

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-022218**Date Inspected:** 02-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

Segment 12AE to 12BE (Transverse Splice T-Ribs)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Side Panel Bike Path Side (from work point E1 towards E3), Bottom Panel (from work point E3 towards E4) and Cross Beam side (from work point E4 to E6) between Panel Point (PP) 112.5 to PP 113 for Segment 12AE to 12BE. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance.

Inspection was performed against the Notification No. 00636 Dated April 02, 2011.

The bolt sizes used were M22 x 65 RC Lot # DHGM220117 and the final torque value established was 327 N-m.

The bolt sizes used were M22 x 65 RC Lot # DHGM220131 and the final torque value established was 380 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220041 and the final torque value established was 460 N-m.

WELDING INSPECTION REPORT

(Continued Page 2 of 7)

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

Segment 12AE to 12BE (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs after bolting for the Segment 12AE to Segment 12BE between Panel Point (PP) 112.5 to PP 113 at the following locations:

Work Point E1 towards Work Point E3 (Side Panel Bike Path Side) total 19 T-Ribs.

Work Point E3 towards Work Point E4 (Bottom Panel) total 18 T-Ribs.

Work Point E4 towards Work Point E6 (Side Panel Cross Beam Side) total 19 T-Ribs.

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 12AW (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) 111.5 to PP 112 and PP 112 to PP 112.5 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. 00637 Dated April 02, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was Turn-of-Nut.

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

Bolt sizes used were M16 x 55 RC Set# DHGM160012 and final torque required was 200 N-m.

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

Segment 12BW (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 12BW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00637 Dated April 02, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was Turn-of-Nut.

WELDING INSPECTION REPORT

(Continued Page 3 of 7)

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

Bolt sizes used were M16 x 55 RC Set# DHGM160012 and final torque required was 200 N-m.

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

Segment 12CW (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 12CW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00637 Dated April 02, 2011.

Bolt sizes used were M16 x 40 RC Set# DHGM160045 and final torque required was Turn-of-Nut.

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

Bolt sizes used were M16 x 55 RC Set# DHGM160012 and final torque required was 200 N-m.

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

Please reference the pictures attached for more comprehensive details.

Deck Drainage Flume Brackets (Type 2A)

This QA Inspector performed Dimensional Inspection for the Deck Drainage Flume Brackets (Type 2A) against the Punch List # O-126, ZPMC Inspection Notification # 08716 at Paint shop # 2, observed the dimensions at section B-B as 50mm, which compiles the drawing requirement as mentioned in Deck Drainage Type 2A and 2B details, Drawing Sheet # 1.

Deck Drainage Flume Bracket identified as 10-127-1.

Deck Drainage Flume Bracket identified as 10-125-3.

Deck Drainage Flume Bracket identified as 10-116-2.

Deck Drainage Flume Bracket identified as 10-116-1.

Deck Drainage Flume Bracket identified as 10-97-3.

Deck Drainage Flume Bracket identified as 10-125-4.

WELDING INSPECTION REPORT

(Continued Page 4 of 7)

Deck Drainage Flume Bracket identified as 10-127-2.

Deck Drainage Flume Bracket identified as 10-93-3.

Deck Drainage Flume Bracket identified as 10-136-4.

Deck Drainage Flume Bracket identified as 12-152-3.

Deck Drainage Flume Bracket identified as 10-93-4.

Deck Drainage Flume Bracket identified as 10-136-1.

Deck Drainage Flume Bracket identified as 12-167-7.

Deck Drainage Flume Bracket identified as 12-152-2.

Deck Drainage Flume Bracket identified as 10-93-1.

During the measurement process ABF Lead Inspector Mr. Jeff Chan, ABF QA Mr. Wang Zhong Yuan was present.

The measurements were informed to Caltrans Lead Inspector and Engineer for review and disposition.

Segment 13AW (Grillage Support Stiffener)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3013K-2026. The welder identification was 067707 and observed welding in the 2G (Horizontal) position using approved Welding Procedure Specification WPS-B-P-2212-Tc-U4b-FCM-1. The piece mark was identified as the weld connecting the Grillage Support Stiffener at PP 118.7, at Counter Weight side.

Please reference the pictures attached for more comprehensive details.

Segment 13AE (Side Panel to Floor Beam)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3007AD-045. The welder identification was 037743 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)- FCM- Repair-1. The piece mark was identified as the weld connecting the Floor Beam (FL3) to Side Panel at Cross Beam side. ZPMC performed repair welding in accordance with Welding Repair Report B-WR20494.

Please reference the pictures attached for more comprehensive details.

WELDING INSPECTION REPORT

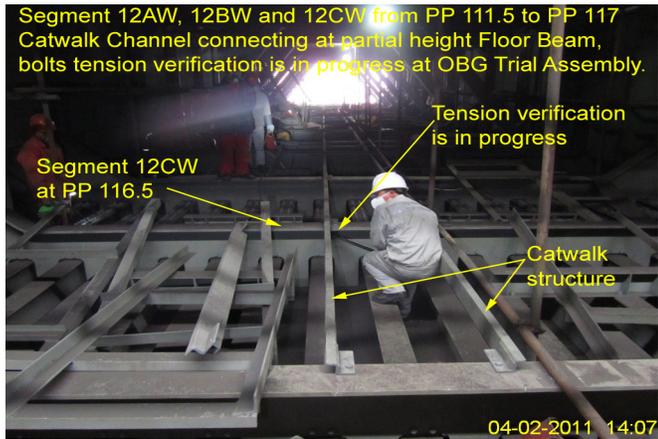
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Segment 13AE (Side Panel to Floor Beam)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3007AD-039, Seg3007AD-037, and Seg3007AD-035. The welder identification was 204339 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)- FCM- Repair-1. The piece mark was identified as the weld connecting the Floor Beam (FL3) to Side Panel at Cross Beam side.

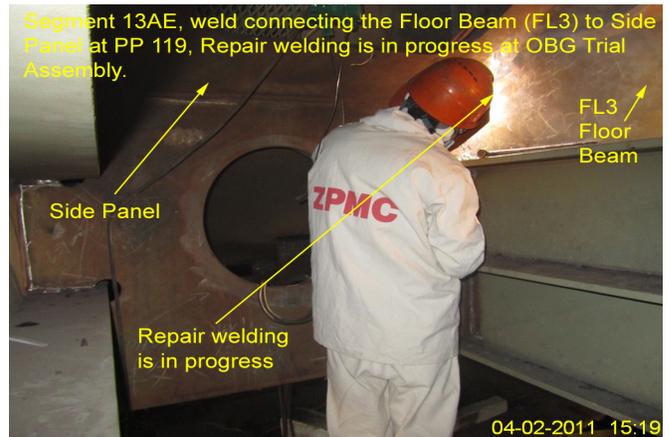
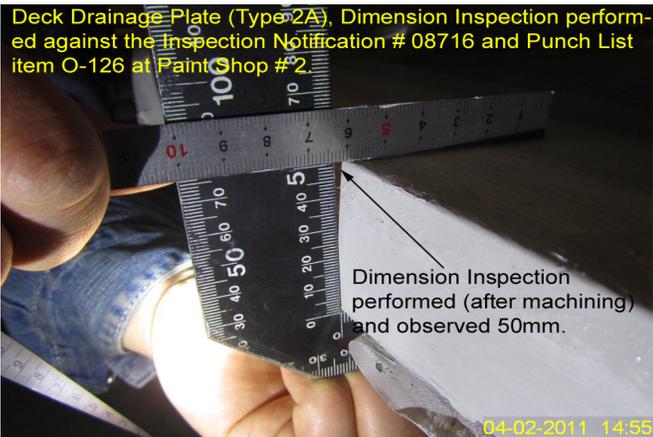
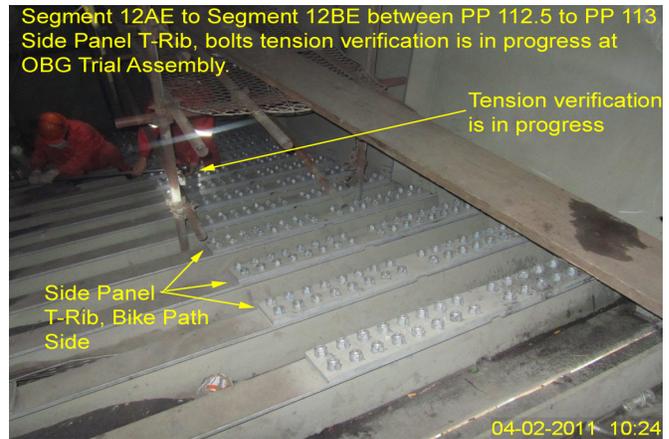
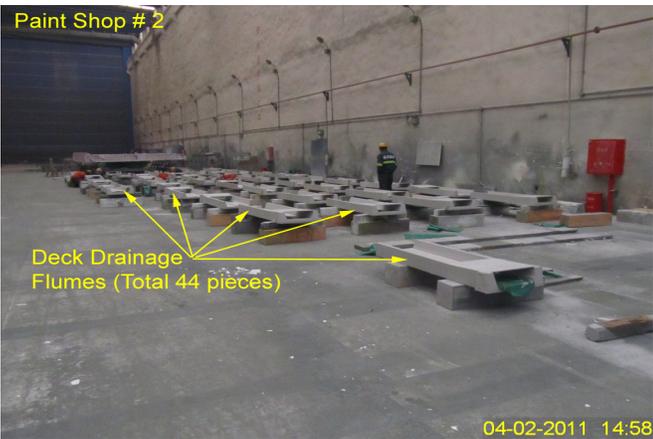
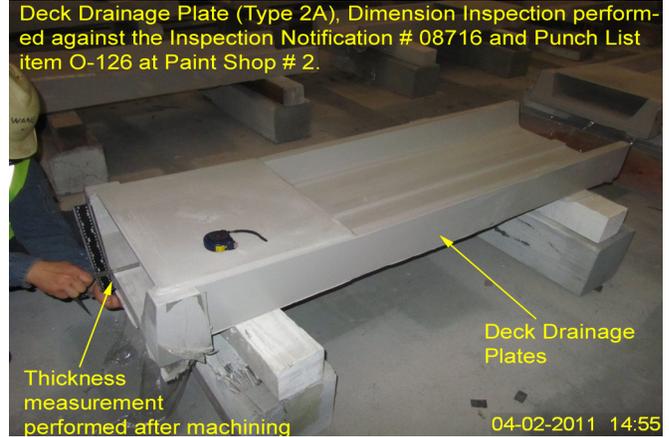
Please reference the pictures attached for more comprehensive details.

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



WELDING INSPECTION REPORT

(Continued Page 6 of 7)



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.

WELDING INSPECTION REPORT

(Continued Page 7 of 7)

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Miller,Mark	QA Reviewer
