

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007635**Date Inspected:** 02-Jul-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan

<b>CWI Name:</b>	Chung Fu Kuan		
<b>Inspected CWI report:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Component:</b>	Tower, Jacking, and Deviation Saddles		

**Bridge No:** 34-0006**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. Art Peterson was present during the times noted above for observations relative to the work being performed in Fabrication shop #4 at Japan Steel Works.

**Machine Shop #4:**

Final Machining Operation in process on Saddle: Tower Saddle Segment T1-1

The QA Inspector observed that tower saddle segment T1-1 is located in Machine Shop #4 to have the final machining performed. On this date, the QA Inspector observed the JSW personnel were in process on the milling operation in between the trough sections of where the faying surfaces of the bolted connections of the tie rods are located on the top of the trough on tower saddle segment T1-1.

**Fabrication Shop #4:**

Repair Weld Operation completed on Saddle: Tower Saddle Segment T1-2

The QA Inspector observed the repair weld operation was completed on the rib plate to base plate complete-joint penetration (CJP) groove weld joint no. 8Y-5L-3 and 8Y-5L-4 of tower saddle T1-2. On this date, the QA Inspector observed that no other work was performed on the tower saddle segment.

Grinding Operation completed on Saddle: Tower Saddle Segment T1-3

The QA Inspector observed that the JSW personnel completed the grinding operation on the edge of the base plate to remove the excess material that was initially cut into the plate for distortion control. The grinding operation was being performed prior to the fit-up operation of the built-up structure to the base plate of tower saddle T1-3. On this date, the QA Inspector observed that no other work was performed on the tower saddle segment.

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## Storage of Saddle: West Deviation Saddle Segment W2-E1

The QA Inspector observed that west deviation saddle segment W2-E1 is located in Fabrication Shop #4. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-E1 on this date.

## Final Dimensional Inspection in process on Saddle: West Deviation Saddle Segment W2-E2

The QA Inspector observed that JSW has started the dimensional inspection on west deviation saddle segment W2-E2 of the machined base plate, machined surfaces inside of the trough, the tie rod and anchor bolt holes, the connection bolt holes on the end rib plates, and the machined surfaces that mate to west deviation saddle segments W2-E1 and W2-E3. The dimensional inspection is being performed by an independent third party hired by JSW. The equipment being used is a 3D Laser tracking device manufactured by Leica. The QA Inspector was informed by JSW Representative Mr. Hideaki Kon that the dimensional inspection will be completed in approximately 2 days. The QA Inspector observed that the dimensional inspection was in process at the end of the QA Inspectors' shift.

## Machine Shop #2

### Final Machining Operation in process on Saddle: West Deviation Saddle Segment W2-E3

The QA Inspector observed that west deviation saddle segment W2-W3 is located in Machine Shop #2 to have the final machining performed. On this date, the QA Inspector observed the JSW personnel performing the machining operation on the end rib plate to final dimensions on west deviation saddle segment W2-E3.

## Fabrication Shop #4

### Cleaning Operation completed on Saddle: West Deviation Saddle Segment W2-W1

The QA Inspector observed that the blast cleaning operation was completed on west deviation saddle W2-W1 on the weldments and surrounding base metal. The next operation on the west deviation saddle segment will be the NDT- magnetic particle test inspection (dry method) operation.

## Weld Operation in process on Saddle: West Deviation Saddle Segment W2-W2

The QA Inspector observed the partial-joint penetration (PJP) groove (fill pass) weld operation on the rib plate (steel section) to rib (cast section) of west deviation saddle segment W2-W2. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the PJP groove weld operation that the minimum preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. J. Yaegashi (07-2941) on weld joint no. W2Y-17U (plate 5-16) side and Mr. M. Kato (08-5018) on weld joint no. W2Y-16U (plate 5-14) side were in compliance with WPS SJ-3011-7 per the FCAW-G process in the (1G) flat position using (1.6) mm diameter TM95 electrode. The QA Inspector observed that the PJP groove (fill pass) weld operation was in process at the end of the QA Inspectors' shift.

## NDT Operation in process on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Inspector Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) of the partial-joint penetration (PJP) groove welds after the intermediate post weld heat treatment (PWHT) stress relief operation on the rib plate to stem plate; stem plate to base plate; and the rib plate to base plate of west deviation saddle segment W2-W3. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

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### Buttering Operation on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed the weld surfacing (buttering operation / build-up of weld metal) on the exterior of the end rib on west deviation saddle segment W2-W3 (cast section). The buttering operation is being performed at specific locations where the temporary attachments will be located for dimensional and distortion control during the weld operation. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start and during the welding operation that the preheat temperature of 150 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. D. Kito (08-5175) were in compliance with WPS SJ-3012-1-2 per the SMAW process in the horizontal and vertical positions using (4) mm diameter LB52A electrode. The QA Inspector observed that the buttering weld operation on the interior of the trough was in process at the end of the QA Inspectors' shift.

### Layout Operation on "Hold" of Rocker Bearing Plate Assembly: East Saddle E2-W1

The QA Inspector observed that rocker bearing plate assembly for E2-W1 is located in Machine Shop #2. The JSW personnel were in preparation to perform the layout operation of the rocker bearing dowel locations against the approved dimensional drawings and assembly control lines but the operation has been put on "hold". The JSW Representative Mr. Hideaki Kon informed the QA Inspector that the reason why the layout operation was put on "hold" was that JSW is waiting the response back from prime contractor American Bridge Fluor / JV regarding the confirmation of the location of the anchor bolt holes on east saddle rocker bearing plate E2-W1.

### NDT Operation in process / pending completion on End Splay Cover Plate Assembly: East Saddle E2-E1

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Inspector Mr. R. Kumagai (#132) has not completed the magnetic particle test (MPT) inspection (dry method) of the complete-joint penetration (CJP) groove welds and fillet welds on the cover plate stiffeners and diaphragm plates in between the cover plate stiffeners on end splay cover plate assembly for E2-E1 on this date. The QA Inspector observed that no other work was performed on the end splay cover plate assembly for east saddle E2-E1.

Unless otherwise noted, all observations reported on this date appeared to be in general compliance with the applicable contract specifications.

### Summary of Conversations:

No significant conversations were reported on this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, 510 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Peterson, Art	Quality Assurance Inspector
<b>Reviewed By:</b>	Guest, Kittric	QA Reviewer

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