

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-000471**Date Inspected:** 05-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xiu Zhai Gu**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:** Mock Up Assemblies 77M & 114M**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication of the Mock-up 77 and 114 meters elevations scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Tower Mock-up 77 Meters Elevation

The QA inspector was at the Tower Mock-up fabrication facility to perform ultrasonic testing to the butt joint for the diaphragm assembly SA104. The QA inspector observed that ZPMC was going to skip the step # 6.1 for the diaphragm fabrication procedure which states that ZPMC would remove the run-off tabs before performing NDT according to the approved shop drawings. The QA inspector had a conversation with the ABF QA Kevin Carpenter and ZPMC QA Inspector Fu Yu Hong. The QA inspector relayed to Mr. Carpenter and ZPMC Inspector Mr. Fu that the run-off tabs were not removed per contract documents. The QA inspector had a phone conversation with Caltrans Task Leader Dave McClary. The QA inspector and Mr. McClary agreed that the run-off tabs needed to be removed before Caltrans UT examination. The QA inspector brought this discrepancy to the attention of Mr. Carpenter and Mr. Fu that the QA inspector would perform UT examination after the removal of the run-off tabs. The QA inspector added that ZPMC could continue cutting edges and run off tabs with CNC oxyfuel cutting machine.

The QA inspector witnessed the ZPMC MT verification on the root pass from the Mock-up 77 meters skin panel B weld joints # 3 and 4. The QA inspector observed MT ASNT Level II technician Cai Xin Xin performing MT verifications. The QA inspector observed that Mr. Cai MT verifications appeared to be in compliance with the

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Contract documents.

ZPMC, welder operators Liu Xie and Zhang Xiagrong were observed by the QA Inspector performing welding operations on the skin panel C.

Mr. Liu was observed welding the filler and cover passes at the junction of the mp7 to skin panel C, joint # 3 following the approved welding procedure specification WPS-B-T-2332-TC-P5-F. Base metal was designated as A-709 Grade 345. ZPMC was using the automated flux cored arc welding-gas (FCAW-G) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xiu Zhai Gu appeared to be in accordance with the contract documents. ABF QA inspector Kevin Dye was present during welding.

Mr. Zhang was observed welding the filler and cover passes at the junction of the mp7 to skin panel C, joint # 4 following the approved welding procedure specification WPS-B-T-2332-TC-P5-F. Base metal was designated as A-709 Grade 345. ZPMC was using the semi-automated flux cored arc welding-gas (FCAW-G) process in the horizontal (2G) position with the 1.4 mm diameter electrode designated as E71T-1 /AWS A5.20, brand name Supercored. The QA Inspector verified amperage, voltage, travel speed, preheat and heat interpass temperatures for the filler passes. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Xiu Zhai Gu appeared to be in accordance with the contract documents.

The QA inspector observed ZPMC performing a heat straightening operations on the skin panel D after ZPMC welded the stiffeners to the skin panel D.

Tower Splice 114 Meters Elevation

ZPMC, welder operator Xing Jie was observed by the QA inspector performing welding operations on the root pass at skin C upper panel at the junction of MA112 to mp1019 and mp1021 to MA112 weld joint # 1 and 3.

The QA inspector witnessed ZPMC MT ASNT level II Cai Xin Xin performing MT verification at the root pass at top skin panel C at the junction of MA112 to mp1019 and mp1021 to MA112 weld joint # 1 and 3. The QA inspector observed that the Mr. Cai MT verifications appeared to be in compliance with the contract documents.

Mr. Xing was observed by the QA inspector welding the filler passes at the junction of the MA-112 to mp1021 skin panel C, joint # 1 following the approved welding procedure specification WPS-B-T-2321-B-P3-S. Base metal was designated as A-709 Grade 345. ZPMC was using the submerged arc welding (SAW) process in the flat (1G) position with the 4.8 mm diameter electrode designated as EM12K/AWS A5.17, brand name JW-3. The QA Inspector verified amperage, voltages, travel speed, preheat and heat interpass temperatures. The QA inspector found that the welding parameters recorded after ZPMC approved Certified Welder Inspector Cui Yi Ru appeared to be in accordance with the contract documents.

Summary of Conversations:

As noted above.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
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Reviewed By:	Cuellar,Robert	QA Reviewer
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