# Revised Final Agenda

**TBPOC REGULAR MEETING**  
**June 4, 2014**  
**Executive Session: 10:00am – 11:00am**  
**Regular Session: 11:00am – 1:00pm**  
**325 Burma Road, Oakland, CA**

<table>
<thead>
<tr>
<th>Item Number/ Topic</th>
<th>Presenter</th>
<th>Time</th>
<th>Desired Outcome</th>
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<tbody>
<tr>
<td><strong>1. EXECUTIVE SESSION</strong></td>
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<tr>
<td>a. SAS Outstanding Change Order Negotiations</td>
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<td><strong>2. CHAIR’S REPORT</strong></td>
<td>S. Heminger, BATA</td>
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<td>Information</td>
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<td><strong>3. CONSENT CALENDAR</strong></td>
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<tr>
<td>a. TBPOC Conference Call/ Meeting Minutes</td>
<td>A. Fremier, BATA</td>
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<td>Approval</td>
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<tr>
<td>1. TBPOC May 6, 2014 Minutes*</td>
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<td><strong>4. PROGRAM ISSUES</strong></td>
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<tr>
<td>a. SAS Anchorage Modifications*</td>
<td>T. Anziano, CT/ B. Maroney, CT</td>
<td>30 min</td>
<td>Information</td>
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<tr>
<td>b. SAS Main Cable Dehumidification Update*</td>
<td>T. Anziano, CT/ B. Maroney, CT</td>
<td>30 min</td>
<td>Information</td>
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<tr>
<td>c. West Approach Close Out/ Real Estate*</td>
<td>T. Anziano, CT</td>
<td>15 min</td>
<td>Information</td>
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<tr>
<td>d. SFOBB New East Span Project Lessons Learned Report*</td>
<td>K. Terpstra, CT</td>
<td>10 min</td>
<td>Information</td>
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<td><strong>5. SAN FRANCISCO-OAKLAND BAY BRIDGE UPDATES</strong></td>
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<tr>
<td>a. SAS Update</td>
<td>T. Anziano, CT/ B. Maroney, CT</td>
<td>15 min</td>
<td>Information</td>
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<td>1. Anchor Rod Testing*</td>
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<td>b. YBITS 2 Update (w/ Contractor)</td>
<td>B. Maroney, CT</td>
<td>15 min</td>
<td>Information</td>
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<td><strong>6. OTHER BUSINESS</strong></td>
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<tr>
<td>a. Report on matters discussed and actions taken at Urgent Meeting</td>
<td>N/A</td>
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<tr>
<td>b. Report on matters discussed and actions taken during Executive Session</td>
<td>S. Heminger, BATA</td>
<td>5 min</td>
<td>Information</td>
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<tr>
<td>c. Zampa (Carquinez) Bridge Joint Work*</td>
<td>D. McElhinney, CT</td>
<td>5 min</td>
<td>Information</td>
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<td><strong>7. GENERAL PUBLIC COMMENT</strong></td>
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Next TBPOC Meeting:  
**July 1, 2014, 10:00am – 1:00pm, Oakland CA**

* Attachments  **Attachments to be sent under separate cover*
TO: Toll Bridge Oversight Committee (TBPOC)  
DATE: June 2, 2014

FR: Dan McElhinney, Deputy Director District 4, Caltrans

RE: Agenda No. - 6c
   Item – Other Business
   Zampa (Carquinez) Bridge Joint Work

Recommendation:
For Information Only

Cost:
NA

Schedule Impacts:
NA

Discussion:
An update on the Zampa (Carquinez) Bridge Joint Work will be provided at the TBPOC meeting on June 4. Please refer to the attached fact sheet.

Attachment(s):
Zampa Bridge Joint Technical Fact Sheet
FACT SHEET
Zampa Bridge Seismic Joint
Al Zampa Memorial Bridge, Br. No. 28-0352L
June 3, 2014

Location
Al Zampa Memorial Bridge
Bridge Number 28-0352L

District-County-Route-Post Mile
04-CC-080-13.8-VAL

Description
As part of the original building of the Al Zampa Memorial Bridge (Bridge Number 28-0352L) in 2003, two large seismic joints were constructed - at the north end (Abutment 4) and south end (Pier 1) of the main suspension bridge. These joints, commonly referred to as Maurer Swivel Expansion Joint Assemblies, accommodate steel bridge expansion and contraction daily and also are designed to accommodate large longitudinal, transverse, and vertical displacements associated with earthquakes. The joint was supplied by the D.S. Brown Company and is provided in the U.S.A. through an exclusive license agreement with Maurer Sohne, Munich, Germany.

During a routine inspection of the joints in September of 2012, although found still operational, a clanking sound was heard coming from the joint as large vehicles passed. Inspection found one of the many pivot pins was slightly off center with some distress of a stainless steel bearing plate hindering free movement of a stirrup bearing on one beam. A regular monitoring plan of the 15 bearing beams in the joint was initiated.

A follow up investigation, this time with the joints’ manufacturer, was conducted in November of 2013. During that site visit it was recommended that several bearing beams should be replaced (predominately due to the deteriorated stainless steel bearing plate), and the work was subsequently programmed in the BATA Rehabilitation Program, originally as a standalone contract, later combined as part of the 1958 Carquinez Bridge Overlay Project (EA 04-3G4031) targeted for construction in mid 2015.

On Thursday, May 15, 2014 during another follow up investigation, it was discovered several stainless steel bearing plates had delaminated from a bearing beam, that one of the neoprene stirrup bearings had cracked, and a pivot pin had slipped completely off of that stirrup bearing. At this time, it is believed that the delaminated stainless steel bearing plate reduced the horizontal movement of the neoprene stirrup bearing assemblies causing the additional damage shown in the photo below, and that there are possibly 1 or 2 bearing beams of the 15 bearing beams needing the stainless steel bearing plates replaced.
Repair Strategy

On Thursday May 29th District 4 Maintenance Crews installed temporary wood shoring at the site to stabilize the joint and reduce degradation for the short term until a contract to repair is underway this year. The shoring has reduced the clanking of the joint as large vehicles pass over the joint, however it does limit the joint’s ability to contract and expand with temperature.

The second phase, which will begin this summer, is the repair of the joint by means of replacement of the damaged bearing beam and associated pivot pins and stirrup bearings. As the joint is very complex in its function, Structure Maintenance staff have been working with the manufacturer (DS Brown) as to the best repair strategy. The manufacturer has shipped out what spare parts they have readily available and is further checking their inventory. It is acknowledged that spare parts in the United States are very limited, and if additional parts are required, these may need to be fabricated locally or shipped from Germany.

Based on our current conversations with the manufacturer, and the parts shipped to date, it is estimated the repair of up to 2 beams will be in the several hundred thousand dollar range for construction and is projected to take a few weeks to a month to complete. However the extent of the damage and repairs won’t be fully known until the joint repair contract is underway on site. It is recommended to use a Force Account Director’s Order to complete these repairs to remove the joint from the temporary shoring system and restore its function. A Force Account Directors Order is also appropriate since the full extent and scope of work is not known.
Background Information

* The seismic joint is manufactured by Maurer Sohne Systems, Munich Germany and supplied by DS Brown under license through an exclusive license agreement with Maurer Sohne.

* Per the original Contract Specifications the joint was sole sourced from DS Brown. While not formally written in the specifications, other structures using the Maurer Sohne joint in future years noted that it was the only joint known to the state to meet the contract requirements.

* The Al Zampa Bridge opened in 2003. The joint was probably one of the last elements installed making the joint approximately 11 years old.

* The Zampa Seismic Joint was identified and programmed as part of the BATA Rehabilitation Program. The initial scope of that work was to replace the transverse glands that run transversely between the steel center beams and replace the bearing beams. The project was combined, along with funding, with the upcoming 1958 Carquinez Bridge Deck Rehabilitation Project scheduled for delivery next year.

* The “new” Bay Bridge Skyway has 12 joints of very similar design. According to DS Brown, the Zampa Joint was an early design; the bearing beam stainless steel bearing plates of the skyway joint have been modified and are a more robust design. There are no reported problems with the Skyway joints.

* The “new” Benicia Bridge has 6 joints of somewhat similar but simpler design with less moving pieces. There are no reported problems with the Benicia’s joints other than some minor tears in the rubber glands that run transversely between the steel center beams.

* According to DS Brown’s website: “Rubber glands may need to be replaced after 20 years. Joint system expected to last the life of the bridge deck”.

* There is no record of a warranty being offered by DS Brown. DS Brown has been cooperative with the repair strategy and checking inventory for spare parts.
Roadway View of Joint

Detail From Underneath of Joint

Looking Underneath of Joint

- Damaged Pivot Pin
- Neoprene Stirrup Bearing
- Bearing Beam (Stainless Steel Bearing Plate Top and Bottom)
Damaged Pivot Pin

Damaged Stainless Steel Bearing Plate

Cracked Neoprene Stirrup Bearing
DS Brown Joint Being Installed

DS Brown Joint Being Tested