



June 14, 2018

Dear Proponents

**RE: Heritage Wharf Cathodic Protection**

The Government of Bermuda, Ministry of Public Works has received the following questions from interested bidders and offers the following answers that will form Addendum 1.

*The following addendum supersedes information contained in drawings and specifications issued for this project to the extent referenced. This addendum forms part of the Tender Documents and is subject to all of the conditions set out in the contract conditions.*

1. For clarification, the tender requirements are unchanged from those in the previous tender in February 2018, with the exception of the removal of the requirement to protect the rebar within the bridge, main deck and dolphins. Therefore, the requirements of these tender documents are identical to those of the additional bid request of 2<sup>nd</sup> March 2018. What follows below is largely a reiteration of the addenda issued on the February 2018 tender.
2. For clarification, the following piles are to receive cathodic protection:
  - Bridge (54 total)
  - Main Deck (164 total)
  - 4 x mooring dolphins each with 10 piles (40 total)
  - 2 x breasting dolphins, each with 8 piles (16 total)
  - 5 x catwalk supports, each with 3 piles (15 total)
  - Total Number of Piles 289
3. Relevant Drawings, issued by Entech (supersedes those listed in the Mott MacDonald Specification Document table 1.1). All are attached to this Addendum.
  - S-5 Pier General Plans and Sections
  - S-7 Mooring Dolphin
  - S-8 Breasting Dolphin
  - S-9 Catwalk Plans and Sections
  - S-10 Pier Sections and Details
  - S-11 Pier Sections and Details
  - S-16 Sections and Details
  - S-22 Pile Number Layout (indicating bridge and main deck)



---

#### 4. Reference Documents

- Cathodic Protection Performance Specification March 2013 Revision A. Be aware that this document was produced to be used as part of the Heritage Wharf Improvement Works project in 2013/14.
- Onsite Engineering Services Limited – Heritage Wharf Pile Inspection Report 30 August 2017
- Onsite Engineering Services Limited – Heritage Wharf Pile Thickness Report 11 September 2017

5. Can you tell me the total approximate length of the piles? The measurement is not clear in the document.

- Response: Typical water depths are between 40-45' below chart datum. Piles extend a further 18' minimum into firm limestone stratum, and typically 3' to 4' above chart datum to the underside of the deck/pile cap.

6. The document states that the new dolphins already have anodes installed on them. They also state that the CP is in good conditions can you confirm that this is the case, and why are you asking for a new CP for these locations?

- Response: The "new" dolphins do not require new cathodic protection. Entech Drawings S-5 details the extent of the works.

7. Kindly provide painting details. Is it fully painted or bare?

- Response: The piles are unpainted, but were installed with a protective coating. Per the photographs and report by Onsite Engineering in Annex C, the protective coating is peeling away in a number of locations.

8. If they are painted, up to which level?

- Response: See point 7 above.

9. Which level we can consider as seabed level ? 11.5m or 12.5m. Kindly confirm.

- Response: See point 5 above.

10. Piles toe level is 30m? Kindly confirm.

- Response: See point 5 above.

11. The piles that need to be protected total 289? Kindly confirm.

- Response: Correct.



12. Kindly provide LAT level.

- Response: Chart Datum plus 0.100

13. In the Performance Specification, Design Requirements and Criteria, paragraph 2.5, you require the use of an initial coating breakdown factor of 5% for immersed areas and 50% for buried areas, and a depletion rate of 2% per year.

Do we have to use the same conditions in our design: "initial coating breakdown factor of 5% for immersed areas and 50% for buried areas, and a depletion rate of 2% per year" for the existing old piles that we are going to protected?

- Response: This part of the specification shall be used where practical. Piles shall not be removed and existing buried piles shall not be exposed. Bidders are asked to outline any advantages in their proposal which may protect buried sections or the interface between submerged and buried.

14. Can you confirm the mean current density at 100 mA/m<sup>2</sup>. This value is 43 percent higher than what we typically use in the Caribbean sea (70 mA/m<sup>2</sup>)

- Response: The mean current density used in this project is higher, due to the higher salinity in our waters. This reduces the resistivity and potentially increases corrosion in the splash zone. The figure used here (100mA/m<sup>2</sup>) was specified following experience on structures in similar saline conditions in other parts of the world. The mean current density is confirmed.

15. Can you confirm the design life is 50 years. This value is more than double of what is typically use (20 years)

- Response: Due to the age of the existing deck and piles, and the corrosion what has already taken place, the design life will be reduced to 30 years.

16. Drawing S-5 does not list the dimensions for the sheet. However, S-22 indicates there are 88 sheet piles present on the dock and no indication these are receiving cathodic protection. Please confirm these are beyond the scope of this bid. If they are within the scope, please provide the sheet pile depths and any other dimensional details.

- These sheet piles do not form part of this RFP

17. Please confirm that a NACE Cathodic Protection Specialist CP4 with extensive experience offshore would be an acceptable equivalent to a Level 3 Marine Sector specialist in accordance with BS EN 15257.

- An experienced offshore NACE Cathodic Protection Specialist CP4 would be accepted as equivalent to a Level 3 Marine Sector specialist in accordance with BS EN 15257.

18. Please confirm that topside welding is allowed to the pile during the anode replacement phase after 10 years.



- 
- Topside welding may be allowed to the pile during 10<sup>th</sup> year anode replacement but we require seeing the method documented including specification of post weld remediation / corrosion protection.
19. Does the Form of Agreement have to be filled in exempt from signatures and submitted with the RFP Response as like prior or is it not to be included?
- The Form of Agreement is not to be completed at this stage. See the mandatory Submission requirements on page 22.
20. According to the RFP the Pricing Form cannot be changed or altered / based on our assessments if there are positions not mentioned herein, can we add them or do we have to just omit them?
- The Pricing Form cannot be altered by bidders. If a query generates the need for an amended form, that form will be issued as an addendum.
21. In regards to the previous question, do you want us to place N/A next to all areas not required.
- Yes
22. After review of the documents in their entirety, there is a major grey area as to what the new requirements are, is this all-inclusive, it mentions the protection of the splash zone and the requirements of the anodes however not much else. Is there an addendum forthcoming or do we revert back to the original documents in the RFP request in January?
- Answered by this Addendum
23. Have Documents been filed with HMS Customs and are their concessions this time for Duty and Wharf fees and if so to what extent?
- There are no concessions on imported goods for this project.
24. Do you require a complete cost break down or just the pricing form as a standalone document?
- Just the Pricing Form
25. Please kindly confirm that this project now covers the Cathodic Protection of both Heritage and Kings Wharf and all piles and dolphins and the splash zones on each pile as outlined on the cover and page 3 of the MacDonald document.
- Answered by this Addendum
26. Appendix D Section B Design of Cathodic Protection System says, "Details of the extent of corrosion are given in Annex D", Annex D is "Local Benefits", is this supposed to State Annex C, or are there recent relevant updates on Corrosion and status of the facility, that are missing?



- 
- This should state Annex C Reference Documents
27. In Section 2.5 It also calls for 50 years of Galvanic Anode Protection on these structures, which shall not require replacement for at least 10 years. Are we now providing only a 10 year replacement in its entirety or are we seeking the 50 yrs.
- Answered by this Addendum
28. Section 2.7 of Annex C also has extensive documentation requirements; will those be required to be followed?
- Not at this stage
29. According to the previous RFP, there was a decision to lessen the Galvanic Anode Protection requirements due to the sheer volume of Zinc that would be required for each pile to last a 50 yr life span, has that now been rescinded and or are these now the current requirement?
- Answered by this Addendum
30. Are the limited structures and requirements discussed in Annex C, is that the work wished to be carried out in the RFP, or is it still the Full pier facility discussed in previous RFPs?
- Answered by this Addendum
31. Are any of the previous amendments applicable within the scope of this new RFP or is it now a completely separate issue?
- Answered by this Addendum
32. In the previous RFP there was a time line of expected delivery set forth, there is no timeline for delivery or for the expected length of time for completion. Could you please advise us for any possibly anticipated start dates and or end dates for the completion?
- Anticipated Execution of Agreement August 2018
33. For clarification is this for 30 or 50 year life with NON replacement?
- A 30 year life, with anticipated replacement after 10 years, although the actual replacement/non-replacement will form part of the proposed solution.
34. Do you want an impressed current or galvanic system similar to the existing? Same as 2016
- This will form part of the proposed solution.
35. Do you want jackets for splash zone?



- This will form part of the proposed solution.

36. Can you please clarify and confirm what is the payment term to be used in the contract?

- Per Annex A – Sample Form of Agreement
  - 1.1.9 150 Calendar Days
  - 7.4 BMD\$1,500 per day
  - 11.3 5%, reducing to 2.5% during the retention period

Please note that all addenda will be posted on the Governments Procurement Notice Site, [www.gov.bm](http://www.gov.bm) .