

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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017834**Date Inspected:** 08-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

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|------------------------------------|------------|----------------------------------|--------------------|----|
| CWI Name: | N/A | 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 to Segment 11CW (Skin Flatness)

This QA Inspector performed Joint Inspection along with Caltrans QA Inspector Mr. Murugan Manikandan to check the skin flatness between Segment 11BW to Segment 11CW between Panel Points (PP) 100 and PP 101 at the following locations:

The skin flatness was measured on North side (Counter Weight Side at B1 and B2 locations) and South side (Cross Beam side at B3 and B4 locations) at 100mm from the weld connecting Bottom Panel to Side Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm of length were also used to measure the localized flatness.

The skin flatness was measured on North side (Counter Weight side at T1 location) and South side (Cross Beam side at T2 location) at 100mm from the weld connecting Deck Panel to Edge Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm length were also used to measure the localized

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flatness.

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.

Tower Lift 3 East/West/South/North

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Tower Lift 3 East, Lift 3 West, Lift 3 South and Lift 3 North. Bolts are installed for Tower Ladder. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00545 Dated November 08, 2010. Tower Ladder bolts are installed at elevations 89 meter, 92 meter, 95 meter, 99 meter, 102 meter, 105 meter, 109 meter and 112 meter.

The bolt sizes used were M22 x 65 RC Lot # DHGM220033 and final torque required was 470 N-m.

The bolt sizes used were M22 x 110 RC Lot # DHGM220067 and final torque required was 500 N-m.

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

Please reference the pictures attached for more comprehensive details.

Segment 10AE (Handrails)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Handrail to Fiber Glass Grating between Panel Points (PP) 86 and PP 87 for Segment 10AE. 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. 00543 dated November 08, 2010.

The bolt sizes used were M16 x 95 RC Lot # DHGM160036 and the final torque value established was Snug Tight.

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

Segment 10CE (Handrails)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Handrail to Fiber Glass Grating between Panel Points (PP) 92 and PP 93 for Segment 10CE. 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. 00543 dated November 08, 2010.

The bolt sizes used were M16 x 95 RC Lot # DHGM160036 and the final torque value established was Snug Tight.

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

Segment 10AW (Handrails)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Handrail to Fiber Glass Grating between Panel Points (PP) 86 to PP 87 and PP 87 to PP 88 for Segment 10AW. 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. 00543 dated November 08, 2010.

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

The bolt sizes used were M16 x 95 RC Lot # DHGM160018 and the final torque value established was Snug Tight.

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

Segment 10CW (Handrails)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Handrail to Fiber Glass Grating between Panel Points (PP) PP 92 to PP 93 for Segment 10CW. 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. 00543 dated November 08, 2010.

The bolt sizes used were M16 x 95 RC Lot # DHGM160018 and the final torque value established was Snug Tight.

The bolt sizes used were M16 x 95 RC Lot # DHGM160017 and the final torque value established was Snug Tight.

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

Cross Beam 13(Catwalk)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Cross Beam Bottom Panel I-Ribs at Panel Point (PP) 86 and PP 87 for Cross Beam 13. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00544 Dated November 08, 2010.

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

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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. XO2-766.

Cross Beam 14(Catwalk)

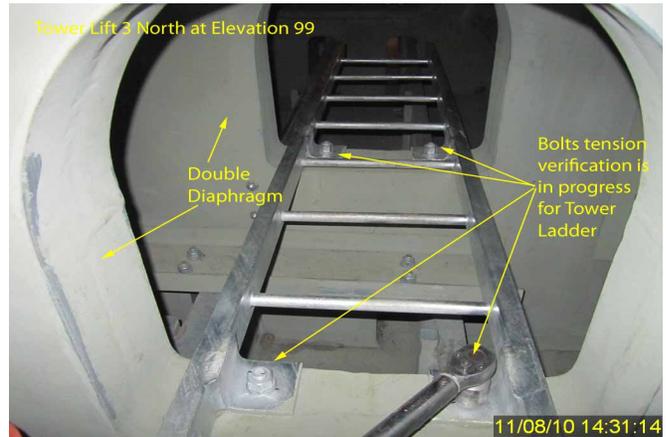
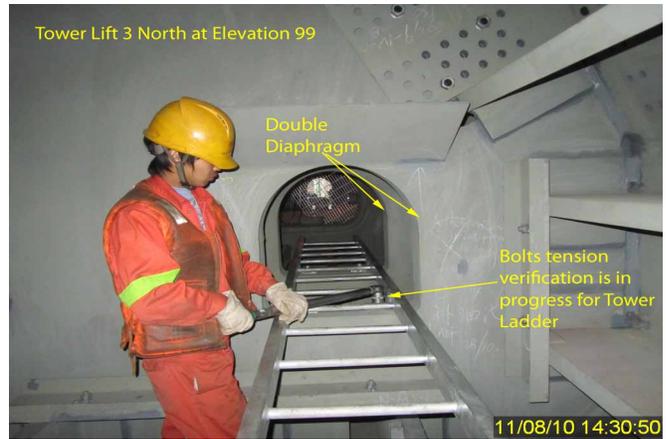
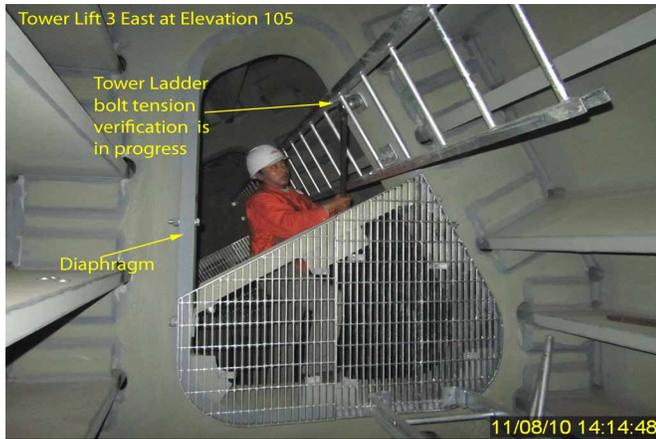
This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Cross Beam Bottom Panel I-Ribs at Panel Point (PP) 92 and PP 93 for Cross Beam 14. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00544 Dated November 08, 2010.

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.

The Manual Torque wrench used was Serial No. XO2-766.

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.

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| Inspected By: | Math,Manjunath | Quality Assurance Inspector |
| Reviewed By: | Dsouza,Christopher | QA Reviewer |
