

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-010555**Date Inspected:** 24-Nov-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Yumin**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 Trail 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) Assembly Area

Segment 5BW

This Quality Assurance (QA) Inspector witnessed final tension verification for Corner Assembly Back to Back Angles, X37B and Road Barriers Angles Bolts between PP 34 for Segment 5BW. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M22 x 55 RC Set# DHGM220044 and final torque required is 473 N-m.

Bolt sizes used were M22 x 85 RC Set# DHGM220047 and final torque required is 427 N-m.

Bolt sizes used were M22 x 120 RC Set# DHGM220051 and final torque required is 433 N-m.

Bolt sizes used were M24 x 60 RC Set# DHGM240014 and final torque required is 567 N-m.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

Bolt sizes used were M24 x 65 RC Set# DHGM240009 and final torque required is 567 N-m.

Bolt sizes used were M24 x 80 RC Set# DHGM240011 and final torque required is 533 N-m.

Bolt sizes used were M24 x 95 RC Set# DHGM240021 and final torque required is 540 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 675.

Segment 5CW

This Quality Assurance (QA) Inspector witnessed final tension verification for Corner Assembly Back to Back Angles, X37B and Road Barriers Angles Bolts between PP 35 and PP 36.5 for Segment 5CW. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M22 x 55 RC Set# DHGM220044 and final torque required is 473 N-m.

Bolt sizes used were M22 x 85 RC Set# DHGM220047 and final torque required is 427 N-m.

Bolt sizes used were M22 x 120 RC Set# DHGM220051 and final torque required is 433 N-m.

Bolt sizes used were M24 x 60 RC Set# DHGM240014 and final torque required is 567 N-m.

Bolt sizes used were M24 x 65 RC Set# DHGM240009 and final torque required is 567 N-m.

Bolt sizes used were M24 x 80 RC Set# DHGM240011 and final torque required is 533 N-m.

Bolt sizes used were M24 x 95 RC Set# DHGM240021 and final torque required is 540 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 675.

Lift 5 West

This QA Inspector Inspected the Smoothness of the Cope Holes for Segment 5AW, 5BW and 5CW from PP 29 to 36 for Longitudinal Diaphragm, Side Panel to Bottom Panel and Bottom Panel to Floor Beam side and noticed few of them are not meeting the requirement marked the report and submitted to Team Leader for review.

Lift 6 West

This QA Inspector Inspected the Skin flatness at the weld junction connecting the Bottom Panel to the Side Panel for Counter Weight Side and Cross Beam side for Segment 6AW, 6BW and 6CW between Panel Point (PP) 37 to 43. Noticed at 6BW PP 41, 2.5mm difference in flatness at distance of 11200mm from PP 43 (Reference PP) and at 6BW PP 42.5, 2.5mm difference in flatness at distance of 3875mm from PP 43 (Reference PP) and rest of the areas found within the allowable range.

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

Segment 1BW

This QA Inspector Inspected the Stiffener Straightness for Segment 1BW at PP 10.5 Counter Weight side. Incident Report 738 Dated September 14, 2009 was been written by the QA as Stiffener X148B was distorted during welding at four (4) locations. The incident report was added in the Punch List No. 1617. ZPMC offered Inspection for Inspecting the Straightness and found to be within the allowable tolerance.

Segment 6AW

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for FL3 Floor Beam Extension. The welder is identified as 220069. The Weld Joint is identified as SSD25-PP39-023 and 024. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-T-2132. Noticed the parameter recorded by QC complies the WPS.

Segment 6AW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for FL3 Floor Beam Extension. The welder is identified as 066261. The Weld Joint is identified as SSD25-PP39-223. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2214-Tc-U4b-FCM-1. Noticed the parameter recorded by QC complies the WPS.

Segment 6AW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for FL3 Floor Beam Extension. The welder is identified as 067571. The Weld Joint is identified as SSD25-PP39-222. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2214-Tc-U4b-FCM-1. Noticed the parameter recorded by QC complies the WPS.

Segment 1AW to 1BW

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment 1AW to 1BW Bottom Panel UT rejected areas as per the ABF report No. UT-1W-017. The Y Datum is identified as 530mm, 1040mm, 1050mm, 3575mm, 3590mm, 4840mm, 4850mm, 5350mm, 5660, 5770mm, 1180mm, 1280mm, 6100mm, 7990mm, 8120mm and 8250mm (Total 16 Locations). The weld joint number was identified as OBW1A-008. The welder is identified as 068917. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-FCM-Repair-1. Noticed the parameter recorded by QC complies the WPS.

Segment 6AE to 6BE

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment 6AE to 6BE Transverse Splice Weld at Side Panel Cross Beam Side. The weld joint number was identified as OBE6B-005. The welder is identified as 066261. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2214-B-U2-FCM-1. Noticed the

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

parameter recorded by QC complies the WPS.

Segment 6AE to 6BE

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment 6AE to 6BE Transverse Splice Weld at Side Panel Corner Assembly Cross Beam Side. The weld joint number was identified as OBE6B-006. The welder is identified as 066261. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2213-B-U2-FCM-1. Noticed the parameter recorded by QC complies the WPS.

Segment 6AE to 6BE

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment 6AE to 6BE Transverse Splice Weld at Edge Panel Cross Beam Side. The weld joint number was identified as OBE6-005. The welder is identified as 067942. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2213-B-U2-FCM-1. Noticed the parameter recorded by QC complies the WPS.

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 , who represents the Office of Structural Materials for your project.

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