

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

Location: American Tank & Fabrication, Cleveland, Ohio
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Oregon Iron Works Clackamas, Or.

Report No: NCR-000223
Date: 09-Dec-2008
NCR #: OIW-0010

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Hinge K pipe beam fuses
Procedural	Procedural	Description: Not following approved fabrication plan.	

Reference Description: Preforming of Hinge K pipe beam fuse sections, plate / heats D4076-9A and D5002-4.

Description of Non-Conformance:

The contractor ATFC used a 25000 ton hydraulic press to preform Hinge K pipe beam fuse sections / heats D4076-9A and D5002-4. Their approved fabrication plan states that only the rolling press will be used to pre-bend/pre-form the 100mm thick, ASTM A709 HPS 485W F3 plates.

Applicable reference:

ABF Submittal 583 (American Tank's Fabrication Plan)

Who discovered the problem: Scott Croff, QA Inspector

Name of individual from Contractor notified: Jerry Danko, ATFC QC Representative

Time and method of notification: 12-09-2008, 1230 hours, verbal notification

Name of Caltrans Engineer notified: Mark Woods, Caltrans Structures Representative

Time and method of notification: 12-11-2008, 1300 hours, verbal notification

QC Inspector's Name: Jerry Danko

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Unknown

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, (707) 649-5483, who represents the Office of Structural Materials for your project.

Inspected By: Croff, Scott QA Inspector

Reviewed By: Fatemi, Mohammad SMR

NCR PROPOSED RESOLUTION

To: CALTRANS - SAS Superstructure
333 Burma Road
Oakland CA 94607

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000191

Subject: NCR No. OIW-0010

Dated: 19-Feb-2009

Contract No.: 04-0120F4
04-SF-80-13.2 / 13.9

Job Name: SAS Superstructure

Document No.: ABF-NPR-000200 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: OIW has submitted a revised fabrication procedure to allow for the use of a press at by AT&F before rolling.
OIW has submitted a revised fabrication procedure to allow for the use of a press at by AT&F before rolling. See page 4 of attachment.

Submitted by: Kanapicki, Charles
Attachment(s): ABF-NPR-000200R00;

Caltrans' comments:

Status: CLO

Date: 27-Mar-2009

The NCR is resolved.

Submitted by: Collins, Warren
Attachment(s):

Date: 01-Apr-2009



OREGON IRON WORKS, INC.

9700 S.E. LAWNFIELD ROAD • CLACKAMAS, OREGON 97015
TELEPHONE (503) 653-8300 • FAX (503) 653-8870

transmittal

TO: **AMERICAN BRIDGE/FLUOR, J.V.**
375 Burma Rd
Oakland, CA 94607

TRANSMITTAL NO.: TL -2244-00343

DATE: 2/6/2009

VIA: FedEx

ATTN: Bob Kick

PROJECT NAME: **HINGE K PIPE BEAMS**
2244

ATTACHED ARE: Response to Caltrans Serial Letter 003002

BLUE PRINT	STATUS	DESCRIPTION	REMARKS
1	FAPP	<p>SUBMITTED FOR YOUR REVIEW AND COMMENT:</p> <p>SL-2244-00049 - Response to Caltrans Serial Letter 003002 AT&F Forming Procedure FP1142-10 Rev. 3 OIW Fabrication Procedure 2244-FP-3, FP-4</p> <p style="text-align: center;">RECEIVED FEB 09 2009 AMERICAN BRIDGE/FLUOR</p>	

[] Please return one print with your approval or comments noted thereon.

Please acknowledge receipt by signing and returning one (1) copy of this transmittal.

By: _____ Date: _____

OREGON IRON WORKS, INC

Bill Pender
for: **Bill Pender / Project Manager**



OREGON IRON WORKS, INC.

9700 S.E. LAWNFIELD ROAD • CLACKAMAS, OREGON 97015
TELEPHONE (503) 653-6300 • FAX (503) 653-5870

February 6, 2009

AMERICAN BRIDGE/FLUOR, J.V.
375 Burma Rd
Oakland, CA 94607

Reply to: SL-2244-00049

Attention: Bob Kick

Reference: HINGE K PIPE BEAMS
Contract No. CALTRANS CONTRACT NO. 04-0120F4

Subject: Response to Caltrans Serial Letter 05.03.01-003002
Submittal 742, Rev 1 – Surface indications and outstanding NCR 10

Dear Mr. Kick:

Oregon Iron Works, Quality Control Department has reviewed and addressed all “Category A” and General comments listed in the above referenced State letter. Each item is directly copied from the State letter 05.03.01-0003002 and accompanied by State comments “in italics.” This format is followed by the resultant action taken by Oregon Iron Works Inc to address and or resolve each item.

CATEGORY A:

1. *“The revised plan will be re-formatted and presented as a stand-alone document. ---“*

- OIW response--- Caltrans has returned Fabrication Procedures drawings 2244-FP-3 thru 5 as superseded. OIW has revised drawings 2244-FP-3 and FP-4 to incorporate Caltrans comments 1 thru 4, drawing 2244-FP-5 requires no revision as the comments have no bearing on the scope of work covered under this drawing.

2. *“The revised plan will state that Oregon Iron Works will perform the final MT on 100% of the interior and exterior surfaces of the fuses upon completion of welding and rough machining, ”*

- OIW response--- For the interior surface Fabrication Procedure drawing 2244-FP-4, Phase 3, paragraph D has been revised to state the following.” Final interior surface examination by MT encompassing 100% of the interior surface shall be performed by OIW personnel with all relevant indications mapped and noted. A report shall be submitted to Caltrans Engineer for approval or direction for

performing surface repairs. Final acceptance of long seam weld NDE and surface condition by Caltrans is required before proceeding to step E. In the event that no relevant indications are mapped and noted OIW will proceed with step E concurrent to submittal of examination reports to Caltrans.”

- OIW response --- For the exterior surface Fabrication Procedure drawing 2244-FP-4, Phase 5, paragraph A has been revised to state the following. “Final MT examination of 100% of the exterior surface shall be performed by OIW QC with all relevant indications mapped and noted. The report of examination will be submitted to the Caltrans Engineer for approval or direction to perform surface weld repairs. Final acceptance by Caltrans of surface condition is required prior to performing overlay.”

3. *“The revised plan will state that NDT performed at American Tank and Fabrication -- is being performed for information only ---.”*

- OIW response--- Fabrication Procedure drawing 2244-FP-3, Phase 2, paragraph D has been revised to state the following. “Oregon Iron Works Quality Control personnel or their designated representative will then examine the entire surface of the Pipe Beam Tubular interior and exterior for any possible defects which may have developed during the rolling process. This examination is for information only. In the event that any relevant indications are observed during the examination the appropriate QC documentation shall be generated and submitted to Caltrans for resolution.”

4. *“The revised plan will state that indications revealed through MT will be mapped with the length and direction also shown and submitted for evaluation. The Department will notify the Contractor of the locations where any repairs are required upon completion of the evaluation.”*

- OIW response--- For the interior surface Fabrication Procedure drawing 2244-FP-4, Phase 3, paragraph D has been revised to state the following.” Final interior surface examination by MT encompassing 100% of the interior surface shall be performed by OIW personnel with all relevant indications mapped and noted. A report shall be submitted to Caltrans Engineer for approval or direction for performing surface repairs. Final acceptance of long seam weld NDE and surface condition by Caltrans is required before proceeding to step E. In the event that no relevant indications are mapped and noted OIW will proceed with step E concurrent to submittal of examination reports to Caltrans.”
- OIW response --- For the exterior surface Fabrication Procedure drawing 2244-FP-4, Phase 5, paragraph A has been revised to state the following. “T Final MT examination of 100% of the exterior surface shall be performed by OIW QC with all relevant indications mapped and noted. The report of examination will be submitted to the Caltrans Engineer for approval or direction to perform surface

weld repairs. Final acceptance by Caltrans of surface condition is required prior to performing overlay.”

NCR #OIW-0010 resolution:

In addition to addressing the afore mentioned comments the drawing 2244-FP-3, Phase 2, paragraph B has been revised to incorporate comments relating to NCR 10 regarding American Tank and Fabrications use of their 2500 ton press break for performing pre-bend both ends of final six roll formed cylinder plates. The revision states “ --- to allow American Tank to pre-bend both ends to the 960 mm radius in either their 2500 Ton Press Break or their Pyramid forming rolls. ---“

Please contact the undersigned should you have any questions or concerns regarding the information contained within this document.

Respectfully,

OREGON IRON WORKS, INC.



Bill Pender
Project Manager

Attachments:

Fabrication Procedure drawings 2244-FP-3 Rev. 4 and 2244-FP-4 Rev. 3
American Tank and Fabrication Forming Procedure FP1142-10 Rev 3

**FABRICATION PROCEDURE
HINGE K PIPE BEAM FUSE
CONTRACT #04-0120FA**

1. PURPOSE

The purpose of the Fabrication Procedure is to provide a detailed guideline for the means and methods of the fabrication and inspection of the Hinge K Pipe Beam Fuse for all parties, including the Owners Quality Assurance team, the General Contractor and the Fabricator. This careful planning and consideration will ensure adherence to the applicable codes and contract requirements and result in meeting consistent part and subassembly quality control requirements tolerances and dimensions. In order to assure the accurate and code compliant fabrication of the Hinge K Pipe Beam Fuse, the following will be implemented and will be the basis of our fabrication procedure. If a change to the sequencing or procedures for these fabrication operations should become necessary, the changes are to be identified in the procedure and re-submitted to the Engineer for approval.

1. Accurate Fixturing
2. Automated Control Equipment
 - a. Pandfirts Welding Machine
 - b. Hand held submerged arc welding equipment
 - c. Flux Core welding equipment
 - d. Automated Bugo Weaver welding equipment
 - e. Heavy duty material handling equipment
 - f. Heavy duty material rotating equipment
 - g. Fixturing designed to withstand heavy material loads
 - h. Fixturing designed to maintain fabrication tolerances and tight weld joints
 - i. Sophisticated measuring equipment to assure precise/accurate as-built dimensions
 - j. All welding to be per AWS D1.5-2002 as modified by, and in accordance with, the Contract Special Provisions
 - k. Adherence to the Distortion Control Plan
 - l. Adherence to the Project Quality Control Plan.
3. Quality Control inspections and testing will be performed during fabrication in accordance with approved Quality Control Plan, meeting the requirements of the Special Provisions of this contract. In addition to the above referenced inspections the following specific NDE Weld Requirements are required. It is specifically noted that all weld joints have been reviewed to confirm that adequate accessibility exists for in-process and final inspections as required by contract documents.

Reference Drawing 2244-120 through 2244-125 for steps a. through e.

 - a. After each half section a124 of Fuse is roll formed and tacked. (Reference Drawing 2244-124)
 - b. After each Fuse a124 long seam weld is completed. (Reference Drawing 2244-124)
 - c. After each stiffener ring a125, b125 is fit and welded into half fuse a124. (Reference Drawing 2244-123)
 - d. After each Fuse 120A circumferential weld is completed. (Reference Drawing 2244-123)
 - e. After final machining of Fuse stainless steel overlay 120A completed. (Reference Drawing 2244-120)
 - f. After finished Pipe Beam Fuse 120A is welded to Base Weldment 102A. (Reference Drawing 2244-101 sheet 1 and 2)
4. Material receiving and sequencing, excluding roll forming will all be performed at OIW's Clackamas OR facility. Pre-fabrication, burning, and drilling will be performed in both the Clackamas and Vancouver facilities. All fitting, welding, machining (milling, turning) and NDE will be performed in the Clackamas OR facility.

(HINGE K PIPE BEAM BASE FABRICATION PROCEDURE IS PRESENTED ON DRAWINGS 2244-FP-1 AND -2)

Phase 1 Material Procurement

A) Sixteen plates (piece mark a124), ordered from Mittal Steel in Coatsville PA will be used for manufacturing eight each Hinge K Pipe Beam Fuse (two plates per fuse). Each plate is 1060mm x 1880 mm x 6629 mm ASTM A709 Grade HPS-485W with all supplementary requirements as specified on page 304 of Conformed Special Provisions. (Reference Drawing 2244-124)

Phase 2 Roll Forming

- 1.) Plate is shipped directly from Mittal Steel to American Tank facility located in Cleveland OH for roll forming into Pipe Beam Fuse. (Reference: OTW drawing 2244-124 and American Tank forming procedure FPP1142-10 Rev 2)
- B.) Plate has been ordered with 450 mm of extra material length at each end to allow American Tank to pre-bend both ends to the 960mm radius in either their 2500 Ton Press Break or their Pyramid forming rolls. After pre-bending they will trim off the remaining flat portion. This step accomplishes two objectives;
 - 1.) By Eliminating the possibility of a flat or unformed portion at tubular weld seam.
 - 2.) The un-formed trimmed portion removed from the pre-formed ends will be used to meet the check testing sample requirement referenced on page 305 of Conformed Special Provisions.
- C.) After trimming plate to proper length for rolling, American Tank will bevel both ends to meet WPS bevel profile. American Tank will then finish roll-forming to an outside diameter of 1920 mm +/- 8 mm. American Tank estimates this process will take eight passes through the pyramid rolls. Once the desired roundness tolerance is achieved, American Tank will tack weld exterior of long seam weld joint with approved WPS.
- D.) Oregon Iron Works Quality Control personnel or their designated representative will then examine the entire surface of Pipe Beam Tubular interior and exterior for any possible defects which may have developed during the roll forming process. This examination is for information only. In the event that any relevant indications are observed during this examination the appropriate QC documentation shall be generated and submitted to Caltrans for resolution.
- E.) After acceptance of rolled and tacked condition by Oregon Iron Works Quality Control personnel, Pipe Beam Tubular will be shipped to our Oregon Iron Works Clackamas, Oregon facility to complete Hinge K Pipe Beam Fuse fabrication process.

**HINGE K PIPE BEAM FUSE
FABRICATION PROCEDURE IS
CONTINUED ON DRAWING
2244-FP-4**

Shop Drawings have been reviewed by undersigned only for compliance with contract documents. No review for design adequacy has been performed by undersigned.

Patrick E. Leonard
California CE #31892
Expire 12-31-10

[Signature] 2.5.09
Date

REV.	ISSUED FOR APPROVAL	DATE	BY
4	ISSUED FOR APPROVAL Rev Phase 2 paragraph B and D	7/22/09	R.P.
3	ISSUED FOR APPROVAL Rev Paragraph C	7/28/09	R.P.
2	ISSUED FOR APPROVAL	4/18/08	R.P.
1	ISSUED FOR APPROVAL	2/7/08	R.P.

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OREGON IRON WORKS, INC.

BRAND: R.P.
CHECKED: 7/16/07
DATE: 7/16/07
VIA: M.E.
REVISIONS BY: M.E.

SAN FRANCISCO OAKLAND BAY BRIDGE
HINGE K PIPE BEAM FUSE
FABRICATION PROCEDURE

CONTRACTOR: AMERICAN BRIDGE / FLUOR
DATE: 8/6500R-SK-002
DIV PROJECT: 8224

TITLE: HINGE K PIPE FABRICATION PROCEDURE
DRAWING NUMBER: 2244-FP-3

CA TRANS CONTRACT #04-0120FA

FABRICATION PROCEDURE
HINGE K PIPE BEAM FUSE
CONTRACT #04-0120FA

Phase 3 Welding of Fuse

- A) As Pipe Beam Fuse half sections a124 arrive in Clackamas Oregon facility, inspection will be performed by receiving and quality control personnel to verify no damage has occurred during transportation. If any damage due to transportation has occurred appropriate QC documentation and NCR as necessary shall be generated and submitted for resolution.
- B) Pipe Beam Fuse half sections a124 will be moved to designated weld station, placed on tank turning rolls with butt joint facing downward. The interior long seam weld joint surface will be cleaned by grinding to clean parent metal. QC inspector shall verify both cleanliness and proper profile of long seam weld joint. After QC acceptance of weld joint, preheating will be performed as specified by approved weld procedure and documented by in house QC inspector prior to commencement of welding. Two to three weld passes will be made at interior weld joint using submerged arc welding process before proceeding to next step in fabrication plan. QC in house inspector shall verify proper preheat temperature specified in WPS is maintained throughout weld process. (Reference OIW drawing 2244-124)
- C) Pipe Beam Fuse half sections a124 will be rotated on tank turning rolls 180 degrees and American Tank tack welds in exterior of long seam weld joint removed using carbon arc process followed by grinding to clean parent metal. QC inspector will verify both cleanliness and proper profile of weld joint before shop proceeds with preheating process. Welding using submerged arc will proceed with roundness of Pipe Beam Fuse monitored after each weld pass. As needed during this welding process, Pipe Beam Fuse may be rotated in tank rolls 180 degrees to permit welding either the interior or exterior of long seam weld joint in order to maintain roundness. At each rotation, QC inspector shall verify proper preheat temperature, as specified in WPS, is maintained throughout welding process.
- D) Completed long seam weld of Pipe Beam Fuse half sections a124 shall be examined 100% by VT, UT and MT in accordance with AWS D1.5 and the Contract Special Provisions. Final interior surface examination by MT accompanying 100% of the interior surface shall be performed by OIW personnel with all relevant indications mapped and noted. A report shall be submitted to Caltrans Engineer for approval or direction for performing surface repairs. Final acceptance of long seam weld NDE and interior surface condition by Caltrans is required before proceeding to step E. In the event no relevant indication are mapped and noted OIW will proceed with step E concurrent to submittal of report to Caltrans.
- E) Interior ring stiffeners a125 and b125 will be installed and welded in each Pipe Beam Fuse half section as shown in drawing 2244-123 producing one each right hand and one each left hand. All stiffener rings will be fit into their respective half sections, preheating and welding will progress from the inner most (right hand ring) and progress outward. All FPP welds shall be examined 100% VT and MT before proceeding to next step in fabrication procedure.
- F) Two each Pipe Beam Fuse half sections a124 (RH and LH) will be fitted together with long seams rotated to 180 degrees opposite from each other to make one Pipe Beam Fuse 120A. QC inspector shall examine and accept weld joint fit up and verify preheat temperature has been achieved before any welding may commence. Interior circumferential weld joint will be filled to flush using submerged arc process. This will be followed by back gouging of exterior circumferential weld joint and grinding to clean metal. QC inspector shall verify cleanliness, proper profile of exterior circumferential weld joint and proper preheat before welding of exterior circumferential weld joint may commence. The exterior circumferential weld will then be filled to flush using submerged arc welding process. QC in house inspector shall verify proper preheat temperature specified in WPS is maintained throughout weld process.

Phase 4 Rough Machining of Fuse

- A) Pipe Beam Fuse 120A will be sent to machine department for rough machining of the exterior surface in horizontal blade to a diameter of 1900mm +/- 3 mm in preparation for stainless steel overlay process. (Reference: OIW drawing 2244-122)

Phase 5 Weld Overlay of Fuse

- A) Final MT examination of 100% of the exterior surface shall be performed by OIW QC with all relevant indications mapped and noted. The report of examination will be submitted to the Caltrans Engineer for approval or direction to perform surface weld repairs. Final acceptance by Caltrans of surface condition is required prior to performing overlay.
- B) Rough machined Pipe Beam Fuse 120A is moved to overlay welding station for stainless steel overlay process. This station consists of one weld positioner and one weld manipulator. (Reference: OIW drawing 2244-204)
- C) Preparation for stainless steel overlay process will be performed by first stitch welding one end of Pipe Beam Fuse 120A to the weld positioner face plate and supporting the other end on idler tank rolls. Next will be sequencing rotation of weld positioner with progression of weld manipulator as the manipulator travels down tracks away from weld positioner to achieve a progression of 60 mm per each 360 degree rotation of Pipe Beam Fuse. Control settings on both weld positioner and weld manipulator will be noted and monitored to maintain 60 mm progression throughout overlay welding process.
- D) Base layer of stainless steel weld overlay will be performed using 309L ESW process and will begin at approximately 200 mm from end of Pipe Beam Fuse 120A closest to Weld positioner face. The overlay will be 60 mm wide by approximately 5mm thick as it wraps around Pipe Beam Fuse 120A and will continue in this pattern for the length of Pipe Beam Fuse 120A. (Reference Drawing 2244-121)
- E) Second and third layers of stainless steel overlay will be performed using 316L ESW process and will, as before, begin at approximately 200 mm from end of Pipe Beam Tubular. Each overlay pass will be 60 mm wide by approximately 5mm thick as it wraps around Pipe Beam Tubular and will continue in this pattern for the length of Pipe Beam Tubular. All weld stops and starts will be ground flush before applying third and final overlay. Final overlay starts and stops shall be ground flush before re-arranging Pipe Beam Tubular to machine department for final machining of stainless steel overlay surface.

HINGE K PIPE BEAM FUSE
FABRICATION PROCEDURE IS
CONTINUED ON DRAWING
2244-FP-5

Shop Drawings have been prepared by undersigned only for compliance with contract documents. No review for design adequacy has been performed by undersigned.
 Patrick F. Leonard
 California CE #31892
 Expires 12-31-10
 2.5.04
 1886

HINGE K PIPE BEAM BASE FABRICATION PROCEDURE IS PRESENTED ON DRAWINGS 2244-FP-1 AND -2)

NO.	DESCRIPTION	DATE	BY
3	Revised Phase 3 part E and Phase 5 part A	1/22/09	RJP
2	ISSUED FOR APPROVAL, Rev Phase 3 part E	7/8/08	RJP
1	ISSUED FOR APPROVAL	4/8/08	RJP
0	ISSUED FOR APPROVAL	7/20/07	RJP
REV.	CHANGE DESCRIPTION		

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OREGON IRON WORKS, INC.
 1886
 2.5.04

DESIGNED BY: [Signature] DATE: 7/2/08
 CHECKED BY: [Signature] DATE: 7/2/08
 SAN FRANCISCO OAKLAND BAY BRIDGE
 HINGE K PIPE BEAM FUSE
 FABRICATION PROCEDURE
 CONTRACTOR: AMERICAN BRIDGE / FLUOR
 TITLE: HINGE K FUSE FABRICATION PROCEDURE
 DRAWING NUMBER: 2244-FP-4
 DIV: PROJECT #2244

AT&F Forming Procedure FP1142-10 Rev. 3

Scope: Forming of 100mm cylinders for Oregon Iron Works

- 1.0 Plate Prep
 - 1.1 Break sharp corners on tension surface of plate by grinding to 1/8" minimum radius.
 - 1.2 Remove any detrimental notches in all plate surfaces by blend grinding. Note: All areas requiring grinding on top or bottom surface of plate shall be inspected to verify that area meets the minimum plate thickness requirement.
- 2.0 Crimping
 - 2.1 <Rev. 3> Crimp (Pre-Bend) ends of cylinder cold (ambient temperature...50 degrees F minimum) in the pyramid rolls or the 2500 ton press brake to radius suitable for rolling (roll bending).
 - 2.2 Reverse bending greater than 0.2% extreme fiber elongation (4" on diameter or 2" on radius) is not permitted.
 - 2.3 Visual inspect all formed plate surfaces for cracks after crimping. No cracks are permitted.
- 3.0 Rolling
 - 3.1 Roll (Roll Bend) cylinder cold (ambient temperature...50 degrees F minimum) closed adequately for long seam fitting.
 - 3.2 Reverse bending greater than 0.2% extreme fiber elongation (4" on diameter or 2" on radius) is not permitted.
 - 3.3 Visual inspect all formed plate surfaces for cracks after rolling. No cracks are permitted.
- 4.0 Sizing/ReRoll
 - 4.1 Reverse bending during Sizing/ReRoll (forming for corrective purposes) greater than 0.2% extreme fiber elongation (4" on diameter or 2" on radius) is not permitted.
 - 4.2 Sizing/ReRoll may be performed in rolls or sizing press.
 - 4.3 Sizing/ReRoll may be performed prior to tack welding, after tack welding, and/or after welding.
 - 4.4 Visual inspect all formed plate surfaces for cracks after rolling. No cracks are permitted.
- 5.0 MT TESTING
 - 5.1 MT of each rolled shape per fabrication procedure will be performed by Oregon Iron Works Quality Control.

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION**

Location: American Tank & Fabrication, Cleveland, Ohio
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Oregon Iron Works Clackamas, Or.

Report No: NCS-000195
Date:
NCR #: OIW-0010

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component:
Procedural	Procedural	Description:	

Date the Non-Conformance Report was written: 09-Dec-2008**Description of Non-Conformance:**

The contractor ATFC used a 25000 ton hydraulic press to preform Hinge K pipe beam fuse sections / heats D4076-9A and D5002-4. Their approved fabrication plan states that only the rolling press will be used to pre-bend/pre-form the 100mm thick, ASTM A709 HPS 485W F3 plates.

Contractor's proposal to correct the problem:

To modify their fabrication procedure to include use of hydraulic press.

Corrective action taken:

OIW submitted revised fabrication procedure ABF-SUB-583 R004 to include use of hydraulic press to preform pipe beam fuse sections. The submittal has been approved.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:** Please see ABF-SUB-583 R004 approval. **Date:****Is Engineer's approval attached?** Yes No**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 at 916-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Fatemi, Mohammad	Quality Assurance Inspector
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Reviewed By:	Fatemi, Mohammad	QA Reviewer
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