DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017432
Date Inspected: 25-Sep-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	Qiu Wen			**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: Tower & OBG Components

Summary of Items Observed:

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

TOWER JETTY

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 006764
Ultrasonic Testing (UT)
This QA inspector performed UT of the area previously tested and accepted by ZPMC Quality Control personnel.
This QA Inspector generated an UT report for this date. The member is identified as Tower Component. The weld designation reviewed as follows:
LIFT-3; 99 M ELEVATION
WSD1 – FASA3 – 2B/E – 24; 25
ESD1 – FASA3 – 2B/E – 24; 25

This QA Inspector observed the following work in progress
Shielded Metal Arc Welding (SMAW):
Repair welding of a weld joint # 28 as per the critical weld repair report T-CWR 694 located on North tower Lift-3, 99 M backfill plate NSD1 – FASA3 – 1B/E. Welder is identified as 040582. ZPMC Quality Control (QC) Inspector is identified Sun Zi Wang. The welding variables recorded by QC appeared to comply with the WPS –

345+485 – SMAW – 2G (2F) – FCM – REPAIR – 2.

BAY#10

This QA Inspector observed the following work in progress
Fluxcored Arc Welding (FCAW):
Weld joint # 134 located on Bike Path BK004A5 – 029. Welder is identified as 052075. ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2231 – B – U2 – F.

ORTHOTROPIC BOX GIRDER (OBG) AT BAY#10
Witness of Ultrasonic Testing (UT)
This QA inspector Witnessed 100% UT performed by ZPMC Quality Control personnel. The member is identified as OBG Component. The component and weld designation identified as follows:
BIKEPATH COMPONENT
BK004A – 032 – 009

BAY#11

This QA Inspector observed the following work in progress
Shielded Metal Arc Welding (SMAW):
Weld joint # 14B located on Lift-5 Bracket ND1 – BRSA5 – 2. Welder is identified as 054460. ZPMC Quality Control (QC) Inspector is identified as Mao Bin Bin. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – Tc – U4b.

Weld joint # 10B located on Lift-5 Bracket ND1 – BRSA5 – 2. Welder is identified as 044541. ZPMC Quality Control (QC) Inspector is identified as Mao Bin Bin. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – Tc – U4b.

ORTHOTROPIC BOX GIRDER (OBG) AT BAY#11
This QA Inspector observed the following work in progress
Shielded Metal Arc Welding (SMAW):
Weld joint # 135 located on Bike Path BK004A5 – 018. Welder is identified as 040655. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2212 – B – U2.

Weld joint # 008 located on Bike Path BK004A1 – 021. Welder is identified as 040723. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2214 – B – U2.

Weld joint # 134 located on Bike Path BK004A5 – 018. Welder is identified as 040655. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2213 – B – U2.

BAY#12

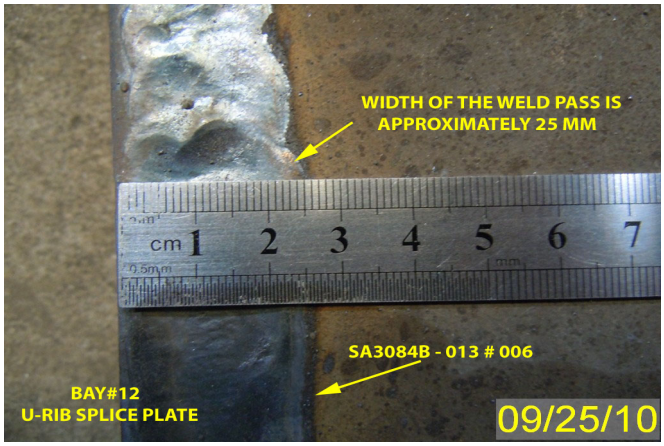
This QA Inspector observed the following work not in compliance:
Description of Incident:
During the Caltrans Quality Assurance (QA) in-process observations of the fabrication of U-Rib Splice Plate, this QA Inspector discovered the following issue:
-ZPMC has performed welding in a manner noncompliant with AWS D1.5 specifications.
-Welding was performed in the 1G (Flat) position using the Flux Cored Arc Welding (FCAW) process.
-AWS D1.5 specifies the maximum single pass width of a groove weld performed in the 1G position using the FCAW process, shall not exceed 16mm.
-This QA measured single pass weld widths from 20mm to 25mm on the following members and welds:
1) SA3084B-022, welds#005; 006.
2) SA3084B-017, welds#005; 006.
3) SA3084B-013, welds#005; 006.
4) SA3084B-008, welds#005; 006.
-The welds are complete joint penetration (CJP) corner joints welded in 1G flat position, using the WPS # WPS-B-T-2231-Tc-U4bF.
-The U-Rib splice plates are located in fabrication Bay#12.

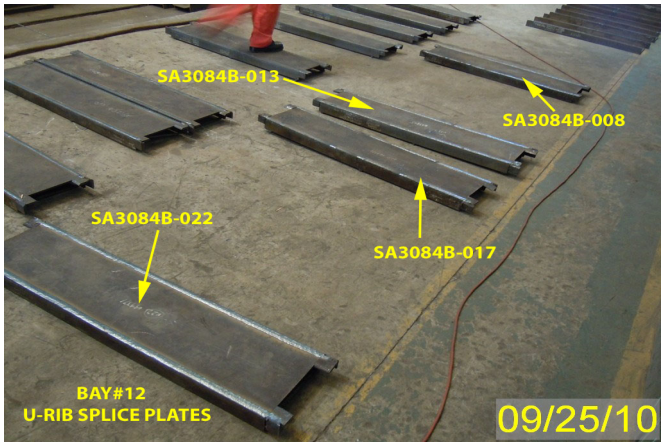
Applicable reference:
AWS D1.5 2002 section 4.14.1.5 “When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used.”

This QA notified ZPMC QC identified as Mr. Zhao Jian Hang and ABF inspector identified as Mr. Peter Furguson of the above issue and that an incident report will be generated.

For further information see below pictures:-

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





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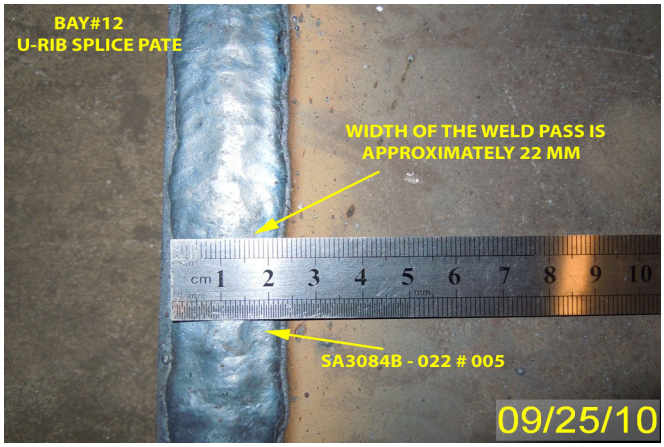

Summary of Conversations:

No Relevant Conversations.

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 Michael Ng - 15921845703, who represents the Office of Structural Materials for your project.

Inspected By:	Kumar,Sandeep	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer