

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026606**Date Inspected:** 31-Oct-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned the QAI, Art Peterson, to the following but not limited to these work stations, to observe the welding and QC inspection:

OBG W12/W13

1). The QAI also observed the continued Complete Joint Penetration (CJP) groove welding of the longitudinal "A" deck stiffeners identified as 12W-13W-A-LS5. The welding performed by Fred Kaddu ID-2188 utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-1012-3, Rev. 0 which was also utilized by the QC Inspector Patrick Swain as a reference to monitor the welding and to verify the DC welding parameters. The welding of this joint was completed during this shift.

Prior to the welding of the second side, the QAI observed the QC inspector Mr. Swain perform a Magnetic Particle Test (MPT) of the back gouged surface. At the conclusion of the testing no rejectable indications were noted by the QC inspector.

B). This Quality Assurance Lead Inspector (QALI) assigned the QAI, Joselito Lizardo, to the following, but not limited to these work stations, to observe the welding and QC inspection:

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Lifting Lug Holes (LLH)

Cross Beam # 17, Service Platform

1). The QAI, Joselito Lizardo, observed the Complete Joint Penetration (CJP) groove welding of the LLH located at OBG W11 and identified as 11W-PP100-W4-W1. The welding was performed by the welder, Jorge Lopez ID-6149, in the 1G (flat) position utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-1050A-CU. The QAI observed the QC Inspector, Sal Merino, monitor the welding and verified the welding parameters utilizing the WPS as a reference. The welding of weld #1 was completed during this shift.

At the conclusion of the welding of the LLH identified as 11W-PP100-W4-W3 the welder, Mr. Lopez ID-6149, commence the field fit-up and and the CJP welding of the LLH. The QC inspector, Mr. Merino, performed the inspection and and monitored the welding utilizing the WPS identified as ABF-WPS-D15-1050A-CU. The welding was not completed during this shift.

The QAI also observed the Complete Joint Penetration (CJP) groove welding of the LLH located at OBG W11 and identified as 11W-PP100-W3-W1. The welding was performed by the welder, Mike Jiminez ID-4671, utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-1050A-CU. The QAI observed the QC Inspector, Sal Merino, monitor the welding and verified the welding parameters utilizing the WPS as a reference. The welding of this LLH was not completed during this shift.

2). Later in the shift, Mr. Lizardo, observed the removal and the re-location of the connection plates located at the north and south ends of the cross beam facing the service platform. This work was performed by Salvador Sandoval ID-2202 utilizing the Air Carbon Arc (ACA) process. At the conclusion of the removal of the existing connection plates, the ACA and grinding was completed on the north side of the cross beam.

C). This Quality Assurance Lead Inspector (QALI) assigned to the QAI, Craig Hager, to the following but not limited to work stations, to observe the welding and QC inspection:

OBG 13E/14E

Lifting Lug Holes (LLH)/QA Verification

1). The QAI, Mr. Hager, observed the welder James Zhen ID-6001 perform the Complete Joint Penetration (CJP) groove welding of the bottom plate field splice identified as 13E-14E-D2. The Sub-Merged Arc Welding (SAW) process was utilized as per the Welding Procedure Specification (WPS) which was also utilized by the QC inspector, Fred Von Hoff, as a reference to monitor the welding.

The QAI also performed a Visual (VT) and Ultrasonic Test (UT) (10%) to verify the weld and testing performed by QC meet the requirements of the contract specifications. There were no issues noted or reported by Mr. Hager.

Quality Assurance Lead Inspector (QALI) Summary

Later in the shift, this QA Lead Inspector (QALI) also observed the QA Inspector's Craig Hager, Art Peterson and Joselito Lizardo monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures. The

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QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures as described above. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications with no issues noted.

For additional detailed information see the individual QAI, submitted and approved, Weld Inspection Reports (WIR).

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates). The daily updates and project information was provided by QAI Art Peterson.

### **Summary of Conversations:**

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

### **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>	Reyes,Danny	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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