

**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program**

333 Burma Rd.  
Oakland, CA 94607  
(510) 286-0538, (510) 286-0550 fax



Kiewit-FCI-Manson, JV  
220 Burma Rd.  
Oakland, CA 94607

April 27, 2006

Attn: Mr. Chris Webb  
Welding Quality Control Manager

Contract No. 04-0120E4  
04-SF-80-13.4, 13.8  
SAS T1 & E2 Foundations  
SFOBB-ESSSP

Letter No. 05.003.01-001070

Subject: NCR - Oregon Iron Works, 02/27/06 (Welding Over Crack)

Dear Chris,

The Department issued a Non-conformance Report (NCR) at Oregon Iron Works in Vancouver, Washington, on February 27, 2006. The NCR was generated when QA observed OIW welding personnel welding over a crack at the toe of the weld joining girder web G101-2 to the pile sleeve PS302-1 of the Pier E2 footing. QA verbally notified Mr. Mike Gregson, OIW Quality Control Inspector, of this non-conformance on February 27, 2006.

This NCR has been resolved by Submittal No. 377, Revision No. 00, dated March 3, 2006.

If you have any questions or need additional information, please contact Mark Vilcheck at (510) 286-0526.

Sincerely,

**<<< ORIGINAL SIGNED >>>**

Mark Vilcheck  
Structure Representative

For: Pedro J. Sanchez  
Resident Engineer

cc: P. Sanchez  
M. Woods  
R. Smith

file: 05.003.01, 09.006.03



P.O. BOX 23223 Oakland, CA 94623  
 Phone (510) 419-0120 / Fax (510) 832-1456

**LETTER OF SUBMITTAL**  
**SAS Foundations E2/T1 Project**

Run Date 07-Sep-06  
 Time 3:50 PM

**Dated:** 08-Sep-2006  
**To:** Pedro Sanchez  
 Caltrans - SAS E2/T1 Foundation Project  
 333 Burma Road  
 Oakland CA 94607  
 Phone: 510-286-0538 Fax:

**SUBMITTAL No:** KFM-SUB-000879 **Rev:** 00  
**Co/Job #** 364-4347  
**Contract #** 04-0120E4  
**Sub/Supplier:** OIW  
**Sub/Supplier No:**

**Subject:** Oregon Iron Works Response to NCR Generated by State Letter 1070

**Special Provis. (SP) REF:** 08-3.01  
**Standard Spec. (SS) REF:**

**RESUBMITTAL/SUPPLEMENTAL REF:**

- We are sending the following attached items:**
- Attached
  - Via Fax
  - Contract Plans/Specs
  - Certs of Compl./Samples
  - Working Drawings
  - Drawings/Calculations
  - Schedule
  - WQCP and/or Addenda
  - Change Order
  - Progress Estimate Request
  - Weekly Weld Reports
  - Copy of Letter
  - Payroll Information
  - CWR Procedure

Item	Date	Copies	Description	Drawing No	Rev	Status	Pages
01	06-Sep-06	1	NCR Response Letter		0	Pending	8

**These are transmitted as checked below:**

- For Approval
- For Review/Comment
- Return For Correction
- For Your Use
- As Requested
- For Information

**Remarks:**

**CC:**

**Please review / approve by:** 14-Sep-2006

**Submitted By:** Chris Webb  
 (KFM Staff Member – Originator of Transmittal)

**Checked & Sent By:**   
 Contract Admin/DCS Staff



# OREGON IRON WORKS, INC.

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

September 6, 2006

**KIEWIT / FCI / MANSON JV**  
220 Burma Rd.  
Oakland, CA 94607

Reply to: SL-2083-150

**Attention: Chris Webb**

**Reference: OAKLAND BAY BRIDGE PIER CAP E2 / CONTRACT NO. 04-0120E4**  
**KFM Material Contract Dated April 22, 2004**

**Subject: State Letter 05.003.01-001070**

Gentlemen:

Oregon Iron Works, Inc. (OIW) has received Caltrans State Letter 05.003.01-001070 dated 4/27/06, which documents a non-conformance for welding over a crack on the G101-2/PS302-1 joint.

This NCR occurred when a welder was excavating an in process repair that was extending to close to the root of the weld. The welder decided to add sound metal to side he had been excavating and then excavate from the other side.

OIW has advised all welders to not weld over cracks under any circumstances.

This repair was tracked as CWR 16. All required QC inspections have been performed and results submitted to the Engineer.

OIW considers this NCR resolved.

If you have any questions or need further clarification, please contact me at your earliest convenience.

Sincerely,

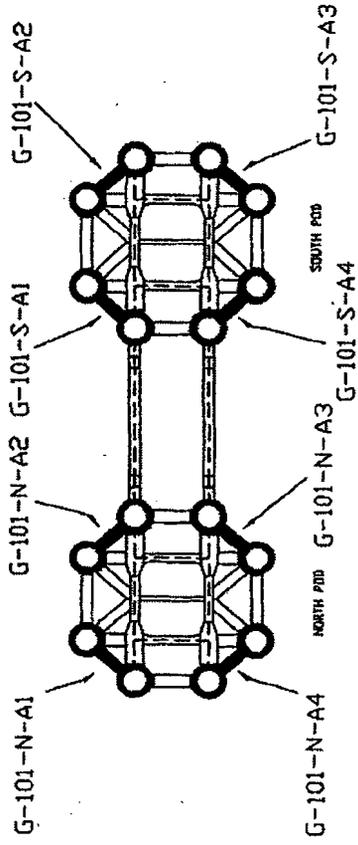
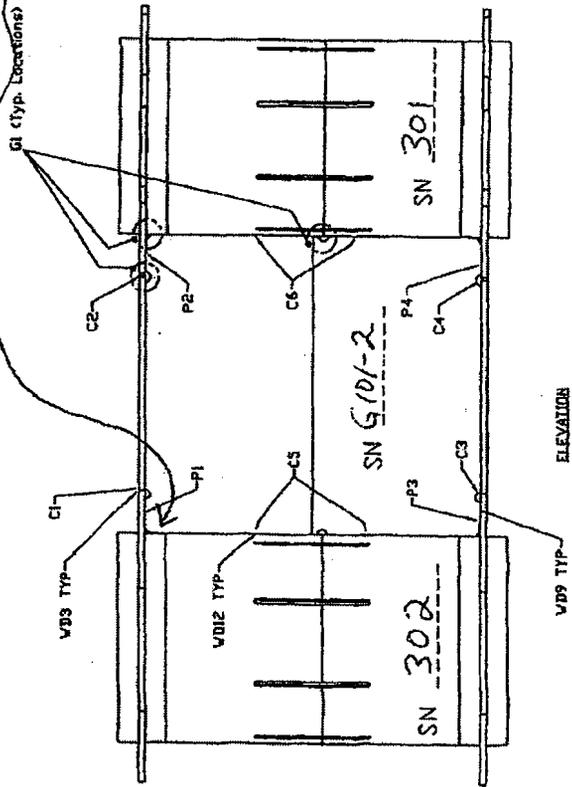
**OREGON IRON WORKS, INC.**

Jerry Takeuchi  
Quality Assurance Manager

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\* Location of CRACK  
 33mm Long, 58mm Deep  
 START 38mm From Top of Weld  
 WJ C5



POD LAYOUT LOCATIONS G101-1 THROUGH G101-8

EXTERIOR DIAGONAL HALF POD ASSEMBLY

QCMK-G-101-S-A1

**LEGEND**

- FOR LOCATION OF THIS ASSEMBLY SEE LEGEND (SEE MAP QC-E-014 AND QC-E-15)
- C=CJP, P=PJP, F=FILLET
- G1 = Areas of Grinding and the designation for all weld access holes.

1	RELEASED FOR FABRICATION	L/26/08	DAI
0	REVISED		
<p>THE INFORMATION CONTAINED ON THIS DRAWING/REVISION NUMBER IS ELECTRONICALLY GENERATED FROM THE ORIGINAL DRAWING. THIS IS A CONTROLLED DOCUMENT AND IS THE PROPERTY OF OREGON IRON WORKS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.</p>			
<p><b>OREGON IRON WORKS, INC.</b></p>			
<p>SAN FRANCISCO OAKLAND BAY BRIDGE        PILE CAP STEEL        EXTERIOR DIAGONAL GIRDER SUB-ASSEMBLY</p>			
<p>CONTRACT: 974-00017-00-0000-0000        TITLE: ST08B E2 PILE CAP        DRAWING NUMBER: 2003-WM-101</p>			

# OREGON IRON WORKS

<b>Critical Weld Repair Report(CWR)</b>		DATE: Thursday, March 02, 2006
San Francisco Oakland Bay Bridge / E-2 Pile Cap		Report #
CALTRANS #04-0120E4	KFM JOB#364 / 4347	2083-016
Sub-Assembly Title: Exterior Diagonal Girder Half Pod Assy	Quality Control Representative	
Drawing # 2083-E-0	Don Cox	
O.I.W. Mark# G101-S-A1	Quality Assurance Manager-Approval	
Candraft # N/A	Nate Lindell	
OIW DWG# 2083-G-101		REV# 0

## Reasons For Repair

Check All Apply			Description of Condition
Receipt Insp.		Inspection Method	Weld crack 33mm L X 58mm D (WJ C5) Located 38mm from end of weld on web 103b to pile sleeve 501d
In Process Insp.		Visual	
Repair Insp.		Mag. Particle	
Base Material		Ultrasonic	
Weld Metal	√	Other	See Attached Drawing for Location
Following original excavation of a linear indication OIW production deposited approximately three passes on top of the linear indication to avoid blowing thru the weld joint.			
Production and QC have been counseled on the requirements of not welding over linear indications.			
OIW has addressed the root cause of the linear indication and have taken measures to increase preheat.			

## Disposition

Note: All repair work shall be performed in accordance with applicable CALTRANS approved procedures, contract specifications and AWS D1.5 2002.

Check All Apply			Specific Instruction
Defect Removal Method		Post-Removal NDE	OIW proposes to excavate by scarfing back to the known depth of defect, remove defect by grinding and MT excavated area to verify complete removal of indication. OIW will then repair the area using WPS 3246. OIW QC will perform VT, MT and UT to verify weld soundness. QA shall be notified prior to performing excavation and welding.
Grinding	√	Visual	
Carbon /Air Arc	√	Mag. Particle	
Other		Ultrasonic	
		Other	
Additional Notes / Comments:			

## NDE Record

### Post-Removal NDE Performed

No Report Needed. This Document serves as report.

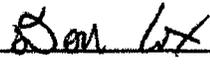
Inspectors Initials	Date	Method	Acc/Rej.
AH	3-8-06	MT	Acc
Comments:			

### Final Inspection / Repair Complete

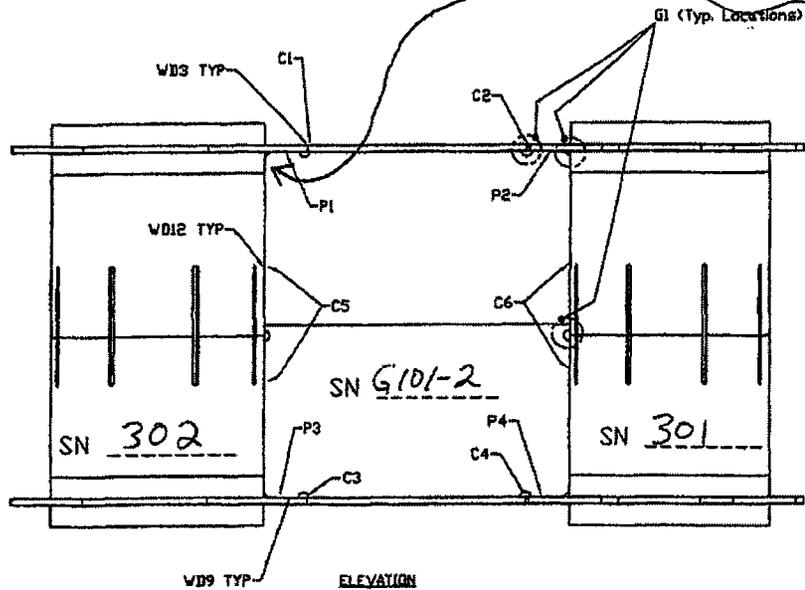
#### Report Required

Inspectors Initials	Date	Method	Acc/Rej.
DJC	6/10/06	UT	Rej
Comments:			

To be signed when Closing CWR~Verify compliance and all necessary reports are ready to attach

Inspector:	Don Cox	Signature:	
CWI #	02030441	Closing Date:	Wednesday, June 14, 2006
NDE Certification:	Level II		
OIW QC Manager		Review Date:	

\* LOCATION OF CRACK  
 33mm Long, 58mm Deep  
 START 38mm From Top of Weld  
 WJ C5

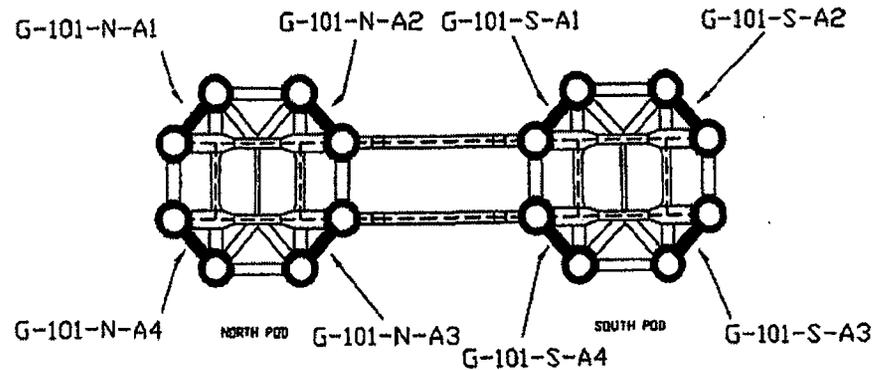


EXTERIOR DIAGONAL HALF POD ASSEMBLY

QCMK-G-101-S-A1

LEGEND

- FOR LOCATION OF THIS ASSEMBLY SEE LEGEND (SEE MAP GC-E-014 AND GC-E-15)
- C= CJP, P=PJP, F=FILLET
- G1 = Areas of Grinding and the designation for all weld access holes.



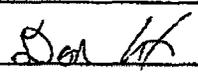
POD LAYOUT LOCATIONS G101-1 THROUGH G101-8

1				
0	RELEASED FOR FABRICATION	1/26/06	BA1	
REV.	CHANGE DESCRIPTION	DATE	BY	APP'D
<small>THE INFORMATION/DATE CONTAINED IN THIS DRAWING/DOCUMENT (WHETHER IN ELECTRONIC OR HARD FORMAT) AND EVERYTHING CONTAINED THEREIN, INCLUDING INFORMATION OF ORIGIN FOR ANY PARTS, IS THE PROPERTY OF OREGON IRON WORKS, INC. ANY REPRODUCTION, RELEASE, DISTRIBUTION, OR UNAUTHORIZED USE OF THIS INFORMATION/DATA WITHOUT THE EXPRESS WRITTEN CONSENT OF OIW IS EXPRESSLY PROHIBITED.</small>				
<b>OREGON IRON WORKS, INC.</b>				
DRAWN	CHECKED	DATE	V/S RE	REVIEWED BY
BA1		1/26/06		
<b>SAN FRANCISCO OAKLAND BAY BRIDGE          PIER #2 PILE CAP STEEL          EXTERIOR DIAGONAL GIRDER SUB-ASSEMBLY</b>				
CONTRACTOR: OIW (OLEVIT-FEL-HANSON, A JV)			OIW JOB #262/4347 REV PROJECT #2003	
TITLE: SF02B EX PILE CAP			DRAWING NUMBER	
			2003-WM-101	
CALTRANS CONTRACT #01-0120E4				

<b>Ultrasonic Examination Report</b>				<b>DATE:</b> Saturday, June 10, 2006	
San Francisco Oakland Bay Bridge / E-2 Pile Cap				<b>Report #</b>	
CALTRANS #04-0120E4		KFM JOB#364 / 4347		101-S-A1	CJP C5 UTO1
<b>Sub-Assembly Title:</b> Exterior Diagonal Half-Pod Assembly.		<b>Reference Previous Report #</b>			
<b>Drawing #</b> 2083-E-018		N/A			
<b>O.I.W. Mark#</b> Half-Pod G101-S-A1		<b>OIW</b>			
<b>Candraft #</b> na		<b>DWG#</b> 2083-G-101		<b>REV#</b> 1	

**\* Welds Listed Below~100% FVT, Final examination unless otherwise noted.**

Part / Weld Identification	Visual Inspection		NDE		Transducer Angle	Reference Level	Note:		
	Accept	Reject	Accept	Indication#					
C5	Yes		No	1	70	37			
C5	Yes		Yes		45				
<b>Indication Plotting</b>	<b>#1</b>	<b>#2</b>	<b>#3</b>	<b>#4</b>	<b>#5</b>	<b>#6</b>	<b>#7</b>	<b>#8</b>	<b>#9</b>
Indication Level -A	47								
Reference Level -B	37								
Attenuation Factor -C	22								
Indication Rating -D	-12								
Sound Path:	300								
Surface Distance:	275								
Depth From "A"	33								
Length:	50								
Distance From "X"	25								
Distance From "Y"	0								
Accept/Reject(A/R)	R								
~Comments~									
This reject is in the area of interest for CWR# 2083-016.									
<b>Procedure #</b>	<b>QC~115</b>		<b>Material Thickness:</b>		<b>65</b>	<b>Welding Process:</b>		<b>FCAW</b>	
<b>Spec./Standard #</b>	<b>AWS D1.5~2002 sec.6</b>		<b>Weld Joint /Criteria:</b>		<b>T / Tension</b>		<b>Table</b>	<b>6.3</b>	
<b>Equipment:</b>	<b>Panometrics Epoch III</b>		<b>Transducer:</b>		<b>2.25Mhz</b>		<b>2.25Mhz</b>		
<b>Serial #</b>	<b>95064807</b>		<b>Wave Mode:</b>		<b>Shear</b>		<b>Longitudinal</b>		

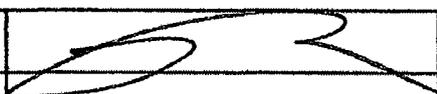
<b>Inspector:</b>	<b>Don Cox</b>	<b>Signature:</b>	
<b>CWI #</b>	<b>02030441</b>	<b>Date:</b>	<b>Saturday, June 10, 2006</b>
<b>NDE Certification:</b>	<b>Level II</b>		



<b>Ultrasonic Examination Report</b>				<b>DATE:</b> Friday, September 01, 2006	
San Francisco Oakland Bay Bridge / E-2 Pile Cap				<b>Report #</b>	
CALTRANS #04-0120E4	KFM JOB#364 / 4347	101-S-A1	CJP	C5	UTO2
<b>Sub-Assembly Title:</b> Exterior Diagonal Half-Pod Assembly.		<b>Reference Previous Report #</b>			
<b>Drawing #</b> 2083-E-018		N/A			
<b>O.I.W. Mark#</b> Half-Pod G101-S-A1		<b>OIW</b>			
<b>Candraft #</b> na		<b>DWG#</b> 2083-G-101		<b>REV#</b> 1	

**\* Welds Listed Below~100% FVT, Final examination unless otherwise noted.**

Part / Weld Identification	Visual Inspection		NDE		Transducer Angle	Reference Level	Note:		
	Accept	Reject	Accept	Indication#					
C5 R1	Yes		Yes	1	70	37			
C5 R1	Yes		Yes		45				
<b>Indication Plotting</b>	#1	#2	#3	#4	#5	#6	#7	#8	#9
Indication Level ~A									
Reference Level ~B									
Attenuation Factor ~C									
Indication Rating ~D									
Sound Path:									
Surface Distance:									
Depth From "A"									
Length:									
Distance From "X"									
Distance From "Y"									
Accept/Reject(A/R)	Accept								
~Comments~									
CWR# 2083-016 Rev 1									
<b>Procedure #</b>	QC-115		<b>Material Thickness:</b>		65	<b>Welding Process:</b>		FCAW	
<b>Spec./Standard #</b>	AWS D1.5-2002 sec.6		<b>Weld Joint /Criteria:</b>		T / Tension		Table	6.3	
<b>Equipment:</b>	Panametrics Epoch III		<b>Transducer:</b>		2.25Mhz		2.25Mhz		
<b>Serial #</b>	95064807		<b>Wave Mode:</b>		Shear		Longitudinal		

<b>Inspector:</b>	Peter Hale	<b>Signature:</b>	
<b>CWI #</b>	84040571	<b>Date:</b>	Friday, September 01, 2006
<b>NDE Certification:</b>	Level II		

# OREGON IRON WORKS

<b>Critical Weld Repair Report(CWR)</b>		DATE: Wednesday, June 14, 2006	
San Francisco Oakland Bay Bridge / E-2 Pile Cap		Report #	
CALTRANS #04-0120E4 KFM JOB#364 / 4347		2083-016 Rev 1	
Sub-Assembly Title:	Exterior Diagonal Girder Half Pod Assy	Quality Control Representative	
Drawing #	2083-E-0	Don Cox	
O.I.W. Mark#	G101-S-A1	Quality Assurance Manager~Approval	
Candraft #	N/A	Nate Lindell	
		OIW	
		DWG#	2083-G-101 REV# 0

## Reasons For Repair

Check All Apply			Description of Condition
Receipt Insp.		Inspection Method	After the affected area was repaired following the specific instruction in CWR# 2083-016, UT inspection revealed a rejectable indication.  See Attached Drawing for Location
In Process Insp.		Visual	
Repair Insp.	✓	Mag.Particle	
Base Material		Ultrasonic	
Weld Metal		Other	

## Disposition

Note: All repair work shall be performed in accordance with applicable CALTRANS approved procedures, contract specifications and AWS D1.5 2002.

Check All Apply			Specific Instruction
Defect Removal Method		Post-Removal NDE	OIW proposes to excavate by scarfing back to the known depth of defect, remove defect by grinding and MT excavated area to verify complete removal of indication. OIW will then repair the area using WPS 3246. OIW QC will perform VT, MT and UT to verify weld soundness. QA shall be notified prior to performing excavation and welding.
Grinding	✓	Visual	
Carbon /Air Arc	✓	Mag.Particle	
Other		Ultrasonic	
Additional Notes / Comments:			

## NDE Record

Post-Removal NDE Performed				Final Inspection / Repair Complete			
No Report Needed. This Document serves as report.				Report Required			
Inspectors Initials	Date	Method	Acc/Rej.	Inspectors Initials	Date	Method	Acc/Rej.
PH	8-1-06	MT	ACC	PH	8-1-06	UT	ACC
Comments:				Comments:			

To be signed when Closing CWR~Verify compliance and all necessary reports are ready to attach

Inspector:	Peter Hake	Signature:	
CWI #	84040571	Closing Date:	8-1-06
NDE Certification:	Level II		
OIW QC Manager	Review Date:		

# Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MARK VILCHECK  
Structure Representative  
333 Burma Road  
Oakland, CA 94607

**Date:** September 7, 2006

**File:** 04-0120E4  
E2/T1 Foundations

**From:** RYAN T. SMITH  
Structural Materials Representative  
Quality Assurance and Source Inspection Branch  
Office of Structural Materials

## KFM SUBMITTALS FOR OREGON IRON WORK'S (OIW) RESPONSES TO NCRs

The Materials Engineering and Testing Service (METS) has reviewed the following submittals requesting to close Nonconformance Reports (NCRs) regarding the fabrication of the E2 and T1 Steel Piling in Napa, CA. Please find the following comments regarding NCRs:

<b>Submittal Number</b>	<b>Date Submitted</b>	<b>Description</b>	<b>Approved / Rejected</b>	<b>Notes</b>
<b>206-01</b>	08/24/06	OIW Response to NCR 018	Approved	1
<b>851-00</b>	08/29/06	OIW Response to NCR 091	Approved	2
<b>872-00</b>	09/06/06	OIW Response to NCR 113	Approved	3
<b>873-00</b>	09/06/06	OIW Response to NCR 34 & 51	Approved	4
<b>870-00</b>	08/30/06	OIW Response to NCR 081	Approved	5
<b>875-00</b>	09/06/06	OIW Response to NCR 098	Approved	6
<b>871-00</b>	09/06/06	OIW Response to NCR 022	Approved	7
<b>874-00</b>	09/06/06	OIW Response to NCR 099	Approved	8
<b>869-00</b>	09/05/06	OIW Response to NCR 104	Approved	9
<b>885-00</b>	09/07/06	OIW Response to NCR 118	Approved	10

<b>884-00</b>	09/07/06	OIW Response to NCR 116	Approved	11
<b>883-00</b>	09/07/06	OIW Response to NCR 097	Approved	12
<b>882-00</b>	09/07/06	OIW Response to NCR 100	Approved	13
<b>881-00</b>	09/07/06	OIW Response to NCR 106	Approved	14
<b>880-00</b>	09/06/06	OIW Response to NCR 105	Approved	15
<b>879-00</b>	09/06/06	OIW Response to NCR 055	Approved	16

Notes:

1. METS NCR 018 was issued on October 24, 2005 to document the Contractor allowing the heat straightening of ring segment A43-6 without prior approval by the Engineer. In order to continue with the removal of the distortion in the ring segments, the Contractor forwarded KFM Submittal 206-00, dated November 2, 2005, outlining the procedure and conditions for “pre-approved” heat straightening. In accordance with State Letter 05.003.01.000631, dated December 8, 2005, the Department agreed to allow the heat straightening with provided that three conditions were included in the Contractor’s procedure. Although KFM and OIW agreed to these conditions verbally in December 2005, they were not incorporated into OIW’s Welding Quality Control Plan until Submittal 206-01, dated August 28, 2006. METS takes no exception to the revisions contained in Submittal 206-01; however, it should be noted that the attached Ultrasonic Examination Reports show the examination results of the pile sleeves after heat straightening and are not necessary for approval of Submittal 206-01 or the closure of NCR 018. METS considers this issue resolved as a heat straightening request would not have been necessary to remove the distortion from A43-6 per the approved changes to Submittal 206-01.
2. In accordance with the OIW letter dated August 25, 2006, the welders have received additional training regarding the use of proper preheat before welding the steel piling. Additionally, OIW has installed Cooperheat thermal pads to aide in achieving and maintaining the heat during welding operations. As of the date of this memorandum, METS understands that the Contractor has addressed the issue and has implemented measures to control

the heat before, during, and after welding. METS considers this NCR to be resolved at this time.

3. Per the comments in OIW's response letter to State Letter 05.003.01-001764, dated September 6, 2006, METS understands that the Contractor's use of an unapproved WPS was an isolated oversight by the Quality Control Department and should not be an issue in the future. Additionally, it should be noted that the WPS in question was approved by METS in KFM Submittal 864-00 on September 7, 2006. METS considers this NCR to be resolved at this time.
4. Per the comments in OIW's response letter to State Letter's 05.003.01-00828 and 05.003.01-001069, the OIW staff was counseled regarding the importance of receiving approval prior to proceeding with Heat Straightening. METS concurs that no further instances of this issue occurred after the above documented instances. Additionally, HSR 026 and HSR 041 have documented the heat straightening performed. At this time HSR 026 has been closed; however, HSR 041 is still pending. METS considers this NCR to be resolved provided that the Contractor will clear the repair through the closing documents for HSR 026 and HSR 041.
5. In OIW's response letter to State Letter 05.003.01-001174, dated August 30, 2006, OIW repaired a crack in the weld connecting Pile Sleeve 301-1 to Girder G121-2 as a result in miscommunication between the Quality Control and Production departments regarding the status of approval by the Engineer. METS understands that OIW has counseled their staff about the importance of receiving approval prior to proceeding with Critical Weld Repairs. METS considers this NCR to be resolved provided that the Contractor will clear the CWR through the closing documents for CWR 020.
6. As stated in OIW's response letter to State Letter 05.003.01-001450, dated September 6, 2006, the joint connecting G181-3 and G171-1 was originally a Partial Joint Penetration (PJP) weld and was approved to be a changed to a Complete Joint Penetration (CJP) weld per KFM RFI 258. METS understands that the welder was unaware of this change and welded the joint as a PJP weld. OIW has since verified that all welders understand the detail change in order to prevent future occurrences. The PJP weld has been removed and rewelded as a CJP in accordance with the approved repair procedure in OIW CWR 028. METS considers this issue to be resolved at this time.
7. In OIW's response letter to State Letter 05.003.01-000591, dated September 6, 2006, METS understands that OIW performed the CWR as a result of

miscommunication with their night shift personnel. OIW has counseled their staff regarding the importance of receiving approval prior to proceeding with Critical Weld Repairs. METS considers this NCR to be resolved provided that the Contractor will clear the CWR through the closing documents for CWR 006.

8. NCR 099 was issued to document the Contractor welding the joints on G181-3 and 171-1 with excessive root gaps. As stated in OIW's response letter to State Letter 05.003.01-001451, dated September 6, 2006, OIW ensured the root pass in question was removed during the backgouging of the CJP weld. Additionally, the Contractor's Quality Control Inspectors examined the area by Magnetic Particle Testing (MT) before depositing the subsequent fill passes. The attached MT reports verify the suspect area to be clear. The Contractor also agreed that future buttering of welds would be performed with Flux Cored Arc Welding (FCAW) in lieu of Submerged Arc Welding (SAW) in order to obtain the correct joint geometry prior to welding root pass.
9. In accordance with the OIW letter dated August 30, 2006, the welders have received training regarding the use of proper preheat before welding the steel piling. Additionally, OIW has installed Cooperheat thermal pads to aide in achieving and maintaining the heat during welding operations. As of the date of this memorandum, METS understands that the Contractor has addressed the issue and has implemented measures to control the heat before, during, and after welding. METS considers this NCR to be resolved at this time.
10. NCR 118 was issued to document the Contractor proceeding with second time repairs on the weld connecting the support beam to Pile Sleeve 306-1. METS understands that this issue occurred as a result of the Contractor's decision to proceed in order to meet deadlines in their schedule. METS personnel have discussed this issue with the KFM and OIW Quality Control Managers and have reminded them of their contractual requirement to receive Engineer approval before proceeding with CWRs. METS does not expect this to be an issue with OIW in the future. Additionally, OIW has included the NDT reports of the repairs made to the above referenced weld and the results appear to be acceptable. METS considers this NCR to be resolved at this time.
11. NCR 116 was issued to document the Contractor proceeding with a CWR without approval by the Engineer. In accordance with OIW's response letter to NCR 116, dated September 7, 2006, METS understands that OIW proceeded with the G181-3/G121-3 connection as a result of a misunderstanding that it had been approved

with multiple other repairs that had been submitted the same day. METS believes this to be an isolated instance and does not expect it to be a reoccurring issue as the Contractor typically obtains approval before proceeding with CWRs. METS considers this NCR to be resolved at this time.

12. Due to difficulties when the Contractor was installing the inter-tie girders between the two half pods in the South Pod Assembly, the Contractor chose to grind the edge of several joints in order to provide additional space during fit-up operations. As a result, this created excessive root gaps (7-12mm) in the PJP welds on the bottom flanges of multiple inter-tie girders. NCR 097 was issued when OIW proceeded with welding the joint connecting G181-4 and G121-2 without building the weld to achieve the correct joint geometry. The Department approved the change from a Partial Joint Penetration (PJP) weld to a Complete Joint Penetration (CJP) weld per the response to KFM RFI 258. METS understands that this weld was subsequently backgouged and welded in accordance with the approved procedure that was included with the Contractor's response to the NCR. Additionally, the Contractor has included the NDT reports verifying the examination of the modified CJP weld. METS understands this is no longer an issue and considers the NCR to be resolved at this time.
13. NCR 100 was issued to document the Contractor's use of temporary attachments on the shear key angles which have not been approved in the shop drawings. As stated in OIW's response to State Letter 05.003.01-001452, the Contractor has issued METS an advanced copy of the revised drawings on September 7, 2006. METS takes no issue with the use of the attachments and has verified their removal from the structure. METS considers this issue to be resolved provided that the revised drawings are submitted by the Contractor and approved by the Department.
14. NCR 106 was issued to document the Contractor allowing the welding of G181-3 to G121-3 without maintaining the required preheat. The insufficient preheat was apparent as the top flange of G121-3 was remained wet during the welding operations. In discussions with the Contractor regarding this issue, OIW stated that the proper preheat temperature was maintained on the bottom side of the G121-3 flange during the entire time the joint was welded. Additionally, OIW has provided the NDT reports for this joint and they appear to be acceptable. METS considers this NCR to be resolved at this time.
15. NCR 105 was issued on July 10, 2006 to document the Contractor welding outside the parameters of the WPS for the connection of G191-1 to Pile Sleeve 301-1. The

WPS requires a flux filled channel as backing for the weld joint; however, the channel did not contain any flux. As stated in OIW's response letter to State Letter 05.003.01-001517, dated September 7, 2006, the Contractor performed a deeper backgouge to ensure the root and butter passes were removed before depositing subsequent fill passes. METS agreed to this proposal and has verified the repair. METS considers this NCR to be resolved at this time.

16. NCR 055 was issued on February 27, 2006 to document the Contractor welding over a crack in the weld connecting G101-2 to Pile Sleeve 302-1. As stated in OIW's response to State Letter 05.003.01-001070, the issue occurred as a result of a welder excavating an in-process repair that extended close to the root of the weld. Instead of backgouging the area and having to reweld the root pass, the welder chose to deposit additional weld passes and repair the area from the other side. OIW subsequently informed all welders not to weld over cracks under any circumstances. METS understands this issue was an isolated instance and is no longer an issue. METS considers this NCR to be resolved provided that the Contractor will clear the repair through closing documents for CWR 016.

If you have any questions, or would like to discuss the issues, please call me at (858) 232-6799.

cc: Rafael Bolon  
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David McClary