

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-022961**Date Inspected:** 21-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.

South Tower leg, Splice at the 83 meter elevation: 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.

This QA Inspector randomly observed ABF welding personnel Richard Garcia (#5892) using a grinder to contour the weld surface at various locations marked by QC Inspector Steve Jensen. This QA Inspector observed grinding was performed on the B-C lower and upper splice plates and the C-D lower splice plate. Upon completion of the grinding this QA Inspector observed QC Inspector Steve Jensen perform a visual inspection of the welds on each of the splice plates located in the South tower (B-C upper and lower and C-D upper and lower). QC Inspector Steve Jensen informed this QA Inspector he had accepted the visual inspection. This QA Inspector performed a random visual verification and the work observed appeared to comply with the contract requirements. This QA Inspector randomly observed QC Inspector Salvador Merino perform Magnetic Particle Testing (MT) on 10% of the weld length on each of the splice plates in the South tower (B-C upper and lower and C-D upper and lower). QC Inspector Salvador Merino informed this QA Inspector he had accepted the MT inspections. This QA Inspector performed a random MT verification and the work observed appeared to comply with the contract requirements. The visual and MT inspections noted above completed the work in the South tower, elevation 83

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meters for the Interior Corner Closure Splice Plates.

West Tower leg, Splice at the 83 meter elevation: 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.

West - B-C corner, upper plate: This QA Inspector randomly observed the induction heating blanket was being used to preheat the upper half of the plate prior to welding. This QA Inspector observed the induction heating blanket was removed and a hand held gas torch was used by ABF welding personnel Salvador Sandoval (#2202) to bring the area up to temperature for welding. This QA Inspector observed QC Inspector Steve Jensen use an electronic temperature gauge to verify the preheat temperature. This QA Inspector randomly observed ABF welding personnel Salvador Sandoval (#2202) using the Flux Cored Arc Welding (FCAW) process for production welding at this location. This QA Inspector randomly observed as QC Inspector Steve Jensen monitored and verified the following welding parameters; 250 amperes and 21 volts at a travel speed of 90 mm per minute to produce a heat input of 3.50 Kj per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. This QA Inspector observed welding appeared to be completed on the top half of the plate at approximately 1200 and that an induction heat blanket was positioned over the welding. This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) start welding on the lower half of the upper plate.

West - C-D corner, lower plate: This QA Inspector observed ABF welding personnel Gil Peralta (#9453) using the FCAW process to start production welding at this splice plate. This QA Inspector observed the induction heat blanket was used to partially preheat the plate and a gas torch used to complete the preheating process. This QA Inspector randomly observed QC Inspector Steve Jensen verify the following parameters: 240 amperes and 20 volts at travel speed of 89 mm per minute to provide a heat input of 3.24 Kj per mm. The welding observed by this QA Inspector appeared to comply with ABF-WPS-D15-F2200-3.

Tower Splice – 83 Meter elevation, North 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. This QA Inspector observed all 4 splice plates (B-C upper and lower and C-D upper and lower) have been fit up and are being held into position with fitting aids and wedges. As this date QC inspection of the fit up has not been performed.

Tower Base – 3 to 13 Meter elevation; This QA Inspector observed the various pates used as temporary attachments for the Electro Slag Welding (ESW) as follows: This QA Inspector observed ABF welding personnel Rick Clayborn (#2773) and Morgan Winter (#3305) in the process of fitting up the strong backs for ESW on the East side. The strong backs and metal ladder at the Southwest corner appeared to be completed (see photo below). This QA Inspector observed QC Inspector Pat Swain periodically 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.

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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