

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-023227**Date Inspected:** 27-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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.

South Tower leg, Splice at the 83 meter elevation: The upper and lower Interior Corner Closure Splice Plates located at the B- C corner and C-D corner are complete at this location.

West Tower leg, Splice at the 83 meter elevation: This QA Inspector randomly observed the work in progress on 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.

West - B-C corner, upper and lower plate: These plates were marked with grind/weld indications by QC Inspector Steve Jensen two days ago, as of this date no work has been performed. Lighting at this elevation for the last two days has been limited only one portable light is working and could be the reason for the lack of further work.

West - C-D corner, lower plate: This QA Inspector observed QC Inspector Steve Jensen mark various areas for additional welding and grinding to correct under fill and weld contour. This QA Inspector did not observe any grinding or welding performed at this location this date.

West - C-D corner, upper plate: This QA Inspector observed ABF welding personnel Morgan Winters (#3305)

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using the Flux Cored Arc Welding (FCAW) process for production welding on the bottom half of the splice plate. This QA Inspector observed QC Inspector Steve Jensen verify the following welding parameters; 250 amperes and 21.4 volts at a travel speed of 100 mm per minute to produce a heat input of 3.21 KJ per mm. The welding observed by this QA Inspector appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. Upon completion of welding this date this QA Inspector observed an induction heat blanket was placed over the splice plate and informed the post heat would be set at 300°F for 3 hours.

North Tower leg, Splice at the 83 meter elevation: This QA Inspector randomly observed the work in progress on 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.

North- B-C corner, lower plate: This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the FCAW process for production welding on the bottom half of the plate. This QA Inspector randomly observed QC Inspector Steve Jensen verify the following welding parameters; 270 amperes and 20.9 volts at a travel speed of 90 mm per minute producing a heat input of 3.76 KJ per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. This QA Inspector observed this section of welding appeared to be completed at approximately 1100 hours this date and that an induction heat blanket was placed over the splice plate and was informed it was set at 300°F for 3 hours.

North – C-D corner, upper plate: This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) started production welding on the bottom half of the splice plate. This QA Inspector was informed by QC Inspector Steve Jensen of the following welding parameters; 270 amperes and 20.9 volts at a travel speed of 90 to produce a heat input of 3.76 KJ per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. Upon completion of welding this date this QA Inspector observed an induction heat blanket placed over the welding and informed it was set at 300°F for 3 hours.

East Tower leg, Splice at the 83 meter elevation: This QA Inspector randomly observed the work in progress on 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.

East – B-C corner, lower plate: This QA Inspector observed a 3 mm thick filler plate had been used in the fit up of the splice plate on the right hand side starting at the splice and continuing down for approximately 410 mm. The gap was previously 6 mm maximum adjacent to the splice area and decreased from that point down. This QA Inspector had a conversation with QC Inspector Steve Jensen regarding Engineering approval to use a filler plate at this location and was informed he had not been informed the filler plate had been approved. This QA Inspector randomly observed as ABF welding personnel Richard Garcia (#5892) used the FCAW process to tack weld this splice plate into position. This QA Inspector observed ABF field Engineer Paul Fikse was present and asked him if he had any knowledge regarding approval to use a filler plate at this location and was informed “blanket” approval had been given for all the use of filler plates at this elevation by Caltrans Engineer Doug Wright. This QA Inspector later confirmed this was correct via conversation with Caltrans Engineer Doug Wright. This QA Inspector informed QC Inspector Steve Jensen of this conversation and was informed the fit up had been inspected and was accepted now that approval had been obtained. This QA Inspector performed a visual verification of the fit up of this plate (B-C lower) after being tack welded and the other splice plates in this tower section (B-C upper and C-D lower and upper). The work observed appeared to comply with the contract requirements. During the

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tack welding this QA Inspector observed QC Inspector Steve Jensen verify the following welding parameters: 250 amperes and 21.8 volts at a travel speed of 98 mm per minute to provided a heat input of 3.34 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3.

Tower Base – 3 to 13 Meter elevation; This QA Inspector was informed by ABF welding foreman Eric Sparks that blasting was still being performed and that welding would not be performed at this location this date.

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
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Reviewed By:	Levell,Bill	QA Reviewer
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