

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT**

**Resident Engineer:** Casey, William  
**Address:** 333 Burma Road  
**City:** Oakland, CA 94607

**Report No:** WIR-027052  
**Date Inspected:** 16-Jan-2012

**Project Name:** SAS Superstructure  
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV  
**Contractor:** L & M Industrial Fabricators

**OSM Arrival Time:** 700  
**OSM Departure Time:** 1530  
**Location:** Tangent, Oregon

<b>CWI Name:</b>	Tom Dreyer	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	Tower Head Parapet Wall	

**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Art Peterson arrived at L & M Industrial Fabricators between the times noted above to randomly observe Quality Control (QC) personnel monitor the welding operations performed by L & M personnel on the fabrication of the chimney parapets to the Tower Heads. The following observations for the extra work being performed to the following contract change order were:

CCO: 196 - Description: Construct parapet walls at the Tower Heads

**South Tower Chimney Parapet:**

This QA Inspector randomly observed L & M welder Corey Hoyer (Welder ID #6) performing the root, fill, and cover pass weld operation on a complete-joint-penetration (CJP) groove weld per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3G) vertical position connecting the parapet wall base plate - A4a to A4b plate of the South Tower Head. This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the root pass weld operation that the minimum preheat temperature for 1" thick material of 50 degrees F was established and afterwards verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with WPS-D1.5-FC-B-P3-GF using Hobart Excel Arc E71T-1 (.052") diameter electrode.

The WPS-D1.5-FC-B-P3-GF was submitted as an addendum to their WQCP Submittal 2510, Rev. 2 was submitted to the Engineer for approval but has yet to be approved. This QA Inspector generated an Incident Report on January 12th 2012 for the contractor proceeding with the welding operation without prior approval of the WQCP and/or addendum's.

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# WELDING INSPECTION REPORT

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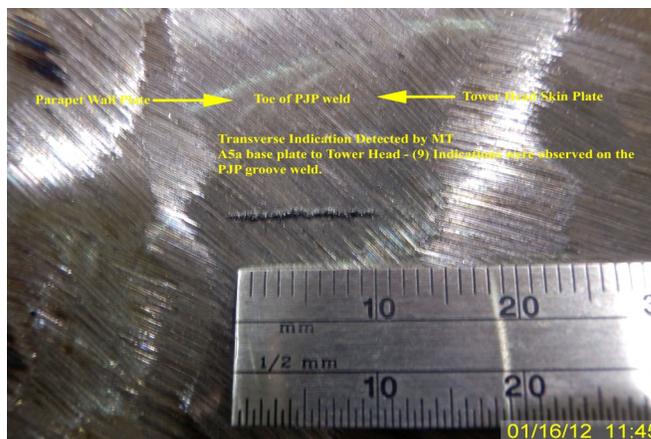
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This QA Inspector randomly observed L & M welder Otis Smith (Welder ID #19) performing the root, fill, and cover pass weld operation on a complete-joint-penetration (CJP) groove weld per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3G) vertical position connecting the parapet wall base plate- A8a to A8b plate of the South Tower Head. This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the root pass weld operation that the minimum preheat temperature for 1" thick material of 50 degrees F was established and afterwards verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with WPS-D1.5-FC-B-P3-GF using Hobart Excel Arc E71T-1 (.052") diameter electrode.

The WPS-D1.5-FC-B-P3-GF was submitted as an addendum to their WQCP Submittal 2510, Rev. 2 was submitted to the Engineer for approval but has yet to be approved. This QA Inspector generated an Incident Report on January 12th 2012 for the contractor proceeding with the welding operation without prior approval of the WQCP and/or addendum's.

## South Tower Chimney Parapet: A5 Wall of Parapet

This QA Inspector observed transverse indications on the partial-joint penetration (PJP) groove weld A5a-base plate to the Tower Head plate. The welding process used was Flux Cored Arc Welding (FCAW) process in the (3G) Vertical position. The PSI QC Inspector Troy Zuercher performed the magnetic particle test (MT) inspection by the yoke method in conformance with ASTM E 709. A total of (9) indications were observed along the length of the PJP groove weld. See Photo of the South Chimney Parapet standing back and the photo of a close up view of one of the transverse indications detected.



## Summary of Conversations:

Only general conversations between the QC Inspector and QA.

## 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.

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Inspected By: Peterson, Art

Quality Assurance Inspector

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**Reviewed By:**      Levell,Bill

QA Reviewer