

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022573**Date Inspected:** 09-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

Bike Path at Bay # 19

This QA Inspector performed Dimension Control Inspection on the Bike Path bottom plate for flatness check across the longitudinal butt weld. Flatness check was performed on following mentioned Bike Paths and Bike Path is identified as.

BK004A-014.

The QA Inspector measured the flatness using 600mm long straight edge across the Butt (CJP) weld and using 1500mm long straight edge between the stiffeners which are plug weld to bottom plate.

Observed flatness within the allowable tolerance.

The result of the inspection was informed to ZPMC QC Mr. Guo Xing Hiu, ABF Mr. Peng Wen Jung and Caltrans

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Lead Inspector Mr. Mark Miller and Mr. Hiranch Patel.

### Segment 12AW (Cable Tray Support Structures)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for cable tray support structures installed at bottom panel between the Panel Points (PP) 109 to PP 110; PP 110 to PP 111 and PP 111 to PP111.5 for Segment 12AW at North and South side. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00643 dated April 09, 2011.

Bolt sizes used were M20 x 50 RC Set# DHGM200037 and final torque required was 367 N-m.

Bolt sizes used were M20 x 45 RC Set# DHGM200036 and final torque required was 287 N-m.

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

Please reference the pictures attached for more comprehensive details.

### Segment 12BW (Cable Tray Support Structures)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for cable tray support structures installed at bottom panel between the Panel Points (PP) 113 to PP 114 and PP 114 to PP115 for Segment 12BW at North and South side. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00643 dated April 09, 2011.

Bolt sizes used were M20 x 50 RC Set# DHGM200037 and final torque required was 367 N-m.

Bolt sizes used were M20 x 45 RC Set# DHGM200036 and final torque required was 287 N-m.

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

### Segment 12CW (Cable Tray Support Structures)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for cable tray support structures installed at bottom panel between the Panel Points (PP) 115.2 to PP 115.75 and PP 116.5 to PP 116.75 for Segment 12CW at North and South side. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00643 dated April 08, 2011.

Bolt sizes used were M20 x 50 RC Set# DHGM200037 and final torque required was 367 N-m.

Bolt sizes used were M20 x 45 RC Set# DHGM200036 and final torque required was 287 N-m.

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

### Segment 12AW (Catwalk)

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This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Partial Floor Beam between Panel Points (PP) 109 to PP 110; PP 110 to PP 111 and PP 111 to PP 111.5 for Segment 12AW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00644 Dated April 09, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was 180 N-m.

Bolt sizes used were M16 x 45 RC Set# DHGM160049 and final torque required was 180 N-m.

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

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

### Segment 12AE (Catwalk)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Partial Floor Beam between Panel Points (PP) 109 to PP 110; PP 110 to PP 111; PP 111 to PP 111.5; PP 115.5 to PP 112 and PP 112 to PP 112.5 for Segment 12AE. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00644 Dated April 09, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was 180 N-m.

Bolt sizes used were M16 x 45 RC Set# DHGM160021 and final torque required was 180 N-m.

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

Bolt sizes used were M16 x 55 RC Set# DHGM160021 and final torque required was 200 N-m.

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

### Segment 12BE (Catwalk)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Partial Floor Beam between Panel Points (PP) 112.5 to PP 113; PP 113 to PP 113.5; PP 113.5 to PP 114 and PP 114 to PP 114.5 for Segment 12BE. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00644 Dated April 09, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was 180 N-m.

Bolt sizes used were M16 x 45 RC Set# DHGM160021 and final torque required was 180 N-m.

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

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Bolt sizes used were M16 x 55 RC Set# DHGM160021 and final torque required was 200 N-m.

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

## Segment 12CE (Catwalk)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Partial Floor Beam between Panel Points (PP) 114.5 to PP 115; PP 115 to PP 115.2; PP 115.2 to PP 115.5, PP 115.5 to PP 116; PP 116 to PP 116.5 and PP 116.5 to PP 117 for Segment 12CE. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00644 Dated April 09, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was 180 N-m.

Bolt sizes used were M16 x 45 RC Set# DHGM160021 and final torque required was 180 N-m.

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

Bolt sizes used were M16 x 55 RC Set# DHGM160021 and final torque required was 200 N-m.

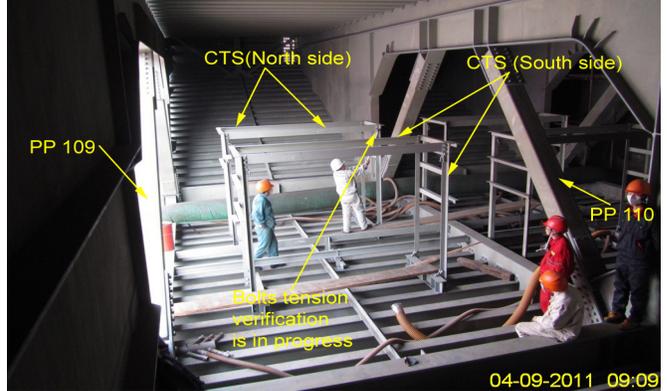
The Manual Torque wrench used was Serial No. XO2-114.

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

Segment 12AW between PP 109 and PP 110, Cable Tray Support (CTS) Structure bolt tension verification is in progress at OBG Trial Assembly.



Segment 12AW between PP 109 and PP 110, Cable Tray Support (CTS) Structure bolt tension verification is in progress 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.

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<b>Inspected By:</b>	Math,Manjunath	Quality Assurance Inspector
<b>Reviewed By:</b>	Miller,Mark	QA Reviewer

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