TENDER 18-14

BIG ROCK BOAT RAMP RECONSTRUCTION

ADDENDUM NO. 1

May 4th, 2018

This addendum forms part of the Tender Documents and shall be read, interpreted, and coordinated with all other parts. The costs of all elements contained herein shall be included in the submission. The following revisions, changes, corrections, additions, and or deletions supersede the information contained in the original Documents to the extent referenced and shall become part thereof.

Addendum Item 1 - Questions and Answers

1. **Proponent Question:**

   On the DWGs they spec a 12" (300mm) x .500 wall pipe. This is not a standard size as you know. Usually the pipe is 12.75 OD, I'm not sure if this is a question the needs to be asked or if they really want special order pipe.

   Response:

   Drawings list nominal diameter for steel pipe pilings for which OD is 12.75" - No specialty order required.

2. **Proponent Question:**

   For the block outs, they seem to think they can be precast into blocks on a 15º slope?

   Response:

   Yes, as there needs to be some clear distance between the pile and the concrete precast block. More of a field fit issue as we did not specify the clear distance and the position of the pile relative to the slab and the placement of the blocks is subject to some variability.

3. **Proponent Question:**

   Could you please clarify whether we can use 19 mm Gravel Base Type 2 or # 4 AASHTO M43 stone for the boat ramp base structure?

   Response:

   Use #4 AASHTO M43.

4. **Proponent Question:**

   Item 12 states common excavation (within Basin & Approach Channel) & Item 13 states the same thing, but adds the disposal of said materials to the north side of the north break water. What common excavation does item 12 refer to, that is not already covered under item 13?

   Response:

   #12 common ex with off-site disposal – SoQP updated for clarification (see Appendix 1A attached).

5. **Proponent Question:**

   Is item 16 paid by square meters as measured along the outside slope of the placed rock (including the length under the toe protection mattress) times the length between stations? Or do we subtract the area under said mattress?

   Response:

   Measurement will be made by surveyed 3D surface area. Minor adjustment will be made to account for the thinner cross section at the toe of the slope per details on sheet C04.

6. **Proponent Question:**

   Item 18 (Class 100 Rip Rap) is shown to be paid as a per square meter unit. The supplementary conditions said payment is per surveyed cubic meter. Is the unit on the tender form incorrect?

   Response:

   Item 18 relates to the Class 100 ramp armour shoulder as shown in Detail EE, Sheet C05. Payment for Item 18 will be made as shown in the SoQP. Supplemental Specification 31 37 10 1.4.2 relates to the Class 100 breakwater core (item 20 in the SoQP).

7. **Proponent Question:**

   Item 16 Class 2000 Riprap has a quantity of 1,570 square meters. It requires more than 3,000 square meters to complete the breakwaters Class 2000 area, based on slope measure. Even if you assume 100% of item 26 is Class 2000 (670 square meters) the area is still short. Could you please clarify the square meter difference?

   Response:

   See revised SoQP (Appendix 1A attached) and revised Supplementary Specification 31 37 10 Addendum #1.

8. **Proponent Question:**

   On sheet CO6, cross section 0+040, the existing profile of the class 2000 rock is approximately 2.6 meters above the proposed original ground. Are we to assume all the rock below 3.8 is accepted for the class 2000 rock placement and that we can build from elevation 3.8 to the crest as the new payment zone as noted under tender 16? Or is it the owner's intent for the existing

rock from 3.8 meter elevation down to elevation 0.6 to be removed under tender item 26 and be replaced into whatever class rock zone it fits into and this is also paid under tender item 26?

Response:

North breakwater is to be constructed as shown in detail DD on sheet C04. Only the south breakwater has a foundation constructed from relocated rock from existing breakwaters and broken concrete from onsite (detail AA & BB on Sheet C04). Payment for relocation of existing breakwaters is made under item 26 in the SoQP.

9. **Proponent Question:**

Where is the tender item for Class 100 riprap at a thickness of 1.5 meters (Sheet C04 x-sections AA, BB & CC? Depending on how much of the existing rock is reusable for this item there could be up to 1,500 cubic meters. Or is this paid under item 26?

Response:

See question 6 response.

10. **Proponent Question:**

a. Does tender item 17 paid for additional supply and placement of class 500 rip rap once item 24 has been completed?
b. If so, do we assume any existing embankment rip rap that does not meet specifications is to be removed from site?

Response:

a. Yes.
b. No. All embankment rip rap is to be reused.

11. **Proponent Question:**

Why do they refer to Class 100 as 75 mm crush rock? The rock specification is 10 kg to 300 kg. Please clarify the note on sheet COS section EE?

Response:

Contractor is to infill the voids in the top of the Class 100 ramp armour shoulders with 75 mm crushed rock. Payment for 75 mm crushed rock is made under item 28 in the SoQP.

12. **Proponent Question:**

Is item 20 based on the volume required from the existing rock lens to the underside of the Class 100 Rip Rap or is it base from the original ground sections shown on the breakwater cross sections?

Response:

See Question 8 response.

13. **Proponent Question:**

    Is item 21 defined as the lineal meters along the toe line or at center of mass?

    Response:

    Toe of breakwater.

14. **Proponent Question:**

    Does item 24 only refer to the land side embankment (west end of site)?

    Response:

    See Supplemental Specification 31 37 10 1.4.6 and Sheet D01 & GA01.

15. **Proponent Question:**

    Does tender item 26 include the price to sort and place said rock into the appropriate lens within the new breakwaters? What happens if some of the existing break water rock is unable to meet the rock specifications?

    Response:

    Existing rock meeting class 2000 specifications should be sorted and placed in the Class 2000 layer on the new breakwaters. All other sized rocks should be relocated into the foundation of the south breakwater per detail AA & BB on Sheet C04.

16. **Proponent Question:**

    Does tender item # 15 include the fabric under tender items 17, 18 and under armour layer to retain future gravel infill for dune grass?

    Response:

    Yes.

17. **Proponent Question:**

    Do we need to sub-cut the existing ground from station 0+000 to station 0+015 to allow for the placement of Class 2000 rip rap? If so, is the beach materials classified as excavation under tender item 11. All existing rip rap removal in this area will be paid under tender item 24. Is this correct?

    Response:

    Yes.

18. **Proponent Question:**

Does the 10 meters of concrete wall on sheet DO1 need to be replaced after the installation of the new Concrete storm pipe?

Response:

No.

19. **Proponent Question:**

Does tender item 11cover the excavation of dirt to subgrade as per section EE, BB and between station 0+000 & 0+015 on the south breakwater? Please clarify why the volume is so high? Does this item require all materials to be hauled off site?

Response:

Quantity mainly covers excavation of ramp and embankments. Material is to be removed from site.

20. **Proponent Question:**

Does tender item 12 refer only to the excavation of basin and approach channel that is required to be disposed of off-site?

Response:

See question 4 response.

21. **Proponent Question:**

Can we extend the site limits as shown on sheet GA01 out to the highway property line? Tender items 24 and 26 alone will require utilization of lot A plan 36445 and the crown land areas south of the existing paved entrance to the boat ramp. Site trailer, none rock materials and parking with utilize the north side of said boat ramp area.

Response:

Contractor may use Lot A Plan 36445 and Crown Land that are within the Big Rock Boat Ramp property as shown on Contract Drawings. The traffic requirements of the Contract Documents must be met - tenderers are directed to review Supplemental Specification 01 55 00.

Addendum Item 2 – Updated Tender Documents

The tender documents have been updated and as follows and are attached to this addendum.

1. Replace Appendix 1 with Appendix 1A (attached). Updates are shown in bold and highlighted in yellow.
2. Replace Supplementary Specification 31 37 10 with the attached Supplementary Specification 31 37 10 Addendum #1. Item 1.4.2 has been updated so that Class 2000 riprap is paid by volume.
3. Add the following Supplementary General Condition 4.20.1

Daily Records	4.20.1	***(add new clause 4.20.1 as follows)*** The Contractor shall, for each Day, keep an accurate, complete and up-to-date record, in a form satisfactory to the Contract Administrator, showing, on a shift-by-shift basis, all Contractor and Subcontractor labour, equipment and material allocations on the project. The Contractor shall submit such resource allocation records to the Contract Administrator weekly, for the current week. This is in addition to the requirements of GC 10.3

End of Addendum

Acknowledgement of this Addendum in your Tender submission is required.

Clinton J. Crook, SCMP, CPSM
Purchasing & Risk Management Officer

Appendix 1A (issued 04May18)

SCHEDULE OF QUANTITIES AND PRICES – GST EXCLUDED
(See paragraph 5.3.1 of the Instructions to Tender – Part II)
(All prices and *Quotations* including the *Contract Price* shall include all *Taxes,* but shall not include *GST, GST* shall be shown separately.)

ITEM	DIV.	SECTION	PARA.	TITLE	QUANTITY	UNIT	UNIT PRICE	TOTAL
	Div 01	**GENERAL REQUIREMENTS**						
1			Supp. Spec 3.1	Mobilization & Demobilization (Max. 10% of Tender Price)	1	Lump Sum		
		01 55 00		**TRAFFIC CONTROL, VEHICLE ACCESS & PARKING**				
2			1.5.1	Traffic control during construction	1	Lump Sum		
		01 57 00		**ENVIRONMENTAL PROTECTION**				
3			1.6.1	Development of the EMP	1	Lump Sum		
4			1.6.2	EMP Implementation, Monitoring & Reporting	50	Daily		
	Div 03	**CONCRETE**						
		03 30 53		**CAST-IN-PLACE CONCRETE**				
5			1.5.1	Cast-in-place Ramp Slab 250mm thick with 600mm thickened edges	480	Sq.m.		
6			1.5.6	Cast-in-place Foot Ramp including vertical pipe and end cap	2	Each		
		03 40 01		**PRECAST CONCRETE**				
7			1.4.6	Precast Ramp Slabs 250mm thick	293	Sq.m.		
8			1.4.7	Precast Butress Blocks	37	Each		
							Sub-Total Page 9 to Summary	

Tenderer's Initial | Owner's Initial

ITEM	DIV.	SECTION	PARA.	TITLE	QUANTITY	UNIT	UNIT PRICE	TOTAL
	Div 31	**EARTHWORKS**						
		31 23 01		**EXCAVATING, TRENCHING AND BACKFILLING**				
9			1.10.3	Over Excavation and Backfill with 75mm Pitrun Gravel	50	Cu.m.		
		31 24 13		**ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION**				
10			1.8.4	Mass Excavation (Removals)	1	Lump Sum		
11			1.8.5	**Common Excavation Off site disposal**	1000	Cu.m.		
12			1.8.5	**Common Excavation (within Basin and Approach Channel) Off site disposal**	550	Cu.m.		
13			1.8.14	Basin and Approach Channel Excavation - Dump & Spread Material on Beach North of North Breakwater	1100	Cu.m.		
14			1.8.15	Breakup of Existing Boat Ramp Slab, Concrete Block Wall and Concrete Wall and Relocation into South Breakwater Core	1	Lump Sum		
		31 32 19		**GEOSYNTHETICS**				
15			1.6.1	Non-Woven Filter Fabric Geotextile	500	Sq.m.		
							Sub-Total Page 10 to Summary	

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ITEM	DIV.	SECTION	PARA.	TITLE	QUANTITY	UNIT	UNIT PRICE	TOTAL
		31 37 10		**RIPRAP**				
16			**1.4.2**	**Class 2000 Riprap**	**4900**	**Cu.m.**		
17			1.4.1	Class 500 Riprap 1.2m thick	400	Sq.m.		
18			1.4.1	**Class 100 Riprap Shoulder, 0.6m to 1.2m thick**	120	Sq.m.		
19			1.4.1	Class 25 Riprap Apron, 0.8m thick	27	Sq.m.		
20			1.4.2	Class 100 Riprap Core	**1350**	Cu.m.		
21			1.4.3	Toe Protection Matress	100	Lin.m.		
22			1.4.4	Scour Protection Trench, 3.0m wide, 1.2m thick	50	Lin.m.		
23			1.4.5	Debris Barrier	73	Lin.m.		
24			1.4.6	Removal, Stockpile and Reuse of Embankment Riprap	1	Lump Sum		
25			1.4.7	Gravel Retention Berm	15	Lin.m.		
26			1.4.8	Relocation of Existing Breakwater Riprap	1480	Cu.m.		
		31 62 16		**STEEL PIPE PILES**				
27			1.4.1	Steel Pipe Piles	87	Lin.m.		
	Div 32	**ROADS AND SITE IMPROVEMENTS**						
		32 11 16.1		**GRANULAR SUB-BASE**				
28			1.4.2	75mm Crushed Granular Sub-Base	150	Tonne		
		32 11 23		**GRANULAR BASE**				
29			1.4.1	19mm Crushed Granular Base (Force Account Allowance)	1	Lump Sum	$ 7,500.00	$ 7,500 .00
							Sub-Total Page 11 to Summary	

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ITEM	DIV.	SECTION	PARA.	TITLE	QUANTITY	UNIT	UNIT PRICE	TOTAL
		32 12 16		**HOT-MIX ASPHALT CONCRETE PAVING**				
30			1.5.7	Saw Cut Asphalt or Concrete Pavements for permanent pavement restoration	20	Lin. M.		
31			1.5.9	Coordination with Owner's Asphalt Concrete Contractor and Base Preparation for Paving	1	LS		
		31 31 13		**CHAIN LINK FENCES AND GATES**				
32			1.5.4	1.2m Tall Handrail	12	Lin. M.		
	Div 33	**UTILITIES**						
		33 01 30.1		**CCTV INSPECTION OF PIPELINES**				
33			1.6.2	CCTV Pipeline Inspection	34	Lin. M.		
		33 40 01		**STORM SEWERS**				
34			1.6.1, 1.6.2	Sewer Pipe C76 Class V Concrete 900mm diameter, for all depths of main; Imported Backfill	34	Lin. M.		
35			1.6.12	Headwall c/w energy dissipators, outlet grill, Class 25 riprap channel lining & filter fabric	1	Each		
		33 44 01		**MANHOLES AND CATCHBASINS**				
36			1.5.1.1	Manhole base, lid, slab, cover, frame, riser rings and riser sections; 1500mm diameter	1	Each		
							Sub-Total Page 12 to Summary	

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ITEM	DIV.	SECTION	PARA.	TITLE	QUANTITY	UNIT	UNIT PRICE	TOTAL
	Div 35	**WATERWAY AND MARINE CONSTRUCTION**						
		35 51 50		**INSTALLATION OF FLOATING DOCKS**				
37			1.3.1	Installation of Floating Docks	1	Lump Sum		

Sub-Total Page 13 to Summary	
Sub-Total Page 9	
Sub-Total Page 10	
Sub-Total Page 11	
Sub-Total Page 12	
Sub-Total Page 13	
TOTAL (GST Excluded)	

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1.0 GENERAL

.2 ***(Add)***

In the case of conflict between this specification and the BCMoTI Section 205 Riprap Specification, the terms of the BCMoTI Section 205 Riprap Specification will prevail.

1.3 Samples

.1 ***(Delete and Replace with)***

For each class of riprap, three representative samples shall be set aside for review by the Contract Administrator at the quarry, as follows:

.1 D_{15} sample - painted Red
.2 D_{50} sample - painted Green
.3 D_{85} sample - painted Yellow

.2 ***(Add)***

The following percentages of riprap are to be inspected and approved by the Contract Administrator while in stockpile, prior to leaving the quarry:

.1 85% of Class 2000 riprap
.2 50% of all other riprap classes

.3 ***(Add)***

The Contractor is to prepare a test panel of Class 2000 riprap armour for review by Contract Administrator. The test panel shall be a minimum of 10m wide and shall be the full design height as shown in the Contract Drawings. The test panel shall be representative of the finish for all riprap armouring and will demonstrate that the riprap surface is in accordance with the Contract Documents.

1.4 Measurement and Payment

.1 ***(Delete and replace with)***

Measurement for machine or hand placed graded riprap armouring shall be for each specified Class and thickness and will be for the actual area placed. No allowance will be made for the quantity of rock placed in excess of these dimensions. Construction, maintenance and removal (if required) of haul roads is considered incidental to payment made under this Section.

.2 ***(Add)***

Payment for Class 2000 and Class 100 Riprap includes all work and materials required to supply and place the material to the lines and levels shown on the Contract Drawings. Measurement will be by actual volume placed, based on in-place cross sections at sufficient and equal intervals taken by Contract Administrator in areas of riprap placement.

.1 Initial cross sections shall be taken after the existing breakwater riprap and broken up concrete has been

relocated to the inner core area and immediately prior to any Class 100 riprap placement.

.2 Interim cross sections shall be taken upon completion of Class 100 riprap placement to lines and levels required, and prior to placement of the Class 2000 riprap armouring.

.3 Interim cross sections shall be taken upon completion of placement of the relocated Class 2000 riprap from the existing breakwaters, and prior to placement of imported Class 2000 riprap armouring. (Payment for relocation of Class 2000 riprap is made under Section 1.4.8 of this Supplementary Specification.)

.4 Final cross sections will be taken upon completion of Class 2000 riprap placement to lines and levels required.

.3 ***(Add)***

Measurement for Toe Protection Mattress includes all work and materials required to place the toe protection mattress as shown on the Contract Drawings. Measurement will be by lineal metre.

.4 ***(Add)***

Payment for Scour Protection Trench includes all work and materials required to excavate trench, supply and place riprap into trench, backfill trench with native beach gravels and spread remaining beach gravels. Measurement will be by lineal metre.

.5 ***(Add)***

Payment for Debris Barrier includes all work and materials required to place the debris barrier as shown on the Contract Drawings. Measurement will be by lineal metre.

.6 ***(Add)***

Payment for Stockpile and Reuse of Embankment Riprap shall include all work and materials required to stockpile embankment riprap on-site and reuse on embankment as specifically designated on the Contract Drawings. This item will be paid as a lump sum.

.7 ***(Add)***

Payment for Gravel Retention Berm includes all work and materials required to excavate supply and place Class 100 and Class 2000 riprap as shown on the Contract Drawings. Measurement will be by lineal metre measured along the top of the gravel retention berm.

.8 ***(Add)***

Payment for Relocation of Existing Breakwater Riprap shall include all work and materials required to relocate the existing breakwater riprap as shown on the Contract Drawings.

Measurement will be made based on volumes calculated from survey cross sections taken prior to relocation of the riprap.

.9 ***(Add)***

Payment for Class 25 riprap used for storm outlet structure will be made under pay items in Supplementary Section 33 40 01 - Storm Sewers – 1.6.12.

1.5 Inspection and Testing

.2 ***(Add)***

Standard test methods relating to material type, characteristics, and testing of riprap and aggregates typically associated with riprap installations are provided. The test methods are intended to ensure that the rock is dense and durable, and will not degrade over time. Rocks used for riprap should only break with difficulty, have no earthy odor, no closely spaced discontinuities, and should not absorb water easily. Rocks composed of appreciable amounts of clay or silt shall not be accepted for use as riprap.

.3 ***(Add)***

For each class of riprap used, the Contractor shall provide the Contract Administrator with test results for each test shown in Table 205-C and for testing for Acid Rock Drainage and Metal Leaching at least 5 days prior to placement of the material or as required by the Contract Administrator. Testing shall meet the BC Ministry of Transportation and Infrastructure's requirements outlined in the Ministry's Technical Circular T04-13. Ministry technical circulars are available on-line at:
http://www.th.gov.bc.ca/publications/Circulars/all_technical.asp

TABLE 205-C RECOMMENDED TESTS FOR RIPRAP QUALITY

Property	Test Designation	Allowable Value
Specific Gravity	ASTM D6473	≥2.60
Absorption	ASTM D6473	≤1%
Soundness by use of Magnesium Sulphate	ASTM D5240	≤10% (following 5 cycles)
Micro-Deval Abrasion Loss Factor	ASTM D6928	≤20%

1.6 (Add) Submittals

.1 ***(Add)***

A Riprap Quality Control Plan prepared by a Geotechnical Engineering company must be submitted to the Contract Administrator for review prior to transporting any riprap. This plan shall include provision of necessary submittals and tests all

according to MoTI Section 205 Riprap Specification. This plan is to provide details of weigh scales and procedures proposed for recording and verifying tonnes of riprap shipped. Arrange for contract administrator to visit weigh facility. Also as part of Quality Control Plan maintain representative samples of D_{15}, D_{50} and D_{85} samples for each armouring rip rap class conveniently laid out for use by quarry and inspector during creation of stockpiles in quarry. The purpose and limitations of review by the Contract Administrator will be consistent with the purpose and limitations of GC 5.4.

2.1 PRODUCTS – Riprap

.1 ***(Delete and replace with)***

Rock shall be hard, durable, and angular quarry rock of a quality that will not disintegrate on exposure to salt water or the atmosphere with a specific gravity not less than that shown in Table 205-C. The gradation of rock sizes (mass in kg) for each class of riprap shall conform to Table 205-A.

TABLE 205-A GRADATION OF ROCK SIZES IN EACH CLASS OF RIPRAP

CLASS OF RIPRAP (kg)	*NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION PERCENTAGE SMALLER THAN GIVEN ROCK MASS (kg)		
		15%	50%	85%
10	350	1	10	30
25	450	2.5	25	75
50	550	5	50	150
100	700	10	100	300
250	1000	25	250	750
500	1200	50	500	1500
1000	1500	100	1000	3000
2000	2000	200	2000	6000
4000	2500	400	4000	12000

* Unless specified elsewhere in Contract Documents

.2 The Gradation of rocks shall be well-graded, approximately the specified or directed sizes, and individual rocks minimum dimension shall be greater than one-third its maximum dimension and none shall have a mass greater than five times that of the specified class of riprap.

.3 For visual comprehension only, Table 205-B indicates the approximate average dimension of an angular rock for each specified class of riprap.

TABLE 205-B APPROXIMATE AVERAGE DIMENSION OF AN ANGULAR ROCK FOR EACH SPECIFIED ROCK CLASS MASS (Sg=2.640)

CLASS (KG)	APPROX. AVERAGE DIMENSION (mm)		
	15%	50%	85%
10	90	195	280
25	120	260	380
50	155	330	475
100	195	415	600
250	260	565	815
500	330	715	1030
1000	415	900	1295
2000	525	1130	1630
4000	660	1425	2055

3.0 EXECUTION

3.1 Surface Preparation

.4 ***(Add)***

Construct and maintain haul roads as required to complete the work.

3.2 Placement

.1 ***(Delete and replace with)***

At the toe of sloped riprap, a sufficient number of the larger rocks shall be placed to form a firm foundation. The remaining larger rocks shall be regularly spaced, at least one every 2.5 m², when placing the general rock mass to the nominal or required thickness over the area indicated. Smaller rocks or spalls shall be well hammered in to fill the interstices and to form a closely massed regular surface. Continue placement working up slope.

3.3 Finishing Tolerances

.1 ***(Delete and replace with)***

Ensure finished Class 2000 riprap is within +200mm to -200mm of specified grade. Ensure all other classes of riprap are within +100mm to -100mm of specified grade.

END OF SECTION 31 37 10