

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-017899**Date Inspected:** 08-Nov-2010**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 8E/9E-A1-A5, 1E-pp11-E4-1 & 2 and hole restoration, and the following observations were made:

8E/9E-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 Inspector Tony Sherwood informed the QA Inspector the planar misalignment inspection had been previously performed by SE QC and just required QA verification. The QC Inspector presented the QA Inspector with a planar misalignment map of the areas previously located by QC Tony Sherwood. The QA inspector noted the map indicated the only planar off set was located at 2 locations through out the transverse weld joint. The QA Inspector reviewed the document and proceeded to perform the random QA verification of the weld joint. The QA Inspector observed areas indicated and performed QA verifications working together with the QC Inspector. After the inspection was completed the QA Inspector noted a total of 170mm at two separate locations. The QA Inspector asked the ABF Welding Superintendent Dan Ieraci if he intended to correct the unacceptable planar misalignment (see summary of conversations). The QA Inspector and the QC Inspector recorded the following locations of planar misalignment:

The unacceptable planar misalignment was located at the following 2 locations:

- 1.) y=24579mm-24650mm (20mm deck section) 0mm-2mm misalignment (70mm in length)
- 2.) y=27195mm-27280mm (20mm deck section) 0mm-2mm misalignment (85mm in length) 2mm-4mm

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misalignment (15mm in length).

Total planar misalignment 170mm of the total length of the weld joint.

The QA Inspector and the SE QC Inspector Tony Sherwood performed dimensional verification of the gaps at the steel backing. The QA Inspector noted the 4 separate areas where the gap at the steel backing exceeded 2mm. The QA Inspector noted the largest gap was 3mm and no gap exceeded 3mm for the above identified transverse weld splice. The QA Inspector was informed by these Lead QC Leonard Cross the contractor will write and submit an internal non conformance report in addition to a request to weld repair over the excessive gaps at the steel backing.

Gaps between the steel backing and bevel are located at the following locations:

- 1.) Y=18120mm-18160mm 8E 3mm (40mm length)
- 2.) Y=23385mm-23440mm 9E 2.5mm (35mm length)
- 3.) Y=24580mm-24650mm 9E 2.5mm (70mm length)
- 4.) Y=25260mm-25290mm 9E 2.5mm (30mm length)

8E/9E-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. The QA Inspector randomly observed the ABF welders identified as George Lopez and Fred Kaddu begin performing the SMAW full length tack weld. The QA Inspector was informed by the American Bridge/Fluor (ABF) welding Superintendent Dan Ieraci no runoff tabs would be utilized on this transverse weld splice. The QA Inspector randomly observed the SE QC Inspector Tony Sherwood was on site monitoring the in process SMAW tack welding. The QA Inspector randomly observed and noted the SMAW parameters for both of the above identified ABF welders and they were 126 Amps while utilizing 1/8" E7018 low hydrogen electrodes. The QA Inspector randomly observed the full length tack weld was not completed on this date. The QA Inspector randomly observed the ABF welders begin welding the ends of the weld joint. The QA Inspector noted the contractor will not utilize weld tabs rather back step or cascade the submerged arc welding.

1E-pp11-E4-1 & 2

The QA Inspector randomly observed Earl Espinosa performing grinding tasks of ultrasonic testing rejects in the above identified lifting lug deck hole restorations. The QA Inspector randomly observed the ABF welder had previously excavated all of the UT rejections located in the above identified holes. The QA Inspector randomly observed the SE QC Inspector Pat Swain was on site to monitor and record the in process welding parameters. The QA Inspector noted the ABF welder was utilizing the shielded metal arc welding process with 5/32" E7018 low hydrogen electrodes. The QA Inspector randomly observed the ABF welder was utilizing 175 Amps while performing the SMAW repair. The QA Inspector performed a random visual inspection of the previously excavated areas and noted they had been ground and blended to a boat shaped weldable profile. The QA Inspector randomly observed and noted the ABF welder was preheating the material to approximately 100°F prior to making the SMAW repairs. The QA Inspector noted the SMAW repairs appeared to be in general compliance with ABF-WPS-1001 repair. The QA Inspector noted the repair welding was completed on the QA Inspectors shift. After the ABF welder completed the welding, he performed grinding tasks while removing the weld reinforcement flush with the top deck base material.

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Summary of Conversations:

Mr. Ieraci informed the QA Inspector no additional fitting tasks would be performed due to the fact that ABF was breaking fit up gear. Mr. Ieraci informed the QA Inspector due to the rigidity of the top deck plate closed rib stiffeners, ABF was unable to perform any additional fitting tasks.

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.

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