

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007785**Date Inspected:** 06-Jul-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng, Yu Dong Ping**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 and OBG**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

Heavy Equipment Shop Bay 10:

The QA Inspector randomly observed ZPMC welders ID 201825 and ID 050041, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G (Horizontal Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2332-TC-P5-F with Gantry 1 mounted welding apparatus, to weld Longitudinal Stiffener D-2 to Lift 4 South Tower Skin Plate D at Weld Joint (WJ) Numbers SSD1-FDSA4-1C/C-20 and 22 respectively. The QA Inspector randomly observed ZPMC Quality Control (QC) monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders ID 057244 and ID 057266, utilizing the FCAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2332-TC-P5-F with Gantry 2 mounted welding apparatus, to weld Longitudinal Stiffener D-1 to Lift 4 South Tower Skin Plate D at WJ's SSD1-FDSA4-1C/C-2 and 3 respectively. The QA Inspector randomly observed ZPMC Quality Control (QC) monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 201730, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-4221-B-U3c-S-1, to weld the seam between

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flange sections of North Tower shear link strut spares at WJ's ND1-A6002-1-2A, ND1-A6002-2-2A, ND1-A6002-3-2A, ND1-A6002-4-2A and ND1-A6002-5-2A. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 619 amps, 31.03 volts with a travel speed of 500 mm per minute. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

Heavy Equipment Shop Bay 11:

The QA Inspector randomly observed ZPMC welder Ai Xiang ID 040772, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-U3c-S-2, to weld the seam between Longitudinal Stiffener C-2 sections piece marks LS4-32 and LS4-6 of Lift 4 West Tower Skin C at WJ WSD1-FCSA4-2C/C-18B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 042195, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-U3c-S-2, to weld the seam between Longitudinal Stiffener C-3 sections piece marks LS4-13 and LS4-33 of Lift 4 West Tower Skin C at WJ WSD1-FCSA4-2C/C-4B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

OBG Trial Assembly:

The QA Inspector randomly observed 1 ZPMC helper attempting to align the longitudinal diaphragm connection on 5AW with the longitudinal diaphragm on 4BW, and the connection plates between panel points (pp) 29 and 28. The QA Inspector also randomly observed the same ZPMC helper utilize a hand held torch to heat straighten the web and flange of the longitudinal diaphragm, between pp's 29 and 28. The QA Inspector randomly observed that there was no ZPMC Quality Control representative present to monitor they temperature, nor was there an approved ZPMC Heat Straightening Request.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend the cover pass on the outside of the long seam on the outboard side 3AW and 3BW between the floor beam section and the side plate section.

The QA Inspector randomly observed 11 ZPMC helpers installing and bringing to snug tight, ASTM A325M-1 MG M22-2.5X65 Galvanized High Strength Bolts in the U-Rib Connection Plates and U-Ribs at pp 16.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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Summary of Conversations:

No relevant conversations.

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 Serge Sinevod 13482570045, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
