

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017581**Date Inspected:** 19-Oct-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. Qiu Wen.**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 Orthotropic Box Girder (OBG)**Summary of Items Observed:**

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

NDT

BAY 10

This QA Inspector performed randomly Visual Inspection and Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated a TL- 6028 (MT) report for this date. The member is identified as Tower lift 3 Facade. The weld designations reviewed are as follows.

SD1-SA3-21-8, SD1-SFSA3-24-1-14, SD1-SFSA3-39-5, 6, 7, 8

SD1-SA3-22-8, SD1-SFSA3-22-14, SD1-SFSA3-37-5, 6, 7, 8,

NDT Notification No-07028

This QA Inspector observed the following work in progress:

BAY 11

OBG Bike path plate FCAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 040655, 041271, Perform Flux Core

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Arc Welding (FCAW) on OBG bike path stringer plate to deck plate. Joint identified as BK004A6-022-021, 022, 115, 116. ZPMC QC Identified as Xu Jie. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2113.

This QA Inspector observed ZPMC qualified welding personnel identified as 044541, Perform Flux Core Arc Welding (FCAW) on OBG bike path stringer plate to deck plate. Joint identified as BK004A8-004-013, 014, 053, 054. ZPMC QC Identified as Xu Jie. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2213 and WPS-B-T-2212.

Repair welding SMAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 202100, Perform Shielded Metal Arc Welding (SMAW) on stiffener connect plate. Plate identified as SA4-49 (W-C3-B-F-SA4-3). ZPMC QC Identified as Zhao Mao Mao with temporary welding repair report WRR-T-WR3554. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-485-SMAW-2G (2F) -Repair.

This QA Inspector observed ZPMC qualified welding personnel identified as 042218, 049220, Perform Flux Core Arc Welding (FCAW) on OBG bike path. Joint identified as BK005A4-003-056, 057, 062, 063, 076, 077, 082, 083. ZPMC QC Identified as Zhao Mao Mao. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2132.

Magnetic Particle Testing:

This QA Inspector observed ZPMC Magnetic Particle Testing Inspector, performed MT on OBG bike path cover plate. Joint identified as BK004A2-018-016.

BAY 10

OBG Bike path plate FCAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 053869, 040302, Perform Flux Core Arc Welding (FCAW) on OBG bike path plate. Joint identified as BK004A1-027-043. ZPMC CWI Identified as Qui Wen. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2232-Tc-U4c-F.

This QA Inspector observed ZPMC qualified welding personnel identified as 052075, 057180, Perform Flux Core Arc Welding (FCAW) on OBG bike path plate. Joint identified as BK004A1-027-044. ZPMC QC Identified as Deng Zhi Bing. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2231-B-U2-F.

Green Tagging

This QA inspector performed Visual Inspection for Green Tagging which were previously tested and accepted by ZPMC Quality Control personnel Mr. Zhang Huang and ABF QA personnel Mr. Liang Biao. The members are identified as L3-E4 (Skin E99M (ES) Façade) and L3-E2 (Skin E109M (ES) Façade). The green Tag number is identified as # 13526 and 13527.

BAY 10:

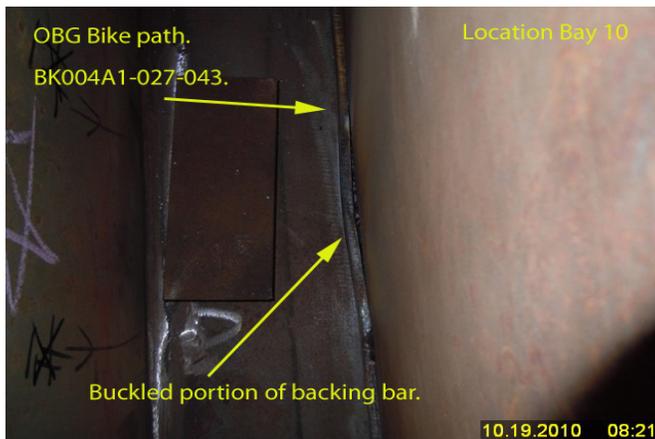
During the Caltrans Quality Assurance in-process observations of the fabrication of OBG Bike path plate

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BK004A-027, this Quality Assurance Inspector (QA) discovered the following issue, ZPMC personnel removed and replaced a buckled portion of a welded backing bar without Engineers approval. The removed backing bar portion was 240mm in length. AWS D1.5 specifies steel backing shall be continuous for the full length of the each weld made with backing. The weld is identified as: BK004A1-027-043. The effected weld is complete joint penetration (CJP) with backing bar plate. The material thickness for this backing bar plate is 10 mm. This OBG Bike Path is located in Sub assembly Bay #10. This QA inspector generated incident report for this date. For further information, please see the attached pictures below.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



## Summary of Conversations:

Only general conversation was held between QA and 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 Michael Ng Phone: 15921845703, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Gaikwad,Shailesh	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer