

**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 #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, China**Report No:** NCR-000926**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-Nov-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0888**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> Lift 14E Hinge A, SEG3019K-125,126
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Reference Description:** Excessive Root Openings on Lift 14E Hinge A Bulkhead Stiffeners Discovered by QA**Description of Non-Conformance:**

During Quality Assurance Visual Testing and Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) 14 East Hinge A Bulkhead on SEG3019K, this Quality Assurance Inspector (QA) discovered the following issues:

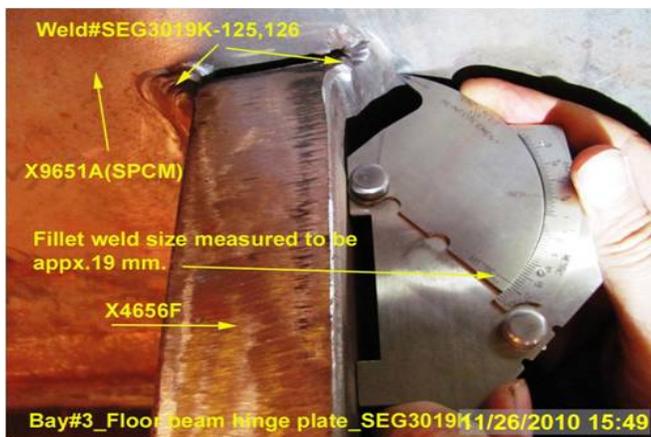
- ZPMC welded two joints with an excessive root opening.
- The root opening measured approximately 6 mm.
- The root opening exceeds the maximum tolerance specified in Caltrans approved Welding Procedure Specification WPS-B-T-2132-3 and AWS D1.5/2002 Section 3.3.1.
- The welds are identified as: SEG3019K-125,126.
- The floor beam web plate is Seismic Performance Critical Material (SPCM).
- The welds are Fillet welds joining to web plate identified as (X9651A-SPCM) to stiffener plate (X4656F).
- The fillet weld size is approximately 19 mm
- The required fillet weld size is 15 mm.
- The web plate material thickness is 25 mm and stiffener plate is 45 mm.
- The hinge plate is located in Sub assembly Bay#3.

The Notice of Witness Inspection Number (NWIT) is 07507. These welds are visually tested and accepted by ZPMC Quality Control (QC) personnel.

For further information, please see the attached pictures below.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



## Applicable reference:

AWS D1.5/2002 Section 3.3.1- "The parts to be joined by fillet welds shall be brought into as close contact as practicable. The root opening shall not exceed 5 mm [3/16 in.]..."

Contract Approved Welding Procedure Specification: WPS-B-T-2132-3 specifies the root opening to be 0~2 mm.

**Who discovered the problem:** Surendra Prabhu

**Name of individual from Contractor notified:** Mr. Chen Ji Wei

**Time and method of notification:** 16:00 hours, 11-26-2010, Verbal

**Name of Caltrans Engineer notified:** Stanley Ku

**Time and method of notification:** 11:00\_11/29/10\_Email

**QC Inspector's Name:** Mr. Wang li yang, Mr.Zhang yaxu, Mr.Zhan Hai Feng

**Was QC Inspector aware of the problem:** Yes No

**Contractor's proposal to correct the problem:**

NA

## 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 Mazen Wahbeh,(818) 292-0659, who represents the Office of Structural Materials for your project.

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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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<b>Inspected By:</b>	Devey,Jim	SMR
<b>Reviewed By:</b>	Wahbeh,Mazen	SMR

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# NCT

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**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Contract Files, Ching Chao, Bill Casey

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Siegenthaler, Peter  
Resident Engineer

**Ref:** 05.03.06-000883

**Subject:** NCR No. ZPMC-0888

**Dated:** 17-Dec-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000881 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC has changed the fillet weld into a single CJP with new weld ID, SEG3019K-127 with the Engineer's approval. ZPMC has changed the fillet weld into a single CJP with new weld ID, SEG3019K-127 with the Engineer's approval. Attached is NDT documentation of the weld showing it is acceptable, based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000881R00;

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**Caltrans' comments:**

**Status:** CLO

**Date:** 20-Dec-2010

The proposed resolution is acceptable. This NCR is considered closed.

**Submitted by:** Woo, Laraine

**Attachment(s):**

**Date:** 20-Dec-2010



No. B-943

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-12-16**

**REGARDING: NCR-000926(ZPMC-0888)**

The fillet welds has been changed into CJP as per engineer's approval. ZPMC is providing the NDT records to show the acceptance of this weld. Based on this, ZPMC is requesting closure of this NCR.

**ATTACHMENT:**

NCR-000926(ZPMC-0888)

B787-MT-34138

B787-UT-17737

*Long 22*  
*12/16/2010*



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
333 Burma Road  
Oakland CA 94607  
Tel: Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

**To:** AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607

**Date:** 30-Nov-2010

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

**Dear:** Mr. Charles Kanapicki  
**Job Name:** SAS Superstructure

**Attention:** Mr. Thomas Nilsson Project/Fabrication Manager  
**Document No:** 05.03.06-000883

**Subject:** NCR No. ZPMC-0888

**Reference Description:** Excessive Root Openings on Lift 14E Hinge A Bulkhead Stiffeners Discovered by QA

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved.

**Material Location:** OBG

**Lift:** 14

### Remarks:

During Quality Assurance Visual Testing and Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) 14 East Hinge A Bulkhead on SEG3019K, Caltrans Quality Assurance Inspector (QA) discovered the following issues:

- ZPMC welded two joints with an excessive root opening.
- The root opening measured approximately 6 mm.
- The root opening exceeds the maximum tolerance specified in Caltrans approved Welding Procedure Specification WPS-B-T-2132-3 and AWS D1.5/2002 Section 3.3.1.
- The welds are identified as: SEG3019K-125,126.
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- The fillet weld size is approximately 19 mm
- The required fillet weld size is 15 mm.
- The web plate material thickness is 25 mm and stiffener plate is 45 mm.
- The hinge plate is located in Sub assembly Bay#3.

The Notice of Witness Inspection Number (NWIT) is 07507. These welds are visually tested and accepted by ZPMC Quality Control (QC) personnel.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

**Transmitted by:** Laraine Woo Transportation Engineer  
**Attachments:** ZPMC-0888

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**NCT**

*( Continued Page 2 of 2 )*

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**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Contract Files, Ching Chao, Bill Casey  
**File:** 05.03.06

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Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, China**Report No:** NCR-000926**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-Nov-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0888**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural  **Bridge No:** 34-0006Joint fit-up  Coating  Other  **Component:** Lift 14E Hinge A, SEG3019K-125,126Procedural  Procedural  **Description:****Reference Description:** Excessive Root Openings on Lift 14E Hinge A Bulkhead Stiffeners Discovered by QA**Description of Non-Conformance:**

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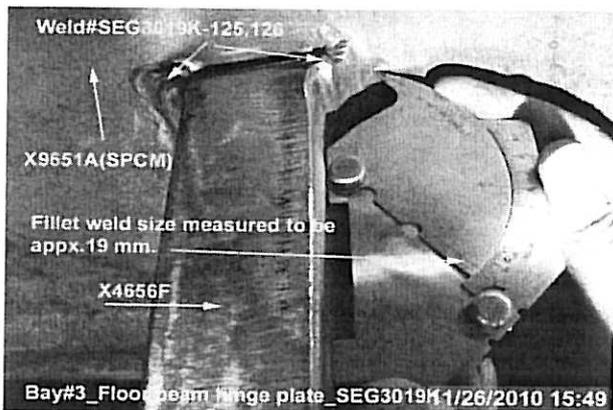
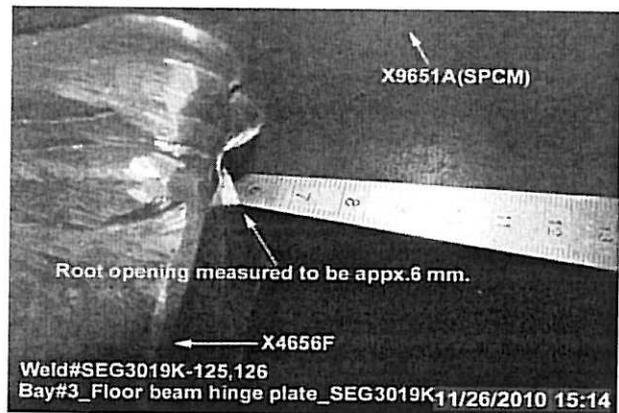
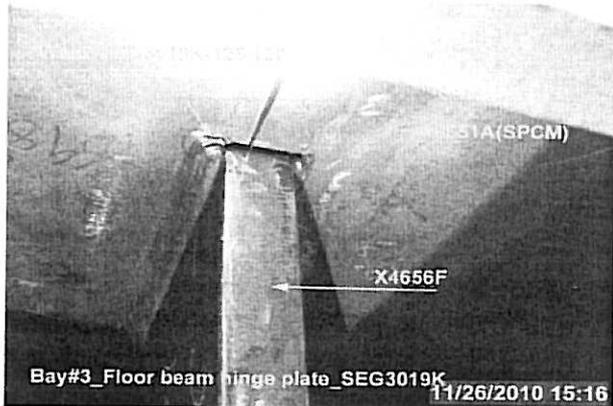
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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



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Contract Approved Welding Procedure Specification: WPS-B-T-2132-3 specifies the root opening to be 0~2 mm.

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**Name of individual from Contractor notified:** Mr. Chen Ji Wei

**Time and method of notification:** 16:00 hours, 11-26-2010, Verbal

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**Time and method of notification:** 11:00\_11/29/10\_Email

**QC Inspector's Name:** Mr. Wang li yang, Mr.Zhang yaxu, Mr.Zhan Hai Feng

**Was QC Inspector aware of the problem:**  Yes  No

**Contractor's proposal to correct the problem:**

NA

### Comments:

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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<b>Inspected By:</b>	Devey, Jim	SMR
<b>Reviewed By:</b>	Wahbeh, Mazen	SMR

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# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-17737      DATE 2010.12.08      PAGE 1 OF 1      Revision No: 0

PROJECT NO.: 工程编号 ZP06-787      CONTRACTOR: CALTRANS

ITEMS NAME: THE 14 FLOOR BEAM      DRAWING NO.: SEG3019      CALTRANS CONTRACT NO.: 04-0120F4  
 部件名称      图号      加州工程编号

REFERENCING CODE 参考规范      ACCEPTANCE STANDARD 接受标准      PROCEDURE NO. 程序编号  
 AWS D1.5-2002      AWS D1.5-2002(Table 6.3)      ZPQC-UT-01

WELDING PROCESS 焊接方法      JOINT TYPE 焊缝类型      CALIBRATION DUE DATE 仪器校正有效期  
 SMAW      T JOINT      Dec. 28<sup>ST</sup>, 2010

EQUIPMENT 设备      MANUFACTURER 制造商      MODEL NO. 样式编号      SERIAL NO. 序列编号  
 UT SCOPE      PANAMETRICS      EPOCH 4B      071566411

CALIBRATION BLOCK 试块      COUPLANT 耦合剂      MATERIAL/THICKNESS 材料厚度  
 AWS IIV BLOCK TYPE II      C.M.C      A709M-345F2/T2-X 45/25mm

### TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
AMERICA	70°	2.25MHz	0.75×0.625 in				
Reference Level 参考灵敏度						20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5      0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)						
					a	b	c	d	Length 长度	Sound Path 声程	Depth from Surface 距表面深度	From'X 距X	From'Y 距Y		
SEG3019K-127		70				50								ACC.	100%

AFTER B-CWR2279 REV0

BLANK


EXAMINED BY 主探 <i>Lin Jian</i> LEVEL - II SIGN / DATE      2010.12.08	REVIEWED BY 审核 <i>Xu Rongqiang</i> LEVEL - II SIGN / DATE      2010.12.08
质量经理 / QCM <i>[Signature]</i> 签字 SIGN / 日期 DATE      2010.12.08	用户 CUSTOMER _____ 签字 SIGN / 日期 DATE

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, China**Report No:** NCS-000843**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 17-Dec-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0888**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	

**Date the Non-Conformance Report was written:** 26-Nov-2010**Description of Non-Conformance:**

During Quality Assurance Visual Testing and Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) 14 East Hinge A Bulkhead on SEG3019K, this Quality Assurance Inspector (QA) discovered the following issues:

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The Notice of Witness Inspection Number (NWIT) is 07507. These welds are visually tested and accepted by ZPMC Quality Control (QC) personnel.

For further information, please see the attached pictures below.

**Contractor's proposal to correct the problem:**

Contractor proposes to change the fillet weld into a single CJP with new weld ID, SEG3019K-127 with the Engineer's approval. Contractor will provide the NDT report to show the weld is acceptable.

**Corrective action taken:**

