97%
2/1/2022	9,102.3	14,396.7	16.05%	9.59%
1/1/2022	9,007.8	14,301.2	15.24%	9.09%
12/1/2021	8,934.8	14,228.2	14.49%	8.63%
11/1/2021	9,127.6	14,421.0	15.91%	9.51%

The CCI experienced 10.0% to 15.0% annual cost increases each month in the early portion of the year 2022. Monthly rates declined into the year 2023 to lower single digits and even small negative values for two months. Since then, monthly CCI rates have stabilized in the 2.0%+ range, except for the latest November monthly inflation rate of 3.66%. The BCI values are much higher with recent inflationary rates of 8.0% and 9.0%, followed by the upturn in November 2023 to 11.3%. These results indicate that the localized San Francisco and San José areas have been experiencing inflationary pressures that exceed those nationwide and that the trends are for these rates at a higher level continuing into the future.

2.6.4 Recent Construction Inflation Rate Experience -- CCCI

Since ENR cost index results illustrated clearly the localized nature of construction cost inflation, more local cost inflation results were researched. The California Construction Cost Index (CCCI) is developed based upon ENR BCI cost indices average for San Francisco and Los Angeles as

produced by ENR. The California Department of General Services, Real Estate Service Division has a Project Management & Development Branch that publishes the CCCI each month. Table 11 below presents these monthly results and the annual inflation rate on a monthly basis.

Table 11 California Construction Cost Index

	California Construction Cost Index		
	Monthly Index Values		2023 Annual
Month	2022	2023	Rate
December	8823		
November	8765	9682	10.46%
October	8712	9654	10.81%
September	8604	9592	11.48%
August	8729	9560	9.52%
July	9110	9526	4.57%
June	8925	9508	6.53%
May	9001	9621	6.89%
April	8903	9026	1.38%
March	8736	9118	4.37%
February	8293	9166	10.53%
January	8151	9246	13.43%

This index shows a similar trend as the ENR San Francisco index. As year 2023 progressed, rates declined from 13.4% in January to a low of 1.3% in April. From that point, rates increased to the latest three months in the 10.4% to 11.4% range. This CCCI follows the ENR building index with higher proportions of materials than labor. It indicates a relatively higher rate for California that needs to be considered in the escalation rates in the risk assessment.

2.6.5 Recent Construction Inflation Rate Experience – AtkinsRéalis Construction Cost Index

The PMOC firm, AtkinsRéalis includes a cost estimating group known as Construction Data Intelligence (CDI) that documents construction costs worldwide and prepares short range construction cost index forecasts for application to project cost estimates. This cost estimating model used for estimating includes a location factor for San José (127.22) for the Fourth Quarter (Q4) of year 2023. This corresponds generally with the ENR location cost factor premium for San Francisco that was measured as 30.4% for the BCI and 14.9% for the CCI.

The AtkinsRéalis cost prediction tool includes a forecast for the next year on a quarterly basis. Using the current Q4 year 2023 results in a forecast for Q4 year 2024. The following range represents the US national average of the highest metropolitan areas.

- High Forecast 8.22%
- Base Forecast 0.03%
- Low Forecast -8.28%

Taking the base forecast of 0.03% and adjusting for the San José location premium calculates a base forecast for San José of 3.82% for the next year (2024). The high forecast of 8.22% with the San José location factor leads to a high-cost rate of 10.5% for San José. These cost-estimating results lead to a confirmation of the higher short-term rates and then a more stable out year inflation forecast rate from that point. This is a similar concept to the VTA short term and longer-term inflation rate forecast. The difference is in the rate values.

2.6.6 PMOC Inflation Rate Conclusions and Recommendations

VTA has prepared a YOE to its base year project base cost estimate (BCE). This YOE estimate used annual inflation rates estimated by VTA in a memorandum documenting the analysis process used by VTA. This process recommended an average rate of 2.66%. VTA used annual rates that average close to that amount. PMOC analysis of construction cost escalation showed that localized San Francisco/San José metropolitan rates are more pertinent to tracking construction costs than the projected national rates.

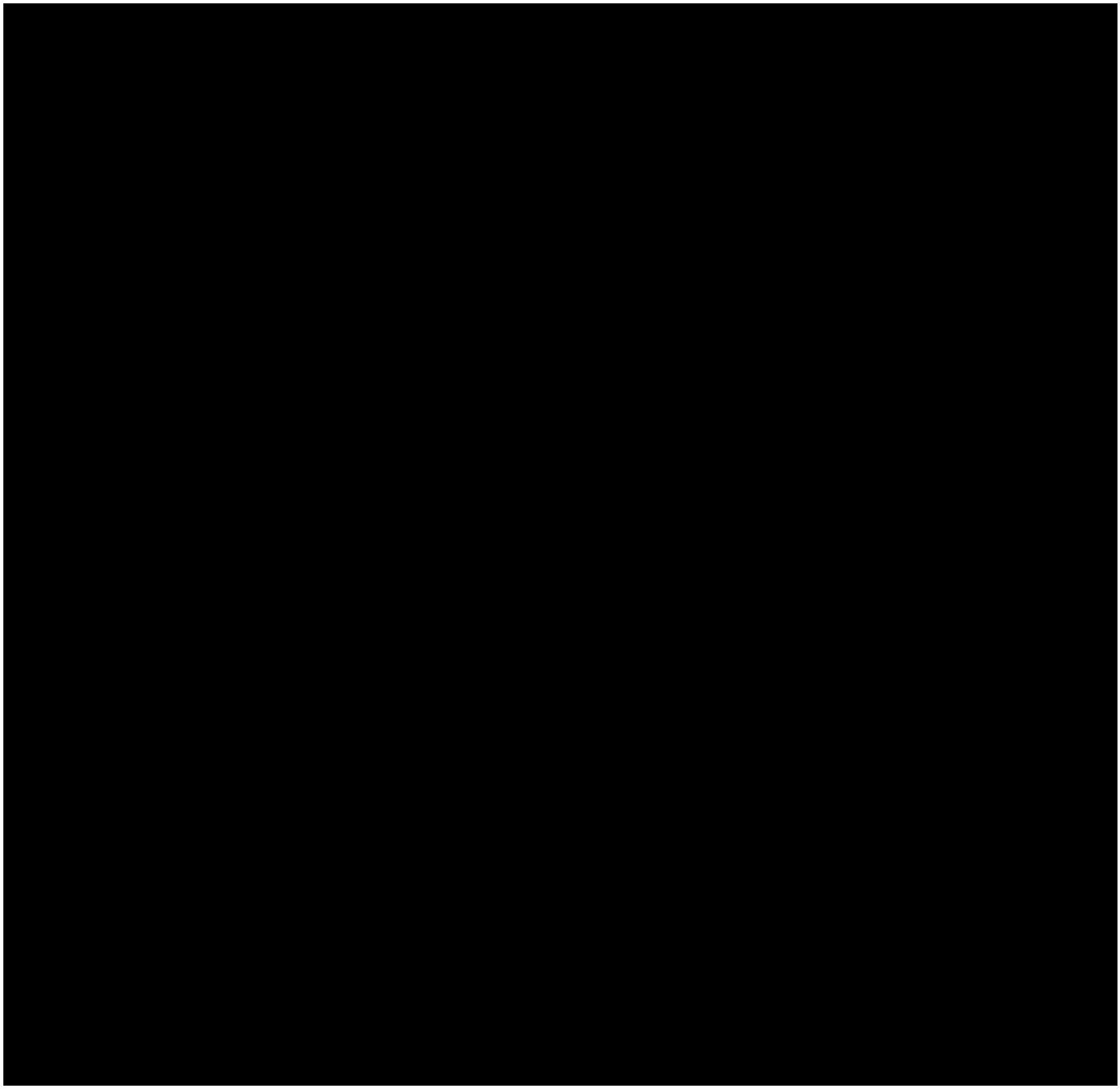
Local historical rates include ENR and CCCI and these are both above the VTA average rate and close to the VTA rates used for the first two years (2024 and 2025) of the inflation forecast of the YOE estimate. ENR has CCI annual inflation rates of 2.38% and 3.66% for the last two months and BCI rates of 9.22% and 11.30% over the same period. The BCI uses a much lower proportion of labor and fringe values in that index. With the high cost of the tunnel boring machine and the high material costs of the BSVII project, expected construction cost increases may track in between these two rates. Another regional rate, the CCCI has rates of 10.81% and 11.46% for the last two months. This index tracks closer to the ENR BCI rate because it uses a very similar build-up process. The AtkinsRéalis CDI national cost index is trending at 0.03% nationally with a higher San José location adjustment rate of about 3.82% for the next one-year (2024) period.

Prior to the risk workshop, PMOC had formulated a recommendation for near-term inflation of 4.0% for 2024 and 2025. Discussions during the workshop regarding the topic informed PMOC to modify the recommendation. Since the highest recent peaks are not necessarily expected to be sustained, those high rates were already accounted for the 2Q 2023 base year dollars used by VTA. PMOC recommends 3.5% annual rates for the duration of the project expenditure schedule of the VTA BSVII project. PMOC's higher recommended rate (than the Sponsor's) follows the recent construction cost trends, especially those with a higher proportion of materials costs than the more labor focused rates. This more closely reflects the BSVII project scope and cost estimate. Additionally, the FTA has been encouraging a forecast rate of 3.5% for the most recent projects. This makes the BSVII consistent with the suggested 3.5% forecast rate.

The recommended inflation rates were applied in the Inflation Worksheet of the SCC-New_Starts-10-05-23_CY_11-17-23 cost file to estimate these increased YOE values. This increases the BSVII YOE cost estimate from $12.237 Billion to $12.762 Billion. This modification for the increase in the inflation rates increases the YOE cost estimate by $524.6 M or 4.5%. These escalation modifications were applied to the FTA Cost Risk Model Global Inflation Adjustment.

2.7 Cost Risk Analysis

This cost risk analysis followed the FTA OP 40 guidance to evaluate the VTA development plans for this BSVII project. The FTA cost risk model was applied to the VTA cost and risk estimates. As noted in the risk register discussions, the VTA risks were accounted through beta risk factor value adjustments, both increases and decreases. The VTA risk cost impact estimates were used to value these beta risk factor adjustments. The additional PMOC risks were valued on the similarly estimated by their potential cost impacts to the BSVII project. [redacted]



2.8 Contingency

The VTA RCMP includes the estimation process for the contingency estimates of each cost category. This includes the allocation of contingency to the cost risk of these cost categories, and the remainder of contingency reserved for unallocated contingency for the overall project risk. The VTA plan describes the contingency management process but does not include any of the estimate details around the application of the contingency amounts or the controls for the contingency drawdown curves in support of project risk management. These are important factors to the successful outcome of the project. As part of the engineering phase, VTA needs to complete the contingency management process and include it within the project management plan for implementation.

2.9 Conclusion and Recommendations

VTA is an experienced transit capital project organization with recent experience with the development of the BSVI or Phase I of the Silicon Valley extension. This experience has benefited this Phase II project with a firm basis to project development. The PMOC team has identified this experience in many of the project plans and documents reviewed in this risk assessment. There are however multiple aspects of these that require improvement and greater detail both before Entry to Engineering and in the following Engineering Phase to prepare for a Full Funding Grant Agreement. The challenge is to identify the essential requirements before entry and those that can be completed as part of the Engineering Phase. It is these essential requirements that form the focus of these near-term recommendations, followed by those that can be included in requirements during Engineering Phase.

The following recommendation should be implemented in the VTA submission for Entry to Engineering.

- VTA should adjust the escalation rates used to develop YOE cost estimates and apply the recommended 3.5% values for each year.

Following VTA's request to Enter Engineering, the below recommendations are oriented toward improving the capabilities of the project development plans to better guide the next steps. These recommendations should prepare the BSVII project for the FFGA requirements.

- While the PMOC found the RCMP document to be complete, there were several recommendations to improve the RCMP and transition it from a risk process document to an BSVII specific project development document that includes the implementation of this process within the project management plan during project development.
- Risk Manager responsibilities do not include reporting status to project management meetings. VTA should better integrate the risk management process during design and construction with the ongoing project management process. VTA should also consider defining independent reporting by the Risk Manager to the newly established Board of Directors BSVII Steering Committee or to the Auditor General in their function related to informing that committee.

- Mitigations in the risk register are more methods to manage risks rather than mitigate to resolve the risk. Mitigations should be developed for each risk and initiate efforts to minimize their impact.
- The risk register uses generalized cost and schedule impact categories. This is fine for this early stage of the risk register, but impacts should have cost and schedule estimation basis. VTA should then incorporate baseline cost and schedule-based impact estimates within the risk register to support project tracking, contingency allocation and mitigation purposes. The impact categories are effective for the general management process to establish priorities, but the implementation of mitigation efforts and their decisions need clearer cost and schedule estimates. VTA should prepare action plans within the risk register higher risks with more detailed cost and schedule impact and mitigation estimates that are more oriented toward risk mitigation. These estimates should have a basis within the cost and schedule estimates to support the mitigation decisions.
- Provision for budgeting contingency funds to mitigate risk has not been included. This should be included in the risk register as an approach to fund the mitigation plans with contingency funds can reduce risks.
- The RMCP does not have a clear plan for the use of contingency. VTA should develop revised drawdown curves and prioritized process to assign contingency and incorporate the funds into the RCMP to match project mitigation goals. VTA should update the RCMP to include cost contingency monitoring on a regularly scheduled basis. As part of the engineering phase, VTA needs to complete the contingency management process and include it within the project management plan for implementation.
- With the size of the project in dollar value and the tunnelling approach taken for the alignment, secondary mitigation would be a wise choice. Since the main design bid build contracts have not been initiated yet and the Progressive Design Build procurement strategy for the tunneling contract is not in final price agreement, the timing is advantageous to identify options for the contracts that can serve as secondary mitigation opportunities should cost escalation exceed the contingency levels. Although not required, it is suggested that VTA develop a secondary mitigation strategy with designated options for each of the construction contracts.

3.0 OP 32C: PROJECT SCOPE REVIEW

3.1 PMOC Review

The objective of this review is to assess the Sponsor's definition of the project scope as represented by environmental documents and permits, BOD and design criteria, third party agreements, Real Estate Acquisition and Management Plan, drawings, specifications, narratives, plans for project delivery, etc. These documents are being reviewed for adequacy and completeness given the phase; for internal consistency; for compliance with applicable laws regulations, policies; and for biddability and constructability. This review will be in accordance with PMOC OP 32C – Project Scope Review with an expectation for the project to be advanced to a state between Entry to Engineering and FFGA. This project was previously selected for the EPD Pilot Program and received full pre-award authority and have progressed with engineering and procurement activities that warrant a higher expectation of completeness to address the necessary early construction activities to support the project schedule.

This review will provide input to PMOC's upcoming OP 51 Readiness to Enter Engineering review. PMOC's OP 51 report will be one input to FTA's determination regarding VTA's CIG Program application. This review of the Project Scope documents offers our professional opinions regarding BSVII's project readiness to enter engineering, project advancement, and funding.

3.1.1 Project Sponsor Submittals and Information for Review

A list of the documents reviewed in part or in whole by PMOC is provided as **Appendix B** to this Spot Report.

3.2 PMOC Observations

3.2.1 Description of Scope

An overall project scope description is in the Executive Summary and General Section of the Spot Report. BSVII is to be delivered in four major packages as follows.

Contract Package 1 – Systems

The systems work includes the provision of all systems for 4.7 miles of underground track alignment and 1.3 miles of at-grade track alignment associated with Newhall Yard and Santa Clara Station. Also included in this package is provision of all systems for one at-grade station and three underground stations. CP1 also includes testing and start-up.

Contract Package 2 – Tunnel and Trackwork

CP2 is a PDB package that has already been awarded and includes design and construction of approximately 4.7 miles of 48' interior diameter tunnel and the procurement of the associated TBM (approximately 53' diameter). CP2 covers the trackwork from the BSV Phase I tie-in to the west portal per BART standard criteria. CP2 includes station structural concrete, including platforms, within the tunnel for three underground stations. CP2 also includes all internal concrete work such as emergency walkways, track slabs, invert, partition walls and the east and west portals. CP2 is also responsible for support of excavation for the three underground stations and tunnel

liner knockout panels for adit connections and entrances. CP2 will design and construct the adits to the tunnel and platforms. CP2 includes all necessary utility relocations to accommodate the CP2 work.

Contract Package 3 – Newhall Yard and Santa Clara Station

Construction of Newhall Yard and Maintenance Facility, including site infrastructure for systems components such as duct banks and manholes, select foundations and support structures falls under CP3. CP3 is also responsible for vehicle maintenance shops, car wash buildings, maintenance and engineering shops, yard control tower, wheel truing and blowdown facilities. CP3 will build the end of line Santa Clara Station including the at-grade platform and connection to existing pedestrian undercrossing leading to the Santa Clara Caltrain Station. CP3 includes all Newhall Yard trackwork, including turnouts, crossovers, and mainline track to the west portal. There is also a 500-stall parking garage for Santa Clara Station, final site flatwork, landscaping, and utility relocations, as required, in CP3.

Contract Package 4 – Underground Stations

CP4 includes work necessary to complete the build-out of three underground stations and ancillary facilities (excluding train control systems). This includes rail operations facilities within the stations and final site flatwork and landscaping and any required utility relocations. The CP4 construction of 28th Street/Little Portugal Station, Downtown San José Station, and Diridon Station excludes demolition and support of excavation (which is included in CP2). There is also an 800-stall parking garage at 28th Street and Little Portugal Station that will be a design-build procurement that is likely to remain a part of CP4 but is also referred to as a separate package in Section 2.2.3 “Current Contract Packaging” Table 4 - Phase II Contracting Plan (2023) of VTA’s BSVII Project Delivery and Procurement Plan.

3.2.2 Changes in Project Scope

There were four primary scope changes between the time of EPD and the current baseline. First was a change in project delivery methods from design-build to design-bid-build for CP1, CP3 and CP4. CP2 remains Progressive-Design-Build. The second is the increase in tunnel diameter to accommodate side-by-side alignment through the stations with center platforms and eliminate the need for transitions to stacked platforms. (Inside diameter of tunnel increased from 43 feet to 48 feet.) This change also allowed for the third major change, using an alternative ventilation configuration with a continuous ventilation plenum beneath the track slab and the elimination of the two mid-tunnel ventilation and egress facilities. Finally, the fourth change in scope was the change of configuration of the 28th Street / Little Portugal Station. The station was previously an open-cut box whereas the current configuration is a bored tunnel like the other two underground stations. The scope changes are reflected in the current baseline drawings and Basis of Design Reports (BODRs).

3.2.3 Potential Changes to Project Scope

Several Value Engineering (VE) initiatives have been incorporated to the project since the Entry to Engineering new baseline cost and schedule were established. The design is progressing based

upon the adopted VE proposals and the changes will need to be clarified with the Sponsor's request for FFGA. PMOC understands from the Sponsor that none of the VE changes will impact the summary level scope description or the project ridership or operational characteristics.

3.2.4 Unknown or Uncertain Conditions

Unknown or uncertain conditions have been documented in the respective project BODRs and included in the risk assessment section of the spot report.

3.2.5 Level of Design Accomplished

The PMOC is of the opinion that the project scope is sufficiently defined based on the review of current design plans and technical reports, discussions with project staff, and the Scope and technical workshop meetings. The chart below summarizes the PMOC understanding of the following level of completion.

- CP1 – 45%
- CP2 – 40%
- CP3 – 30%
- CP4 – 30%
- Utilities – 25%
- Vehicles – 95%

The "GEC Design Status Summary_2024-01-17" file the Sponsor provided in response to Risk Workshop Action Item (RWAI) #17 does not provide any documentation of progress beyond the 30% designs for CP1, CP3, and CP4 that were used to generate the new baseline cost and estimate for this Entry to Engineering risk assessment. PMOC refers instead to the BSVII Design Maturity project memorandum dated January 12, 2024, which states several areas in CP3 and CP4 have stagnated, or even regressed, due to VE initiatives.

The VTA summary of design maturity included in their project memo dated January 12, 2024, says that design is "approaching" 60% in many areas and stagnant or set back from 30% due to VE in other areas. The majority of the bullets in the memo are describing establishment of requirements to "inform design" and in PMOC's estimation would constitute support of 15-30% designs, not progressing beyond 30%. The 60% design is anticipated to be complete in late May 2024. Attachment A to that project memo includes numbers that are not substantiated by the memo text nor consistent with the RWAI#17 table(s).

PMOC assessment of the "CP2 Design Status Summary_2024-01-17" file VTA provided in response to RWAI#17 shows that:

- Only the West Portal High Voltage Substation and the Tunnel Space-Proofing Report were accepted at a 60% or higher level when the estimate was completed.
- Three design units were accepted at 60% prior to the October submission to FTA/PMOC supporting the SCC10 guideway design and one CP2 scope associated with the Diridon Station design, however cost estimates were not updated to incorporate the design advancement.

- Three ADPUs for initial civil sitework and enabling works (West Portal, DTSJ, and 28th Street/Little Portugal Station), along with the tunnel and track alignment and track clearance report, were approved at 100% between the baseline date and the submission to FTA.
- One enabling works ADPU (Diridon Station) was accepted at 100% between the October submission and the risk workshop.

The additional information provided during or after the workshop, therefore, did not change PMOC's determination of level of completeness. The current level of engineering design associated with the new baseline was approximately 40 percent overall.

VTA indicated in their memorandum that as a result of implementing some VE solutions, certain elements will not be advanced to 60% prior to the FFGA design submission milestone. PMOC recommends that prior to FFGA, VTA clarify how 60% design packages will reflect and/or exclude those elements identified as "running behind" at FFGA submission due to VE initiatives and how they are being accounted for in the FFGA estimate.

3.2.6 Project Delivery Methods

The sponsor has prepared a Project Delivery and Procurement Plan dated November 1, 2023, that summarizes the delivery and procurement processes to be used for this Project. The Sponsor has also prepared a Design Management Procedure dated November 1, 2023, as a companion document to the Sponsor's PMP that summarizes the Design Project Delivery Method and Contract Packaging. The Contract Implementation Plan was provided to PMOC as a "Draft in Progress" which needs to be completed imminently to accurately document the Sponsor's revised plan for the various packages.

The project has been divided into four major contracts as follows.

1. Contract Package 1 (CP1) - Rail Systems
2. Contract Package 2 (CP2) – Tunnel and Track
3. Contract Package 3 (CP3) – Newhall Yard and Santa Clara Station
4. Contract Package 4 (CP4) – Underground Stations

As noted above, a fifth contract is listed in some project documentation for the design-build procurement of the 28th Steet and Little Portugal Station Parking Garage. The Sponsor has indicated their intent to include this design-build component under the CP4 major package, not as a stand-alone procurement.

The contract packaging used for this project is appropriate for this type of heavy construction. The benefits and cost for the delivery options were summarized in the Project Delivery and Procurement Plan, Revision No. 0.G, dated November 1, 2023.

CP2 is a PDB Contract that affects the other three contracts. The Sponsor has determined that packaging the other three contracts as DBB provides the greatest flexibility for maintaining scope, cost, and schedule. The GEC will develop the final designs and contract packages for the three DBB contracts.

The Sponsor used the RFQ/RFP process for CP2 and selected KST Joint Venture as the Contractor. According to the Sponsor's Project Delivery and Procurement Plan, procurement processes for the three remaining contracts will be conducted in accordance with FTA circular 4220.1.F in a manner that provides full and open competition among contractors, suppliers, and service providers.

No Force Account Projects have been identified by the Sponsor in the BSVII documentation.

3.2.7 Third Party Agreements

PMOC has reviewed third party agreements and will document associated observations, conclusions and recommendations in a separate report. BSVII Third Party Agreement Management Plan Rev No.1 November 1, 2023 identifies the known agreements, their criticality, and their status. The total number of third-party agreements identified is 44, with 26 being identified as critical for FFGA and 6 that are critical but tied to revenue service rather than construction. One agreement identified as critical remains to be executed prior to FFGA, the Final Engineering Cost Reimbursement Agreement with UPRR. This agreement is needed in June of 2024 for CP2 access for an early works package that is currently being negotiated. The 6 critical agreements related to operations and maintenance phase have not been started.

3.2.8 SCC 10 Guideway and Track Elements

The Sponsor has made the major design decisions defining trackway type, structures, facilities, and systems. The tunnel design is sufficiently defined in terms of access and egress, temporary and permanent drainage, adit connections at the stations, cross-passages, ventilation and emergency access shafts. Track and tunnel sections and profiles depicting cross sections of major tunnel features have been coordinated with the vehicle's dynamic envelope, walkways, lighting, systems elements such as ventilation, communications and traction power and egress and documented in the Tunnel Space Proofing Report. Property protection designs based on adjacent building foundations and utilities is still being defined in conjunction with the PDB. The Constructability Review Report is in draft form.

3.2.9 SCC 20 Stations, Stops, Terminals, Intermodal

In review of the plans, project documents, and discussions with the Sponsor, PMOC has observed the following progress in design. Station and support facility architecture is established. The drawing package consists of site plans, floor plans, longitudinal and cross sections, elevations, and details illustrating typical and special conditions, and finish schedules. Within the site context, the building footprints are shown. The building's relationship to grade and adjacent facilities is clearly defined, as is provision for pedestrians and bicycles to access the public way from it. Site environmental conditions such as wind load, drainage and foundations have been considered. Platform access, building access, and building interiors comply with the Americans with Disabilities Act (ADA); level boarding is provided. Station plans show vertical circulation systems including stairs, elevators, escalators, dimensioned platforms, support spaces for mechanical and maintenance access, agent area, and fare gate area.

3.2.10 SCC 30 Support Facilities: Yards, Shops, Administration Buildings

Newhall Yard and Maintenance Facility is part of CP3 along with the Santa Clara Station. The yard layout has been reviewed several times by BART as design refinements and value engineering opportunities have been identified. As of the time of the risk workshop BART had the latest iteration under review.

3.2.11 SCC 40 Sitework and Special Conditions

Based on Sponsor's information provided as an action item following the risk workshop, 8 of 44 Owner utility relocations currently under construction (none are complete). One of the higher risk issues associated with utilities is protection from potential settlement during tunneling operations and deep excavations. Inventories have been taken and assessments made for the vulnerability of existing utilities to damage from settlement. However, the design of the property protection is yet to be undertaken by the PDB.

Major or critical work details, structural element dimensions, design interfaces and physical interfaces are complete and well defined in terms of drawings, standards, criteria, specifications, and contract package scopes.

Access and staging areas are defined and phased turnover limits between contracts are defined.

3.2.12 SCC 50 Systems

Train Controls System to be current BART procured CBTC system. BSVII design includes infrastructure to accommodate the BART CBTC system. Site specific requirements are defined (for signal structural work) and location drawings for signal enclosures (as input to ROW requirements). Traction power substations are identified, numbered, and located along the system route. All systems are in accordance with BART-approved design criteria, or addenda to the design criteria are in process.

3.2.13 SCC 60 ROW, Land, Existing Improvements

The following is a summary of the observations of the materials provided for review and the result of interviews with the Sponsor. The RAMP is with current appraisals and relevant information. However, the schedule for property acquisition is extended, given that the appraisals have a shelf life, the sponsor may need to get new appraisals potentially increasing the cost of ROW and Easement procurement. Supplemental Environmental Impact Statement (EIS) and subsequent environmental site assessments have been completed.

[redacted]

Progress (through November 2023 based upon 75 active parcels):

- Legals/Plats Approved: 79%
- Appraisals Completed: 79%

- Offers Made: 77%
- Purchase Agreements Signed: 29%
- There are also 16 Parcels pending Approved Legals and Plats pending design development.

PMOC reviewed the 16 parcels identified by the Sponsor that are pending design decisions and the associated verification package to commence the appraisal process. Some of the dates in the project schedule do not coordinate with the CP2 property protection deliverable schedule. Parcels from West Portal to Diridon are scheduled to begin appraisal activities at the end of January 2024 when the phase four property protection deliverable is not due from the PDB until March 2024. Similarly, parcels at the East Portal and Phase I tie-in area are identified to enter appraisal activities as early as December 2023 when the associated property protection deliverable is not schedule for completion until April 2024.

Through this evaluation, PMOC also noted that parcels B3236 and B3218 at DTSJ were not included in the 16 because they have progressed to condemnation or negotiation status. However, they are flagged as high risk because they are pending decisions regarding property protection needs. The associated CP2 property protection deliverable due date is not until June 2024.

These discrepancies are not anticipated to impact the critical path and are likely to be resolved between now and FFGA. However, if any questions regarding property protection designs and associated ROW needs are outstanding, VTA should have a monitoring and management procedure in place to coordinate the activities and confirm the schedules are aligned.

3.2.14 SCC 70 Vehicles

Vehicle procurement is through an existing BART Fleet of the Future Contract that has an option for VTA to add additional vehicles for BSVII at current contract price. This option should be exercised by no later than April 2024 to maintain the current contract price.

3.3 Findings

The PMOC has formulated an opinion based on the review of current design plans and technical reports, key staff interviews, as well as technical and risk workshop meetings. It is the PMOC's opinion that the Project Scope is sufficiently defined and design progressed to approximately 40% at the time the new baseline cost and schedule were established.

3.4 Recommendations

PMOC recommends the Build Main tab of the SCC Workbook be revised prior to VTA's request for Entry to Engineering to include quantities. (Quantities had been included in earlier submittals, but the last revision to the workbook "SCC-New_Starts-Programwide_CY_11-17-2023" did not include the necessary quantities)

PMOC also has the following scope related general recommendations:

- Environmental re-evaluation must be complete and approved by FTA.
- Finish the Contract Implementation Plan draft in progress.

- Finalize the draft Constructability Review Report.
- VTA has implement their property procurement for a total of 75 parcels with appraisals completed on 59 parcels, offers made on 58 parcels and purchase agreements signed on 22 parcels with possession obtained on 25 parcels. PMOC recommends that the remaining parcels be appraisals be completed on the remaining 16 parcels as quickly as possible to minimize any increased in property value and subsequent ROW & Easements procurement cost increases.
- Expedite the CP2 contractor's utility relocation/protection plan to identify and verify any changes in scope.
- Verify that rigorous clash detection occurs through the 3-dimensional digital modeling tools during the development of the Underground Stations from the current design level to level of design that ensures that the technical specifications are well-defined and sufficient to meet FFGA requirements. This should be closely coordinated with both CP1 – Rail Systems and CP2 – Tunnel and Track.
- Clarify the VE status as a full program not as elements of CP2 versus GEC designs. Document what has been implemented in the scope and how it has been addressed in the cost estimate as well as what remain as VE options for further evaluation.

4.0 OP 33: CAPITAL COST ESTIMATE REVIEW

4.1 Introduction

The PMOC followed guidance outlined in FTA OP 33 to verify the cost of the project through a review of the documents provided by the Sponsor, VTA, as listed in **Appendix B**.

The PMOC received the estimate in its original format and subsequent cost estimate backup files beginning in October of 2023 through December 2023. Please reference **Appendix B** for detailed dates of documents received and reviewed along with their revision history. VTA provided several iterations of the Cost Estimate, Basis of Estimate (BOE), and SCC workbook to address PMOC initial review comments, and subsequent Cost and Risk Assessment workshop discussions. The most current Cost Estimate and SCC Workbook revision is dated November 17, 2023 (file SCC-New_Starts-Programwide_CY_11-17-2023.xlsx).

This project is presented by the Sponsor under the Entry to Engineering program. PMOC has worked with the Sponsor to understand all documents, leading to additional submittals of estimate back-up and meetings between the Cost Manager of the PMOC, VTA Project Controls and GEC Estimating to identify any major shortfalls or deficiencies in the presented estimate and associated back-up, as well as walk though how the software was programed to create wage ranges and crew make-up.

4.2 Estimate Status

Per Table 13, Association for the Advancement of Cost Engineering (AACE) Cost Estimating Classification System, the Sponsor's new baseline estimate matches that of a Class 3, falling into the 10-40% range of maturity of design. The PMOC would summarize BSVII level of design is roughly 30%, preliminary design, and progressing design development phase. This estimate class includes semi-detailed unit costs with assembly level line items and a broad range of allowance of 10-50%, based on the design maturity. After the Risk Workshop, it was noted that some of the SCC elements are beyond the 30% design and procurement has begun with the tunnel boring machine, which is part of the schedule critical path.

Per the Basis of Estimate from the Sponsor's submittals:

The SCC Workbook estimate is in 2023 Q2 dollars. YOE totals are subject to change after the schedule is cost-loaded and the SCC workbook refined. Build Main Tab and Inflation Tab of the Sponsor's draft SCC workbook are available in **Appendix D**.

Table 13 AACE Cost Estimating Classification System

Estimate Class	Maturity Level of Project Definition Deliverables (Expressed as % of complete definition)	End Usage (Typical purpose of estimate)	Methodology (Typical purpose of estimate)	Design Development / Estimating Contingency (Typical estimating method)	(Typical allowance)	Expected Accuracy Range (Typical variation in low and high ranges)
Class 5	0% to 2%	Functional area, or concept screening	Program or Rough order of Magnitude (RoM)	SF or m2 factoring, parametric models, judgment, or analogy	20% +	L: -20% to -30% H: +30% to +50%
Class 4	1% to 15%	Schematic design or concept study	Concept or Feasibility	Parametric models, assembly driven models	15% to 20%	L: -10% to -20% H: +20% to +30%
Class 3	**10% to 40%**	**Design development, budget authorization, feasibility**	**Schematic Design**	**Semi-detailed unit costs with assembly level line items**	**10% to 15%**	**L: -5% to -15% H: +10% to +20%**
Class 2	30% to 75%	Control or bid/tender, semi-detailed	Design Development	Detailed unit cost with forced detailed take-off	5% to 10%	L: -5% to -10% H: +5% to +15%
Class 1	65% to 100%	Check estimate or pre bid/tender, change order	Construction Documents	Detailed unit cost with detailed take-off	0% to 5%	L: -3% to -5% H: +3% to +10%

4.3 Methodology

The PMOC reviewed each Contract Package estimate and its relevant back-up documentation and examined how it led to the overall SCC Workbook. Cost and schedule analysis was performed for duration-based line items and major/critical path events. This review follows the guidance as spelled out in the OP 33 – Capital Cost Estimate Review, September 2015.

- PMOC used an overall sampling rate of 5% percent;
- Checked costs against scope and schedule;
- Identified allowances;
- Evaluated provisions for escalation and inflation;

The PMOC obtained and studied the Sponsor's current cost information. Please reference **Appendix B** for detailed dates of documents received and reviewed along with their revision

history. The most current Cost Estimate and SCC Workbook revision is dated November 17, 2023 (file SCC-New_Starts-Programwide_CY_11-17-2023.xlsx).

4.4 PMOC Observations

The PMOC has reviewed the documentation that the Sponsor has submitted for the Entry to Engineering risk assessment and the total for YOE is $12,237 M, including finance costs and escalation. Per the details provided, the PMOC considers the amount of detail and the estimate detail as appropriate The cost estimates and schedule do not speak to one another. At this point, with the level of detail, this should be expected. The estimate and schedule do, however, relate on a basic level to each other, such as the overall durations of each CP. This was relevant for PMOC's review of duration-based items, specifically in Division 1, project management and oversight.

Per the BOE , for Contract Packages 1, 3, and 4 the GEC estimating process included the use of the following elements: Estimate breakdown structure (EBS); Construction Specifications Institute coding structure to align the estimate with BSVII Project specifications; HCSS software and Sage Estimating System software; Standard electronic estimating templates, including the Assemble export function from building information models (BIMs); Documented basis of estimate; Historical data for analysis. GEC's estimating team comprises estimating professionals who have performed bottom-up, production-based estimates as contractors. They used estimating software common to the construction industry and prepared the estimate in a manner consistent with that of a contractor preparing a bid. The estimators prepared the bottom-up construction cost estimate by establishing quantity takeoffs based on the design and by applying production rates based on industry-documented experience. The estimators prepared a separate estimate for each of the three contract packages. Each estimate included three distinct components: direct costs, indirect costs, and contractor markup. The direct costs include resources such as craft labor, construction equipment, bulk materials, and permanent, installed equipment.

The indirect costs include the contractor's costs to support the construction effort, such as duration-based supervision costs, project office costs, employee subsistence and movement costs, staff vehicle costs, construction bond costs, and other similar costs. The contractor markup includes the general and administrative expenses and the contractor's overhead and profit. The markup calculation assumes competitive bids in a normal market environment. The methodology used for generating capital cost estimates for the Program is consistent with FTA guidelines for estimating capital costs. The basis of the FTA guidance, as it pertains to the cost estimate reporting structure, is the SCC, which enables all FTA-funded projects to develop budget baselines that summarize into SCCs. This cost structure was used for developing capital cost detail and summary sheets.

PMOC has verified that:

1. Sponsor's estimating and project controls organization is experienced, has the necessary capacity and capability to perform the work.
2. Scope was accounted for in the estimate.
3. The estimate mathematically summed. Discrepancies described below were encountered and addressed.

4. Inflation calculation was consistent with FTA methodology and used the FTA standard workbook inflation calculation sheet based on approximate base year annual expenditure inflated using compound annual inflation rates. However inflation was underestimated.
5. Based on PMOC's sampling of data, quantities, labor, equipment and material rates (noting quotations where provided) correctly rolled into summary sheets with consistent mark-ups and sales tax applied as appropriate.
6. The estimate took account of contract packaging strategy, constructability, project constraints, prevailing market conditions and the project labor agreement.
7. The estimated mark-ups made provision for insurance, bid and performance bonds as described in the draft terms and conditions.

Statement of Potential Range of Cost

Based on the Association for the Advancement of Cost Engineering (AACE) Class 3 estimate classification of -10% through +20%, Table 14 below provides the corresponding calculation on base year and YOE dollars. These ranges reflect base uncertainty and not risk.

Table 14 Potential Range of Cost

Potential Range of Cost ($ Millions) Excl Finance Charges							
SABCE		Base Year $			YOE $		
Base Yr $	YOE	Lower	Most Likely	Upper	Lower	Most Likely	Upper
$ 7,804	$11,550	$ 7,024	$ 7,804	$ 9,365	$10,395	$ 11,550	$13,860
Based on AACE Class 3 Estimate Classification							

The potential range of cost based on the probability distribution of PMOC's cost risk assessment is provided elsewhere in this spot report.

4.5 PMOC Review

The PMOC Reviewed the Sponsor's Basis of Cost Estimate New Starts Entry to Engineering Revision No. A, September 19, 2023. This basis of cost stated a total project cost which is inclusive of finance charges of $12,237 M YOE. Finance costs were included as $480.5 M. Estimate details and supplemental reports and meetings helped to review the overall cost estimate and project pricing.

The Basis of Cost Estimate includes:

- A summary of program costs by FTA cost category
- Description of the estimate development setting out responsibilities and the estimating breakdown structure adopted for SCC 10-50
- Summary estimate detail, basis and source by FTA cost categories
- Detailed description of the basis of estimate
- Explanation estimating elements covering the BART scope
- Escalation methodology and formulation into the program budget

Appendices include:

- Craft labor rates
- Construction equipment rates
- Materials summary
- Cost estimate detail
- Cost estimation materials and finishes
- Right of Way base costs
- FTA SCC workbook

VTA has finalized the contracting delivery strategy for BSVII and anticipates that BSVII will be delivered primarily under four contract packages as outlined in the Project Delivery and Procurement Plan:

- Systems (CP1) – Design, Bid, Build
- Tunnel and Track (CP2) - Progressive Design-Build
- Newhall Yard and Santa Clara Station (CP3) – Design, Bid, Build
- Underground Stations (CP4) – Design, Bid, Build

The estimate has been broken down into the four main civils works contract packages and the program wide elements (SCC 60-80) as follows:

Contract Package 1 – Systems

The systems work includes the provision of all systems for 4.7 miles of underground track alignment and 1.3 miles of at-grade track alignment associated with Newhall Yard and Santa Clara Station. Also included in this package is provision of all systems for one at-grade station and three underground stations. CP1 also includes testing and start-up.

Contract Package 2 – Tunnel and Trackwork

CP2 is a Progressive Design Build package that has already been awarded and includes design and construction of approximately 4.7 miles of 48’ interior diameter tunnel and the procurement of the associated TBM (approximately 53’ diameter). CP2 covers the trackwork from the BSV Phase I tie-in to the east portal per BART standard criteria. CP2 includes station structural concrete, including platforms, within the tunnel for three underground stations. CP2 also includes all internal concrete work such as emergency walkways, track slabs, invert, partition walls and the east and west portals. CP2 is also responsible for support of excavation for the three underground stations and tunnel liner knockout panels for adit connections and entrances. CP2 will design and construct the adits to the tunnel and platforms. CP2 includes all necessary utility relocations to accommodate the CP2 work.

Contract Package 3 – Newhall Yard and Santa Clara Station

Construction of Newhall Yard and Maintenance Facility, including site infrastructure for systems components such as duct banks and manholes, select foundations and support structures falls under CP3. CP3 is also responsible for vehicle maintenance shops, car wash

buildings, maintenance and engineering shops, yard control tower, wheel truing and blowdown facilities. CP3 will build the end of line Santa Clara Station including the at-grade platform and connection to existing pedestrian undercrossing leading to the Santa Clara Caltrain Station. CP3 includes all Newhall Yard trackwork, including turnouts, crossovers, and mainline track to the west portal. There is also a 500-stall parking garage for Santa Clara Station, final site flatwork, landscaping, and utility relocations, as required, in CP3.

Contract Package 4 – Underground Stations

CP4 includes work necessary to complete the build-out of three underground stations and ancillary facilities (excluding train control systems). This includes rail operations facilities within the stations and final site flatwork and landscaping and any required utility relocations. The CP4 construction of 28th Street / Little Portugal Station, Downtown San José Station, and Diridon Station excludes demolition and support of excavation (which is included in CP2). In Section 2.2.3 "Current Contract Packaging" Table 4 - Phase II Contracting Plan (2023) of VTA's BSVII Project Delivery and Procurement Plan a fifth contract is listed for the design-build procurement of the 28th Steet and Little Portugal Station Parking Garage. The Sponsor has indicated their intent to include this design-build component under the CP4 major package, not as a stand-alone procurement.

VTA procured various contracts for Project Management Services and Engineering Services. Details of the management organization and staffing are contained in the PMP and the MCCP.

4.5.1 Characterization or Stratification of Cost Items

The PMOC has characterized the Sponsor's estimates in SCC format for all Contract Packages into:

1. Unit pricing – Unit costs are used when items in an estimate can be measured or quantified, and a cost applied to labor, materials, and equipment used.
2. Cost Estimate Relationships (CER) – A CER is a way to use a previous cost of an item to determine or predict that of another, e.g. Phase 1 utilized to calculate Phase 2 costs.
3. Lump Sums – A lump sum is a dollar amount allotted to an item within an estimate as an allowance.

The stratification of the cost items shows that for SCC10-80:

- Unit Costs - 50%
- CER - 45%
- Lump Sums - 5%

In SCC 10, nearly 84% of the total make-up of the estimate is derived from a bottom-up detailed engineering approach. SCC 20, Stations, Stops, Terminal, Intermodal has been advanced from EPD levels of estimating to containing 77% unit costs for the Entry to Engineering pricing. This is contrasted with SCC 40, Sitework and Special Conditions and SCC 50, Systems with pricing derived from combined CER and lump sums, at 53% and 66% respectively. For systems, pricing for BART Central Controls has been included. In SCC 80, Professional Services, estimates reflect

a combination of spent-to-date costs, CER and unit costs related to Full Time Equivalent (FTE) staffing estimations.

4.5.2 Structure, Quality, and Level of Detail

The GEC's estimate breakdown structure was set up to accommodate the FTA requirements for SCC codes. Since there are four separate contract packages, the EBS for SCC 10-50 was set up to accommodate each package and allow an overall roll-up of costs. This allows each package to be viewed separately. It also allows for the roll-up of the overall Program costs. The GEC's EBS provides the structural basis for the SCC 10-50 estimate. Figure 6 shows the EBS set-up template found in the Sponsor's Basis of Estimate.

Figure 6 Estimate Breakdown Structure in Sponsor's Basis of Estimate

Example	Client Identifier	Description
Below	40.01.030.3.000100	Remove concrete sidewalk

Level 1	Level 2	Level 3	Level 4	
SCC Code	Facility/Location Code	Contract Package Number	Bid Item Number	Bid Item Description
40.01	030	3	000100	Remove concrete sidewalk
4	3	1	6	< No. of digits (total 14)

	Designation	Description	Character Count
Level 1	SCC Code	Use applicable SCC code. Refer to FTA SCC workbook for data dictionary	5 digits with a period separating the SCC major and minor codes
Level 2	Facility/Location Code	See Table 5	3 digits as assigned in Table 4
Level 3	Contract Package Number	See Table 6	1 digit as assigned in Table 4
Level 4	Bid Item Description	Individual bid items listed in Appendix H and Appendix I	6 digits to allow for estimate logic

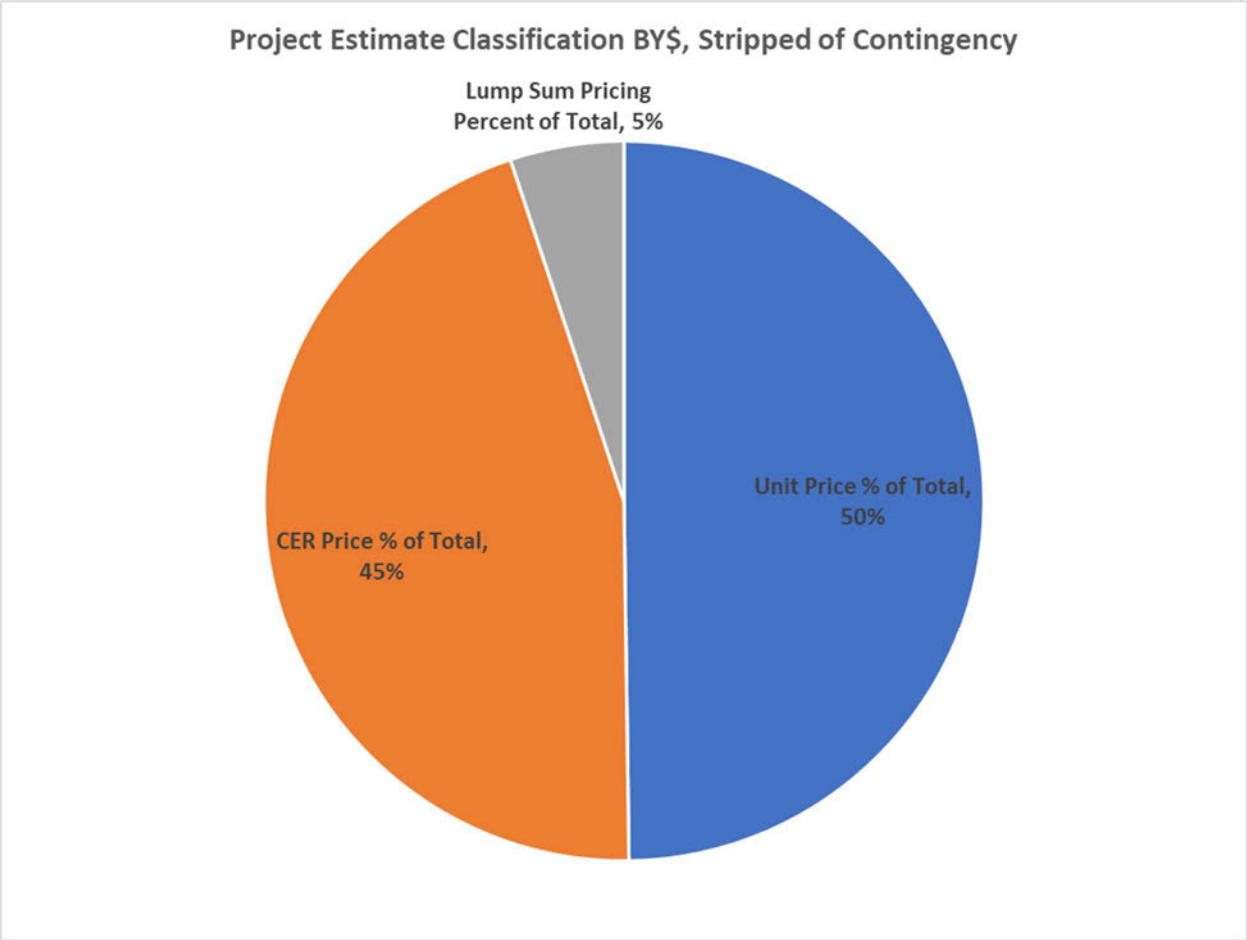
Table 15 Sponsor Estimate Stratification

Standard SCC Codes		Estimate BY$		Unit Prices		CER		Lump Sum	
SCC	Category	Estimate w/o Contingency	% Contingency	Unit Pricing Total	Unit Price % of Total	CER Pricing Total	CER Price % of Total	Lump Sum Pricing Total	Lum Sum Pricing %
10	**GUIDEWAY**	**$ 2,099,529,338**	**20%**	**$ 1,754,691,970**	**84%**	**$ 228,143,992**	**11%**	**$ 116,693,376**	**6%**
10.06	Guideway: Underground cut & cover	$ 221,216,111	20%	$ 165,912,084	75%	$ 33,182,417	15%	$ 22,121,611	10%
10.07	Guideway: Underground tunnel	$ 1,518,665,276	20%	$ 1,290,865,485	85%	$ 151,866,528	10%	$ 75,933,264	5%
10.08	Guideway: Retained cut or fill	$ 113,105,310	20%	$ 96,139,514	85%	$ 11,310,531	10%	$ 5,655,266	5%
10.09	Track: Direct fixation	$ 175,240,113	20%	$ 148,954,096	85%	$ 17,524,011	10%	$ 8,762,006	5%
10.11	Track: Ballasted	$ 58,180,453	20%	$ 43,635,340	75%	$ 11,636,091	20%	$ 2,909,023	5%
10.12	Track: Special (switches, turnouts)	$ 13,122,074	20%	$ 9,185,452	70%	$ 2,624,415	20%	$ 1,312,207	10%
20	**STATIONS, STOPS**	**$ 1,352,015,082**	**20%**	**$ 1,045,193,890**	**77%**	**$ 190,710,812**	**14%**	**$ 116,110,380**	**9%**
20.01	At-grade station, stop, shelter, mall, terminal, platform	$ 109,452,856	20%	$ 76,616,999	70%	$ 21,890,571	20%	$ 10,945,286	10%
20.03	Underground station, stop, shelter, mall, terminal, platform	$ 987,968,722	20%	$ 790,374,978	80%	$ 98,796,872	10%	$ 98,796,872	10%
20.06	Automobile parking multi-story structure	$ 127,364,453	20%	$ 76,418,672	60%	$ 44,577,558	35%	$ 6,368,223	5%
20.07	Elevators, escalators	$ 127,229,051	20%	$ 101,783,241	80%	$ 25,445,810	20%	$ -	0%
30	**SUPPORT FACILITIES**	**$ 238,921,188**	**20%**	**$ 184,175,470**	**77%**	**$ 30,853,599**	**13%**	**$ 23,892,119**	**10%**
30.03	Heavy Maintenance Facility	$ 169,306,385	20%	$ 135,445,108	80%	$ 16,930,639	10%	$ 16,930,639	10%
30.05	Yard and Yard Track	$ 69,614,802	20%	$ 48,730,362	70%	$ 13,922,960	20%	$ 6,961,480	10%
40	**SITE WORK & SPECIAL CONDITIONS**	**$ 424,184,270**	**20%**	**$ 200,360,725**	**47%**	**$ 133,847,176**	**32%**	**$ 89,976,369**	**21%**
40.01	Demolition, Clearning, Earthwork	$ 81,585,675	20%	$ 65,268,540	80%	$ 8,158,567	10%	$ 8,158,567	10%
40.02	Site Utilities, Utility Relocation	$ 160,048,093	21%	$ 32,009,619	20%	$ 80,024,047	50%	$ 48,014,428	30%
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	$ 59,867,078	20%	$ 17,960,123	30%	$ 23,946,831	40%	$ 17,960,123	30%
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	$ 22,307,778	15%	$ 13,384,667	60%	$ 4,461,556	20%	$ 4,461,556	20%
40.05	Site structures including retaining walls, sound walls	$ 18,420,906	20%	$ 12,894,634	70%	$ 3,684,181	20%	$ 1,842,091	10%
40.07	Automobile, bus van accessways including roads, parking lots	$ 68,513,440	20%	$ 54,810,752	80%	$ 6,851,344	10%	$ 6,851,344	10%
40.08	Temporary Facilities and other indirect costs during construction	$ 13,441,300	17%	$ 4,032,390	30%	$ 6,720,650	50%	$ 2,688,260	20%
50	**SYSTEMS**	**$ 908,115,705**	**20%**	**$ 309,011,226**	**34%**	**$ 546,859,883**	**60%**	**$ 52,244,596**	**6%**
50.01	Train control and signals	$ 348,609,331	20%	$ 244,026,531	70%	$ 69,721,866	20%	$ 34,860,933	10%
50.03	Traction power supply: substations	$ 219,410,357	20%	$ -	0%	$ 219,410,357	100%	$ -	0%
50.04	Traction power distribution: catenary and third rail	$ 50,367,167	20%	$ -	0%	$ 50,367,167	100%	$ -	0%
50.05	Communications	$ 246,803,390	20%	$ 61,700,847	25%	$ 172,762,373	70%	$ 12,340,169	5%
50.06	Fare collection system and equipment	$ 32,838,474	20%	$ 3,283,847	10%	$ 29,554,626	90%	$ -	0%
50.07	Central Control	$ 10,086,987	20%	$ -	0%	$ 5,043,494	50%	$ 5,043,494	50%
Construction Subtotal (10 - 50)		**$ 5,022,765,583**	**20%**	**$ 3,493,433,281**	**70%**	**$ 1,130,415,462**	**23%**	**$ 398,916,841**	**8%**
60	**ROW, LAND, EXISTING IMPROVEMENTS**	**$ 185,006,786**	**28%**	**$ -**	**0%**	**$ 185,006,786**	**100%**	**$ -**	**0%**
60.01	Purchase or lease of real estate	$ 175,938,786	27%	$ -	0%	$ 175,938,786	100%	$ -	0%
60.02	Relocation of existing households and businesses	$ 9,068,000	30%	$ -	0%	$ 9,068,000	100%	$ -	0%
70	**VEHICLES (48)**	**$ 173,880,000**	**5%**	**$ 173,880,000**	**100%**	**$ -**	**0%**	**$ -**	**0%**
70.02	Heavy Rail	$ 173,880,000	5%	$ 173,880,000	100%		0%	$ -	0%
80	**PROFESSIONAL SERVICES**	**$ 2,421,952,844**	**4%**	**$ 217,735,258**	**9%**	**$ 2,204,217,587**	**91%**	**$ -**	**0%**
80.01	Project Development	$ 217,735,258	0%	$ 217,735,258	100%	$ -	0%	$ -	0%
80.02	Engineering (not appliable to Small Starts)	$ 438,847,824	4%		0%	$ 438,847,824	100%	$ -	0%
80.03	Project Management for Design and Construction	$ 1,055,743,127	4%		0%	$ 1,055,743,127	100%	$ -	0%
80.04	Construction Administration & Management	$ 200,922,512	5%		0%	$ 200,922,512	100%	$ -	0%
80.05	Professional Liability and other Non-Construction Insurance	$ 367,547,819	5%		0%	$ 367,547,819	100%	$ -	0%
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$ 64,850,696	5%		0%	$ 64,850,696	100%	$ -	0%
80.07	Surveys, Testing, Investgation, Inspection	$ 22,003,115	5%		0%	$ 22,003,115	100%	$ -	0%
80.08	Start up	$ 54,302,494	5%		0%	$ 54,302,494	100%	$ -	0%
Subtotal (10 - 80)		**$ 7,803,605,214**	**15%**	**$ 3,885,048,538**	**50%**	**$ 3,519,639,835**	**45%**	**$ 398,916,841**	**5%**

The PMOC summarizes the Project Estimate Classification as follows:

At this stage of design development, roughly 30% level of design, the PMOC would expect approximately 50% of the cost data to be comprised of unit costs, or a bottom-up estimate. VTA's estimate is in line with that expectation. The estimate also includes a cost estimate relationship of approximately 45% of data, and lump sums are 5% of construction costs. This is appropriate for the size and complexity of this project.

Figure 7 Project Estimate Classification



4.5.3 Mechanical Check of Estimate

The first submission (October 11, 2023) of documents related to cost did not include appropriate details that would allow the PMOC to review and report its findings as FTA requires. Multiple attempts to receive data in a timely manner were made and the Sponsor complied with the requests for backup documents to demonstrate how pricing was derived.

The PMOC conducted meetings with VTA and its cost estimating GEC team as well as project controls personnel. These meetings were held to review the new Cost Estimate files and what they entailed on November 14, 2023; a walkthrough of the estimating software with CP1, CP3 and CP4 estimators conducted on November 28, 2023; and finally another walkthrough with CP2 estimating team with their software and details that would feed final pricing numbers with wage rates, overtime (OT) calculations, and crews sizes and specific durations of each activity held on December 5, 2023. During these meetings, a mathematical check was performed for each Contract Package and their specific raw data.

The PMOC performed a crosswalk and cost sums review from the contract packages to the FTA Standard Cost Categories and verified the estimate was appropriately coded to FTA SCC.

However, there were line items in the backup that were noted to be not containing pricing during PMOC's. Subsequent backup received by the PMOC and meetings with the GEC validated that this was part of the initial set-up and the blanks were intentional and accurate. As an example of items with no associated cost in estimate details in file "2023-05-14 FFGA BSVII CP3 Estimate Draft", the cost components for Radio System and Fiber Optic Infrastructure shown in Figure 8 are empty. The Sponsor's GEC stated that these items were zeroed out when the scope was eliminated and could be clean-up in a future iteration of the estimate.

The SCC New Starts Workbook includes a cash flow analysis and PMOC validated the math adds up.

4.5.4 Comparison to Industry Standards

PMOC reviewed the Sponsor's material costs for conformance to industry standards, regional variations and other unique characteristics. Most noted is the adherence to union wage rates as appropriate for San Francisco's market. Steel unit costs were identified early as an issue by PMOC due to the lump sum pricing and lack of structural or carbon steel in the material pricing information. To resolve the issue, PMOC conducted meetings with VTA's estimating and project control teams to walk through items that were lacking the expected backup. The estimating software was opened and the PMOC was given a look into the crew sizes, duration of each activity, mark-ups, overtime rates, and other details for material pricing. This was extraordinarily helpful in determining that the estimate was not merely comprised of lump sums, as indicated in the summary documentation provided to the PMOC.

The Sponsor walked through the software for location 40 Diridon Station, pricing from May of 2023. Pricing to note included (as also written in the Basis of Estimate) pricing for rebar at $1.75/lb, non-epoxy coated and associated escalation. The GEC estimators showed how the costs for mechanical, electrical, and plumbing (MEP) at each station was based on $/SF pricing. The HCSS software had the estimating team calling items such as metal decking as "subcontractor" because it was going to be bid out in the future, carrying a "contractor" or lump sum pricing into the roll-up summary estimate.

Steel pricing is appropriate for the greater Northern California/Bay Area and ranges from $11,000 to $13,000 per ton, erected in place. Stainless Steel appeared high, but the Sponsor noted that curtain walls are custom for VTA and during a Value Engineering (VE) meeting, it was suggested that the Sponsor use Aluminum. The estimate for the exposed structural steel at stations and for stairs is non-standard, tube steel, etc. and ranges up to $21,000 per ton. Basis of Cost Estimate states that assumed cost per gallon of diesel gasoline is $5 and currently prices in the San Francisco

area are above $6.50 per gallon (November 2023). Cubic yards of concrete range per location in estimate back-up documents for CP4, depending on quantity and use (i.e., driveway $24.18 vs. sidewalk at $14.73.)

Sampled quantities were checked and calculations are consistent with design documents and core assumptions. Informal presentations and review workshops were held between the PMOC and Sponsor's estimating team to review the capturing of sampled individual bid/contract package content and walk through how data had been extracted and to verify alignment to constructability as well as checking appropriate usage of SCC codes.

4.5.5 Correspondence with Scope Review

The PMOC found no notable discrepancies in the estimate backup from October to December during the review of the estimate. The estimate line items were formatted and calculated consistently with no mechanical issues.

A "sanity check" of the total estimate in order to perform a general overview of the project was conducted. All contract package elements can be traced between the detailed estimates and the summary ones that feed into the SCC Workbook. Some notable exclusions are as follows.

- Approved value engineering items
- Changes due to decisions made during CP2 constructability review workshops
- Costs associated with permitting or funding delays causing the work to be repackaged or extended.
- BART Operations and Maintenance equipment
- Designers' liability insurance beyond standard coverage
- Right of Way goodwill costs
- Salt Ponds infrastructure upgrades and operations to support muck disposal
- BART Central Control allowance

4.5.6 Contract Package Elements

SCC 10 – Guideway and Trackwork

The PMOC has reviewed costs and associated detailed back-up documentation for Guideway and Track Elements, which represents 27% of the Sponsor's stripped base cost estimate. It's nearly fully comprised of unit prices for 10.07 Guideway: Underground tunnel, 10.08 Guideway: Retained cut or fill, and 10.09 Track: Direct fixation.

SCC 20 – Stations, Stops

20.03 Underground station, stop, shelter, mall, terminal, platform contain over 73% of the costs for the pricing of SCC 20. This, like SCC 10, has many items making the total mostly of unit pricing, instead of CER and lump sum. Design has advanced since EPD submission to show more detail for the parking garages and structures and is only composed of one-third CER pricing.

SCC 30 – Support Facilities

20.03 Underground station, stop, shelter, mall, terminal, platform contain over 73% of the costs for the pricing of SCC 20. This, like SCC 10, has a large amount of items making the total mostly of unit pricing, instead of CER and lump sum.

SCC 40 – Site Work & Special Conditions

40.02 Site Utilities, Utility Relocation has increased from $149 M during the submission of EPD to greater than $215 M, YOE. This still remains full of risk and a lot of assumptions are carried through lump sums. The PMOC recommends that the Sponsor maintain vigilance in this area and to stay ahead of mitigation. Due to the complexity and scale of this project, the geotechnical data, even of changing conditions, dates back decades and therefore have eased concerns of the Sponsor for unknown variables when tunneling and relocating utilities, but the PMOC does not share this optimism.

SCC 50 – Systems

VTA has decided to go with the CBTC and the estimate has allowances included as pricing for 50.07 Central Control, approximately half the dollars are based off CER and the other lump sums. Some of the designs of the Systems elements have been advanced and the estimate reflects this. CP1 is crucial to the overall project success, however there is a lag between the beginning of award and construction of this and CP2 which has been awarded.

SCC 60 – ROW, Land, Existing Improvements

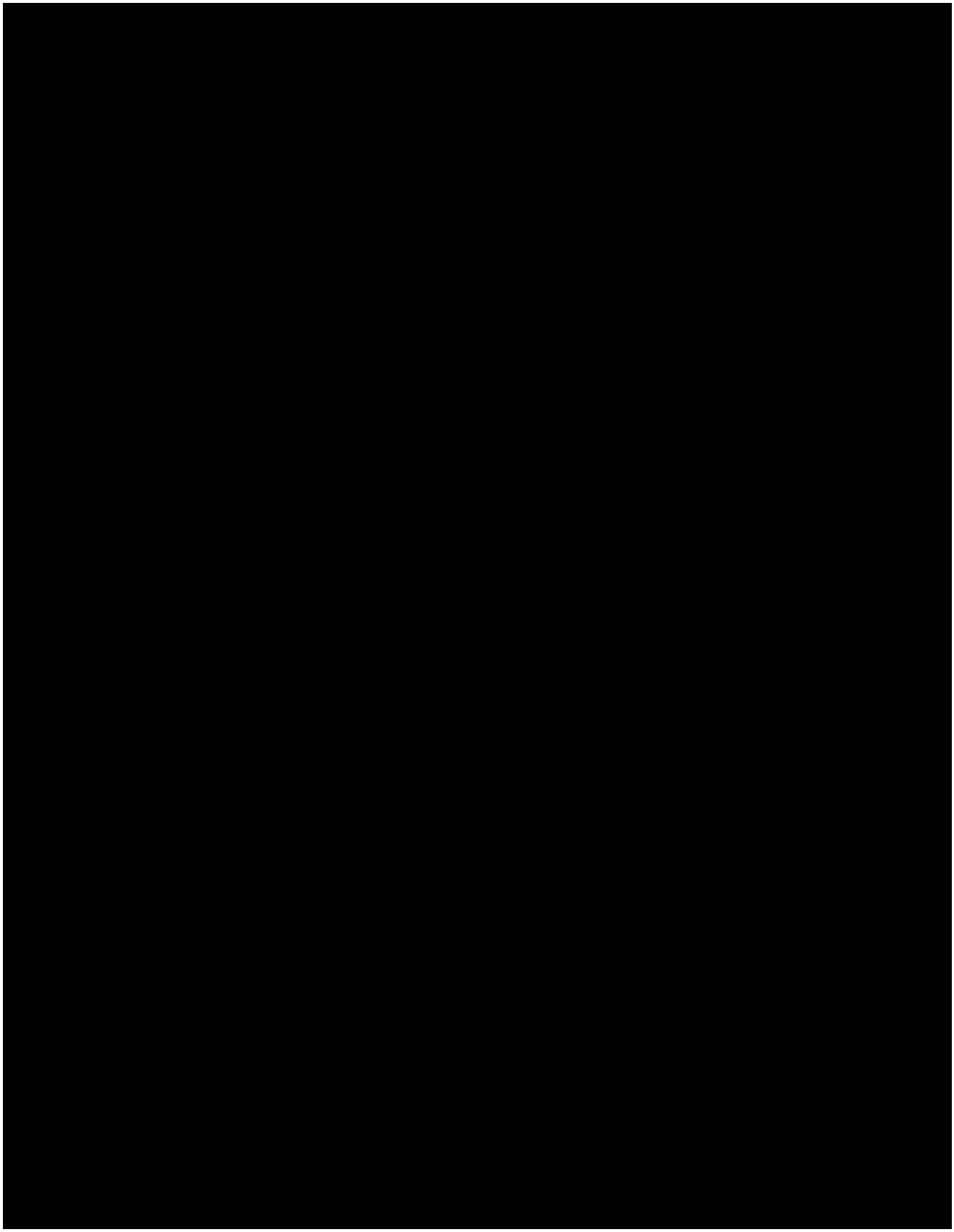
Please refer to the OP32C Scope section of this spot report and to PMOC's separate OP 23 review report for commentary and analysis of ROW costs.

SCC 70 – Vehicles

The purchase of BART's fixed price contract for the procurement of 70.02 Heavy Vehicles has an option expiration date in April 2024. If contracts are not agreed upon and signed, the vehicle price could increase substantially from the estimated $201 M. The PMOC finds that the allocated budget for the vehicles is sufficient, but action needs to be taken immediately to exercise the purchase option at the agreed fixed price.

SCC 80 – Professional Services

For the Entry to Engineering submission, the Professional Services SCC costs have increased by nearly 49% to over $2.4 Billion. The Sponsor has increased wages for staff for design, construction, and program management. "SCC 80 Details" was submitted by VTA and is a workbook that includes staffing, durations, how interaction and collaboration between BART and VTA will look like among staff. It also includes specific roles mapped to include GEC, PMT, and CM positions. Following is a chart that summarized the FTEs planned by the Sponsor in the Basis of Estimate.



4.5.7 Cost Associated with General and Supplementary Conditions

The Sponsor's estimate backup accounted for the General Conditions as a series of individual line items and markups within each contract package pricing. The breakdowns provided included expected costs such as labor burden, subcontractors cost, contractor-insurance programs, union scale burdens, and other contractor fees. With the size and maturity of the project, the level of allowances provided for the General Conditions are sufficient at this time. Division 1 costs are a time-related expense. These items have been reviewed and adhere to rough schedule durations for CP1, CP2, CP3, and CP4.

The estimate assumes that the construction work will be performed by the selected contractors. The estimate includes:

- Prime contractor's general condition work, such as scheduling, storm water control, traffic control, quantity control, construction safety monitoring, and related work.
- Prime contractor's field overhead, such as the costs related to the prime contractor's field management, supervision, engineering, quality control, project controls, clerical, and administrative staffing.
- Prime contractor's home office overhead.
- Prime contractor's profit.

Estimates for general condition costs were developed using a bottom-up contractor method and were largely time-dependent costs. Each general condition was developed based on the schedule for that scope of work. The prime contractors' profit was evaluated as a percentage markup on the sum of the direct and indirect costs associated with that prime contractor's contract. These general conditions have been submitted with each pricing package in the detailed files. Below is a snapshot of some of Division 1 costs for CP4.

4.5.8 Contingencies

Allocated Contingency

Allocated contingency is expressed as a percentage of the estimate construction cost by SCC. The following Table 16 shows the allocated contingency included in the estimate by SCC category. A more detailed discussion on Contingency appears in the OP 40 section of this report.

Current FTA standards for required contingency are as follows (excerpt from OP 40 dated March 2022):

- At nominal 15% design level, 40% contingency
- At nominal 30% design level, 33% contingency
- At nominal 60% design level, 26% contingency
- At nominal 95% design level (pre-bid), 20% contingency
- At nominal 100% design level (post-bid/construction start), 13% contingency
- At nominal 20% construction completion, 9% contingency
- At nominal 50% construction completion, 7% contingency
- At Revenue Service Date (RSD), 1% contingency

The project is at a 30-40% level of design completion, with the contract packaging planned for a combination of Design-Build and Design-Bid-Build project delivery method. Based on the OP 40 guidance, the PMOC concludes that the base project estimate should include 30-33% contingency. The October 5, 2023, SCC workbook indicates that the project has a combined allocated and unallocated contingency of 31.97% as calculated by the SCC workbook for allocated and unallocated contingency applied to SCC 10-50 totals and shown in Figure 11.

Figure 11 Unallocated Contingency Applied to SCC 10-50

12 CONTINGENCY

Table 16 is an overall summary of contingency allowances and basis included in this estimate. The respective sections in this document provide the specific contingency allotments for each element. Refer to APPENDIX A - Draft SCC Workbook for contingency values.

Table 16 – Contingency allowances

SCC	Contingency	Notes
SCC 10-50		
Systems	20%	Balanced contingency approach (Design progression)
Newhall Yard	20%	Balanced contingency approach (Design progression)
Stations	20%	Balanced contingency approach (Design progression)
CP2	20%	Recommendation from IC
Diridon, Owner Utilities, MMRP related	15%	Assumed
SCC 60		
ROW	48%	From VTA Real Estate
SCC 70		
Vehicles	5%	From VTA / Carried since Expedited Project Delivery
SCC 80		
VTA, PMT, GEC, BART, CM, Insurance, Other costs	5%	From VTA / Carried since Expedited Project Delivery
KST Design	0%	Lump-sum commitment
SCC 10-80 (net)	**16.2%**	**Excluding expenditures to date**
SCC 90		
Unallocated Contingency	18.7%	Based on RCMP (excl. expenditures to date)
SCC 10-90 (net)	**34.9%**	**Excluding expenditures to date**

[redacted]

Regarding pricing for CP2 - escalation, design contingencies, and construction contingencies normally used by an agency have not been carried out in the base cost estimate. These are carried in YOE dollars. However, the independent cost estimator included 7% contingency to the total direct cost under the Indirect Cost category (which is typical for tunnel contractors to carry in bids of this magnitude), which was removed by VTA to provide the Sponsor's stripped base cost estimate.

Market risk is generally absorbed as DB pricing is typically competitive. Market risk is relatively standard when comparing a DB to DBB contract. Contingency required is 20%.

Regarding SCC 90, unallocated contingency is intended to cover the engineering, bid, and construction risks that cannot be allocated to specific SCC codes. It is also intended to cover those unknowns that cannot be reasonably anticipated, but nonetheless are prudent to include for risk-informed budgeting purposes. VTA's RCMP outlines the overall YOE cost for SCC 90 at the 65% percentile.

4.5.9 Escalation and Inflation Review

The PMOC reviewed the Inflation tab within the SCC New Starts Workbook and accompanying project documentation. The PMOC researched rates specific to the Bay Area and suggests applying rates closer to what is found in CCI, AtkinsRéalis CDI, ENR, and BLS reports, all indicating 4-7% or higher. These escalation rates can begin to taper to baseline rates of 3.5% in approximately 3 years' time.

PMOC's findings and recommendations regarding escalation are documented in Section 2.6 of this spot report.

4.6 Conclusions and Recommendations

If VTA wants "leading" tunneling rates achieved, they can't expect to train only local talent and will pay above average base rates if not premium rates. [redacted]

In general, the PMOC recommends creating documents that are easily traceable to connect higher levels of cost activities with corresponding labor, material, etc. Costs that can be verified by a third party. Going forward, this will internally assist in project controls for each Contract Package.

The review results should help the Sponsor with decisions regarding the level of cost control measures, appropriateness and reasonableness of contingency provisions, and mitigations required; in addition, the results will assist FTA with decisions regarding project advancement and funding.

5.0 OP 34: PROJECT SCHEDULE REVIEW

This section summarizes the PMOC's review of the Sponsor's development of the schedule.

5.1 PMOC Review

The IMPS has been developed as a Critical Path Method (CPM) schedule per the Project scope identified in the PMP and the Basis of Design report, along with input and verification of Project scope from team leads.

5.2 Schedule Management Review

5.2.1 Organization

The BSVII MPS is a collaborative effort that has been developed and is managed by VTA's Consultant Team, which is described in the PMP and in the Management Capacity and Capability Plan. To maintain and regularly reflect progress in the schedule, assigned technical leads from VTA, BART, VTA's Consultant Team, and other consultants and contractors regularly participate in providing input for monthly schedule updates and other impacts or changes to the schedule.

Scope, schedule, and cost variables on the Program are interdependent. VTA BSVII has established policies, procedures, and plans to ensure appropriate controls are set in place to manage the Program scope, schedule, and budget. Section 4.3 (Cost and Schedule Control Procedures) of the PMP provides the basic framework for the development and management of the MPS on a regular basis.

To ensure reporting consistency as outlined in the Cost and Schedule Control Procedure, contract language requires that the program WBS be implemented to the work package level and cost accounts be followed to the location level by all contractors and consultants. Changes to the Baseline Scope and accompanying Baseline Schedule/Budget will follow the process as outlined in the Project Change Request Procedure.

It seems there is one person in the planning position and one scheduler putting that planning into the schedule. As the contractors are being brought on board additional schedulers could be required. To date many technical errors have been found in the schedules submitted as it appears a quality check is not being performed.

5.2.2 Systems, Tools, and Software

The Program has been set up around a WBS that extends through various aspects of the Program as outlined in the Cost and Schedule Control Procedure. The schedule is built based on the approved configuration and follows the contracting planning document. The MPS is based on the rolling wave methodology of defining the schedule in greater detail as it unfolds.

The activities in the Level 5 WBS Contractors' Schedules are used to update the MPS. Additionally, the schedule is coded by several separate values, such as: Work Area, Location, Structure or Structure Type, etc.

The schedule was developed in Primavera P6 Professional Project Management. Primavera P6 is also the software used to maintain the schedule. The GEC and Contractors are required to implement a WBS that is complementary to, and aligns with, the Program WBS. Software settings in the Primavera P6 are set properly for the DCMA 14-point schedule assessment.

Where applicable, the control level schedules are submitted by the respective contractor/consultants based on the Program's WBS and cost account structures defined in their respective contract specifications document. After control level schedules are received from the contractors/consultants, Program Controls staff check for impacts and schedule conformance to the contract specifications before updating the MPS. Impacts will be addressed through the process identified in the Cost and Schedule Control Procedure. Control schedules not conforming to the contract specifications will be returned to the respective contractor/consultants for resubmission.

5.2.3 Project Control Plans, Procedures, and Contractual Requirements

VTA's Consultant Team maintains the CPM schedule and performs schedule revisions and monthly schedule updates through a collaborative process that allows VTA to maintain overall control of the schedule.

Monthly schedule reports are provided for schedule control needs and external reporting deliverables. Detailed schedule dashboards and reports will be generated monthly in conformance with VTA formal requirements.

The MPS will be updated through the end of the previous month with schedule update reporting due by the 20th of the current month. VTA's Consultant Team and VTA staff are responsible for this effort, with input from other responsible leads on schedule revisions and information on the status and progress of the schedule activities. Various consultant and contractor schedules are received, reviewed, corrected if needed, and approved updates are then added to the MPS. Working meetings with responsible leads and Project Controls staff are held to address comments every month. A similar process will be followed for receiving updates from the contractors of the Contract packages. A monthly schedule narrative, including various schedule reports, is then prepared, and distributed at the end of the month.

Where applicable, the control level schedules are submitted by the respective contractor/consultants based on the Program's WBS and cost account structures defined in their respective contract specifications document. After control level schedules are received from the contractors/consultants, Program Controls staff check for impacts and schedule conformance to the contract specifications before updating the MPS. Impacts will be addressed through the process identified in the Cost and Schedule Control Procedure. Control schedules not conforming to the contract specifications will be returned to the respective contractor/consultants for resubmission.

5.3 Technical Schedule Review

The following section describes the BSVII project schedule level of detail for activities in the various project phases.

Project Development Phase

The planning and environmental activities were completed with the issuance of the ROD by the FTA in June 2018. The schedule must have detail entitlement, planning and environmental tasks associated with the NEPA process, public involvement, FTA requirements and roadmap to support Sponsor request to enter the Engineering phase. Ongoing environmental and permitting work is reflected in the current schedule update. This includes project wide milestones such as for Contaminant Management Plan (CMP) and Remedial Action Plan (RAP).

Engineering Phase

The current BSVII contract packaging strategy anticipates delivery under four contract packages. The four contract packages are as follows:

- Systems
- Tunnels/Track
- Underground Stations
- Newhall Yard and Santa Clara Station

Continuation of planning phase tasks plus Engineering phase tasks, value engineering, third party agreements, utility provider coordination, initial development of real estate acquisition planning, permits, agreements and approvals, FTA requirements and roadmap to support Sponsor request to enter the Full Funding Grant Agreement Phase. Engineering, procurement, bid and award, construction, system integration and startup and testing, and contract closeout tasks are summary in nature but with enough detail to identify interface points among tasks and phases, with justification for estimated durations and sequences. The Basis of Schedule should clearly document all schedule assumptions and increase in detail and succinctly match the assumptions indicated in the Basis of Estimate for the project budget.

Bid-ready engineering design for designated contract packages shall be ready between Q4 2024 to Q1 2025, depending on the contract package. Engineering assumptions that informed the design schedule portion of the MPS include:

- All milestones will be met.
- Development of further design deliverables will be produced through DBB delivery for CP1, CP3, and CP4. The design production schedule for each contract package will be established to meet the construction milestones in the IMPS.
- Development of the design to 100% Plans, Specifications and Estimates for DBB contract packages will be produced by the GEC on time, with verification of the design by VTA's Program Management Consultant.

Full Funding Grant Agreement or Small Starts Grant Agreement

The activities within the Program Management and Administration schedule for FFGA are indicating completion as of October 25, 2021. In the Summary schedule EPD Program LOI Issue has an actual completion date also of October 25, 2021.

Continuation of Engineering phase tasks plus construction phase, long-lead procurement items, contract packaging strategies, contract delivery method strategies (PDB, DBB), safety and security, risk assessment tasks, PMP and sub-plan development and review Are included. There are schedules for third party agreements, real estate acquisition, utility relocations, Advertise, Bid and Award, Construction, and Testing and Commissioning. The schedules do not include any activities for Contract Closeout.

5.3.1 Mechanical Soundness Check

Schedule Breakdown Structure (SBS) – The Master Program Schedule (MPS) consist of 13 schedules:

a. Program Management and Administration
b. Right of Way
c. Design
d. Advertise, Bid & Award
e. Utilities
f. Third Party
g. Vehicles & Parking
h. Testing and Commissioning
i. Summary
j. Systems
k. Contract Package 2
l. Yard/SC Station
m. Underground Stations

Hierarchical Structure – The Work Breakdown Structure (WBS) was set up as follows:

P0509.01.S17017.AB.CD.EF
Where the Level 0 – P0509 is the project
Level 1 – 01 is the Work Element
Level 2 – S17017 is the Contract
Level 3 – AB is the Task
Level 4 – CD is the Sub-Task
Level 5 – EF is the Work Package

The above WBS is presented in the Basis of Schedule (BOS) however the WBS in the schedule does not follow this structure. The WBS built into the schedule covers all the required pieces of the contract and does leave room for additional scope that might be added.

SCCs are not identified in the schedule.

The construction schedules are the only schedules within the project that have project calendars. The remaining schedules are utilizing global calendars. The calendars assigned did not line up to the work schedules identified in the BOS. Even though the schedules contain 6 calendars, only two calendars are being used, the BSVII-5 Day Calendar w. Holidays and 7-Day Work week.

There is no resource or cost loading in the schedule Resource loading is required for FFGA.

Software Settings –

The schedule critical path has been calculated from the activity sequencing to determine the tasks that define the longest path schedule duration necessary to complete the Program. The overall critical path for the program runs primarily through the CP2 Tunnel/Track contract package until it shifts to the Underground Stations then Systems installation and testing activities starting in June 2034. Procurement of the TBM, and tunnel mining, are all critical path activities. Subsequently, the critical path shifts to completion of the DTSJ underground stations concrete work, and then to DTSJ station systems installation and testing.

The schedule file log is indicating 76 activities with constraints, 14 activities without predecessors, 105 activities without successors, 54 activities on the critical path and 2799 activities that are not on any float path.

Near critical path activities in CP2 Tunnel and Trackwork contract are mainly at the West Portal. It starts with Early Work Package (EWP) 3 Enabling Work, followed by the construction of the TBM Tri-Cell Launch Structure and the Cut & Cover walls. EWP11 that is providing TBM temporary power is also near-critical.

PMOC identified numerous relationships that should be assessed by VTA before any new baseline schedule is adopted.

- There are open ended activities within the schedule that require either predecessors or successors.
- There are relationships with positive lags.
- There are odd relationships such as Start to Finish.
- There are relationships with multiple logic relationships which are not Start-to-Start (SS) & Finish-to-Finish (FF) pairs.
- There are LOE activities with non-standard relationships such as Finish-to-Start instead of a FF.
- There are activities with constraint starts instead of logical starts.
- There are activities with predecessors but no start relationships.
- There are activities with successors but no finish relationships.

Some of the float values are extremely high due to the issue with open ends. While other activities have high float values even with both a predecessor and a successor. However, the majority of the float values are reasonable but could be reduced with additional details added to the schedule.

5.3.2 Fundamental and Reasonable Soundness Check

PMOC characterizes this new baseline schedule as not containing the appropriate level of detail for a project of this size and complexity that is well into design and is negotiating construction work packages with a progressive design builder. The schedule contains activities which identify the required work for the scope of the work. However, many of the activities are extremely high level with large durations. There are 781 activities with durations over 30 working days. Of these there are 309 with durations greater than 100 working days. A typical schedule shall not have

durations over 20 working days. If there was increased detail the activities with high durations would be reduced.

The schedule does not contain intelligent activity IDs so from looking at the activity IDs, it is impossible to tell which of the 13 schedules the activity is contained in. Also, there are no locations within the activity names and the activity names are not unique.

The schedule has been broken out into 12 different parts, Program Management and Administration, Right of Way, Design, Advertise, Bid & Award, Utilities, Third Party, Vehicles & Parking, Testing and Commissioning, Systems, Contract Package 2, Yard/SC Station, and Underground Stations. Within each of these parts there are other sub parts. Schedule appears to contain all required scope for the environmental documents however, there appears to be a lack of activities with durations and relationships.

There is a section for Project wide CMP and RAP. All the activities in this section of the schedule are indicating 100% complete as of 15JUL2021.

There is a section in the Program Management and Administration schedule to cover the Environmental Tasks. It includes both preparation time and review and approval times for the NEPA and CEQA. However, once the FTA Comments are resolved the remaining activities are milestones with constrained dates.

The ROW schedule contains all the parcels required for take or easement as known at the moment. The design schedule has subsections for Program Wide, Systems, Newhall Yard and Maintenance Facility and Santa Clara Station and then for Station and Support Facilities'. The Advertise, Bid & Award schedule has sections from RFP to Notice to Proceed (NTP) for the three remaining contracts.

The Utility schedule has two main sections, Owners and TBM. The owner section shows both Design and Construction for each of the different Utility owners at each location.

The Third-Party schedule is broken down by the different third parties and permits and agreements. These are very high-level activities with large durations and not much detail.

The Vehicles & Parking schedule has three different sections, Vehicle Operations, Cinnabar Parking Building and Salt Pond. Vehicle Operations contains only three activities with high durations and no detail. Cinnabar Parking has two activities, one for construction and a milestone for “Complete Construction”. Salt Pond has two subsections each with three activities with large durations and little detail.

Contract Package 2 is probably the most detailed of the schedules as the contractor has had input into the building of this schedule.

Yard/Santa Clara Station is broken out into four phases. Each of these phases is then subdivided into much smaller sections covering Station, Parking Structure, Maintenance Shop, Maintenance Facility, Wheel Turning Facility Repair Platform, Fueling, Window Replacement Platform Cleaning Platform Ductbank, Mainline Track and Transfer & Yard Track.

Underground Stations has four subsections, Diridon, Downtown San José, 28th Street, and Fit Out & Close Out. Then each of these sections is subdivided out into smaller sections.

Systems is divided into Santa Clara Station & Newhall Yard, Tunnel – West Portal, DTSJ, Tunnel – DTSJ – East Portal, Diridon, DTSJ, 28th /LP, East Portal to Phase I Tie-In and Testing Commissioning (Mainline and Yard). As with the other contracts this is then subdivided up into additional sections.

Testing and Commissioning only has three activities. It is lacking detail that should be included before FFGA.

There are 781 activities with durations over 30 working days. Of these there are 309 with durations greater than 100 working days. A typical schedule shall not have durations over 20 working days. With there being no resourcing or crew information and very little information on production rates, durations are difficult to validate. CP2 is the only schedule there are some production rates.

Review and approval times have been built into the schedule logic as have agreements and funding times. However, details are lacking, and the timing may be inadequate. There is a section in the Program Management and Administration schedule to cover the Environmental Tasks. It includes both preparation time and review and approval times for the NEPA and CEQA. However, once the FTA Comments are resolved the remaining activities are milestones with constrained dates.

In the Program Management and Administration schedule there is a milestone for FTA Issue Readiness for Engineering Report. The predecessor to the Readiness for Engineering Report is the Risk Assessment Refresh/Workshop which is also a milestone activity. The FFGA has four activities in the Program Management and Administration schedule. Two are milestones and two are task activities with durations. The tasks are for Development and Approvals. The development activity has a constraint finish date. The Program Management and Administration schedule contains one activity for LONP. This activity has an actual completion date of 15NOV22. There is an activity for the FTA Risk Assessment Refresh/Workshop in the Program Management and Administration schedule. It is a milestone and has a date in the past, 09NOV23.

There are no activities in the overall schedule for the PMP. The BOS gives an explanation on how the durations were created and also states the durations are be updated each month as part of the schedule update process for ongoing activities. Future activities may be adjusted based upon the progress of the schedule and a better understanding of the nature of the upcoming activities. Contingency has been built in the schedule by the use of contingency activities. There are 14 contingency activities in the schedule, 2 in Utilities, 11 in CP 2, 1 in Systems and 1 in Testing and Commissioning. The BART Operation Control Center (OCC) Validation contingency duration in the Testing and Commissioning schedule is double of the BART OCC Validation testing. CP 2 is the only section that has a contractor on board. The contractor did have input on the CP 2 schedule.

The sequencing and the logic in the schedule follow the sequence of work as laid out by VTA. Once the schedule has additional detail and contracts 1, 3 and 4 are bid with the contractors on board there might be a chance to optimize the schedule. As there is no resourcing in the schedule at this time it is not possible to verify durations for the tasks. There are activities for the temporary

work and the possible construction constraints. The Tunnel Boring Machine is clearly identified in the schedule. There are activities in contracts 1 and 3 for long lead items. The constraints should be analyzed for the possibility of reducing constraints by using relationships. The critical path is logical the way it is identified in the schedule. It appears that some of the milestones might be aggressive and with existing knowledge a bit late. That does not mean that the remainder are unachievable.

The sponsor has included activities for their contingency. There are contingency activities in the following schedules, Utilities, Contract Package 2, Systems (Contract Package 1), and Testing and Commissioning.

5.4 Schedule Contingency

Schedule contingency is addressed in the OP 40 section of this spot report.

5.5 Readiness to Perform OP 40 Schedule Risk Analysis

A listing of technical concerns was forwarded to the sponsor for corrections such as open-ended activities, out-of-sequence activities, no start/finish relationships, incorrect calendars, and unusual relationships. See **Appendix N** for the detailed list of issues identified and corrected. The sponsor made corrections to the schedule and resubmitted. After PMOC determined the items were mostly corrected, the schedule was adequate for the risk workshop analysis.

5.6 Conclusions and Recommendations

In conclusion the integrated project schedule covers all the scope required.

The schedule needs additional detail in order to reduce the high durations and to give a better understanding of the sequencing of work.

The use of lags should be reviewed as a great number of large lags are being utilized.

Every schedule submittal shall have unique project naming so as to be able to identify when each submittal was made.

The WBS structure presented in the BOS is detailed enough to understand what work and contract is being performed, but the WBS in the schedule does not follow this structure. Before FFGA the WBS in the schedule should be made consistent with the WBS presented in the BOS.

The SCC should be added to the schedule as a project code so that the cost and the schedule can be aligned.

During the engineering phase, prior to FFGA, the Sponsor should investigate schedule optimization opportunities related to overlapping CP1 systems installation work with CP2 completion of work.

6.0 CONCLUSIONS

6.1 Risk

VTA is an experienced transit capital project organization with recent experience with the development of the BSVI or Phase I of the Silicon Valley extension. This experience has benefited this Phase II project with a firm basis to project development. The PMOC team has identified this experience in many of the project plans and documents reviewed in this risk assessment. There are however multiple aspects of these that require improvement and greater detail both before Entry to Engineering and in the following Engineering Phase to prepare for a Full Funding Grant Agreement.

6.2 Scope

The PMOC has formulated an opinion based on the review of current design plans and technical reports, key staff interviews, as well as technical and risk workshop meetings. It is the PMOC's opinion that the Project Scope is sufficiently defined for Entry into Engineering and has been captured completely in the new baseline schedule and cost estimate.

The Contract packaging used for this project is appropriate for this type of heavy construction.

Although PMOC has noted deficiencies in the BSVII Project Management Plan (PMP) documentation, it is PMOC's opinion these documents sufficiently define BSVII management to support the PMOC cost and schedule reviews and risk assessment.

There are some elements of the PMP documentation that may impact readiness to enter engineering and need to be addressed in a PMP update prior to Entry to Engineering. Other elements can be addressed in future updates prior to Full-Funding Grant Agreement (FFGA).

The current key vacant positions (Program Director and Construction Director) are critical to fill for VTA to deliver the project.

The Rail Systems Organization (RSO) includes BART staff, VTA staff and VTA consultants. The PMOC's interviews of key BSVII staff from BART and VTA indicated that VTA and BART staff intend to work together to achieve a successful implementation of BSVII, but they also revealed that there are some differences in BART and VTA understanding of BART staff role and authority in the review and approval process during (Engineering, Construction, Testing and Start-up).

While VTA lacks the experience of implementing a PDB project delivery as an organization, their consultant team has exposure to it and their project consultant team has used this delivery system on other projects of lesser size and complexity.

6.3 Cost

The PMOC finds that the BSVII Cost Estimate has been developed to the necessary level of detail for this phase of the project. The estimate has the cost basis and build up process suitable for cost tracking as the project moves into the Engineering phase. The PMOC's cost review highlights that there are issues in the cost estimate that need to be improved but do not affect the cost basis to this

risk review and risk model inputs. The recommended adjustments to the cost estimate are for an increase to the escalation rates and for costs associated with schedule extensions.

6.4 Schedule

The PMOC finds that the BSVII Schedule is developed to a reasonable detail for this phase of the project. The schedule is not resource loaded but is suitable for project management and tracking as VTA proceeds into the Engineering phase.

The schedule has a high number of long duration activities which can impede the project controls staff from understanding and monitoring of the sequencing of work.

The WBS structure presented in the BOS is detailed enough to understand what work and contract is being performed, but the WBS in the schedule does not follow this structure.

7.0 RECOMMENDATIONS

7.1 Risk

While the PMOC found the RCMP document to be complete, there were several recommendations to improve the RCMP and transition it from a risk process document to an BSVII specific project development document that includes the implementation of this process within the project management plan during project development.

Risk Manager responsibilities do not include reporting status to project management meetings. VTA should better integrate the risk management process during design and construction with the ongoing project management process. VTA should also consider defining independent reporting by the Risk Manager to the newly established Board of Directors BSVII Steering Committee or to the Auditor General in their function related to informing that committee.

Mitigations in the risk register are more methods to manage risks rather than mitigate to resolve the risk. Mitigations should be developed for each risk and initiate efforts to minimize their impact.

The risk register uses generalized cost and schedule impact categories. This is fine for register, but impacts should have cost and schedule basis. VTA should then incorporate baseline cost and schedule-based impact estimates within the risk register to support project tracking, contingency allocation and mitigation purposes. The impact categories are effective for the general management process to establish priorities, but the implementation of mitigation efforts and their decisions need clearer cost and schedule estimates. VTA should prepare action plans within the risk register higher risks with more detailed cost and schedule impact and mitigation estimates that are more oriented toward risk mitigation. These estimates should have a basis within the cost and schedule estimates to support the mitigation decisions.

Provision for budgeting contingency funds to mitigate risk has not been included. This should be included in the risk register as an approach to fund the mitigation plans with contingency funds can reduce risks.

The RMCP does not have a clear plan for the use of contingency. VTA should develop revised drawdown curves and prioritized process to assign contingency and incorporate the funds into the RCMP to match project mitigation goals. VTA should update the RCMP to include cost contingency monitoring on a regularly scheduled basis. As part of the engineering phase, VTA needs to complete the contingency management process and include it within the project management plan for implementation.

With the size of the project in dollar value and the tunnelling approach taken for the alignment, secondary mitigation would be prudent. Since the main design-bid-build contracts have not been initiated yet and the Progressive Design-Build procurement strategy for the tunneling contract is not in final price agreement, the timing is advantageous to identify options for the contracts that can serve as secondary mitigation opportunities should cost escalation exceed the contingency levels. Although not required, it is suggested that VTA develop a secondary mitigation strategy with designated options for each of the construction contracts.

Consistent use and application of risk assessment criteria for schedule impact. The VTA risk register utilizes one scale and the RCMP references a different scale.

Corroborate the varying schedule references for SABS RSD Date (ranges from September 2034 to November 2034) and provide consistency across all documentation.

Further develop and clearly present realized savings and potential risk opportunity savings as a result of Value Engineering initiatives being incorporated into the FFGA design and estimate.

Review program CPM schedule to ensure activity work sequencing represents planned delivery approach. Ensure Sponsor's FFGA baseline schedule reflects any and all logic changes that would impact work sequencing to deliver the program.

Increase risk focus on CP3 and CP4.

Clearly present KST (CP2 contractor) risks and impacts.

7.2 Scope

VTA indicated in their memorandum that as a result of implementing some VE solutions, certain elements will not be advanced to 60% prior to the FFGA design submission milestone. PMOC recommends that prior to FFGA, VTA clarify how 60% design packages will reflect and/or exclude those elements identified as "running behind" at FFGA submission due to VE initiatives and how they are being accounted for in the FFGA estimate.

PMOC recommends the Build Main tab of the SCC Workbook be revised prior to VTA's request for Entry to Engineering to include quantities. (Quantities had been included in earlier submittals, but the last revision to the workbook "SCC-New_Starts-Programwide_CY_11-17-2023" did not include the necessary quantities)

PMOC also has the following scope related general recommendations:

- Environmental re-evaluation must be complete and approved by FTA.
- Finish the Contract Implementation Plan draft in progress.
- Finalize the draft Constructability Review Report.
- VTA has implement their property procurement for a total of 75 parcels with appraisals completed on 59 parcels, offers made on 58 parcels and purchase agreements signed on 22 parcels with possession obtained on 25 parcels. PMOC recommends that the remaining parcels be appraisals be completed on the remaining 16 parcels as quickly as possible to minimize any increased in property value and subsequent ROW & Easements procurement cost increases.
- Expedite the CP2 contractor's utility relocation/protection plan to identify and verify any changes in scope.
- Verify that rigorous clash detection occurs through the 3-dimensional digital modeling tools during the development of the Underground Stations from the current design level to level of design that ensures that the technical specifications are well-defined and

sufficient to meet FFGA requirements. This should be closely coordinated with both CP1 – Rail Systems and CP2 – Tunnel and Track.

- Clarify the VE status as a full program not as elements of CP2 versus GEC designs. Document what has been implemented in the scope and how it has been addressed in the cost estimate as well as what remain as VE options for further evaluation.

7.3 Cost

PMOC recommends creating cost estimate back up documents that are easily traceable to connect higher levels of cost summary activities with corresponding labor, material, etc., unit costs. These traceable relationships should be demonstrated in the Basis of Estimate. Not only will this facilitate a timely FFGA readiness review but will also internally assist in project controls for each Contract Package during VTA's implementation.

7.4 Schedule

The schedule needs additional detail in order to reduce the number of high-duration activities and to give a better understanding of the sequencing of work.

The use of lags should be reviewed and reduced.

Every schedule submittal shall have unique project naming so as to be able to identify when each submittal was made.

Before FFGA the WBS in the schedule should be made consistent with the WBS presented in the BOS. The master project schedule needs to be resource loaded prior to FFGA.

Remove ROW buffer from schedule and introduce appropriate logic and durations that will better drive the early and late start and finish dates of ROW acquisition activities for construction.

The SCC should be added to the schedule as a project code so that the cost and the schedule can be aligned.

During the engineering phase, prior to FFGA, the Sponsor should investigate schedule optimization opportunities related to overlapping CP1 systems installation work with CP2 completion of work.

Appendix A: Table of Acronyms

Appendix B: List of Documents Reviewed

Appendix C: One Page Summary of Risk Assessment

Appendix D: VTA SCC Workbook

Appendix E: Risk Workshop Agenda, Presentation, and Attendees

Appendix F: OP 32C Checklist

Appendix G: PMOC Evaluation Team Member and qualifications

Appendix H: BSVII Risk Register

Appendix I: Risk Mapping to Schedule Activities

Appendix J: Project Cost Estimate Classification

Appendix K: PMOC SABCE

Appendix L: VTA Proposed Work Sequence Changes

Appendix M: Status Between New Baseline and November 2023 Schedule Update

Appendix N: Fundamental Corrections to Schedule

Appendix A: Table of Acronyms

AACE	Association for the Advancement of Cost Engineering
ADA	Americans with Disabilities Act
BART	Bay Area Rapid Transit
BCE	Base Cost Estimate
BCI	Building Cost Index
BIM	Building Information Modeling
BLS	Bureau of Labor Statistics
BOD	Basis of Design
BODR	Basis of Design Report
BOE	Basis of Estimate
BOS	Basis of Schedule
BSVII	BART Silicon Valley Phase II Extension
CAGR	Compound Annual Growth Rate
CBTC	Communication Based Train Control System
CCCI	California Construction Cost Index
CCI	Construction Cost Index
CDI	Construction Document Integration
CEO	Chief Executive Officer
CEQA	California Environmental Quality Act
CER	Cost Estimate Relationship
CIG	Capital Investment Grant
CMP	Contamination Management Plan
CMPO	Chief Mega Projects Officer
CP	Contract Package
CP1	Contract Package 1
CP2	Contract Package 2
CP3	Contract Package 3
CP4	Contract Package 4
CPM	Critical Path Method
DB	Design Build
DBB	Design Bid Build
DTSJ	Downtown San José
EBS	Estimated Breakdown Structure
EIS	Environmental Impact Statement
ENR	Engineering News Record
EOR	Engineer of Record
EPD	Expenditure Project Delivery
EWP	Early Work Package
FEIS	Final Environmental Impact Statement
FF	Finish to Finish
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FTE	Full Time Equivalent
GEC	General Engineering Consultant
IMPS	Integrated Master Plan Schedule
KST	Kinwai Shing Tung Joint Venture
LOI	Letter of Intent

LON P	Le er of No rej di e
L A	Lo a y preferred a erna ive
MCCP	Managemen Capa i y and Capabi i y
ME P	Me hani a , e e ri a , and p Pnbing
M S	Mas er rogram S hed Re P
NE A	Na iona Environmen a o i y A P
NT P	Notice to roceed
NYMF	Newha S orage ard and Main enan e Fa i i y
&M	pera ions & Main enan e
OCC	pera ion Con ro Cen er
O P	versigh ro ed re
DB P	rogressive Design B i d
G&E	acific Gas & Electric P
MOC P	roje Managemen versigh Con ra or
MP	roje Managemen an
RAMP	Rea Es a e A q isi ion and Managemen an
RA	Remedial Action lan
RCM	Risk and Con ingen y Managemen an
RF	Req es for roposa s
RFQ	Req es for Q a ifi a ions
ROD P	Record of Decision
RoM	Ro gh order of Magni de
ROW	Righ -of-Way
RSD	Revenue Service Date
RSO	Rai Sys ems rganiza ion P
SABS P	S ripped and Adj s ed Based S hed Re
SBS	Schedule Breakdown Structure
SCC P	S andard Cos Ca egory
SNH P	High voltage substation
SS	Start-To-Start
SSGA	Small Starts Grant Agreemen
TBM P	Tunnel-Boring Ma hine
TOD	Transit- rien ed Deve opmen
VE	Va e Engineering P
VTA	San a C ara Va ey Transpor a ion A Phori y
WBS	Work Breakdow Pn Structure
YOE P	ear of Expendi re

P

BSVII Document	Rev #	Rev Date	OP20	OP21	OP32C	OP33	OP34	OP40	Date Rec d
Report – Spoils Management Plan					X				7/7/2023
Report – Waste Management Plan					X				7/7/2023
Construction Transportation Management Plan					X				7/7/2023
Tunnel Space-Proofing Report					X				8/9/2023
Basis of Design Report					X				6/26/2023
Drawings - Volume 1 - Project Wide					X	X			6/26/2023
Drawings - Volume 2 - Facilities					X	X			6/26/2023
Drawings - Volume 3 - Track and NYMF					X	X			6/26/2023
Drawings - Volume 4 - Systems					X	X			6/26/2023
Drawings - Volume 5 - Reference					X	X			6/26/2023
Report - Basis of City Facility Design - Underground Stations					X				6/26/2023
Report - Basis of City of Santa Clara Facility Design					X				6/26/2023
Report - Basis of Newhall Yard Configuration					X				6/26/2023
Report - Basis of San Jose City Facility Design - NYMF					X				6/26/2023
Report - Design Criteria Manual					X				6/26/2023
Report - Fire Life Safety Report									6/26/2023
Report - Geotechnical Baseline Report					X			X	6/26/2023
Report - Geotechnical Data Report - Addendum I									6/26/2023
Report - Geotechnical Data Report - Addendum II									6/26/2023
Report - Geotechnical Data Report - Addendum III									6/26/2023
Report - Geotechnical Data Report - Addendum IV									6/26/2023
Report - Geotechnical Data Report - Volume I									6/26/2023
Report - Geotechnical Data Report - Volume II									6/26/2023
Report - Hydrogeologic Analysis for Station Design Support Memo					X	X		X	6/26/2023
Report - Obstructions Report					X				6/26/2023
Report - Passenger Circulation and Egress Report									6/26/2023
Report - Preliminary Geotechnical Engineering Report - 28th Street Garage									6/26/2023
Report - Preliminary Geotechnical Engineering Report - 28th Street Station									6/26/2023
Report - Preliminary Geotechnical Engineering Report - Diridon Station									6/26/2023
Report - Preliminary Geotechnical Engineering Report - Downtown Station									6/26/2023
Report - Preliminary Geotechnical Engineering Report - NYMF									6/26/2023
Report - Preliminary Geotechnical Engineering Report - Santa Clara Station									6/26/2023
Report - Preliminary Geotechnical Engineering Report - Systems									6/26/2023
Report - Preliminary Noise and Vibration Report			X		X				6/26/2023
Report - Preliminary Surface Water Hydrology and Hydraulics for Facility Design					X				6/26/2023
Report - Property Protection Study - 28th Street Station					X				6/26/2023
Report - Property Protection Study - Diridon Station					X				6/26/2023
Report - Property Protection Study - Downtown Station					X				6/26/2023
Report - Station and Tunnel Ventilation Report					X				6/26/2023
Report - Stations Segment Design Stray Current Mitigation/Corrosion Control Study (2006)									6/26/2023
Report - Stray Current Protection/Corrosion Control Study – Yard & Shops Segment (2006)									6/26/2023
Report - Traction Power Load Flow Study - Mainline									6/26/2023
Report - Train Control Block Design Headway Simulations					X				6/26/2023
Report - Value Engineering 10% Design Review Report			X						6/26/2023
Report - VTA Communications Backbone Network Design Report					X				6/26/2023
Specifications - Technical Specifications					X				6/26/2023
Basis of Design Report - Adits					X				6/26/2023
Basis of Design Report - Ancillary Buildings Architectural Portals					X				6/26/2023
Basis of Design Report - Ancillary Buildings Electrical Portals					X				6/26/2023
Basis of Design Report - Ancillary Buildings Fire Protection Portals					X				6/26/2023
Basis of Design Report - Ancillary Buildings Mechanical and Plumbing Portals					X				6/26/2023
Basis of Design Report - Ancillary Buildings Structures Portals					X				6/26/2023
Basis of Design Report - APDU3A - West Portal Initial Sitework					X				6/26/2023
Basis of Design Report - Civil					X				6/26/2023
Basis of Design Report - Internal Station Structures					X				6/26/2023
Basis of Design Report - Internal Track Structures					X				6/26/2023
Basis of Design Report - Noise and Vibration					X				6/26/2023
Basis of Design Report - PCTL					X				6/26/2023
Basis of Design Report - Property Protection Phase 1					X				6/26/2023
Basis of Design Report - West Portal Caterpillar Shaft SOE					X				6/26/2023
Basis of Design Report - Track					X				6/26/2023
Basis of Design Report - Tunnel Structures Portals					X	X			6/26/2023
Drawings - APDU3A - West Portal Civil					X	X			6/26/2023
Drawings - APDU3A - West Portal Utilities					X	X			6/26/2023
Drawings - APDU3C - West Portal U-Wall					X	X			6/26/2023
Drawings - APDU3C - West Portal Trench Stability					X	X			6/26/2023
Drawings - APDU3D - West Portal Caterpillar Shaft SOE					X	X			6/26/2023
Drawings - APDU20 - Bored Tunnel Alignment and Profile Roll Plot					X	X			6/26/2023
Drawings - APDU20 - Track Alignment and Profile Roll Plot					X	X			6/26/2023

BSVII Document	Rev #	Rev Date	OP20	OP21	OP32C	OP33	OP34	OP40	Date Rec d
Drawings - APDU20 - Track Clearance					X	X			6/26/2023
Drawings - D10 - Bored Tunnel					X	X			6/26/2023
Drawings - D15 - Tunnel Internal Structures					X	X			6/26/2023
Drawings - D25 - Diridon Station					X	X			6/26/2023
Drawings - D30 - Downtown Station					X	X			6/26/2023
Drawings - D35 - 28th Street Station					X	X			6/26/2023
Drawings - D40 - East Portal					X	X			6/26/2023
Drawings - D45 - West Portal					X	X			6/26/2023
Drawings - D50 - Emergency Ventilation System					X	X			6/26/2023
Report - APDU20 - Track Clearance					X				6/26/2023
Report - APDU20 - Track Alignment Data - S1 Track					X				6/26/2023
Report - APDU3A - Geotechnical Design Report Newhall Yard TSCD					X				6/26/2023
Report - APDU3A - West Portal Initial Sitework Stormwater									6/26/2023
Report - APDU3C - West Portal D-Wall SOE for U-Wall									6/26/2023
Report - APDU3C - West Portal Sheet Pile SOE for U-Wall									6/26/2023
Report - APDU3C - Independent Calculations for West Portal									6/26/2023
Report - APDU3C - West Portal Trench Stability Analysis Memo									6/26/2023
Report - APDU3C - West Portal Trench Stability Analysis Calcs									6/26/2023
Report - APDU3C - West Portal Trench Stability Dewatering									6/26/2023
Report - APDU7A - Property Protection Study Phase 2-4 - West Portal Early Works									6/26/2023
Report - APDU7B - Instrumentation and Monitoring - Project Wide									6/26/2023
Report - D05 - CP2 Geotechnical Engineering									6/26/2023
Report - D05 - Design Narrative					X				6/26/2023
Report - D05 - Property Protection Study Phase 2-3 - Tunnel and Interfaces					X				6/26/2023
Report - D10 - PCTL Design for Silver Creek Fault Zone					X				6/26/2023
Report - D15 - Adit and Tunnel Internal Structures Design									6/26/2023
Report - D50 - Ventilation - Underground Stations and Tunnel									6/26/2023
Report - Geotechnical Interpretive Report - West Portal SOE									6/26/2023
Report - West Portal Groundwater Control Design									6/26/2023
Report - Ground Motions for PTCL									6/26/2023
Report - Innovation Phase Engineering									6/26/2023
Report - Operational Noise and Vibration Control Plan					X				6/26/2023
Report - PCTL Design									6/26/2023
Report - Tunnel Spaceproofing					X				6/26/2023
Review Comment Summary - GEC Preliminary Engineering									6/26/2023
Review Comment Summary - KST Configuration Design									6/26/2023
Basis of Schedule	A	9/19/2023	X	X	X	X	X	X	10/11/2023
Schedule (.xer native file)	Jul-23						X		10/11/2023
Basis of Cost Estimate					X	X	X	X	10/11/2023
SCC Workbook (all tabs updated)		9/19/2023				X			10/11/2023
Program Estimate (pdf)						X			10/11/2023
Estimate supporting documents (pdf)						X			10/11/2023
Escalation Memo						X			10/11/2023
Risk and Contingency Management Plan (pdf update)	B	9/14/2023						X	10/11/2023
Risk Register (native file)								X	10/11/2023
Value Engineering Report (CONFIDENTIAL)					X				10/5/2023
BOCE Appendix F - CP2 Estimate Details and Final Summary.xlsx						X			10/17/2023
BOCE Appendix H - CP1 SABCE.xlsx						X			10/17/2023
BOCE Appendix I and Appendix L - CP3 and CP4 SABCE.xlsx						X			10/17/2023
BOCE Appendix K - Utilities.xlsx						X			10/17/2023
BOCE SCC 80 Details.xlsx						X			10/17/2023
BOCE Appendix B - GEC Estimate Labor Rates.xlsx						X			10/21/2023
BOCE Appendix C - GEC Construction Equipment Rates.xlsx						X			10/21/2023
BOCE Appendix J - GEC Reinforcing rates for CIP.xlsx						X			10/21/2023
BOCE Appendix M - GEC Material Pricing.xlsx						X			10/21/2023
BOCE CP2 - Independent Cost Estimate Detail Cost Report.pdf						X			10/21/2023
CP1 Estimate Details		7/10/2023				X			10/25/2023
CP3 Estimate		5/14/2023				X			10/25/2023
CP4 Estimate		5/14/2023				X			10/25/2023
SCC CP1 Workbook (Build Main and Inflation)						X			10/25/2023
SCC CP2 Workbook (Build Main and Inflation)						X			10/25/2023
SCC CP3 Workbook (Build Main and Inflation)						X			10/25/2023
SCC CP4 Workbook (Build Main and Inflation)						X			10/25/2023
Table of Contents for Cost Backup provided to date		10/25/2023				X			10/25/2023
ROW Requirements Plan									10/25/2023
ROW Strip Maps A/B/C									10/25/2023
ROW Schedule / Status report	R1	10/25/2023				X			10/25/2023
SCC 10-50 Master file						X			10/29/2023
SCC-New_Starts-10-5-23_schedule tab update						X			10/29/2023
FTA-PMOC_20231025rev Core Items List_VTA		10/27/2023				X			10/29/2023
SCC-New_Starts-excl CP1-CP2-CP3-CP4						X			10/29/2023
Table of Contents - Information shared to date_102723		10/27/2023				X			10/29/2023
SCC 10-50 Master file		10/30/2023				X			11/1/2023

BSVII Document	Rev #	Rev Date	OP20	OP21	OP32C	OP33	OP34	OP40	Date Rec d
TBM Purchase Order (between KST and Herrenknecht - Exhibit B to KST Amendment No. 001)		11/1/2023	X		X	X		X	11/2/2023
Revised New Baseline Schedule (same July data date)		11/2/2023					X		11/8/2023
Responses to PMOC 10/31/2023 comments on schedule							X		11/8/2023
Table of Contents - Information shared to date_111323		11/13/2023				X			11/13/2023
SCC 10-50 Master file_Rev_2_Calendar Year						X			11/13/2023
SCC-New_Starts-10-5-23_CY_11-10-23		11/10/2023				X			11/13/2023
CP1 Detailed Estimate Report - 11/7/23 Rev 4		11/7/2023				X			11/13/2023
CP3 Self-perform Detailed Estimate Report - 5/14/2023 Rev 1		5/14/2023				X			11/13/2023
CP3 Detailed Estimate Report - 8/9/23 Rev 1		8/9/2023				X			11/13/2023
CP3 Conveying Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP3 Santa Clara Station Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP3 Santa Clara Parking Garage Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP4 Self-perform Detailed Estimate Report - 8/9/23 Rev 1		8/9/2023				X			11/13/2023
CP4 Detailed Estimate Report - 8/9/23 Rev 1		8/9/2023				X			11/13/2023
CP4 Detailed Estimate Report for 28th St Station		5/2/2023				X			11/13/2023
CP4 Detailed Estimate Report for 28th St parking garage		5/2/2023				X			11/13/2023
CP4 Detailed Estimate Report for Diridon Station		5/2/2023				X			11/13/2023
CP4 Detailed Estimate Report for DTSJ Station		5/2/2023				X			11/13/2023
CP4 Conveying UG Stations Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP4 28th St Station Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP4 28th St parking garage Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP4 Diridon Station Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP4 DTSJ St Station Estimate spreadsheet report		5/10/2023				X			11/13/2023
CP4 Detailed Crew Analysis Report for DTSJ Station		4/14/2023				X			11/13/2023
Table of Contents - Information shared to date_111423		11/14/2023				X			11/15/2023
CP4 Detailed Crew Analysis Report for Diridon Station		8/20/2023				X			11/15/2023
CP4 Detailed Crew Analysis Report for 28th St Station		8/20/2023				X			11/15/2023
CP3 Detailed Crew Analysis Report for Santa Clara Station		8/20/2023				X			11/15/2023
CP2 Estimate Activity Level Excel File						X			11/15/2023
SCC 10-50 Master file_Rev_2_Calendar Year						X			11/19/2023
SCC-New_Starts-Programwide_CY_11-17-2023		11/17/2023				X			11/19/2023
SCC CP1 Workbook (Build Main and Inflation)						X			11/19/2023
SCC CP2 Workbook (Build Main and Inflation)						X			11/19/2023
SCC CP3 Workbook (Build Main and Inflation)						X			11/19/2023
SCC CP4 Workbook (Build Main and Inflation)						X			11/19/2023
SCC-New_Starts-excl CP1-CP2-CP3-CP4						X			11/19/2023
CP2 KST ICE crosswalk					X	X			11/19/2023
Claims Avoidance and Dispute Resolution Plan (Rev B Draft)			X	X				X	11/22/2023
Configuration Change Management Procedure (Rev B Draft)			X		X				11/22/2023
Construction Education and Outreach Plan (Rev B Draft)									11/22/2023
Construction Management Plan (Rev B Draft)			X						11/22/2023
Cost and Schedule Management Plan (Rev B Draft)			X			X	X		11/22/2023
DCM Addendum Procedure (Rev B Draft)			X	X	X				11/22/2023
Design Document Review Procedure (Rev B Draft)									11/22/2023
Design Management Procedure (Rev B Draft)			X		X				11/22/2023
Document Control Plan (Rev B Draft)									11/22/2023
Information Collection and Analysis Plan (Rev B Draft)									11/22/2023
Interface Management Plan (Rev B Draft)			X						11/22/2023
Mitigation Monitoring and Reporting Program (2 of 2)									11/22/2023
Operations Plan Report (Rev B Draft)									11/22/2023
Program Reporting Procedure (Rev B Draft)			X	X					11/22/2023
Project Change Order Management (Rev B Draft)			X	X					11/22/2023
Project Delivery and Procurement Plan (Rev B Draft)			X	X	X	X	X		11/22/2023
Quality Management Plan[i]									11/22/2023
Quality Management Plan[ii]									11/22/2023
Quality Management Plan[iii]									11/22/2023
Quality Management Plan[iv]									11/22/2023
Real Estate Acquisition Management Plan (Rev B Draft)									11/22/2023
Relocation Plan (REAMP Attachment)									11/22/2023
Request for Clarification Procedure (Rev B Draft)			X		X				11/22/2023
Request for Information Procedure (Rev B Draft)			X						11/22/2023
Requirements Management Plan (Rev B Draft)			X	X					11/22/2023
Risk Control Procedure (Rev B Draft)								X	11/22/2023
Submittal Review Procedure (Rev B Draft)			X						11/22/2023
Third Party Agreements Management Plan (Rev B Draft)			X						11/22/2023
Third Party Stakeholder Agreements Procedure (Rev B Draft)									11/22/2023
Third Party Utility Coordination Procedure (Rev B Draft)									11/22/2023
VTA Bus Fleet Management Plan (Rev B Draft)									11/22/2023
Craft Labor OT HCSS calculation check						X			11/30/2023
Construction Management Plan (Rev C Draft)			X						12/10/2023
Interface Management Plan (Rev C Draft)			X						12/10/2023
Quality Management Plan (Rev C Draft)			X						12/10/2023
Real Estate Acquisition Management Plan (Rev C Draft)			X	X	X				12/10/2023
Requirements Management Plan (Rev C Draft)									12/10/2023
Safety and Security Certification Plan (Rev B Draft)									12/10/2023

BSVII Document	Rev #	Rev Date	OP20	OP21	OP32C	OP33	OP34	OP40	Date Rec d
Safety and Security Management Plan (Rev B Draft)					X				12/10/2023
Systems Integration Test Plan (Rev B Draft)									12/10/2023
PMOC Comment Resolution Matrix Dec 8, 2023			X	X	X				12/10/2023
VTA's BSVII Entry to Engineering Readiness Documents List, Dec 8, 2023			X	X	X	X	X	X	12/10/2023
MPS_July 2023 Updates_11-29-2023		11/29/2023					X		12/11/2023
PMOC Schedule Clarifications Needed 11 29 2023		11/29/2023					X		12/11/2023
BSVII Design Maturity Memo 2023-08-11		8/11/2023			X				12/14/2023
Muck disposal assumptions in ICE memo		12/8/2023			X				12/14/2023
Estimate backup presentation for CP2 ICE		12/5/2023			X				12/14/2023
EWP1A - Budget vs Commitment					X				12/14/2023
Table of Contents - Information shared to date_12132023		12/13/2023			X				12/14/2023
VTA's BSVII Entry to Engineering Readiness Documents List, Dec 15, 2023		12/15/2023							12/15/2023
Project Management Plan Rev B Draft		12/15/2023							12/15/2023
Management Capacity and Capability Plan Rev B Draft		12/15/2023	X	X					12/15/2023
Construction Director position description			X	X					12/17/2023
Program Director position description			X	X					12/17/2023
Constructability Review Report Draft	0.1	12/15/2023			X				12/18/2023
FTA ROW Schedule spreadsheet with segment/location data	R1	10/30/2023			X				12/18/2023
Contract Implementation Plan Draft		12/21/2023	X	X	X	X	X	X	12/25/2023
Project Implementation Plan with BART		9/1/2020							12/25/2023
MPS_November 2023 Updates		12/1/2023					X	X	12/25/2023
Detailed Schedule_November 2023 Update							X		12/25/2023
BSVII-ProjectRiskRegister NOV-2023 Clean Draft 12-22-2023		12/22/2023							12/25/2023
MCCP Key Staff Resumes (7)				X					12/26/2023
Risk Register with mapped schedule activities								X	12/29/2023
CP2 Interface Tracker			X	X	X		X	X	1/2/2024
Position descriptions for Chief Megaprojects Officer and Deputy Director, Program Administration				X					1/4/2024
MSS Bulletin 18							X	X	1/4/2024
Escalation meeting presentation							X	X	1/5/2024
List of Entry to Engineering technical documents updated since June 2023		1/8/2024			X				1/10/2024
Technical Documents updated since June 2023		1/8/2024							1/10/2024
MPS_July 2023 Updates_01-10-2024 - PMOC NOT USING		1/10/2024							1/11/2024
Comments to FTA_Contingency schedule changes_2021-01-11		1/11/2024							1/11/2024
BSVII Design Maturity Memo 2024-01-12		1/12/2024			X				1/12/2024
Risk Workshop draft presentation materials and participant list (1)			X	X	X	X	X	X	1/13/2024
Risk Workshop draft presentation materials and participant list (2)			X	X	X	X	X	X	1/13/2024
Risk Workshop draft presentation materials and participant list (3)			X	X	X	X	X	X	1/13/2024
Risk Workshop draft presentation materials and participant list (4)			X	X	X	X	X	X	1/13/2024
Risk Workshop draft presentation materials and participant list (5)								X	1/13/2024
Risk Workshop Action Items									
Risk Workshop Action Item 1 (tour graphics)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 1 (tour graphics)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 1 (tour graphics)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 2 (tour handouts)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 3 (Revised Presentations)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 3 (Revised Presentations)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 3 (Revised Presentations)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 4 (Revised slide)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024

BSVII Document	Rev #	Rev Date	OP20	OP21	OP32C	OP33	OP34	OP40	Date Rec d
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 5 (Workshop displays)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 6 (Workshop screen-share files)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 6 (Workshop screen-share files)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 6 (Workshop screen-share files)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 6 (Workshop screen-share files)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 6 (Workshop screen-share files)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 6 (Workshop screen-share files)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 7 (Org chart revisions)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 7 (Org chart revisions)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 8 (Construction Management RFP scope)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 9 (Tunnel Advisory Panel minutes)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 10 (Property Protection and associated ROW)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 11 (VE listing)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 12 (BART Vehicles purchase agreement)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 13 (Differing ground condition clauses CP2)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 13 (Differing ground condition clauses CP2)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 14 (Point of safety)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 15 (adressed under RWAI 10)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 16 (NYMF design iterations)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 16 (NYMF design iterations)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 16 (NYMF design iterations)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 17 (Design review status - CP2)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 17 (Design review status - GEC)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 18 (Top 10 utilities)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 18 (Top 10 utilities)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 19 (adressed under RWAI 10)			X	X	X	X	X	X	1/22/2024
Risk Workshop Action Item 20 (VE opportunities)			X	X	X	X	X	X	1/20/2024
Risk Workshop Action Item 21 (Escalation trend lines)			X	X	X	X	X	X	1/23/2024
Risk Workshop Action Item 22 (28/LP Sta archeo assumptions)			X	X	X	X	X	X	1/22/2024

Risk Resul s u y

FTA/PMOC Project Ris Results	
Risk Wo kshop e: J u y 16-18, 2024	
P ojec N : BART ilicon V lley Ph se II Ex ension (B VII) k	
P ojec po so : n Cl V lley T spo io Au ho i y (VTA)	
P ojec Ph se: E y o E gi ee i g	
P ojec Type: HRT Ex ension	
P ojec Delive y Me hod: P og essive Design-Build Tunnel, Design-Bid-Build ys e , s ions, nd Mai e ce F cili y	
k	
Key P ojec cope Ele n s k	**u y Cos Risk Resul s** (Excludes Financing $480.5 M)
• A r ximately 6.0 r ute miles, 4.8 miles undergr und in large-diameter single b re k • 4 stati ns, 3 undergr und, 2 parking garages • Maintenance facility and yard (220 vehicle capacity) • 48 Heavy Rail Vehicles	Project Sponsor Estimate: $11,756.5 M
	P-value f Grantee Estimate: P52
	P50 Estimate: $11,667.6 M
	P65 Estimate: **$12,355.6 M**
	P80 Estimate: $13,272.5 M
The Project Sponsor's proposed estimate of $11.76 B requires an additional $599.1 M to meet FTA's P65 requirement of $12.36 B.	
k	
Top P ojec Risks S k	**u y chedule Risk Resul s**
• Escalation rates and market conditions k • Management Capacity and Capability k o Vacant VTA positions k o Turnover impact on project direction o BART engagement • Contract interfaces • Property protection – buildings and utilities • Testing and commissioning delays	Project Sponsor RSD: 10/22/2036
	P-value of Sponsor Date: P25
	P65 Date: 5/12/2037
	P80 Estimate: 7/20/2037
	125% of Re ining Du ion D e (Reco nd ion): 2/28/2039
The Project Sponsor's proposed completion date of 10/22/2036 is approximately 6 months shok of FTA's P65 date and requires an additional 28 months to meet FTA's recok mended Revenue Service Date of 2/28/2039 based upon the 125%k of remaining duration requirement.	

k

BART Silicon Valley Phase II Risk Workshop prior to Entry to Engineering

Dates:
16Jan2024 (Tuesday)
17Jan2024 (Wednesday)
18Jan2024 (Thursday)

Location:
2055 Gateway Place, San Jose, CA 95110
Remote connections provided via MS Teams (to be used sparingly, as in-person participation is preferred)

Purpose:
The purpose of this workshop is to:

- Provide Santa Clara Valley Transportation Authority (VTA) and the FTA/PMOC the opportunity to jointly review VTA's proposals for project management, scope, schedule, cost and risk exposure through the project documents.
- Update the FTA/PMOC on significant changes in status of scope, schedule, and cost since the EPD risk assessment and since Entry to Engineering new baseline document submissions.
- Discuss potentially impacting events which may result in less or greater risk exposure than portrayed including VTA's assumptions as noted in the documents, which will be noted for action or for adjustment by the PMOC in their assessment of risk exposure and subsequent recommendations to FTA.
- Review significant risks identified in the BSVII Risk Register and review and discuss the most recent changes to the risk register made by VTA and discuss PMOC's proposed changes / additions to the risk register.
- Share FTA/PMOC experience on similar projects with VTA where appropriate.
- Develop the basis for PMOC reporting Entry to Engineering Readiness evaluation to the FTA.

General Schedule:

Day 1

- **Day 1** will begin with introductions and opening remarks, then a brief orientation of VTA's project, and an overview tour of the corridor stopping at various points to discuss specific project elements. This should include site graphics or design details for key project areas.
- After the tour, **Day 1** will continue with a summary description of the project need and partners, then move into detailed discussions focused on the BSVII new baseline scope (clarifying changes since EPD), project management, and contracting scheme.
- **Day 1** will conclude with a review of project functional elements to identify/refine individual risk events.

Day 2

- **Day 2** will consist primarily of technical presentations covering major SCC scopes 10 - 50 outlining design development, assumptions impacting cost and schedule, and risks and mitigations.
- **Day 2** will continue with property acquisitions and discussion of Program-wide issues to identify/refine individual risk events.

BART Silicon Valley Phase II Risk Workshop prior to Entry to Engineering

Day 3

- **Day 3** will begin with the cost estimate and associated contingencies.
- **Day 3** will continue with the schedule and associated contingencies.
- **Day 3** will move on with a presentation and discussion of VTA risk analysis completed and VTA's Risk Management Plan.
- **Day 3** will continue with a review of VTA's Risk Register top 25 risks.
- **Day 3** will include an FTA/PMOC Huddle session in an isolated room with audio and video capabilities for remote participants.
- **Day 3** will conclude with a wrap-up discussion including next actions/steps and closing remarks.

Preparation Instructions:

VTA, please be prepared to provide clear presentations of the current status of scope, schedule, cost, a graphical-based overview of the entire corridor with focus on key design elements, and the latest Risk Register and Risk and Contingency Management Plan.

PMOC provided an FTA Risk Process overview at the kickoff meeting (held October 19, 2023) and is expecting that BSVII Program Management has conveyed the pertinent information to participants and emphasized the importance of open and transparent discussion to facilitate a meaningful outcome.

VTA should develop and distribute PowerPoint (or other) presentations, and appropriate summary-level background documents. Distribute high-level summary documents that concisely (one or two pages) provide an overview of the scope, cost, and schedule for participants' use in the sessions. Documents should be made available to participants at least three working days in advance of sessions.

More detailed alignment plans with geotechnical profiles, significant environmental interfaces, station elevations, and other significant elements will be presented. Other detailed exhibits (estimate, schedule summaries, etc.) should be presented for clarity of discussion and increased understanding by the participants. Do not rely solely on information provided on screen in PowerPoint slides. Supplemental detailed documents should be available for presentation to provide detailed discussion of background documents as needed.

Each session/topic should include relevant risks and discussion of potential additions.

BART Silicon Valley Phase II Risk Workshop prior to Entry to Engineering

Detailed Agenda:
Tuesday, January 16, 2024

Introductions and opening remarks (ALL) *9:00am – 9:30am*
- FTA
- VTA
- BART
- PMOC

Risk Workshop Overview (PMOC) *9:30am – 9:45am*
- Agenda
- FTA's Oversight Procedure 40
- Documents Provided

Alignment and Scope Overview (VTA) *9:45am – 10:30am*
- Project familiarization in preparation for tour

Break *10:30am – 10:45am*

Project Tour *10:45am – 1:00pm*

Lunch Break ***1:00pm – 2:00pm***

BSVII Project Team Presentation (VTA) *2:00pm – 3:00pm*
- Project team organization
- Individual roles and responsibilities
- BART engagement
- Project delivery method
- Project contracting status

Break *3:00pm – 3:15pm*

Review project functional elements to identify/refine individual risk events *3:15pm – 5:30pm*
- Corridor alignment/Key features
- Contracting/Procurement
- Interface Management
- Third Party Agreements
- Utilities
- Environmental Risks
- Vehicles

Summarize risk events, probabilities, and mitigation activities

BART Silicon Valley Phase II Risk Workshop prior to Entry to Engineering

Wednesday, January 17, 2024 morning

Technical Presentations (VTA)

Track Alignment & Geometry *8:30am – 9:00am*

- Scope
  - CP2 and CP3 delineation
  - Tie-in to Phase I
- Assumptions
- Risks/Mitigation
- Transferred/Shared risks with PDB Contractor

Tunnel *9:00am – 10:15am*

- Scope/Overview (including but not limited to the following)
  - Geotech
    - GBR Summary
    - Acceptance status with KST
  - Geology and fault(s)
    - Design features
    - Construction methods
  - Property Protection and Monitoring Plan (buildings and utilities)
  - Ground Improvements
  - Portals
  - Construction Phasing
- Assumptions
- Findings/Recommendations
- Risks/Mitigation
- Transferred/Shared risks with PDB Contractor

Break *10:15am – 10:30am*

Stations & Facilities *10:30am – 11:45 am*

- Each Location:
  - Overview of design/configuration
  - Development/Assumptions
  - Risks/Mitigation
  - Transferred/Shared risks with Contractor.
- Scope/General outline of locations
  - 28th Street / Little Portugal
  - Downtown San Jose
  - Diridon
  - Santa Clara
  - NYMF
  - Parking Garages
- Summarize risk events, probabilities, and mitigation activities.

Lunch Break ***11:45am – 1:00pm***

BART Silicon Valley Phase II Risk Workshop prior to Entry to Engineering

Wednesday, January 17, 2024 afternoon

Technical Presentations (VTA)

Systems *1:00pm – 2:00pm*

- Each System
  - Scope/Overview (Including Tie-in to Phase I as appropriate)
  - Assumptions
  - Risk/Mitigation
  - Transferred/Shared risks with Contractor
- Ventilation
  - Stations
  - Tunnel
- Train Control and Signals
- Traction Power
  - Supply
  - Distribution
- Communications
- Fare Collection
  - Central Control
- Summarize risk events, probabilities, and mitigation activities

Property Acquisitions *2:00pm – 2:45pm*

- Virtually walk corridor.
  - Identify potential hot properties.
  - Condemnation potential
  - Relocations
- Review property/ROW cost estimate/Risk profile
- Range possible uncertainty in ROW
- Summarize risk events, probabilities, and mitigation activities

Break *2:45pm – 3:00pm*

Review Program-wide issues to identify/refine individual risk events *3:00pm – 4:00pm*

- Market Conditions
- Contract Packaging
- Design/Construction Resources
- VTA Resources
- BART Resources
- Community/Stakeholder Environment
- Summarize risk events, probabilities, and mitigation activities

BART Silicon Valley Phase II Risk Workshop prior to Entry to Engineering

Thursday, January 18, 2024

Cost review (VTA) *8:30am – 9:30am*

- Cost estimate
- Cost by FTA Standard Cost Category
    - Summarize comparison over milestones:
        - EPD VTA ($6.9B)
        - VTA New Starts Basis ($9.3B)
        - VTA New Baseline for Entry to Engineering ($12.2B)
- Cost Contingencies – allocated and embedded by SCC element.
- Baseline cost estimate
- Cost Escalation
    - Rate basis
    - Risk impact
    - Mitigations/Funding options

Break *9:30am – 9:45am*

Schedule review (VTA) *9:45am – 10:45am*

- Summary schedule
- Critical path and secondary paths
- List of activities, float, and dependencies
- Schedule contingencies

Risk Analysis (VTA) *10:45am – 11:30am*

- Review of risk assessment process
- Summarize key findings
- Review project individual risk events, Beta factors, mitigation activities

Risk Management Plan

- Primary Mitigation
- Secondary Mitigation

Action Items

Lunch Break ***11:30am – 12:30pm***

VTA Risk Register (VTA) *12:30pm – 3:00pm*

Review top 25 risks, impacts, mitigations.

Break (FTA/PMOC Huddle) *3:00pm – 4:00pm*

Close-out / Wrap-up *4:00pm – 4:30pm*

- Action Items
- Major Observations/Risks
- Next Steps
- Closing Remarks

VTA BART SILICON VALLEY PHASE II - BSVII RISK WORKSHOP OVERVIEW

FEDERAL TRANSIT ADMINISTRATION PMOC ATKINSREALIS
RISK PROCESS ÐONALD SCHNECK

Risk Workshop

VTA

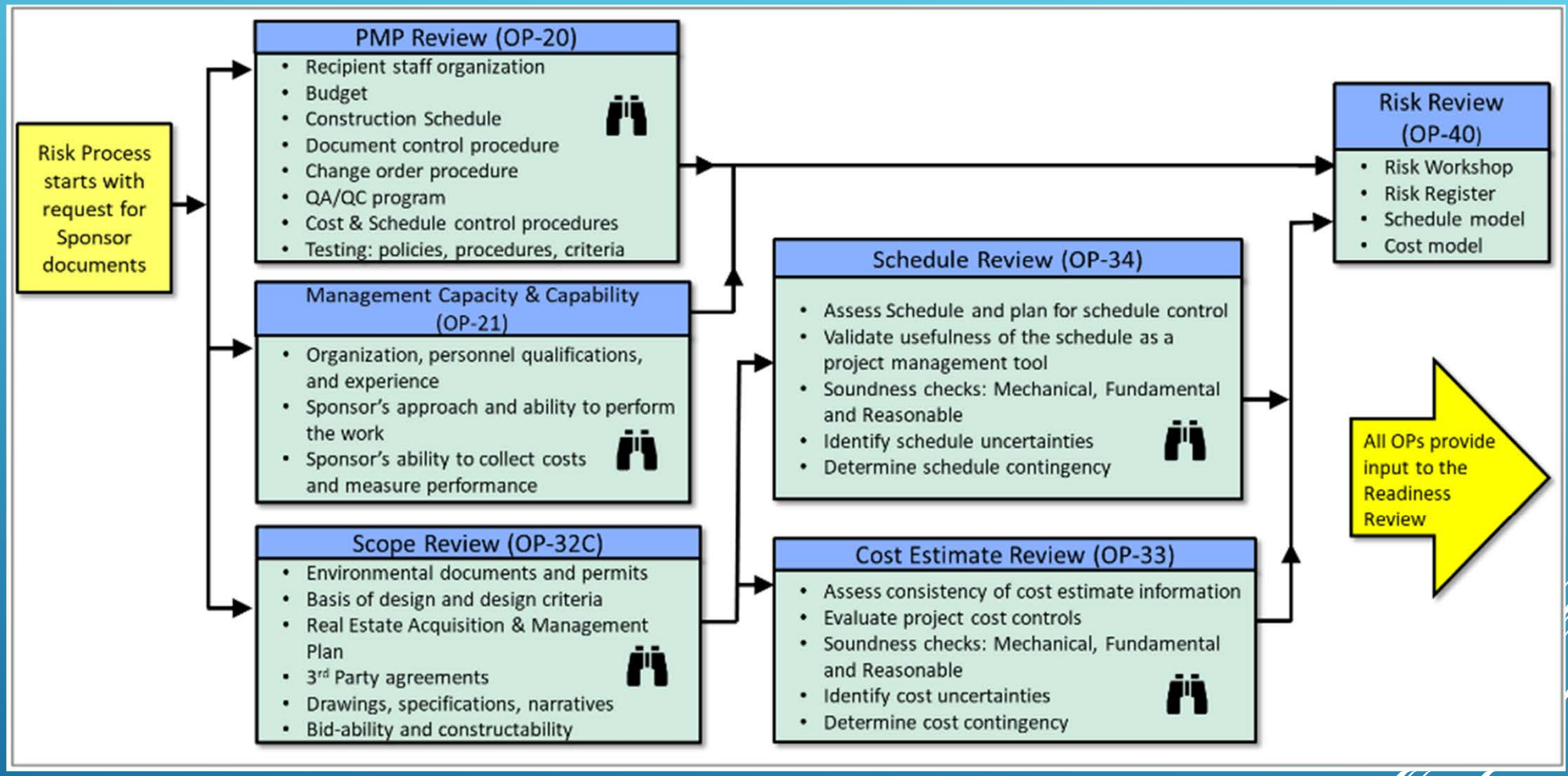
San Jose, California

January 16-18, 2024

RISK ASSESSMENT WORKSHOP AGENDA

- Introductions and Opening Statements
- FTA Risk Assessment Process – OP40 Guidance
- Alignment and Scope Overview and Project Tour
- VTA Project Status Review
  - Project Management and Development
  - Project Functional Elements
  - Technical Presentations
    - Track Alignment / Tunnel
    - Stations and Facilities
    - Systems
    - ROW
  - Program-wide Issues
  - Cost
  - Schedule
  - Risk
- Risk Register
- Next Steps and Closing Remarks

FTA RISK REVIEW PROCESS (OP40) WORKFLOW



FTA OP 40 Figure B-2

FTA RISK ASSESSMENT PROCESS

- Cost risk
  - Standard Cost Code cost confirmation
  - Risk Register and mitigation review
  - Beta risk value assessment
  - FTA Cost risk model
  - Interpreting the results
- Schedule risk
  - Project schedule analysis
  - Schedule contingency review
- Contingency Estimation by Milestone
- Risk and Contingency Management Plan

WORKSHOP PURPOSE

- VTA jointly review project with FTA/PMOC
- Update FTA/PMOC on significant changes since the EPD risk assessment and from preliminary new baseline submissions
- Discuss potentially impacting events changing risk exposure as portrayed in the documents
- Review significant risks
- Share similar experiences and lessons learned

WORKSHOP GROUND RULES

- Open forum / be respectful of the people and process
- Be engaged or step out of the room
- Avoid side conversations
- What keeps you up at night?

- Questions and Comments

VTA BART SILICON VALLEY PHASE II - BSVII RISK WORKSHOP CLOSING SESSION JANUARY 18, 2024

FEDERAL TRANSIT ADMINISTRATION PMOC ATKINSREALIS

Risk Workshop

VTA

San Jose, California

January 16-18, 2024

RISK ASSESSMENT WORKSHOP CLOSING

- Action Items
- Major Observations/Risks
- Next Steps
- Closing Remarks

RISK ASSESSMENT WORKSHOP CLOSING ACTION ITEMS

- Presentations and Exhibits (Friday)
- Graphics presented not in slides
- Clarified ROW
- Design Units Status list
- VE Opportunities

RISK ASSESSMENT WORKSHOP CLOSING MAJOR OBSERVATIONS/RISKS

- Escalation – balancing historic data and forward-looking projections and regional factors
- MCC – Vacant Director Positions / lack of available resources / clarification of roles and responsibilities and RSO engagement
- ROW – need clarity on progress and status
- Property Protection (buildings and utilities) – pending KST actions and decision-making process
- Reaching Stage 2 Lump Sum and off ramp – impacts optimistically calculated
- Vehicle procurement fixed price risk
- Schedule contingency stripping and Systems elements for 28th/LP

RISK ASSESSMENT WORKSHOP CLOSING NEXT STEPS

- Complete outstanding action items
- PMOC summary of model results to FTA for concurrence
- Briefing of results to VTA early February (pending FTA leadership approval)
- Scope, Cost, Schedule, Risk and Contingency Management PMOC Report
- Readiness to Enter Engineering PMOC Report to FTA

RISK ASSESSMENT WORKSHOP CLOSING

- Questions or Comments
- Closing Remarks

OP32C Requirements including Appendix B	Comments	Page Number
BSVII Rroject Basis of Design Report *Preliminary Engineering Submittal - Revision 2 May 26, 2023*		
1 Introduction		
1.1 Purpose		
1.2 Scope -	The last paragraph of this section discusses the scope of work for CP2 Contract that includes the headhouses. If they have been removed, this paragraph needs revising	
3.2 Hydrology and Hydraulics Codes and Standards	Need issue dates to listed codes and standards, or note stating the issue dates are noted in under Section.16.	3
11 Construction Contract and Packaging	Construction contract and packaging strategy needs to be frther developed and justified. Where is the strategy for the selected packaging. Please refer to referenced document.	27
1.4 Project Description	Description is adequate.	5,6
16 Code Assessment	Given that the extension doesn't open until 2038 at the earliest, has any though been given to using the latest version (2023) of MFPA 130? Have the other codes and specifications been checked for relevent updates?	31
7 Interfaced and Integration -	Has an Interface Management Program been developed. Who has that responsibility?	8
12 Design Considerations for Construction staging and Phasing	Have any TOD programs been identified? Are the included in schedule and cost?	30
4 Major Assumptions	Have these assumptions been fully documented and agreed to by relevent Stakeholders and AHJs?	5
1.3 Background	Is stacked single bore selected in 2022 the latest baseline?	4
2.2.1 Civil	Is this work still part of the CP2 contract scope?	4
3.3 Utilities Design Codes and Standards	Need issue dates to listed codes and standards, or note stating the issue dates are noted in under Section.16.	4
5 Design Approach and Methodology	No comments	7
1.2 Scope -	Overall project description is very basic. More detailed project descriptions are included in relevent sections.	1
9.2.4 Request for Varience	Requests for Varience (RFV) developed for Phase I, many of which are not applicable for Phase II. Why include the full liist?	22
1.3 Background	SEIS/SEIR for single bore tunnel ROD issued June 4, 2018. No date on EIR EIS	3
Section 7.4 Capacity	This section discusses meeting anticipated travel demand based on VTA's 2040 ridership projections. Since Revinue Service Date is currently scheduled for 2038, is there any plan for updating the travel demand model?	15

OP32C Requirements including Appendix B	Comments	Page Number
1.3 Background	Was Baseline Updated in Jun 2018?	3
1.3 Background	We assume the PDB contractor's proposal for modifications has been accepted	4
9 60% Design Development approach -	What about the remainder of the design for Design-Bid-Build contracts?	10
Attachment A Civil	What elements of "Civil Works" if any are included in CP2. Pleas clarify.	General
	??	
12 Design Considerations for Construction staging and Phasing	**12 Design Considerations for Construction staging and Phasing** - How does VTA expect to handle the fact that the CP2 contractor will be occupying most of the worksites initially. This is a potential schedule and cost risk.	28
	5 Design Approach and Methodology - The section discusses both project requirements reports and basis of design reports. This Basis of Design Report seems to contain elements of both. Is it the intent to have two separate reports?	24
	5.4.1.4 Special Desig Calculation Methods - Have any calulation programs on MS Excel been verified.	29
	5.4.2.4 Special Design Calculation Methods - Well the system require a BIM execution plan? What will be the level of development at each stage?	32
	5.4.3.2 Design Basis - What impact will the delition of these items (4th futrure track, secondary maintenancec shops, non-revenue vehicl mantenance shop, etc.) have on the project baseline?	32
		36
	5.4.5 HVAC Mechanical - What about NFPA 130 codes?	32
3.1 Civil Design Codes and Standards	All codes and standards should include the issue date.	3
3.2 Hydrology and Hydraulics Codes and Standards	All codes and standards should include the issue date.	
3.3 Utilities Design Codes and Standards	All codes and standards should include the issue date.	
3.4 Landscape Design Codes and Standards	All codes and standards should include the issue date.	
2.2.2 Utilities	Are the limits of Utility Company Works clearly defined?	5
8 Outstanding Issues -	**Are these issues fully documented and has a completion matrix been prepared.**	10
12 Design Considerations for Construction staging and Phasing	Does VTA have a Stakeholder Management Plan? Have the Stakeholder timelines been incorporated into the schedule? Especially Capitol Programs and Developments.	29
Downtown SanJose Station:	Has a title search been performed to trace the "no-build" Easements along the Goldrocks Holdings Property?	6
General	Have there been an revisions ot scope including moving part of the scope out of one contract to another contract for this package.	General

OP32C Requirements including Appendix B	Comments	Page Number
15 BART Design and/or Procurement Responsibilities	Have these responsiblities been clearly spelled out and documented?	31
2.2 Interoperability, Maintainability and Compatibility	How do they proposed to handle both current train control system and future CBTC? Most CBTC systems are proprietary.	10
4.2 Newhall Yard Sitework	Last paragraph discusses work under Santa Clara Station. Who is responsible for this work?	22
3.1 Civil Design Codes and Standards	Need issue dates to listed codes and standards, or note stating the issue dates are noted in under Section.16.	3
3.4 Landscape Design Codes and Standards	Need issue dates to listed codes and standards, or note stating the issue dates are noted in under Section.16.	4
6 Discipline Specific Considerations	No Comments	8
Real Estate Management Plan (RAMP) with current status	Preliminary list included in SEIR	13
1.5 Project Organization	Project Delivery Organization is interesting. Will GEC provide all design services? Does the GEC have sufficient capability?	7
Written Project Description	See Basis of Design Report	
Space Program Report - Western Area Guideway Yards and shops. December 21, 2007 (Included as part of Attachment B)	Since this document is included as part of Attachement B, it is assumed that it is also part of the Basis of	General
1. Introduction	The paragraph seems to imply that the civil engineering Basis of Design. Does this include CP2?	1
4.2 Newhall Yard Sitework	The third and fourth paragraphs of this section discuss work to be don by CP2. Who is to determine the actual	22
9 Reference Documentation	Which histrical documents are still considered applicable to current design? While the documentation states that	16
General	While the attachment shows an Architect to be involved, will an Industrial Engineer experienced in	General
2.3 Newhall Yard Maintenance Facility	Will and Industrial Engineer experienced in Maintenance Facility design be involved and more than a consultant?	6
2.1.1 Mainline Trackwork	Will the mainline trackwork under this contract end at the west portal of the Tunnel? Will the CP2 Contractor have responsibility for the remainder of the mainline trackwork?	1
SECTION 5.0 - PROJECT SPOSOR SUBMITTALS		
Environmental documents (FEIS/ROD; EA/FONSI; CATEX)		
GEC Basis of Design Report		
2 Scope		
2.1 Site work		
Attachment B Track and Newhall Yard Maintenance Facility (NYMF)		
2.1 Sitework		
3 Project Requirements		
4 Major Assumptions		
End Appendix B		

OP32C Requirements including Appendix B	Comments	Page Number
KST Basis of Design Report		
Design Criteria		
Design Documents (Plan, Performance Specifications and Specifications		
Project Management Plan		
Project Delivery Plan		
Risk and Contingency Management Plan or Risk Register (if applicable)		
Permits		
Project Schedule		
Current Capital Cost Estimates		
Review Documents		
Independent Cost Estimates		
Threat and Vulnerability Assessments		
Hazard Analyses		
Value Engineering Reports		
Constructability Reviews		
Risk Assessment Reports		
Documentation of changes to scope that have occurred since last milestone		
Approval Letters - Issued by FTA		
Letters of No Prejudice (LONP)		
Early Systems Work Agreements (ESWA)		
Full Funding Brant Agreement and Attachments		
Approved and pending amendments.		
PROPOSED APPROACH TO REVIEWING THE SCOPE - SECTION 6.3		
Sample Plan		
ON-SITE REVIEW MEETING - SECTION 6.4		
On site Meeting		
REVIEW AND ASSESSMENT - SECTION 6.5		
What changes in project scope have occurred since the last major milestone.		
Have the known changes been incorporated into the documents, design criteria, plans, specifications, related Management Plan, and the Grant Agreement?		
Are there any additional known or anticipated changes to scop at the time of this assessment?		
Do the project delivery plans and construction documents reflect the full scope of the project.?		
Does the current capital cost estimate and schedule correlate with the known and anticipated scope of the project?		
Identify any unknow or uncertain conditions (e.g., real estate to be acquired, permits to be issued, and third-party agreements to be finalized) that may affect the cost and/or schedule for construction, and assess the Sponsor's plan and schedule for resolving these issues?		
Do the contract documents address these unknown or uncertain issues in a way that appropriately allocates risk and avoids incurring unnecessary costs.		
Based on this review of the project and its current documentation, are there likely to be changes in the project scope (including related cost and schedule impacts) beyond those ordinarily expect of a project at this phase of development,. If so, Identify these items and discuss the Sponsor's Plan for resolving them.		
If the scope of the functional element of the project has changed, e.g., longer/shorter alignment, fewer/more stations, fewer TPSSs, etc., can the revised project still meet the capacity requirements of the program and a approved in the FFGA or SSGA?		

OP32C Requirements including Appendix B	Comments	Page Number
The PMOC shall assess and evaluate Sponsor and material third party project information and data. Then the PMOC shall Produce characterization of the project scope that integrate and summarize available information and data for the project, providing professional opinions, analysis, information, data and descriptive text in as accessible and understandable format.		
1) Such information can include but is not limited to scope, capacity, level of service, functionality, reliability, etc..		
2) Characterizations for individual scop elements such as guideway, vehicles, systems, etc. shall be sufficient to provide FTA with a project-level and element-level of understanding,		
3) For projects in Project Development or Engineering, the PMOC shall review and characterize the Sponsor's project scope in terms of its descriptions, designs, products, end. Using the checklist from Appendix B to determine that:		
a) The scope is substantially consistent with the scope adopted in environmental decision document, e.g.,, Record of Decision, Finding of no Significant Impact or Categorical Exclusion.		
b) The scope will support the level and quality of revenue service typically offered by the Sponsor.		
c) Proprietary systems or methods specificized will permit a reasonable number of construction contractors with the appropriate expertise to compete for construction packages;		
d) Major work details, structural element dimensions, design interfaces and physical interfaces are complete and well defined;		
e) Plans and drawings or performance specifications are adequate in terms of content, presentation, clarity, cross-referencing and detail:		
f) Roles and responsibilities of construction contractors versus those of the Sponsor's team of staff and consultants or other third-parties are well defined.		
g) Project is constructible.		
4) Review and Characterize the Sponsor's project systems and vehicle design. Determine whether the Sponsor has matched appropriate technologies with the planned transit applications for the best performance at a reasonable cost.		
5) In the absence of adequate scope detail for a given level of design, the PMOC shall validate the project data by comparing the current Sponsor assumptions to relevant, identifiable industry standards or experience.		
6) The PMOC's findings should be presented in order of importance (most likely, largest consequences, etc.) and accompanied by recommendations for modifications or additional work by the Sponsor along with a time frame for the performance of the work.		
APPENDIX B REQUIREMENTS		
Scope Review Checklist		
Design Document Coordination		
The Civil, Structural, Architectural, Electrical, Mechanical, Power, Signal and Communications, Trackwork, Sitework and other plan documents possess a comparable level of definition, clarity, presentation and cross-referencing. Design, construction, system and vehicle interfaces are well known and defined. Design Reports, Concept of Operations Report, and configuration studies are adequate and complete. Work descriptions and definitions used in designs and specifications are consistent and uniformly applied. The project phasing is adequate and the project is constructible. Adequate construction access and staging areas are defined.		

OP32C Requirements including Appendix B	Comments	Page Number
Project Delivery Method, Contract Packaging		
Check that the Sponsor has planned for construction, at either a project or contract package level, and has sufficiently analyzed and adequately addressed the following elements.		
1) Deliver Methods		
a) Has the sponsor demonstrated the selected delivery method is permissible under local public contracting laws and authorized by Agency policy?		
b) Has the Sponsor performed an analysis of its contracting objectives and organizational capability and capacity in arriving at the selection project delivery methods.		
c) If alternate delivery method are permitted, has there been an analysis of the costs and benefits of Design-Bid-Build versus Design-Build?		
d) In case of Design-Build, are the risks being transferred to the contractor reasonable and can the risks be adequately addressed by the Contractor?		
e) Has the level of design reached a point where major uncertainties and risks have been identified and addressed for the Design-Builder?		
2) Contract packaging and structuring:		
a) Trade-offs have been considered between large size contracts, which are often more efficient due to coordination and scheduling constraints, and small contracts that can attract industry interest and increase the number of bidders. Where small contract packages are used, they have been kept small enough to allow mid-sized contractors to bid without teaming as joint ventures (which tends to yield higher costs).		
b) Construction industry information sessions have been held after advertisement in industry publications in order to attract regional, national and international contractors.		
c) Timing of major bid activity, within schedule constraints, will be managed to maximize contractor competition, with consideration to other major project(s) status in the region such as highway or redevelopment projects.		
d) Prequalification of general contractors of sub contractors has been considered to ensure quality e.g. prequalification for experience with a type of construction, safety record, claims history, etc..		
e) "Procurement only" contracts have been minimized (consistent with industry practice and agency experience), recognizing there is a higher claims risk when the installation contractor does not have full control of the materials.		
f) Third Parties		
i) Contract packaging for Third-party construction contract has been structured to maximize competition.		
ii) Third party procurement contracts have been utilized only where long lead-time items will impact project schedule if purchased by construction contractor.		
iii) Contract packaging and project schedule have been coordinated to minimize overextension of critical third parties inclusive of utilities and fire/life safety test witnessing or installation work.		
iv) Buy America provisions have been incorporated in third-party contracts.		
v) Have agreements been reached with utilities on responsibility for timing and cost of relocating affected utilities.		
3) Site investigation and geotechnical studies will be available to construction contractors.		

OP32C Requirements including Appendix B	Comments	Page Number
4) The General Conditions, Supplementary Conditions, and Division 1 of the Specifications adequately describe, for bidding construction contractors, project site access; schedule; unit prices; provisions for increased and decreased compensation through incentives and liquidated damages; risk allocation as related to unforeseen conditions including geotechnical conditions; the construction contractor's design/engineering scope of work; mobilization costs; cash flow in general including pay schedule; requirements for bonds, insurance, taxes; maintenance and warranty provisions; contractor field management and supervision; socioeconomic requirements related to bidding; among other things.		
5) Market conditions are considered:		
a) Market condition for the state/regional/local construction economy for the general contractors/subcontractors on public works and private;		
b) Market conditions for the national construction economy for transit general contractors/subcontractors;		
c) Availability of labor for various trades such as electricians, etc.;		
d) Availability of major materials at the bulk commodity level (fuel, cement, steel, copper, plywood/lumber, etc.) and the finished component level (traction power supply and distribution, train control elements, vehicles, microprocessor equipment, etc.)		
e) Availability of construction equipment/sequencing/timeframe requirements for specially designed, or project specific equipment such as cranes, launching girders, pre-mix plants, barges, etc.		
6) Accessing and occupancy of project construction sites:		
a) Transportation of project materials to the various jobsites/address points/laydown areas;		
b) Local community restrictions and accommodations		
c) Temporary Construction/Facility requirements and mobilizations;		
d) Weather impacts or concerns and protection of the work;		
e) Special projects requirements such as permits; environmental requirements and restrictions, e.g., in-water work windows; site availability in terms of hours per day, days per week, months or seasons during a year, considering ongoing operations for transit, railroads, pedestrians, bicycles, and roadway traffic; impacts such as transportation, social and economic conditions; constraints due to public spaces, historic and archaeological resources, air quality, noise and vibration, contaminated materials and natural resources, among others.		
f) Force Account		
i) Contract packaging and project schedule have been coordinated to minimize overextension of agency force account personnel.		
ii) Force account procurement contracts have been utilized only in cases where agency has substantial market leverage or purchasing power.		
g) Providing for construction contractors:		
i) Advanced utility / utility relocation contracts have been provided with significant schedule contingency since these are delay-prone activities;		
ii) Waste sites / borrow sites have been identified for use at contractor's option;		
iii) Advance agreements with utilities and agencies have been negotiated (for TBM power supply, for example), for use at contractor's option.		

OP32C Requirements including Appendix B	Comments	Page Number
Design Relative to Site and Geotechnical Condition		
1) Site Investigation		
a) Pre-construction site reconnaissance visits have been made;		
b) Site boundary and existing conditions surveys are complete		
c) Flood hazard analyses has been conducted as required by Executive Order 11988 (including the potential for re-definition of flood plains and flood ways as a result of climate change) and the results have been incorporated into the design.		
d) Geotechnical investigations are complete;		
i) Subsurface exploration or laboratory testing program		
ii) Identification of buried structures and utilities		
iii) Identification of contaminated soils and other hazardous materials.		
2) Design in response to geotechnical and other below-grade conditions are appropriate:		
a) Local seismic condition and codes have been considered;		
b) Structural approach to ground conditions, subsidence, etd, is identified and resolved.		
c) Design of the rock support in the station caverns, the crossover caverns, the TBM tunnels, drill/blast tunnels, etc. is appropriate to rock characteristics (fracture planes, hardness and cleavage);		
d) Relative to subsurface conditions, selection of building type, foundation, and methods of construction is reasonable;		
e) Mass balance diagrams have been completed for vertical alignments on fill or cut;		
f) The design appropriately responds to identified buried structures and utilities, contaminated soils and other hazardous material on site, and provision for removal or remediation has been made.		
SCC 10 Guideway and Track Elements		
Major or critical design decisions are defined including trackway type (elevated, at-grade, or underground), rehabilitation or reuse of existing infrastructure, structures, facilities or systems including but not limited to the following:		
1) Major or critical work details, structural element dimensions, design interfaces and physical interfaces are complete and well defined in terms of drawings, standards, criteria, specifications and contract package scopes;		
2) Structural systems are established and dimensioned to show number of spans, span length, substructure design, etc.; structural elements are advanced beyond simple span design. 3) Work descriptions and definitions used in designs or specifications are consistent and uniformly applied;		
4) Trackwork is advanced to a level where single line schematics of the track layout, plan and profile drawings, dimensioned layouts of turnouts and crossovers, and tabulations of track geometry (horizontal and vertical curve data) have been defined; alignment of tunnel structure referenced to the center line of track and base of rail; guideway sections inclusive of tunnel and station cross sections consistently show the distance from centerline of track to critical clearance points such as walls, walkways and edges of platforms;		
5) Special Trackwork is adequately defined;		

OP32C Requirements including Appendix B	Comments	Page Number
6) Tunnels are well defined in terms of access and egress, construction access and laydown, temporary and permanent drainage, openings for stations, cross-passages or refuge chambers, ventilation or emergency access shafts or adits, sections and profiles depicting cross sections of major tunnel features; cross checked to adjacent building foundations and coordinated with the vehicle's dynamic envelope, walkways, lighting, systems elements such as ventilation, communications and traction power and egress.		
Appendix C - Geotechnical		
1 Introduction - It would be useful this include the fact that this Basis of Design does not include the CP2 Contract.		

APPENDIX P: PMOC Team

Name	Company	Title	Years of Experience	Years of experience with topic of expertise (SME)	Brief Statement of Qualifications
Beth Sprague	AtkinsRéalis USA, Inc.	Project Scheduling Manager	32 years	27 years	PSP with 30 years of experience in construction management and scheduling on civil, transportation, vertical and transit projects.
Don Schneck	Donald Schneck LLC	Risk Assessment Manager II	45 years	35 years	Civil Engineering professional with 45 years of experience in passenger rail and related transportation modes, and 3 years of experience planning, designing, and implementing an overall risk management process for FTA.
Emile Jilwan	AtkinsRéalis USA, Inc.	Task Order Manager II	43 years	25 years	PE, and PMP with 43 years of experience in civil, environmental compliance, and project management of major transportation projects, including 23 years as an agency employee delivering mega transit projects from planning through commissioning.
Frank Ward	Dovetail	QA/QC Manager	42 years	28 years	Architect with 26 years' experience in transit and major capital projects with expertise in program / project management, construction management, and quality assurance / quality control for design and construction as an agency employee and as consultant.
Gil Gardner	AtkinsRéalis USA, Inc.	Task Order Manager II	50 years	32 years	PE, PMP and CMQ/OE with 48 years of project management experience for major transportation facilities. Including extensive experience delivering mega projects from the scoping and planning and environmental stages through to final design and construction on streetcar, light rail and light-diesel multiple unit systems

Name	Company	Title	Years of Experience	Years of experience with topic of expertise (SME)	Brief Statement of Qualifications
Jena Montgomery	AtkinsRéalis USA, Inc.	Program Manager and Task Order Manager II	30 years	22 years	PE and PMP with 28 years of experience in civil, transportation and major capital transit projects, including 20 in transit industry managing projects and programs, both as agency employee and as consultant.
Kyle Knudson	AtkinsRéalis USA, Inc.	Risk Assessment Manager I	25 years	15 years	PMI-RMP with over 15 years of project lifecycle risk management knowledge and experience. Facilitated and led risk workshops for all sizes and types of projects in North America to complete qualitative and quantitative risk assessments.
Laurel Espenlaub	AtkinsRéalis USA, Inc.	Cost Estimator Manager	16 years	7 years	Over 14 years of experience as a project controls engineer and cost estimator, with 5 years in capital transit projects as an agency employee and as a consultant.
Mignon Allen	Dovetail	Systems Safety Manager	27 years	13 years	Rail safety/security expert certified as PTSCTP for SSO and TSSP for Rail with 25 years of direct experience in developing and implementing rail safety and security standards, policies and procedures, including more than 11 years assessing the adequacy of FTA grantee's implementation of and compliance with the Safety and Security Management Plans, Public Transportation Agency Safety Plans, Safety and Security Certification Plans, and related safety, security, testing, and operational plans during the design and construction, and project delivery phases for major rail capital projects.
Paul Vespermann	AtkinsRéalis USA, Inc.	Real Estate Manager	50 years	50 years	Over 48 years of experience in real estate acquisition and management primarily for transit development projects.

Risk ID	Risk Description	Schedule Activity ID Mapping
BSV-001	Unexpected additional hazardous materials	P0509 NB13-9-ST.1300,P0509 NB13-9-DTSJ.1990,P0509 NB13-9-DTSJ.1940
BSV-002	Unanticipated archaeological discovery during any earth disturbance not caused by TBM	P0509 NB14-9-NHY.7160,P0509 NB15-9-DIRF.6010,P0509 NB15-9-DTSJF1035,P0509 NB13-9-ST.1300,P0509 NB13-9-DTSJ.1940,P0509 NB13-9-DTSJ.1960,P0509 NB13-9-ST.3400
BSV-003	Potential for excessive settlement under Caltrans freeways.	P0509 NB13-9-TM.3040
BSV-005	Unanticipated damage to historic buildings, critical utility & other structures	P0509 NB13-9-EN.3130
BSV-008	PG&E delays in temporary power for TBM launch at West Portal.	P0509 NB05-9-AU.2330
BSV-029	VTA financial capacity / funding plan to finance potential future project cost increases	P0509 NB13-9-CONS.325780
BSV-033	Lack of competition in the market for remaining CP1/3/4 contracts.	P0509 NB13-9-CONS.325780,P0509 NB14-9-NHY.7000
BSV-036	General construction labor shortage / labor premiums resulting in delays or increased cost	P0509 NB15-9-DTSJF1032,P0509 NB13-9-ST.2370,P0509 NB12-9-TS.12100
BSV-041	Differing ground conditions - tunnel and adits excavation	P0509 NB13-9-DR.1710,P0509 NB13-9-DTSJ.1990,P0509 NB13-9-ST.8670
BSV-042	TBM encounter obstructions (e.g. existing wells) within the tunnel horizon causing delays.	P0509 NB13-9-TM.3020,P0509 NB13-9-TM.3010,P0509 NB13-9-TM.3030
BSV-045	Potential for TBM mechanical failure during construction.	P0509 NB13-9-TM.3020
BSV-053	Needed Right of Way parcels are not available for critical path construction.	P0509 NB02-9-ROW.85640,P0509 NB02-9-ROW.7680,P0509 NB02-9-ROW.8340,P0509 NB02-9-ROW.7670,P0509 NB02-9-ROW.85860,P0509 NB02-9-ROW.83500,P0509 NB02-9-ROW.12930,P0509 NB02-9-ROW.8330,P0509 NB02-9-ROW.7660,P0509 NB02-9-ROW.9660,P0509 NB02-9-ROW.85200,P0509 NB02-9-ROW.9460,P0509 NB02-9-ROW.9480
BSV-055	PDB changes design impacting relocations already designed or constructed by utility owner.	P0509 NB13-9-AU.2000,P0509 NB13-9-AU.2030,P0509 NB13-9-AU.1970
BSV-060	Late Discovery of Utility Conflicts	P0509 NB13-9-EN.2810,P0509 NB13-9-EN.2670,P0509 NB13-9-EN.2600,P0509 NB13-9-EN.2850,P0509 NB13-9-EN.2510,P0509 NB13-9-EN.2430
BSV-066	Multiple contract interfaces leading to construction delays and risk of disputes.	P0509 NB15-9-ST.2260,P0509 NB15-9-ST.3670,P0509 NB13-9-ST.1380,P0509 NB15-9-ST.1380,P0509 NB13-9-CONS.1300
BSV-084	Timely decision on the train control system.	P0509 NB03-9-FD.B1015
BSV-096	Testing and Commissioning delays due to various factors	P0509 NB09-9-CONS.2440
BSV-097	BART personnel availability to support design review, construction & testing	P0509 NB13-9-DE.7380,P0509 NB13-9-DE.7230,P0509 NB13-9-DE.7330,P0509 NB13-9-DE.7280
BSV-103	Sole sourcing manufacturers may go obsolete.	P0509 NB12-9-TS.26450
BSV-108	Buy America requirements.	P0509 NB03-9-FD.B7926,P0509 NB03-9-FD.C7956,P0509 NB03-9-FD.D7956
BSV-111	Additional real estate full take or easements identified during final design.	P0509 NB13-9-DTSJ.1930
BSV-113	Delays in acquiring easements needed for utility relocation.	P0509 NB13-9-AU.2000
BSV-123	Potential for NEPA Re-evaluations taking longer than anticipated.	P0509 NB01-9-PRG.85240
BSV-132	Program staffing capacity and continuity (VTA/ PM/CM/ Design) to support long program timeline	P0509 NB12-9-TS.7520,P0509 NB09-9-CONS.2440
BSV-134	Limited Construction Staging Areas at Downtown (Second Entrance).<CRLF>	P0509 NB13-9-DTSJ.1960
BSV-135	Permit Approval Delays and Unanticipated changes to approved Permit Conditions.	P0509 NB13-9-AU.2030,P0509 NB13-9-AU.1970,P0509 NB13-9-AU.1980,P0509 NB13-9-AU.2000
BSV-136	Unanticipated BART objections to agreed EVS.	P0509 NB13-9-DE.7030
BSV-139	Delays in design, procurement and delivery of TBM.	P0509 NB13-9-PRG.70420
BSV-145	Utility design coordination delays.	P0509 NB05-9-AU.71690,P0509 NB05-9-AU.70750,P0509 NB05-9-AU.70740,P0509 NB05-9-AU.70630
BSV-148	Third-Party agencies' betterment requests.	P0509 NB13-9-AU.2000,P0509 NB13-9-EN.2390,P0509 NB13-9-EN.2870,P0509 NB13-9-EN.2990
BSV-150	Higher than anticipated contaminated soil and groundwater at underground station sites.	P0509 NB13-9-EN.2990,P0509 NB13-9-EN.2570,P0509 NB13-9-EN.2760,P0509 NB13-9-EN.2320
BSV-152	Added inefficiency in disposal of muck from the tunnel resulting in additional costs<CRLF>	P0509 NB13-9-TM.3020
BSV-154	UPRR extended coordination delays PDB contractor during design and construction.<CRLF>	P0509 NB13-9-ST.8710
BSV-164	Higher than anticipated quantity of contaminated soil disposal during tunnel mining.<CRLF>	P0509 NB13-9-TM.3020,P0509 NB13-9-TM.3030,P0509 NB13-9-TM.3040
BSV-166	Unanticipated/ unplanned construction activities impacting community.	P0509 NB13-9-TM.3020,P0509 NB13-9-DTSJ.1940
BSV-168	Construction staging of tunnel operation at Newhall yard.	P0509 NB13-9-CONS.1250
BSV-170	KST proposed Stage 2 Lump Sum price increase VTA CP2 budget	P0509 NB01-9-PRG.85300
BSV-171	Lack of adequate interface management between CP's leads to potential delays	P0509 NB13-9-DE.7020,P0509 NB13-9-DE.7120,P0509 NB13-9-DE.7170,P0509 NB13-9-DE.7070,P0509 NB13-9-DE.7220,P0509 NB13-9-DE.7370,P0509 NB13-9-DE.7320,P0509 NB13-9-DE.7270
BSV-177	System design changes due to CP2 progressive design approach.	P0509 NB03-9-FD.B7936
BSV-179	Timely design and construction of Diridon station Cinnabar parking.	P0509 NB08-9-PAR.7040
BSV-180	Concurrent ongoing private & capital projects in urban San Jose	P0509 NB15-9-DTSJF1035,P0509 NB15-9-LP.8570,P0509 NB15-9-DIRF.6010
BSV-181	Impacts due to a positive finding during implementation of the Archaeological Testing Program.	P0509 NB13-9-EN.3090,P0509 NB13-9-EN.3080,P0509 NB13-9-EN.3070,P0509 NB13-9-EN.2580,P0509 NB13-9-EN.2650,P0509 NB13-9-EN.2790
BSV-182	Long lead material procurement for third party utility relocations.	P0509 NB05-9-AU.70730,P0509 NB05-9-AU.70600,P0509 NB05-9-AU.70560,P0509 NB05-9-AU.70570,P0509 NB05-9-AU.70660,P0509 NB05-9-AU.70640,P0509 NB05-9-AU.70400,P0509 NB05-9-AU.70740,P0509 NB05-9-AU.70750,P0509 NB05-9-AU.70630
BSV-183	FLSSC concurrence of Santa Clara Station ventilation analysis and egress at station platform?.	P0509 NB03-9-FD.C1375
BSV-190	Third-party agencies not following the timely review under various executed agreements	P0509 NB13-9-DE.7090,P0509 NB13-9-DE.7240,P0509 NB13-9-DE.7390,P0509 NB13-9-DE.7340,P0509 NB13-9-DE.7290
BSV-191	CP2 PDB Stage 1 extended innovations concurrence process impact PDB cost and schedule.<CRLF>	P0509 NB13-9-DE.7410
BSV-196	Failure to secure a lump-sum price with KST resulting in Off-ramp.	P0509 NB13-9-CONS.325780
BSV-200	Diridon West Vent Shaft - Potential for full acquisition of property as opposed to access	P0509 NB02-9-ROW.4550,P0509 NB13-9-EN.1900
BSV-201	East Portal - Complicated ROW acquisitions with Kolander and A&B properties	P0509 NB02-9-ROW.4680,P0509 NB02-9-ROW.6670,P0509 NB02-9-ROW.85760
BSV-202	DTSJ Primary Headhouse - KST's Building strengthening plan	P0509 NB13-9-EN.2880
BSV-203	Timely readiness and cost of the West Portal TBM launch facility	P0509 NB13-9-ST.8710
BSV-204	Delays in Temporary Power SNH construction and long-lead transformer procurement	P0509 NB01-9-PRG.85240
BSV-205	Potential for litigation on approved NEPA Re-evaluation and CEQA Addendum <CRLF>	P0509 NB01-9-PRG.85240,P0509 NB01-9-PRG.85230
BSV-206	Constructed station box structure does not meet intended design criteria due to quality control issues in application	P0509 NB13-9-DR.1630,P0509 NB13-9-DTSJ.1930,P0509 NB13-9-ST.3410
BSV-207	Subsurface utility investigations delays resulting in additional relocations identified during later design phase	P0509 NB13-9-AU.2030,P0509 NB13-9-AU.1970,P0509 NB13-9-AU.1980,P0509 NB13-9-AU.2000
BSV-208	KST Overall Design approach leading to higher project cost and potential for delays due to redesign to fit within budget	P0509 NB13-9-DE.7040

Risk ID	Risk Description	Schedule Activity ID Mapping
BSV-209	Uncertainty in PDB process resulting in changes to project definition impacting CP2 construction schedule	P0509 NB13-9-CONS.325780
BSV-210	Potential construction methods impact approved environmental footprint	P0509 NB13-9-CONS.32520

Standard SCC Codes		Estimate BY$		Unit Prices		CER		Lump Sum	
SCC	Category	Estimate w/o Contingency	% Contingency	Unit Pricing Total	Unit Price % of Total	CER Pricing Total	CER Price % of Total	Lump Sum Pricing Total	Lump Sum Pricing Percent of Total
10	**GUIDEWAY**	**$ 2,099,529,338**	**20%**	**$ 1,754,691,970**	**84%**	**$ 228,143,992**	**11%**	**$ 116,693,376**	**6%**
10.06	Guideway: Underground cut & cover	$ 221,216,111	20%	$ 165,912,084	75%	$ 33,182,417	15%	$ 22,121,611	10%
10.07	Guideway: Underground tunnel	$ 1,518,665,276	20%	$ 1,290,865,485	85%	$ 151,866,528	10%	$ 75,933,264	5%
10.08	Guideway: Retained cut or fill	$ 113,105,310	20%	$ 96,139,514	85%	$ 11,310,531	10%	$ 5,655,266	5%
10.09	Track: Direct fixation	$ 175,240,113	20%	$ 148,954,096	85%	$ 17,524,011	10%	$ 8,762,006	5%
10.11	Track: Ballasted	$ 58,180,453	20%	$ 43,635,340	75%	$ 11,636,091	20%	$ 2,909,023	5%
10.12	Track: Special (switches, turnouts)	$ 13,122,074	20%	$ 9,185,452	70%	$ 2,624,415	20%	$ 1,312,207	10%
20	**STATIONS, STOPS**	**$ 1,352,015,082**	**20%**	**$ 1,045,193,890**	**77%**	**$ 190,710,812**	**14%**	**$ 116,110,380**	**9%**
20.01	At-grade station, stop, shelter, mall, terminal, platform	$ 109,452,856	20%	$ 76,616,999	70%	$ 21,890,571	20%	$ 10,945,286	10%
20.03	Underground station, stop, shelter, mall, terminal, platform	$ 987,968,722	20%	$ 790,374,978	80%	$ 98,796,872	10%	$ 98,796,872	10%
20.06	Automobile parking multi-story structure	$ 127,364,453	20%	$ 76,418,672	60%	$ 44,577,558	35%	$ 6,368,223	5%
20.07	Elevators, escalators	$ 127,229,051	20%	$ 101,783,241	80%	$ 25,445,810	20%	$ -	0%
30	**SUPPORT FACILITIES**	**$ 238,921,188**	**20%**	**$ 184,175,470**	**77%**	**$ 30,853,599**	**13%**	**$ 23,892,119**	**10%**
30.03	Heavy Maintenance Facility	$ 169,306,385	20%	$ 135,445,108	80%	$ 16,930,639	10%	$ 16,930,639	10%
30.05	Yard and Yard Track	$ 69,614,802	20%	$ 48,730,362	70%	$ 13,922,960	20%	$ 6,961,480	10%
40	**SITE WORK & SPECIAL CONDITIONS**	**$ 424,184,270**	**20%**	**$ 200,360,725**	**47%**	**$ 133,847,176**	**32%**	**$ 89,976,369**	**21%**
40.01	Demolition, Clearning, Earthwork	$ 81,585,675	20%	$ 65,268,540	80%	$ 8,158,567	10%	$ 8,158,567	10%
40.02	Site Utilities, Utility Relocation	$ 160,048,093	21%	$ 32,009,619	20%	$ 80,024,047	50%	$ 48,014,428	30%
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	$ 59,867,078	20%	$ 17,960,123	30%	$ 23,946,831	40%	$ 17,960,123	30%
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	$ 22,307,778	15%	$ 13,384,667	60%	$ 4,461,556	20%	$ 4,461,556	20%
40.05	Site structures including retaining walls, sound walls	$ 18,420,906	20%	$ 12,894,634	70%	$ 3,684,181	20%	$ 1,842,091	10%
40.07	Automobile, bus van accessways including roads, parking lots	$ 68,513,440	20%	$ 54,810,752	80%	$ 6,851,344	10%	$ 6,851,344	10%
40.08	Temporary Facilities and other indirect costs during construction	$ 13,441,300	17%	$ 4,032,390	30%	$ 6,720,650	50%	$ 2,688,260	20%
50	**SYSTEMS**	**$ 908,115,705**	**20%**	**$ 309,011,226**	**34%**	**$ 546,859,883**	**60%**	**$ 52,244,596**	**6%**
50.01	Train control and signals	$ 348,609,331	20%	$ 244,026,531	70%	$ 69,721,866	20%	$ 34,860,933	10%
50.03	Traction power supply: substations	$ 219,410,357	20%	$ -	0%	$ 219,410,357	100%	$ -	0%
50.04	Traction power distribution: catenary and third rail	$ 50,367,167	20%	$ -	0%	$ 50,367,167	100%	$ -	0%
50.05	Communications	$ 246,803,390	20%	$ 61,700,847	25%	$ 172,762,373	70%	$ 12,340,169	5%
50.06	Fare collection system and equipment	$ 32,838,474	20%	$ 3,283,847	10%	$ 29,554,626	90%	$ -	0%
50.07	Central Control	$ 10,086,987	20%	$ -	0%	$ 5,043,494	50%	$ 5,043,494	50%
Construction Subtotal (10 - 50)		**$ 5,022,765,583**	**20%**	**$ 3,493,433,281**	**70%**	**$ 1,130,415,462**	**23%**	**$ 398,916,841**	**8%**
60	**ROW, LAND, EXISTING IMPROVEMENTS**	**$ 185,006,786**	**28%**	**$ -**	**0%**	**$ 185,006,786**	**100%**	**$ -**	**0%**
60.01	Purchase or lease of real estate	$ 175,938,786	27%	$ -	0%	$ 175,938,786	100%	$ -	0%
60.02	Relocation of existing households and businesses	$ 9,068,000	30%	$ -	0%	$ 9,068,000	100%	$ -	0%
70	**VEHICLES (48)**	**$ 173,880,000**	**5%**	**$ 173,880,000**	**100%**	**$ -**	**0%**	**$ -**	**0%**
70.02	Heavy Rail	$ 173,880,000	5%	$ 173,880,000	100%		0%	$ -	0%
80	**PROFESSIONAL SERVICES**	**$ 2,421,952,844**	**4%**	**$ 217,735,258**	**9%**	**$ 2,204,217,587**	**91%**	**$ -**	**0%**
80.01	Project Development	$ 217,735,258	0%	$ 217,735,258	100%	$ -	0%	$ -	0%
80.02	Engineering (not appliable to Small Starts)	$ 438,847,824	4%		0%	$ 438,847,824	100%	$ -	0%
80.03	Project Management for Design and Construction	$ 1,055,743,127	4%		0%	$ 1,055,743,127	100%	$ -	0%

Standard SCC Codes		Estimate BY$		Unit Prices		CER		Lump Sum	
SCC	Category	Estimate w/o Contingency	% Contingency	Unit Pricing Total	Unit Price % of Total	CER Pricing Total	CER Price % of Total	Lump Sum Pricing Total	Lump Sum Pricing Percent of Total
80.04	Construction Administration & Management	$ 200,922,512	5%		0%	$ 200,922,512	100%	$ -	0%
80.05	Professional Liability and other Non-Construction Insurance	$ 367,547,819	5%		0%	$ 367,547,819	100%	$ -	0%
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$ 64,850,696	5%		0%	$ 64,850,696	100%	$ -	0%
80.07	Surveys, Testing, Investgation, Inspection	$ 22,003,115	5%		0%	$ 22,003,115	100%	$ -	0%
80.08	Start up	$ 54,302,494	5%		0%	$ 54,302,494	100%	$ -	0%
Subtotal (10 - 80)		**$ 7,803,605,214**	**15%**	**$ 3,885,048,538**	**50%**	**$ 3,519,639,835**	**45%**	**$ 398,916,841**	**5%**

Notes Regarding Updated BSVII P6 XER and adjustments made.

While addressing prior PMOC comments, a number of relationship changes were made to the activities in the schedule to eliminate any Out of Sequence, No Finish Relationship and Unusual Logic relationship. As a result the zero contingency schedule activities were impacted. The below four modifications to the schedule were made to maintain the schedule contigency assumptions without affecting the critical path or any major changes to the project schedule. The "**Current Logic Sequence**" as noted below is the updated logic that is contained in the updated XER file.

	Previous Logic Sequence	Current Logic Sequence	Clarification
1	Q1000 (Section 401 Water Quality Certification - Third Party) → FS → Cons.2660 (Launch TBM)	Q1000 (Section 401 Water Quality Certification) →FS→ TM.3020 (Mining from Diridon to DTSJ)	In order to address the open end activity comment, we tied Water Quality Certifiation initially to Launch TBM. In order to eliminate conflicts with Contingency activities, we changed the relationship to a later activity (TBM mining from Diridon to DTSJ). The predecessor activity is not required prior to launching the TBM; therefore, tying the predecessor to a later activity has no effect on the practical sequence of work.
2	TS.26390 (MEP and Rail Systems Installation and Fit-Out - CP1) →FS→TS.26440 (Pull Wire to Contact Rail CP1)	TS.26470 (Mobilization Phase 4 Area - CP1)→FS→ TS.26440 (Pull Wire to Contact Rail)	In order to address No Finish Relationship comment, initially the schedule assumptions were to start Systemwide Ductbank Wiring in CP1 phase 4 area after finishing the Main Line track MEP. In order to eliminate conflicts with Contingency activities, we started the Systemwide Ductbank Wiring in Phase 4 area immediately after Mobilization instead of waiting to finish Mainline Trackwork. Theses activities can be scheduled as concurent operations.
3	Cons.1230 (CP2 Provisional Completion) →FS→TS.7780 (Room Equipment and Cabinets CP1)	TS.26470 (Mobilization Phase 4 Area CP1) →FS→ TS.7780 (Room Equipment and Cabinets CP1)	Initially the schedule assumptions were to start room equipment and cabinets installation in the Train Control Room S85 at the West Portal after CP2 Provisional Completion. There was no contractual or interface requirement that prevents CP1 from starting work prior to CP2 Provisional Completion. Therefore, to address the impact on Contingency activities, the predecessor was changed to install equipment upon CP1 Mobilization in Phase 4 area. All this work is in CP1 contract now under Phase 4 Area.
4	NHY.8970 (Finish Track work in CP3 Phase 1) →FF→NHY.12640 (Finish Track work in CP3 Phase 4)	NHY.13800 (Finish Third Rail CP3 Phase 4)→FF→NHY.12640 (Finish Track work in CP3 Phase 4)	While we were addressing some of the comments, initially the schedule assumptions had an FF relationship between CP3 Phase 1 and Phase 4 track work. However, this relationship was not accurate from a required sequence perspective. In order to elimiate conflicts with contingency activities, we changed the relationship related to completion of Phase 4 Track work since there is no practical tie to Phase 1 track work.

Activity ID	Activity Name	Original Duration	Start in the July Rebaseline (DD01AUG23) submitted October 2023	Start in the November Update Schedule (DD01DEC23)	Finish in the July Rebaseline (DD01AUG23) submitted October 2023	Finish in the November Update Schedule (DD01DEC23)
AU.1570	CP-2 PDB Construction Final Design	257	12-Sep-22 A	12-Sep-22 A	18-Sep-23	3-May-24
AU.1580	CP-2 PDB Construction Final Design	386	12-Sep-22 A	12-Sep-22 A	25-Mar-24	25-Mar-24
AU.1600	CP-2 PDB Construction Final Design	309	12-Sep-22 A	12-Sep-22 A	1-Dec-23	13-May-24
AU.1610	CP-2 PDB Construction Final Design	234	12-Sep-22 A	12-Sep-22 A	15-Aug-23	16-Jan-24
AU.1700	CP-2 PDB Construction Final Design	257	12-Sep-22 A	12-Sep-22 A	18-Sep-23	12-Dec-23
AU.2340	Detailed Design & Construction	321	22-May-23 A	22-May-23 A	27-Aug-24	27-Aug-24
AU.70120	Utility Owner Final Design_AT&T DS-T-06 (Lead)	349	12-Jan-22 A	12-Jan-22 A	31-May-23 A	15-Nov-23 A
AU.70150	Utility Owner Final Design_PG&E DS-E-12	230	01-Jul-22 A	01-Jul-22 A	31-May-23 A	30-Nov-23 A
AU.70180	Utility Owner Final Design_Comcast DS-CATV-01 (TNT TO DS-T-06)	63	03-Mar-23 A	03-Mar-23 A	31-May-23 A	15-Nov-23 A
AU.70200	Utility Owner Construction_PG&E-OHE WP-OHE-04 (Lead)	146	21-Jun-23 A	21-Jun-23 A	19-Jan-24	19-Jan-24
AU.70240	Utility Owner Construction_San Jose Water Co. WP-W-01	168	15-Sep-23	15-Sep-23 A	15-May-24	15-May-24
AU.70250	Utility Owner Final Design_AT&T DSJS-T-01 (Lead)	252	01-Nov-22 A	01-Nov-22 A	31-Oct-23	31-Jan-24
AU.70260	Utility Owner Final Design_PG&E-E DSJS-E-32	145	01-Nov-22 A	01-Nov-22 A	1-Aug-23	31-Jan-24
AU.70270	Utility Owner Final Design_Level (3) DSJS-FO-05 (TNT TO DSJS-T-01)	85	03-Jul-23 A	03-Jul-23 A	31-Oct-23	31-Jan-24
AU.70340	Utility Owner Construction_San Jose Water Co. DS-W-08	125	1-Sep-23	30-Nov-23 A	29-May-24	15-Apr-24
AU.70400	Utility Owner Construction_PG&E-G DS-G-07	253	21-Jun-23 A	03-Sep-24*	20-Jun-24	31-Oct-24
AU.70420	Utility Owner Final Design_PG&E-OHE ARS-OHE-01 (Lead)	124	2-Oct-23	02-Oct-23 A	29-Mar-24	29-Mar-24
AU.70430	Utility Owner Final Design_Comcast ARS-OHC-01 (TNT TO ARS-OHE-01)	124	2-Oct-23	02-Oct-23 A	29-Mar-24	29-Mar-24
AU.70440	Utility Owner Final Design_San Jose Water Co. ARS-W-02	211	01-Feb-23 A	01-Feb-23 A	30-Nov-23	30-Nov-23 A
AU.70450	Utility Owner Final Design_Zayo ARS-OHT-04 (TNT TO ARS-OHE-01)	124	02-Oct-23*	02-Oct-23 A	29-Mar-24	29-Mar-24
AU.70460	Utility Owner Final Design_Caltrans T-Comm	211	01-Feb-23 A	01-Feb-23 A	30-Nov-23	30-Nov-23 A
AU.70470	Utility Owner Final Design_AT&T EP-OHT-01 (TNT TO EP-OHE-01)	128	01-Feb-23 A	01-Feb-23 A	2-Aug-23	02-Aug-23 A
AU.70490	Utility Owner Final Design_Comcast EP-OHC-01 (TNT TO EP-OHE-01)	128	01-Feb-23 A	01-Feb-23 A	2-Aug-23	02-Aug-23 A
AU.70590	Utility Owner Final Design_PG&E-OHE NHY-OHE-01	85	03-Jul-23 A	03-Jul-23 A	31-Oct-23	31-Jan-24
AU.70620	Utility Owner Final Design MCImetro DSJS-FO-06 (TNT to AT&T DSJS-T-01)	187	01-Nov-22 A	01-Nov-22 A	1-Aug-23	31-Jan-24
AU.70630	Utility Owner Construction_Zayo DS-FO-03	421	31-Oct-23 A	31-Oct-23 A	2-Jul-25	29-Mar-24
AU.70640	Utility Owner Construction Zayo WP-OHT-01 (TNT to WP-OHE-04)	114	01-Sep-23 A	01-Sep-23 A	15-Feb-24	15-Feb-24
AU.70660	Utility Owner Construction PG&E FMC-OHE-01	158	21-Jun-23 A	21-Jun-23 A	6-Feb-24	6-Feb-24
AU.71020	Utility Owner Construction_Bandwidth DS-FO-14	338	30-Nov-23 A	30-Nov-23 A	3-Apr-25	29-Mar-24
AU.71120	Utility Owner Final Design_AT&T ARS-T-01	211	01-Feb-23 A	01-Feb-23 A	30-Nov-23	30-Nov-23 A
AU.71130	Utility Owner Final Design_PG&E-G ARS-G-01	124	02-Oct-23*	02-Oct-23 A	29-Mar-24	29-Mar-24
AU.71570	Execute NTP Comcast ARS-OHC-01(TNT TO ARS-OHE-01)	43	01-Aug-23*	01-Aug-23 A	29-Sep-23	29-Sep-23 A
CMP.1050	RFP Issued and Posted to VTA Vendor Portal	2	17-Aug-23	25-Sep-23 A	18-Aug-23	
CMP.1060	Conducted Pre-Proposal Meeting	0			10-Oct-23	10-Oct-23 A
Cons.2530	TBM Supply/Execute Contract	31	29-Sep-23	02-Nov-23 A	10-Nov-23	27-Nov-23 A
Cons.325740	Base Design Services	469	21-Feb-23 A	21-Feb-23 A	27-Dec-24	27-Dec-24
Cons.325770	First Estimate Submitted	0			18-Aug-23*	18-Aug-23 A
Cons.325780	Price Negotiation	217	21-Aug-23	21-Aug-23 A	28-Jun-24	28-Jun-24
De.7010	60% Submittal	121	23-Feb-23 A	23-Feb-23 A	14-Aug-23	14-Aug-23 A
De.7020	85% Submittal	107	15-Aug-23	15-Aug-23 A	18-Jan-24	18-Jan-24
De.7060	60% Submittal	113	23-Feb-23 A	23-Feb-23 A	2-Aug-23	02-Aug-23 A
De.7070	85% Submittal	130	3-Aug-23	03-Aug-23 A	8-Feb-24	8-Feb-24
De.7100	30% Submittal	278	08-Sep-22 A	08-Sep-22 A	13-Oct-23	13-Oct-23 A
De.7110	60% Submittal	40	16-Oct-23	16-Oct-23 A	12-Dec-23	12-Dec-23
De.7160	60% Submittal	133	23-Feb-23 A	23-Feb-23 A	30-Aug-23	30-Aug-23 A
De.7170	85% Submittal	110	31-Aug-23	31-Aug-23 A	8-Feb-24	8-Feb-24
De.7210	60% Submittal	122	10-Jul-23 A	10-Jul-23 A	2-Jan-24	2-Jan-24
De.7260	60% Submittal	118	23-Feb-23 A	23-Feb-23 A	9-Aug-23	09-Aug-23 A
De.7310	60% Submittal	115	21-Jun-23 A	21-Jun-23 A	4-Dec-23	4-Dec-23
De.7360	60% Submittal	122	12-Jul-23 A	12-Jul-23 A	4-Jan-24	4-Jan-24
De.7400	60% Design Interfaces	132	01-May-23 A	01-May-23 A	3-Nov-23	03-Nov-23 A
De.7410	85% Design Interfaces	110	01-May-23 A	01-May-23 A	4-Oct-23	04-Oct-23 A
EN.2300	Pay Newhall Yard Habitat Fees for SCV Habitat Agency	0			10-Jun-22 A	09-Jun-22 A
FD.B1045	Prepare 60% Reports and Specs	155	30-May-23 A	30-May-23 A	9-Jan-24	9-Jan-24
FD.C1205	IDR Review Comment Resolution	5	7-Nov-23	07-Nov-23 A	13-Nov-23	13-Nov-23 A
FD.C1235	IDR Comment Incorporation	15	15-Nov-23	15-Nov-23 A	7-Dec-23	7-Dec-23
FD.C1245	IDR Inter-Disciplinary Review	10	24-Oct-23	24-Oct-23 A	6-Nov-23	06-Nov-23 A
FD.C1255	Intra-Discipline Drawing Review	5	10-Oct-23	10-Oct-23 A	16-Oct-23	16-Oct-23 A
FD.C1405	Prepare 60% Drawings	93	30-May-23 A	30-May-23 A	9-Oct-23	09-Oct-23 A
FD.C1500	Prepare 60% Reports and Specs	93	30-May-23 A	30-May-23 A	9-Oct-23	09-Oct-23 A
FD.C1500	Prepare 60% Reports and Specs	93	30-May-23 A	30-May-23 A	9-Oct-23	09-Oct-23 A
FD.D1245	IDR Inter-Disciplinary Review	10	22-Nov-23	22-Nov-23 A	7-Dec-23	7-Dec-23
FD.D1245	IDR Inter-Disciplinary Review	10	22-Nov-23	22-Nov-23 A	7-Dec-23	7-Dec-23
FD.D1405	Prepare 60% Drawings	114	30-May-23 A	30-May-23 A	7-Nov-23	07-Nov-23 A
FD.D1500	Prepare 60% Reports and Specs	114	30-May-23 A	30-May-23 A	7-Nov-23	07-Nov-23 A
PRG.70420	Order TBM	0	29-Sep-23	01-Nov-23 A		0-Jan-00
PRG.85200	FTA Review of NEPA	51	02-Oct-23*	02-Oct-23 A	13-Dec-23	29-Dec-23
PRG.85500	FTA Environmental Update	230	01-Nov-22 A	01-Nov-22 A	29-Sep-23	29-Sep-23 A
RoW.11630	Effective Possession	547	07-Oct-22 A	07-Oct-22 A	9-Dec-24	25-Apr-25
RoW.11640	Cost Loaded Activity_Easement B4002	626	06-Sep-22 A	06-Sep-22 A	9-Dec-24	25-Apr-25
RoW.11790	Effective Possession	20	03-Nov-23 A	03-Nov-23 A	1-Aug-23	12-Jan-26
RoW.12090	Resolution of Necessity (If Req'd)	164	17-Jan-23 A	17-Jan-23 A	7-Sep-23	7-Mar-24
RoW.12930	Effective Possession	186	07-Apr-23 A	07-Apr-23 A	2-Jan-24	29-Mar-24
RoW.1570	Survey	448	05-Nov-18 A	05-Nov-18 A	11-Aug-20	30-Aug-24
RoW.1580	Survey	448	05-Nov-18 A	05-Nov-18 A	11-Aug-20	30-Aug-24
RoW.1690	Survey	1264	04-May-20 A	04-May-20 A	29-Sep-23	15-Feb-24
RoW.2270	Survey	948	02-Dec-19 A	02-Dec-19 A	29-Sep-23	20-Dec-23
RoW.2570	Appraisal Process	105	01-Jul-20 A	45538	1-Aug-23	22-Jan-25
RoW.2580	Appraisal Process	105	01-Jul-20 A	45538	1-Dec-20	22-Jan-25
RoW.3330	Appraisal Process	61	17-Jul-23 A	17-Jul-23 A	10-Oct-23	07-Aug-23 A
RoW.3340	Appraisal Process	61	17-Jul-23 A	17-Jul-23 A	10-Oct-23	29-Aug-23 A
RoW.3640	Making Offer/Negotiations	45	11-Oct-23	30-Aug-23 A	14-Dec-23	19-Sep-23 A
RoW.4010	Making Offer/Negotiations	45	11-Oct-23	08-Aug-23 A	14-Dec-23	16-Aug-23 A
RoW.4020	Making Offer/Negotiations	45	11-Oct-23	30-Aug-23 A	14-Dec-23	19-Sep-23 A
RoW.4350	Resolution of Necessity (If Req'd)	13	15-Dec-23	17-Aug-23 A	4-Jan-24	1-Feb-24
RoW.4360	Resolution of Necessity (If Req'd)	13	15-Dec-23	20-Sep-23 A	17-Aug-23	1-Feb-24
RoW.4430	Effective Possession	651	30-Aug-21 A	30-Aug-21 A	1-Apr-24	1-Apr-24
RoW.4450	Effective Possession	272	02-Dec-22 A	02-Dec-22 A	2-Jan-24	2-Jan-24
RoW.4460	Effective Possession	169	02-Dec-22 A	02-Dec-22 A	3-Aug-23	29-Dec-23
RoW.4520	Effective Possession	630	04-Jan-22 A	04-Jan-22 A	2-Jul-24	2-Jul-24
RoW.4690	Effective Possession	45	1-Aug-23	29-Aug-22 A	3-Oct-23	31-Oct-22 A
RoW.4750	Effective Possession	214	1-Aug-23	09-Sep-21 A	5-Jun-24	15-Jul-22 A
RoW.4760	Survey	1159	02-Jan-19 A	02-Jan-19 A	31-Aug-23	01-Aug-23 A
RoW.5240	Appraisal Process	139	1-Sep-23	02-Aug-23 A	22-Mar-24	1-Aug-24
RoW.6100	Resolution of Necessity (If Req'd)	266	16-Sep-22 A	16-Sep-22 A	5-Oct-23	05-Oct-23 A
RoW.6890	Resolution of Necessity (If Req'd)	123	16-Mar-23 A	16-Mar-23 A	7-Sep-23	05-Oct-23 A
RoW.6920	Resolution of Necessity (If Req'd)	6	1-Aug-23	03-Mar-23 A	8-Aug-23	10-Mar-23 A
RoW.7670	Effective Possession	282	6-Oct-23	06-Oct-23 A	15-Nov-24	4-Apr-25
RoW.80680	Appraisal Process	61	17-Jul-23 A	17-Jul-23 A	10-Oct-23	07-Aug-23 A
RoW.80690	Making Offer/Negotiations	45	11-Oct-23	08-Aug-23 A	14-Dec-23	13-Sep-23 A

Activity not in DD 01Dec23 schedule, Remaining duration adjusted to 1 day

Activity ID	Activity Name	Original Duration	Start in the July Rebaseline (DD01AUG23) submitted October 2023	Start in the November Update Schedule (DD01DEC23)	Finish in the July Rebaseline (DD01AUG23) submitted October 2023	Finish in the November Update Schedule (DD01DEC23)
RoW.80910	Effective Possession	621	03-Mar-23 A	03-Mar-23 A	15-Aug-25	2-Jan-26
RoW.80990	Effective Possession	641	03-Feb-23 A	03-Feb-23 A	18-Aug-25	5-Jan-26
RoW.8120	Survey	860	04-May-20 A	04-May-20 A	31-Oct-23	12-Jan-24
RoW.8150	Effective Possession	656	03-Feb-23 A	03-Feb-23 A	9-Sep-25	27-Jan-26
RoW.81340	Effective Possession Milestone	0			11-Aug-25	30-Nov-23 A
RoW.81820	Construction Need By Date	0			5-Jun-24	15-Jul-22 A
RoW.82030	Effective Possession	622	03-Feb-23 A	03-Feb-23 A	22-Jul-25	9-Dec-25
RoW.82180	Received ROW Verification Package	0			31-Aug-23	01-Aug-23 A
RoW.8250	Effective Possession	626	03-Mar-23 A	03-Mar-23 A	22-Aug-25	9-Jan-26
RoW.8290	Effective Possession	592	07-Apr-23 A	07-Apr-23 A	11-Aug-25	30-Nov-23 A
RoW.83270	Resolution of Necessity (If Req'd)	104	12-Apr-23 A	12-Apr-23 A	7-Sep-23	1-Aug-24
RoW.8330	Effective Possession	474	8-Sep-23	06-Oct-23 A	17-Jun-25	12-Dec-25
RoW.83390	Effective Possession	169	02-Jun-23 A	02-Jun-23 A	2-Feb-24	1-Jul-24
RoW.83480	Making Offer/Negotiations	21	16-Feb-23 A	16-Feb-23 A	1-Aug-23	29-Mar-24
RoW.8360	Effective Possession	572	13-Mar-23 A	13-Mar-23 A	16-Jun-25	3-Nov-25
RoW.83670	Survey	326	04-May-20 A	04-May-20 A	1-Aug-23	30-Aug-24
RoW.8370	Effective Possession	557	07-Apr-23 A	07-Apr-23 A	20-Jun-25	7-Nov-25
RoW.8380	Effective Possession	671	07-Oct-22 A	07-Oct-22 A	6-Jun-25	24-Oct-25
RoW.8390	Effective Possession	667	07-Oct-22 A	07-Oct-22 A	2-Jun-25	20-Oct-25
RoW.84000	Survey	475	14-Jan-22 A	14-Jan-22 A	1-Dec-23	30-Aug-24
RoW.84110	Survey	411	04-May-20 A	04-May-20 A	1-Dec-23	30-Aug-24
RoW.85340	Survey	1322	10-Jul-18 A	10-Jul-18 A	29-Sep-23	12-Jan-24
RoW.85600	Survey	860	04-May-20 A	04-May-20 A	29-Sep-23	31-Jan-24
RoW.85700	Effective Possession (Portion B)	759	30-Aug-21 A	30-Aug-21 A	3-Sep-24	31-Dec-24
RoW.85820	Survey	1302	10-Jul-18 A	10-Jul-18 A	31-Aug-23	1-Feb-24
RoW.85920	Survey	1244	01-Oct-18 A	04-May-20 A	31-Aug-23	31-Aug-23 A
RoW.85930	Appraisal Process	21	1-Sep-23	01-Sep-23 A	2-Oct-23	08-Sep-23 A
RoW.85940	Making Offer/Negotiations	22	3-Oct-23	11-Sep-23 A	1-Nov-23	18-Sep-23 A
RoW.85950	Effective Possession	40	2-Nov-23	19-Sep-23 A	2-Jan-24	29-Mar-24
RoW.85980	Received ROW Verification Package	0			31-Aug-23	31-Aug-23 A
RoW.9470	Effective Possession	1055	03-Mar-23 A	03-Mar-23 A	7-May-27	24-Sep-27
RoW.9480	Effective Possession	1160	07-Oct-22 A	07-Oct-22 A	17-May-27	1-Oct-27
RoW.9490	Effective Possession	1149	04-Nov-22 A	04-Nov-22 A	28-May-27	15-Oct-27
RoW.9660	Effective Possession	421	01-Feb-23 A	01-Feb-23 A	30-Sep-24	14-Feb-25
RoW.9990	Relocation B3101	313	01-Nov-22 A	01-Nov-22 A	31-Jan-24	2-Jan-25
Sum.8310	Order TBM	0	29-Sep-23	01-Nov-23 A		
SP.6000	VTA Board Approves CEQA (EIR)	419	01-May-23 A	01-May-23 A	31-Mar-25	1-May-25
AU.70290	Utility Owner Final Design_PG&E-G EVS-G-01	149	01-Feb-23 A		31-Aug-23	
AU.70370	Temporary Utility Owner Construction_San Jose Water Co. WVS-W-01	128	03-Apr-23 A		2-Oct-23	
AU.70380	Temporary Utility Owner Construction_PG&E-G WVS-G-01	107	03-Apr-23 A		31-Aug-23	
AU.70520	Temporary Utility Owner Construction_Centurylink WVS-FO-11 (TNT TO WVS-FO-04)	356	18-Nov-22 A		19-Apr-24	
AU.70530	Temporary Utility Owner Construction_Bandwidth WVS-FO-10 (TNT TO WVS-T-01)	356	07-Nov-22 A		8-Apr-24	
AU.70540	Temporary Utility Owner Construction_MCImetro WVS-FO-01	356	18-Nov-22 A		19-Apr-24	
AU.70550	Temporary Utility Owner Construction_Zayo WVS-FO-12 (TNT TO WVS-T-01)	356	16-Sep-22 A		15-Feb-24	
AU.71030	Temporary Utility Owner Construction Comcast WVS-OHC-02 (TNT to WVS-OHE-03)	107	03-Apr-23 A		31-Aug-23	
AU.71160	Temporary Utility Owner Construction_XO-Comm WVS-FO-03 (TNT TO WVS-FO-04)	356	18-Nov-22 A		19-Apr-24	
AU.71170	Temporary Utility Owner Construction_AT&T WVS-OHT-01	356	01-Sep-22 A		1-Feb-24	
AU.71180	Temporary Utility Owner Construction_PG&E-OHE WVS-OHE-03 (Lead)	107	03-Apr-23 A		31-Aug-23	
AU.71250	Temporary Utility Owner Construction Level (3) WVS-FO-02 (TNT to WVS-T-01)	356	09-Sep-22 A		8-Feb-24	
AU.71730	Temp Utility Owner Construction Centurylink WVS-FO-13 (TNT to WVS-T-01)	356	12-Sep-22 A		9-Feb-24	
CMP.1030	RFP Legal Review – Log and Upload w/PCRF to GCO-PCMM	279	28-Jun-22 A		4-Aug-23	
RoW.12820	Effective Possession	305	17-Apr-23 A		28-Jun-24	

Activity not in DD 01Dec23 schedule, Remaining duration adjusted to 1 day

Activity not in DD 01Dec23 schedule, Remaining duration adjusted to 1 day

PMOC Comments on schedule 10/31/2023

The schedule is comprised of 13 individual schedules and has a total number of activities of 3,487, for reference.

47 activities are out of sequence. [These should be 100% rectified.]

5 milestone activities have invalid relationships. [These should eliminated or justified individually.]

159 activities lack predecessors. [This is excessive and should be significantly reduced or eliminated.]

217 activities lack successors. [This is excessive and should be significantly reduced or eliminated.]

353 activities (over 10% of total) are constrained. [Although noted in the BoS that all are soft constraints, this is excessive and should be reduced or justified individually.]

	PMOC Comments	VTA Confirmed	VTA Updated Schedule		Individual Schedule	VTA Response
Date	10/31/2023	10/31/2023	11/2/2023			
	No detailed report	VTA developed report	Last Final Run	Details		
Activities are Out of Sequence	47	Yes	0	0	-	Addressed
Milestone activities have invalid relationships	5	Yes	0	0	-	Addressed
Activities lack predecessors	159	Yes	14	14	Summary Schedule	This schedule only used for VTA internal reporting filters and developments of the Linear Schedule.
Activities lack successors	217	Yes	129	1	Program Management and Administration	Revenue Service Date (RSD) activity represent the end of the program
				9	Right of Way	Those activities are for ROW at MTF on Stockton or 13th. Street. VTA is still tracking those parcels for now, it will be deleted at some point in the future
				19	Utility Owners	Those activities are for Utility relocations at MTF on Stockton or 13th. Street. VTA is still tracking those parcels for now, it will be deleted at some point in the future
				100	Summary Schedule	This schedule is used for VTA internal reporting filters and developments of the Linear Schedule
Activities W/Soft Constraints	353	Yes	76	10	Program Management and Administration	Activities has relationships in the schedule, but No Lag is used. Instead soft constraint was used.
				8	Right of Way	Those activities are for ROW at MTF on Stockton or 13th. Street. VTA is still tracking those parcels for now, it will be deleted at some point in the future
				51	Utility Owners	1- Some of those activities are for Utility relocations at MTF on Stockton or 13th. Street. VTA is still tracking those parcels for now, it will be deleted at some point in the future 2- Activities has relationships in the schedule, but No Lag is used. Instead soft constraint was used. Driven by third party construction schedule (Stager Schedule)
				2	Third Party	Activity with specific date from 3rd. Party Team.
				3	Vehicles & Parking	Activities related to the Salt Pond. Actual schedule is being tracked by VTA Environmental Team
				2	Contract Package 2	Activities has proper relationship, but with soft constraint for the date

Scheduling/Leveling Report - 2023-10-31 10:31:35 - PM.EXE

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Default Project.....P0509 NB15

Use scheduling options from.....P0509 NB15

Projects:

P0509 NB01.....BSV Phase II Project - Program Management and Administration
P0509 NB02.....BSV Phase II Project - Right of Way
P0509 NB03.....BSV Phase II Project - Design
P0509 NB04.....BSV Phase II Project - Advertise, Bid & Award
P0509 NB05.....BSV Phase II Project - Utilities
P0509 NB06.....BSV Phase II Project - Third Party
P0509 NB08.....BSV Phase II Project - Vehicles & Parking
P0509 NB09.....BSV Phase II Project - Testing and Commissioning
P0509 NB10.....BSV Phase II Project - Summary
P0509 NB12.....BSV Phase II Project - Systems
P0509 NB13.....BSV Phase II Project - Contract Package 2
P0509 NB14.....BSV Phase II Project - Yard/SC Station
P0509 NB15.....BSV Phase II Project - Underground Stations

Statistics:

Projects.....13
Activities.....3487
Not Started.....2362
In Progress.....172
Completed.....953
Relationships.....5550
 # Activities with Constraint.....353

							VTA Comments		
							Schedule Projects Section	Comments	Action
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.1680~~	~~Start NEPA/CEQA~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.80210~~	~~Submit EPD Grant Request~~		~~Program Management and Administration~~		Addressed
1	Project:	P0509 NB01	Activity:	PRG.85200	FTA Review of NEPA		Program Management and Administration	Date received from Env Team updates. We have relationship, but No Lag Used. Instead we have soft constraint	
2	Project:	P0509 NB01	Activity:	PRG.85230	VTA Board Meeting for CEQA Approval		Program Management and Administration	Date received from Env Team updates. We have relationship, but No Lag Used. Instead we have soft constraint	
3	Project:	P0509 NB01	Activity:	PRG.85250	FFGA Approval		Program Management and Administration	Date received from Env Team updates. We have relationship, but No Lag Used. Instead we have soft constraint	
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85270~~	~~Systems VTA Design Pencil Down~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85280~~	~~Systems VTA Cost Estimate Update~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85290~~	~~CP2 Contractor Cost Estimate Update~~		~~Program Management and Administration~~		Addressed
4	Project:	P0509 NB01	Activity:	PRG.85300	CP2 Stage 2 Award		Program Management and Administration	FFGA schedule, we have relationship, no Lag Used.	
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85310~~	~~Yard/SC Station VTA Design Pencil Down~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85320~~	~~Yard/SC Station VTA Cost Estimate Update~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85330~~	~~Underground StationsVTA Cost Estimate Update~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85340~~	~~Underground Stations VTA Design Pencil Down~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85350~~	~~VTA FY 2024 CIG Budget Submittal~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85360~~	~~VTA LONP Request~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85370~~	~~VTA Request to Leave EPD, Re-Entire NSPD with LONP~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85380~~	~~VTA Budget, Schedule and Risk Updates Issued~~		~~Program Management and Administration~~		Addressed
5	Project:	P0509 NB01	Activity:	PRG.85390	VTA Request to Entire New Start Engineering		Program Management and Administration	FFGA schedule Milestones, we have relationship, no Lag Used.	
6	Project:	P0509 NB01	Activity:	PRG.85400	VTA Request to Execute FFGA		Program Management and Administration	FFGA schedule Milestones, we have relationship, no Lag Used.	
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85410~~	~~VTA Environmental Update~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85420~~	~~FTA Issue LONP~~		~~Program Management and Administration~~		Addressed
7	Project:	P0509 NB01	Activity:	PRG.85430	FTA Risk Assessment Refresh/Workshop		Program Management and Administration	FFGA schedule Milestones, we have relationship, no Lag Used.	
8	Project:	P0509 NB01	Activity:	PRG.85440	FTA Issue Readiness for Engineering Report		Program Management and Administration	FFGA schedule Milestones, we have relationship, no Lag Used.	
9	Project:	P0509 NB01	Activity:	PRG.85450	FTA Issue Entry into New Starts Engineering		Program Management and Administration	FFGA schedule Milestones, we have relationship, no Lag Used.	
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85460~~	~~FTA Issue Readiness for FFGA Report~~		~~Program Management and Administration~~		Addressed
10	Project:	P0509 NB01	Activity:	PRG.85480	FFGA Development		Program Management and Administration	FFGA schedule Milestones, we have relationship, no Lag Used.	
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85490~~	~~FFGA Approvals (FTA/OST, OMB, Congress)~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85500~~	~~FTA Environmental Update~~		~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.10110~~	~~Relocation B3219~~		~~Right of Way~~		Addressed
1	Project:	P0509 NB02	Activity:	RoW.11040	Appraisal Process		Right of Way	MTF at Stockton or 13th. Street	
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11080~~	~~Effective Possession~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11600~~	~~Making Offer/Negotiations~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11650~~	~~ESA P1 & P2~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11790~~	~~Effective Possession~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.1190~~	~~PTE~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11920~~	~~Making Offer/Negotiations~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.12080~~	~~Making Offer/Negotiations~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.12160~~	~~Making Offer/Negotiations~~		~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.12960~~	~~Making Offer/Negotiations~~		~~Right of Way~~		Addressed

~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.1530~~	~~Survey~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.1540~~	~~Survey~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2300~~	~~Survey~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2550~~	~~Appraisal Process~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2710~~	~~Survey~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2930~~	~~Appraisal Process~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.3650~~	~~Resolution of Necessity~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.3660~~	~~Resolution of Necessity~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.3680~~	~~Resolution of Necessity (If Req'd)~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.3690~~	~~Resolution of Necessity (If Req'd)~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.3700~~	~~Resolution of Necessity (If Req'd)~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.3710~~	~~Resolution of Necessity (If Req'd)~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4630~~	~~Effective Possession~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5670~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5690~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5970~~	~~Appraisal Process~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.6240~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.6260~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.6370~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.6380~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.6390~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.6400~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.80650~~	~~PTE~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.80800~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.80880~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.8160~~	~~Effective Possession~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82010~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82190~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82200~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82210~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82260~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82270~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82290~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82300~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82310~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82320~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82330~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82340~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82350~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82360~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82370~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82390~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82400~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82410~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82420~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82430~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82440~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82450~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82460~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82470~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82530~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82630~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82640~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82650~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82670~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82680~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82690~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82700~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.82710~~	~~Received ROW Verification Package~~	~~Right of Way~~			Addressed
2 Project:	P0509 NB02	Activity:	RoW.82920	Appraisal Process	Right of Way	MTF at Stockton or 13th. Street		
3 Project:	P0509 NB02	Activity:	RoW.83030	Appraisal Process	Right of Way	MTF at Stockton or 13th. Street		
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.8310~~	~~Effective Possession~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83130~~	~~Survey~~	~~Right of Way~~			Addressed
4 Project:	P0509 NB02	Activity:	RoW.83140	Appraisal Process	Right of Way	MTF at Stockton or 13th. Street		
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83240~~	~~Survey~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83250~~	~~Appraisal Process~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83260~~	~~Making Offer/Negotiations~~	~~Right of Way~~			Addressed
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83350~~	~~Survey~~	~~Right of Way~~			Addressed
5 Project:	P0509 NB02	Activity:	RoW.83360	Appraisal Process	Right of Way	MTF at Stockton or 13th. Street		
~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83460~~	~~Survey~~	~~Right of Way~~			Addressed

	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83470~~	~~Appraisal Process~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83490~~	~~Resolution of Necessity (If Req'd)~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.83670~~	~~Survey~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.84000~~	~~Survey~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.84110~~	~~Survey~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.84120~~	~~Appraisal Process~~	~~Right of Way~~		Addressed
	Project:	P0509 NB02	Activity:	RoW.84330	Survey	Right of Way		Addressed
6	Project:	P0509 NB02	Activity:	RoW.84340	Appraisal Process	Right of Way	MTF at Stockton or 13th. Street	
7	Project:	P0509 NB02	Activity:	RoW.84440	Appraisal Process	Right of Way	MTF at Stockton or 13th. Street	
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.85080~~	~~Survey~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.85090~~	~~Appraisal Process~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.8530~~	~~Making Offer/Negotiations~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.8560~~	~~Making Offer/Negotiations~~	~~Right of Way~~		Addressed
8	Project:	P0509 NB02	Activity:	RoW.85720	Survey	Right of Way	New Parcels added with a set date from ROW Team. It is pending final design by CP2 KST at East Portal.	
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.9660~~	~~Effective Possession~~	~~Right of Way~~		Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B1005~~	~~Prep CP-2 Review Package for OTS Review~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B1015~~	~~VTA Right of Way & Alignment Workshop~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B1025~~	~~Prep Mock-Up Set of CP2 Vol. R Ref. Dwgs.~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B1071~~	~~CP2's BART & VTA Interactive OTS Review of Draft CP2 Package (Compressed)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B32110~~	~~Prepare CP-2 Draft Standard Spec Outline for OTS~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B5317~~	~~CP2 1st Draft GBR: QA & MR Reviews~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B6046~~	~~CP-2: 13th Street Mid-Tunnel Facility Concept Defined~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B6060~~	~~CP-2 Transition Zone Accepted by BART (through TWG)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B6070~~	~~CP-2 Tunnel and Track Alignment Frozen~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B6670~~	~~CP2 N&VR: Incorporate IDR Comments~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.D6636~~	~~Preliminary Engineering Submittal to VTA~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.G8130~~	~~Silver Creek Fault Crossing Study -- Quality Control (QC) Review~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.SJ1010~~	~~VTA-COSJ Intro to Tunnels, Portals, Etc Workshop w/ CP2 (Part 1)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.SJ1011~~	~~VTA-COSJ Intro to Tunnels, Portals, Etc Workshop w/ CP2 (Part 2)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	~~Project:~~	~~P0509 NB04~~	~~Activity:~~	~~Pr.11300~~	~~Issue RFIF~~	~~Advertise, Bid & Award~~		Addressed
	~~Project:~~	~~P0509 NB04~~	~~Activity:~~	~~Pr.11360~~	~~Discretionary Meetings~~	~~Advertise, Bid & Award~~		Addressed
	~~Project:~~	~~P0509 NB04~~	~~Activity:~~	~~Pr.11430~~	~~Pre-SOQ Meeting~~	~~Advertise, Bid & Award~~		Addressed
	~~Project:~~	~~P0509 NB04~~	~~Activity:~~	~~Pr.12390~~	~~Issue NTP-1~~	~~Advertise, Bid & Award~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.1520~~	~~Exe NTP MCImetro DSJS-FO-06 (TNT to AT&T DSJS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.1630~~	~~Execute NTP Zayo WP-OHT-01 (TNT to WP-OHE-04)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.2280~~	~~Execute Implementation Letter for BART To Request All Required Electrical Service~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.2340~~	~~Detailed Design & Construction~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.2690~~	~~Utility Investigation and Mapping~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.2700~~	~~Execute NTP Comcast WVS-OHC-02 (TNT to WVS-OHE-03)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.2710~~	~~Exe NTP Level (3) WVS-FO-02 (TNT to WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70000~~	~~Utility Owner Final Design_PG&E-OHE-WP-OHE-04 (Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70010~~	~~Utility Owner Final Design_Sprint WP-FO-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70020~~	~~Utility Owner Final Design_PG&E-OHE-NHY-OHE-02~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70040~~	~~Utility Owner Final Design_San Jose Water Co.-WP-W-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70050~~	~~Utility Owner Final Design_AT&T-OHE-WVS-T-01(Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70060~~	~~Utility Owner Final Design_Century link WVS-FO-11 (TNT TO WVS-FO-04)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70070~~	~~Utility Owner Final Design_Bandwidth WVS-FO-10(TNT TO WVS-T-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70080~~	~~Utility Owner Final Design_MCImetro WVS-FO-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70090~~	~~Utility Owner Final Design_Zayo WVS-FO-12(TNT TO WVS-T-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70100~~	~~Utility Owner Final Design_PG&E-G-WVS-G-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70110~~	~~Utility Owner Final Design_San Jose Water Co.-WVS-W-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70120~~	~~Utility Owner Final Design_AT&T-DS-T-06 (Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70130~~	~~Utility Owner Final Design_PG&E-G-DS-G-07~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70140~~	~~Utility Owner Final Design_San Jose Water Co.-DS-W-08~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70150~~	~~Utility Owner Final Design_PG&E-DS-E-12~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70160~~	~~Utility Owner Final Design_Bandwidth-DS-FO-14~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70170~~	~~Utility Owner Final Design_Zayo-DS-FO-03~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70180~~	~~Utility Owner Final Design_Comcast-DS-CATV-01 (TNT TO DS-T-06)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70200~~	~~Utility Owner Construction_PG&E-OHE-WP-OHE-04 (Lead)~~	~~Utilities Owners~~		Addressed
1	Project:	P0509 NB05	Activity:	AU.70210	Utility Owner Construction_Sprint WP-FO-01	Utilities Owners	nship, Gap between Activities from Monthly Updates based on Owners internal schedule.	
2	Project:	P0509 NB05	Activity:	AU.70220	Utility Owner Construction_PG&E-OHE NHY-OHE-02	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70230~~	~~Utility Owner Final Design-PG&E-FMC-OHE-01~~	~~Utilities Owners~~		Addressed
3	Project:	P0509 NB05	Activity:	AU.70240	Utility Owner Construction_San Jose Water Co. WP-W-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70250~~	~~Utility Owner Final Design_AT&T-DSJS-T-01 (Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70260~~	~~Utility Owner Final Design_PG&E-E-DSJS-E-32~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70270~~	~~Utility Owner Final Design_Level (3)-DSJS-FO-05 (TNT TO DSJS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70280~~	~~Utility Owner Final Design_AT&T-EVS-T-01 (Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70290~~	~~Utility Owner Final Design_PG&E-G-EVS-G-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70300~~	~~Utility Owner Final Design_San Jose Water Co.-EVS-W-01~~	~~Utilities Owners~~		Addressed

	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70310~~	~~Utility Owner Final Design_MCImetro EVS-FO-03 (TNT TO EVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70320~~	~~Utility Owner Final Design_Zayo EVS-FO-01 (TNT TO EVS-T-01)~~	~~Utilities Owners~~		Addressed
4	Project:	P0509 NB05	Activity:	AU.70330	Utility Owner Construction_Comcast DS-CATV-01 (TNT TO DS-T-06)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
5	Project:	P0509 NB05	Activity:	AU.70340	Utility Owner Construction_San Jose Water Co. DS-W-08	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70360~~	~~Utility Owner Final Design Comcast WVS-OHC-02 (TNT to WVS-OHE-03)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70370~~	~~Temporary Utility Owner Construction_San Jose Water Co. WVS-W-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70380~~	~~Temporary Utility Owner Construction_PG&E-G-WVS-G-01~~	~~Utilities Owners~~		Addressed
6	Project:	P0509 NB05	Activity:	AU.70390	Utility Owner Construction_PG&E-E DS-E-12	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70400~~	~~Utility Owner Construction_PG&E-G DS-G-07~~	~~Utilities Owners~~		Addressed
7	Project:	P0509 NB05	Activity:	AU.70410	Utility Owner Final Design_AT&T ARS-OHT-01 (TNT TO ARS-OHE-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
8	Project:	P0509 NB05	Activity:	AU.70420	Utility Owner Final Design_PG&E-OHE ARS-OHE-01 (Lead)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
9	Project:	P0509 NB05	Activity:	AU.70430	Utility Owner Final Design_Comcast ARS-OHC-01 (TNT TO ARS-OHE-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70440~~	~~Utility Owner Final Design_San Jose Water Co. ARS-W-02~~	~~Utilities Owners~~		Addressed
10	Project:	P0509 NB05	Activity:	AU.70450	Utility Owner Final Design_Zayo ARS-OHT-04 (TNT TO ARS-OHE-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70460~~	~~Utility Owner Final Design_Caltrans T-Comm~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70470~~	~~Utility Owner Final Design_AT&T EP-OHT-01 (TNT TO EP-OHE-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70480~~	~~Utility Owner Final Design_PG&E-OHE EP-OHE-01 (Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70490~~	~~Utility Owner Final Design_Comcast EP-OHC-01 (TNT TO EP-OHE-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70500~~	~~Utility Owner Final Design_San Jose Water Co. EP-W-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70510~~	~~Temporary Utility Owner Construction_AT&T WVS-T-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70550~~	~~Temporary Utility Owner Construction_Zayo WVS-FO-12 (TNT TO WVS-T-01)~~	~~Utilities Owners~~		Addressed
11	Project:	P0509 NB05	Activity:	AU.70560	Utility Owner Construction_PG&E-E DSJS-E-32	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
12	Project:	P0509 NB05	Activity:	AU.70570	Utility Owner Construction_PG&E-G DSJS-G-09	~~Utilities Owners~~		Addressed
13	Project:	P0509 NB05	Activity:	AU.70580	Temporary Utility Owner Construction_San Jose Water Co. EVS-W-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70590~~	~~Utility Owner Final Design_PG&E-OHE NHY-OHE-01~~	~~Utilities Owners~~		Addressed
14	Project:	P0509 NB05	Activity:	AU.70600	Utility Owner Construction_AT&T DS-T-06 (Lead)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70610~~	~~Utility Owner Final Design Level (3) WVS-FO-02 (TNT to WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70620~~	~~Utility Owner Final Design MCImetro DSJS-FO-06 (TNT to AT&T DSJS-T-01)~~	~~Utilities Owners~~		Addressed
15	Project:	P0509 NB05	Activity:	AU.70630	Utility Owner Construction_Zayo DS-FO-03	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
16	Project:	P0509 NB05	Activity:	AU.70640	Utility Owner Construction Zayo WP-OHT-01 (TNT to WP-OHE-04)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
17	Project:	P0509 NB05	Activity:	AU.70650	Final Utility Owner Construction_AT&T WVS-T-01 (Lead)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70660~~	~~Utility Owner Construction PG&E FMC-OHE-01~~	~~Utilities Owners~~		Addressed
18	Project:	P0509 NB05	Activity:	AU.70670	Final Utility Owner Construction_San Jose Water Co. WVS-W-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
19	Project:	P0509 NB05	Activity:	AU.70680	Final Utility Owner Construction_Centurylink WVS-FO-11 (TNT TO WVS-FO-04)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
20	Project:	P0509 NB05	Activity:	AU.70690	Final Utility Owner Construction_Bandwidth WVS-FO-10 (TNT TO WVS-T-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
21	Project:	P0509 NB05	Activity:	AU.70700	Final Utility Owner Construction_MCImetro WVS-FO-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
22	Project:	P0509 NB05	Activity:	AU.70710	Final Utility Owner Construction_Zayo WVS-FO-12 (TNT TO WVS-T-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
23	Project:	P0509 NB05	Activity:	AU.70720	Final Utility Owner Construction_PG&E-G WVS-G-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
24	Project:	P0509 NB05	Activity:	AU.70730	Utility Owner Construction_PG&E-OHE NHY-OHE-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
25	Project:	P0509 NB05	Activity:	AU.70740	Utility Owner Construction_AT&T DSJS-T-01 (Lead)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
26	Project:	P0509 NB05	Activity:	AU.70750	Utility Owner Construction_Level (3) DSJS-FO-05 (TNT TO DSJS-T-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
27	Project:	P0509 NB05	Activity:	AU.70760	Temporary Utility Owner Construction_PG&E-G EVS-G-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
28	Project:	P0509 NB05	Activity:	AU.70800	Temporary Utility Owner Construction_AT&T EP-OHT-01 (TNT TO EP-OHE-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70810~~	~~Temporary Utility Owner Construction_PG&E-OHE EP-OHE-01 (Lead)~~	~~Utilities Owners~~		Addressed
29	Project:	P0509 NB05	Activity:	AU.70820	Temporary Utility Owner Construction_Comcast EP-OHC-01 (TNT TO EP-OHE-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
30	Project:	P0509 NB05	Activity:	AU.70830	Temporary Utility Owner Construction_San Jose Water Co. EP-W-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.70840~~	~~Temporary Utility Owner Construction_PG&E-G-EP-G-01~~	~~Utilities Owners~~		Addressed
31	Project:	P0509 NB05	Activity:	AU.70920	Final Utility Owner Construction_AT&T EVS-T-01 (Lead)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
32	Project:	P0509 NB05	Activity:	AU.70930	Final Utility Owner Construction_PG&E-G EVS-G-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
33	Project:	P0509 NB05	Activity:	AU.70940	Final Utility Owner Construction_San Jose Water Co. EVS-W-01	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
34	Project:	P0509 NB05	Activity:	AU.70950	Final Utility Owner Construction MCImetro EVS-FO-03 (TNT TO EVS-T-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
35	Project:	P0509 NB05	Activity:	AU.70960	Final Utility Owner Construction_Zayo EVS-FO-01 (TNT TO EVS-T-01)	Utilities Owners	Activities W/realtionship, Gap between Activities from Updates	
36	Project:	P0509 NB05	Activity:	AU.70970	Final Utility Owner Construction_AT&T EP-OHT-01 (TNT TO EP-OHE-01)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
37	Project:	P0509 NB05	Activity:	AU.70980	Final Utility Owner Construction_PG&E-OHE EP-OHE-01 (Lead)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
38	Project:	P0509 NB05	Activity:	AU.70990	Final Utility Owner Construction_Comcast EP-OHC-01 (TNT TO EP-OHE-01)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
39	Project:	P0509 NB05	Activity:	AU.71000	Final Utility Owner Construction_San Jose Water Co. EP-W-01	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
40	Project:	P0509 NB05	Activity:	AU.71010	Final Utility Owner Construction_PG&E-G EP-G-01	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
41	Project:	P0509 NB05	Activity:	AU.71020	Utility Owner Construction_Bandwidth DS-FO-14	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71030~~	~~Temporary Utility Owner Construction Comcast WVS-OHC-02 (TNT to WVS-OHE-03~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71070~~	~~Utility Owner Final Design_AT&T WVS-OHT-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71080~~	~~Utility Owner Final Design_PG&E-OHE WVS-OHE-03 (Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71090~~	~~Utility Owner Final Design_MCImetro (Lead) WVS-FO-04~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71100~~	~~Utility Owner Final Design_XO-Comm WVS-FO-03 (TNT TO WVS-FO-04)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71110~~	~~Utility Owner Final Design_PG&E-G DSJS-G-09~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71120~~	~~Utility Owner Final Design_AT&T ARS-T-01~~	~~Utilities Owners~~		Addressed
42	Project:	P0509 NB05	Activity:	AU.71130	Utility Owner Final Design_PG&E-G ARS-G-01	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71140~~	~~Utility Owner Final Design_PG&E-G-EP-G-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71150~~	~~Temporary Utility Owner Construction_MCImetro (Lead) WVS-FO-04~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71160~~	~~Temporary Utility Owner Construction_XO-Comm WVS-FO-03 (TNT TO WVS-FO-04~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71170~~	~~Temporary Utility Owner Construction_AT&T WVS-OHT-01~~	~~Utilities Owners~~		Addressed

	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71180~~	~~Temporary Utility Owner Construction_PG&E-OHE WVS-OHE-03 (Lead)~~	~~Utilities Owners~~		Addressed
43	Project:	P0509 NB05	Activity:	AU.71190	Final Utility Owner Construction_MCImetro (Lead) - WVS-FO-04	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
44	Project:	P0509 NB05	Activity:	AU.71200	Final Utility Owner Construction_XO-Comm WVS-FO-03 (TNT TO WVS-FO-04)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71210~~	~~Execute NTP PG&E-OHE NHY-OHE-02~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71220~~	~~Execute NTP PG&E-OHE NHY-OHE-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71250~~	~~Temporary Utility Owner Construction Level (3) WVS-FO-02 (TNT to WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71280~~	~~Execute NTP XO-Comm WVS-FO-03(TNT TO WVS-FO-04)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71300~~	~~Execute NTP Bandwidth WVS-FO-10 (TNT TO WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71310~~	~~Execute NTP_Century link WVS-FO-11(TNT TO WVS-FO-04)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71320~~	~~Execute NTP Zayo WVS-FO-12(TNT TO WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71380~~	~~Execute NTP Zayo DS-FO-03~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71400~~	~~Execute NTP Comcast DS-CATV-01(TNT TO DS-T-06)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71410~~	~~Execute NTP Bandwidth DS-FO-14~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71440~~	~~Execute NTP AT&T DSJS-T-01(Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71450~~	~~Execute NTP AT&T EVS-T-01(Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71460~~	~~Execute NTP AT&T ARS-OHT-01(TNT TO ARS-OHE-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71470~~	~~Execute NTP AT&T EP-OHT-01(TNT TO EP-OHE-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71480~~	~~Execute NTP PG&E-E-DSJS-E-32~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71490~~	~~Execute NTP Level (3) DSJS-FO-05(TNT TO DSJS-T-01)~~	~~Utilities Owners~~		Addressed
45	Project:	P0509 NB05	Activity:	AU.71500	Final Utility Owner Construction Comcast WVS-OHC-02 (TNT to WVS-OHE-03)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71510~~	~~Execute NTP PG&E-G-DSJS-G-09~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71520~~	~~Execute NTP PG&E-G-EVS-G-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71530~~	~~Execute NTP San Jose Water Co. EVS-W-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71540~~	~~Execute NTP MCImetroEVS-FO-03(TNT TO EVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71550~~	~~Execute NTP Zayo EVS-FO-01(TNT TO EVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71560~~	~~Execute NTP PG&E-OHE ARS-OHE-01(Lead)~~	~~Utilities Owners~~		Addressed
46	Project:	P0509 NB05	Activity:	AU.71570	Execute NTP Comcast ARS-OHC-01(TNT TO ARS-OHE-01)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71580~~	~~Execute NTP San Jose Water Co. ARS-W-02~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71590~~	~~Execute NTP Zayo ARS-OHT-04 (TNT TO ARS-OHE-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71610~~	~~Execute NTP AT&T ARS-T-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71620~~	~~Execute NTP PG&E-G-ARS-G-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71630~~	~~Execute NTP PG&E-OHE EP-OHE-01(Lead)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71640~~	~~Execute NTP Comcast EP-OHC-01(TNT TO EP-OHE-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71650~~	~~Execute NTP San Jose Water Co. EP-W-01~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71660~~	~~Execute NTP PG&E-G-EP-G-01~~	~~Utilities Owners~~		Addressed
47	Project:	P0509 NB05	Activity:	AU.71670	Final Utility Owner Construction Level (3) WVS-FO-02 (TNT to WVS-T-01)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
48	Project:	P0509 NB05	Activity:	AU.71680	Final Utility Owner Construction PG&E (Lead) - WVS-OHE-03	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
49	Project:	P0509 NB05	Activity:	AU.71690	Utility Owner Construction MCImetro DSJS-FO-06 (TNT to DSJS-T-01)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71710~~	~~Exe NTP Centurylink WVS-FO-13 (TNT to WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71720~~	~~Utility Owner Final Design Centurylink WVS-FO-13 (TNT to WVS-T-01)~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71730~~	~~Temp Utility Owner Construction Centurylink WVS-FO-13 (TNT to WVS-T-01)~~	~~Utilities Owners~~		Addressed
50	Project:	P0509 NB05	Activity:	AU.71740	Final Utility Owner Construction Centurylink WVS-FO-13 (TNT to WVS-T-01)	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71750~~	~~Execute NTP MCImetro WP-FO-02~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71760~~	~~Utility Owner Final Design MCImetro WP-FO-02~~	~~Utilities Owners~~		Addressed
51	Project:	P0509 NB05	Activity:	AU.71770	Utility Owner Construction MCImetro WP-FO-02	Utilities Owners	Activities W/relationship, Gap between Activities from Updates	
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71780~~	~~Detailed Design & Construction Contingency~~	~~Utilities Owners~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~A1010~~	~~Section 408/404 Permit(s)~~	~~Third Party~~	Activities Without relationship, Updates from 3rd. Party	
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1000~~	~~Prepare Draft Master Agreement for CSJ~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1010~~	~~Prepare Draft Master Agreement for CSC~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1050~~	~~Update Draft Master Agreement for CSC~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1110~~	~~Meet with CSC~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1120~~	~~CSJ review of Draft Master Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1150~~	~~Meet with CSC~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1400~~	~~13th St MTF Water Relocation~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1410~~	~~28th St Sta Water Relocation~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~AA.1420~~	~~East Portal Water Relocation~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~C1070~~	~~Cooperative Agreement #1 (Scope & Requirements Definition and City Pre-DB Proc~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~C1080~~	~~Coop Ag#2 Scope and Cost Reimbursement for City Design Reviews and Constructi~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~C1100~~	~~Cooperative Agreement #1 (Scope & Requirements Definition #1 and Pre-DB Procu~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~C1140~~	~~Coop Ag#2 Scope and Cost Reimbursement for City Design Reviews and Constructi~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~D1020~~	~~Encroachment Permit~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~D1030~~	~~BSVII Design-Build Cooperative Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7000~~	~~Submission of Draft CMP & RAP for VTA review~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7010~~	~~Submission of Draft CMP & RAP for RWQCB review~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7020~~	~~RWQC issues approval letter for VTA to implement CMP & RAP~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7030~~	~~VTA Issues final version of CMP & RAP for inclusion in Contract Packages~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7040~~	~~Submit Issue for Use CMP & RAP to RWQCB~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7050~~	~~Prepare fact sheet for BSV2 CMP & RAP public comment (60 days)~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7060~~	~~End of public comment~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~ES.7070~~	~~VTA address public comment (if any)~~	~~Third Party~~		Addressed

	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~F1000~~	~~FAA Form 7460-1 Notice of Proposed Construction or Alteration~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~J1010~~	~~Site Specific Work Plan/Request to Work~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~J1040~~	~~Preliminary Engineering Cost Reimbursement Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~J1050~~	~~Final Engineering Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~O1000~~	~~Tunneling Classification~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~O1010~~	~~Permit to Use Diesel Equipment Underground~~	~~Third Party~~		Addressed
1	Project:	P0509 NB06	Activity:	Q1010	Various Permits for Operating The Newhall Maintenance Facility (Inclusive of Stora	Third Party		
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1220~~	~~VTA Board Authorization~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1230~~	~~Develop Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1410~~	~~Master Relocation Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1420~~	~~Master Relocation Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1430~~	~~Master Relocation Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1440~~	~~Master Relocation Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1450~~	~~Master Relocation Agreement~~	~~Third Party~~		Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1460~~	~~Master Relocation Agreement~~	~~Third Party~~		Addressed
2	Project:	P0509 NB06	Activity:	W1000	Payment of Fees Payable upon filing of NOD with County of Santa Clara (Office of C	Third Party		
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~W1010~~	~~Lake & Streambed & Alteration Agreement~~	~~Third Party~~	Activities Without relationship, Updates from 3rd. Party	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~W1020~~	~~Submission of California Natural Diversity Database (CNDD) Entries to CDFW If and~~	~~Third Party~~	Activities Without relationship, Updates from 3rd. Party	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Par.7000~~	~~Execute Lease Agreement with Google~~	~~Vehicles & Parking~~		Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Par.7010~~	~~Identify VTA PM for the Parking Project~~	~~Vehicles & Parking~~		Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Par.7030~~	~~VTA Advertise and Award~~	~~Vehicles & Parking~~		Addressed
1	Project:	P0509 NB08	Activity:	SP.6010	USF&WS Approves NEPA (EIS)	Vehicles & Parking	Activities Without relationship for Salt Pond	
2	Project:	P0509 NB08	Activity:	SP.6030	Design (Soil distribution approach and required improvements at Salt Ponds)	Vehicles & Parking	Activities Without relationship for Salt Pond	
3	Project:	P0509 NB08	Activity:	SP.6040	Construction of required improvements at Salt Ponds	Vehicles & Parking	Activities Without relationship for Salt Pond	
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Ve.7010~~	~~Vehicle Procurement~~	~~Vehicles & Parking~~	Activities Without relationship for Vehicle Procurement	Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~Cons.1210~~	~~NTP 1~~	~~Contract Package 2~~		Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~Cons.325700~~	~~LNTP~~	~~Contract Package 2~~		Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~Cons.325730~~	~~NTP1 A~~	~~Contract Package 2~~		Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~Cons.325750~~	~~Early Work No. 1~~	~~Contract Package 2~~		Addressed
1	Project:	P0509 NB13	Activity:	Cons.325770	First Estimate Submitted	Contract Package 2	Has relationship, but with constraint	
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~EN.2300~~	~~Pay Newhall Yard Habitat Fees for SCV Habitat Agency~~	~~Contract Package 2~~		Addressed
2	Project:	P0509 NB13	Activity:	EN.2350	West Portal Enabling Works NTP	Contract Package 2	Has relationship, but with constraint	
	Project:	~~P0509 NB14~~	~~Activity:~~	~~NHY.15250~~	~~Start Ductbank Work~~	~~CP3 - Yard/ SC Station Construction~~	CP3 Construction	Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.7000~~	~~NTP~~	~~CP3 - Yard/ SC Station Construction~~	CP3 Construction	Addressed
	Project:	~~P0509 NB14~~	~~Activity:~~	~~NHY.7070~~	~~Start Track Work~~	~~CP3 - Yard/ SC Station Construction~~	CP3 Construction	Addressed

Activities without predecessors.....159

	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.010511~~	~~PM NTP~~	~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85200~~	~~FTA Review of NEPA~~	~~Program Management and Administration~~		Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.10030~~	~~Relocation B3110~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.10040~~	~~Relocation B3109 (Portion B)~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11020~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11570~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11650~~	~~ESA P1 & P2~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.11730~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.12050~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.12370~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.12880~~	~~Survey~~	~~Right of Way~~	Activity completed prior to Aug 1, 2023 Data Date	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.13000~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.1630~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.1690~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2280~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2720~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.2740~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4770~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4790~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4840~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4920~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4930~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4940~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.4980~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5000~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5010~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5050~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.5060~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.7380~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.7390~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.7410~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed
	~~Project:~~	~~P0509 NB02~~	~~Activity:~~	~~RoW.7420~~	~~Survey~~	~~Right of Way~~	Few activities updated from ROW Mater Spreadsheet	Addressed

Project:	P0509 NB02	Activity:	RoW.7430	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.7460	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	Row.80530	Soft Costs	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.80770	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.80850	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.80930	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.81010	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.81090	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.8110	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.82910	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.83020	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.83130	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.83240	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.83350	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.83460	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.83670	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.84110	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.85600	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.85720	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB02	Activity:	RoW.85920	Survey	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed
Project:	P0509 NB03	Activity:	PE.B1075	CP2 Vol 1 Draft	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B23280	ET Makes Standard Drawing Modifications	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B32110	Prepare CP-2 Draft Standard Spec Outline for OTS	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B32180	CP-2 Verify RFP Documents Conform to Requirements (PHA, Con Ops, DCM, etc)	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B32200	ET Modifies BART Standard Specs	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B4010	Prepare CP-2 Prescriptive & Performance Specs: Annotated Outlines for OTS	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B6035	Systems to CP2: Systems Conduits, Adits, & Distribution Layouts Input for CP2 RFP	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B6040	Systems to CP-2: Ventilation Configs & Rqmts Set as CP2 RFP Basis	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B6050	CP-3 to CP-2: West Portal & Tie-In Geometry Input for CP2 RFP	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.B6060	CP-2 Transition Zone Accepted by BART (through TWG)	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.D6636	Preliminary Engineering Submittal to VTA	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.E1001	Start Work Under New IWP - Incremental Work Plan	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.G8105	Silver Creek Fault Crossing Study – Start CV&I Milestone (Ken Johnson, Owner)	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB03	Activity:	PE.G8210	Complete compilation of FDHA Report (K. Johnson, Owner)	Design	Activities extracted from GEC schedule at Summary level	Addressed
Project:	P0509 NB04	Activity:	Pr.11300	Issue RFIF	Advertise, Bid & Award		Addressed
Project:	P0509 NB04	Activity:	Pr.11370	Finalize RFQ Scope	Advertise, Bid & Award		Addressed
Project:	P0509 NB04	Activity:	Pr.119200	Draft RFP	Advertise, Bid & Award		Addressed
Project:	P0509 NB05	Activity:	AU.1450	Develop Conceptual Relocation Design	Utilities Owners	Activities provided by Utility Owners at Summary level	Addressed
Project:	P0509 NB05	Activity:	AU.1480	Prepare Conceptual Relocation	Utilities Owners	Activities provided by Utility Owners at Summary level	Addressed
Project:	P0509 NB05	Activity:	AU.1540	Develop Conceptual Relocation Design	Utilities Owners	Activities provided by Utility Owners at Summary level	Addressed
Project:	P0509 NB05	Activity:	AU.2690	Utility Investigation and Mapping	Utilities Owners	Activities provided by Utility Owners at Summary level	Addressed
Project:	P0509 NB05	Activity:	AU.71040	Prepare Conceptual Relocation	Utilities Owners	Activities provided by Utility Owners at Summary level	Addressed
Project:	P0509 NB05	Activity:	AU.71050	Develop Conceptual Relocation Design	Utilities Owners	Activities provided by Utility Owners at Summary level	Addressed
Project:	P0509 NB06	Activity:	A1010	Section 408/404 Permit(s)	Third Party		Addressed
Project:	P0509 NB06	Activity:	AA.1160	Address CSJ comments in Draft Master Agreement	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	AA.1300	West Portal Newhall St. Water Relocation	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	AA.1380	Stockton Ave Water Relocation	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	AA.1390	Diridon Sta Water Relocation	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	AA.1400	13th St MTF Water Relocation	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	AA.1410	28th St Sta Water Relocation	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	AA.1420	East Portal Water Relocation	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	B1090	IL35:BART Support During the Project Development Phase (PD) - BSVII	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	C1070	Cooperative Agreement #1 (Scope & Requirements Definition and City Pre-DB Proc	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	C1080	Coop Ag#2 Scope and Cost Reimbursement for City Design Reviews and Constructi	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	C1100	Cooperative Agreement #1 (Scope & Requirements Definition #1 and Pre-DB Procu	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	C1140	Coop Ag#2 Scope and Cost Reimbursement for City Design Reviews and Constructi	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	D1010	Amendment No. 1 to Master Cooperative Agreement for 2016 Measure B Projects	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	D1030	BSVII Design-Build Cooperative Agreement	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7000	Submission of Draft CMP & RAP for VTA review	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7010	Submission of Draft CMP & RAP for RWQCB review	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7020	RWQC issues approval letter for VTA to implement CMP & RAP	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7030	VTA Issues final version of CMP & RAP for inclusion in Contract Packages	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7040	Submit Issue for Use CMP & RAP to RWQCB	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7050	Prepare fact sheet for BSV2 CMP & RAP public comment (60 days)	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7060	End of public comment	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	ES.7070	VTA address public comment (if any)	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	J1000	Cooperative Agreement	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	J1040	Preliminary Engineering Cost Reimbursement Agreement	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	J1050	Final Engineering Agreement	Third Party	No Predecessor available for relationship. Dates Provided	Addressed
Project:	P0509 NB06	Activity:	L1000	Project Labor Agreement	Third Party	No Predecessor available for relationship. Dates Provided	Addressed

	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~O1000~~	~~Tunneling Classification~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~Q1010~~	~~Various Permits for Operating The Newhall Maintenance Facility (Inclusive of Stora~~	~~Third Party~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~S1000~~	~~Contaminant Management Plan~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~U1000~~	~~Approval of Safety and Security Certification Plan~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1220~~	~~VTA Board Authorization~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1410~~	~~Master Relocation Agreement~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1420~~	~~Master Relocation Agreement~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1430~~	~~Master Relocation Agreement~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1440~~	~~Master Relocation Agreement~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1450~~	~~Master Relocation Agreement~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~UA.1460~~	~~Master Relocation Agreement~~	~~Third Party~~	No Predecessor available for relationship. Dates Provided	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~W1000~~	~~Payment of Fees Payable upon filing of NOD with County of Santa Clara (Office of C~~	~~Third Party~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~W1010~~	~~Lake & Streambed & Alteration Agreement~~	~~Third Party~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~W1020~~	~~Submission of California Natural Diversity Database (CNDD) Entries to CDFW If and~~	~~Third Party~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Par.7000~~	~~Execute Lease Agreement with Google~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Par.7010~~	~~Identify VTA PM for the Parking Project~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~SP.6000~~	~~VTA Board Approves CEQA (EIR)~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~SP.6010~~	~~USF&WS Approves NEPA (EIS)~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~SP.6030~~	~~Design (Soil distribution approach and required improvements at Salt Ponds)~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~SP.6040~~	~~Construction of required improvements at Salt Ponds~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
	~~Project:~~	~~P0509 NB08~~	~~Activity:~~	~~Ve.7010~~	~~Vehicle Procurement~~	~~Vehicle & Parking~~	No Predecessor available for relationship. They are Constraint List	Addressed
1	Project:	P0509 NB10	Activity:	ROWP.70382	Summary East Portal	Summary Schedule	Used for Reporting filters and Linear Schedule	
2	Project:	P0509 NB10	Activity:	ROWP.71160	Summary ROW Between East Portal & 28th St	Summary Schedule	Used for Reporting filters and Linear Schedule	
3	Project:	P0509 NB10	Activity:	ROWP.71170	Summary ROW 28th St	Summary Schedule	Used for Reporting filters and Linear Schedule	
4	Project:	P0509 NB10	Activity:	ROWP.71180	Summary ROW Between 28th St & Emergency Stop	Summary Schedule	Used for Reporting filters and Linear Schedule	
5	Project:	P0509 NB10	Activity:	ROWP.71190	Summary ROW 13th Street Mid-Tunnel Facility	Summary Schedule	Used for Reporting filters and Linear Schedule	
6	Project:	P0509 NB10	Activity:	ROWP.71200	Summary ROW DTSJ Emergency Egress Shaft	Summary Schedule	Used for Reporting filters and Linear Schedule	
7	Project:	P0509 NB10	Activity:	ROWP.71210	Summary ROW DTSJ East Entrance	Summary Schedule	Used for Reporting filters and Linear Schedule	
8	Project:	P0509 NB10	Activity:	ROWP.71220	Summary ROW DTSJ West Egress	Summary Schedule	Used for Reporting filters and Linear Schedule	
9	Project:	P0509 NB10	Activity:	ROWP.71240	Summary ROW Diridon	Summary Schedule	Used for Reporting filters and Linear Schedule	
10	Project:	P0509 NB10	Activity:	ROWP.71250	Summary ROW Diridon & West Emergency Stop	Summary Schedule	Used for Reporting filters and Linear Schedule	
11	Project:	P0509 NB10	Activity:	ROWP.71260	Summary ROW West Emergency Stop & West Portal	Summary Schedule	Used for Reporting filters and Linear Schedule	
12	Project:	P0509 NB10	Activity:	ROWP.71270	Summary ROW West Emergency Stop	Summary Schedule	Used for Reporting filters and Linear Schedule	
13	Project:	P0509 NB10	Activity:	Sum.8370	Project Start Date (FTA's approval as part of New Starts Project Development)	Summary Schedule	Used for Reporting filters and Linear Schedule	
14	Project:	P0509 NB10	Activity:	Sum.9880	BART Board Approval of BSVII	Summary Schedule	Used for Reporting filters and Linear Schedule	
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.14740~~	~~New Activity~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.16810~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17165~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17175~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17195~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17205~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17225~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17235~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17245~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17730~~	~~Central Control Allowance~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.26490~~	~~Phase 2 Area Systems~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.26500~~	~~Phase 3 Area Systems~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.26510~~	~~Phase 4 Area Systems~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~De.7400~~	~~60% Design Interfaces~~	~~CP2 - Construction~~	Activity Started	Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~De.7410~~	~~85% Design Interfaces~~	~~CP2 - Construction~~		Addressed
	~~Project:~~	~~P0509 NB13~~	~~Activity:~~	~~EN.2300~~	~~Pay Newhall Yard Habitat Fees for SCV Habitat Agency~~	~~CP2 - Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15020~~	~~Phase 1 Area Construction~~	~~CP3 - Yard/ SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15250~~	~~Start Ductbank Work~~	~~CP3 - Yard/ SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15350~~	~~Phase 2 Area Construction~~	~~CP3 - Yard/ SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15360~~	~~Phase 3 Area Construction~~	~~CP3 - Yard/ SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15370~~	~~Phase 4 Area Construction~~	~~CP3 - Yard/ SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.7070~~	~~Start Track Work~~	~~CP3 - Yard/ SC Station Construction~~		Addressed

Activities without successors.....217

66 activities of 198 are completed

1	Project:	P0509 NB01	Activity:	PRG.70000	Start of Revenue Service	Program Management and Administration	End of Program	
	~~Project:~~	~~P0509 NB01~~	~~Activity:~~	~~PRG.85190~~	~~VTA Review & Update Based on 30% Design~~	~~Program Management and Administration~~		Addressed
	Project:	~~P0509 NB02~~	~~Activity:~~	~~Row.80530~~	~~Soft Costs~~	~~Right of Way~~	LOE Activity	Addressed
1	Project:	P0509 NB02	Activity:	RoW.81590	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
2	Project:	P0509 NB02	Activity:	RoW.81850	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
3	Project:	P0509 NB02	Activity:	RoW.81900	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
4	Project:	P0509 NB02	Activity:	RoW.82980	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
5	Project:	P0509 NB02	Activity:	RoW.83090	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
6	Project:	P0509 NB02	Activity:	RoW.83200	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
7	Project:	P0509 NB02	Activity:	RoW.84390	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future

8	Project:	P0509 NB02	Activity:	RoW.84490	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
9	Project:	P0509 NB02	Activity:	RoW.85140	Construction Need By Date	Right of Way	ROW at MTF Stockton or 13th. Street	will be eliminated in the future
	Project:	~~P0509 NB03~~	~~Activity:~~	~~FD.A2375~~	~~60% Cost Estimate: Complete for Provision to VTA~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~FD.A2485~~	~~85% Cost Estimate: Complete for Provision to VTA~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.0301C2R2V2~~	~~SVTC FY20/21 RL 03.01.C2.R2.V2 Project Prescriptive Requirements~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.0301C2R2V3~~	~~SVTC FY20/21 RL 03.01.C2.R2.V3 Prescriptive Scope Drawings~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.0301C2R2V4~~	~~SVTC FY20/21 RL 03.01.C2.R2.V4 Performance &/or Prescriptive Specs~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.0301C2R2V5~~	~~SVTC FY20/21 RL 03.01.C2.R2.V5 Additional Contract Requirements~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.0301C2R2VR~~	~~SVTC FY20/21 RL 03.01.C2.R2.VR Reference Materials~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B1122~~	~~CP-2 BART Review~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B1160~~	~~CP-2 Draft Final RFP Ready-to-Issue Milestone~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B2120~~	~~CP-2 Support DCM Development – Stage 2~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B23280~~	~~ET Makes Standard Drawing Modifications~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B32200~~	~~ET Modifies BART Standard Specs~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B6035~~	~~Systems to CP2: Systems Conduits, Adits, & Distribution Layouts Input for CP2 RFP~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B6045~~	~~CP-2: Stockton Avenue Mid-Tunnel Facility Concept Frozen~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B6046~~	~~CP-2: 13th Street Mid-Tunnel Facility Concept Defined~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B6060~~	~~CP-2 Transition Zone Accepted by BART (through TWG)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B6080~~	~~CP-2 ROW Requirements (Temp & Perm) Finalized~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.B6425~~	~~BART Reviews & Comments on CP2 Permanent Take ROW Drawings~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.G8210~~	~~Complete compilation of FDHA Report (K. Johnson, Owner)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB03~~	~~Activity:~~	~~PE.SJ1011~~	~~VTA COSJ Intro to Tunnels, Portals, Etc Workshop w/ CP2 (Part 2)~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed
	Project:	~~P0509 NB04~~	~~Activity:~~	~~Pr.11600~~	~~VTA Announce Shortlist~~	~~Advertise, Bid & Award~~		Addressed
1	Project:	P0509 NB05	Activity:	AU.70650	Final Utility Owner Construction_AT&T WVS-T-01 (Lead)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
2	Project:	P0509 NB05	Activity:	AU.70670	Final Utility Owner Construction_San Jose Water Co. WVS-W-01	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
3	Project:	P0509 NB05	Activity:	AU.70680	Final Utility Owner Construction_Centurylink WVS-FO-11 (TNT TO WVS-FO-04)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
4	Project:	P0509 NB05	Activity:	AU.70690	Final Utility Owner Construction_Bandwidth WVS-FO-10 (TNT TO WVS-T-01)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
5	Project:	P0509 NB05	Activity:	AU.70700	Final Utility Owner Construction_MCImetro WVS-FO-01	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
6	Project:	P0509 NB05	Activity:	AU.70710	Final Utility Owner Construction_Zayo WVS-FO-12 (TNT TO WVS-T-01)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
7	Project:	P0509 NB05	Activity:	AU.70720	Final Utility Owner Construction_PG&E-G WVS-G-01	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
8	Project:	P0509 NB05	Activity:	AU.70920	Final Utility Owner Construction_AT&T EVS-T-01 (Lead)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
9	Project:	P0509 NB05	Activity:	AU.70930	Final Utility Owner Construction_PG&E-G EVS-G-01	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
10	Project:	P0509 NB05	Activity:	AU.70940	Final Utility Owner Construction_San Jose Water Co. EVS-W-01	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
11	Project:	P0509 NB05	Activity:	AU.70950	Final Utility Owner Construction MCImetro EVS-FO-03 (TNT TO EVS-T-01)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
12	Project:	P0509 NB05	Activity:	AU.70960	Final Utility Owner Construction_Zayo EVS-FO-01 (TNT TO EVS-T-01)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
	~~Project:~~	~~P0509 NB05~~	~~Activity:~~	~~AU.71040~~	~~Prepare Conceptual Relocation~~	~~Utility Owners~~		Addressed
13	Project:	P0509 NB05	Activity:	AU.71170	Temporary Utility Owner Construction_AT&T WVS-OHT-01	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
14	Project:	P0509 NB05	Activity:	AU.71190	Final Utility Owner Construction_MCImetro (Lead) - WVS-FO-04	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
15	Project:	P0509 NB05	Activity:	AU.71200	Final Utility Owner Construction_XO-Comm WVS-FO-03 (TNT TO WVS-FO-04)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
16	Project:	P0509 NB05	Activity:	AU.71500	Final Utility Owner Construction Comcast WVS-OHC-02 (TNT to WVS-OHE-03)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
17	Project:	P0509 NB05	Activity:	AU.71670	Final Utility Owner Construction Level (3) WVS-FO-02 (TNT to WVS-T-01)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
18	Project:	P0509 NB05	Activity:	AU.71680	Final Utility Owner Construction PG&E (Lead) - WVS-OHE-03	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
19	Project:	P0509 NB05	Activity:	AU.71740	Final Utility Owner Construction Centurylink WVS-FO-13 (TNT to WVS-T-01)	Utility Owners	Utilities at MTF Stockton or 13th. Street	will be eliminated in the future
	~~Project:~~	~~P0509 NB06~~	~~Activity:~~	~~A1010~~	~~Section 408/404 Permit(s)~~	~~Third Party~~		Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1150~~	~~Meet with CSC~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1300~~	~~West Portal Newhall St. Water Relocation~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1360~~	~~Execution of CSJ Master Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1370~~	~~Execution of CSC Master Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1380~~	~~Stockton Ave Water Relocation~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1390~~	~~Diridon Sta Water Relocation~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~AA.1400~~	~~13th St MTF Water Relocation~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~B1090~~	~~IL35:BART Support During the Project Development Phase (PD) - BSVII~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~C1080~~	~~Coop Ag#2 Scope and Cost Reimbursement for City Design Reviews and Constructi~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~C1140~~	~~Coop Ag#2 Scope and Cost Reimbursement for City Design Reviews and Constructi~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~C1170~~	~~Operations & Maintenance Agreements~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~D1010~~	~~Amendment No. 1 to Master Cooperative Agreement for 2016 Measure B Projects~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~D1020~~	~~Encroachment Permit~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7000~~	~~Submission of Draft CMP & RAP for VTA review~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7010~~	~~Submission of Draft CMP & RAP for RWQCB review~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7020~~	~~RWQC issues approval letter for VTA to implement CMP & RAP~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7030~~	~~VTA Issues final version of CMP & RAP for inclusion in Contract Packages~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7040~~	~~Submit Issue for Use CMP & RAP to RWQCB~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7050~~	~~Prepare fact sheet for BSV2 CMP & RAP public comment (60 days)~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7060~~	~~End of public comment~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~ES.7070~~	~~VTA address public comment (if any)~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~F1000~~	~~FAA Form 7460-1 Notice of Proposed Construction or Alteration~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~J1010~~	~~Site Specific Work Plan/Request to Work~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~L1000~~	~~Project Labor Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~O1010~~	~~Permit to Use Diesel Equipment Underground~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~Q1010~~	~~Various Permits for Operating The Newhall Maintenance Facility (Inclusive of Stora~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed

	Project:	~~P0509 NB06~~	~~Activity:~~	~~S1010~~	~~Approval of Section 402 General Construction Activity National Pollutant Discharge~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~UA.1360~~	~~Executed Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~UA.1380~~	~~Executed Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~UA.1390~~	~~Executed Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~UA.1430~~	~~Master Relocation Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~UA.1440~~	~~Master Relocation Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~W1000~~	~~Payment of Fees Payable upon filing of NOD with County of Santa Clara (Office of C~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~W1010~~	~~Lake & Streambed & Alteration Agreement~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB06~~	~~Activity:~~	~~W1020~~	~~Submission of California Natural Diversity Database (CNDD) Entries to CDFW If and~~	~~Third Party~~	This is Summary Level Activities form 3rd. Party	Addressed
	Project:	~~P0509 NB08~~	~~Activity:~~	~~Par.7000~~	~~Execute Lease Agreement with Google~~	~~Vehicle & Parking~~		Addressed
	Project:	~~P0509 NB08~~	~~Activity:~~	~~SP.6000~~	~~VTA Board Approves CEQA (EIR)~~	~~Vehicle & Parking~~		Addressed
	Project:	~~P0509 NB08~~	~~Activity:~~	~~SP.6020~~	~~Permits Received~~	~~Vehicle & Parking~~		Addressed
	Project:	~~P0509 NB08~~	~~Activity:~~	~~SP.6030~~	~~Design (Soil distribution approach and required improvements at Salt Ponds)~~	~~Vehicle & Parking~~		Addressed
	Project:	~~P0509 NB08~~	~~Activity:~~	~~SP.6050~~	~~Salt Ponds Muck disposal - Operate during tunneling~~	~~Vehicle & Parking~~		Addressed
1	Project:	P0509 NB10	Activity:	PRG.85140	EPD Program LOI Issue	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
2	Project:	P0509 NB10	Activity:	ROWP.70382	Summary East Portal	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
3	Project:	P0509 NB10	Activity:	ROWP.71160	Summary ROW Between East Portal & 28th St	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
4	Project:	P0509 NB10	Activity:	ROWP.71170	Summary ROW 28th St	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
5	Project:	P0509 NB10	Activity:	ROWP.71180	Summary ROW Between 28th St & Emergency Stop	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
6	Project:	P0509 NB10	Activity:	ROWP.71190	Summary ROW 13th Street Mid-Tunnel Facility	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
7	Project:	P0509 NB10	Activity:	ROWP.71200	Summary ROW DTSJ Emergency Egress Shaft	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
8	Project:	P0509 NB10	Activity:	ROWP.71210	Summary ROW DTSJ East Entrance	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
9	Project:	P0509 NB10	Activity:	ROWP.71220	Summary ROW DTSJ West Egress	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
10	Project:	P0509 NB10	Activity:	ROWP.71240	Summary ROW Diridon	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
11	Project:	P0509 NB10	Activity:	ROWP.71250	Summary ROW Diridon & West Emergency Stop	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
12	Project:	P0509 NB10	Activity:	ROWP.71260	Summary ROW West Emergency Stop & West Portal	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
13	Project:	P0509 NB10	Activity:	ROWP.71270	Summary ROW West Emergency Stop	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
14	Project:	P0509 NB10	Activity:	ROWP.71280	B3287	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
15	Project:	P0509 NB10	Activity:	ROWP.71430	B4235	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
16	Project:	P0509 NB10	Activity:	ROWP.71440	B4031	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
17	Project:	P0509 NB10	Activity:	ROWP.71460	B4236	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
18	Project:	P0509 NB10	Activity:	ROWP.71470	B4226	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
19	Project:	P0509 NB10	Activity:	ROWP.71480	B4227	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
20	Project:	P0509 NB10	Activity:	ROWP.71490	B4228	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
21	Project:	P0509 NB10	Activity:	ROWP.71500	B3236	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
22	Project:	P0509 NB10	Activity:	ROWP.71510	B3206	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
23	Project:	P0509 NB10	Activity:	ROWP.71520	B3218	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
24	Project:	P0509 NB10	Activity:	ROWP.71530	B3236	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
25	Project:	P0509 NB10	Activity:	ROWP.71540	B4220	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
26	Project:	P0509 NB10	Activity:	ROWP.71550	B4209	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
27	Project:	P0509 NB10	Activity:	ROWP.71560	B4210	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
28	Project:	P0509 NB10	Activity:	ROWP.71610	B3102 P2	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
29	Project:	P0509 NB10	Activity:	Sum.10000	Underground Stations Substantial Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
30	Project:	P0509 NB10	Activity:	Sum.7270	Delivery Of Bart Vehicles	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
31	Project:	P0509 NB10	Activity:	Sum.7800	West Portal Excavation	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
32	Project:	P0509 NB10	Activity:	Sum.7810	East Portal Excavation and Construction	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
33	Project:	P0509 NB10	Activity:	Sum.7860	Tunnel Concrete Slab	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
34	Project:	P0509 NB10	Activity:	Sum.8240	PM NTP	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
35	Project:	P0509 NB10	Activity:	Sum.8250	VTA Board Approval of BSVII	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
36	Project:	P0509 NB10	Activity:	Sum.8260	FTA issued Record of Decision (ROD)	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
37	Project:	P0509 NB10	Activity:	Sum.8280	Systems Substantial Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
38	Project:	P0509 NB10	Activity:	Sum.8290	Start of Revenue Service	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
39	Project:	P0509 NB10	Activity:	Sum.8300	Submit EPD Grant Request	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
40	Project:	P0509 NB10	Activity:	Sum.8310	Order TBM	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
41	Project:	P0509 NB10	Activity:	Sum.8320	TBM Power in Place	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
42	Project:	P0509 NB10	Activity:	Sum.8330	Contract 1 NTP_Systems	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
43	Project:	P0509 NB10	Activity:	Sum.8340	Contract 2 NTP 1_Tunnel & Trackwork	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
44	Project:	P0509 NB10	Activity:	Sum.8360	Contract 3 NTP_Newhall Yard and Santa Clara Station and Parking Garage	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
45	Project:	P0509 NB10	Activity:	Sum.8370	Project Start Date (FTA's approval as part of New Starts Project Development)	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
46	Project:	P0509 NB10	Activity:	Sum.8500	Tunneling	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
47	Project:	P0509 NB10	Activity:	Sum.8600	Contract 4 NTP_Stations and Support Facilities	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
48	Project:	P0509 NB10	Activity:	Sum.8620	RFP	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
49	Project:	P0509 NB10	Activity:	Sum.8630	RFQ	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
50	Project:	P0509 NB10	Activity:	Sum.8640	Final RFP	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
51	Project:	P0509 NB10	Activity:	Sum.8660	RFP	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
52	Project:	P0509 NB10	Activity:	Sum.8680	RFP	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
53	Project:	P0509 NB10	Activity:	Sum.8690	DeliverTBM	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
54	Project:	P0509 NB10	Activity:	Sum.8700	Launch TBM_Start of Tunneling	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
55	Project:	P0509 NB10	Activity:	Sum.8830	Procure Material	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
56	Project:	P0509 NB10	Activity:	Sum.8850	Procure Material	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken

57	Project:	P0509 NB10	Activity:	Sum.8860	28th Street Station Excavation	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
58	Project:	P0509 NB10	Activity:	Sum.8880	Diridon Station Systems Installation Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
59	Project:	P0509 NB10	Activity:	Sum.8890	DTSJ Station Systems Installation Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
60	Project:	P0509 NB10	Activity:	Sum.8910	28th Street Station Systems Installation Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
61	Project:	P0509 NB10	Activity:	Sum.8920	Santa Clara Station Systems Installation Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
62	Project:	P0509 NB10	Activity:	Sum.8930	Tunnel Systems Installation Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
63	Project:	P0509 NB10	Activity:	Sum.9040	Start of Trackwork	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
64	Project:	P0509 NB10	Activity:	Sum.9220	Start of Diridon Station Construction	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
65	Project:	P0509 NB10	Activity:	Sum.9230	Start of DTSJ Station Construction	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
66	Project:	P0509 NB10	Activity:	Sum.9240	Diridon Station Fit-Out Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
67	Project:	P0509 NB10	Activity:	Sum.9250	DTSJ Station Fit-Out Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
68	Project:	P0509 NB10	Activity:	Sum.9260	28th Street Station Fit-Out Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
69	Project:	P0509 NB10	Activity:	Sum.9270	28th Street Station Parking Garage Construction Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
70	Project:	P0509 NB10	Activity:	Sum.9610	Track Work Tunnel	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
71	Project:	P0509 NB10	Activity:	Sum.9620	EP to Phase 1 Tie-in	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
72	Project:	P0509 NB10	Activity:	Sum.9630	28th Street Station Parking Garage	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
73	Project:	P0509 NB10	Activity:	Sum.9860	Systems and Track Testing (For Linear Schedule)	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
74	Project:	P0509 NB10	Activity:	Sum.9870	Track Testing to Turnover to BART (For Linear Schedule)	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
75	Project:	P0509 NB10	Activity:	Sum.9880	BART Board Approval of BSVII	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
76	Project:	P0509 NB10	Activity:	Sum.9910	Start of 28th Street Station Construction	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
77	Project:	P0509 NB10	Activity:	Sum.9920	Contract 2 NTP 2_Tunnel & Trackwork	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
78	Project:	P0509 NB10	Activity:	Sum.9930	Pre Final RFP	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
79	Project:	P0509 NB10	Activity:	Sum.9960	Yard/SC Station Construction Completion	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
80	Project:	P0509 NB10	Activity:	SUM.INT1000	CP2/Systems TPSS Interface Southwest of Newhall Street Triangle Milestone	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
81	Project:	P0509 NB10	Activity:	SUM.INT1010	CP2/Underground Stations 28th St, Key Interface TakeOver 1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
82	Project:	P0509 NB10	Activity:	SUM.INT1030	CP2/Underground Stations Diridon EVS Key Interface TakeOver 1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
83	Project:	P0509 NB10	Activity:	SUM.INT1040	CP2/Underground Stations Diridon Headhouse Key Interface	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
84	Project:	P0509 NB10	Activity:	SUM.INT1050	CP2/Underground Stations Diridon WVS Key Interface TakeOver 1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
85	Project:	P0509 NB10	Activity:	SUM.INT1060	CP2/Underground Stations DTSJ EVS Key Interface TakeOver 1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
86	Project:	P0509 NB10	Activity:	SUM.INT1070	CP2/Underground Stations DTSJ PH Key Interface TakeOver 1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
87	Project:	P0509 NB10	Activity:	SUM.INT1080	CP2/Underground Stations DTSJ SH Key Interface TakeOver 1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
88	Project:	P0509 NB10	Activity:	SUM.INT1090	CP2/Yard/SC Station Phase 1 Interface Milestone	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
89	Project:	P0509 NB10	Activity:	SUM.INT1100	CP2/Yard/SC Station Phase 2 Interface Milestone	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
90	Project:	P0509 NB10	Activity:	SUM.INT1110	CP2/Yard/SC Station Phase 3 Interface Milestone	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
91	Project:	P0509 NB10	Activity:	SUM.INT1120	CP2/Yard/SC Station Phase 4 Interface Milestone	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
92	Project:	P0509 NB10	Activity:	SUM.INT1130	Train Control Building Interface CP2/Systems PH4A	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
93	Project:	P0509 NB10	Activity:	SUM.INT1150	Tunnel Interface Milestone CP2/Systems	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
94	Project:	P0509 NB10	Activity:	SUM.INT1160	Interface Milestone Yard/SC Station Ph2/Systems Ph2	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
95	Project:	P0509 NB10	Activity:	SUM.INT1170	Interface Milestone Yard/SC Station Ph4/Systems Ph4 (Radio Tower)	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
96	Project:	P0509 NB10	Activity:	SUM.INT1180	Interface Milestone Yard/SC Station Ph3/Systems PH3	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
97	Project:	P0509 NB10	Activity:	SUM.INT1190	Interface Yard/SC Station Ph1/Systems Ph1	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
98	Project:	P0509 NB10	Activity:	SUM.INT1200	Underground Stations / Systems Interface DTSJ Station	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
99	Project:	P0509 NB10	Activity:	SUM.INT1210	Underground Stations/Systems 28th St/LP Key Interface	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
100	Project:	P0509 NB10	Activity:	SUM.INT1220	Underground Stations/Systems Interface Diridon station (Shared access with Unde	Summary Schedule	Used for Reporting filters and Linear Schedule	No Action Taken
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.14740~~	~~New Activity~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.16810~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.16835~~	~~AUX Power SEP At East Portal~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17165~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17175~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17195~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17205~~	~~Fire Telephone~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17225~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17235~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17245~~	~~Fare collection system~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.17730~~	~~Central Control Allowance~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.26490~~	~~Phase 2 Area Systems~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.26500~~	~~Phase 3 Area Systems~~	~~CP1 - Systems Construction~~		Addressed
	~~Project:~~	~~P0509 NB12~~	~~Activity:~~	~~TS.26510~~	~~Phase 4 Area Systems~~	~~CP1 - Systems Construction~~		Addressed
	Project:	~~P0509 NB13~~	~~Activity:~~	~~De.7400~~	~~60% Design Interfaces~~	~~Contract Package 2 Construction~~		Addressed
	Project:	~~P0509 NB13~~	~~Activity:~~	~~De.7410~~	~~85% Design Interfaces~~	~~Contract Package 2 Construction~~		Addressed
	Project:	~~P0509 NB13~~	~~Activity:~~	~~EN.2300~~	~~Pay Newhall Yard Habitat Fees for SCV Habitat Agency~~	~~Contract Package 2 Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.11410~~	~~Finish Blowdown Building~~	~~CP3 - Yard & SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.12040~~	~~Install Walkway & Railings~~	~~CP3 - Yard & SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15020~~	~~Phase 1 Area Construction~~	~~CP3 - Yard & SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15350~~	~~Phase 2 Area Construction~~	~~CP3 - Yard & SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15360~~	~~Phase 3 Area Construction~~	~~CP3 - Yard & SC Station Construction~~		Addressed
	~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.15370~~	~~Phase 4 Area Construction~~	~~CP3 - Yard & SC Station Construction~~		Addressed

Out-of-sequence activities.....47

	Project:	P0509 NB01	Activity:	PRG.85190	VTA Review & Update Based on 30% Design	Program Management and Administration	Few activities updated from ROW Mater Spreadsheet	Addressed

Project:	P0509 NB02	Activity:	RoW.10550	Cost Loaded Activity_Easement B4045	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.10620	Cost Loaded Activity_Easement B4000	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.10640	Cost Loaded Activity_Easement B4004	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.10750	Cost Loaded Activity_Parcel Acquisition B3001	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.11100	Cost Loaded Activity_Parcel Acquisition B3031	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.11630	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.2870	Cost Loaded Activity_Easement B3106	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.3180	Cost Loaded Activity_Parcel Acquisition B3100	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.3550	Cost Loaded Activity_Parcel Acquisition B3279	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.3760	Cost Loaded Activity_Parcel Acquisition B3000	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.7690	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.80910	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.80990	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8150	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.82030	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8250	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8290	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.82970	Cost Loaded Activity_Parcel Acquisition B4228	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.83080	Cost Loaded Activity_Parcel Acquisition B4227	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.83190	Cost Loaded Activity_Parcel Acquisition B4226	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8320	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8360	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8370	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.83730	Cost Loaded Activity_Parcel Acquisition B4220	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8380	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.8390	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.84060	Cost Loaded Activity_Parcel Acquisition B4209	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.84170	Cost Loaded Activity_Parcel Acquisition B4210	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.84380	Cost Loaded Activity_Parcel Acquisition B4218	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.84480	Cost Loaded Activity_Parcel Acquisition B4217	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.85130	Cost Loaded Activity_Parcel Acquisition B4234	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.85390	Cost Loaded Activity_Parcel Acquisition B4235	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.85650	Cost Loaded Activity_Easement B4236	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.85770	Cost Loaded Activity_Easement B3102_Part 2	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.85870	Cost Loaded Activity_Parcel Acquisition B4031	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.85960	Cost Loaded Activity_Parcel Acquisition B3279	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.9460	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.9470	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.9480	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.9490	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.9660	Effective Possession	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB02	Activity:	RoW.9760	Cost Loaded Activity_Easement B3105	Right of Way	Few activities updated from ROW Mater Spreadsheet	Addressed	ROW request to re-open activities
Project:	P0509 NB10	Activity:	ROWP.70870	B3109	Summary Schedule	Used for Reporting filters and Linear Schedule	Addressed	ROW request to re-open activities
Project:	P0509 NB10	Activity:	ROWP.71280	B3287	Summary Schedule	Used for Reporting filters and Linear Schedule	Addressed	ROW request to re-open activities
Project:	P0509 NB10	Activity:	ROWP.71480	B4227	Summary Schedule	Used for Reporting filters and Linear Schedule	Addressed	ROW request to re-open activities
Project:	P0509 NB10	Activity:	ROWP.71550	B4209	Summary Schedule	Used for Reporting filters and Linear Schedule	Addressed	ROW request to re-open activities

Milestone Activities with invalid relationships.....5

~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B1030~~	~~Mock-Up Set of CP-2 Vol. R Ref Dwgs Prep'd & Ready for Informal IDR~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed	Activities were completed
~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B1050~~	~~Submit CP-2 Mock-up Reference Drawings to VTA~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed	Activities were completed
~~Project:~~	~~P0509 NB03~~	~~Activity:~~	~~PE.B6110~~	~~Prepare CP-2 Utility Relocations Reference Drawings~~	~~Design~~	Activities extracted from GEC schedule at Summary level	Addressed	Activities were completed
~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.11870~~	~~Santa Clara Station Construction Finish~~	~~CP3 - Yard & SC Station Construction~~		Addressed	
~~Project:~~	~~P0509 NB14~~	~~Activity:~~	~~NHY.8980~~	~~Finish Wheel Turing Building~~	~~CP3 - Yard & SC Station Construction~~		Addressed	