

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-015493**Date Inspected:** 07-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yang**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:** OBG Segment**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, Dan Hernandez was present during the times noted above to observe the fit up, welding and related activities associated with the fabrication of the San Francisco Oakland Bay Self Anchored Suspension Bridge at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

OBG Trial Assembly Yard

Segment 9BE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated as SSD27-PP75-057, 058, Partial Height Diaphragm to Bottom Panel stiffener. The welder is identified as #222396 and was observed welding in the 3F (vertical) position using approved Welding Procedure Specification WPS-B-P-2133-FCM-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated as SSD27-PP75-055, 056, Partial Height Diaphragm to Bottom Panel. The welder is identified as #222396 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-P-2132-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as SEG052A-021, Bottom Plate to Side Plate splice. The welder is

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identified as #048659 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1, misalignment correction for WR13918.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated as SSD27-PP75-021, 022, Partial Height Diaphragm to FL3 web. The welder is identified as #220066 and was observed welding in the 3F (vertical) position using approved Welding Procedure Specification WPS-B-P-2133-FCM-1.

### Segment 9AE/9BE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated as SP372-001-037, Side Plate WT stiffener web splice. The welder is identified as #054467 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-345-SMAW-3G (3F)-FCM-repair-1, misalignment correction for WR13891.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Wang Li Yang, Wu Zhi Cheng and Xu Jin Long. QA Inspector observed QC Inspectors verify welding parameters. The welding variables recorded by QC appeared to comply with the Applicable WPS.

### Segment 9BE/9CE

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on Side Plate WT stiffener hold back fillet welds, cross beam side.

This QA Inspector observed ZPMC personnel performing Ultrasonic Testing on Deck Plate I-rib CJP splice DP698-001-019 after repair of UT reject for WR13934, cross beam side.

### Segment 9DE

This QA Inspector observed match drilling of bolt holes for connection of the Bottom Plate to FL3 Bottom Panel at panel points 80-82.

### QA Verification

This QA Inspector observed ZPMC personnel performing Final Bolt tension verification on A325 high strength bolts on the following components:

7BE and 7DE:

Cat Walk platform at FL3 location

Bolts verified:

M16x45 Lot Number DHGM160001 (210 N.m.)

M16x50 Lot Number DHGM160011 (200 N.m.)

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7BE (FL3 location) and 7DE (PP56-PP56.5)  
Cable Tray Support platform

Bolts verified:

3/4" x 2 1/2" Lot Number DHG60580 (340 N.m.)

Approved Torque Wrench X02-114 was used.

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



### 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 Eric Tsang, 150-0042-2372 , who represents the Office of Structural Materials for your project.

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**Inspected By:** Hernandez, Dan

Quality Assurance Inspector

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**Reviewed By:** Peterson, Art

QA Reviewer