

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012459**Date Inspected:** 04-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Jim Bowers**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:** Orthotropic Box Girders (OBG)**Summary of Items Observed:**

Quality Assurance inspector (QA) Michael Foerder was at the American Bridge/Flour (ABF) job site lay down yard at Pier 7 in Oakland, California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. Lift 2 West Erection Preparation
2. Lift 4 West Erection Preparation

Lift 2 West

The QA inspector periodically observed a four man crew of ABF personnel performing the grinding/buffing and removal of the coating from the OBG bevel edges and weld hold back areas of faces A, B, C and D at PP19 on this date. In addition, ABF personnel are in the process of periodically placing components for scaffolding, welding, lighting, walkways, temporary bolts and other miscellaneous items in preparation of mobilizing the lift to the erection site. The work progressed throughout the shift and appeared to be in general compliance with the contract documents.

Lift 4 West

The QA inspector periodically observed ABF personnel placing shims under the floor beams and placing an angle plate clamped to the top of the "T" stiffeners at each PP adjacent to lines W3 and W4. These shim plates are being added in order to stiffen the area for jacking purposes in the field discussed per Submittal 1459. The QA inspector reviewed several areas and noted the work progressed throughout the shift, was completed on this date and appeared to be in general conformance with the contract documents. In addition, ABF personnel was observed to

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be periodically placing components for scaffolding, welding, lighting, walkways, temporary bolts and other miscellaneous items in preparation of mobilizing the lift to the erection site.

Summary of Conversations:

The QA inspector spoke with QA inspector Rick Bettencourt at approximately 0900 in which Mr. Bettencourt relayed the contractor had discovered a linear indication in the root pass of the deck plate transverse weld of splice number one. The Welding Quality Control Manager Jim Bowers contacted the QA inspector via phone and relayed he had made an attempt to inform the QA lead, METS and Structure Construction of this issue and the QA inspector relayed there was a meeting being conducted at this time. A short while later at approximately 1000 Mr. Bowers spoke with the QA inspector at the field office at Pier 7 and relayed the following information: the indication was identified during the magnetic particle testing of the completed root pass on the North side of Face A initiating at the run off tab, progressing into the weld and then turning up into the bevel face for a total distance of approximately 50mm (see QA inspector Rick Bettencourt's TL-6031 for a more detailed description of the indication). At this time the depth of the indication extending into the face of the bevel is unknown and the QCM stressed the contractor's desire to remove the indication as soon as possible. The QA inspector sent an electronic message via phone to the Structure Materials Representative Patrick Lowry informing him of the issue and the desire of the QCM. At this time the Assistant Structure Representative Jason Wilcox and Tai-Lin Lui joined the discussion. The QCM relayed he would initiate an advanced copy of the proposed weld repair package and present it to METS and Structure Construction upon completion in order to expedite the removal and repair process. The QA inspector informed the QCM he would relay any information or response from METS or Structure Construction as soon as it becomes available.

At 1030 the QA lead inspector Bill Levell informed the QA inspector verbal approval for the exploratory grinding and removal of the indication was granted from Structure Construction Representative Brian Boal and he had relayed this information to the QCM. At 1240 the QA lead inspector informed the QA inspector the QCM was notified that verbal approval for the repair of the indication was granted by Mr. Boal based upon an advanced copy of the repair proposal with formal approval to follow.

Later in the shift at 1500 the QCM spoke with the QA lead inspector and the QA inspector in regards to an issue discovered in the field at the erection site. The issue entailed the removal procedure of temporary attachments welded to the skin of the OBG at field splice number one. During this removal several areas have been noted to depict base metal damage which will require base metal repairs in the damaged areas and there was a question of proper technique in the removal of the attachments. Mr. Bowers relayed he was informed by his QC inspectors and field personnel after the removal of the drift pins from some of these areas "the weld nugget fell off" and the area appeared to be consistent with a fractured surface. At this time QA inspector Rick Bettencourt relayed he had observed some of the removal process performed by field personnel in which the attachment was not ground first but removed by beating on the attachment only. Mr. Bowers relayed he would research this issue and relay his findings to the QA lead inspector. A short while later Mr. Bowers returned and informed the QA lead inspector and the QA inspector he had confirmed Mr. Bettencourt's observations and would be generating an internal non conformance report (NCR-#8) for the improper removal of the temporary attachments and be submitting a base metal repair plan for these locations for the Engineer's approval for repair. The QCM also relayed he would not be performing these repairs until the in process work was completed in order to identify all the areas in one repair submittal package.

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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 Mohammad Fatemi (916)813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Foerder, Mike	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
