

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 #: 78.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-030050**Date Inspected:** 19-Sep-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Steward Machine Co.**Location:** Birmingham, AL**CWI Name:** Fred Hudson**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:** E2 Shear Key Anchorages**Summary of Items Observed:**

Quality Assurance Inspector (QAI) Fritz Belford was present on the date and times noted above in order to observe the fabrication and Quality Control (QC) functions performed by Steward Machine Company for the E2 Shear Key Anchorages for the SFOBB project. Material Test Reports (MTRs) for all materials used have been reviewed and approved by others at the XKT shop in Vallejo California prior to shipping to Steward Machine Company. The following items were observed:

STEWARD MACHINE - PLANT 1:

The QA performed a walkthrough at the shop to verify plates on site and to observe Steward Machine personnel at work machining and welding. Work performed at the Steward Machine shop as noted below:

Welders Ben Rhodes (#481) & John Ray (#469):

The welders were observed welding the S4C assembly utilizing Welding Procedure Specification (WPS) P2-W126-B for Flux Core Arc Welding-Gas Shielded (FCAW-G) in the 1G position. The welding parameters were observed adjusted and monitored by Certified Welding Inspector (CWI) Fred Hudson (Cert. #01061501) who was onsite with the WPS as required by contract documents. The welding parameters were measured to be 31volts/300amps using 1/16" Class E70T-1 filler and 100% CO2 at 40cfm. Assembly S4C as noted above includes plates S4C-f4, S4C -g4, S4C -d4, S4C -c4, S4C -h4, S4C -b4 & S4C -a4.

Welder Ben Rhodes (#481) was also observed welding the S3B assembly west side root and cover pass utilizing Welding Procedure Specification (WPS) P2-W126-B for Flux Core Arc Welding-Gas Shielded (FCAW-G) in the 1G position. The welding parameters were observed adjusted and monitored by Certified Welding Inspector

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(CWI) Fred Hudson (Cert. #01061501) who was onsite with the WPS as required by contract documents. The welding parameters were measured to be 30volts/300amps using 1/16" Class E70T-1 filler and 100% CO2 at 40cfm. Assembly S3B as noted above includes plates S3B -f4, S3B -g4, S3B -d4, S3B -c4, S3B -h4, S3B -b4 & S3B -a4.

S4B Assembly:

Shop personnel were observed applying the Sikadur 35, Hi Mod LV to the assembly gaps as required by the contract drawings. Although efforts were made to cover the bottom side of the assembly so it the Sikadur could be poured from the top side, the product still leaked out form the bottom.

Plate Milling:

CNC Machine #230 milling S3B assembly (Milling)

CNC Machine #231 milling S10C assembly (Milling shear key relief)

The following plates were noted staged throughout the shop in various stages of processing.

Bay 4 & 5- Plates:

S3C-a3. Formed, stressed relieved and partially machined.

S3C-b3. Formed, stressed relieved and partially machined.

S3C-h3. Formed, stressed relieved and partially machined. (Pending RFI for miss cut repair.)

S3C-c3. Formed, stressed relieved and partially machined.

S3C-d3. Formed, stressed relieved and partially machined.

S3C-g3. Formed, stressed relieved and partially machined.

S3C-f3. Formed, stressed relieved and partially machined.

S3B-e3. Milling complete.

S3C-e3. Milling complete.

S4C-e4. Milling complete.

S4B-e4. Milling complete.

COMPONENT RELEASES.

None.

NON-DESTRUCTIVE TESTING (NDT).

None.

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Summary of Conversations:

The QC Inspector relayed to the QA Inspector that an internal non conformance material report (NCMR) will be submitted for the miss cut on the S3C-h3 plate. The QA Inspector visually inspected the plate and agreed with the QC findings that the plate was incorrectly milled and that NCMR should be submitted.

The QC Inspector also relayed to the QA Inspector that during the night shift the S10C assembly was damaged when it was turned over. The QC Inspector informed the QAI that an internal non conformance material report (NCMR) was also being submitted for the S10C assembly damage. The damage is in way of side A (shear key side) East and West corners when the assembly split the wood placed underneath as a barrier against damage from the concrete floor. After inspecting the damage the QAI asked the QC Inspector what resolution they had in mind for the S10C assembly damage and the QC replied that the damage will be ground smooth.

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 Gary Thomas (916) 764 - 6027, who represents the Office of Structural Materials for your project.

Inspected By:	Belford,Fritz	Quality Assurance Inspector
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Reviewed By:	Foerder,Mike	QA Reviewer
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