

**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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014027**Date Inspected:** 15-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1400**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**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:** Orthotropic Box Girders (OBG)**Summary of Items Observed:**

Quality Assurance inspector (QA) Michael Foerder was at the American Bridge/Flour (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. OBG Field Splice 1W/2W Face C (Outside)
2. OBG Field Splice 2W/3W Face E (Inside)
3. OBG Field Splice 3E/4E Face B (Outside)
4. OBG Field Splice 4E/5E Face A (Outside)
5. OBG Field Splice 5E/6E Face A (Outside)

**Field Splice 1W/2W Face C (Outside)**

The QA inspector periodically observed ABF welding personnel Rory performing grinding operations for face C on the second side (Outside). The welding operator completed the grinding operation and QC inspectors Jim Cunningham and Steve McConnell were observed performing magnetic particle testing (MT) for the backgouge area with no rejectable indications noted for the length of the weld joint. The QA inspector performed an informational MT review for approximately 10% of the weld joint with no rejectable indications noted at the time of review. The welder proceeded to perform equipment set up for the remainder of the QA inspector observations for this area and the items observed appeared to be in general conformance with the contract documents.

**Field Splice 2W/3W Face E (Inside)**

The QA inspector noted ABF welding personnel Song Tao Huang moving and preparing to perform flux cored arc

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welding (FCAW) on the inside of the OBG at approximate Y location designated as 2600mm. It was noted by the QA inspector a portion of the intermediate weld passes have been previously placed at this time. QC inspector Bernard Docena was noted to be present in order to monitor the progress and adherence to the contract documents. No welding was observed at this location during the QA inspectors review and the QA inspector was called away to another location for observations.

### Field Splice 3E/4E Face B (Outside)

The QA inspector periodically observed ABF welding personnel Mitch Sittinger performing grinding operations in order to excavate and remove the rejectable indication previously identified by QC utilizing Ultrasonic Testing (UT). QC inspector Tony Sherwood was noted to be present in order to monitor the progress and adherence to the welding procedure specification designated as ABF-WPS-D1.5-1001 Repair. The excavation was reviewed by the QC inspector and the welder performed the repair utilizing the shielded metal arc welding (SMAW) process and the amps were verified to be 135. The welder completed the repair at this location later in the shift and the work appeared to be in general conformance with the contract documents.

### Field Splice 4E/5E Face A (Outside)

The QA inspector periodically observed ABF personnel blending and grinding the completed weld cover pass in order to bring the weld to a flush condition. QC inspector Tom Pascaulone was noted to be present verifying the weld reinforcement height. The work was initiated at weld A-5 and progressed towards A-1. The work progressed throughout the shift, was approximately 70% complete and appeared to be progressing in general conformance with the contract documents.

### Field Splice 5E/6E Face A (Outside)

The QA inspector periodically observed ABF welding personnel Jordan Hazalaar and James Zhen performing shielded metal arc welding (SMAW) between approximate Y locations designated as 23,000-27,000 and 3,000-200, respectively. The welders are in the process of completing the full length tack welds for this location with QC inspector Bonafacio Daquinag present in order to monitor the progression and adherence to the WPS. The pre heat and interpass temperature was verified to be within the established guidelines and the welding parameters were verified to be 160 amps for Mr. Hazalaar and 145 for Mr. Zhen. The work progressed throughout the QA inspector shift, was not completed and the welding appeared to be in general conformance with the contract documents.

The QA inspector received a phone call from Structure Materials Representative Pat Lowry inquiring about the planar misalignment measured, documented and submitted late in the shift the previous day. It was relayed to Mr. Lowry the edges of the deck plate and edge plates were welded almost to the flush condition for approximately 160mm, the high strength bolted connection for the U-ribs appeared to be tensioned and the full length tack welds were 90% completed at this time. The QA inspector reviewed the areas and sent Mr. Lowry digital photos of the welded edges. The total area of planar misalignment was calculated to be approximately 22% located primarily in the traffic portion of the deck plate and this information would need to be discussed further with other personnel for disposition. See digital photos included in the body of this report for general information.

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## Summary of Conversations:

As noted above in items observed.

## 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 Mohammad Fatemi (916)813-3677, who represents the Office of Structural Materials for your project.

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**Inspected By:** Foerder, Mike

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer