

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-026833**Date Inspected:** 07-Dec-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:** Jobsite**CWI Name:** As noted 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:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (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:

- 14W/PP125.2/W3.7 Vent Hole (Interior)
- 14W/PP125/W4 Lifting Lug Hole W1 (Interior)
- 13W/14W/I Repair (Exterior)

Orthotropic Box Girder (OBG) section: The QC Documents observed being used by this QA Inspector for the following weld joints appeared to be designated as Seismic Performance Critical Members (SPCM).

- 14W/PP125.2/W3.7 Vent Hole (Interior)

This QA Inspector randomly observed ABF welder Salvador Sandoval (ID 2202) using the Carbon Air Arc process to back-gouge face "B" of the vent hole located at 14W/PP125.2/W3.7 on the interior of the OBG. This QA Inspector observed QC Inspector Sal Merino perform Magnetic particle Testing (MT) testing to ensure the soundness of the metal. This QA Inspector randomly observed the welder perform Shielded Metal Arc Welding (SMAW) in the (4G) overhead position with the QC Inspector monitoring the welding to insure the parameters were in accordance with ABF-WPS-D15-1110A-Revision 1. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general accordance with the contract documents.

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14W/PP125.2/W4.2 Vent Hole (Interior)

This QA Inspector randomly observed QC Inspector Sal Merino performing MT inspection on the back gouge of face “B” of vent hole 14W/PP125.2/W4.2 located on the interior of the OBG. This QA Inspector verified that the weld was free of indications and found to be satisfactory. This QA Inspector observed the QC Inspector measure the pre-heat of the joint to verify a minimum of 10 degrees C had been achieved and this QA Inspector noted the utilization of E9018-H4R electrodes with Amperage of 135. This QA Inspector randomly observed ABF welder Jorge Lopez (ID 6149) perform the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position. This QA Inspector observed the QC Inspector monitoring the inter-pass temperatures and the welding to ensure the parameters were in compliance pertaining to ABF-WPS-D15-1110A-Revision 1. This QA Inspector noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

14W/PP126.2/W4.2 Repair (Exterior)

This QA Inspector randomly observed ABF welder Rick Clayborn performing back-gouge operations of ultrasonic rejectable indications on “A” deck Vent Hole 14W/PP126.2/W4.2 located at "Y" 135 mm: (25 mm wide; 70 mm length; and 11 mm in depth) “Y” 20 mm: (20 mm wide; 90 mm length; and 12 mm in depth). This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present. This QA Inspector randomly observed the SMAW process in the (1G) flat position performed by ABF welder Salvador Sandoval (ID 2202) utilizing E7018-H4R electrodes with amperage of 136. This QA Inspector observed the QC Inspector measure inter-pass temperatures and monitor the welding to insure the welding parameters were in accordance with ABF-WPS-D15-1004-Repair. Upon completion of the repair, a thermal induction blanket was placed over the area for Post Weld Heat Treatment (PWHT) at 450 degrees F to 600 degrees F for 1 hour. This QA Inspector made subsequent observations during the shift and noted that the work was completed on this date and appeared to be in general conformance to the contract specifications.

14W/PP126.2/W2.4 Vent Hole Repair (Interior)

This QA Inspector randomly observed ABF welder Rick Clayborn performing the back-gouge operation of an ultrasonic rejectable indication on “A” deck Vent Hole 14W/PP126.2/W2.4 with dimensions of: (25 mm wide; 40 mm length; and 11 mm in depth). This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal.

This QA Inspector randomly observed ABF welder Rick Clayborn (Welder ID 2773) performing the repair welding operation of an ultrasonic indication as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “A” deck Vent Hole 14W/PP126.2/W2.4. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino verify that the preheat temperature was at the minimum of 160 degrees C and that the welding parameters (Amps=135) were in accordance with WPS D1.5-1004- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications. Upon completion of the repair, a thermal induction blanket was placed over the area for Post Weld Heat Treatment (PWHT) at 450 degrees F for 1 hour.

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2. 14W/PP125/W4 Lifting Lug Hole W1 (Interior)

This QA Inspector randomly observed QC Inspector Sal Merino performing Magnetic Particle (MT) inspection on the back gouge of face “B” of lifting lug hole 14W/PP125/W4/W1 located on the interior of the OBG. This QA Inspector verified that the weld was free of indications and found to be satisfactory. This QA Inspector observed the QC Inspector measure the pre-heat of the joint to verify a minimum of 10 degrees C had been achieved and this QA Inspector noted the utilization of E9018-H4R electrodes with Amperage of 134. This QA Inspector randomly observed ABF welder Mike Jimenez (ID 4671) perform the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position and made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

3. 13W/14W/I Repair (Exterior)

This QA Inspector randomly observed ABF welder Fred Kaddu performing the back-gouge operation of ultrasonic rejectable indications on edge plate splice “I” at 13W/14W on the exterior of the OBG. located at “Y” 2880 mm: (25 mm wide; 100 mm length; and 15 mm in depth) “Y” 860 mm: (25 mm wide; 80 mm length; and 13 mm in depth) “Y” 560 mm: (25 mm wide; 90 mm length; and 15 mm in depth). This QA Inspector observed QC Inspector William Sherwood perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

14W/PP126.2/W3.7 Vent Hole (Interior)

This QA Inspector randomly observed ABF welders Rick Clayborn perform back-gouge operations on face “B” on the interior of the OBG. This QA Inspector observed QC Inspector Sal Merino perform MT inspection to ensure the soundness of the metal. This QA Inspector randomly observed the welder perform SMAW in the (4G) overhead position with the QC Inspector monitoring the welding to insure the parameters were in accordance with ABF-WPS-D15-1110A-Revision 1. This Q Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general accordance with the contract documents.

14W/PP125.2/W5 Vent Hole (Interior)

This QA Inspector observed QC Inspector Sal Merino exercise a Magnetic Particle Test on the back-gouged surface of the Complete Joint Penetration (CJP)weld face “B” of vent hole 14W/PP125.2/W5 on the interior of the OBG. This QA Inspector noted that no rejectable indications were present and randomly observed the ABF welder Jorge Lopez welding in the SMAW process in the (4G) overhead position. This QA Inspector observed the QC Inspector monitor the welding and parameters. This QA Inspector noted that the work at this location was in progress.

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Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. No issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

Summary of Conversations:

The were no pertinent conversations to 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 Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

Inspected By:	Frey,Doug	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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