

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-018080**Date Inspected:** 12-Nov-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)**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 11BW (Side Panel T-Ribs at FL3 location)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib to T-Rib at Side Panel Cross Beam side at Panel Points (PP) 98, PP 99 and PP 100 for Segment 11BW. 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. 00548 dated November 12, 2010. The QA inspector observed reinforced splice plates are installed at following locations.

At PP 100: 2nd T-Rib, 9th T-Rib, 10th T-Rib, 11th T-Rib and 13th T-Rib.

Note: T-Ribs numbering reference taken from Work Point W4 towards W6.

The bolt sizes used were M22 x 65 RC Lot # DHGM220116 and the final torque value established was 333 N-m.

WELDING INSPECTION REPORT

(Continued Page 2 of 5)

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The Manual Torque wrench used was Serial No. XO2-776.

Segment 11BW (Side Panel T-Ribs at FL3)

This QA Inspector performed Dimension Control Inspection on the side panel T-Rib at FL3 areas after bolting for the Segment 11BW at Panel Points (PP) 104, PP 105 and PP 106 at the following locations:

Work Point W4 towards Work Point W6 (Side Panel Cross Beam Side) total 19 T-Ribs at each Panel Points.

The QA Inspector measured the Vertical Offset using 1(One) Meter Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11DW (Lower Chevron)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Lower Chevron, Upper Chevron, X3D Bracket connected to floor beam flange and to the splice plate and H-Beam connecting the floor beam and splice plate at Panel Point (PP) 104, PP 105 and PP 106 for Segment 11DW at Counter Weight and Cross Beam side. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00548 Dated November 12, 2010.

Bolt sizes used were M22 x 65 RC Set# DHGM220105 and final torque required was 690 N-m.

Bolt sizes used were M22 x 70 RC Set# DHGM220038 and final torque required was 480 N-m.

Bolt sizes used were M22 x 75 RC Set# DHGM220034 and final torque required was 453 N-m.

Bolt sizes used were M22 x 80 RC Set# DHGM220094 and final torque required was 470 N-m.

The Manual Torque wrench used was Serial No. XO2-776.

Please reference the pictures attached for more comprehensive details.

Segment 11DW to Segment 11EW (Root Gap and Offset)

This QA Inspector performed Dimension Control Inspection Caltrans QA Inspector Mr. Murugan Manikandan on Nov 03, 2010 and Nov 12, 2010 for measuring root gap and offset at the Transverse Splice for the Segment 11DW to Segment 11EW between Panel Point (PP) 106 to PP 107 at the following locations:

Work Point W5 towards Work Point W6 (Edge Panel Cross Beam Side).

WELDING INSPECTION REPORT

(Continued Page 3 of 5)

Work Point W6 towards Work Point W4 (Side Panel Cross Beam Side).

Work Point W4 towards Work Point W3 (Bottom Panel).

Work Point W3 towards Work Point W1 (Side Panel Counter Weight Side).

Work Point W1 towards Work Point W2 (Edge Panel Counter Weight Side).

Work Point W2 towards Work Point W5 (Deck Panel).

The QA Inspector measured the root gap using 1(One) taper gauge and measured the offset using a bridge cam gauge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11DE to Segment 11EE (Root Gap and Offset)

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector Mr. Murugan Manikandan on Nov 03, 2010 and Nov 12, 2010 for measuring root gap and offset on at the Transverse Splice for the Segment 11DE to Segment 11EE between Panel Point (PP) 106 to PP 107 at the following locations:

Work Point E2 towards Work Point E1 (Edge Panel Bike Path Side).

Work Point E1 towards Work Point E3 (Side Panel Bike Path Side).

Work Point E3 towards Work Point E4 (Bottom Panel).

Work Point E4 towards Work Point E6 (Side Panel Cross Beam Side).

Work Point E6 towards Work Point E5 (Edge Panel Cross Beam Side).

Work Point E5 towards Work Point E2 (Deck Panel).

The QA Inspector measured the root gap using 1(One) taper gauge and measured the offset using a bridge cam gauge.

Segment 11AE

This QA Inspector performed Floor Beam flatness check along with Caltrans QA Inspector Mr. Murugan Manikandan for the Segment 11AE from Panel Point (PP) 96 at the following locations after heat straightening:

The Floor Beam flatness was verified and measured at the Cross Beam (CB) side at Panel Point (PP) 96. The QA Inspector measured the Floor Beam flatness using 1500mm straight edge.

WELDING INSPECTION REPORT

(Continued Page 4 of 5)

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11BE

This QA Inspector performed Floor Beam flatness check along with Caltrans QA Inspector Mr. Murugan Manikandan for the Segment 11BE from Panel Point (PP) 98 and PP 99 at the following locations after heat straightening:

The Floor Beam flatness was verified and measured at the Cross Beam (CB) side and Bike Path (BK) side at Panel Point (PP) 98 and PP 99. The QA Inspector measured the Floor Beam flatness using 1500mm straight edge.

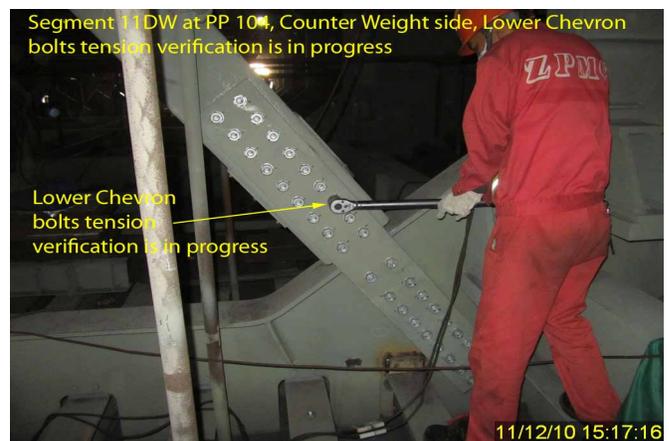
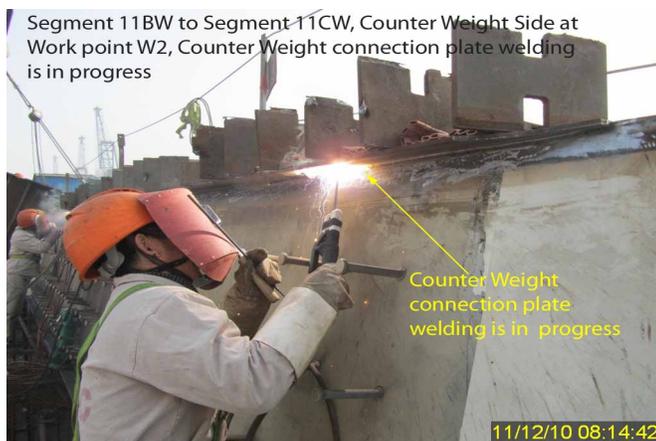
The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11BW to Segment 11CW (Counter Weight connection plate)

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 OBW11-027. The welder identification was 067183, 057333 and 041713 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 the Counter Weight connection plate at work point W2.

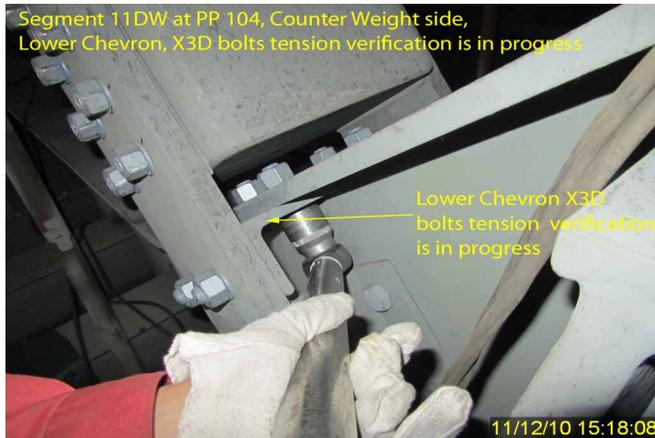
Please reference the pictures attached for more comprehensive details.

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



WELDING INSPECTION REPORT

(Continued Page 5 of 5)



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