

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026495**Date Inspected:** 04-Oct-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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:** Tower & OBG**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed as noted below:

A). OBG W12/W13

This QA SPCM Lead Inspector verified the fit-up and planar alignment of the Seismic Performance Critical Member (SPCM) Orthotropic Box Girder (OBG) field splice identified as 12W-13W-A. This QAI utilized a Cambridge Gage to measure planar alignment and a pair of inside calipers, with a digital read out, to measure the root opening. At the conclusion of the QC/QA joint inspection of the planar alignment there appeared to be three (3) areas that did not comply with the contract specifications which were located at following Y axis; 1)Y=8510 mm, 560 mm long and 3 mm misalignment, 2)Y=17660 mm, 500 mm long and 4 mm misalignment and 3)Y=21150 mm, 170 mm long and 2.5 mm misalignment. The average root opening was measured as 15 mm wide and no gaps exceeding 2 mm were noted at the steel backing bar to the B-side of the "A" deck. The QC/QA inspection/verification was performed at the request of Bonifacio Daquinag, Jr. QC department generated the documentation, Planar Misalignment Map, with signatures of this QAI and QC Lead Inspector, Bonifacio Daquinag, Jr. which was submitted to the Department for review by the Quality Control Manager, Charles Kanapicki. The time of the joint inspection was approximately 0800.

Later in the shift, the approval acquired to proceed with welding of this SPCM "A" deck field splice was received via e-mail from QA Supervisor, William Levell, at approximately 1200, which was a forwarded message from Karen Wang. This QA SPCM Lead Inspector assigned QAI Craig Hager to observed the seal welding of the

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SPCM field splice. The welding was performed utilizing the Flux Cored Arc Welding w/gas (FCAW-G) which was utilized by the QAI as a reference to monitor the welding, verify the welding parameters and the preheat and interpass temperatures.

This QAI SPCM Lead Inspector discussed and reviewed the work performed by QAI Craig Hager in regards to verifying the WPS's, electrodes, welding parameters, preheat and interpass temperatures in regards to the work described above. The QAI work performed on this date appeared to comply with the contract specifications and AWS D1.5-Section 12.16, 2002 with no issues noted on this date.

B). OBG E12/E13

Later in the shift, this QA SPCM Lead Inspector verified the fit-up and planar alignment of the Orthotropic Box Girder (OBG) field splice identified as 12E-13E-A. This QAI utilized a Cambridge Gage to measure planar alignment and a pair of inside calipers, with a digital read out, to measure the root opening. At the conclusion of the QC/QA joint inspection of the planar alignment there appeared to be five (5) areas that did not comply with the contract specifications which were located at following Y axis; 1)Y=6160 mm, 240 mm long and 2.5 mm misalignment, 2)Y=9250 mm, 230 mm long and 3.5 mm misalignment, 3)Y=17500 mm, 350 mm long and 3.5 mm misalignment, 4)Y=17850 mm, 270 mm long and 5 mm misalignment and 5)Y=25680 mm, 380 mm and a 5 mm misalignment. The average root opening was measured as 16 mm wide and no gaps exceeding 2 mm were noted at the steel backing bar to the B-side of the "A" deck. The QC/QA inspection/verification was performed at the request of Bonifacio Daquinag, Jr. QC department generated the documentation, Planar Misalignment Map, with signatures of this QAI and QC Lead Inspector, Bonifacio Daquinag, Jr. which was submitted to the Department for review by AB/F Quality Control Manager (QCM) Charles Kanapicki. The time of the joint inspection was approximately 1430.

C). Review of QA Tracking Plan

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG), Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates. The QAI also updated the tracking records for the pipe welds and the pipe supports.

On this date the QAI commence the review of QA tracking documents for the OBG's identified as E3, E4 and E5.

QA Summary

The welding was performed in the vertical position utilizing the E7018-H4R. The 3.2 mm H4R electrodes were stored in a electrically heated, thermostatically controlled oven after the removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

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Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

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:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
