

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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019190**Date Inspected:** 09-Jan-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)**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

Cross Beam # 16 (Handrails)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Handrail to Fiber Glass Grating between Panel Points (PP) 104 and PP 105 for Cross Beam # 16. Handrails are installed at Bottom Panel and Side Panel Cross Beam side at FL3 area. 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. 00603.

The bolt sizes used were M16 x 95 RC Lot # DHGM160046 and the final torque value established was Snug Tight.

A spanner wrench was used to verify the snug tight condition.

Tower Lift 4 East

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This QA Inspector witnessed final bolt tension verification on bolts connecting Man-Hole access opening cover plate for Tower Lift 4 East. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00603. Inspection for tension verification was performed at Zhenhua Ship # 18 which is berth alongside Jetty # 5.

Man-Hole access opening cover plate installed between elevations 127 meter to 131 meter and elevations 139 meter to 143 meters.

The bolt sizes used were M24 x 180 RC Lot # DHGM240070 and the final torque value established was 600 N-m.

The Manual Torque wrench used was Serial No. XO2-645.

Tower Lift 4 West

This QA Inspector witnessed final bolt tension verification on bolts connecting Man-Hole access opening cover plate for Tower Lift 4 West. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00603. Inspection for tension verification was performed at Zhenhua Ship # 18 which is berth alongside Jetty # 5.

Man-Hole access opening cover plate installed between elevations 127 meter to 131 meter and elevations 139 meter to 143 meters.

The bolt sizes used were M24 x 180 RC Lot # DHGM240070 and the final torque value established was 600 N-m.

The Manual Torque wrench used was Serial No. XO2-645.

Tower Lift 4 South

This QA Inspector witnessed final bolt tension verification on bolts connecting Man-Hole access opening cover plate for Tower Lift 4 South. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00603. Inspection for tension verification was performed at Zhenhua Ship # 18 which is berth alongside Jetty # 5.

Man-Hole access opening cover plate installed between elevations 127 meter to 131 meter and elevations 139 meter to 143 meters.

The bolt sizes used were M24 x 180 RC Lot # DHGM240070 and the final torque value established was 600 N-m.

The Manual Torque wrench used was Serial No. XO2-645.

Tower Lift 4 North

This QA Inspector witnessed final bolt tension verification on bolts connecting Man-Hole access opening cover plate for Tower Lift 4 North. Inspected the bolt tensioning on a random basis and found the tension to be in

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general compliance. Inspection was performed against the Notification No. 00603. Inspection for tension verification was performed at Zhenhua Ship # 18 which is berth alongside Jetty # 5.

Man-Hole access opening cover plate installed between elevations 127 meter to 131 meter and elevations 139 meter to 143 meters.

The bolt sizes used were M24 x 180 RC Lot # DHGM240070 and the final torque value established was 600 N-m.

The Manual Torque wrench used was Serial No. XO2-645.

Segment 12AW (Lower Chevron Flatness Survey)

This QA Inspector performed Dimension Control Inspection along with ZPMC QC Mr. Hu Mei Gang on the Splice plate installed at Lower Chevron from East and West side to ensure flatness is within the allowable tolerance before snug tightening the bolts for Segment 12AW at the following Panel Points.

Segment 12AW at PP 109 (Cross Beam side)

Segment 12AW at PP 110 (Counter Weight side)

Segment 12AW at PP 111 (Counter Weight side)

Segment 12AW at PP 112 (Cross Beam and Counter Weight side)

The QA Inspector measured the Flatness using 1(One) Meter Straight Edge and the results appeared to be in general compliance with contract requirements.

Note: ZPMC QC Mr. Hu Mei Gang did not offer the Flatness check at following locations.

Segment 12AW at PP 109 (Counter Weight side)

Segment 12AW at PP 110 (Cross Beam side)

Segment 12AW at PP 111 (Cross Beam side)

Segment 12BE (Side Panel and Edge Panel connecting weld)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as CA3002-005. The welder identification was 050789 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-Tc-U4b-FCM-1. The piece mark was identified as Side Panel to Edge Panel hold back weld at work point E6.

Please reference the pictures attached for more comprehensive details.

Segment 12CE (Side Panel and Edge Panel connecting weld)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as CA3004-001. The welder

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identification was 050789 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-Tc-U4b-FCM-1. The piece mark was identified as Side Panel to Edge Panel hold back weld at work point E6.

Please reference the pictures attached for more comprehensive details.

Segment 12BE to Segment 12CE (Deck Panel, Corner Assembly Transverse Splice)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as CA6502-012. The welder identification was 040458 and was observed welding in the 1G (Flat) position using approved Welding Procedure Specification WPS-B-T-2231T-ESAB. The piece mark was identified as the Deck Panel Corner Assembly, transverse splice weld.

Please reference the pictures attached for more comprehensive details.

Segment 12BE to Segment 12BE (Side Panel, T-Ribs Splice weld)

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as SP3017-001-040. The welder identification was 046709 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2233-ESAB. The piece mark was identified as the T-Ribs splice weld at Bike Path side.

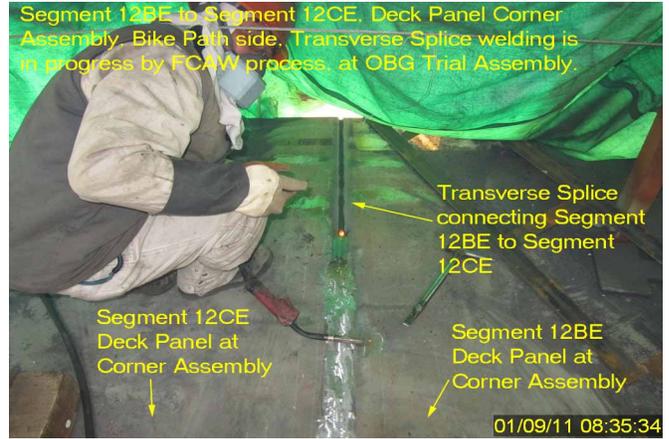
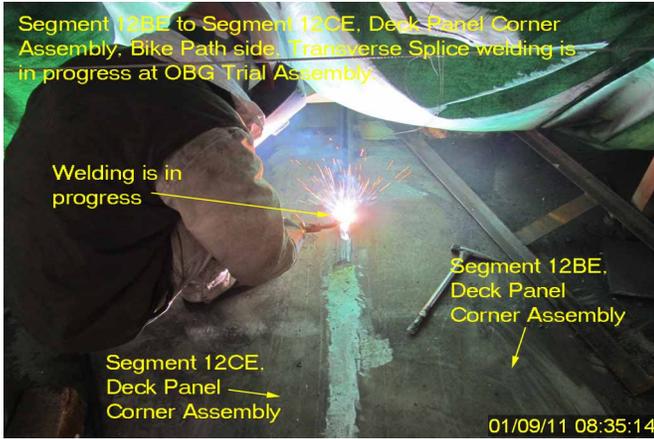
Please reference the pictures attached for more comprehensive details.

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



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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 150000422372, who represents the Office of Structural Materials for your project.

Inspected By: Math,Manjunath

Quality Assurance Inspector

Reviewed By: Dsouza,Christopher

QA Reviewer