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-000937
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 10-Dec-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0898

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑		
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:**	34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:**	OBG Steel Barriers
Procedural	☐	**Procedural**	☐	**Description:**	112 Missed VT cracks by QC		

Reference Description: QA found 112 missed VT cracks after ZPMC had tested and accepted the weld on the OBG Steel Barriers in Bay 1

Description of Non-Conformance:

During Quality Assurance (QA) Visual Testing (VT) verification of welds located on OBG steel barriers in Bay 1, Caltrans (CT) QA Inspectors discovered the following issues on 11 steel barriers:

-112 longitudinal cracks measuring approximately 7mm to 20mm were discovered by VT.

-Approximately 30 of these cracks were verified using Magnetic Particle Testing (MT) subsequently.

-The welds are fillet welds joining the stiffeners to the internal diaphragms.

-The location to each crack is in the crater area of the weld where the weld wraps through the “key hole” in the diaphragms.

-The welds are not FCM.

-OBG steel barriers are located in Bay No. 1

-The cracks were discovered at the following welds:

E2-SB5-040-036.

E2-SB5-034-002, 004, 006, 008, 012, 065, 067, 069, 071, 033, 035, 039, 041, 043, 002, 012.

E2-SB1D-035-032, 002, 006, 002, 004, 033, 035, 041, 071, 073.

E2-SB2-010-035, 039, 003, 005, 009, 011, 012, 004, 047, 046, 034, 033, 039, 065, 069, 073, 066.

E2-SB1D-026-004, 006, 003, 007, 012, 010, 002, 038, 035, 039, 043, 065, 067, 069, 071, 073, 066, 070, 072, 074.

E2-SB1D-022-002, 006, 032, 034, 074, 072, 070, 064.

E2-SB1D-033-043.

E2-SB1C-006-063, 037.

E2-SB1-051-069, 067, 043, 041, 039, 037.

E2-SB1-038-033, 035, 037, 039, 063, 067.

E2-SB1-032-063, 067, 037.

-The notice of witness Inspection Number (NWIT) is 07703. The cracks are located within an area that has been previously inspected by ZPMC Quality Control (QC) personal. As per contract documents ZPMC is

required to perform 100% VT and 10% MT of these welds.

Applicable reference:
Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum the contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents"

AWS D1.5 (02) Section 6.26.1.1 – "The weld shall have no cracks."
Who discovered the problem: Sean McGuire / Manuel Teall
Name of individual from Contractor notified: Peter Ferguson
Time and method of notification: 10:30_12/11/10_Email
Name of Caltrans Engineer notified: Laraine Woo
Time and method of notification: 18:00_12/11/10_Email
QC Inspector's Name: Wang Liang
Was QC Inspector aware of the problem: ☐ **Yes** ☑ **No**
Contractor's proposal to correct the problem:

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.

Inspected By:	Tsang,Eric	SMR
Reviewed By:	Wahbeh,Mazen	SMR

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:**	13-Dec-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:**	05.03.06-000894
Subject:	NCR No. ZPMC-0898		

Reference Description: QA found 112 missed VT cracks after ZPMC had tested and accepted the weld on the OBG Steel Barriers in Bay 1

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: Barrier Rail **Lift:**

Remarks:

During Quality Assurance (QA) Visual Testing (VT) verification of welds located on OBG steel barriers in Bay 1, Caltrans (CT) QA Inspectors discovered the following issues on 11 steel barriers:

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-The welds are not FCM.

-OBG steel barriers are located in Bay No. 1

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E2-SB1D-035-032, 002, 006, 002, 004, 033, 035, 041, 071, 073.

E2-SB2-010-035, 039, 003, 005, 009, 011, 012, 004, 047, 046, 034, 033, 039, 065, 069, 073, 066.

E2-SB1D-026-004, 006, 003, 007, 012, 010, 002, 038, 035, 039, 043, 065, 067, 069, 071, 073, 066, 070, 072, 074.

E2-SB1D-022-002, 006, 032, 034, 074, 072, 070, 064.

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E2-SB1C-006-063, 037.

E2-SB1-051-069, 067, 043, 041, 039, 037.

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E2-SB1-032-063, 067, 037.

-The notice of witness Inspection Number (NWIT) is 07703. The cracks are located within an area that has been previously inspected by ZPMC Quality Control (QC) personal. As per contract documents ZPMC is required to perform 100% VT and 10% MT of these welds.

Action Required and/or Action Taken:

Propose a resolution of 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-0898

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

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV
P.O. BOX 23223 Oakland, CA 94623
Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000894

Subject: NCR No. ZPMC-0898

Dated: **30-Dec-2010**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000893 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the indication noted in the NCR and is providing NDT documentation after the repair to show the indication has been removed.

ZPMC has repaired the indication noted in the NCR and is providing NDT documentation after the repair to show the indication has been removed. ABFJV has noted which inspector was responsible for this missed indication and is monitoring his performance as well as all inspector performance, if he continues to miss indications disciplinary action will be undertaken. AFJV has rechecked all welds in these locations to ensure that this condition does not exist in other steel barriers and repaired if present. Based on these actions, ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000893R00;

Caltrans' comments:

Status: CLO

Date: 31-Dec-2010

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

Submitted by: Woo, Laraine

Date: 31-Dec-2010

Attachment(s):

TL-0009031

ZPMC

TRANSMITTAL LETTER

PROJECT: S.F.O.B.B.

DATE:2010-12-29

TO: ROSEMARY/ABF JV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: OBG NCR

SUBMITTED FOR YOUR APPROVAL AND SUBMITTAL TO CALTRANS

ENCLOSED WITH THIS TRANSMITTAL IS ONE COPY OF

(01) LR: No. B-952

(02) NCR-000937(ZPMC-0898)

(03) VT FOR ZPMC-0898

B787-MT-35272	B787-MT-35277
B787-MT-35273	B787-MT-35278
B787-MT-35274	B787-MT-35280
B787-MT-35275	B787-MT-35281
B787-MT-35276	B787-MT-35282

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEGEMENT

PLAN HOLDER: Rosemary

DATE: 10:00
RECEIVED 29 DEC 2010

COMPANY: AB American Bridge / FLUOR

PHONE NO.

PLAN NUMBER:N/A
#R787-QCP-102

ZPMC

No. B-952

LETTER OF RESPONSE

TO: American Bridge/Flour
DATE: 2010-12-29
REGARDING: NCR-000937(ZPMC-0898)

ZPMC acknowledged this problem and has issued an internal NCR. These unspcified wrapping welds have been removed by grinding. ZPMC is providing the NDT records to show the accpetability of these welds. Based on this, ZPMC is requesting closure of this NCR.

ATTACHMENT:
NCR-000937(ZPMC-0898)
VT for ZPMC-0898
B787-MT-35272
B787-MT-35273
B787-MT-35274
B787-MT-35275
B787-MT-35276
B787-MT-35277
B787-MT-35278
B787-MT-35280
B787-MT-35281
B787-MT-35282

12/29/2010

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
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Bay Area Branch
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Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

Report No: NCR-000937
Date: 10-Dec-2010
NCR #: ZPMC-0898

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Welding	☐	**Concrete**	☐	**Other**	☑	
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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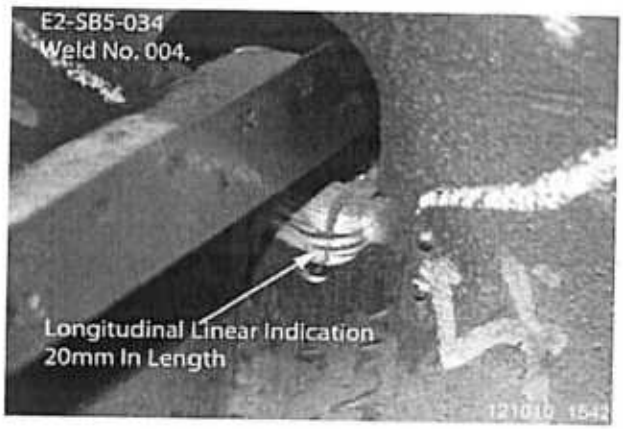

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Time and method of notification: 10:30_12/11/10_Email

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 18:00_12/11/10_Email

QC Inspector's Name: Wang Liang

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

Contractor's proposal to correct the problem:

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.

Inspected By:	Tsang,Eric	SMR
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC

周数	164#		
日期	2010.12.21		

Visual Weld Inspection Report
焊缝目视检查报告

Girder/梁:	OBG A plate		
Tower/塔:	NA		
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国 海湾大桥	CWI: 检验员:	Tian Lei · 10022261
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB5-040-036	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

BAY 1

" √ " is no defects. " X " is defects. "NA" is not applicable.

ZPMC

周数	164#		
日期	2010.12.21		

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/塔:	NA
Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022261
		Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB5-034-002	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-004	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-006	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-008	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-012	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-033	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-035	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-039	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-041	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-043	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-065	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-067	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

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☐ After HSR No.:

☐ Others

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Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 18022261
		Quality Assurance Manager ~Approval 质量控制经理:	

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E2-SB5-034-069	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB5-034-071	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

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Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/塔:	NA
Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
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E2-SB1D-035-004	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-006	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-032	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-033	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-035	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-041	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-071	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-035-073	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

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Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022261
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB2-010-003	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-004	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-005	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-009	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-011	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-012	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-033	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-034	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-035	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-039	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-046	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-047	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

BAY 1

" √ " is no defects. " X " is defects. "NA" is not applicable.

ZPMC

周数	164#		
日期	2010.12.21		

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 18022261
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB2-010-065	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-066	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-069	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB2-010-073	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

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Visual Weld Inspection Report
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		Girder/梁:	OBG A plate
		Tower/塔:	NA
Caltrans Contract No. 加州合同编号	04-0120F4	Representative: 质检代表:	
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	CWI: 检验员:	Tian Lei 10022261
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1D-026-002	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-003	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-004	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-006	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-007	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-010	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-012	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-035	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-038	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-039	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-043	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-065	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

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Visual Weld Inspection Report
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Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022261
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1D-026-066	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-067	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-069	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-071	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-072	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-073	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-026-074	215397	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

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Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 1002226/1
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1D-022-002	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-006	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-032	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-034	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-064	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-070	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-072	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1D-022-074	216575	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

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Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022261
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1D-033-043	059450	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld
☐ After CWR or WRR No.:
☑ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603 BAY 1

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日期	2010.12.21		

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Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/塔:	NA
Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022261
		Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1C-006-037	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1C-006-063	216872	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

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日期	2010.12.21

Visual Weld Inspection Report
焊缝目视检查报告

Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022761
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1-032-037	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-032-063	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-032-067	067550	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld
☐ After CWR or WRR No.:
☑ After cover pass
☐ After HSR No.:
☐ Others

#R787-QCP-603 BAY 1

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Caltrans Contract No. 加州合同编号	04-0120F4	Girder/梁:	OBG A plate
		Tower/塔:	NA
Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10027761
Project No.: 项目编号:	ZP06-787	Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1-051-037	068554	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-051-039	068554	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-051-041	068554	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-051-043	068554	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-051-067	068554	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-051-069	068554	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

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Project No.: 项目名称	San Francisco Oakland Bay Bridge 美国海湾大桥	Tower/塔:	NA
Project No.: 项目编号:	ZP06-787	Representative: 质检代表:	
		CWI: 检验员:	Tian Lei 10022261
		Quality Assurance Manager ~Approval 质量控制经理:	

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
E2-SB1-038-033	068764	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-038-035	068764	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-038-037	068764	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-038-039	068764	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-038-063	068764	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA
E2-SB1-038-067	068764	3F	Supercored 71H(Φ1.4)	√	√	√	√	√	√	√	Acc	NA	NA

☐ After root weld

☐ After CWR or WRR No.:

☑ After cover pass

☐ After HSR No.:

☐ Others

#R787-QCP-603

BAY 1

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REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35272	DATE日期 2010.12.25	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:	E2-SB5-040 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
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. 28ST ,2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 Y6-YOKE	SERIAL NO. 连续编号 15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB5-040-036				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35273	DATE日期 2010.12.25	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:	E2-SB5-034 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2010
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	KOREA
MODEL NO. 样式编号	Y6-YOKE	SERIAL NO. 连续编号	15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB5-034-002				ACC.		100%MT
E2-SB5-034-004				ACC.		100%MT
E2-SB5-034-006				ACC.		100%MT
E2-SB5-034-008				ACC.		100%MT
E2-SB5-034-012				ACC.		100%MT
E2-SB5-034-033				ACC.		100%MT
E2-SB5-034-035				ACC.		100%MT
E2-SB5-034-039				ACC.		100%MT
E2-SB5-034-041				ACC.		100%MT
E2-SB5-034-043				ACC.		100%MT
E2-SB5-034-065				ACC.		100%MT
E2-SB5-034-067				ACC.		100%MT
E2-SB5-034-069				ACC.		100%MT
E2-SB5-034-071				ACC.		100%MT

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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35274	DATE日期 2010.12.25	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:	E2-SB1D-035 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
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. 28ST ,2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 Y6-YOKE	SERIAL NO. 连续编号 15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1D-035-002				ACC.		100%MT
E2-SB1D-035-004				ACC.		100%MT
E2-SB1D-035-006				ACC.		100%MT
E2-SB1D-035-032				ACC.		100%MT
E2-SB1D-035-033				ACC.		100%MT
E2-SB1D-035-035				ACC.		100%MT
E2-SB1D-035-041				ACC.		100%MT
E2-SB1D-035-071				ACC.		100%MT
E2-SB1D-035-073				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35275	DATE日期 2010.12.25	PAGE OF页码 1/2	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	E2-SB2-010 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
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. 28ST ,2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 Y6-YOKE	SERIAL NO. 连续编号 15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB2-010-003				ACC.		100%MT
E2-SB2-010-004				ACC.		100%MT
E2-SB2-010-005				ACC.		100%MT
E2-SB2-010-009				ACC.		100%MT
E2-SB2-010-011				ACC.		100%MT
E2-SB2-010-012				ACC.		100%MT
E2-SB2-010-033				ACC.		100%MT
E2-SB2-010-034				ACC.		100%MT
E2-SB2-010-035				ACC.		100%MT
E2-SB2-010-039				ACC.		100%MT
E2-SB2-010-046				ACC.		100%MT
E2-SB2-010-047				ACC.		100%MT
E2-SB2-010-065				ACC.		100%MT
E2-SB2-010-066				ACC.		100%MT
E2-SB2-010-069				ACC.		100%MT

EXAMINED BY主探 Xie Genlin Xie Gen Lin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei LEVEL-II SIGN / DATE日期 2010.12.25
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35275	DATE日期 2010.12.25	PAGE OF页码 2/2	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	E2-SB2-010 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2010
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	KOREA
MODEL NO. 样式编号	Y6-YOKE	SERIAL NO. 连续编号	15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB2-010-073				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35276	DATE日期 2010.12.25	PAGE OF页码 1/2	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	E2-SB1D-026 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2010
EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	KOREA	Y6-YOKE	15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1D-026-002				ACC.		100%MT
E2-SB1D-026-003				ACC.		100%MT
E2-SB1D-026-004				ACC.		100%MT
E2-SB1D-026-006				ACC.		100%MT
E2-SB1D-026-007				ACC.		100%MT
E2-SB1D-026-010				ACC.		100%MT
E2-SB1D-026-012				ACC.		100%MT
E2-SB1D-026-035				ACC.		100%MT
E2-SB1D-026-038				ACC.		100%MT
E2-SB1D-026-039				ACC.		100%MT
E2-SB1D-026-043				ACC.		100%MT
E2-SB1D-026-065				ACC.		100%MT
E2-SB1D-026-066				ACC.		100%MT
E2-SB1D-026-067				ACC.		100%MT
E2-SB1D-026-069				ACC.		100%MT

EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35276	DATE日期 2010.12.25	PAGE OF页码 2/2	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	E2-SB1D-026 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2010
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	KOREA
MODEL NO. 样式编号	Y6-YOKE	SERIAL NO. 连续编号	15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1D-026-071				ACC.		100%MT
E2-SB1D-026-072				ACC.		100%MT
E2-SB1D-026-073				ACC.		100%MT
E2-SB1D-026-074				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35277	DATE日期 2010.12.25	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:	E2-SB1D-022 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2010
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	KOREA
MODEL NO. 样式编号	Y6-YOKE	SERIAL NO. 连续编号	15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1D-022-002				ACC.		100%MT
E2-SB1D-022-006				ACC.		100%MT
E2-SB1D-022-032				ACC.		100%MT
E2-SB1D-022-034				ACC.		100%MT
E2-SB1D-022-064				ACC.		100%MT
E2-SB1D-022-070				ACC.		100%MT
E2-SB1D-022-072				ACC.		100%MT
E2-SB1D-022-074				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010/12/25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35278	DATE日期 2010.12.25	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:	E2-SB1D-033 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2010
EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	KOREA	Y6-YOKE	15207
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	√WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1D-033-043				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35280	DATE日期 2010.12.25	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:	E2-SB1-051 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
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. 28ST ,2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 Y6-YOKE	SERIAL NO. 连续编号 15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1-051-037				ACC.		100%MT
E2-SB1-051-039				ACC.		100%MT
E2-SB1-051-041				ACC.		100%MT
E2-SB1-051-043				ACC.		100%MT
E2-SB1-051-067				ACC.		100%MT
E2-SB1-051-069				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35281	DATE日期 2010.12.25	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:	E2-SB1-038 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
REFERENCING CODE 参考规范编码	AWS D1.5-2002	PROCEDURE NO. 程序编号	ZPQC-MT-01
ACCEPTANCE STANDARD 接受标准	AWS D1.5-2002	CALIBRATION DUE DATE 仪器校正有效期	Dec. 28ST ,2010
EQUIPMENT 设备	MT YOKE	MANUFACTURER 制造商	KOREA
MODEL NO. 样式编号	Y6-YOKE	SERIAL NO. 连续编号	15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
E2-SB1-038-033				ACC.		100%MT
E2-SB1-038-035				ACC.		100%MT
E2-SB1-038-037				ACC.		100%MT
E2-SB1-038-039				ACC.		100%MT
E2-SB1-038-063				ACC.		100%MT
E2-SB1-038-067				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Wei 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-35282	DATE日期 2010.12.25	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:	E2-SB1-032 steel barrier	CALTRANS CONTRACT NO.: 加州工程编号	04-0050F4
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. 28ST ,2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 KOREA	MODEL NO. 样式编号 Y6-YOKE	SERIAL NO. 连续编号 15207
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 12mm
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT

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			
E2-SB1-032-037				ACC.		100%MT
E2-SB1-032-063				ACC.		100%MT
E2-SB1-032-067				ACC.		100%MT
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EXAMINED BY主探 Xie Genlin Xie Genlin 2010.12.25 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 Wang Chai 2010.12.25 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

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 #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, Shanghai, P.R. China **Report No:** NCS-000874
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 31-Dec-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0898

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:**
Procedural	☐	**Procedural**	☐	**Descripton:**		

Date the Non-Conformance Report was written: 10-Dec-2010

Description of Non-Conformance:

During Quality Assurance (QA) Visual Testing (VT) verification of welds located on OBG steel barriers in Bay 1, Caltrans (CT) QA Inspectors discovered the following issues on 11 steel barriers:

-112 longitudinal cracks measuring approximately 7mm to 20mm were discovered by VT.

-Approximately 30 of these cracks were verified using Magnetic Particle Testing (MT) subsequently.

-The welds are fillet welds joining the stiffeners to the internal diaphragms.

-The location to each crack is in the crater area of the weld where the weld wraps through the “key hole” in the diaphragms.

-The welds are not FCM.

-OBG steel barriers are located in Bay No. 1

-The cracks were discovered at the following welds:

E2-SB5-040-036.

E2-SB5-034-002, 004, 006, 008, 012, 065, 067, 069, 071, 033, 035, 039, 041, 043, 002, 012.

E2-SB1D-035-032, 002, 006, 002, 004, 033, 035, 041, 071, 073.

E2-SB2-010-035, 039, 003, 005, 009, 011, 012, 004, 047, 046, 034, 033, 039, 065, 069, 073, 066.

E2-SB1D-026-004, 006, 003, 007, 012, 010, 002, 038, 035, 039, 043, 065, 067, 069, 071, 073, 066, 070, 072, 074.

E2-SB1D-022-002, 006, 032, 034, 074, 072, 070, 064.

E2-SB1D-033-043.

E2-SB1C-006-063, 037.

E2-SB1-051-069, 067, 043, 041, 039, 037.

E2-SB1-038-033, 035, 037, 039, 063, 067.

E2-SB1-032-063, 067, 037.

-The notice of witness Inspection Number (NWIT) is 07703. The cracks are located within an area that has been previously inspected by ZPMC Quality Control (QC) personal. As per contract documents ZPMC is required to perform 100% VT and 10% MT of these welds.

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Contractor's proposal to correct the problem:

Contractor will repair the welds, and perform NDT to prove the welds are acceptable. Contractor will identify the inspector who misses the indications, and issue an internal NCR to him. Contractor will also monitor his performance. Disciplinary action will be taken, if the inspector misses the indications continuously. Contractor will recheck all the welds in steel barriers locations. Repair will be perfromed, if defects/indications show up.

Corrective action taken:

Contractor repaired the weld indications and performed NDT subsequently. NDT report shows that the welds are acceptable. Contractor identified the inspector and issued an internal NCR to him. Contractor also rechecked all the welds of steel barriers at the same location.

Did corrective action require Engineer's approval? ☐ **Yes** ☑ **No**

If so, name of Engineer providing 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 Wahbeh, Mazen 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Ng,Michael	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer