

**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-015415**Date Inspected:** 29-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:****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, 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) Trial Assembly Areas

Segment 9AW (Lower Chevron)

This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Chevron (North and South side) at Panel Point (PP) 72 and PP 73 for Segment 9AW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00401 Dated June 29, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Bolt sizes used were M22 x 80 RC Set# DHGM220019 and final torque required was 460 N-m and

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

Manual Torque wrench was been used with Sr. No. XO2-676 and Hydraulic Torque wrench was been used with Model No. MP582-2 and Sr. No. PW090331001.

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### Segment 9AW (Upper Chevron)

This Quality Assurance (QA) Inspector witnessed final tension verification for Upper Chevron (North and South side) at Panel Point (PP) 72 and PP 73 for Segment 9AW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00401 Dated June 29, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Manual Torque wrench was been used with Sr. No. XO2-676 and Hydraulic Torque wrench was been used with Model No. MP582-2 and Sr. No. PW090331001.

### Segment 9BW (Lower Chevron)

This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Chevron (North and South side) at Panel Point (PP) 74, PP 75 and PP 76 for Segment 9BW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00401 Dated June 29, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Bolt sizes used were M22 x 80 RC Set# DHGM220019 and final torque required was 460 N-m and

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

Manual Torque wrench was been used with Sr. No. XO2-676 and Hydraulic Torque wrench was been used with Model No. MP582-2 and Sr. No. PW090331001.

Please refer the pictures attached for more comprehensive details.

### Segment 9BW (Upper Chevron)

This Quality Assurance (QA) Inspector witnessed final tension verification for Upper Chevron (North and South side) at Panel Point (PP) 74, PP 75 and PP 76 for Segment 9BW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00401 Dated June 29, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Manual Torque wrench was been used with Sr. No. XO2-676 and Hydraulic Torque wrench was been used with Model No. MP582-2 and Sr. No. PW090331001.

### Segment 9CW (Lower Chevron)

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This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Chevron (North and South side) at Panel Point (PP) 77, PP 78 and PP 79 for Segment 9CW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00401 Dated June 29, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Bolt sizes used were M22 x 80 RC Set# DHGM220019 and final torque required was 460 N-m and

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

Manual Torque wrench was been used with Sr. No. XO2-676 and Hydraulic Torque wrench was been used with Model No. MP582-2 and Sr. No. PW090331001.

### Segment 9CW (Upper Chevron)

This Quality Assurance (QA) Inspector witnessed final tension verification for Upper Chevron (North and South side) at Panel Point (PP) 74, PP 75 and PP 76 for Segment 9CW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00401 Dated June 29, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Manual Torque wrench was been used with Sr. No. XO2-676 and Hydraulic Torque wrench was been used with Model No. MP582-2 and Sr. No. PW090331001.

### Segment 8AE

This QA Inspector performed the following Dimension Inspection after Heat Straightening for Segment 8AE at Panel Point (PP) 63.

Plumbness measurement for Deck Panel to Deck Panel Diaphragm at PP 63 at 38 U-Rib from East and West Side before measured out of Plumbness as -12mm, After Heat Straightening measured as -4mm.

The measured readings were recorded on Dimension Control Forms and submitted to the Task Leader and Engineer for review.

### Segment 8BE

This QA Inspector performed the following Dimension Inspection after Heat Straightening for Segment 8BE at Panel Point (PP) 66.

Plumbness measurement for Deck Panel to Deck Panel Diaphragm at PP 66 at 14, 15, 20 and 22 U-Rib from East and West Side before measured out of Plumbness as -15mm, -13mm, -15mm and -11mm After Heat Straightening

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measured as -8mm, -6mm, -8mm and -9mm.

The measured readings were recorded on Dimension Control Forms and submitted to the Task Leader and Engineer for review.

### Segment 8CE

This QA Inspector performed the following Dimension Inspection after Heat Straightening for Segment 8CE at Panel Point (PP) 70.

Plumbness measurement for Deck Panel to Deck Panel Diaphragm at PP 70 at 1 U-Rib from East and West Side before measured out of Plumbness as -13mm, After Heat Straightening measured as -9mm.

The measured readings were recorded on Dimension Control Forms and submitted to the Task Leader and Engineer for review.

### Segment 9AW to 9BW

This QA Inspector observed ZPMC personnel's performing Heat Straightening at Longitudinal Diaphragm (LD) at W4 Location for Segment 9AW to 9BW between Panel Point (PP) 73 and PP 74. Heat Straightening been performed for following weld joints against the Heat Straightening Record # HSR 1(B)-8698 Dated June 06, 2010.

Seg 049B-005~009  
Seg049B-016, 019 and 020  
Seg049C-008, 019 and 020  
Seg049C-005, 009 and 010

The measured readings were recorded on Dimension Control Forms and submitted to the Task Leader and Engineer for review.

### Segment 8BW to 8CW

This QA Inspector performed Dimension Inspection at Corner Assembly Edge Panel I-Ribs for out of flatness at Cross Beam and Counter Weight Side. Inspection was performed against the Incident Report # 1406 Dated June 20, 2010.

Cross Beam side recorded out of Flatness measured at 1st I-Stiffener from W5 as 9mm and at 2nd I-Stiffener from W5 as 10mm with 2500mm String Line.

Counter Weight side out of Flatness measured at 1st I-Stiffener from W2 as 12mm and at 2nd I-Stiffener from W2 as 11mm with 2500mm String Line.

ZPMC had not repaired the out of flatness area, asked the ZPMC QC and QA to re-offer the inspection after repair.

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



## Summary of Conversations:

No relevant conversations.

## 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 T Sang 1500-0042-2372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Math,Manjunath

Quality Assurance Inspector

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**Reviewed By:** Carreon,Albert

QA Reviewer