

**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, P.R. China**Report No:** NCR-000744**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0707**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> Bikepath Assembly BK004A-008, 010, 011
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Reference Description:** Work performed without an approved WPS on Bikepath Assembly BK004A-008, 010, 011

**Description of Non-Conformance:**

During random in-process observation of the fabrication for bikepath BK004A-008, BK004A-010, and BK004A-011, this Caltrans Quality Assurance (QA) Inspector discovered the following issue:

- Weld Build up (Buttering) performed without following an approved WPS.
- The buttering was performed by sandwiching the end of the material between two ceramic backing bars, one on each side of the plate and filling the square groove created by the backing bars with weld metal in the vertical position.
- The amount of buttering was approximately 20mm deep, 25mm wide, and over the full height of the edge.
- The members affected are identified as stringer plates BKX10A and BK8A on bike path assembly BK004A-008.
- Stringer plates BKX9A and BKX8A on bike path assembly BK004A-010.
- Stringer plates BKX10A and BKX8C on bike path assembly BK004A-011.
- ZPMC Quality Control (QC) provided Caltrans QA with Weld Repair Report (WRR) B-WR13162 for review.
- The WRR did not describe the use of the two ceramic backing bars, and the details of the use of steel backing and joint preparation.
- The WPS mentioned in the WRR were not utilized.
- A critical weld repair (CWR) is required and subsequent to the repair, ZPMC wrote up a CWR requesting for review and approval.

The OBG Bike paths are located inside the Fabrication Bay 19.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



## Applicable reference:

AWS D1.5-2002 Section 6.3.1: The inspector shall make certain that all WPS's are qualified in conformance with Section 5 of this code. The inspector shall make certain that each welding operation is covered by a written WPS and that such WPS's are available to the welders and inspectors for reference.

AWS D1.5 2002 section 3.7.4 specifies "Prior approval of the Engineer shall be obtained for repairs to base metal (other than those required by 3.2), repair of major or delayed cracks, repairs to ESW and EGW welds with internal defects, or for a revised design to compensate for deficiencies."

ZPMC Weld Repair Report# B-WR13162

**Who discovered the problem:** Mr. Chandra Sudalaimuthu

**Name of individual from Contractor notified:** Mr. Peng Wen Jun

**Time and method of notification:** 1045 hours, 05-26-2010, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen, Stanley Ku

**Time and method of notification:** 1045 hours, 05-26-2010, Verbal

**QC Inspector's Name:** Zhang Wei

**Was QC Inspector aware of the problem:**

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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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Yes No

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

N/A

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Tsang, Eric	SMR
<b>Reviewed By:</b>	Devey, Jim	SMR

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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
 666 Feng Bin Road Room 708, Changxing Island  
 Shanghai 201913 PR China  
 Tel: 021-56856666 ext 207061 Fax:

**NON-CONFORMANCE REPORT TRANSMITTAL**

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

**Date:** 27-May-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:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Reference Description:** Work performed without an approved WPS on Bikepath Assembly BK004A-008, 010, 011

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:** Other **Lift:**

**Remarks:**

During random in-process observation of the fabrication for bikepath BK004A-008, BK004A-010, and BK004A-011, this Caltrans Quality Assurance (QA) Inspector discovered the following issue:

- Weld Build up (Buttering) performed without following an approved WPS.
- The buttering was performed by sandwiching the end of the material between two ceramic backing bars, one on each side of the plate and filling the square groove created by the backing bars with weld metal in the vertical position.
- The amount of buttering was approximately 20mm deep, 25mm wide, and over the full height of the edge.
- The members affected are identified as stringer plates BKX10A and BK8A on bike path assembly BK004A-008.  
 Stringer plates BKX9A and BKX8A on bike path assembly BK004A-010.  
 Stringer plates BKX10A and BKX8C on bike path assembly BK004A-011.
- ZPMC Quality Control (QC) provided Caltrans QA with Weld Repair Report (WRR) B-WR13162 for review.
- The WRR did not describe the use of the two ceramic backing bars, and the details of the use of steel backing and joint preparation.
- The WPS mentioned in the WRR were not utilized.
- A critical weld repair (CWR) is required and subsequent to the repair, ZPMC wrote up a CWR requesting for review and approval.  
 The OBG Bike paths are located inside the Fabrication Bay 19.

**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 14 days.

**Transmitted by:** Sean Eagen Transportation Engineer  
**Attachments:** ZPMC-0707

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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, Jason Tom, Contract Files, Ching Chao, Bill Casey  
**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Dated:** 11-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000704 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC will provide CWR used as well as NDT after to show that the weld is acceptable. Based on this proposal ZPMC requests that this NCR be approved, with actions pending.

ZPMC will provide CWR used as well as NDT after to show that the weld is acceptable. Based on this proposal ZPMC requests that this NCR be approved, with actions pending.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000704R00

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**Caltrans' comments:**

**Status:** REJ

**Date:** 15-Jun-2010

It is the Department's understanding that these buttered portions were removed soon after the issuance of this NCR. As such, providing the CWR and NDT result for the buttered portions will be of no value. Please verify that the buttered portions have been removed and provide NDT results showing the acceptability of the repaired areas. Additionally, please provide a description of the measures being taken to prevent this type of non-conformance from occurring in the future.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 15-Jun-2010

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Dated:** 30-Aug-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000704 Rev: 01

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC is providing NDT to show the repair that the Department witnessed is acceptable. A CWR which was approved which represented the work that was witnessed.

ZPMC is providing NDT to show the repair that the Department witnessed is acceptable. Subsequent to this NCR being issued ZPMC submitted a CWR which was approved which represented the work that was witnessed. Based on the acceptable NDT and approved CWR, ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000704R01;

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### Caltrans' comments:

**Status:** AAP

**Date:** 08-Sep-2010

Regarding ZPMC using ceramic backing to perform buttering. The NDT results are acceptable, and the welds were removed and replaced correctly. However, please clarify if ZPMC QC understands that the method used is unacceptable and if corrective and preventive measures have been taken.

**Submitted by:** Woo, Laraine

**Date:** 08-Sep-2010

**Attachment(s):**



No. B-856

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-8-28**

**REGARDING: NCR-000744(ZPMC-0707)**

For this issue, ZPMC is providing the NDT record for review. Based on this, please consider closure of this NCR.

**ATTACHMENT:**

NCR-000744(ZPMC-0707)

B787-UT-13406

B787-MT-23897

*Zhao Jianheng*  
*2010/8/28*



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

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

**Date:** 27-May-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:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Reference Description:** Work performed without an approved WPS on Bikepath Assembly BK004A-008, 010, 011

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

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- 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:** Other

**Lift:**

### Remarks:

During random in-process observation of the fabrication for bikepath BK004A-008, BK004A-010, and BK004A-011, this Caltrans Quality Assurance (QA) Inspector discovered the following issue:

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The OBG Bike paths are located inside the Fabrication Bay 19.

### 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 14 days.

**Transmitted by:** Sean Eagen Transportation Engineer

**Attachments:** ZPMC-0707

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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, Jason Tom, Contract Files, Ching Chao, Bill Casey

**File:** 05.03.06

**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 #: 04-0120F4  
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9  
 File #: 69.25B

**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

**Location:** Changxing Island, Shanghai, P.R. China

**Report No:** NCR-000744

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 26-May-2010

**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

**NCR #:** ZPMC-0707

**Type of problem:**

Welding  Concrete  Other

Welding  Curing  Procedural

Joint fit-up  Coating  Other

Procedural  Procedural  Description:

**Bridge No:** 34-0006

**Component:** Bikepath Assembly BK004A-008, 010, 011

**Reference Description:** Work performed without an approved WPS on Bikepath Assembly BK004A-008, 010, 011

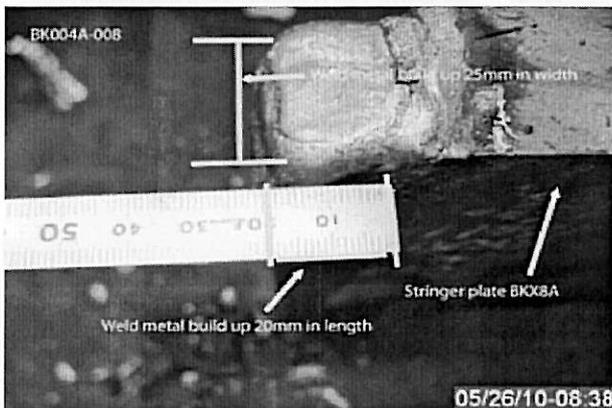
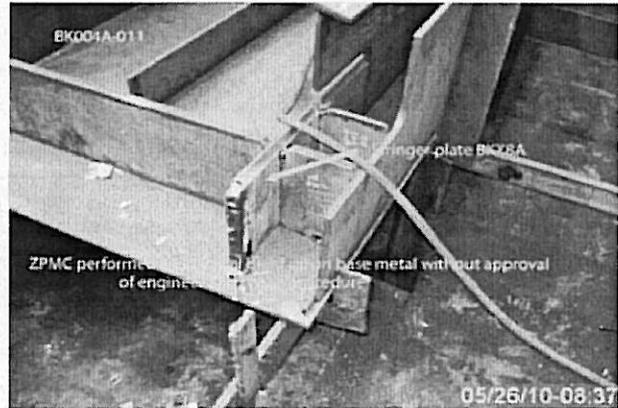
**Description of Non-Conformance:**

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  - Stringer plates BKX9A and BKX8A on bike path assembly BK004A-010.
  - Stringer plates BKX10A and BKX8C on bike path assembly BK004A-011.
  - ZPMC Quality Control (QC) provided Caltrans QA with Weld Repair Report (WRR) B-WR13162 for review.
  - The WRR did not describe the use of the two ceramic backing bars, and the details of the use of steel backing and joint preparation.
  - The WPS mentioned in the WRR were not utilized.
  - A critical weld repair (CWR) is required and subsequent to the repair, ZPMC wrote up a CWR requesting for review and approval.
- The OBG Bike paths are located inside the Fabrication Bay 19.

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



### Applicable reference:

AWS D1.5-2002 Section 6.3.1: The inspector shall make certain that all WPS's are qualified in conformance with Section 5 of this code. The inspector shall make certain that each welding operation is covered by a written WPS and that such WPS's are available to the welders and inspectors for reference.

AWS D1.5 2002 section 3.7.4 specifies "Prior approval of the Engineer shall be obtained for repairs to base metal (other than those required by 3.2), repair of major or delayed cracks, repairs to ESW and EGW welds with internal defects, or for a revised design to compensate for deficiencies."

ZPMC Weld Repair Report# B-WR13162

**Who discovered the problem:** Mr. Chandra Sudalaimuthu

**Name of individual from Contractor notified:** Mr. Peng Wen Jun

**Time and method of notification:** 1045 hours, 05-26-2010, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen, Stanley Ku

**Time and method of notification:** 1045 hours, 05-26-2010, Verbal

**QC Inspector's Name:** Zhang Wei

**Was QC Inspector aware of the problem:**

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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Yes  No

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

N/A

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Devey, Jim

SMR

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2 MUL-0707



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-23897		DATE日期 2010.08.27	PAGE OF页码 1/1	Revision No: 0
PROJECT NO. 工程编号: ZP06-787		CONTRACTOR: 用户: CALTRANS		
DRAWING NO. 图号: BK004A CANTILEVER BOX BRACKET		CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4		
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 <sup>ST</sup> , 2010	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620	
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC	
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm	
MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材,厚度	A709M-345 25/10mm	
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA	

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
BKX8A				ACC		100%MT
BKX9A				ACC		100%MT
BKX9C				ACC		100%MT
BKX8C				ACC		100%MT
BKX10A				ACC		100%MT

BASE METAL PER B-CWR1577 REV0

BLANK


EXAMINED BY主探 Sun gong chang LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM	<i>Sun Gongchang 2010.08.27</i>	REVIEWED BY 审核 <i>Jan Jun Ting 2010.08.27</i>	LEVEL-II SIGN / DATE日期
签字 SIGN / 日期 DATE		用户CUSTOMER	
签字 SIGN / 日期 DATE		签字 SIGN / 日期 DATE	

27MC-0707



# REPORT OF ULTRASONIC EXAMINATION

## UT探伤报告

REPORT NO. 报告编号 B787-UT-13406      DATE 2010.07.11      PAGE 1 OF 1      Revision No: 0

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

ITEMS NAME: BRACKET      DRAWING NO.: BK004A-008, 010, 011      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  
 NA      NA      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      071565311, 061488510, 061495811, 070152011,

CALIBRATION BLOCK 试块      COUPLANT 耦合剂      MATERIAL/THICKNESS 材料厚度  
 AWS IIW BLOCK TYPE II      C.M.C      A709M-345T2      25/10mm

### 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
Changchao	70°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	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		
BKX8A		0				20								ACC.	100%
BKX9A		0				20								ACC.	100%
BKX10A		0				20								ACC.	100%
BASE METAL PER B-CWR1577															
BLANK															

EXAMINED BY 主探  
*Tom Xuy Shun*      2010.07.11  
 LEVEL - II SIGN / DATE

REVIEWED BY 审核  
*Xue Hairong*      2010.07.11  
 LEVEL - II SIGN / DATE

质量经理 / QCM  
 \_\_\_\_\_  
 签字 SIGN / 日期 DATE

用户CUSTOMER  
 \_\_\_\_\_  
 签字 SIGN / 日期 DATE

## NCR PROPOSED RESOLUTION

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

**Attention:** Siegenthaler, Peter  
Resident Engineer

**Ref:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Dated:** 21-Sep-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000704 **Rev:** 02

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### Contractor's Proposed Resolution:

**Reference Resolution:** In the future, both ABFJV and ZPMC have in place a program to track when non conformances occur and who the responsible inspector was at the time

ZPMC acknowledges that the WRR should have reflected the work that was being done to include the use of ceramic backing bars and the WPS. In the future, both ABFJV and ZPMC have in place a program to track when non conformances occur and who the responsible inspector was at the time it occurred that could have stopped the non conformance from occurring. The responsible inspector is reprimanded and it is noted if preventable non conformances continue to occur in the inspector's area of responsibility. In addition, the Production teams responsible have been warned again that repair documents must be followed and changes must be documented in revised documents. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000704R02

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### Caltrans' comments:

**Status:** REJ

**Date:** 26-Sep-2010

The Contractor proposed to include the detail for using ceramic backing in the WRR in the future. However, the method used was unacceptable whether it is detailed in a procedure or not, and there is no buttering procedure qualified for ceramic backing.

**Submitted by:** Woo, Laraine

**Date:** 26-Sep-2010

**Attachment(s):**

## NCR PROPOSED RESOLUTION

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

**Attention:** Siegenthaler, Peter  
Resident Engineer

**Ref:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Dated:** 13-Oct-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000704 Rev: 03

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC removed the weld immediately after it was welded to resolve this NCR. Based on this immediate action ZPMC requests closure of this NCR.

ZPMC removed the weld immediately after it was welded to resolve this NCR. Based on this immediate action ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000704R03;

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### Caltrans' comments:

**Status:** CLO

**Date:** 14-Oct-2010

Issue has been addressed with proper repair and documentation. This NCR is considered closed.

**Submitted by:** Woo, Laraine

**Date:** 14-Oct-2010

**Attachment(s):**



No. B-905

## LETTER OF RESPONSE

**TO:** American Bridge/Flour

**DATE:** 2010-10-12

**REGARDING:** NCR-000744 (ZPMC-0707)

The unsatisfied area what was bulit up with unspecified method of buliding up the base matel by utilizing ceramic backing bars has been removed. After then, a CWR was submitted by ZPMC in order to fix this area. ZPMC QA personnel have talked with the CWI who is in charging this bay to address this issue. Based on this and with the previously submitted documentations, ZPMC is requesting closure of this NCR.

**ATTACHMENT:**

NCR-000837(ZPMC-0799)

NOTIFICATION OF WELD'S REMOVAL

*By [Signature]*

*10/12/2010*



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

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

**Date:** 27-May-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:** 05.03.06-000702

**Subject:** NCR No. ZPMC-0707

**Reference Description:** Work performed without an approved WPS on Bikepath Assembly BK004A-008, 010, 011

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:** Other

**Lift:**

### Remarks:

During random in-process observation of the fabrication for bikepath BK004A-008, BK004A-010, and BK004A-011, this Caltrans Quality Assurance (QA) Inspector discovered the following issue:

- Weld Build up (Buttering) performed without following an approved WPS.
  - The buttering was performed by sandwiching the end of the material between two ceramic backing bars, one on each side of the plate and filling the square groove created by the backing bars with weld metal in the vertical position.
  - The amount of buttering was approximately 20mm deep, 25mm wide, and over the full height of the edge.
  - The members affected are identified as stringer plates BKX10A and BK8A on bike path assembly BK004A-008.
  - Stringer plates BKX9A and BKX8A on bike path assembly BK004A-010.
  - Stringer plates BKX10A and BKX8C on bike path assembly BK004A-011.
  - ZPMC Quality Control (QC) provided Caltrans QA with Weld Repair Report (WRR) B-WR13162 for review.
  - The WRR did not describe the use of the two ceramic backing bars, and the details of the use of steel backing and joint preparation.
  - The WPS mentioned in the WRR were not utilized.
  - A critical weld repair (CWR) is required and subsequent to the repair, ZPMC wrote up a CWR requesting for review and approval.
- The OBG Bike paths are located inside the Fabrication Bay 19.

### 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 14 days.

**Transmitted by:** Sean Eagen Transportation Engineer  
**Attachments:** ZPMC-0707

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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, Jason Tom, Contract Files, Ching Chao, Bill Casey  
**File:** 05.03.06

**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 #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000744**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-May-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0707**Type of problem:**Welding  Concrete  Other Welding  Curing  Procedural Joint fit-up  Coating  Other Procedural  Procedural  Description: **Bridge No:** 34-0006**Component:** Bikepath Assembly BK004A-008, 010, 011**Reference Description:** Work performed without an approved WPS on Bikepath Assembly BK004A-008, 010, 011**Description of Non-Conformance:**

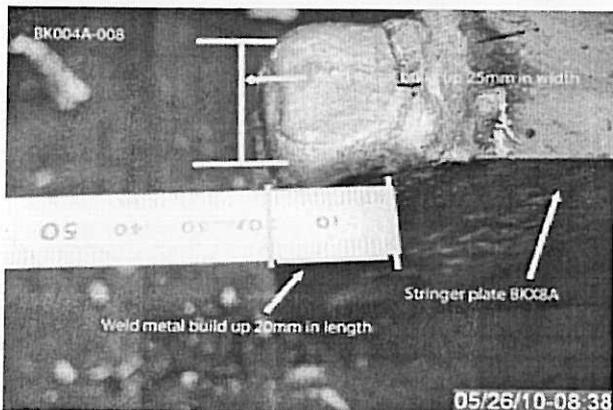
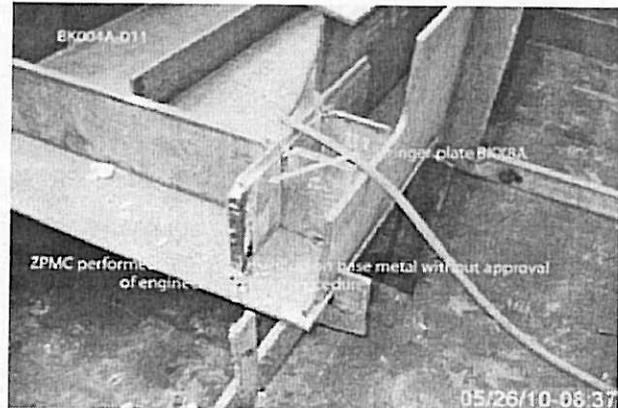
During random in-process observation of the fabrication for bikepath BK004A-008, BK004A-010, and BK004A-011, this Caltrans Quality Assurance (QA) Inspector discovered the following issue:

- Weld Build up (Buttering) performed without following an approved WPS.
- The buttering was performed by sandwiching the end of the material between two ceramic backing bars, one on each side of the plate and filling the square groove created by the backing bars with weld metal in the vertical position.
- The amount of buttering was approximately 20mm deep, 25mm wide, and over the full height of the edge.
- The members affected are identified as stringer plates BKX10A and BK8A on bike path assembly BK004A-008.
- Stringer plates BKX9A and BKX8A on bike path assembly BK004A-010.
- Stringer plates BKX10A and BKX8C on bike path assembly BK004A-011.
- ZPMC Quality Control (QC) provided Caltrans QA with Weld Repair Report (WRR) B-WR13162 for review.
- The WRR did not describe the use of the two ceramic backing bars, and the details of the use of steel backing and joint preparation.
- The WPS mentioned in the WRR were not utilized.
- A critical weld repair (CWR) is required and subsequent to the repair, ZPMC wrote up a CWR requesting for review and approval.

The OBG Bike paths are located inside the Fabrication Bay 19.

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



### Applicable reference:

AWS D1.5-2002 Section 6.3.1: The inspector shall make certain that all WPS's are qualified in conformance with Section 5 of this code. The inspector shall make certain that each welding operation is covered by a written WPS and that such WPS's are available to the welders and inspectors for reference.

AWS D1.5 2002 section 3.7.4 specifies "Prior approval of the Engineer shall be obtained for repairs to base metal (other than those required by 3.2), repair of major or delayed cracks, repairs to ESW and EGW welds with internal defects, or for a revised design to compensate for deficiencies."

ZPMC Weld Repair Report# B-WR13162

**Who discovered the problem:** Mr. Chandra Sudalaimuthu

**Name of individual from Contractor notified:** Mr. Peng Wen Jun

**Time and method of notification:** 1045 hours, 05-26-2010, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen, Stanley Ku

**Time and method of notification:** 1045 hours, 05-26-2010, Verbal

**QC Inspector's Name:** Zhang Wei

**Was QC Inspector aware of the problem:**

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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Yes  No

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

N/A

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Tsang, Eric	SMR
<b>Reviewed By:</b>	Devey, Jim	SMR

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[pferguson@abfjv.com](mailto:pferguson@abfjv.com)



Please consider the environment before printing this e-mail.

From: 张伟 [mailto:[zhangwei\\_zj@zpmc.net](mailto:zhangwei_zj@zpmc.net)]  
Sent: Friday, May 28, 2010 8:07 AM  
To: Peter Ferguson; steve lawton; Jiao Gang  
Cc: lujianhua; zhaoshuangbao  
Subject: BIKE PATH buttering weld to be cut

Gentlemen:

Please notified bike path buttering weld which will be cut. The pieces are BK004-008, BK004-010, 011. It will start at approximately 8:30 this morning. Please inform CT about this. Thank you.

Best Regards,

Zhang Wei

张伟

2010-5-25

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This message has been scanned for viruses and dangerous content by **MailScanner**, and is believed to be clean.

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2010-5-31

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发件人: "Eric Tsang" <etsang@sasbridge.com>  
收件人: "张伟" <zhangwei\_zj@zpmc.net>  
发送时间: 2010年5月28日 8:52  
主题: Re: FW: BIKE PATH buttering weld to be cut

Hi Wei,

I appreciate very much you quick response in fixing this NCR.

Thanks,  
Eric

2010/5/28 Peter Ferguson <pferguson@abfjv.com>

Per AWS D1.5 Section 3.7.5, please take this as notification that ZPMC intends to remove completed welds as noted below.

This pertains to ZPMC NCR-0707.

Kindest regards,

Peter Ferguson.

Fabrication Superintendent.

San Francisco Oakland Bay Bridge Project - SAS Bridge.

American Bridge / Fluor, A Joint Venture.

Room 5, 4<sup>th</sup> Floor, 4<sup>th</sup> Building.

No. 666 Fengbin Rd,

Changxing Island,

Shanghai, China.

201913

Office:- +86 021 5685 6666 ext 564021

Mobile:- +86 159 2169 3142

2010-5-31

**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


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**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION**


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**Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000821**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 14-Oct-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0707**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>Description:</b>	

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

During random in-process observation of the fabrication for bikepath BK004A-008, BK004A-010, and BK004A-011, this Caltrans Quality Assurance (QA) Inspector discovered the following issue:

- Weld Build up (Buttering) performed without following an approved WPS.
- The buttering was performed by sandwiching the end of the material between two ceramic backing bars, one on each side of the plate and filling the square groove created by the backing bars with weld metal in the vertical position.
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- The WPS mentioned in the WRR were not utilized.
- A critical weld repair (CWR) is required and subsequent to the repair, ZPMC wrote up a CWR requesting for review and approval.

The OBG Bike paths are located inside the Fabrication Bay 19.

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

Contractor will remove the weld to close this NCR.

**Corrective action taken:**

Contractor removed the weld immediately. NDT documentations have been provided to show the material was not adversely affected as a result of the removal.

