

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-022384**Date Inspected:** 04-Apr-2011**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 and Zhu Zhong Hai**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 Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 12BE (Connection Clips)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib connections clips at Side Panel (Cross Beam and Bike Path side) and at Bottom Panel at the Panel Points (PP) 113, PP 113.5, PP 114 and PP 114.5 for Segment 12BE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00640 dated April 04, 2011.

The bolt sizes used were M16 x 45 RC Lot # DHGM160049 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160021 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 50 RC Lot # DHGM160004 and the final torque value established was 180 N-m.

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The bolt sizes used were M16 x 55 RC Lot # DHGM160012 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 65 RC Lot # DHGM160006 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 70 RC Lot # DHGM160044 and the final torque value established was 123 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

Please reference the pictures attached for more comprehensive details.

Segment 12CE (Connection Clips)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib connections clips at Side Panel (Cross Beam and Bike Path side) and at Bottom Panel at the Panel Points (PP) 115, PP 115.2, PP 115.5, PP 116, PP 116.5 and PP 117 for Segment 12CE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00640 dated April 04, 2011.

The bolt sizes used were M16 x 45 RC Lot # DHGM160049 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160021 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 50 RC Lot # DHGM160004 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 55 RC Lot # DHGM160012 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 65 RC Lot # DHGM160006 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 70 RC Lot # DHGM160044 and the final torque value established was 123 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

Please reference the pictures attached for more comprehensive details.

Segment 12CE (Connection Clips)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib connections clips at Side Panel at work point E3 (Bike Path side) and work point E4 (Cross Beam side) at the Panel Points (PP) 111 for Segment 12AE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00640 dated April 04, 2011.

The bolt sizes used were M24 x 60 RC Lot # DHGM240061 and the final torque value established was 633 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

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Please reference the pictures attached for more comprehensive details.

Segment 12BW (Rain Water Diverter Plate)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as CA3012-232. The welder identification was 046709 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213-Tc-U4b-FCM-1. The piece mark was identified as the weld connecting the Rain Water Diverter Plate at work point W1.

Segment 12CW (Rain Water Diverter Plate)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as CA3012-233. The welder identification was 046709 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213-Tc-U4b-FCM-1. The piece mark was identified as the weld connecting the Rain Water Diverter Plate at work point W1.

Segment 12BW and Segment 12CW (Rain Water Diverter Plate)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Fillet weld. The Weld joint was designated as CA3012-234/235. The welder identification was 046709 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1. The piece mark was identified as the weld connecting the Rain Water Diverter Plate at work point W1.

Please reference the pictures attached for more comprehensive details.

Segment 13AW (Stiffener Plates at Side Panel)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3013M-063. The welder identification was 067572 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as the weld connecting the Stiffeners Plates on Side Panel, Counter Weight side between work point W13 towards work point W18.

Please reference the pictures attached for more comprehensive details.

Segment 13AE (Architectural Housing Shroud)

This QA Inspector observed ZPMC personnel's installing the Architectural Housing Shroud at Bike Path side.

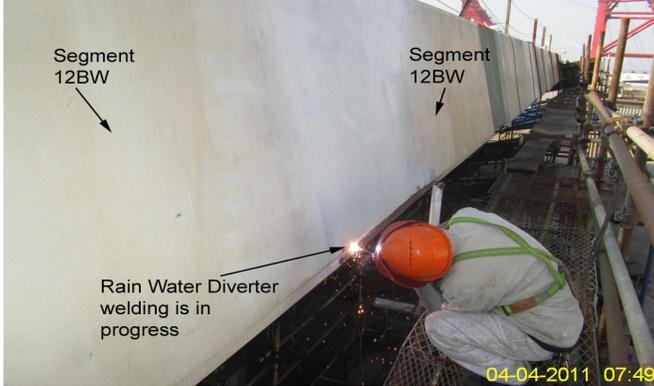
Please reference the pictures attached for more comprehensive details.

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

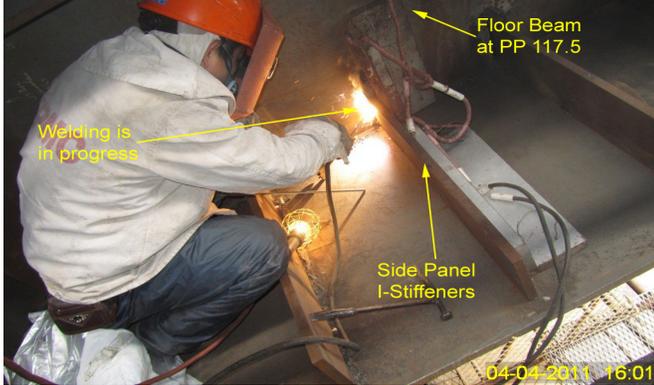
Segment 12BW and Segment 12CW, Rain Water Diverter plate welding is in progress at work point W1 at OBG Trail Assembly.



Segment 13AW, Side Panel, Counter weight side, Stiffener Plates repair welding is in progress at OBG Trial Assembly.



Segment 13AW, Side Panel I-Stiffener welded to the Floor Beam at Cross Beam, Counter Weight side at OBG Trial Assembly.



Segment 12CE, Side Panel Floor Beam to Side Panel T-Ribs, Connection clip bolt tension verification is in progress at Cross Beam side, OBG Trial Assembly.



Segment 13AW, Side Panel, Counter Weight side, Stiffener Plates repair welding is in progress at OBG Trial Assmely.

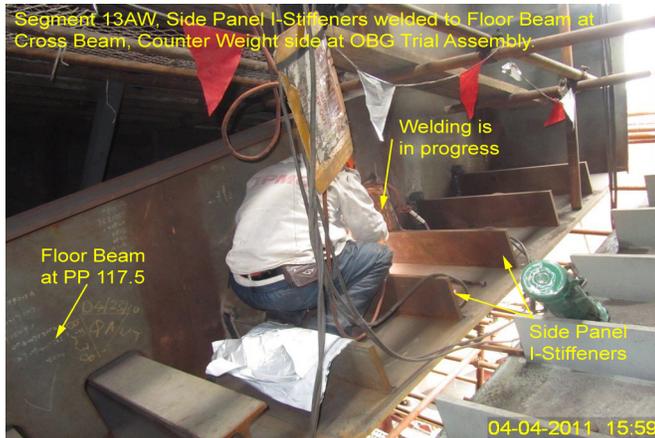


Segment 13AE, Architectural Housing Shroud, Installation is in progress at Bike Path side at OBG Trial Assembly.



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Summary of Conversations:

No relevant conversations were reported on this date.

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.

Inspected By: Math,Manjunath

Quality Assurance Inspector

Reviewed By: Miller,Mark

QA Reviewer