

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-003833**Date Inspected:** 05-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job-site**CWI Name:** Barry Drake**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:** Pier E2 #14 and #18 rebar**Summary of Items Observed:**

Upon the arrival of the QA Inspector Rick Bettencourt and QA Lead Inspector Bill Levell, it was observed Smith Emery Quality Control (QC) Inspector Barry Drake was on site routinely monitoring the in process welding of rebar. The QA Inspector noted four complete joint penetration weld splices were required due to the contractor inadvertently cutting and removing the bars. The QA Inspector noted the bars that required splicing were two-#14 (43mm) bars and two-#18 bars (57mm). QA Inspector randomly observed two of the splices had been completed upon arrival. The QA Inspector noted the two completed splices were one-#14 and one-#18 rebar which had been rejected by radiographic testing and repaired by welding. The QA Inspector randomly observed Regional Steel welder; Carlos Morales beveling the #14 rebar which was the final splice to be completed. After the bevel was completed the QA Inspector randomly observed the beveled edge appeared to be approximately 35° and in general compliance with the approved WPS designated DB_8018-cm-2G. The QA Inspector randomly observed a welding electrode oven in use for the 5/32" E-8018 electrodes utilized for the shielded metal arc welding (SMAW) to be performed. The QA Inspector was informed by the ABF Project Engineer; Mark McDonald of a Request for Information (RFI) that existed stating the non-destructive testing (NDT) had been waived in regards to the weld splicing of the rebar. QA Task Leader; Robert Mertz informed the QA Inspector's after speaking with the Caltrans Structures Representative Ron Matin, that there was a Caltrans response to RF1 1457 stating the rebars did not require NDT to be performed as long as no other rebar was cut or removed. No additional bars had been cut however Mr. McDonald informed the QA Inspectors the contractor was electing to perform radiographic testing for information only. The QA Inspector randomly observed the Regional Steel welder preheat the rebar to be welded to 200°F in accordance with the approved WPS prior to performing welding. The QA Inspector randomly observed the Regional Steel welder utilizing the SMAW process with 5/32" E-8018 low hydrogen electrodes with 180 amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with WPS-

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DB_8018-cm-2G. The 57mm (#18) rebar identified as #1 and #2 were radiographed while QA was present. QA verified the set up prior to the exposure. The set up was in accordance with contract requirements and AWS D1.1 as referenced in AWS D1.4-98. QA noted the bar on the North side identified as bar #1 was a repair identified as weld #1 (R1). QA noted the contractor was radiographing a 0-degree view of each of the bars and was going to try and attempt a 90-degree view. The close proximity of the bars however would probably not allow an acceptable view of the 90. QA was later informed by the radiographer the 90-degree view was distorted, however the 0-degree was a code quality film and both of the 57mm bars identified as #1R1 and #2 were accepted by the radiographer based on the 0-degree view. The # 43 bars were not ready for radiographic testing nor was the welding complete at the time of QA's departure.

Summary of Conversations:

As noted in the body of the report.

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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

Inspected By:	Levell,Bill	Quality Assurance Inspector
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Reviewed By:	Mertz,Robert	QA Reviewer
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