




JUN 14 2016

Memorandum

June 7, 2016

TO: Derek Case 
MS 47354

THRU: ^{DB} Dave Becher
NB 82-99

FROM: ^{BWB} Bryant Bullamore / ^{JM} Julia Mizuhata
(425) 576-7042 / (425) 576-7059

SUBJECT: Contract 008066
SR 520 Floating Bridge and Landings Project
Federal Aid No. BR-0520(047)
Change Order No. 207 – Steel Plate Corrosion at Pontoon Joints

Attached for Headquarters Construction execution and further processing is Project Office recommended Change Order No. 207 – Steel Plate Corrosion at Pontoon Joints.

Description of the Change:

This is a WSDOT and Design-Builder mutually initiated change that clarifies and revises the cleaning and painting requirements for the steel components at the Pontoon joints.

Appendix M11 State Furnished Pontoon Minimum Technical Requirements (related to the pontoons furnished by the State, PFS, which were constructed under the Pontoon Construction Project C7826) and Appendix M22 Pontoon Minimum Technical Requirements (related to the pontoons provided by the Design-Builder, PPDB) show steel plates embedded in the pontoons, which provide steel contact surfaces for the nut bearing plates at the pontoon joint bolted connections. The appendices also state that “Unless otherwise noted, all non-stainless steel components shall be galvanized in accordance with AASHTO M111 after fabrication. Non-stainless steel bolts and hardware shall be galvanized in accordance with AASHTO M232.”

Technical Requirements (TR) Section 2.12.5.12.1.1.2 Grouting and Painting specifies that pontoon joint “Assembly Bolts shall be grouted after installation and tensioning. After grouting the exposed surfaces of the bolts, bearing plates, nuts, washers, and embedded steel plate shall be cleaned, the shop coat or primer applied or repaired as required, and the surfaces painted in accordance with Section 6-07.3(9) of the WSDOT Standard Specifications (Appendix D18). Galvanized surfaces need not be cleaned to bare metal, but shall be free of all other foreign material.”

WSDOT Standard Specifications Section 6-07.3(9) Painting New Steel Structures specifies that “All materials classified as nongalvanized structural steel shall be painted with a three-coat paint system as specified in Section 6-07.3(9)A.”

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The intent of these requirements is to specify that the steel components at Pontoon joints, including the galvanized embedded steel plates, shall be painted in accordance with WSDOT Standard Specifications Section 6-07.3(9) utilizing a three-coat paint system as specified in Section 6-07.3(9)A.

Field observations revealed that corrosion had developed at some of the Pontoon joint galvanized embedded steel plates in both the PFS and PPDB, particularly at plates in Pontoon cells that had contained temporary water ballast. Further investigation suggested that the corrosion predominantly occurred in areas where galvanization had been damaged during Pontoon construction or assembly.

WSDOT reminded the Design-Builder that TR Section 2.12.5.12.1.1.2 requires the exposed steel surfaces at the Pontoon joints to be clean, repaired, and painted. The Design-Builder contended that the painting requirement did not apply to the galvanized embedded steel plates because the cited WSDOT Standard Specification refers to nongalvanized structural steel.

This change order modifies TR Section 2.12.5.12.1.1.2 as follows:

- Specifies that exposed surfaces of the bolts, bearing plates, nuts, washers, and embedded galvanized steel plates at the Pontoon joint bolted connections shall be painted in accordance with WSDOT Standard Specifications Section 6-07.3(9)A, rather than Section 6-07.3(9).
- Identifies specific cleaning standards for the exposed surfaces and for the corroded areas of the galvanized embedded steel plates, as recommended by the WSDOT Bridge & Structures Office.
- Specifies that the painting plan to be provided in accordance with WSDOT Standard Specifications Section 6-07.3(2) shall also address cleaning.
- States that the painting addressed in this change order shall be performed prior to Physical Completion.

Evolution of the Change:

WSDOT Letter 0770 dated May 15, 2015 informed the Design-Builder (KGM) that “WSDOT has observed corrosion of the embedded steel plates in both longitudinal and supplemental pontoons. WSDOT has previously notified KGM verbally and by email of the corrosion, and the KGM QA (Quality Assurance) Manager has issued NCR #325 to track this issue.” Citing TR Section 2.12.5.12.1.1.2, the letter states “At this time KGM has not performed the required painting of the embedded steel plates. KGM will need to address the corrosion and paint the embedded steel plates as required by contract.” “While entitlement is being discussed, to limit costs for all parties, KGM should proceed with painting the embedded steel plates after future pontoon joining operations in conjunction with painting the joining bolts. Please submit a painting plan for the embedded steel plates as soon as possible.”

WSDOT Letter 0790 dated September 15, 2015 noted that “Subsequent investigations by both WSDOT and KGM have established that the majority of the corrosion damage

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appears to be the result of damage to the galvanization during casting and assembly of the pontoons. WSDOT will require repair of damaged areas. Per the meeting held between Kiewit-General (Pontoon Construction Project Contractor), KGM and WSDOT on August 31, 2015, it was ... recommended that a joint inspection occur of all of the pontoons to determine the extent of the damage.” WSDOT Letter 0790 reiterated the cleaning and painting requirements specified in TR Section 2.12.5.12.1.1.2, and stated that “At this time KGM has not performed the required painting of the embedded steel plates. KGM will need to address the corrosion damage and paint the embedded steel plates as required by contract.”

KGM Letter 0666 dated November 12, 2015 responded that “KGM disagrees that this painting is a requirement of the Contract”; the “embedded steel plates (bolt beams) are only required to be galvanized and no painting is specified.” The letter indicates that KGM’s view is based on the Contract reference to WSDOT Standard Specifications Section 6-07.3(9) which refers to nongalvanized structural steel. The letter further states that “There are no locations in the Appendices that indicate painting of the galvanized bolt beams are a requirement of the contract.” KGM Letter 0666 includes a cost proposal to prep and paint the galvanized embedded steel plates as directed by WSDOT.

WSDOT Letter 0800 dated December 23, 2015 refutes the position presented in KGM Letter 0666, stating that TR Section 2.12.5.12.1.1.2 “specifically addresses the requirement to paint the galvanized embedded steel plates in addition to the non-galvanized items. The Standard Specification referenced is for the complete assembly as there are both galvanized and non-galvanized elements to be painted. It is clearly the intent of the specification to have one paint system for the entire assembly (bolts, bearing plates, nuts, washers, and embedded plates). The non-galvanized paint system per the standard specification 6-07.3(9) is the intended paint system.” WSDOT Letter 0880 further states that WSDOT Letters 0770 and 0790 were sent to KGM prior to the completion of Pontoon joining operations “with the expectation that KGM would progress the work in the most cost effective manner. It appears KGM has not taken advantage of existing scaffolding and concurrent painting work at the pontoon joints to reduce the cost of the embedded steel plate assembly painting operations.” The letter concludes by stating that “the contract required painting of the embedded steel plates can be an acceptable repair to the damaged galvanizing on the embedded steel plates if they are properly cleaned.”

KGM Letter 0670 dated December 23, 2015 provides written notification of Protest regarding the painting of the galvanized embedded steel plates at the Pontoon joints, adding that “KGM will perform the paint coatings so the overall progress of the Work is not hindered. KGM continues to view these paint coatings as directed by WSDOT to be extra work.” “As previously discussed and agreed between WSDOT and KGM this Work will not be a requirement for Project Substantial Completion. Both WSDOT and KGM agree that this work will be completed prior to Project Physical Completion.”

The scope and cost for this change issue were resolved by WSDOT and KGM on February 24, 2016.

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Subject Matter Expert Concurrence:

- WSDOT Bridge & Structures Office – Geoff Swett, May 21, 2015

Approvals Provided for Change Order:

- Project Engineer Level – Bryant Bullamore, May 11, 2016
- Region/Program Level – Dave Becher, May 19, 2016
- Program Funding Concurrence – Janet Buoy, May 19, 2016
- Headquarters Construction Level – Craig McDaniel/Derek Case, May 23, 2016
- FHWA Level – Anthony Sarhan, June 1, 2016

Entitlement:

WSDOT determined that the costs associated with this change order would be shared by WSDOT and the Design-Builder because of the ambiguity that resulted from specifying WSDOT Standard Specifications Section 6-07.3(9) painting requirements (which refer to *nongalvanized* structural steel) for the painting of embedded steel plates (which are identified as *galvanized* in Appendices M11 and M22). Additional entitlement information is included in WSDOT's Engineer's Estimate (see attached). Due to the determination of entitlement, this change order makes an equitable adjustment to the Contract Price in accordance with General Provisions Section 1-09.4.

Price:

An Engineer's Estimate developed by WSDOT for the purpose of reviewing and negotiating the cost of this change order (see attached) estimates the price of this change at \$1,451,670. Negotiations for this change centered on sharing cost responsibility equally between WSDOT, the Design-Builder, and the Contractor for the SR 520 Pontoon Construction Project (C7826) that supplied PFS with unpainted, galvanized embedded steel plates. These negotiations were based on the cost proposal included in KGM Letter 0666 (copy attached) for the amount of \$3,879,149 correlating to roughly \$1,250,000 per party, which is below WSDOT's estimate for this change. As such, WSDOT will reimburse the Design-Builder the lump sum amount of \$1,250,000 for the performance of the Work described in this change order.

Contract Time:

This change order does not impact Contract Time.

Attachments:

- Change Order No. 207 (Approved)
- Change Order No. 207 Checklist
- Engineer's Estimate
- Approval Documentation
- WSDOT Letters 0770, 0790, 800
- KGM Letters 0666 (including Attachment 2 – Cost Proposal), 0670

BWB:cma


cc: Julie Schurman, NB 82-230
PW 17.02.00.CO-207 / folder

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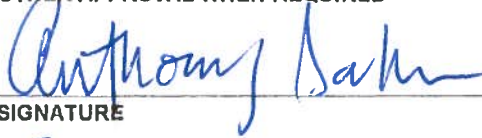
DATE: 05/09/16
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CONTRACT NO: 008066 FEDERAL AID NO: BR-0520(047)
 CONTRACT TITLE: SR 520 / I-5 TO MEDINA - EVERGREEN POINT FLOATING
 CHANGE ORDER NO: 207 STL PL CORROSION AT PNIN JNTS
 PRIME CONTRACTOR: SW0106139 KIEWIT/GENERAL/MANSON, A JOINT
 33455 6TH AVE S
 FEDERAL WAY WA 98003-6335

- Ordered by Engineer under the terms of Section 1-04.4 of the Standard Specifications
 Change proposed by Contractor.

ENDORSED BY:  _____ CONTRACTOR JEFF ELLIS V.P. <u> MAY 11, 2016 </u> DATE	SURETY CONSENT: _____ ATTORNEY IN FACT _____ DATE
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ORIGINAL CONTRACT AMOUNT: 586,561,000.00
 CURRENT CONTRACT AMOUNT: 756,968,141.77
 ESTIMATED NET CHANGE THIS ORDER: 1,250,000.00
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 758,218,141.77
 Approval Required: () Region Olympia Service Center () Local Agency

<input checked="" type="checkbox"/> APPROVAL RECOMMENDED () EXECUTED  PROJECT ENGINEER <u> 6/16/16 </u> DATE	 STATE CONSTRUCTION ENGINEER <u> 6/20/16 </u> DATE
<input checked="" type="checkbox"/> APPROVAL RECOMMENDED () EXECUTED REGIONAL ADMIN: <u> Director of Construction </u>  BY: <u> June 13, 2016 </u> DATE	OTHER APPROVAL WHEN REQUIRED  SIGNATURE <u> 6/13/16 </u> DATE REPRESENTING <u> FHWA </u>

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All work, materials, and measurements to be in accordance with the provisions of the Standard Specifications and Special Provisions for the type of construction involved.

This contract is revised as follows:

The first paragraph above is revised to read:

All work, materials, and measurements to be in accordance with the Request for Proposal (RFP) and the Contract Documents for this project.

DESCRIPTION:

This is a WSDOT and Design-Builder mutually initiated change in accordance with General Provisions Section 1-04.4 addresses the cleaning and painting requirements for the steel components at the Pontoon joints.

CONTRACT REQUIREMENTS:

Technical Requirements Section 2.12.5.12.1.1.2 Grouting and Painting, as modified in 008066 Change Order No. 174, shall be deleted in its entirety and replaced with:

"2.12.5.12.1.1.2 Grouting and Painting

Assembly Bolts shall be grouted after installation and tensioning. Grout and grouting procedures shall be as indicated in accordance with the Outfitting and Assembly Minimum Technical Requirements (Appendix M23).

After grouting, the exposed surfaces of the bolts, bearing plates, nuts, washers, and embedded galvanized steel plates shall be cleaned, and the surfaces painted in accordance with Section 6-07.3(9)A of the WSDOT Standard Specifications (Appendix D18) utilizing a primer coat, and intermediate and top coats of moisture cure urethane Corothane I Coal Tar, or a paint system approved by the WSDOT Project Engineer. Surface temperatures for the application of an approved paint product may be in accordance with the paint manufacturer's specifications in lieu of the temperatures specified in Section 6-07.3(9)E of the WSDOT Standard Specifications. Approved accelerators may be used to reduce the minimum drying time between coats specified in Section 6-07.3(9)I of the WSDOT Standard Specifications. Galvanized surfaces need not be cleaned to bare metal but shall be prepped in accordance with Society for Protective Coatings (SSPC) Standard SSPC-SP3 Power Tool Cleaning, except that corroded areas of the galvanized embedded steel plates at the Pontoon joints shall be cleaned to bare metal in accordance with SSPC-SP11 Power Tool Cleaning to Bare Metal before painting. The Design-Builder shall submit a cleaning and painting plan to WSDOT for review and approval in accordance with WSDOT Standard Specifications Section 6-07.3(2). Painting specified in this section shall be performed prior to Physical Completion."

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PAYMENT:

As mutually agreed for the Work as described in this change order, WSDOT will reimburse the Design-Builder the lump sum amount of \$1,250,000 under the new item "STL PL CORROSION AT PNIN JNTS".

CONTRACT TIME:

There shall be no extension of Contract Time as a result of this change order.

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ITEM NO	GROUP NO	STD ITEM	ITEM DESCRIPTION	UNIT MEASURE	UNIT PRICE	EST QTY CHANGE	EST AMT CHANGE

1107	01		STL PL CORROSION AT PNTN JNTS	L.S.	0.00	0.00	687,500.00
1107	03		STL PL CORROSION AT PNTN JNTS	L.S.	0.00	0.00	562,500.00

1,250,000.00
