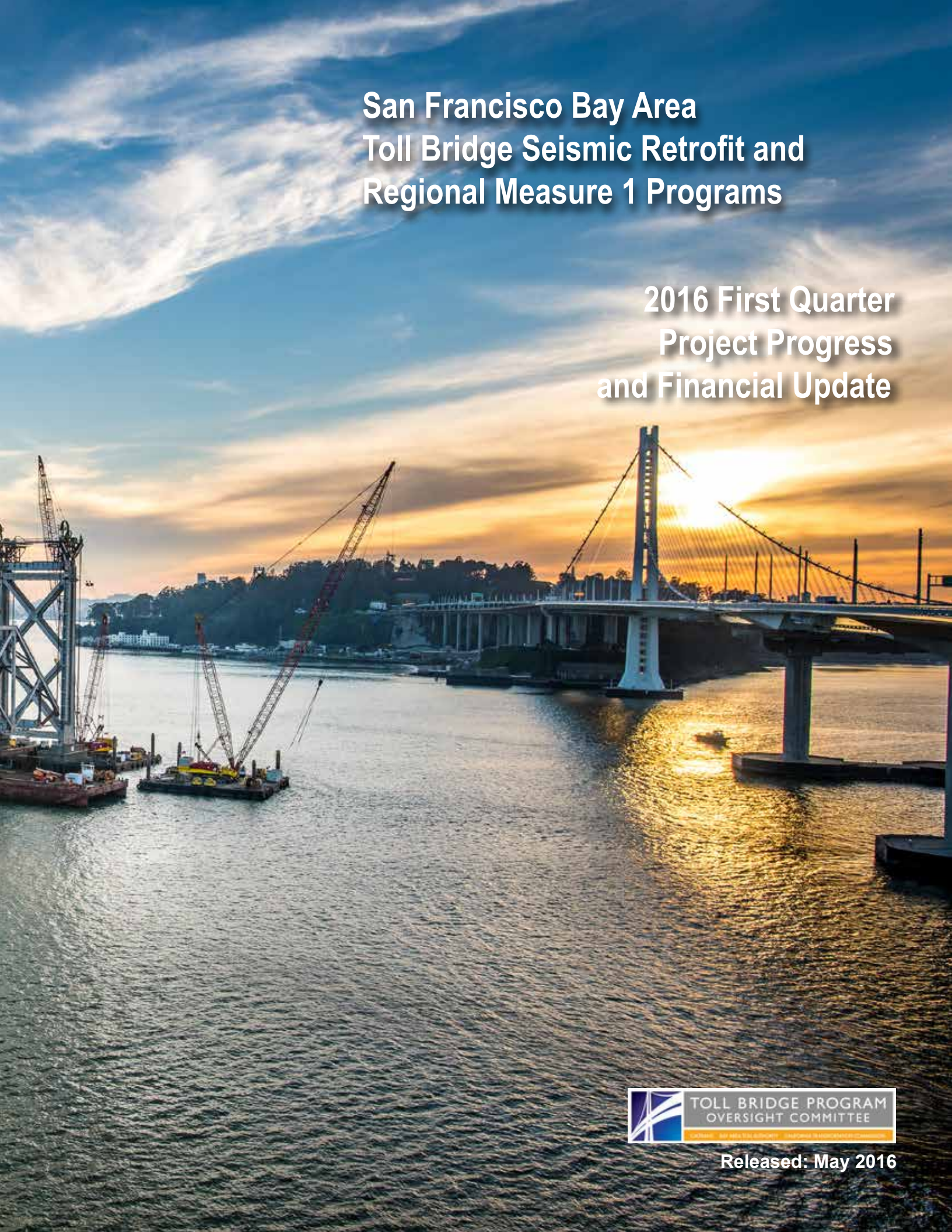

# San Francisco Bay Area Toll Bridge Seismic Retrofit and Regional Measure 1 Programs

## 2016 First Quarter Project Progress and Financial Update

TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

**Released: May 2016**

Toll Bridge Program Oversight Committee
Department of Transportation
Office of the Director
1120 N Street
P.O. Box 942873
Sacramento, CA 94273-0001

May 16, 2016

Ms. Bob Alvarado, Chair
California Transportation Commission
1120 N Street, Room 2221
Sacramento, CA 95814

Dear Mr. Alvarado:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2016 First Quarter Project Progress and Financial Update, for the San Francisco Bay Area Toll Bridge Seismic Retrofit and Regional Measure 1 Programs (TBSRP and RM1), prepared pursuant to California Streets and Highways Code Section 30952.

The TBPOC was established by Assembly Bill144 in 2005 to oversee the delivery of the TBSRP and consists of the Executive Director of the Bay Area Toll Authority (BATA), the Director of the California Department of Transportation (Caltrans), and the Executive Director of the California Transportation Commission (CTC). With the opening of the new east span of the San Francisco-Oakland Bay Bridge to traffic on September 2, 2013, all seven state-owned toll bridges in the Bay Area have now achieved seismic safety, either via retrofit, or replacement of existing structures.

On May 12, 2016, the TBPOC authorized the re-grouting of tower anchor rods at the base of the Self-Anchored Suspension (SAS) span tower foundation. In late 2014, water was discovered at some rod locations. Based on an extensive investigation of the rods by Caltrans, an independent bolt review team, the Seismic Safety Peer Review Panel, and steel fastener and marine foundation experts from the Federal Highway Administration (FHWA), all parties found the existing foundation condition to be seismically safe and that the best course of action would be to re-grout the rods and to monitor with normal regular bridge inspection and maintenance procedures in the future. In addition, the TBPOC further approved an investigation to provide additional cathodic protection to the bridge. These investigations were extensively discussed at the TBPOC meeting and available on the project website www.baybridgeinfo.org. Lastly, Caltrans continues to pursue close-out of the SAS contract as directed by the TBPOC.

Caltrans is proceeding on a number of contracts to remove the old east span of the SFOBB and complete remaining work on the Yerba Buena Island (YBI). The YBI2 contractor has removed the main cantilever and island detour structures and is now in the process of completing the eastbound on-ramp and pedestrian/bicycle pathway. The on-ramp and pathway will open by this fall. The superstructure dismantling contractor removed the second of five 504' superstructure trusses in April. With the successful implosion of the old Pier E3 footing with minimal environmental impact, Caltrans is now in the process of seeking final environmental approvals for removal of the remaining marine foundation piers by the implosion process. Additional implosions are scheduled for later this year.

The program contingency is currently $73.6 million in accordance with the TBPOC approved budget. As of the end of the first quarter of 2016, the 50 percent probable draw on program contingency is $196.7 million. The potential draw ranges from about $125 million to $ 275 million. This represents a $16.8 million improvement to the "bottom line" since the previous quarter (Q4 2015) report.

The program contingency is currently insufficient to cover the current 50% probable forecast risks. We are mindful of the gap between the risk forecast and the program contingency balance. We are actively exploring various strategies to reduce both the capital outlay support (COS), and capital outlay (CO) costs, for the remaining work on both the new and old east spans of the bridge, in order to bring the risk forecast and contingency balance back into better alignment. Recently, we reevaluated our COS staffing levels and dramatically reduced staffing for the upcoming fiscal years. This reduction will put downward pressure on future COS costs, however, there continues to be construction risks identified in the risk management plan.

The TBPOC is committed to providing the Legislature with comprehensive and timely reporting on the TBSRP. If there are any questions, or if any additional information is required, please do not hesitate to contact the members of the TBPOC.

Sincerely,

MALCOLM DOUGHERTY
TBPOC Chair
Director
California Department of
Transportation

STEVE HEMINGER
Executive Director
Bay Area Toll Authority

SUSAN BRANSEN
Executive Director
California Transportation Commission

Toll Bridge Program Oversight Committee
Department of Transportation
Office of the Director
1120 N Street
P.O. Box 942873
Sacramento, CA 94273-0001

May 16, 2016

Mr. Daniel Alvarez
Secretary of the Senate
State Capitol, Room 3044
Sacramento, CA 95814

Mr. E. Dotson Wilson
Chief Clerk of the Assembly
State Capitol, Room 3196
Sacramento, CA 95814

Dear Messrs. Alvarez and Wilson:

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The TBPOC is committed to providing the Legislature with comprehensive and timely reporting on the TBSRP. If there are any questions, or if any additional information is required, please do not hesitate to contact the members of the TBPOC.

Sincerely,

MALCOLM DOUGHERTY
TBPOC Chair
Director
California Department of
Transportation

STEVE HEMINGER
Executive Director
Bay Area Toll Authority

SUSAN BRANSEN
Executive Director
California Transportation Commission

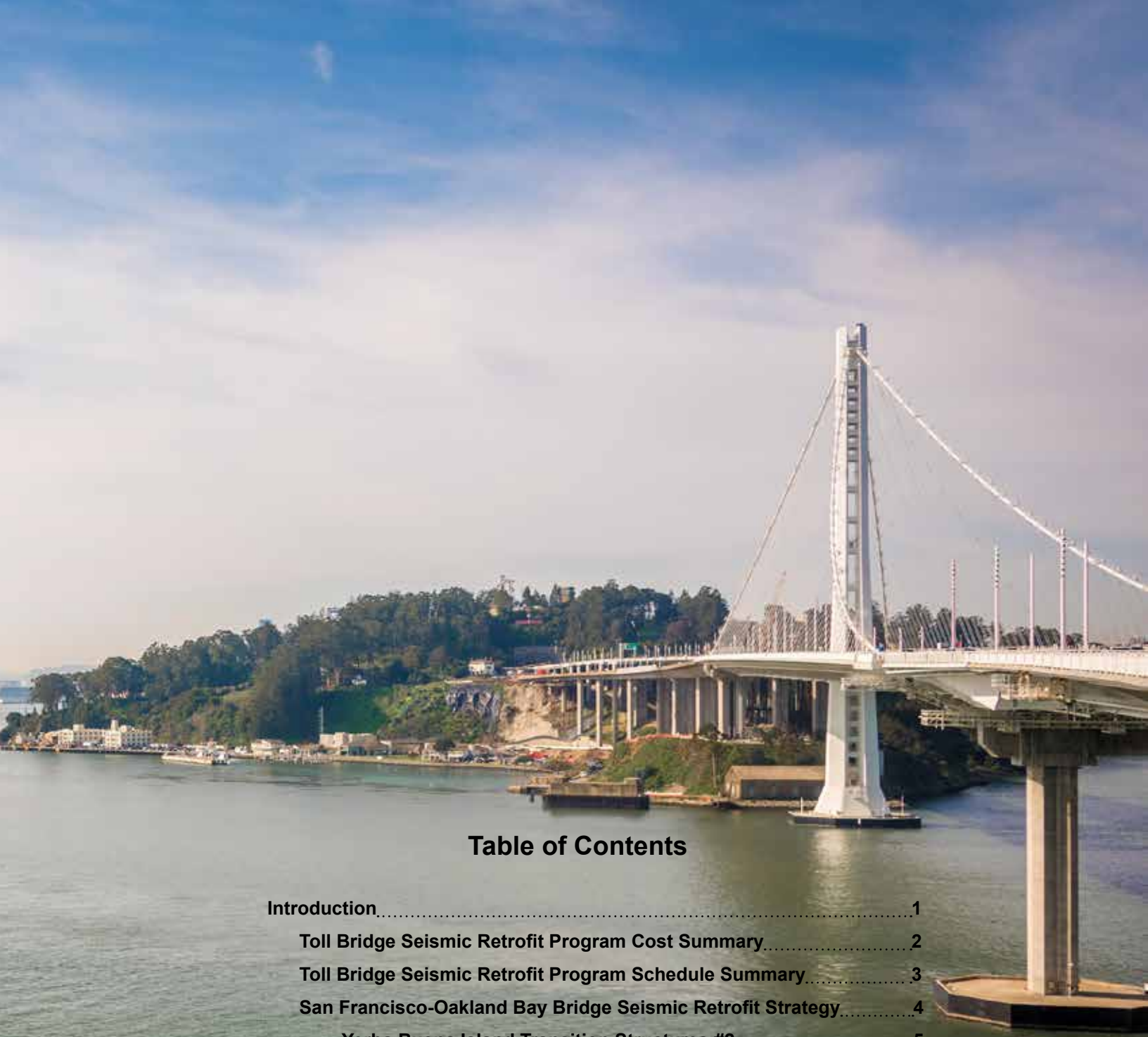
**The Program Management Team (PMT):**

**Andrew Fremier**
**Bay Area Toll Authority**
**Metropolitan Transportation Commission**

**Stephen Maller**
**California Transportation Commission**

**Dan McElhinney**
**Caltrans District 4 - Bay Area**

**Caltrans, SFOBB Chief Engineer:**
**Brian Maroney**



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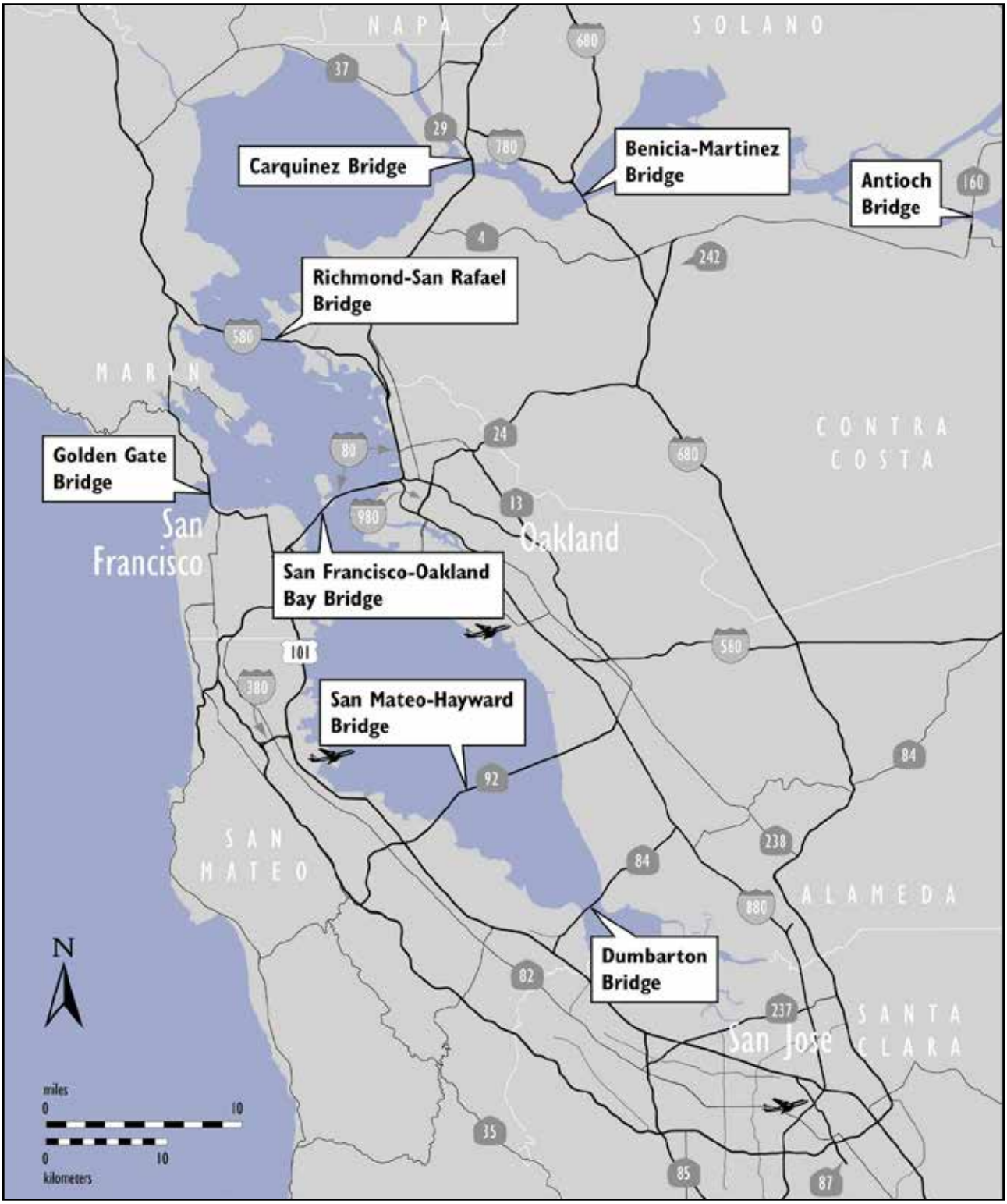
# Map of Bay Area Toll Bridges




*** The Golden Gate Bridge is owned and operated by the Golden Gate Bridge, Highway and Transportation District.**

# Introduction

In July 2005, Assembly Bill (AB) 144 (Hancock) created the Toll Bridge Program Oversight Committee (TBPOC) to implement a project oversight and project control process for the new Benicia-Martinez Bridge and State Toll Bridge Seismic Retrofit Program (TBSRP) projects. The TBPOC consists of the Director of the California Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA) and the Executive Director of the California Transportation Commission (CTC). The TBPOC's project oversight and control processes include, but are not limited to, reviewing bid specifications and documents, reviewing and approving significant change orders and claims in excess of $1 million (as defined by the TBPOC), and keeping the Legislature and others apprised of current project progress and status. In January 2010, Assembly Bill (AB) 1175 (Torlakson) amended the TBSRP to include the Antioch and Dumbarton Bridges seismic retrofit projects. The current TBSRP is as follows:

| Toll Bridge Seismic Retrofit Projects | Seismic Safety Status |
|---|---|
| Dumbarton Bridge Seismic Retrofit | Complete |
| Antioch Bridge Seismic Retrofit | Complete |
| San Francisco-Oakland Bay Bridge East Span Replacement | Complete* |
| San Francisco-Oakland Bay Bridge West Approach Replacement | Complete |
| San Francisco-Oakland Bay Bridge West Span Seismic Retrofit | Complete |
| San Mateo-Hayward Bridge Seismic Retrofit | Complete |
| Richmond-San Rafael Bridge Seismic Retrofit | Complete |
| 1958 Carquinez Bridge Seismic Retrofit | Complete |
| 1962 Benicia-Martinez Bridge Seismic Retrofit | Complete |
| San Diego-Coronado Bridge Seismic Retrofit | Complete |
| Vincent Thomas Bridge Seismic Retrofit | Complete |

* The seismic safety opening of the bridge occurred in September 2013. The remaining work to do on the project is the completion of the on-ramps and bicycle/pedestrian path and the removal of the old bridge structure.

# Toll Bridge Seismic Retrofit Program Cost Summary (Millions)

| | Contract Status | AB 144/ SB 66/ AB 1175 Budget | TBPOC Approved Changes | Current TBPOC Approved Budget (March 2016) | Cost to Date (March 2016) | Current Cost Forecast (March 2016) | Cost Variance | Cost Status |
|---|---|---|---|---|---|---|---|---|
| | | a | b | c = a + b | d | e | f = e - c | |
| SFOBB East Span Seismic Replacement | | | | | | | | |
| Capital Outlay Construction | | | | | | | | |
| Skyway | Completed | 1,293.0 | (55.8) | 1,237.2 | 1,235.6 | 1,237.2 | - | ● |
| SAS Marine Foundations | Completed | 313.5 | (38.7) | 274.8 | 274.8 | 274.8 | - | ● |
| SAS Superstructure | Completed | 1,753.7 | 293.1 | 2,046.8 | 1,972.4 | 2,049.0 | 2.2 | ● |
| YBI Detour | Completed | 131.9 | 341.4 | 473.3 | 473.4 | 473.3 | - | ● |
| YBI Transition Structures (YBITS) | | 299.3 | 0.1 | 299.4 | 255.3 | 333.4 | 34.0 | |
| YBITS 1 | Completed | | | 203.7 | 202.5 | 204.9 | 1.2 | ● |
| YBITS 2 Cantilever Dismantling | Construction | | | 92.4 | 52.7 | 125.2 | 32.8 | ● |
| YBITS Landscaping | Design | | | 3.3 | - | 3.3 | - | ● |
| Oakland Touchdown (OTD) | | 283.8 | 46.8 | 330.6 | 318.6 | 329.0 | (1.6) | ● |
| OTD 1 | Completed | | | 205.3 | 202.8 | 205.3 | - | ● |
| OTD 2 | Completed | | | 72.6 | 63.3 | 71.0 | (1.6) | ● |
| Detour | Completed | | | 47.0 | 46.7 | 47.0 | - | ● |
| OTD Electrical Systems | Design | | | - | - | - | - | |
| Submerged Electric Cable | Completed | | | 5.7 | 5.7 | 5.7 | - | ● |
| Existing Bridge Dismantling | | 239.2 | 80.9 | 320.1 | 122.0 | 411.1 | 91.0 | ● |
| Cantilever Section | Construction | | | 69.0 | 68.5 | 69.0 | | ● |
| 504'/288' Sections | Construction | | | 103.5 | 37.6 | 104.8 | | ● |
| Marine Foundations | Construction | | | 147.5 | 15.9 | 237.3 | | |
| Pier E3 Demonstration Project | | | | 17.5 | 15.9 | 17.5 | | ● |
| Remaining Marine Foundations | | | | 130.0 | - | 219.8 | | ● |
| Stormwater Treatment Measures | Completed | 15.0 | 3.3 | 18.3 | 16.9 | 17.3 | (1.0) | ● |
| Other Completed Contracts | Completed | 90.4 | (0.5) | 89.9 | 90.0 | 90.5 | 0.6 | ● |
| Capital Outlay Support | | 959.3 | 346.2 | 1,305.5 | 1,294.0 | 1,400.2 | 94.7 | ● |
| Right-of-Way and Environmental Mitigation | | 72.4 | - | 72.4 | 60.2 | 69.0 | (3.4) | ● |
| Other Budgeted Capital | | 35.1 | (32.8) | 2.3 | 0.7 | 2.3 | (0.0) | ● |
| Total SFOBB East Span Replacement | | 5,486.6 | 983.9 | 6,470.5 | 6,113.7 | 6,687.2 | 216.7 | |
| Antioch Bridge Seismic Retrofit | | | | | | | | |
| Capital Outlay Construction and Mitigation | Completed | - | 24.1 | 24.1 | 24.1 | 23.8 | (0.3) | ● |
| Capital Outlay Support | | - | 47.0 | 47.0 | 47.0 | 47.0 | - | ● |
| Total Antioch Bridge Seismic Retrofit | | 267.0 | 71.1 | 71.1 | 71.1 | 70.8 | (0.3) | ● |
| Dumbarton Bridge Seismic Retrofit | | | | | | | | |
| Capital Outlay Construction and Mitigation | Completed | - | 46.0 | 46.0 | 47.4 | 45.4 | (0.6) | ● |
| Capital Outlay Support | | - | 66.4 | 66.4 | 64.6 | 66.4 | - | ● |
| Total Dumbarton Bridge Seismic Retrofit | | 483.0 | 112.4 | 112.4 | 112.0 | 111.8 | (0.6) | ● |
| Program Completed Projects | Completed | 2,268.4 | (74.1) | 2,194.3 | 2,169.0 | 2,176.3 | (18.0) | |
| Miscellaneous Program Costs | | 30.0 | - | 30.0 | 25.5 | 30.0 | - | ● |
| Net Programmatic Risks | | - | - | - | - | (0.9) | (0.9) | ● |
| Program Contingency* | | 900.0 | (826.3) | 73.7 | - | - | (73.7) | ● |
| Total Toll Bridge Seismic Retrofit Program * | | 9,435.0 | (483.0) | 8,952.0 | 8,491.2 | 9,075.2 | 123.2 ** | ● |

* AB144/SB66 established a funding level of $8.685 Billion in July 2005 for TBSRP, AB1175 added the retrofitting of the Antioch and Dumbarton Bridges in January 2010, providing another $750 million in funding, bringing Total Toll Seismic Retrofit Program funding to $9.435 Billion. Since 2010, $483 million has been removed from the program, bringing the current TBPOC Approved Budget to $8.952 Billion. The $483 million removed consisted of:
Antioch Savings (4/12/10) $137 million Dumbarton Savings (9/02/10) $216 million Program Contingency Redirection (11/05/13) $130 million, the current TBPOC approved Program Budget is $8,952 million.
** (Due to the rounding of numbers, the totals above are show within $0.02).

# Toll Bridge Seismic Retrofit Program Schedule Summary

| | AB 144/SB 66 Project Completion Schedule Baseline (July 2005) | TBPOC Approved Changes (Months) | Current TBPOC Approved Completion Schedule (March 2016) | Current Completion Forecast (March 2016) | Schedule Variance (Months) | |
|---|---|---|---|---|---|---|
| | g | h | i=g+h | j | k=j-i | l |
| SFOBB East Span Seismic Replacement | | | | | | |
| Contract Completion | | | | | | |
| Skyway | Apr 2007 | 8 | Dec 2007 | Dec 2007 | - | ● |
| SAS Marine Foundations | Jun 2008 | (5) | Jan 2008 | Jan 2008 | - | ● |
| SAS Superstructure | Mar 2012 | 42 | Sep 2015 | Sep 2015 | - | ● |
| YBI Detour | Jul 2007 | 39 | Oct 2010 | Oct 2010 | - | ● |
| YBI Transition Structures (YBITS) | Nov 2013 | 36 | | | - | |
| YBITS 1 | | | Feb 2014 | Feb 2014 | - | ● |
| YBITS 2 | | | Jun 2017 | Oct 2017 | (4) | ● |
| Oakland Touchdown | Nov 2013 | 10 | | | | |
| OTD 1 | | | Jun 2010 | Jun 2010 | - | ● |
| OTD 2 | | | Sep 2015 | Sep 2015 | - | ● |
| Submerged Electric Cable | | | Jan 2008 | Jan 2008 | - | ● |
| Existing Bridge Dismantling | Sep 2014 | 51 | Dec 2018 | Dec 2018 | - | ● |
| Cantilever Section [2] | | | | Jul 2015 | | ● |
| 504/288 Sections | | | Mar 2018 | Mar 2018 | | ● |
| Marine Foundations | | | | | | |
| E3 Foundation Removal Demo Project | | | Jan 2016 | Jan 2016 | | ● |
| E4 - E18 Foundation Removal | | | Dec 2018 | Dec 2018 | | ● |
| Stormwater Treatment Measures | | | Mar 2008 | Mar 2008 | - | ● |
| SFOBB East Span Bridge Opening and Other Milestones | | | | | | |
| Westbound Seismic Safety Open | Sep 2011 | 24 | Sep 2013 | Sep 2013 | - | ● |
| Eastbound Seismic Safety Open | Sep 2012 | 12 | Sep 2013 | Sep 2013 | - | ● |
| Eastbound On Ramp / Bike/Ped Pathway Open to Traffic | | | Dec 2015 | Sep 2016 | (9) | ● |

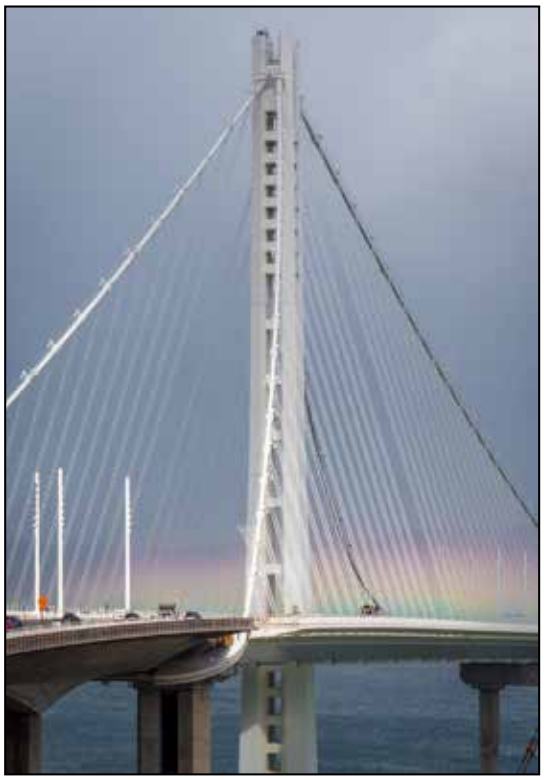
● Within approved schedule and budget
● Identified potential project risks that could significantly impact approved schedules and budgets if not mitigated
● Known project impacts with forthcoming changes to approved schedules and budgets

# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## San Francisco-Oakland Bay Bridge East Span Seismic Retrofit Strategy

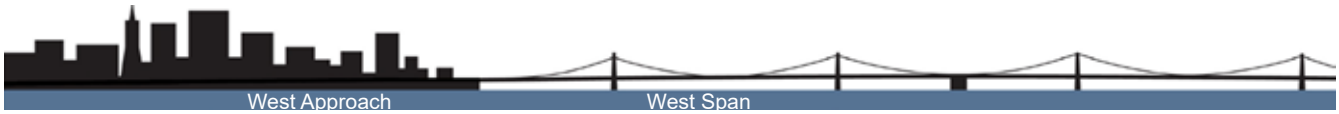
Rather than a seismic retrofit, the two-mile long east span of the San Francisco-Oakland Bay Bridge has been completely rebuilt. The new east span consists of several different sections, yet appears as a single streamlined span. The eastbound and westbound lanes of the east span no longer include upper and lower decks. The lanes are side-by-side, providing motorists with expansive views of the bay. These views are also enjoyed by bicyclists and pedestrians, thanks to a new bicycle/pedestrian path on the south side of the bridge that will extend all the way to Yerba Buena Island. The new span features the world's longest Self-Anchored Suspension (SAS) bridge that connects to an elegant roadway supported by piers (Skyway), which gradually slopes down toward the Oakland shoreline (Oakland Touchdown).

The new bridge is now open to traffic and seismically safe. Ongoing work includes the ramps from Yerba Buena Island and removal of the old bridge.



Self-Anchored Suspension Bridge Superstructure

New East Span Consists of Several Different Sections - Appears as a Single Streamlined Span



# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## San Francisco-Oakland Bay Bridge East Span Replacement Project Yerba Buena Island Transition Structures (YBITS)

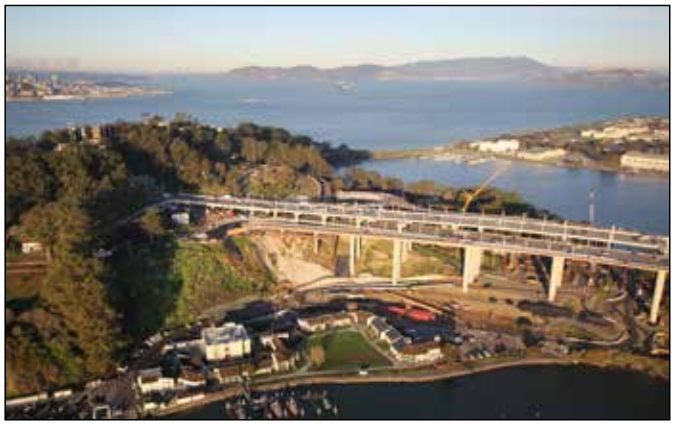
## YBITS #2 - Eastbound On-Ramp and Cantilever Dismantling Contract

Approved Capital Outlay Budget:
$92.4 M & $69.0 M
Contractor: CEC & Silverado, JV
Status: 76% Complete as of March 2016

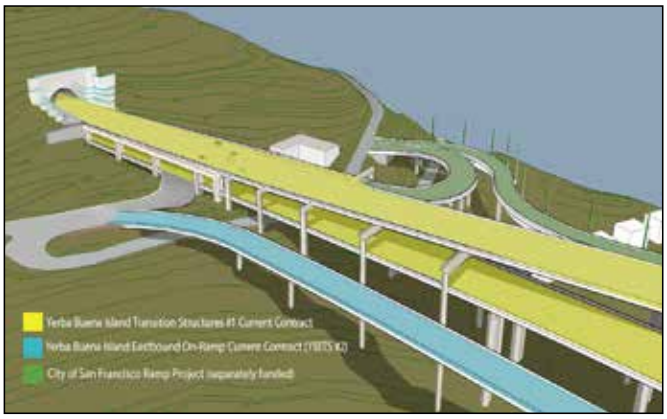
The YBITS #2 contract involves dismantling the detour viaduct, constructing a new eastbound on-ramp to the bridge, completing the bicycle/pedestrian path to Yerba Buena Island, and dismantling of the cantilever.

The contract was awarded to California Engineering Contractors Inc/Silverado Contractors Inc., Joint Venture on November 28, 2012. Initial startup activities and submittals began in March 2013, with actual dismantling starting after the seismic safety opening on Labor Day weekend 2013.

**Status:** Cantilever removal was completed in July 2015. The opening of the bicycle/pedestrian path to the island has been delayed because of the delay in delivery of the cantilever outrigger beams. The beams have been fabricated and will be on site on April 29, 2016. The pedestrian/Bicycle path is scheduled to be opened in the summer of 2016.



Aerial View of the Old Bridge and Demolition and the Transition Structure



Rendering of the Completed On-Ramps and Structures

Birds-Eye View Simulation of the Yerba Buena Island Transition Structures and the New San Francisco-Oakland Bay Bridge Eastbound On Ramp and Bicycle Path after Dismantling of the Existing Structure

Bike Path and On-ramp Progress Looking east

# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## San Francisco-Oakland Bay Bridge East Span Replacement Project
## Former East Span Bridge Dismantling

### 504'/288' Superstructure Dismantling

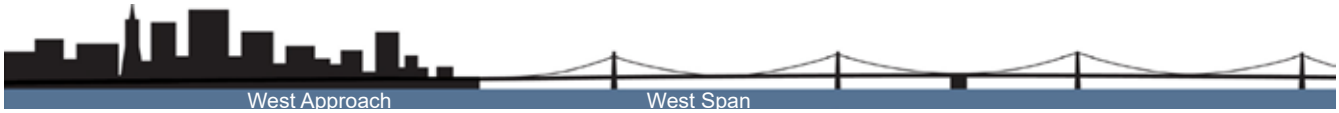
Approved Capital Outlay Budget: $103.5 M
Contractor: CEC & Silverado JV
Status: 40% Complete as of March 2016

The contractor has sequenced the bridge removal operations into seven phases of dismantling. These phases begin with the upper deck and initial truss removal operations, through the removal of the 504' and 288' steel truss spans, to the removal of the supporting steel columns.

**Status:** The upper deck of the old span has been removed to lighten the bridge. The first 504' main truss (out of five) were lowered down to barges in February 2016. The second 504 section is scheduled to be lowered on April 18, 2016. Other spans will follow. Lowering of all 504 sections will be completed in November of 2016.

Dismantling of the Former Superstructure

Dismantling Progress of the Former Superstructure



# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## San Francisco-Oakland Bay Bridge East Span Replacement Project
## Former East Span Bridge Dismantling

### Marine Foundations Removal

Approved Capital Outlay Budget: $17.5 M for Pier E3
$130 M for Piers E4 - E18
Contractor: Kiewit/Manson

The original east span of the San Francisco-Oakland Bay Bridge was supported by 21 in-water bridge piers, Piers E2 through E22, along with land based piers at Yerba Buena Island and Oakland. Part of this project is the demolition of Pier E3, which is located 1,535 feet east of Yerba Buena Island and on the east side of a 50-foot deep navigation channel.

The original authorization covered the dismantling of the piers via mechanical means such as saw cutting, flame cutting, mechanical splitting or pulverizing, and hydro-cutting, but did not cover the use of controlled implosion.

Caltrans proposed to remove Pier E3 as a pilot/demonstration project for the effective use of controlled charges to remove the marine foundations of the original SFOBB. Dismantling of Pier E3 used controlled charges and was completed in four phases: 1) mechanical dismantling of pier cap and fender system, 2) drilling of bore holes into caisson and buttress walls and installing a blast attenuation system (BAS), 3) installing charges, activating the BAS and imploding the pier, and 4) management and removal of remaining dismantling pier debris. The pier was removed to -51 feet.

Mechanical dismantling would have required the installation of a cofferdam around Pier E3, which would have required 394 piles of various types. Pile driving alone would take approximately four years, while the four phases of the demonstration project would occur within six months. Using this method is a significant cost risk to the program.

The marine foundation removal is a CMGC (Construction Manager / General Contractor) contract and the selected CMGC contractor is a Kiewit Manson team (KM).

**Piers E4 - E5:**
Award of the contract to the KM team is scheduled for April 2016. The schedule for the demolition by implosion for piers E4 and E5 is for October/November of 2016. The PDT team is coordinating permits for the completion for piers E4 - E18 and in parallel, the PDT team is seeking permits from resource agencies for a “retain in place” for pier E2, and E19 through E22.

**Status:** On November 14, 2016, Caltrans successfully removed the old Pier E3 footing by implosion with minimal environmental impact. The implosion process has the least amount of impact on the environment and is less costly. Caltrans is now in the process of seeking environmental approvals for removal of the remaining marine foundation piers by the implosion process and negotiating a contract with the contractor for the work.

Pier E3 Before Implosion

Pier E3 During Implosion

# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## San Francisco-Oakland Bay Bridge East Span Replacement Project

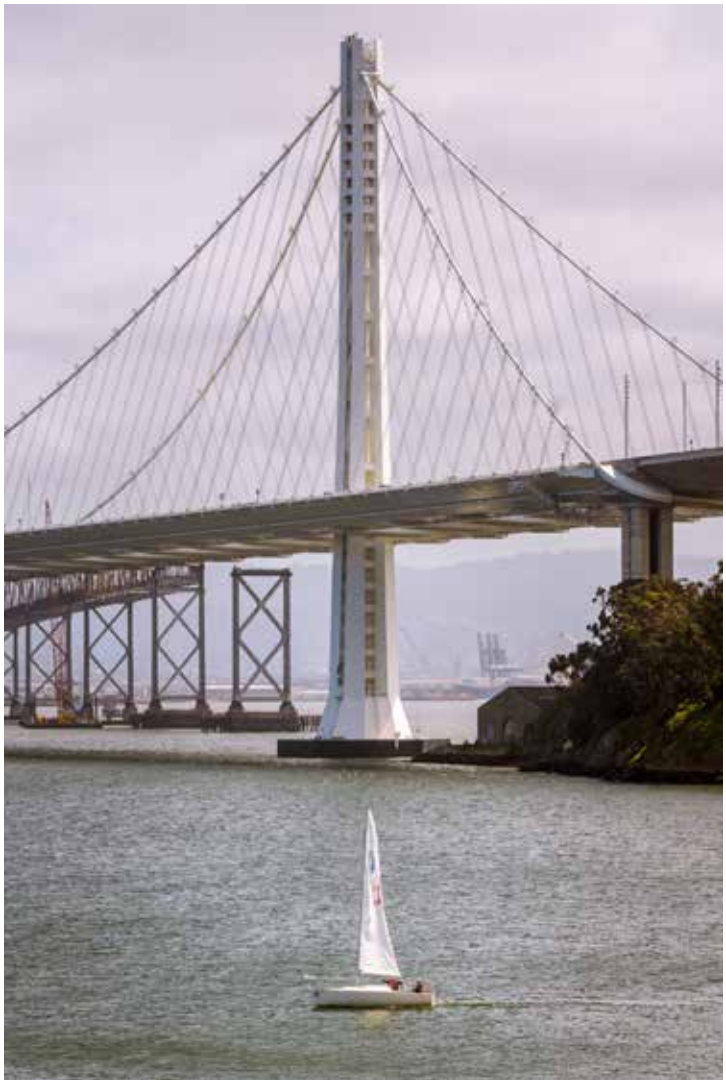
## Self-Anchored Suspension Bridge Superstructure Contract

Approved Capital Outlay Budget: $2.05 B
Contractor: American Bridge/Fluor Enterprises, JV
Status: 100% Complete as of March 2016

The self-anchored suspension span (SAS) of the bridge is not just another suspension bridge. Rising 525 feet above mean sea level and embedded in bedrock, the single-tower SAS span is designed to withstand a massive earthquake. Traditional main cable suspension bridges have twin cables with smaller suspender cables connected to them. While there appears to be two main cables on the SAS, it is actually a single continuous cable. This single cable is anchored within the eastern end of the roadway, carried over the tower and then wrapped around the two side-by-side decks at the western end.

The single-steel tower is made up of four separate legs connected by shear link beams, which function much like a fuse in an electrical circuit. These beams will absorb most of the impact from an earthquake, preventing damage to the tower legs

**Status:** The TBPOC authorized Caltrans to close out the Self-Anchored Suspension (SAS) span contract with the joint venture of American Bridge/ Fluor (ABF). The contract is to be closed out under the terms and conditions consistent with the findings of the July 2013 TBPOC meeting investigative report that found three parties – the contractor, designer, and Caltrans – responsible for the failure of the high-strength rods on the east pier (E2) of the SAS, and the $24 million cost of the “saddle retrofit” repair.



Self-Anchored Suspension Bridge Superstructure

# Risk Management Program Update

## Potential Draw On Program Reserve (Program Contingency)

Caltrans continues to implement comprehensive risk management on all TBSRP projects in accordance with AB 144. Cost Risk response efforts continue to focus on mitigating the estimated cost and schedule impacts of identified risks. The "bottom line" of cost risk analysis is whether the program contingency remains adequate to cover all identified risks.

Each contract has a contingency allowance within its budget. The sum of these contingency allowances is compared to the total of capital outlay, capital outlay support and program-wide risks. Any excess of the risks over the contingency allowances represents a potential draw on the program contingency.

The program contingency is currently $73.6 million in accordance with the TBPOC approved budget. As of the end of the first quarter of 2016, the 50 percent probable draw on program contingency is $196.7 million. The potential draw ranges from about $125 million to $ 275 million (refer to Figure 1). This represents a $16.8 million improvement to the "bottom line" since the previous quarter (Q4 2015) report.

The program contingency is currently insufficient to cover the cost of identified risks and it is likely that a portion of the $483 million that was transferred out of the program since 2010 will need to be reinstated to help pay for the remainder of the work, possibly up to $200 million (approximately $275 million minus $73.6 million).

### RISK MANAGEMENT DEVELOPMENTS

#### Self-Anchored Suspension Span Contract

**Contract Close Out:** The SAS contract was accepted on September 24, 2015. The estimate after acceptance included several deductions as credit for issues that Caltrans determined were the responsibility of the contractor. The proposed final estimate was run October 29, 2015. The contractor submitted his exceptions to the proposed final estimate on November 6, 2015. The contractor documented twelve outstanding disputes totaling $49.2 million in claims. The project team will work with the contractor, the Toll Bridge Oversight Committee (TBPOC) and the California State Transportation Agency to expedite the claims process in an attempt to get to an agreement. This effort could take several quarters to completely address and may need to be addressed in arbitration.

**Investigation of Anchor Rods at the Tower Base:** The investigation of the tower base anchor rods continues. The tower anchor rods were primarily required for the stability of the bridge during the construction phase. Caltrans carried out a detailed testing program on the tower anchor rods to help quantify the extent of the problem with the grouting of the rods. The program resulted in several recommendations to address the tower anchor rod issue. A Director's Order is in place to build a mock-up to verify the best means and methods to repair the faulty grouting and work is ongoing. The project team performed a seismic analysis of as-built conditions of the bridge. The information gathered from the mock-up and seismic analysis can be used to help determine the ultimate repair strategy for the anchor rod grouting. Then, a scope of work can be developed to implement the repair. The cost of the testing is a Capital Outlay Support (COS) effort and that cost is captured in the COS budget and risk register. However, there will be capital costs for a new construction contract to address this issue. The scope of work is still undefined, but the program-level risk register registers this risk with a $4.0 million to $28 million cost range.

#### Yerba Buena Island Transition Structure #2 Contract

**Coast Guard Considerations:** Unstable Slopes: During the winter of 2015/16 the YBITS #2 contractor began construction of some of the slope work and encountered two significant slope failures on the project. Opening of the work on these slopes will continue to be affected by the late winter and work could be delayed. The project has identified several risks to the construction of the project retaining walls (e.g. unstable slopes around excavations, extra stormwater pollution prevention planning required, differing site conditions) that could potentially increase the costs of this work.

Coordination with On-Ramps Project: The team continues to cooperate and coordinate with the adjacent project. That contract builds on-ramps and off-ramps on the north side of the new bridge and is administered by the city of San Francisco.

#### 504'/288' Dismantling Contract

**Successful Removal of Two 504' Trusses:** The contractor successfully completed removal of the first 504' truss in early March 2016. The removal of the second 504' truss was completed in early April 2016. The successful removal of the superstructure puts the

contractor on schedule to deliver the E4 and E5 footings to the Marine Foundations Removal contractor according to the project milestones.

**Bird Deterrents & Mitigation:** Based on knowledge gained from effective bird exclusion measures developed on the cantilever demolition, a project specification was developed for bird deterrence on the 504'/288' project. The contractor intends to sequence work so as to remove the steel spans outside the nesting season where practical, and install the deterrents contemplated in the plans as applicable. Should a bird still manage to nest on the bridge, the Environmental Team has secured a Miscellaneous Permit from USF&W that will allow the project biologist to relocate bird nests and help prevent delays to the work. Once the nests are relocated from the bridge, Caltrans has a service contract with International Bird Rescue (IBR) to transport eggs and young, incubate eggs and foster young as necessary and release birds back into their natural habitat. Successful bird deterrence in the past has resulted in no delays to the SFOBB from bird nesting issues.

### Pier E3 Demonstration (Superstructure Removal)

**Successful Completion of E3 Removal:** This contract is the first of two or three contracts to remove the marine foundations. The contract's first working day was June 1, 2015, and the implosion was successfully performed on November 14, 2015. The project was accepted on January 6, 2016. The contract was delivered well within the project's budget allotment and without any owner-caused project delays. The successful completion (i.e. minimal environmental impact and cost efficiency) of the project validates the use of the CMGC procurement method to deliver this project.

### Marine Structures Dismantling Project

**Award of E4-E18 CMGC Contract:** The project team successfully negotiated and awarded its second CMGC contract for $130 million, well under the Engineer's Estimate of $166 million.

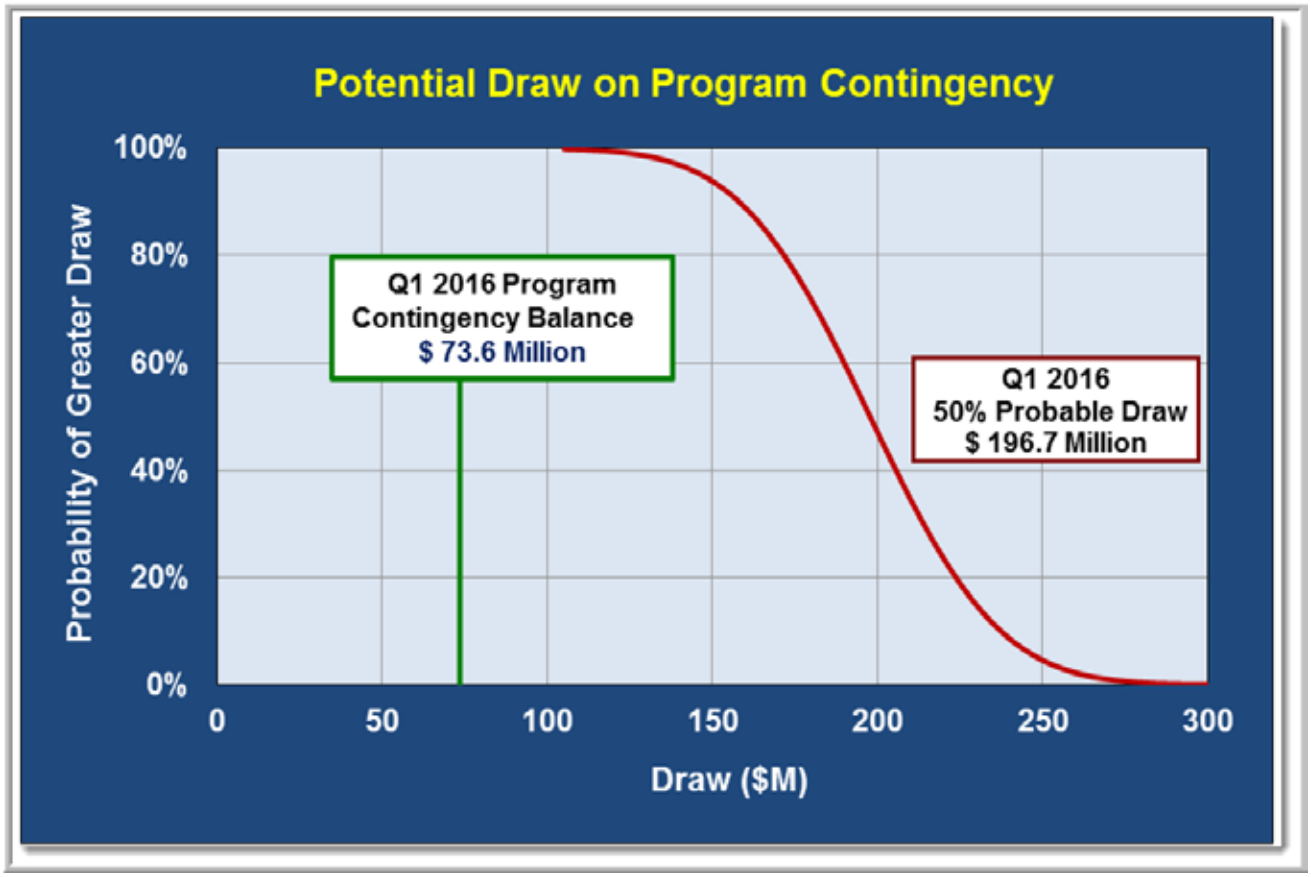



Figure 1 – Potential Draw on Program Contingency*

*Figure 1 Notes:

1. Proposed architectural enhancements and project improvements are excluded unless approved by the TBPOC.

## RISK MANAGEMENT LOOK AHEAD

### Self-Anchored Suspension Span Contract

The project close-out effort will continue. The cost of support budget will continue to be spent until final close out is achieved.

### Yerba Buena Island Transition Structure #2 Contract

**Southgate Road Realignment Alternative:** Coordination meetings between all the stakeholders on Yerba Buena Island have identified a more efficient alternative for routing traffic on Southgate Rd. This alternative would significantly increase the level of service of the on-ramps and off-ramps to the bridge. The city of Francisco will develop a proposal to present to the TBPOC for their consideration in the second quarter of 2016.

### 504'/288' Steel Structures Dismantling Contract

E4 &E5 Steel Bent Removal: The removal of E4 and E5 Steel Bents is scheduled to occur in the second quarter of 2016. A timely completion of this work will allow the contractor to successfully complete the transfer of E4 and E5 foundation piers to the Marine Foundations Removal contractor, in accordance with the 504'/288' contract milestones.

### Marine Structures Dismantling Contract

Permit Acquisition For Remainder of Project: The project team needs to secure a permit for implosion as the removal method for all the piers. The results of Pier E3 Demonstration will have a very strong impact on the cost and schedule of the remaining piers. The project team will use the data from the successful E3 implosion to help develop the permit application that will be submitted to the resource agencies in the second quarter of 2016. Issues such as the following remain uncertain:

- How frequently the implosions can occur (number of months per year)
- Permit requirements for large cofferdams (new permit erses existing permit) or silt curtains, should removal by conventional means and methods be necessary due to cost and schedule considerations
- Future reuse of several of these piers (i.e. E2, E18 to E22)
- Mitigation for Long-Fin Smelt

Demolition of the Former Superstructure

# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## Program Funding Status

AB 144 established a funding level of $8.685 billion for the TBSRP. As of January 1, 2010, seismic retrofitting of Antioch and Dumbarton Bridges became part of the Toll Bridge Seismic Retrofit Program with the passage of AB 1175, which provided another $750 million bringing the total funding to $9.435 billion. The program funding sources are shown in Table 1- Program Budget.

### Table 1—Program Budget as of March 31, 2016 ($ Millions)

| | | Budgeted | Funding Available & Contribution |
|---|---|---|---|
| Financing | | | |
| Seismic Surcharge Revenue AB 1171 | | 2,282.0 | 2,282.0 |
| Seismic Surcharge Revenue AB 144 | | 2,150.0 | 2,150.0 |
| Seismic Surcharge Revenue AB 1175 [2] | | 750.0 | 750.0 |
| BATA Consolidation | | 820.0 | 820.0 |
| Subtotal - Financing | | 6,002.0 | 6,002.0 |
| Contributions | | | |
| Proposition 192 | | 790.0 | 789.0 |
| San Diego Coronado Toll Bridge Revenue Fund | | 33.0 | 33.0 |
| Vincent Thomas Bridge | | 15.0 | 6.9 |
| State Highway Account[1] | | 745.0 | 745.0 |
| Public Transportation Account [1] | | 130.0 | 130.0 |
| ITIP/SHOPP/Federal Contingency [3] | | 448.0 | 448.0 |
| Federal Highway Bridge Replacement and Rehabilitation (HBRR) [3] | | 642.0 | 642.0 |
| SHA - East Span Dismantling | | 300.0 | 300.0 |
| SHA - "Efficiency Savings" | | 130.0 | 130.0 |
| Redirect Spillover | | 125.0 | 125.0 |
| Motor Vehicle Account | | 75.0 | 75.0 |
| Subtotal - Contribution | | 3,433.0 | 3,423.9 |
| Total Funding | | 9,435.0 | 9,425.9 |
| Encumbered to Date | | | 8,666.1 |
| Remaining Unallocated | | | 759.8 |
| Expenditures : | | | |
| Capital Outlay | | | 6,634.7 |
| State Operations | | | 1,841.9 |
| Antioch and Dumbarton Expenditures by BATA | | | 14.6 |
| | Total Expenditures | | 8,491.2 |
| Encumbrances : | | | |
| Capital Outlay | | | 169.1 |
| State Operations | | | 5.8 |
| | Total Encumbrances | | 174.9 |
| Total Expenditures and Encumbrances | | | 8,666.1 |

[1] The California Transportation Commission adopted a new schedule and changed the PTA/SHA split on December 15, 2005.

[2] As of January 1, 2010, seismic retrofitting of Antioch and Dumbarton Bridges became part of the Toll Bridge Seismic Retrofit Program with the passage of AB 1175.

[3] The Skyway contract is the only contract in the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project with federal funds. The Federal Aid Project No. is 0801(090) for the amount of $321,645,209.22.

## Summary of the Toll Bridge Oversight Committee (TBPOC) Expenses

Pursuant to Streets and Highways Code Section 30952.1 (d), expenses incurred by Caltrans, BATA, and the California Transportation Commission (CTC) for costs directly related to the duties associated with the TBPOC are to be reimbursed by toll revenues. Table 3 -Toll Bridge Program Oversight Committee Estimated Expenses: July 1, 2005, through March 31, 2016, shows expenses through March 31, 2016, for TBPOC functioning, support, and monthly and quarterly reporting.

### Table 2—CTC Toll Bridge Seismic Retrofit Program Contributions Adopted December 2005
**Schedule of Contributions to the Toll Bridge Seismic Retrofit Program ($ Millions)**

| Source | Description | 2005-06 (Actual) | 2006-07 (Actual) | 2007-08 (Actual) | 2008-09 (Actual) | 2009-10 (Actual) | 2010-11 (Actual) | 2011-12 (Actual) | 2012-13 (Actual) | 2013-14 (Actual) | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AB 1171 | SHA | 290 | | | | | | | | | 290 |
| | PTA | 80 | 40 | | | | | | | | 120 |
| | Highway Bridge Replacement and Rehabilitation (HBRR) | 100 | 100 | 100 | 42 | | | | | | 342 |
| | Contingency | | | | 1 | 99 | 100 | 100 | 148 | | 448 |
| AB 144 | SHA* | 2 | 8 | | | | 53 | 50 | 17 | | 130 |
| | Motor Vehicle Account (MVA) | 75 | | | | | | | | | 75 |
| | Spillover | | 125 | | | | | | | | 125 |
| | SHA** | | | | | | | | | 300 | 300 |
| | Total | 547 | 273 | 100 | 43 | 99 | 153 | 150 | 165 | 300 | 1830 |

* Caltrans Efficiency Savings

** SFOBB East Span Dismantling Cost. The last contribution of $300 million from SHA was made in October 2013 as scheduled.

### Table 3—Toll Bridge Program Oversight Committee
### Estimated Expenses: July 1, 2005 through March 31, 2016 ($ Millions)

| Agency/Program Activity | Expenses |
|---|---|
| **BATA** | **3.0** |
| **Caltrans** | **3.3** |
| **CTC** | **3.3** |
| **Reporting** | **5.9** |
| **Total Program** | **15.5** |

# TOLL BRIDGE SEISMIC RETROFIT PROGRAM

## Quarterly Environmental Compliance Highlights

Overall environmental compliance for the San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Safety Project (SFOBB Project) has been a success during the first quarter of 2016. The tasks for the current quarter are focused on mitigation, monitoring, and environmental permitting. Key successes in this quarter are as follows:

Bird monitoring has been conducted seven days a week since February 1st, corresponding with the start of the 2016 bird nesting season. The goal of this monitoring is to document potential impacts to birds from construction activities. Monitors did not observe any indication that birds were disturbed due to the east span construction activities.

Throughout the first quarter of 2016, installation of nesting bird impact avoidance management measures for the 2016 nesting season continued for the '504/ '288 dismantling contract. The contractor installed bird deterrents on the 504-foot trusses, 288-foot trusses, and tower legs. Meetings have been held periodically throughout the quarter between Caltrans and the504'/288' contractor to discuss bird nesting issues and the ongoing strategy for installation of nesting bird impact avoidance management measures during the 2016 nesting season.

A Draft SFOBB Pier E3 Implosion Demonstration Project Report was submitted to all applicable resource agencies on January 22, 2016. The environmental team worked closely with the resource agencies to obtain comments on the Pier E3 summary report, and updated the report throughout the first quarter of 2016 to address comments.

An inter-agency meeting was held with the San Francisco Bay Conservation and Development Commission (BCDC) the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the U.S. Army Corps of Engineers (USACE), the U.S. Coast Guard (USCG), the California Department of Fish and Wildlife (CDFW), the Regional Water Quality Control Board (RWQCB) and other project stakeholders on January 27, 2016 to present the preliminary monitoring results from the Pier E3 Demonstration Project and request agency feedback on the upcoming pier removal and retention strategy. A brief summary was given of the Pier E3 test blasts, implosion, and clean-up activities. The team presented preliminary hydroacoustic monitoring, fisheries monitoring, marine mammal monitoring, bird monitoring, and water quality monitoring results. In compliance with Special Condition II.G.5.h (Commission Presentation) of BCDC Permit No. 2001.008.38, the team briefed the BCDC commission on the Pier E3 Demonstration Project findings, conclusions, and recommendations on February 4, 2016.

The environmental team also held teleconferences and meetings with BCDC, NMFS, USACE, USCG, CDFW, and RWQCB throughout the first quarter of 2015 to discuss regulatory approvals for the removal of Piers E4 to E18.

The environmental team worked closely with the project management team to prepare and submit permit packages to BCDC, NMFS, USACE, and CDFW requesting approval to remove Piers E4 to E18 using controlled blasting. Thus far, the team has submitted an Incidental Harassment Authorization request to the NMFS Office of Protected Resources on March 10, 2016, a Biological Assessment to NMFS on March 31, 2016, an amendment request to BCDC on April 4, 2016, a Letter of Modification request to USACE on April 4, 2016, and a draft Incidental Take Permit application to CDFW on April 8, 2016. The environmental team will continue to work closely with the regulatory agencies to obtain necessary approvals for the removal of Piers E4 to E18 throughout the second quarter of 2016.

APPENDICES

A. TBSRP AB 144/SB 66/ AB 1175 Baseline Budget, Forecasts and Expenditures through March 31, 2016 (A-1 and A-2)

B. TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016

C. Project Photos

D. Glossary of Terms

# Appendix A-1: TBSRP AB 144/SB 66/AB 1175 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions)

| Contract | AB 144/SB 66/AB 1175 | Approved Changes | Current Approved Budget (03/2016) | Cost to Date (03/2016) | Cost Forecast (03/2016) | At-Completion Variance |
|---|---|---|---|---|---|---|
| a | c | d | e = c + d | f | g | h = g - e |
| SFOBB East Span Replacement Project | | | | | | |
| Capital Outlay Support | 959.3 | 346.2 | 1,305.5 | 1,293.9 | 1,400.3 | 94.8 |
| Capital Outlay Construction | 4,492.2 | 670.5 | 5,162.7 | 4,818.9 | 5,284.6 | 121.9 |
| Other Budgeted Capital | 35.1 | (32.8) | 2.3 | 0.7 | 2.3 | - |
| Total | 5,486.6 | 983.9 | 6,470.5 | 6,113.5 | 6,687.2 | 216.7 |
| SFOBB West Approach Replacement | | | | | | |
| Capital Outlay Support | 120.0 | (0.5) | 119.5 | 119.4 | 119.4 | (0.1) |
| Capital Outlay Construction | 309.0 | 31.0 | 340.0 | 333.0 | 340.0 | - |
| Total | 429.0 | 30.5 | 459.5 | 452.4 | 459.4 | (0.1) |
| SFOBB West Span Retrofit | | | | | | - |
| Capital Outlay Support | 75.0 | (0.2) | 74.8 | 74.8 | 74.8 | - |
| Capital Outlay Construction | 232.9 | (2.4) | 230.5 | 230.5 | 230.5 | - |
| Total | 307.9 | (2.6) | 305.3 | 305.3 | 305.3 | - |
| Richmond-San Rafael Bridge Retrofit* | | | | | | |
| Capital Outlay Support | 134.0 | (7.0) | 127.0 | 126.8 | 127.0 | - |
| Capital Outlay Construction | 780.0 | (94.9) | 685.1 | 668.1 | 668.2 | (16.9) |
| Total | 914.0 | (101.9) | 812.1 | 794.9 | 795.2 | - |
| Benicia-Martinez Bridge Retrofit | | | | | | - |
| Capital Outlay Support | 38.1 | - | 38.1 | 38.1 | 38.1 | - |
| Capital Outlay Construction | 139.7 | - | 139.7 | 139.7 | 139.7 | - |
| Total | 177.8 | - | 177.8 | 177.8 | 177.8 | - |
| Carquinez Bridge Retrofit | | | | | | |
| Capital Outlay Support | 28.7 | 0.1 | 28.8 | 28.8 | 28.8 | - |
| Capital Outlay Construction | 85.5 | (0.1) | 85.4 | 85.4 | 85.4 | - |
| Total | 114.2 | - | 114.2 | 114.2 | 114.2 | - |
| San Mateo-Hayward Retrofit | | | | | | - |
| Capital Outlay Support | 28.1 | - | 28.1 | 28.1 | 28.1 | - |
| Capital Outlay Construction | 135.4 | (0.1) | 135.3 | 135.3 | 135.3 | - |
| Total | 163.5 | (0.1) | 163.4 | 163.4 | 163.4 | - |
| Vincent Thomas Bridge Retrofit (Los Angeles) | | | | | | |
| Capital Outlay Support | 16.4 | - | 16.4 | 16.4 | 16.4 | - |
| Capital Outlay Construction | 42.1 | - | 42.1 | 42.0 | 42.0 | (0.1) |
| Total | 58.5 | - | 58.5 | 58.4 | 58.4 | (0.1) |
| San Diego-Coronado Bridge Retrofit | | | | | | |
| Capital Outlay Support | 33.5 | - | 33.5 | 33.2 | 33.2 | (0.3) |
| Capital Outlay Construction | 70.0 | - | 70.0 | 69.4 | 69.4 | (0.6) |
| Total | 103.5 | - | 103.5 | 102.6 | 102.6 | (0.9) |

# Appendix A-1: TBSRP AB 144/SB 66/AB 1175 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions) Cont.

| Contract | AB 144/SB 66/AB 1175 | Approved Changes | Current Approved Budget (03/2016) | Cost to Date (03/2016) | Cost Forecast (03/2016) | At-Completion Variance |
|---|---|---|---|---|---|---|
| a | c | d | e = c + d | f | g | h = g - e |
| Antioch Bridge | | | | | | |
| Capital Outlay Support | - | 24.1 | 24.1 | 17.4 | 23.8 | (0.3) |
| Capital Outlay Support by BATA | | | | 6.7 | | |
| Capital Outlay Construction | - | 47.0 | 47.0 | 47.0 | 47.0 | - |
| Total | 267.0 | 71.1 | 71.1 | 71.1 | 70.8 | (0.3) |
| Dumbarton Bridge | | | | | | |
| Capital Outlay Support | - | 46.0 | 46.0 | 39.5 | 45.4 | (0.6) |
| Capital Outlay Support by BATA | | | | 7.9 | | |
| Capital Outlay Construction | - | 66.4 | 66.4 | 64.6 | 66.4 | - |
| Total | 483.0 | 112.4 | 112.4 | 112.0 | 111.8 | (0.6) |
| Subtotal Capital Outlay Support | 1,682.9 | 159.0 | 1,841.8 | 1,831.0 | 1,935.3 | 93.5 |
| Subtotal Capital Outlay | 6,787.1 | 217.2 | 7,004.2 | 6,634.0 | 7,108.5 | 104.3 |
| Subtotal Other Budgeted Capital | 35.1 | (32.8) | 2.3 | 0.7 | 2.3 | - |
| Miscellaneous Program Costs | 30.0 | - | 30.0 | 25.5 | 30.0 | - |
| Subtotal Toll Bridge Seismic Retrofit Program | 8,535.0 | 343.3 | 8,878.3 | 8,491.2 | 9,076.1 | 197.8 |
| Net Programmatic Risks | - | - | - | - | (0.9) | (0.9) |
| Program Contingency | 900.0 | (826.3) | 73.7 | - | - | - |
| Total Toll Bridge Seismic Retrofit Program ** | 9,435.0 | (483.0) | 8,952.0 | 8,491.2 | 9,075.2 | 123.2 *** |

* Budget for Richmond-San Rafael Bridge includes $16.9 million of deck joint rehabilitation work that considered to be eligible for seismic retrofit program funding.

** AB144/SB66 established a funding level of $8.685 Billion in July 2005 for TBSRP, AB1175 added the retrofitting of the Antioch and Dumbarton Bridges in January 2010, providing another $750 million in funding, bringing Total Toll Seismic Retrofit Program funding to $9.435 Billion. Since 2010, $483 million has been removed from the program, bringing the current TBPOC Approved Budget to $8.952 Billion. The $483 million removed consisted of:

Antioch Savings (4/12/10) $137 million
Dumbarton Savings (9/02/10) $216 million
Program Contingency Redirection (11/05/13) $130 million, the current TBPOC approved Program Budget is $8,952 million.

*** (Due to the rounding of numbers, the totals above are show within $0.02).

# Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions)

| Bridge | AB 144 Baseline Budget | TBPOC Current Approved Budget | Expenditures to date and encumbrances as of (03/2016) see Note (1) | Estimated costs not yet spent or encumbered as of (03/2016) | Total Forecast as of (03/2016) |
|---|---|---|---|---|---|
| a | b | c | d | e | f = d + e |
| Other Completed Projects | | | | | |
| Capital Outlay Support | 144.9 | 144.9 | 144.6 | - | 144.6 |
| Capital Outlay | 472.6 | 472.5 | 471.9 | (0.1) | 471.8 |
| Total | 617.5 | 617.4 | 616.5 | (0.1) | 616.4 |
| Richmond-San Rafael | | | | | |
| Capital Outlay Support | 134.0 | 127.0 | 126.8 | 0.2 | 127.0 |
| Capital Outlay | 698.0 | 685.1 | 667.5 | 0.7 | 668.2 |
| Project Reserves | 82.0 | - | - | - | - |
| Total | 914.0 | 812.1 | 794.3 | 0.9 | 795.2 |
| West Span Retrofit | | | | | |
| Capital Outlay Support | 75.0 | 74.8 | 74.8 | - | 74.8 |
| Capital Outlay | 232.9 | 230.5 | 227.4 | 3.1 | 230.5 |
| Total | 307.9 | 305.3 | 302.2 | 3.1 | 305.3 |
| West Approach | | | | | |
| Capital Outlay Support | 120.0 | 119.5 | 119.5 | (0.1) | 119.4 |
| Capital Outlay | 309.0 | 340.0 | 332.2 | 7.8 | 340.0 |
| Total | 429.0 | 459.5 | 451.7 | 7.7 | 459.4 |
| SFOBB East Span - Skyway | | | | | |
| Capital Outlay Support | 197.0 | 181.2 | 181.2 | - | 181.2 |
| Capital Outlay | 1,293.0 | 1,237.2 | 1,237.3 | (0.1) | 1,237.2 |
| Total | 1,490.0 | 1,418.4 | 1,418.5 | (0.1) | 1,418.4 |
| SFOBB East Span - SAS - Superstructure | | | | | |
| Capital Outlay Support | 214.6 | 483.0 | 511.6 | 7.4 | 519.0 |
| Capital Outlay | 1,753.7 | 2,046.8 | 2,046.9 | 2.1 | 2,049.0 |
| Total | 1,968.3 | 2,529.8 | 2,558.5 | 9.5 | 2,568.0 |
| SFOBB East Span - SAS - Foundations | | | | | |
| Capital Outlay Support | 62.5 | 37.6 | 37.6 | - | 37.6 |
| Capital Outlay | 339.9 | 301.3 | 301.3 | - | 301.3 |
| Total | 402.4 | 338.9 | 338.9 | - | 338.9 |
| Small YBI Projects | | | | | |
| Capital Outlay Support | 10.6 | 10.2 | 10.2 | 0.4 | 10.6 |
| Capital Outlay | 15.6 | 15.2 | 15.2 | 0.5 | 15.7 |
| Total | 26.2 | 25.4 | 25.4 | 0.9 | 26.3 |
| YBI Detour | | | | | |
| Capital Outlay Support | 29.5 | 87.7 | 87.9 | (0.2) | 87.7 |
| Capital Outlay | 131.9 | 473.3 | 473.4 | (0.1) | 473.3 |
| Total | 161.4 | 561.0 | 561.3 | (0.3) | 561.0 |
| YBI- Transition Structures | | | | | |
| Capital Outlay Support | 78.7 | 127.5 | 134.1 | 37.5 | 171.6 |
| Capital Outlay | 299.4 | 299.4 | 298.4 | 35.0 | 333.4 |
| Total | 378.1 | 426.9 | 432.5 | 72.5 | 505.0 |

# Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions) Cont.

| Contract | AB 144 Baseline Budget | TBPOC Current Approved Budget | Expenditures to date and encumbrances as of (03/2016) see Note (1) | Estimated costs not yet spent or encumbered as of (03/2016) | Total Forecast as of (03/2016) |
|---|---|---|---|---|---|
| a | b | c | d | e | f = d + e |
| Oakland Touchdown | | | | | |
| Capital Outlay Support | 74.4 | 118.5 | 118.2 | 1.1 | 119.3 |
| Capital Outlay | 283.8 | 330.6 | 329.8 | (0.8) | 329.0 |
| Total | 358.2 | 449.1 | 448.0 | 0.3 | 448.3 |
| East Span Other Small Projects | | | | | |
| Capital Outlay Support | 212.3 | 197.9 | 197.9 | (0.1) | 197.8 |
| Capital Outlay | 170.8 | 141.3 | 125.7 | 11.2 | 136.9 |
| Total | 383.1 | 339.2 | 323.6 | 11.1 | 334.7 |
| Existing Bridge Dismantling | | | | | |
| Capital Outlay Support | 79.7 | 61.9 | 20.9 | 54.5 | 75.4 |
| Capital Outlay | 239.2 | 320.1 | 165.2 | 245.9 | 411.1 |
| Total | 318.9 | 382.0 | 186.1 | 300.4 | 486.5 |
| Antioch Bridge | | | | | |
| Capital Outlay Support | - | 24.1 | 17.4 | (0.3) | 17.1 |
| Capital Outlay Support by BATA | | | 6.7 | - | 6.7 |
| Capital Outlay | - | 47.0 | 47.0 | - | 47.0 |
| Total | 267.0 | 71.1 | 71.1 | (0.3) | 70.8 |
| Dumbarton Bridge | | | | | |
| Capital Outlay Support | - | 46.0 | 39.5 | (2.0) | 37.5 |
| Capital Outlay Support by BATA | | | 7.9 | - | 7.9 |
| Capital Outlay | - | 66.4 | 64.7 | 1.7 | 66.4 |
| Total | 483.0 | 112.4 | 112.1 | (0.3) | 111.8 |
| Miscellaneous Program Costs | 30.0 | 30.0 | 25.5 | 4.5 | 30.0 |
| Total Capital Outlay Support | 1,712.9 | 1,871.8 | 1,862.3 | 103.0 | 1,965.3 |
| Total Capital Outlay | 6,822.1 | 7,006.6 | 6,803.8 | 307.1 | 7,110.9 |
| Program Total [1] | 8,535.0 | 8,878.4 | 8,666.1 | 410.1 | 9,076.2 |

(1) Total Capital Outlay Support includes program indirect costs.
(2) BSA provided a distribution of program contingency in December 2004 based on Bechtel Infrastructure Corporation input.
(3) Construction administration of the OTD Detour is under the YBITS1 contract. Encumbrance is included in YBITS1 contract.
(4) Construction administration of the cantilever segment is under the YBITS2 contract. Encumbrance is included in YBITS2 contract.
(Due to the rounding of numbers, the totals above are shown within $0.02)

# Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions)

| Contract | AB 144 / SB 66 Budget (07/2005) | Approved Changes | Current Approved Budget (03/2016) | Cost to Date (03/2016) | Cost Forecast (03/2016) | At-Completion Variance |
|---|---|---|---|---|---|---|
| a | c | d | e = c + d | f | g | h = g - e |
| San Francisco-Oakland Bay Bridge East Span Replacement Project | | | | | | |
| East Span - SAS Superstructure | | | | | | |
| Capital Outlay Support | 214.6 | 268.4 | 483.0 | 508.6 | 519.0 | 36.0 |
| Capital Outlay Construction | 1,753.7 | 293.1 | 2,046.8 | 1,972.4 | 2,049.0 | 2.2 |
| Total | 1,968.3 | 561.5 | 2,529.8 | 2,481.0 | 2,568.0 | 38.2 |
| SAS W2 Foundations | | | | | | |
| Capital Outlay Support | 10.0 | (0.8) | 9.2 | 9.2 | 9.2 | - |
| Capital Outlay Construction | 26.4 | 0.1 | 26.5 | 26.5 | 26.5 | - |
| Total | 36.4 | (0.7) | 35.7 | 35.7 | 35.7 | - |
| YBI South/South Detour | | | | | | |
| Capital Outlay Support | 29.4 | 58.3 | 87.7 | 87.9 | 87.7 | - |
| Capital Outlay Construction | 131.9 | 341.4 | 473.3 | 473.4 | 473.3 | - |
| Total | 161.3 | 399.7 | 561.0 | 561.3 | 561.0 | - |
| East Span - Skyway | | | | | | |
| Capital Outlay Support | 197.0 | (15.8) | 181.2 | 181.2 | 181.2 | - |
| Capital Outlay Construction | 1,293.0 | (55.8) | 1,237.2 | 1,235.6 | 1,237.2 | - |
| Total | 1,490.0 | (71.6) | 1,418.4 | 1,416.8 | 1,418.4 | - |
| East Span - SAS E2/T1 Foundations | | | | | | - |
| Capital Outlay Support | 52.5 | (24.1) | 28.4 | 28.4 | 28.4 | - |
| Capital Outlay Construction | 313.5 | (38.7) | 274.8 | 274.8 | 274.8 | - |
| Total | 366.0 | (62.8) | 303.2 | 303.2 | 303.2 | - |
| YBI Transition Structures (see notes below) | | | | | | |
| Capital Outlay Support | 78.7 | 48.8 | 127.5 | 131.8 | 171.6 | 44.1 |
| Capital Outlay Construction | 299.3 | 0.1 | 299.4 | 255.3 | 333.4 | 34.0 |
| Total | 378.0 | 48.9 | 426.9 | 387.1 | 505.0 | 78.1 |
| * YBI- Transition Structures | | | | | | |
| Capital Outlay Support | | | 16.4 | 16.4 | 16.4 | - |
| Capital Outlay Construction | | | - | - | - | - |
| Total | | | 16.4 | 16.4 | 16.4 | - |
| * YBI- Transition Structures Contract No. 1 | | | | | | |
| Capital Outlay Support | | | 72.1 | 69.8 | 69.0 | (3.1) |
| Capital Outlay Construction | | | 203.7 | 202.5 | 204.9 | 1.2 |
| Total | | | 275.8 | 272.3 | 273.9 | (1.9) |
| * YBI- Transition Structures Contract No. 2 | | | | | | |
| Capital Outlay Support | | | 38.0 | 45.4 | 85.2 | 47.2 |
| Capital Outlay Construction | | | 92.4 | 52.7 | 125.2 | 32.8 |
| Total | | | 130.4 | 98.2 | 210.4 | 80.0 |
| * YBI- Transition Structures Contract No. 3 Landscape | | | | | | |
| Capital Outlay Support | | | 1.0 | 0.2 | 1.0 | - |
| Capital Outlay Construction | | | 3.3 | - | 3.3 | - |
| Total | | | 4.3 | - | 4.3 | - |

# Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions) Cont.

| Contract | AB 144 / SB 66 Budget (07/2005) | Approved Changes | Current Approved Budget (03/2016) | Cost to Date (03/2016) | Cost Forecast (03/2016) | At-Completion Variance |
|---|---|---|---|---|---|---|
| a | c | d | e = c + d | f | g | h = g - e |
| Oakland Touchdown (see notes below) | | | | | | |
| Capital Outlay Support | 74.4 | 44.1 | 118.5 | 118.9 | 119.3 | 0.8 |
| Capital Outlay Construction | 283.8 | 46.8 | 330.6 | 318.6 | 329.0 | (1.6) |
| Total | 358.2 | 90.9 | 449.1 | 437.5 | 448.3 | (0.8) |
| * OTD Prior-to-Split Costs | | | | | | |
| Capital Outlay Support | | | 21.7 | 20.0 | 20.1 | (1.6) |
| Capital Outlay Construction | | | - | - | - | - |
| Total | | | 21.7 | 20.0 | 20.1 | (1.6) |
| * OTD Submarine Cable(1) | | | | | | |
| Capital Outlay Support | | | 0.9 | 0.9 | 0.9 | - |
| Capital Outlay Construction | | | 5.7 | 5.7 | 5.7 | - |
| Total | | | 6.6 | 6.6 | 6.6 | - |
| * OTD No. 1 (Westbound) | | | | | | |
| Capital Outlay Support | | | 51.3 | 51.2 | 51.2 | (0.1) |
| Capital Outlay Construction | | | 205.3 | 202.8 | 205.3 | - |
| Total | | | 256.6 | 254.0 | 256.5 | (0.1) |
| * OTD No. 2 (Eastbound) | | | | | | |
| Capital Outlay Support | | | 35.0 | 38.1 | 37.5 | 2.5 |
| Capital Outlay Construction | | | 72.6 | 63.3 | 71.0 | (1.6) |
| Total | | | 107.6 | 101.4 | 108.5 | 0.9 |
| * OTD Touchdown 2 Detour(2) | | | | | | |
| Capital Outlay Support | | | 8.1 | 8.0 | 8.1 | - |
| Capital Outlay Construction | | | 47.0 | 46.7 | 47.0 | - |
| Total | | | 55.1 | 54.7 | 55.1 | - |
| * OTD Electrical Systems | | | | | | |
| Capital Outlay Support | | | 1.5 | 0.8 | 1.5 | - |
| Capital Outlay Construction | | | - | - | - | - |
| Total | | | 1.5 | 0.8 | 1.5 | - |
| Existing Bridge Dismantling | | | | | | |
| Capital Outlay Support | 79.7 | (17.8) | 61.9 | 19.9 | 75.4 | 13.5 |
| Capital Outlay Construction | 239.2 | 80.9 | 320.1 | 122.0 | 411.1 | 91.0 |
| Total | 318.9 | 63.1 | 382.0 | 141.9 | 486.5 | 104.5 |
| * Bridge Dismantling Prior-to-Split Cost | | | | | | |
| Capital Outlay Support | | | 3.9 | 3.9 | 3.9 | |
| Capital Outlay Construction | | | - | - | - | |
| Total | | | 3.9 | 3.9 | 3.9 | |
| * Cantilever Section | | | | | | |
| Capital Outlay Support | | | 17.0 | 1.6 | 1.6 | |
| Capital Outlay Construction | | | 69.0 | 68.5 | 69.0 | |
| Total | | | 86.0 | 70.1 | 70.6 | |
| * 504/288 Sections | | | | | | |
| Capital Outlay Support | | | 21.0 | 6.5 | 22.8 | |
| Capital Outlay Construction | | | 103.5 | 37.6 | 104.8 | |
| Total | | | 124.5 | 44.1 | 127.6 | |

# Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions) Cont.

| Contract | AB 144 / SB 66 Budget (07/2005) | Approved Changes | Current Approved Budget (03/2016) | Cost to Date (03/2016) | Cost Forecast (03/2016) | At-Completion Variance |
|---|---|---|---|---|---|---|
| a | c | d | e = c + d | f | g | h = g - e |
| *Marine Foundations | | | | | | |
| Capital Outlay Support | | | 20.0 | 7.9 | 47.1 | |
| Capital Outlay Construction | | | 147.5 | 15.9 | 237.3 | |
| Total | | | 167.5 | 23.8 | 284.4 | |
| Sunk Cost for Marine Foundation | | | - | 5.3 | 5.3 | |
| Pier-3 Demonstration Project | | | | | | |
| Capital Outlay Support | | | - | 2.6 | 3.5 | |
| Capital Outlay Construction | | | 17.5 | 15.9 | 17.5 | |
| Total | | | 17.5 | 18.5 | 21.0 | |
| Remaining Marine Foundations[2] | | | | | | |
| Capital Outlay Support | | | - | - | 38.3 | |
| Capital Outlay Construction | | | 130.0 | - | 219.8 | |
| Total | | | 130.0 | - | 258.1 | |
| Pier-E4 to Pier-E18 | | | | | | |
| Capital Outlay Support | | | - | - | 30.4 | |
| Capital Outlay Construction | | | 130.0 | - | 174.8 | |
| Total | | | 130.0 | - | 205.2 | |
| Pier-E2 and Pier-E19 to Pier-E22 | | | | | | |
| Capital Outlay Support | | | - | - | 7.9 | |
| Capital Outlay Construction | | | - | - | 45.0 | |
| Total | | | - | - | 52.9 | |
| YBI/SAS Archeology | | | | | | |
| Capital Outlay Support | 1.1 | - | 1.1 | 1.1 | 1.1 | - |
| Capital Outlay Construction | 1.1 | - | 1.1 | 1.1 | 1.1 | - |
| Total | 2.2 | - | 2.2 | 2.2 | 2.2 | - |
| YBI - USCG Road Relocation | | | | | | |
| Capital Outlay Support | 3.0 | (0.3) | 2.7 | 2.7 | 3.0 | 0.3 |
| Capital Outlay Construction | 3.0 | (0.2) | 2.8 | 2.8 | 3.0 | 0.2 |
| Total | 6.0 | (0.5) | 5.5 | 5.5 | 6.0 | 0.5 |
| YBI - Substation and Viaduct | | | | | | |
| Capital Outlay Support | 6.5 | (0.1) | 6.4 | 6.4 | 6.5 | 0.1 |
| Capital Outlay Construction | 11.6 | (0.3) | 11.3 | 11.3 | 11.6 | 0.3 |
| Total | 18.1 | (0.4) | 17.7 | 17.7 | 18.1 | 0.4 |
| Oakland Geofill | | | | | | - |
| Capital Outlay Support | 2.5 | - | 2.5 | 2.5 | 2.5 | - |
| Capital Outlay Construction | 8.2 | - | 8.2 | 8.2 | 8.2 | - |
| Total | 10.7 | - | 10.7 | 10.7 | 10.7 | - |
| Pile Installation Demonstration Project | | | | | | |
| Capital Outlay Support | 1.8 | - | 1.8 | 1.8 | 1.8 | - |
| Capital Outlay Construction | 9.3 | (0.1) | 9.2 | 9.3 | 9.3 | - |
| Total | 11.1 | (0.1) | 11.0 | 11.1 | 11.1 | - |

# Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through March 31, 2016 ($ Millions) Cont.

| Contract | AB 144 / SB 66 Budget (07/2005) | Approved Changes | Current Approved Budget (03/2016) | Cost to Date (03/2016) | Cost Forecast (03/2016) | At-Completion Variance |
|---|---|---|---|---|---|---|
| a | c | d | e = c + d | f | g | h = g - e |
| Stormwater Treatment Measures | | | | | | |
| Capital Outlay Support | 6.0 | 2.2 | 8.2 | 8.2 | 8.2 | - |
| Capital Outlay Construction | 15.0 | 3.3 | 18.3 | 16.9 | 17.3 | (1.0) |
| Total | 21.0 | 5.5 | 26.5 | 25.1 | 25.5 | (1.0) |
| Right-of-Way and Environmental Mitigation | | | | | | |
| Capital Outlay Support | - | - | - | - | - | - |
| Capital Outlay & Right-of-Way | 72.4 | - | 72.4 | 60.2 | 69.0 | (3.4) |
| Total | 72.4 | - | 72.4 | 60.2 | 69.0 | (3.4) |
| Sunk Cost - Existing East Span Retrofit | | | | | | |
| Capital Outlay Support | 39.5 | - | 39.5 | 39.5 | 39.5 | - |
| Capital Outlay Construction | 30.8 | - | 30.8 | 30.8 | 30.8 | - |
| Total | 70.3 | - | 70.3 | 70.3 | 70.3 | - |
| Other Capital Outlay Support | | | | | | |
| Environmental Phase | 97.7 | 0.1 | 97.8 | 97.8 | 97.7 | (0.1) |
| Pre-Split Project Expenditures | 44.9 | - | 44.9 | 44.9 | 44.9 | - |
| Non-Project Specific Costs | 20.0 | (16.8) | 3.2 | 3.2 | 3.2 | - |
| Total | 162.6 | (16.7) | 145.9 | 145.9 | 145.8 | (0.1) |
| Subtotal Capital Outlay Support | 959.3 | 346.2 | 1,305.5 | 1,293.9 | 1,400.3 | 94.8 |
| Subtotal Capital Outlay Construction | 4,492.2 | 670.5 | 5,162.7 | 4,818.9 | 5,284.6 | 121.9 |
| Other Budgeted Capital | 35.1 | (32.8) | 2.3 | 0.7 | 2.3 | - |
| Total SFOBB East Span Replacement Project | 5,486.6 | 983.9 | 6,470.5 | 6,113.5 | 6,687.2 | 216.7 |

(1) Current contract allotment to install two submarine electrical cables is $11.5 million. Additional non-program funding to support this allocation beyond the $9.6 million of available programs funds has been made available by the Treasure Island Development Authority.

(2) Construction administration of the OTD Detour is under the YBITS#1 contract.

(3) Construction administration of the Cantilever segment is under the YBITS#2 contract.

(Due to the rounding of numbers, the totals above are shown within $0.02).

# Project Photos

## Self-Anchored Suspension Bridge (SAS)

## Yerba Buena Island Transition Structure (YBITS)

## Dismantling of Former San Francisco/Oakland Bay Bridge

## Appendix: Glossary of Terms

# Glossary of Terms

AB 144/SB 66 BUDGET: The planned allocation of resources for the Toll Bridge Seismic Retrofit Program, or subordinate projects or contracts, as provided in Assembly Bill 144 and Senate Bill 66, signed into law by Governor Schwarzenegger on July 18, 2005, and September 29, 2005, respectively.

AB 144/SB 66 PROJECT COMPLETE BASELINE: The planned completion date for the Toll Bridge Seismic Retrofit Program or subordinate projects or contracts.

APPROVED CHANGES: For cost, changes to the AB 144/SB 66 Budget or BATA Budget as approved by the Bay Area Toll Authority Commission. For schedule, changes to the AB 144/SB 66 Project Complete Baseline approved by the Toll Bridge Program Oversight Committee, or changes to the BATA Project Complete Baseline approved by the Bay Area Toll Authority Commission.

AT COMPLETION VARIANCE or VARIANCE (cost): The mathematical difference between the Cost Forecast and the Current Approved Budget.

BATA BUDGET: The planned allocation of resources for the Regional Measure 1 Program, or subordinate projects or contracts as authorized by the Bay Area Toll Authority as of June 2005.

BATA PROJECT COMPLETE BASELINE: The planned completion date for the Regional Measure 1 Program or subordinate projects or contracts.

COST FORECAST: The current forecast of all of the costs that are projected to be expended so as to complete the given scope of the program, project, or contract.

COST TO DATE: The actual expenditures incurred by the program, project or contract as of the month and year shown.

CURRENT APPROVED BUDGET: The sum of the AB 144/SB 66 Budget or BATA Budget and Approved Changes.

HINGE PIPE BEAMS: Pipes between roadway sections designed to move within their sleeves during expansion or contraction of the decks during minor events, such as changes in temperature. The beams are designed to absorb the energy of an earthquake by deforming in their middle or “fuse” section. Hinge pipe beams are also found at the western piers where the SAS connects to the YBITS (Hinge “K” pipe beams).

PROJECT COMPLETE CURRENT APPROVED SCHEDULE: The sum of the AB 144/SB 66 Project Complete Baseline or BATA Project Complete Baseline and Approved Changes.

PROJECT COMPLETE SCHEDULE FORECAST: The current projected date for the completion of the program, project, or contract.

SCHEDULE VARIANCE or VARIANCE (schedule): The mathematical difference expressed in months between the Project Complete Schedule Forecast and the Project Complete Current Approved Schedule.

% COMPLETE: % Complete is based on an evaluation of progress on the project, expenditures to date, and schedule.