

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-030053**Date Inspected:** 21-Sep-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Steward Machine Co.**Location:** Birmingham, AL**CWI Name:** Jimmy Brewer**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) Andrew Webster 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. The following items were observed:

**Steward Machine - Plant 1:**

This QAI 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:

CNC Machine #230 milling assembly S3B. (Offline)

CNC Machine #231 milling plate S3B-e3. (Milling window opening); (moved to floor at 1600)

CNC Machine #231 milling plate S3C-e3. (Milling window opening); (moved to floor at 2000)

CNC Machine #231 milling plate S4C-e4. (Milling window opening)

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

**Bay 4 – Plates:**

S3B-e3. Formed, stressed relieved, partially machined and stud welded.

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

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

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

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

S3C-e3. Formed, stressed relieved, partially machined and stud welded.

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S3C-f3. Formed, stressed relieved and partially machined.  
S3C-g3. Formed, stressed relieved and partially machined.  
S3C-h3. Formed, stressed relieved and partially machined.  
S4C-e4. Formed, stressed relieved, partially machined and stud welded.  
Pallet of r3, m3, k3 and j3 plates.  
p3 (x8). Cut, beveled and stud welded.

S4C assembly:

This QAI noted the above mentioned assembly in the welding jig ready for machining.

S4B assembly:

This QAI noted the above mentioned assembly being blasted along with the S4B-e4 plate. After the blast profile was checked and found to be acceptable the parts were fit together and the root pass for the S4B assembly side B to the e4 plate was welded. The welding was done by qualified welder Jeffery Hennington (476). The welding was done to the approved welding procedure (WPS) P2-W128-B. All welding done was monitored by Certified Welding Inspector (CWI) Jimmy Brewer. After the welder completed the root pass this QAI witnessed the QC Inspector MPT the root pass on side B. After the QC Inspector was done with his MPT inspection this QAI performed the required MPT verification on the root pass. After the MPT was found to be acceptable the S4B assembly was flipped to side A and the root pass welded on that side. After the welder completed the root pass this QAI witnessed the QC Inspector MPT the root pass on side A. After the QC Inspector was done with his MPT inspection this QAI performed the required MPT verification on the root pass.

NON-DESTRUCTIVE TESTING (NDT).

The QA performed NDT on the following.

Assembly S4B to e4 plate (Root pass side A) at Steward Plant 1:

- Visual Testing (VT) & Magnetic Particle Testing (MPT) Accept. (See TL-6028 for detailed information.)

Assembly S4B to e4 plate (Root pass side B) at Steward Plant 1:

- Visual Testing (VT) & Magnetic Particle Testing (MPT) Accept. (See TL-6028 for detailed information.)

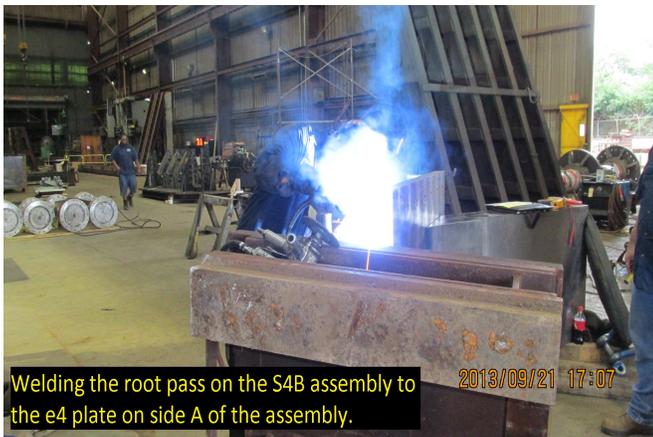
The Non Destructive Testing (NDT) listed above were observed performed and accepted by the QC Inspectors prior to the QA Inspector performing the tests. The QC Inspectors performed 100% NDT with the QA Inspector performing over 10% NDT.

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## Summary of Conversations:

No significant conversations held on this date for this contract.

## 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.

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**Inspected By:** Webster, Andrew

Quality Assurance Inspector

**Reviewed By:** Foerder, Mike

QA Reviewer

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