

**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-016035**Date Inspected:** 10-Jun-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:** Mr. Li Jia**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:** Orthotropic Box Girder (OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

Bay# 11, Bolt Tension Test.

This QA inspector witnessed the lot testing of the A325M High Strength Bolts to determine the torque values for the minimum tension required. The tension testing is performed by turning the bolt head. Below is a list of the lots tested and the average torque values determined.

1. Bolt Lot No: MF131Z, size M22 x 55, RC Set# DHGM220011, Nut Lot No: KZ792Z, Washer Lot No: B9947Z and average torque value was 966 N-m.

2. Bolt Lot No: NC721Z, size M22 x 110, RC Set# DHGM220067, Nut Lot No: ND131Z, Washer Lot No: C0428Y and average torque value was 973 N-m.

Skidmore used with Serial No: 15866 and Torque wrench was being used with Serial No: 2#.

Refer attached photos for reference.

OBG TRIAL ASSEMBLY.

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This QA Inspector witnessed final Bolt tension verification for the “T” Rib transverse splice joint at Segment: 8AE-8BE from Panel Point (PP) #64.25. Inspected 10% on a random basis and found the torque to be in general compliance with the contract documents. Inspection was performed as per the ZPMC submitted Notification No. 00372 Dated: June 10, 2010.

Details of bolt size, RC Set # and final torque value are as follows:

Bolt sizes used were M22X65, RC Set# DHGM220009 and final torque value was 447 N-m.

Bolt sizes used were M22X70, RC Set# DHGM220105 and final torque value was 380 N-m.

Torque wrench was being used with Serial No: XO2-590.

After tension verification this QA Inspector with Caltrans QA Inspector Mr. Manoj Prabhune measured the flatness of the splice plate at Side panels and Bottom panel. This QA recorded the measurements and submitted the information to CT / QA lead inspector for review.

Lift:7 East.

Segment # 7BE

This QA Inspector along with Caltrans QA Mr. Manoj Prabhune performed Inspection for the Flatness measurement for Side Panel to Corner Assembly Longitudinal Weld (Cross Beam Side) from PP 53 to PP 55. This QA recorded the measurements and submitted the information to CT / QA lead inspector for review.

Segment # 7EE

This QA Inspector along with Caltrans QA Mr. Manoj Prabhune performed Inspection for the Flatness measurement for Side Panel to Corner Assembly Longitudinal Weld (Bike Path Side) from PP 59 to PP 61. This QA recorded the measurements and submitted the information to CT / QA lead inspector for review.

Segment # 7DE

This QA Inspector along with Caltrans QA Mr. Manoj Prabhune performed Inspection for the Flatness measurement for Side Panel to Corner Assembly Longitudinal Weld (Bike Path Side) from PP 56 to PP 58. This QA recorded the measurements and submitted the information to CT / QA lead inspector for review.

Segment # 7AE

This QA Inspector along with Caltrans QA Mr. Manoj Prabhune performed Inspection for the Flatness measurement for Side Panel to Corner Assembly Longitudinal Weld (Cross Beam Side) from PP 48 to PP 49. This QA recorded the measurements and submitted the information to CT / QA lead inspector for review.

Segment # 7EE

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This QA Inspector along with Caltrans QA Mr. Manoj Prabhune performed Inspection for the Flatness measurement for Side Panel to Corner Assembly Longitudinal Weld (Cross Beam Side) from PP 60 to PP 61. This QA recorded the measurements and submitted the information to CT / QA lead inspector for review.

This QA Inspector Randomly observed the following work in progress:

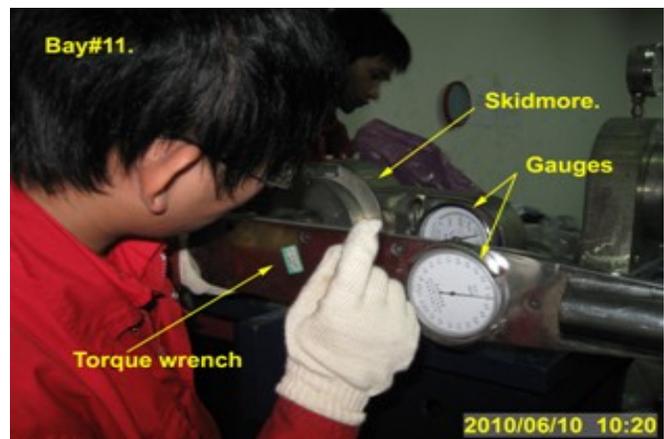
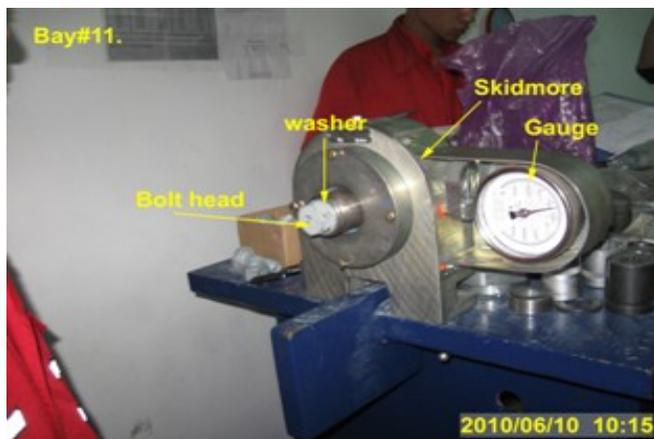
Segment: 8BE-8CE.

ZPMC Personnel performing bolt installation and snug tightening for the "T" Rib splice joint at Bottom Panel and Side Panel.

Segment: 8CW.

Shielded Metal Arc Welding (SMAW) Repair welding of weld joint OBW-8A-023. Welder is identified as 066002. ZPMC Quality Control (QC) is identified as Mr. Zhu Zhong Hai. The welding variables appeared to comply with the Applicable WPS: WPS-345-SMAW-1G(1F)Repair. The repair welding was being performed as per the Welding Repair Report (WRR) No: B-WR13520. This weld was rejected by ZPMC UT Technicians and recorded on UT report No: B787-UT- UT-13332.

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



### Summary of Conversations:

Only general conversation was held between QA and Quality Control (QC) concerning this project.

### 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 15000422372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Prabhu,Surendra

Quality Assurance Inspector

**Reviewed By:** Hall,Steven

QA Reviewer