

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019338**Date Inspected:** 14-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**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:** SAS OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 2W-pp15-W3-1&3, 2W-pp15-W4-1&3, 1W-pp-10.5-W2-N and the following observations were made:

8W/9W-A3

The Lead QA Inspector Rick Bettencourt noted the contractor ground thru the top deck plate at the above identified location. The QA Inspector noted the QA Inspector Joselito Lizardo was present at the time of the repair and immediately notified the Lead QA Inspector Rick Bettencourt. The QA Inspector called the SE Lead QC Inspector Leonard Cross (see summary of conversation). The QA Inspector noted the contract performed a base metal repair of the top deck plate without receiving prior written approval. The QA Inspector noted an incident report was written and submitted for review.

9W/10W-A1-A5

Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was fit up with the approved temporary attachments or fit up gear in place. Upon the arrival of the QA Inspector, the QC and the QA Inspector performed dimensional measurements of the planar misalignment and noted the planar misalignment appeared to be minimal on the above identified weld joint. The QA Inspector noted the only unacceptable planar misalignment in the entire weld joint was in weld segment A1. The QA Inspector measured approximately 150mm of planar misalignment in weld segment A1.

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The unacceptable planar misalignment was located at the following location:

y=2640mm-2790mm 0mm-2mm misalignment (150mm in length)

Total planar misalignment was 150mm for the entire weld joint.

The QA Inspector and the SE QC Inspector Bonifacio Daquinag performed dimensional verification of the gaps at the steel backing. The QA Inspector noted the following areas have a gap between the steel backing and the bevel that are greater than 2mm:

- 1.) Y=1490mm-1530mm 2.5mm (10W) 40mm long

- 2.) Y=2640mm-2790mm 4mm (10W) 150mm long

- 3.) Y=3360mm-3265mm 2.5mm (10W) 95mm long

- 4.) Y=3540mm-3630mm 2.5mm (10W) 90mm long

- 5.) Y=4230mm-4150mm 2.5mm (10W) 80mm long

- 6.) Y=4440mm-4550mm 2.5mm (10W) 110mm long

- 7.) Y=8100mm-8150mm 2.5mm (10W) 50mm long

- 8.) Y=21040mm-21170mm 2.5mm (9W) 130mm long

- 9.) Y=22530mm-22600mm 2.5mm (9W) 70mm long

- 10.) Y=25240mm-25350mm 4mm (9W) 110mm long

- 11.) Y=25210mm-25280mm 2.5mm (10W) 70mm long

The QA Inspector noted the above identified locations will require engineering approval prior to performing any weld repairs. The QA Inspector noted the locations were submitted by SE to ABF and the approval was given by the Department Representative Karen Wang (see summary of conversation)

3W-pp20-W3-1&3

The QA Inspector randomly observed the ABF welder Darcel Jackson performing carbon arc gouging and back grinding of the above identified weld joints. The QA inspector randomly observed the ABF welder grind the back gouged weld joints to bright metal. The QA Inspector randomly observed the back gouged weld joints and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Mike Johnson perform magnetic particle testing of the back gouged weld joint and noted no relevant indications were present at the time of the testing. The QA Inspector randomly observed the ABF welder continue welding the in process lift lug hole restoration. The QA Inspector noted the weld joint was approximately 70% complete at the time of the SMAW 4G back weld. The QA Inspector randomly observed the ABF welder continue the SMAW fill pass. The QA Inspector randomly observed the SMAW parameters were 1/8" E7018 low

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hydrogen electrodes with 125 Amps. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on this date. The QA Inspector noted the weld reinforcement was ground flush on the QA Inspectors shift. The QA Inspector observed the grinding did appear to comply with the contract requirements.

2W-pp15-W4-2&4

The QA Inspector randomly observed the ABF welder Mike Jimenez performing carbon arc gouging and back grinding of the above identified weld joints. The QA inspector randomly observed the ABF welder grind the back gouged weld joints to bright metal. The QA Inspector randomly observed the back gouged weld joints and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Mike Johnson perform magnetic particle testing of the back gouged weld joint and noted no relevant indications were present at the time of the testing. The QA Inspector randomly observed the ABF welder continue welding the in process lift lug hole restoration. The QA Inspector noted the weld joint was approximately 70% complete at the time of the SMAW 4G back weld. The QA Inspector randomly observed the ABF welder continue the SMAW fill pass. The QA Inspector randomly observed the SMAW parameters were 1/8" E7018 low hydrogen electrodes with 122 Amps. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on this date. The QA Inspector noted the weld reinforcement was ground flush on the QA Inspectors shift. The QA Inspector observed the grinding did appear to comply with the contract requirements.

Summary of Conversations:

Karen Wang gave the approval to weld the area of the 9W/10W-A which the planar off set exceeded the maximum allowable in AWS D1.5-2002. The approval was given at 1000.

The Structures Materials Representative Patrick Lowry gave the approval to weld repair the gaps at the steel backing which exceeded 2mm at 0900. In addition Mr. Lowry gave the written approval to perform grinding repairs of the "burn thru" at transverse field splices 1E/2E-A and 2E/3E-A.

The Lead QA Inspector contacted the Lead QC Inspector Leonard Cross and asked him if her was aware of the welding contractor beginning the base metal repair of the top deck without prior engineering approval. Mr. Cross informed the QA Inspector the ABF QC Manager Chuck Kanapicki was aware of the repair. The QA Inspector was later informed by the QA Task Lead Inspector Bill Levell, the ABF QC Manager was not aware of any such repair. The QA Inspector informed Mr. Cross an incident report would be written and submitted for review for proceeding with a base metal without receiving prior written engineering approval.

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.

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Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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