

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 #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018717**Date Inspected:** 15-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** See below**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:** SAS OBG**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

- 1). OBG Field Splice 8E/9E Weld ID: C2, Face A (FCAW-G)
- 2). OBG Field Splice 7E/8E Weld ID: F1, Face B – (SMAW R-1 Repairs)
- 3). OBG Field Splice 8E/9E Weld ID: A3, A4 & A5, Face A – (SMAW Repairs)
- 4). Longitudinal Stiffeners (ALS) Splice at OBG Field Splice 8E/9E (SMAW)
- 5). Longitudinal Stiffeners (ALS) Splice at OBG Field Splice 6E/7E (SMAW R-2 Repair)
- 6). OBG Field Welding of East Line Lifting Rod Access Penetration Inserts (SMAW)
- 7). OBG Field Splice 9E/10E Weld ID: A – (SMAW Backing Bar Splice Welding)

1). OBG Field Splice 8E/9E Weld ID: C2, Face A (FCAW-G)

The QAI periodically observed AB/F approved welder Song Tao Huang (ID 3794) performing welding of root and fill passes at the OBG Field Splice 8E/9E Weld ID: C2 per the Flux Cored Welding (FCAW-G) process in the 3G (vertical) position. The QAI observed QC Inspector Fred Von Hoff was present periodically to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-3042B-1. The welding of the root pass was complete and welding of fill passes was in process at weld C2 (except for the last 1000mm that will be completed manually with SMAW). The QAI observed that the work at this location appeared to be in general compliance with contract documents.

2). OBG Field Splice 7E/8E Weld ID: F1, Face B – (SMAW R-1 Repairs)

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The QAI periodically observed AB/F approved welder Fred Kaddu (ID 2188) performing repair welding of (3) three of (5) five excavated R-1 Ultrasonic Testing (UT) repair areas in the B face (interior) of OBG Field Splice 7E/8E Weld ID: F1. See photo below. The QAI periodically observed welding per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position. The QAI observed QC Inspectors Jesse Cayabyab and Fred Von Hoff were present periodically to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. The QAI observed that fill and cover passes were completed at the three uppermost repair areas and grinding was in process at the remaining two excavation locations. The QAI observed that the work at this location appeared to be in general compliance with contract documents.

The QAI observed that the (3) three uppermost excavated areas in weld F1 had the following dimensions and the following Y locations:

Indication #1) Excavation Y = 40mm, Length = 205mm, Depth = 13mm and Width = 28mm.

Indication #2) Excavation Y = 295mm, Length = 305mm, Depth = 14mm and Width = 30mm.

Indication #3) Excavation Y = 705mm, Length = 195mm, Depth = 12mm and Width = 25mm.

3). OBG Field Splice 8E/9E Weld ID: A3, A4 & A5, Face A – (SMAW Repairs)

The QAI periodically observed AB/F personnel performing grinding to excavate and prepare Ultrasonic Testing (UT) repair locations for welding. The QAI periodically observed QC Inspector Steve McConnell performing Magnetic Particle Testing (MT) of the excavated area prior to repair welding. The QAI randomly observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The QAI periodically observed AB/F approved welder Wai Kitlai (ID 2953) performing repair welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position of OBG Field Splice 8E/9E Welds A3, A4 and A5. QC Inspector Steve McConnell was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. The QAI observed that welder (2953) completed fill and cover pass welding of four areas on this date and work at this location appeared to be in general compliance with contract documents. The QAI observed that the (4) four excavated areas in welds A3, A4 and A5 had the following dimensions and the following Y locations:

A3 (R-2) Repair - Y = 1930mm, Length = 115mm, Depth = 7mm and Width = 15mm.

A4 (R-1) Repair -- Y = 4790mm, Length = 120mm, Depth = 14mm and Width = 20mm.

A5 (R-1) Repair --Y = 2720mm, Length = 180mm, Depth = 14mm and Width = 25mm.

A5 (R-1) Repair --Y = 3250mm, Length = 130mm, Depth = 20mm and Width = 25mm.

4). Longitudinal Stiffeners (ALS) Splice at OBG Field Splice 8E/9E (SMAW)

The QAI periodically observed AB/F approved welder Xiao Jian Wan (ID 9677) at OBG Field Splice 8E/9E ALS-5, performing back grinding of the North face and subsequent back welding of fill and cover passes per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position. QC Inspectors John Pagliero and Fred Von Hoff were present periodically to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1012-3. The welding was completed on the North face of ALS-5 and grinding to prepare the North face of ALS-6 was completed. The QAI periodically observed welder 9677 performing welding of fill and cover passes on ALS-6 per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position. Welding was in process during the QA Inspector's shift and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

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5). Longitudinal Stiffeners (ALS) Splice at OBG Field Splice 6E/7E (SMAW R-2 Repair)

The QAI periodically observed AB/F approved welder Hua Qiang Hwang (ID 2930) performing R-2 repair welding per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position on ALS-1 and ALS-2 at OBG Field Splice 6E/7E. QC Inspector John Pagliero was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1002 Repair. The welding of one each excavation in the North faces ALS-1 and ALS-2 were completed and the QAI observed that the work at this location appeared to be in general compliance with contract documents. The excavated areas were at the following Y locations with the following dimensions: ALS-1 (R-2) Excavation 1 - Y = 10mm, Length = 75mm, Width = 25mm and Depth = 19mm. ALS-2 (R-2) Excavation 1 - Y = 10mm, Length = 70mm, Width = 25mm and Depth = 17mm.

6). OBG Field Welding of East Line Lifting Rod Access Penetration Inserts (SMAW Repairs)

Exterior: OBG 5E PP31 E3 welds 1 & 3

The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing fit-up and welding at OBG 5E PP31 E3 welds 1 & 3 per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. See photo below. QC Inspector Pat Swain was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1070. Welding of weld 1 was completed and welding of weld 3 was in process. The QAI observed that the work at this location appeared to be in general compliance with contract documents.

Exterior: OBG 4E PP25 E3 weld 1 (undercut repair) & weld 2 (R-1 repair) & E4 weld 1 (R-1)

The QAI periodically observed AB/F approved welder Salvador Sandoval (ID 2202) performing repair welding of per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. QC Inspector Pat Swain was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding and flush grinding were completed and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

7). OBG Field Splice 9E/10E Weld ID: A – (SMAW Backing Bar Splice Welding)

The QAI periodically observed AB/F approved welder Rick Clayborn (ID 2773) performing welding of backing bar splice welds for the backing bar at OBG Field Splice 9E/10E. QC Inspector Tony Sherwood was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1030 Rev. 1. Welding was in process during the QA Inspector's shift and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

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Summary of Conversations:

Conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities and locations of welds released to the QAI for verification testing.

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 Nina Choy (510) 385 5910, who represents the Office of Structural Materials for your project.

Inspected By: Madison, Bert

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer