

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022492**Date Inspected:** 08-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Steve Jensen**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:** Tower**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Tower Splice – 83 Meter elevation, South Tower leg: This QA Inspector randomly observed the status of the upper and lower Interior Corner Closure Splice Plates located at the B- C corner and C-D corner. During this shift the following was observed.

B-C corner, upper plate: This QA Inspector randomly observed ABF welding personnel Salvador Sandoval (#2202) performing tack welding using the Flux Cored Arc Welding (FCAW) process. This QA Inspector observed a hand held gas torch was being used to preheat the areas prior to welding. This QA Inspector observed QC Inspector Steve Jensen using an electronic temperature gauge to verify the preheat temperature. This QA Inspector performed a verification of the welding parameters and observed 260 amperes and 22 volts with a travel speed of 125 mm per minute therefore providing a heat input of 2.75Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. By the end of the shift this date the tack welding appeared to be completed.

C-D corner, lower plate: This QA Inspector randomly observed ABF welding personnel Rick Clayborn (#2773) using the Flux Cored Arc Welding (FCAW) process to start production welding on the top half of the splice plate. This QA Inspector observed QC Inspector Steve Jensen verify the following parameters; 260 amperes and 21.5

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volts with a travel speed of 100 mm per minute. These welding parameters produced a heat input of 3.35 KJ per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. This QA Inspector observed the welding appeared to be completed at approximately 1000 hour this date and that an induction heat blanket had been placed on the splice plate for a 3 hour post weld heat.

Tower Splice – 83 Meter elevation, West Tower leg: This QA Inspector randomly observed the status of the upper and lower Interior Corner Closure Splice Plates located at the B- C corner and C-D corner. During this shift the following was observed.

B-C corner, upper plate: This QA Inspector observed the splice plate had been fit up, was being held into position by fitting aids (dogs) and that QC Steve Jensen had marked several locations as having a gap greater than 5 mm. This QA Inspector performed a random visual verification and observed the gap starting at the splice continued up the tower on the right side for approximately 100 mm with a maximum gap of 5.5 mm and the left side for approximately 120 mm with a maximum gap of 6.25 mm. Later this date this QA Inspector observed a section of thin plate had been cut the width of the splice plate (200 mm) and approximately 150 mm tall. This QA Inspector observed as ABF welding personnel Richard Garcia (#5892) was re-fitting the splice plate with this filler/shim plate in position to fill the gap previous observed. This QA Inspector asked QC Inspector Steve Jensen if he was aware a filler/shim plate was being used and was informed that he had been informed by Scott Smith a Caltrans Engineer had approved the use of the plate but that he did not have written approval or know who the Caltrans Engineer was. The splice plate was re-fit with the filler plate and held into position with fitting aids by the end of the shift.

This QA Inspector observed the remaining splice plates; BC corner, lower, C-D corner upper and lower were all fit up and held into position with the fitting aids.

Tower Base – 3 to 13 Meter elevation; This QA Inspector randomly observed ABF welding personnel Wai Kitlai using the Shielded Metal Arc Welding (SMAW) process to fit and tack weld the various pates used as temporary attachments for the Electro Slag Welding (ESW) process. This QA Inspector randomly observed QC Inspector Pat Swain monitoring the work at this location.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable conversations.

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.

Inspected By:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
