



July 24, 2013

TO: Mark Gaines *CM*  
MS 47354

THRU: Julie Meredith/Tom Horkan *JM*  
NB 82-99

FROM: Dave Becher *DB*  
(425) 576-7045

SUBJECT: Contract 008066  
SR 520, Floating Bridge and Landings Project  
Federal Aid No. BR-0520(047)  
**Change Order No. 108 – PFS Cycle 1 Repair**

Attached for Headquarters Construction execution and further processing is Project Engineer recommended Change Order No. 108 – PFS Cycle 1 Repair.

**Description of the Change:**

This is an Owner Initiated Change (OIC). This OIC allows WSDOT to correct a deficiency in the design for four (Three Type 1 Longitudinal and One Type 3A Cross) pontoons constructed during Cycle 1 at the Aberdeen casting basin as part of the Pontoon Construction Project. These four pontoons are "Pontoons Furnished by the State" (PFS) provided to the Design-Builder (KGM) on the Floating Bridge and Landings Project.

Cracks in the pontoon end walls which extended into the keel slab beneath the pontoons were discovered in the four Cycle 1 PFS provided to KGM in 2012. WSDOT determined that these cracks needed to be repaired and sealed to ensure the 75 year design life for the new structure. The repair plan developed and included in this change order meets the expectation for a 75 year design life.

This OIC provides a pontoon repair design to be implemented by KGM which is briefly summarized below:

1. Epoxy injection of keel and end wall cracks with widths greater than .006"
2. Installation of externally bonded Carbon Fiber Reinforced Plastic (CFRP) on the pontoon keel slabs as well as the end wall of Pontoon W
3. Repair of spall areas due to the design deficiency on the keel slabs
4. External transverse post-tensioning of the pontoon end walls

The details of the repair design are described in much greater detail in the attached change order and supporting documents.

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This design deficiency has been corrected for future cycles of PFS being constructed in the Aberdeen casting basin. Cycle 2 PFS were modified in the casting basin prior to float out. This repair design will be incorporated into the revised design for construction of Cycles 3-6 PFS to avoid field modifications in the casting basin or on Lake Washington.

**Evolution of the Change:**

After the float out of the Cycle 1 PFS in July 2012, WSDOT inspections determined that there were some cracks which were greater than .006" (defined as structural cracks) in the end walls of the larger Type 1 Longitudinal and Type 3A Cross pontoons. The Pontoon Construction Project repaired the majority of these cracks with epoxy injection. While WSDOT inspections did detect dampness along the end walls and keel slab (inside the pontoons) which could be indicative of cracking, the pontoons were also routinely damp from rain water as well as cure water, so the evidence of leaking cracks was inconclusive.

Detailed inspections of the underside of the keel slab could not be performed in the Aberdeen casting facility, and water visibility issues in the Grays Harbor area prevented high visibility dive inspection of these pontoons after float out. The pontoons were transferred from the Pontoon Construction Project to KGM in early August 2012, and these pontoons were towed to Lake Washington (except for Pontoon T which was towed to EB-1 in Tacoma).

When the pontoons arrived on Lake Washington, KGM and WSDOT performed additional inspection of the pontoons. Cracking was identified in several of the PFS, particularly Pontoon W, and damp cells were noted. These locations were noted for additional observation and potential repair.

During initial pontoon ballasting operations and preparatory operations for pontoon joining, KGM and WSDOT staff noted additional internal pontoon wall cracking and leaking between ballasted cells (these were not exterior walls – adjacent to the Lake). WSDOT determined that the internal cracking was not significant; however, crack mapping also identified damp spots along the keel slabs and end walls of the Cycle 1 pontoons.

The Project Office staff worked with the 520 Program Office along with Headquarters Construction to discuss options for investigating this issue and potentially repairing these cracks.

WSDOT Project staff also worked closely with KGM during these initial months to identify the cracks and potential options to repair the cracks. It became clear that more information was needed regarding the extent of the cracking on the pontoon end walls below the waterline and on the bottom of the keel slab. To gather this type of data, it was determined that a detailed and extensive dive inspection was required. WSDOT

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requested that KGM schedule divers to perform this inspection. WSDOT also requested KGM to start developing design/repair options to address this cracking.

Over the next seven months, extensive discussions and numerous meetings were held between WSDOT and KGM representatives to develop plans and procedures for analyzing and repairing these cracks. Key dates and letters sent to KGM are identified in this narrative.

On November 1, 2012 (WSDOT Serial Letter 0185), WSDOT formally requested that KGM perform additional pontoon inspections for pontoons V and W to verify the condition of the pontoons and the extent of potential cracking. These inspections included the following:

1. Underwater dive inspection and dive video of the keel slab and submerged sections of the exterior walls for pontoons V and W
2. Interior and exterior crack mapping for pontoons V and W
3. Inspection of existing crack repairs

In addition, WSDOT requested that KGM develop a crack repair plan to address external cracking of the keel slab and exterior end walls on the PFS as follows:

1. Repair options, including material types and construction requirements
2. Recommendations on timing of repairs
3. Expected service life of repair options

KGM engaged the services of Gerwick and Associates, a consulting engineering firm which specializes in repair to marine concrete structures, to develop this crack repair plan. The costs associated with the dive inspections, the crack mapping, inspection of existing crack repairs and development by Gerwick and Associates of a crack repair plan were covered under Change Order 58.

On January 4, 2013 (WSDOT Serial Letter 0237), WSDOT formally notified KGM that Pontoon V to W joining operations could not proceed until crack repairs were completed. WSDOT requested KGM to begin developing plans and procedures for performing the crack repair operations which were likely to include epoxy crack injection, installation of carbon fiber reinforced plastic (CFRP), and an external post-tensioning system.

On February 15, 2013 (WSDOT Serial Letter 0261), WSDOT officially transmitted the Cycle 1 PFS external post-tensioning plans for the Type 1 Longitudinal pontoons. In this letter, WSDOT requested that KGM begin procurement of materials and planning operations for this external post-tensioning work.

On March 13, 2013 (WSDOT Serial Letter 0300), WSDOT officially transmitted the Cycle 1 PFS external post-tensioning plans for the Type 3A Cross pontoon. In this letter,

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WSDOT requested KGM begin procurement of materials and planning operations for this post-tensioning work.

On March 21, 2013 (WSDOT Serial Letter 0323), WSDOT provided clarifications to details associated with the post-tensioning repair plans. These clarifications took advantage of lessons learned from the Cycle 2 PFS post-tensioning repairs completed by Kiewit-General in Aberdeen for the Pontoon Construction Project.

On April 15, 2013 (WSDOT Serial Letter 0351), WSDOT notified KGM that the loading forces for the large coffercell design developed by Gerwick and Associates did not present a capacity problem for the pontoons. WSDOT recommended that KGM proceed with development of the final large coffercell plans and shop drawings for fabrication and construction.

On April 17, 2013 (WSDOT Serial Letter 0357), WSDOT responded to KGM Serial Letter 0373 which requested approval to proceed with material procurement for the large coffercell. WSDOT provided limited approval to proceed with material procurement associated with this coffercell. WSDOT also requested that KGM provide cost information related to dry-docking options for Pontoons T and W.

On May 9, 2013 (WSDOT Serial Letter 0384), WSDOT provided direction to KGM to reserve dry-dock space at Vigor facilities in both Portland, Oregon and Seattle, Washington. The cost of this reservation was a non-refundable amount of \$600,000, which would be applied to the lease payment if these dry-docks were actually utilized. WSDOT indicated that KGM would be compensated by separate change order (Change Order 97) for this \$600,000 expense.

On May 22, 2013 (WSDOT Serial Letter 0395), WSDOT provided clarification that KGM would only need to fabricate one large coffercell to complete the repairs for the Cycle 1 PFS. In addition, this letter authorized KGM to begin procurement of all material and equipment needed to fabricate this coffercell at Jesse Engineering in Tacoma, Washington.

On June 4, 2013 (WSDOT Serial Letter 0408), WSDOT responded to KGM Serial Letter 0411 with written direction to proceed with fabrication of the coffercell at Jesse Engineering in Tacoma.

On June 6, 2013 (WSDOT Serial Letter 0412), WSDOT requested that KGM submit their final estimate for the repair work in a specific format, breaking the work into the following work elements:

1. Cost of dry-dock facilities in Portland and Seattle
2. Complete cost of coffercell fabrication and coffercell transport/tipping barge
3. Tow operations, including tow gear installation and removal

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4. Gerwick and other outside consultant engineering support

In addition, for each of the pontoons, a detailed cost estimate for the following work activities was requested:

1. Post tensioning repair
2. Epoxy injection, spall repair, and CFRP installation

KGM provided a detailed breakdown of the repair costs to WSDOT. Shortly thereafter, WSDOT and KGM began extensive discussions to review and negotiate the cost of this added work. We have attached as part of this change order package a copy of the summary of negotiations which provides additional details on the negotiation process.

During the development of this change order, extensive and on-going coordination and discussions were also held with the Pontoon Construction Project Team, Headquarters Construction, the Bridge and Structures Office, and the SR 520 Program Office. These discussions included technical discussions concerning the repair options and available options as well as the cost of the repairs.

As the dollar value of this change order exceeds the approval authority of the Project Office, the following approvals were secured:

**Approvals Provided:**

- Project Level – Dave Becher on July 7, 2013
- Region/Program Level – Tom Horkan on July 8, 2013
- Region/Program Funding Concurrence – Alan Chan on July 15, 2013
- Headquarters Construction Level – Mark Gaines on July 16, 2013
- FHWA Level – Anthony Sarhan on July 16, 2013

**Entitlement:**

This is an OIC which results in new work being assigned to the Design-Builder. As a result, the Design-Builder is entitled to additional compensation to perform the added work.

**Price:**

WSDOT and KGM negotiated a change order which increases the contract amount by \$48,760,327.00 to add this work to the contract. WSDOT elected to utilize a single large lump price to cover the majority of the work. It was our strategy to transfer risk for this repair work to KGM by forward pricing this work. Attached to this change order package are copies of the summary of negotiations, the Engineer's Estimate, and a report prepared by Stanton Constructability Services which discusses KGM's price proposal.

**DBE Goal Impacts:**

This change order significantly increases the contract value, but it does not alter the DBE goals (does not decrease the DBE percentage) for this contract. A significant portion of

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the work added by this change order is associated with heavy marine work which is difficult to subcontract out to DBEs. In addition, large portions of this work are associated with Vigor's lease (over \$6 million) and Jesse Engineering's fabrication of the large coffercell (over \$12 million) where opportunities to subcontract to DBEs are either non-existent or very minimal.

KGM has been notified by WSDOT Serial Letter 0442 that the DBE goals for this contract remain at 7% and will be calculated from the adjusted contract price, which includes the cost of this change order work. KGM has placed WSDOT on notice (KGM Serial Letter 0434) that there could be added costs associated with this requirement.

This is a potential cost issue which will be addressed, if necessary, by a separate change order.

**Contract Time:**

The Design-Builder has committed in this change order to completing the crack repair operations by June 20, 2014. Any delays to the critical path attributable to not completing the crack repair by this date, which aren't the responsibility of WSDOT, will be the responsibility of the Design-Builder.

However, due to the complexities of this added work and potential impacts to the critical path schedule, the question of contract time requires further information and analysis prior to determination of schedule impacts. This schedule analysis will also be dependent on future Cycle 3-6 PFS dates which are currently being negotiated on the Pontoon Construction Project. As a result, this change order does not address contract time. Contract time impacts and adjustments will be deferred, and addressed as necessary under a separate change order.

**Memorandum Attachments:**

- Change Order 108
- Change Order Checklist
- Final Negotiations Summary
- Stanton Constructability June 15, 2013 Memo
- SR 520 Pontoon Repair – Cycle 1 Pontoons from Pontoon Construction Project – June 3, 2013 Memo
- Engineer's Estimate
- KGM's Final Cost Proposal
- KGM Serial Letters 0373, 0400, 0411, and 0434
- WSDOT Serial Letters 0185, 0237, 0261, 0300, 0323, 0351, 0357, 0384, 0395, 0408, 0412, and 0442
- Change Orders 58 and 97
- Approval Documentation

DPB: DB  
Attachments  
PW File: 17.02.CO-108

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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: 108 PFS CYCLE 1 REPAIR


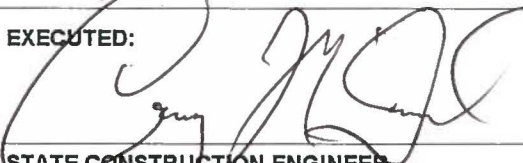

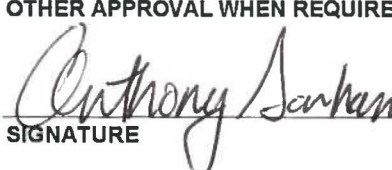
PRIME CONTRACTOR: SW0106139 KIEWIT/GENERAL/MANSON, A JOINT  
33455 6TH AVE S  
FEDERAL WAY WA 98003-6335

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

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| ENDORSED BY:<br><br><hr/> CONTRACTOR<br><br><hr/> DATE | SURETY CONSENT:<br><br><hr/> ATTORNEY IN FACT<br><br><hr/> DATE |
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ORIGINAL CONTRACT AMOUNT: 586,561,000.00  
 CURRENT CONTRACT AMOUNT: 613,459,625.00  
 ESTIMATED NET CHANGE THIS ORDER: 48,760,327.00  
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 662,219,952.00

Approval Required:  Region  Olympia Service Center  Local Agency

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| <input checked="" type="checkbox"/> APPROVAL RECOMMENDED <span style="float: right;"><input type="checkbox"/> EXECUTED</span><br><br><div style="text-align: center;"> <br/> <hr/>                 PROJECT ENGINEER <i>Engineering Manager</i><br/><br/>                 July 25, 2013<br/> <hr/>                 DATE             </div> | EXECUTED:<br><br><div style="text-align: center;"> <br/> <hr/>                 STATE CONSTRUCTION ENGINEER<br/><br/>                 7/26/13<br/> <hr/>                 DATE             </div>  |
| <input checked="" type="checkbox"/> APPROVAL RECOMMENDED <span style="float: right;"><input type="checkbox"/> EXECUTED</span><br><br><div style="text-align: center;"> <br/> <hr/>                 REGIONAL ADMIN:<br/>                 BY:<br/><br/>                 7/25/13<br/> <hr/>                 DATE             </div>           | OTHER APPROVAL WHEN REQUIRED<br><br><div style="text-align: center;"> <br/> <hr/>                 SIGNATURE <span style="float: right;">7/26/13</span><br/> <hr/>                 DATE<br/><br/>                 FHWA<br/> <hr/>                 REPRESENTING             </div> |

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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: 108 PFS CYCLE 1 REPAIR

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

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| ENDORSED BY:<br><br><hr/> CONTRACTOR<br>7/23/2013<br><hr/> DATE | SURETY CONSENT:<br><hr/> ATTORNEY IN FACT<br><hr/> DATE |
|--|---|

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|---|---|
| <input type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> EXECUTED<br><hr/> PROJECT ENGINEER<br><hr/> DATE       | EXECUTED:<br><hr/> STATE CONSTRUCTION ENGINEER<br><hr/> DATE  |
| <input type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> EXECUTED<br>REGIONAL ADMIN:<br><hr/> BY:<br><hr/> DATE | OTHER APPROVAL WHEN REQUIRED<br><hr/> SIGNATURE <span style="float: right;">DATE</span><br><hr/> REPRESENTING |



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Bond No.'s  
Travelers: 105636215  
Safeco: 023018256

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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: 108 PFS CYCLE 1 REPAIR

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: Kiewit/General/Manson, A Joint Venture<br><br>_____<br>CONTRACTOR<br><br>_____<br>DATE | SURETY CONSENT:<br>Co-Surety: Travelers Casualty and Surety Company of America<br>Co-Surety: Safeco Insurance Company of America<br>_____<br>ATTORNEY IN FACT Anne E. Strieby<br><br>_____<br>7/23/2013<br>DATE |
|---|---|

ORIGINAL CONTRACT AMOUNT: 586,561,000.00  
 CURRENT CONTRACT AMOUNT: 613,459,625.00  
 ESTIMATED NET CHANGE THIS ORDER: 48,760,327.00  
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 662,219,952.00

Approval Required:  Region  Olympia Service Center  Local Agency

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| <input type="checkbox"/> APPROVAL RECOMMENDED<br><br>_____<br>PROJECT ENGINEER<br><br>_____<br>DATE<br><br><input type="checkbox"/> APPROVAL RECOMMENDED<br>REGIONAL ADMIN:<br>_____<br>BY:<br><br>_____<br>DATE | <input type="checkbox"/> EXECUTED<br>EXECUTED:<br><br>_____<br>STATE CONSTRUCTION ENGINEER<br><br>_____<br>DATE<br><br><input type="checkbox"/> EXECUTED<br>OTHER APPROVAL WHEN REQUIRED<br><br>_____<br>SIGNATURE<br>_____<br>DATE<br><br>_____<br>REPRESENTING |
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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-Initiated Change in accordance with General Provisions Section 1-04.4(1). This change order addresses the addition of Work to repair cycle 1 Pontoons Furnished by the State (PFS), Pontoons T, U, V and W, to achieve the required Design Life of 75 years.

**Construction Requirements:**

The Design-Builder shall tow Pontoon T to the Vigor Industrial dry docking facility shipyard in Portland, OR and Pontoon W to Vigor's shipyard in Seattle, WA. The dry docking facilities shall be utilized to perform repairs to Pontoons T and W, and other Work as specified in this change order. Pontoons T and W shall be towed back to Lake Washington upon completion of the Work.

The Design-Builder is responsible for determining, with WSDOT's concurrence, whether the transport of Pontoon W through the Montlake Cut requires the removal of the structural elements constructed above the Pontoon deck. If the removal of the structural elements is determined to be necessary, the elements shall be removed in order to provide the appropriate buoyancy for Pontoon W to pass undamaged through the Montlake Cut, and shall be reconstructed once Pontoon W is returned to Lake Washington.

The Pontoons in the dry docking facilities shall be supported by blocking. The blocking for Pontoons T and W shall be performed in accordance with the following approved blocking layouts developed under a separate change order:

- \* Pontoon T Blocking Layout  
Change Order pages 9 through 11
- \* Pontoon W Blocking Layout  
Change Order pages 12 through 13

If adjustment of the blocking is deemed necessary by WSDOT to complete repairs, removal and replacement of the blocking shall be performed as directed.

Damage to Pontoons T or W that is directly attributable to the approved blocking layouts or is considered related to the performance of the Work under the PCP Contract will be the responsibility of WSDOT with respect to this Contract, and will be addressed under a separate change order in accordance with Section 1-04.4 of the General Provisions.

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The Design-Builder shall fabricate a coffer cell in accordance with the Gerwick design provided on pages 14 through 45 of this change order, which has been developed under a separate change order for a Type 1 longitudinal Pontoon incorporating a 5-year storm event rating as directed by WSDOT. The coffer cell shall be transported to Lake Washington to perform repairs and other Work on Pontoons U and V as specified in this change order. Upon completion of the Work for Pontoons U and V, the coffer cell shall be removed from the Project, and shall remain the property of the Design-Builder.

The repairs and other Work to be performed on Pontoons T, U, V and W shall be as follows:

**Pontoon T:**

- \* The Design-Builder shall perform keel slab, top deck, and exterior wall crack inspection and mapping limited to the dimensions of the set of exterior Pontoon cells parallel to each end wall as shown on page 46 of this change order. The inspection shall be in accordance with Technical Requirements Section 2.12.5.10.10.

**Pontoons T, U and V:**

- \* Transverse post-tensioning retrofit shall be performed as outlined on the plan set entitled "SR 520 Floating Bridge and Landings Project Bolt Beam Retrofit on pages 47 through 53 of this change order.

**Pontoon W:**

- \* Transverse post-tensioning retrofit shall be performed as outlined on the plan set entitled "SR 520 Floating Bridge and Landings Project Transverse Post-Tensioning Retrofit Pontoon Type 3A" on pages 54 through 60 of this change order.
- \* The Design-Builder shall perform high level vent modifications as shown on the plan set entitled "SR 520 Floating Bridge and Landings Project Transverse Post-Tensioning Retrofit Pontoon Type 3" on pages 61 through 64 of this change order.

Modifications approved by WSDOT are provided for reference on pages 65 through 71 of this change order, and may be utilized for implementation of the Work provided in the following plan sets:

- \* "SR 520 Floating Bridge and Landings Project Bolt Beam Retrofit"
- \* "SR 520 Floating Bridge and Landings Project Transverse Post-Tensioning Retrofit Pontoon Type 3A"
- \* "SR 520 Floating Bridge and Landings Project Transverse Post-Tensioning Retrofit Pontoon Type 3"

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Pontoons T, U, V, and W:

The following shall be performed as summarized in the Final Gerwick report dated April 2013 on pages 72 through 105 of this change order:

- \* Epoxy injection of cracks as outlined in Section 3.2
- \* Waterproof surface sealant shall be applied as outlined in Section 3.2 where full epoxy injection is not achievable for cracks less than 0.006 inches in width
- \* Surface preparation and application of an externally bonded carbon fiber-reinforced polymer (CFRP) system as outlined in Section 3.4
- \* Spall repair as outlined in Section 3.5
- \* Other repair as indicated in Section 3.6

Performance of the repairs shall not extend beyond the locations and limits identified in the Final Gerwick report dated April 2013 unless authorized by WSDOT.

Performance of unforeseen repairs not described in this change order or identified in the Final Gerwick report, shall be as approved in writing by WSDOT.

Technical representatives from Gerwick may be present during construction to advise the Design-Builder regarding the performance of the repairs and other Work as identified in this change order. Prior to Gerwick beginning any construction technical support, the scope of work, including the planned payments for travel and per diem compensation shall be approved by WSDOT.

The Design-Builder shall furnish all documentation in accordance with Technical Requirements Section 2.25 (Control of Materials) and 2.28 (Quality Management Plan). All materials and testing shall meet the requirements of WSDOT Standard Specifications (Appendix D18), Technical Requirements Section 2.25 and Section 2.28.

Measurement and Payment:

WSDOT will reimburse the Design-Builder under the new lump sum item "PFS Cycle 1 Repairs" in the amount of \$45,598,780 which shall constitute full compensation for the performance of all Work related to the following:

- \* The use of Vigor Industrial dry docking facilities in Portland, OR and Seattle, WA, and the transport of Pontoon W to and from the facility in Seattle.
- \* Additional insurance costs associated with towing Pontoon T.
- \* Pontoon W buoyancy determination.
- \* Blocking to support Pontoons T and W in accordance with the approved blocking layouts.
- \* Fabrication, transport, use and removal of the coffer cell for the Type 1 longitudinal Pontoons U and V.
- \* Transverse post-tensioning retrofit.
- \* High level vent modifications.

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- \* All repair Work as outlined in Section 3.6 of the Final Gerwick Report dated April 2013 that has no individual item established with a separate basis of measurement under this change order. This includes the application of the waterproofing surface sealant where epoxy injection is not achievable. The estimated quantity of waterproofing sealant for each Pontoon is as follows:
  - \* Pontoon T = 3,500 SF
  - \* Pontoon U = 3,500 SF
  - \* Pontoon V = 3,500 SF
  - \* Pontoon W = 5,000 SF
- The total estimated quantity of the four Pontoons is 15,500 SF. Should an increase in the total estimated quantity of 15,500 SF of the waterproofing sealant become necessary, the excess quantity will be addressed under a separate change order in accordance with Section 1-04.4 of the General Provisions.
- \* All technical support other than that provided by Gerwick for the performance of the Work.
- \* Submittal of all required documentation associated with the Work.

No Vigor dry docking liquidated damages attributable to WSDOT are included in the lump sum item "PFS Cycle 1 Repairs".

No specific unit of measure shall apply to the Pontoon T towing. Payment for towing Pontoon T, and associated costs, to and from Vigor's dry docking facility in Portland, OR, shall be calculated based on the actual invoice cost with the Project negotiated markup for forward-priced Work added to the total under the new item, "Pontoon T Tow". Associated towing costs shall include but not be limited to the primary tows, assist tugs, placement and removal from dry docking, additional dock space fees, and other costs as deemed reimbursable by WSDOT. The total reimbursement shall not exceed \$917,413 unless otherwise approved in writing by WSDOT.

No specific unit of measure shall apply to the Work to remove and replace the structural elements above the Pontoon W deck or to perform unforeseen repairs to Pontoons T, U, V or W not described in this change order or identified in the Final Gerwick report. If required, reimbursement for this Work shall be calculated based on the actual cost of direct labor, materials and equipment usage with the Project negotiated markup for forward-priced Work added to the total under the new item "Addtl Pontoon Work". The total reimbursement shall not exceed \$200,000 unless otherwise approved in writing by WSDOT.

No specific unit of measure shall apply to the Work involving the removal and replacement of blocking deemed necessary by WSDOT to complete repairs. If required, payment shall be calculated based on the actual cost of direct labor, materials and equipment usage with the Project negotiated markup for forward-priced Work added to the total, and will be made under the new item "Vigor Blocking" by calculation. The total reimbursement shall not exceed

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\$300,000 unless otherwise approved in writing by WSDOT.

No specific unit of measure shall apply to the construction technical support provided by Gerwick. Measurement for the construction technical representative support provided by Gerwick shall be calculated based on the actual cost of direct labor, materials and equipment usage with the Project negotiated markup for forward-priced Work added to the total. Payment will be made under the new item "Addtnl Gerwick Support" by calculation. No reimbursement will be provided for construction technical support provided prior to WSDOT's approval of the scope of work to be performed or for support provided after June 20, 2014 unless authorized by WSDOT. The total reimbursement shall not exceed \$250,000 unless otherwise approved in writing by WSDOT.

Measurement of the crack repair by epoxy injection shall be by the linear foot of filled crack completed in accordance with the requirements of this change order. Reimbursement will be provided under the new item "Epoxy Injection" at the unit price of \$48.50 per linear foot.

Measurement of the externally bonded CFRP material applied for the CFRP system shall be by the square foot of concrete surface area reinforced by the externally bonded CFRP system. Reimbursement will be provided under the new item "Externally Bonded CFRP" at the unit price of \$99.27 per square foot.

Measurement of the CFRP topcoat applied for the CFRP system shall be by the square foot of concrete surface area reinforced by the externally bonded CFRP system. Reimbursement will be provided under the new item "CFRP Topcoat" at the unit price of \$1.67 per square foot.

Measurement of spalls repaired in accordance with this change order shall be by cubic foot, and shall be the neat line volume of material in the spall repair area on a Pontoon. Reimbursement shall be provided under the new item, "Spall Repair" at the unit price of \$5,184.00 per cubic foot. Spall repairs attributable to design deficiencies will be paid by this bid item. Unconsolidated concrete or other deficiencies shall be tracked separately for determination of responsibility and payment under this change order.

In accordance with General Provisions Section 1-09.3(1), upon final determination of the quantities for unit priced items, WSDOT will issue a Change Order setting forth the final adjustment to the Contract Price. The final determination will be made upon completion of all Work specified in this change order.

If the Work under this change order impacts the Design-Builder's costs for the other Work under this Contract, WSDOT will make an equitable adjustment in accordance with Section 1-04.4 of the General Provisions.

**Time:**

There shall be no increase in Contract Time addressed under this change order. Contract time will be addressed as necessary under a separate change

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order. The Design-Builder warrants that all Work associated with this change order shall be completed no later than June 20, 2014. Any delays beyond this date, attributable to this change order and not the responsibility of WSDOT, shall be the responsibility of the Design-Builder.

**DBE Goal:**

The Design-Builder reserves its rights, to the extent provided for under the Contract, to seek additional compensation for added costs resulting from an increase in DBE requirements not otherwise included in the cost of this change order should WSDOT determine increased DBE participation is required as a result of the change order.

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| <b>CONTRACT NO: 008066</b> |          |          |                  | <b>CHANGE ORDER NO: 108</b> |            |                |                |
|----------------------------|----------|----------|------------------|-----------------------------|------------|----------------|----------------|
| ITEM NO                    | GROUP NO | STD ITEM | ITEM DESCRIPTION | UNIT MEASURE                | UNIT PRICE | EST QTY CHANGE | EST AMT CHANGE |

|      |    |  |                        |      |          |           |               |
|------|----|--|------------------------|------|----------|-----------|---------------|
| 1051 | 01 |  | PFS CYCLE 1 REPAIRS    | L.S. | 0.00     | 0.00      | 45,598,780.00 |
| 1052 | 01 |  | PONTOON T TOW          | CALC | 0.00     | 0.00      | 917,413.00    |
| 1053 | 01 |  | ADDTNL PONTOON WORK    | CALC | 0.00     | 0.00      | 200,000.00    |
| 1054 | 01 |  | VIGOR BLOCKING         | CALC | 0.00     | 0.00      | 300,000.00    |
| 1055 | 01 |  | ADDTNL GERWICK SUPPORT | CALC | 0.00     | 0.00      | 250,000.00    |
| 1056 | 01 |  | EPOXY INJECTION        | L.F. | 48.50    | 1,000.00  | 48,500.00     |
| 1057 | 01 |  | EXTERNALLY BONDED CFRP | S.F. | 99.27    | 13,500.00 | 1,340,145.00  |
| 1058 | 01 |  | CFRP TOPCOAT           | S.F. | 1.67     | 13,500.00 | 22,545.00     |
| 1059 | 01 |  | SPALL REPAIR           | C.F. | 5,184.00 | 16.00     | 82,944.00     |

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48,760,327.00  
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