

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-007026**Date Inspected:** 02-Feb-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:** Sun Wei / Sun Bo**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 Components**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

OBG Sub-Assembly Bay 9:

The QA Inspector randomly observed ZPMC welder Yang Tiang Bing ID 066439, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2232TC-U5 (U-Rib)-F, to weld the T=35 millimeter (mm) I-Ribs to Deck Plate 1AW-DP545-002 at Weld Joint (WJ) 015. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Hang Hong Wen ID 200149 and Han Xi Qi ID 202842, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW-2G(2F)-Repair, to perform weld repairs to the welds attaching the T=35 mm I-Ribs to Deck Plate 1AE-DP585-00 at WJ 015. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Dai Xi Cheng ID 066012, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-B-T-2232TC-U5 (U-Rib)-F, to weld the T=35 mm I-Ribs to Deck Plate 1AW-DP555-001 at WJ 013. The QA Inspector randomly observed

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 3 ZPMC magnetic drill operators and 2 helpers drilling bolt holes in U-Rib Connection plates piece mark OBEIC-X38.

The QA Inspector randomly observed 2 ZPMC magnetic drill operators and 2 helpers drilling bolt holes in U-Ribs, prior to forming.

The QA Inspector randomly observed 3 ZPMC helpers utilizing angle grinders to blend the U-Rib to Deck Plate tack welds on to DP140-001.

The QA Inspector randomly observed 1 ZPMC utilizing a hand held torch to remove the run on and run off sections of the U-Ribs and Deck Plate on 6AW-DP165-001.

The QA Inspector randomly observed 1 ZPMC helper utilizing an angle grinder to grind the torch cut areas after the removal of the run on and run off sections of the U-Ribs and Deck Plate on 6AW-DP219-001.

OBG Sub-Assembly Bay 12:

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 millimeter (mm) thick I-Ribs to Deck Plate 1AW-DP545-001 at Complete Joint Penetration (CJP) Weld Joint (WJ) Numbers 011, 013, 015, and 017. 1AW-DP545-001 is placed upside down with heat being applied directly to the welds attaching the I-Ribs to the base plate of 1AW-DP545-001. The QA Inspector randomly observed that jacks (passive) were in place with no restraints and no counter weights. The work was being performed in accordance with ZPMC Heat Straightening Request (HSR) HSR (B)-256 Rev. 0.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 mm thick I-Ribs to Deck Plate 1AW-DP560-001 at CJP WJ's 013, 015, 017, 019 and 021. 1AW-DP560-001 is placed upside down with heat being applied to the underside of the base plate of Deck Plate 1AW-DP560-001. The QA Inspector randomly observed that no jacks (passive), restraints or counter weights were in place. The work was being performed in accordance with ZPMC HSR HSR (B)-249 Rev. 0.

The QA Inspector randomly observed 1 ZPMC helper utilizing an angle grinder to clean out excavations after Carbon Air Arc Gouging (CAAG), to remove rejects previously detected by ZPMC QC Ultrasonic Testing (UT) Examination in the welds attaching the T=35 mm I-Ribs to Deck Plate 1AE-DP610-001-001 at WJ's 012 and 014.

The QA Inspector randomly observed ZPMC welder Lu Liang ID 059373, utilizing the FCAW Process in the 3F (Vertical Fillet) Position with ZPMC WPS WPS-B-T-2233-B-U2a-F, to fit up and tack weld the "U" shaped backing bars to the U-Ribs on Deck Plate 1AW-DP550-001 to allow for the installation of the U-Rib Extensions. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

The QA Inspector randomly observed ZPMC welder Xiao Bian Bin ID 059440, utilizing the FCAW Process in the 3F (Vertical Fillet) Position with ZPMC WPS WPS-B-T-2233-B-U2a-F, to fit up and tack weld the “U” shaped backing bars to the U-Ribs on Deck Plate 1AE-DP615-001 to allow for the installation of the U-Rib Extensions. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 1 ZPMC helper utilizing an angle grinder to clean out excavations after CAAG, to remove rejects previously detected by ZPMC QC UT Examination in the welds attaching the T=35 mm I-Ribs to Deck Plate 1AE-DP595-001-001 WJ’s at 013, 015, 017, 019 and 021.

The QA Inspector randomly observed ZPMC welders Jiang Jing Guang ID 062265 and Song Yin Shu 059421, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW-2G (2F)-Repair-1, to perform weld repairs in excavated areas of WJ 019 and 013 respectively, on Deck Plate 1AE-DP600-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to face the bevels on the U-Rib Extensions for 1AW-DP550-001 and 1AE-DP615-001.

The QA Inspector randomly observed ZPMC welder Lu Liang ID 059373, utilizing the FCAW Process in the 3G/3F (Vertical Groove/Vertical Fillet) Positions with ZPMC WPS WPS-B-T-2233-B-U2a-F, to fit up and tack weld the “U” shaped backing bars to the U-Ribs on Deck Plate 1AE-DP605-001, to allow for the installation of the U-Rib Extensions. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector performed a 100% Visual Inspection and a random 10% Magnetic Testing (MT) Verification of the cover passes on the fillet welds on the U-Rib Extensions for DP545-001, DP545-002, DP615-001, DP560-001, DP550-001, DP565-001 and DP605-001. There appeared to be no indications after pickups and the QA Inspector accepted all welds on the above U-Rib Extensions.

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 Tsang 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
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Reviewed By:	Clifford,William	QA Reviewer
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