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British Columbia
V6Z 0B9
Bid Fax: (604) 775-9381

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

**Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution
Public Works and Government Services Canada - Pacific
Region
800 Burrard Street, Room 219
800, rue Burrard, pièce 219
Vancouver
British C
V6Z 0B9

Title - Sujet Y-Jetty and Lang Cove Remediation	
Solicitation No. - N° de l'invitation EZ113-190891/B	Amendment No. - N° modif. 002
Client Reference No. - N° de référence du client	Date 2018-10-12
GETS Reference No. - N° de référence de SEAG PW-\$PWY-020-8440	
File No. - N° de dossier PWY-8-41072 (020)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-10-31	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Ly, Ronny(PWY)	Buyer Id - Id de l'acheteur pwy020
Telephone No. - N° de téléphone (604) 318-5750 ()	FAX No. - N° de FAX (604) 775-6633
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DND - CFB Esquimalt - Victoria, BC	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Solicitation No. - N° de l'invitation
EZ113-190891/B

Amd. No. - N° de la modif.
002

Buyer ID - Id de l'acheteur
pwy020

Client Ref. No. - N° de réf. du client

File No. - N° du dossier

CCC No./N° CCC - FMS No./N° VME

See Addendum 002 below.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

The following changes/clarifications in the tender documents are effective immediately.

This addendum 002 will form part of the contract documents

This Addendum 002 is issued to provide responses to questions from bidders, and to provide amendment to the Specifications or Contract Drawings as attached hereto.

Responses to Questions from Bidders

Q1. Can we use an American flagged tug and vessel to transport soil from Esquimalt to a disposal site in the United States? Please note that this question is specifically regarding the “Dredges and Other Floating Plant” form on page 49 of the request for proposal.

R1. As per Appendix 5 – Bid and Acceptance Form Floating Plant, “Dredges or other floating plant used to perform the Work on this dredging project shall be on Canadian registry and of Canadian make or manufacture. A bidder with dredges or other floating plant not of Canadian make or manufacture is required to obtain a certificate of qualification in that respect from Industry Canada prior to submitting a bid and a true copy of such certificate shall be included with the bid documents.” Further clarification can be obtained by contacting Industry Canada:

Director
Space and Marine Directorate
Room: 709C, CD Howe Building
235 Queen Street
Ottawa, Ontario
K1A 0H5
Telephone: (343) 291-2107
Email: marine@ic.gc.ca

Q2. In regards to SRE 4 – Technical Evaluation Section Tables 2 and 3, can the information supplied by the “Party” or contractor be for projects that are still ongoing. For example in Table 3, are we able to list a project that is still currently being completed if the volume requested has been completed within the prescribed time period Jan 1, 2013 to Sept 1, 2018?

R2. See Amendment #1.

Q3. The internal milestone date of June 10, 2019 for all southern works (areas 1 A-D) appears unbalanced given the overall volume of works at the site, could you please confirm that this is not a typo. Our brief calculations show that nearly 2/3 of the work is within work areas on the South Side and

Y-Jetty and Lang Cove Remediation Project
Esquimalt, B.C.
Solicitation No. EZ113-190891/B
Project No. R.097231.002

Addendum 002

October 12, 2018

that only 1/3 of the schedule has been allocated to this work, conversely the North Side appears to have 1/3 of the work and 2/3 of the overall schedule. We would suggest that the internal milestone for areas 1 A-D be around September 15th +/-.

R3. See Amendment #1.

Changes to the Specifications

1. Section 00 01 10 – Specification Index

Insert:

Drawing T-5 Yew Point – Munitions Scrap Storage Area

2. Section 01 11 15 – General Instructions

Insert:

1.3.41 Munitions Scrap: All non-energetic by-products resulting from the functioning of ammunition items are considered Munitions Scrap (MS). This includes empty projectile shells, empty casings, pieces of fragmentation, pieces of the ammunition components and related objects.

3. Section 35 20 23.01 – Offloading, Material Processing, Transportation, and Disposal

Delete in its entirety and replace with Revised Section 35 20 23.01 contained herein.

Changes to the Drawings

Insert: Drawing No. T-5 Yew Point – Munitions Scrap Storage Area

1. PART 1 – GENERAL

1.1 Description

- .1 Work included in this section to be performed by the Contractor includes furnishing of all labour, equipment, materials, and other incidentals required for set up and operations of the Contractor Off-Site Offload Facility and Processing Facility; haul barge offloading of dredge material including contaminated sediment from the Leachable Metals Area as shown on the Drawings, Identified Debris, Dredge Debris, Demolition Debris, and Suspected UXO (if not performed on a barge) at the Contractor's Off-Site Offload Facility to the Contractor's Off-Site Stockpile Area; **screening, packaging, and transportation of Munitions Scrap (MS) to the designated DND facility**; Off-Site Stockpile Area management; sediment dewatering and dredge effluent water management (if applicable); treatment (if applicable); stabilization of Leachable Metals Area sediment; contaminated sediment, re-handling; transportation; and off-site disposal of material at the Disposal Facility. In addition, processing of dredge material will occur at a Processing Facility located either on a barge within Esquimalt Harbour (prior to transport to the Contractor's Off-Site Offload Facility) or at an upland location that has been reviewed and accepted by the Departmental Representative.
- .2 The Contractor must provide a Contractor Off-Site Offload Facility to be used to transfer materials between the Contractor's floating equipment and land, including offloading the Contractor's haul barges of dredge material, Identified Debris, Dredge Debris, Demolition Debris, Suspected Unexploded Explosive Ordnance (UXO; if Suspected UXO segregation is not performed on a floating platform), and historically, archaeologically, architecturally, or paleontologically significant structures, sites, or things (if not segregated on a barge). The Contractor Off-Site Offload Facility must be operated in compliance with all Laws and Regulations and have in place all necessary federal, provincial or state, and local permits and approvals for work activities anticipated to occur at the Contractor Off-Site Offload Facility, including permissions for offloading, handling, and transport of contaminated sediment, Identified Debris, Dredge Debris, and Demolition Debris to a Disposal Facility. The Contractor must have in place ownership or lease documentation to demonstrate that the activities to be conducted at the Contractor's Off-Site Offload Facility are allowed or accepted by the property owner and must provide the documentation to the Departmental Representative as part of the Construction Work Plan. The Contractor should be aware that security requirements between DND facilities and the Contractor Off-Site Offload Facility may differ and the Contractor must be responsible for resolving any discrepancies between the two locations at no additional cost to Canada.

- .3 Offloading, material processing, transportation, and disposal activities must not begin until the Departmental Representative has reviewed and accepted the Contractor's Construction Work Plan.
- .4 The Contractor must provide a Processing Facility to segregate out all Suspected UXO greater than 6 millimetres (mm; 1/4 inch) in size from the dredge material (excluding Identified Debris, Dredge Debris and Demolition Debris). The Contractor must design its Processing Facility to be capable of segregating out all Suspected UXO down to a screen size of 6 mm (1/4 inch) through Contractor's selected means and methods (e.g., screening, magnetic sorting, hydraulic sorting) and provide sufficiently high production rate in order to meet the required Substantial Performance date and project milestones for the work.
- .5 The Processing Facility must have adequate storage and production rate capacity to allow the dredging and other in-water work to be completed by the Substantial Performance date identified in Section 01 11 55 (General Instructions). The Processing Facility storage must provide a buffer to allow the Contractor the ability to keep conducting in-water remedial activities (e.g., dredging, Engineered Capping, Backfill Material placement, structure reinstatement) even if the Processing Facility is on Stand-by Time – Material Processing, or does not process dredge material at the same production rate that can keep pace with the dredging production rate.
- .6 The Contractor may locate the Processing Facility either on a barge in Esquimalt Harbour or at a Processing Facility located at an upland site after offloading from the barge. If the Contractor elects to locate the Processing Facility on a floating platform, then the Departmental Representative will inform the Contractor where the Processing Facility must be located within Esquimalt Harbour. The Contractor will assume that it is located within the Colwood area of Esquimalt Harbour, and the Contractor must be responsible for anchoring the processing barge and any other floating equipment secured to the processing plant. The Contractor is allowed to propose an alternative floating platform location for Departmental Representative review and acceptance, but it must be located within the extents of the area of responsibility for DND's Explosive Ordnance Disposal (EOD) Team.
- .7 In order for Canada to respond to Suspected UXO items deemed unsafe to move from the Work Site, or to collect Suspected UXO items temporarily stored at the Processing Facility in a timely fashion, the Processing Facility must be located within the area of responsibility for DND's EOD Team based at the Fleet Diving Unit (Pacific). As such, the Processing Facility must be located on southern Vancouver Island (i.e., south of Parksville), as shown on the Drawings. If the Processing Facility is set up on a floating platform, the Contractor must meet requirements as in Section 01 35 00.50 (Special Procedures for Harbour Control). If the Contractor elects to transport the dredge material to the Contractor Off-Site Offload Facility after segregating Suspected UXO on a barge within the Work

- Site, then the Contractor Off-Site Offload Facility would not be required to be within the boundary described in this clause.
- .8 The Contractor must provide a magazine at the Processing Facility that complies with the Explosives Regulations, 2013 (e.g., the magazine is well ventilated and resistant to theft, weather, and fire) and is licensed by Natural Resources Canada (NRCAN) to temporarily store all Suspected UXOs found at the Work Site and Processing Facility that have been deemed safe to move by UXO Qualified Personnel. All Suspected UXO will be collected by DND from the magazine on a regular basis for disposal. Provide safe access for DND personnel to remove Suspected UXO.
 - .9 All Suspected UXOs and ionizing radiation items are the property of Canada.
 - .10 No Suspected UXOs are permitted to be disposed of at a soil or debris Disposal Facility. The Contractor must segregate all safe-to-move Suspected UXO from the dredge material at the Processing Facility, in accordance with the DND's *Draft Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual B-GL-381-003/TS-000* dated 12 April 2011 (attached to these Specifications in Appendix A) and in accordance with the site-specific means and methods presented in the Contractor's Construction Work Plan and the Contractor's Health and Safety Plan, as reviewed and accepted by the Departmental Representative.
 - .11 The Contractor must assume that all dredge material, Identified Debris, Dredge Debris, and Demolition Debris (excluding Suspected UXO) requires disposal at a Disposal Facility according to the British Columbia Contaminated Sites Regulation (BC CSR) industrial land use standards (i.e., Waste Quality or IL+ waste), with the potential exception for material removed from the Leachable Metals Area. IL+ material is to be transported by a hauler licensed within the Province of British Columbia (or the equivalent state requirements if material is hauled in the United States) to haul such waste in accordance with Laws and Regulations. If disposal of IL+ waste material is to occur in the United States, the minimum level of disposal must be at a Resource Conservation and Recovery Act-permitted Subtitle D Landfill or more restrictive.
 - .12 Any material determined to be Hazardous Waste Quality Materials must be handled in accordance with Laws and Regulations, including but not limited to, the Hazardous Waste Regulation (HWR), B.C. Reg. 63/88, including amendments, and the British Columbia Environmental Management Act (SBC 2003, Chapter 53), including amendments, and must be treated and/or disposed of at a Disposal Facility in Canada authorized to dispose of Class 9 Solid Waste, as defined by HWR, B.C. Reg. 63/88, including amendments. Hazardous Waste Quality Materials must be transported by a licensed hauler with appropriate manifesting paperwork in accordance with Laws and Regulations for disposal and transport inside or outside of the Province of British Columbia, including but not limited to, the HWR, B.C. Reg. 63/88, Interprovincial Movement of Hazardous

Waste Regulations (SOR/2002-301), and Federal Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR 2005/149).

- .13 Treatment or additional processing of dredge material, Identified Debris, Dredge Debris, or Demolition Debris (in addition to segregation of Suspected UXO from dredge material) to potentially reduce the level of contamination or to segregate out cleaner materials is allowed, but is not required as part of this Contract. Treatment does not include blending, mixing, or dilution. If treatment or additional processing activities are to be completed as part of this Contract, the Contractor must provide to the Departmental Representative (as part of the Construction Work Plan) a proposal describing the means and methods by which treatment or additional processing activities will be completed. This proposal must be reviewed and accepted by the Departmental Representative prior to conducting treatment or additional processing activities as part of this Contract.
- .1 Notwithstanding treatment or additional processing, all dredge material, Identified Debris, Dredge Debris, and Demolition Debris must be disposed of at an appropriate Disposal Facility.
 - .2 The Treatment and Processing Facilities must provide adequate stockpile space to allow for holding material in discrete cells or batches while analytical testing is being conducted by the Contractor and pending written acceptance by the Departmental Representative.
 - .3 Marine sediments to be removed from the Leachable Metals Area, as shown on the Drawings, have the potential for lead leachate concentrations to exceed the hazardous waste Leachate Quality Standard as indicated by previous sediment Toxicity Characteristic Leaching Procedure (TCLP) analyses (data available in Appendix C to these Specifications). Material removed from the Leachable Metals Area must be stabilized within Esquimalt Harbour and subsequently disposed of as IL+ waste material after the results of post-stabilization TCLP analysis (that must be collected and analyzed by the Contractor and accepted by the Departmental Representative) indicate that the material no longer exceeds the hazardous waste Leachate Quality Standard for lead per the BC HWR regulations, Schedule 4 (Table 1 – Leachate Quality Standards).
 - .1 Stabilization of contaminated sediment from the Leachable Metals Area must occur under this Contract in accordance with BC CSR to reduce the leachability of the metal lead as determined by Contractor-collected and -analyzed TCLP testing for metals prior to disposal at a Disposal Facility as IL+ waste material. Stabilization must occur at a location accepted by the Departmental Representative and must be located within Esquimalt Harbour. The Contractor must provide to the Departmental Representative (as part of the Construction Work Plan) a proposal describing the means and methods by which stabilization activities will be completed. The Contractor's proposal must be reviewed

and accepted by the Departmental Representative prior to conducting stabilization activities as part of this Contract. Verification sampling associated with the material after stabilization must be conducted in accordance with the BC CSR. Notwithstanding stabilization, all dredged material must be disposed of at a permitted Disposal Facility for the handling and disposal of IL+ material in accordance with Laws and Regulations and as required in this Specification section.

- .14 The Contractor is allowed to conduct additional testing or treatment (at the Contractor's own cost), to re-classify the dredge material and obtain acceptance from the Disposal Facility to dispose of dredge material at a lower disposal threshold than CSR industrial IL+ waste. The Contractor must conduct any proposed re-classification in accordance with Laws and Regulations, including British Columbia Ministry of Environment and Climate Change Strategy (BC ENV) Technical Guidance No. 1 and 2, and must dispose of appropriate material at a Disposal Facility. All analytical documentation of this additional testing must be provided to and accepted by the Departmental Representative prior to material leaving the Treatment or Processing Facility.
- .15 The Contractor may propose to transport and dispose of the dredge material (with Suspected UXO segregated out), Identified Debris, Dredge Debris, and Demolition Debris at a U.S. Disposal Facility that has been certified to be able to accept the material. No Hazardous Waste Quality Materials are allowed to be transported and disposed outside of Canada. The Contractor must have, and provide to the Departmental Representative, appropriate cross-border documentation to authorize transport of polychlorinated biphenyl (PCB) material with concentrations greater than 2 parts per million (ppm) to the United States. The Contractor may also propose multiple Disposal Facilities and a process for delineating and segregating multiple waste streams (e.g., contaminated sediment with PCB concentrations exceeding 2 ppm). All permits and approvals for transit and entry to the United States are the responsibility of the Contractor. The Departmental Representative anticipates that the lowest classification landfill in the United States that could accept IL+ level contaminated sediments is a Subtitle "D" Landfill, as regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle D regulation for the management of non-hazardous solid waste. However, it is solely the Contractor's responsibility to determine whether disposal using a U.S.-located Disposal Facility is legal, and to determine the appropriate level of Disposal Facility that can legally accept the material. Should the Contractor propose transporting and disposing of the dredge material, Identified Debris, Dredge Debris, and Demolition Debris at a U.S. Disposal Facility, the Contractor must submit to the Departmental Representative all necessary U.S. regulatory approvals (e.g., U.S. Environmental Protection Agency [EPA] approval), subsequent state approvals (e.g., Washington State Department of Ecology for Washington State landfills), and Disposal Facility certifications that they will accept this material ten (10) working days after award of Contract in

- accordance with Section 01 33 00 (Submittal Procedures). Prior to commencement of work, the Contractor must submit any required export documentation, including satisfying Canadian Environmental Protection Act (CEPA) and Canada Border Services Agency (CBSA) customs, regulations, and/or procedures, as well as any required U.S. Border Patrol customs, regulations, and/or procedures.
- .16 Treatment activities must be performed at an accepted Treatment Facility. The Contractor must not conduct treatment activities at the Contractor Off-Site Offload Facility unless documentation can be provided that the facility is an existing, permitted Treatment Facility.
 - .17 The Departmental Representative reserves the right to inspect all off-site Contractor facilities, including collection of sediment samples for characterization and assessment purposes.
 - .18 The Contractor becomes the owner of, and is responsible for, any soil, sediment, or other material once it is loaded on a vehicle, barge, or other vessel for transport, with the exception of Suspected UXO or structures, ionizing radiation items, or historically, archaeologically, architecturally, or paleontologically significant structures, sites, or things, which remain the property of Canada. Ionizing radiation or similar items are not anticipated but if encountered, the Contractor must immediately notify the Departmental Representative to coordinate their handling.
 - .19 The Contractor is responsible for ensuring that the materials to be disposed meet all Disposal Facility requirements.
 - .20 The Contractor must complete final disposal of all dredge material (with Suspected UXO segregated out), Identified Debris, Dredge Debris, and Demolition Debris, and must submit its Certificate of Disposal to the Departmental Representative on a monthly basis and after the Departmental Representative has accepted that all dredging work is complete. The Contractor, or subcontractors, must not move dredge material, Identified Debris, Dredge Debris, or Demolition Debris from one Disposal Facility to another Disposal Facility once the Contractor submits the Certificate of Disposal.

1.2 Measurement and Payment Procedures

- .1 Measurement for OFFLOADING AND TRANSPORTATION; MATERIAL PROCESSING; DISPOSAL; and LEACHABLE METALS AREA STABILIZATION will be the Dredge Pay Volume. The Dredge Pay Volume will be determined by calculating the total amount of in-situ cubic metres (m³) of material dredged (based on Dredging Pre-Construction and Dredging Post-Construction Surveys), minus Excessive Dredging. Final measurement for offloading, transportation, and disposal must be by the payable in-situ m³, based on comparison of the Contractor's Dredging Pre-Construction and Dredging Post-Construction Surveys.

- .2 Measurement for OFFLOADING AND TRANSPORTATION FOR CONTINGENCY RE-DREDGING VOLUME; MATERIAL PROCESSING FOR CONTINGENCY RE-DREDGING VOLUME; and DISPOSAL FOR CONTINGENCY RE-DREDGING VOLUME will be the Contingency Re-Dredge Volume. The Contingency Re-Dredge Volume will be determined by calculating the total amount of in-situ m³ of material dredged (based on Required Dredging Post-Construction or Contingency Re-Dredging Post-Construction Surveys as applicable), minus Excessive Dredging. Final measurement for offloading, transportation, and disposal must be by the payable in-situ m³, based on comparison of the Contractor's Dredging Post-Construction Surveys, determined by calculating the total amount of in-situ m³ of material dredged between the Required Dredging Post-Construction and Contingency Re-Dredging Post-Construction Surveys, minus Excessive Dredging.
- .3 Payment for offloading of dredge material, Dredge Debris, and Suspected UXO; temporary stockpiling; dewatering (if applicable); treatment (if applicable); or stabilization (if applicable); upland handling of dredge material and Dredge Debris; loading into trucks or railcars in preparation for transportation to the Disposal Facility; and other incidental work, will be made using the Dredge Pay Volume estimates, under the Tender Item price for OFFLOADING AND TRANSPORTATION. Payment for the work will be made on a monthly basis using the monthly estimated Dredge Pay Volume submitted by the Contractor and accepted by the Departmental Representative.
- .4 Payment for handling, segregation, stabilizing, and TCLP sampling and analysis of material dredged from the Leachable Metals Area will be made using the Dredge Pay Volume estimate for the Leachable Metals Area, under the Tender Item price for LEACHABLE METALS AREA STABILIZATION. Payment for the work will be made on a monthly basis using the monthly estimated Dredge Pay Volume submitted by the Contractor and accepted by the Departmental Representative.
- .5 Additional proposed treatment, accepted by the Departmental Representative, except as covered by the Tender Item price for LEACHABLE METALS AREA STABILIZATION, is considered incidental to the work and the Contractor will need to build any associated costs in with other pay items at the time of Tender.
- .6 Payment for offloading of contingency re-dredge material and Suspected UXO; temporary stockpiling; dewatering (if applicable); treatment (if applicable); upland handling of contingency re-dredge material; loading into trucks or railcars in preparation for transportation to the Disposal Facility; and other incidental work, will be made using the Contingency Re-Dredge Volume estimates, under the Tender Item price for OFFLOADING AND TRANSPORTATION FOR CONTINGENCY RE-DREDGING VOLUME. Payment for the work will be made on a monthly basis using the monthly estimated Contingency Re-Dredge Volume submitted by the Contractor and accepted by the Departmental Representative.

- .7 Payment for segregation of Suspected UXO from the dredge material at the Processing Facility, including ancillary costs, will be made using the Dredge Pay Volume estimates, under the Tender Item price for MATERIAL PROCESSING. **Payment for Munition Scrap screening, packaging, and transportation of the Munition Scrap to the designated DND facility will be made using the Dredge Pay Volume estimates, under the Tender Item price for MATERIAL PROCESSING. There are no disposal costs associated with the designated DND facility.** Ancillary costs include, but are not limited to, providing the UXO Qualified Personnel and Archaeological Monitor for full-time monitoring at the Processing Facility and to respond to chance finds (for both Suspected UXO and historically, archaeologically, architecturally, or paleontologically significant structures, sites, or things) during dredging and transportation operations, management of the required magazine to temporarily contain the Suspected UXOs deemed safe to move, and management of the required covered area for temporary storage of archaeologically significant items.
- .8 Payment for segregation of Suspected UXO from the contingency re-dredge material at the Processing Facility, including ancillary costs, will be made using the Contingency Re-Dredge Volume estimates, under the Tender Item price for MATERIAL PROCESSING FOR CONTINGENCY RE-DREDGING VOLUME. **Payment for Munition Scrap screening, packaging, and transportation of the Munition Scrap to the designated DND facility will be made using the Contingency Re-Dredge Pay Volume estimates, under the Tender Item price for MATERIAL PROCESSING FOR CONTINGENCY RE-DREDGING. There are no disposal costs associated with the designated DND facility.** Ancillary costs include, but are not limited to, providing the UXO Qualified Personnel and Archaeological Monitor for full-time monitoring at the Processing Facility and to respond to chance finds (for both Suspected UXO and historically, archaeologically, architecturally, or paleontologically significant structures, sites, or things) during dredging and transportation operations; management of the required magazine to temporarily contain the Suspected UXOs deemed safe to move; and management of the required covered area for temporary storage of archaeologically significant items.
- .9 Payment for disposal of dredge material at the Disposal Facility will be made using the Dredge Pay Volume estimates, under the Tender Item price for DISPOSAL. Payment for the work will be made when the Contractor provides the Certificate of Disposal from the Disposal Facility. Certificates of Disposal will be reported as a tonnage measurement. Therefore, the measurement for tonnage certified to have been disposed of must be converted to a Dredge Pay Volume (in situ cubic metres) for progress payment purposes.
- .10 Payment for disposal of contingency re-dredge material at the Disposal Facility will be made using the Contingency Re-Dredge Volume estimates, under the Tender Item price for DISPOSAL FOR CONTINGENCY RE-DREDGING VOLUME. Payment for the work will be made when the Contractor provides the Certificate of Disposal from the Disposal Facility. Certificates of Disposal will be

reported as a tonnage measurement. Therefore, the measurement for tonnage certified to have been disposed of must be converted to a Contingency Re-Dredge Volume (in-situ m³) for progress payment purposes.

- .11 All costs associated with offloading, transportation, and disposal of Dredge Debris are explained in Section 01 11 55 (General Instruction) and Section 35 20 23 (Remedial Dredging and Barge Dewatering) and are included in the Tender Item prices for OFFLOADING AND TRANSPORTATION; MATERIAL PROCESSING; and DISPOSAL.
- .12 All costs associated with offloading, transportation, and disposal of Demolition Debris are explained in Section 02 41 16.01 (Structure Demolition) and are not included in the Tender Item prices for OFFLOADING AND TRANSPORTATION; MATERIAL PROCESSING; and DISPOSAL.
- .13 Measurement, payment, and all costs associated with removal, offloading, transportation, and disposal of Identified Debris are explained in Section 35 20 23 (Remedial Dredging and Barge Dewatering) and are included in the Tender Item price for REMOVAL OF IDENTIFIED DEBRIS, TRANSPORTATION, AND DISPOSAL.
- .14 Measurement, payment, and all costs associated with offloading, transportation, and disposal of timber piling are explained in Section 35 20 23 (Remedial Dredging and Barge Dewatering) and are included in the Tender Items prices for DISPOSAL OF TIMBER PILES DURING DREDGING.
- .15 The disposal of unwanted historical items after DND's first right of refusal must be incidental to the work.
- .16 Tender Item prices for OFFLOADING AND TRANSPORTATION; MATERIAL PROCESSING; and DISPOSAL; will not be adjusted for any reason, including if the Contractor elects to process or treat dredge material to try to reclassify the material from its IL+ designation or greater, and is unable to obtain Disposal Facility approval and must dispose of the material at a different disposal cost than they tender. All reclassification of dredge material must be accepted by the Departmental Representative.
- .17 Tender Item prices for OFFLOADING AND TRANSPORTATION FOR CONTINGENCY RE-DREDGING VOLUME; MATERIAL PROCESSING FOR CONTINGENCY RE-DREDGING VOLUME; and DISPOSAL FOR CONTINGENCY RE-DREDGING VOLUME will not be adjusted for any reason, including if the Contractor elects to process or treat dredge material to try to reclassify the material from its IL+ designation, and is unable to obtain Disposal Facility approval and must dispose of the material at a different disposal cost than they tender. All reclassification of dredge material must be accepted by the Departmental Representative.

- .18 Final payment will be based on the final measurement of Dredge Pay Volumes. Final payment must be reconciled with previous monthly progress payments to determine the amount of final payment.
- .19 If Suspected UXO is discovered at the Processing Facility and is deemed unsafe to move by the UXO Qualified Personnel, and the Contractor is unable to continue working at the Processing Facility due to the Suspected UXO, the Departmental Representative will direct work to stop. The Contractor will be paid for that time by the hour under the Tender Item price for STAND-BY TIME – MATERIAL PROCESSING, with prior written acceptance of stand-by time incurred.

1.3 Related Sections

- .1 Section 01 11 55 (General Instructions)
- .2 Section 01 33 00 (Submittal Procedures)
- .3 Section 01 35 00.50 (Special Procedures for Harbour Control)
- .4 Section 01 35 13.43 (Special Project Procedures for Contaminated Sites)
- .5 Section 01 35 43 (Environmental Procedures)
- .6 Section 01 45 00 (Quality Control)
- .7 Section 02 41 16.01 (Structure Demolition)
- .8 Section 35 20 23 (Remedial Dredging and Barge Dewatering)

1.4 Definitions

- .1 Refer to Section 01 11 55 (General Instructions) for all definitions related to this Contract.

1.5 Submittals

- .1 Submittals must be in accordance with Section 01 33 00 (Submittal Procedures).
- .2 The Contractor must submit all documentation and permits associated with facilities proposed for off-site disposal of non-hazardous and hazardous materials in compliance with applicable disposal regulations upon award. Include copies of permits for the Disposal Facility and include names, locations, and telephone numbers of all proposed facilities and transporters.
- .3 The Contractor must submit a detailed Construction Work Plan within ten (10) working days following Contract Award for review and acceptance by the Departmental Representative.
- .4 As part of the detailed Construction Work Plan the Contractor must prepare a section that describes the approach that will be implemented for offloading, treatment (if applicable), stabilization (as applicable), material processing,

transportation, and disposal activities. Offloading, transportation, and disposal activities must not begin until: 1) the Construction Work Plan, the Environmental Protection Plan, and Quality Control Plan have been reviewed and accepted by the Departmental Representative; and 2) agency- and public-required Notifications and review have been completed. At a minimum, the offloading, transportation, and disposal approach description must contain the following information:

- .1 Contractor Off-Site Offload Facility location, and copies of federal, provincial, state (as applicable), and local permits and approvals for operation of the facility.
- .2 Contractor Off-Site Offload Facility layout, as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites).
- .3 Reference to the Construction Progress Schedule that identifies timing and sequencing for completion of offloading, transportation, and disposal activities, as they relate to other major elements of the work.
- .4 Order and sequence in which the work is to be performed, including a description of equipment to be used and methods of operation.
- .5 Proposed hours of operation for the Contractor Off-Site Offload Facility and associated activities.
- .6 Methods and procedures for offloading, transportation, treatment (if applicable), and disposal activities, including means and methods for providing environmental protection as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites) and Section 01 35 43 (Environmental Procedures). Specifically, the Contractor must provide, at a minimum, the following information as part of the Construction Work Plan:
 - .1 Methods, procedures, and equipment to be used for all dredge material, dredged material from the Leachable Metals Area, contingency re-dredge material, Identified Debris, Dredge Debris, Demolition Debris, and dredge effluent water, offloading from the in-water transportation barge.
 - .2 Spill prevention measures during barge offloading.
 - .3 Wastewater management methods.
 - .4 Methods, procedures, and controls to be used to segregate, handle, store, transport, and dispose of dredge material, contingency re-dredge material, dredged material from the Leachable Metals Area, Identified Debris, Dredge Debris, Demolition Debris, and any material determined to be Hazardous Waste Quality Materials to the appropriate Disposal Facility in accordance with applicable guidelines, protocols, procedures, and regulations.

- .5 Location of Treatment Facility (if treatment activities are to be completed), and copies of permits, certificates, and approvals for operation of the facility.
- .6 Methods, procedures, layout, and equipment to be used for stabilization of material from the Leachable Metals Area, including the type and amount of amendments or additives and means and methods of mixing, health and safety procedures, and procedures for meeting federal, provincial, and local regulations including preventing release of water, dust, additives, and sediment during stabilization.
- .7 Methods, procedures, and equipment to be used for loading and transport of dredge material, contingency re-dredge material, dredge material from the Leachable Metals Area, Identified Debris, Dredge Debris, Demolition Debris, and any material determined to be Hazardous Waste Quality Materials to the Disposal Facility, including procedures for meeting federal, provincial, state (as applicable), and local regulations including preventing release of water, dust, and sediment during transportation.
- .8 Methods of transportation to be used, and methods employed to ensure safe transportation of the materials from the Contractor Off-Site Offload Facility to the Treatment Facility (if applicable) and the Disposal Facility.
- .7 Methods and procedures for managing Suspected UXO found during dredging, barge dewatering and associated wastewater treatment, in-water transportation, offloading (if not performed on a barge), material processing at the Processing Facility, **screening, packaging, and transportation of Munitions Scrap (MS) to the designated DND facility**; and temporary storage of Suspected UXO. This portion of the Construction Work Plan must satisfy the requirements identified in Annex C to Chapter 3 of DND's Draft Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual B-GL-381-003/TS-000 dated 12 April 2011. Specifically, the Contractor must provide, at a minimum, the following information as part of the Construction Work Plan:
 - .1 Location of Processing Facility and layout, as required in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites).
 - .2 Copies of permits, certificates, and approvals for operation of the Processing Facility.
 - .3 Procedures and protocols for coordinating with the Departmental Representative the disposal of Suspected UXOs by DND.

- .4 An operating plan identifying the facility process and resulting post-material processing output streams. The operating plan must also identify an end point for all post-material processing streams, including but not limited to, disposal options. The Processing Facility must operate within the guidelines of the BC CSR.
- .5 Methods, procedures, and equipment to be used for segregating Suspected UXO, including procedures for meeting federal, provincial, and local regulations related to the handling, storage, transportation, and transfer of Suspected UXO to DND; and methods, procedures, and equipment to be used for separate segregation of dredge material from within the Leachable Metals Area for Suspected UXO segregation. The portion of the Contractor's Construction Work Plan that addresses Suspected UXO encountered during the project must satisfy the requirements listed in Annex C to Chapter 3 of DND's Draft Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual B-GL-381-003/TS-000 dated 12 April 2011 and must include at a minimum:
 - .1 Key UXO Qualified Personnel Roles and Responsibilities
 - .2 A preliminary summary of risks associated with Suspected UXO related activities (including dredging, barging, offloading, transporting, processing, and storage) at the Contractor's barge, Contractor Off-Site Offload Facility, Processing Facility, Disposal Facility. The summary must also document the Contractor's measures to control the identified risks.
 - .3 The Contractor's proposed communication and reporting related to Suspected UXO, as outlined in the Specifications.
 - .4 Documentation and records related to Suspected UXO, including a daily catalogue of Suspected UXO items and representative photographs.
 - .5 Site-specific training for all contractor personnel, subcontractors, and visitors to the Work Site.
 - .6 Security related to the temporary storage of Suspected UXO, including during down times and after hours, in accordance with the Draft Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual B-GL-381-003/TS-000 dated 12 April 2011.
 - .7 Excavation procedures related to Suspected UXO.
 - .8 Segregation procedures related to Suspected UXO.

- .9 Temporary storage procedures related to Suspected UXO, in accordance with the Draft Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual B-GL-381-003/TS-000 dated 12 April 2011.
 - .10 Specific methods and procedures for the screening of Munitions Scrap in accordance with UXO Activities Manual B-GL-381-003/TS-000 dated 12 April 2011 and A&EI #15, Change 2.
 - .11 Specific equipment, methods, and procedures for the secure storage of Munitions Scrap.
 - .12 Specific methods and procedures for the packaging and transportation of Munitions Scrap to the designated DND facility.
 - .13 Siting plan for the screening and temporary storage of Suspected UXO.
 - .14 Quality control related to Suspected UXO.
- .8 Best Management Practices (BMPs) proposed by the Contractor and/or as required by the Environmental Management Plan (EMP; Appendix B to these Specifications) and as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites) and Section 01 35 43 (Environmental Procedures) during completion of offloading, material processing, treatment (if applicable), transportation, and disposal activities.
- .5 Daily Reporting: As part of the Daily Construction Report, the Contractor must provide to the Departmental Representative a daily record of offloading, material processing, transportation, treatment (if applicable), and disposal activities, including the estimated quantity of dredge material, contaminated sediment removed from the Leachable Metals Area, Identified Debris, Dredge Debris, Demolition Debris, and materials determined to be Hazardous Waste Quality Materials offloaded at the Contractor Off-Site Offload Facility (including barge displacement measurements of full and empty barges), truck or railcar weight measurements for material sent off site for disposal at the Disposal Facility,, quantity processed at the Processing Facility, quantity treated at the Treatment Facility (if applicable), certified weight tickets from the Disposal Facility(ies), and a summary of other details of the work. Once a week, the Daily Construction Report must also include a cumulative summary (e.g., number, type, and disposition) of all Suspected UXOs and archaeological items observed, found, or handled. Note that Suspected UXO smaller in size than 12.7 mm (1/2 inch) are not required to be reported. Provide photographic documentation. The Daily Construction Report must be submitted to the Departmental Representative the morning following completion of the work for that day. The Daily Construction

- Report must be signed by the Contractor's site superintendent and quality control manager.
- .6 If the Contractor chooses to test each waste stream from the Processing Facility, including any wastewater generated or accumulated as part of processing, the Contractor must submit to the Departmental Representative all test results with each waste stream prior to transporting any material from the Processing Facility.
 - .7 If the Contractor chooses to utilize treatment, the Contractor must submit to the Departmental Representative copies of all Certificates of Treatment supported by laboratory analytical data for the contaminants of potential environmental concern as necessary to account for and demonstrate the effectiveness of the treatment of the dredge material. The Contractor must submit Certificates of Treatment for all material that is treated on or off site on a monthly basis and after the Departmental Representative has accepted that all dredging work has been completed.
 - .8 The Contractor must submit to the Departmental Representative copies of all Certificates of Disposal to account for and demonstrate the disposal of all material dredged in relation to Section 35 20 23 (Remedial Dredging and Barge Dewatering). The Certificates of Disposal must be from the final resting place of the material and must be provided for all material disposed off site. Certificates of Disposal must be submitted on a monthly basis and after the Departmental Representative has accepted that all dredging work has been completed. The Contractor will also provide a written letter from the Disposal Facility that all material will not be relocated upon placement at the Disposal Facility.
 - .9 The Contractor must submit to the Departmental Representative copies of all manifests, weight tickets, and other documentation to demonstrate and track the final disposition of the dredge sediment, Identified Debris, Dredge Debris, and Demolition Debris at a Disposal Facility. The documentation must track the material from the point of leaving the Work Site to final disposal at the Disposal Facility.
 - .10 The Contractor must submit empty barge displacement measurements when a barge arrives at the Work Site and full displacement measurements before a barge leaves the Work Site, along with the corresponding tonnage of material in each barge. This information must be included as part of the Contractor's Daily Construction Report.
 - .11 The Contractor must record and submit full barge displacement measurements when a barge arrives at the Contractor Off-Site Offload Facility and after emptying the barge.
 - .12 The Contractor must submit to the Departmental Representative stamped engineering drawings of any new or significantly rehabilitated or upgraded structures developed as part of the Contractor Off-Site Offload Facility or Processing Facility.

1.6 References

- .1 British Columbia Ministry of Environment and Climate Change Strategy
Technical Guidance No. 1 and 2.
- .2 *Canadian Transportation of Dangerous Goods Act* – Transportation of Dangerous
Goods Regulation.
- .3 *British Columbia Environmental Management Act* (SBC 2003, Chapter 53).
- .4 British Columbia Environmental Management Act – Hazardous Waste
Regulation, BC Reg 63/88, including amendments up to B.C. Reg. 243/2016,
November 1, 2017.
- .5 British Columbia *Environmental Management Act* – Contaminated Sites
Regulation, B.C. Reg. 375/96, including amendments up to B.C. Reg. 253/2016,
November 1, 2017.
- .6 Interprovincial Movement of Hazardous Waste Regulations (SOR/2002-301).
- .7 Export and Import of Hazardous Waste and Hazardous Recyclable Material
Regulations (SOR/2005-149).
- .8 Comprehensive Environmental Response, Compensation, and Liability Act
(CERCLA) Off-Site Policy (40 CFR 300.440), Procedures for Planning and
Implementing Off-Site Response Actions – United States Environmental
Protection Agency.
- .9 Resource Conservation and Recovery Act (RCRA) Subchapter III – Hazardous
Waste (40 CFR Parts 239 - 282) – United States Environmental Protection
Agency.
- .10 Draft Range Clearance and Unexploded Explosive Ordnance (UXO) Activities
Manual B-GL-381-003/TS-000 dated 12 April 2011.
- .11 *Explosives Act* – Explosives Regulation 2013.
- .12 **A&EI #15, Change 2**
- .13 **C-09-005-003/TS-000 – Volume 3, Transportation (DAER, 1 Jan, 2011)**
- .14 **C-09-005-004/TS-000 – Volume 4, Demilitarization and Disposal (DAER, 15
Dec, 2016)**
- .15 **Explosives Act (R.S.C., 1985, c. E-17), Explosives Regulations (C.R.C., c. 599)**
- .16 **Quantity-Distance Principles User's Manual, Natural Resources Canada
(NRCan), Explosives Regulatory Division**

1.7 Contractor Quality Control

- .1 The Contractor is responsible for providing all necessary quality controls to successfully complete the work, and to comply with its Quality Control Plan, as specified in Section 01 45 00 (Quality Control).
- .2 The Departmental Representative may, at the Departmental Representative's sole discretion, periodically inspect the offloading, transportation, material processing, and disposal operations (and treatment operation as applicable) to verify compliance with the Contract documents and all applicable permits.

1.8 Environmental Protection

- .1 Offloading, material processing, transportation, and disposal activities must be performed in accordance with environmental protection requirements, as stated in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites) and Section 01 35 43 (Environmental Procedures), the EMP, the Environmental Protection Plan, and in accordance with the project permits.

1.9 Regulatory Requirements

- .1 Material transported by barge into or out of Esquimalt Harbour requires that the Contractor obtain authorization from the Queen's Harbour Master (QHM) pursuant to the Canada Marine Act.
- .2 The Contractor must ensure that dredge material and debris offloading, handling, dewatering, and wastewater treatment, and Suspected UXO segregation, transport, processing and/or treatment (as applicable), and disposal, are performed in compliance with federal, provincial or state, and local Laws and Regulations including, but not limited to, the references cited within the Specifications and the EMP, and the Canadian Transportation of Dangerous Goods Act for transport of materials inside and outside of the Province of British Columbia.

1.10 Location, Permitting, and Tracking

- .1 For any Contractor Off-Site Offloading Facility, Disposal Facility, Processing Facility, and Treatment Facility (if applicable) proposed by the Contractor, the Contractor must provide the following information as part of its Construction Work Plan:
 - .1 Location and owner of proposed Contractor Off-Site Offloading Facility, Disposal Facility, Processing Facility, and Treatment Facility.
 - .2 Documentation that proposed Contractor Off-Site Offloading Facility, Disposal Facility, Processing Facility, and Treatment Facility is licensed and suitable for acceptance, treatment, and disposal of the dredge material, Identified Debris, Dredge Debris, and Demolition Debris.

- .3 Methods for material processing and/or treatment, as applicable.
- .4 Type of disposal, material processing, and/or treatment documentation to be provided by the Disposal Facility, Processing Facility, and Treatment Facility.
- .2 Stabilization of contaminated sediment from the Leachable Metals Area must occur within Esquimalt Harbour. Specific requirements for stabilization of sediments from the Leachable Metals Area are described in this Specification Section and Section 01 11 55 (General Instructions). If the sediment is stabilized on a floating platform, the Contractor must meet requirements as in Section 01 35 00.50 (Special Procedures for Harbour Control).
- .3 The Contractor must not create a Disposal Facility or Treatment Facility for the specific use of this Contract. Only an existing Disposal Facility or Treatment Facility can be used.
- .4 All dredge material, Identified Debris, Dredge Debris, and Demolition Debris must be disposed of at the Disposal Facility identified by the Contractor and accepted by the Departmental Representative. If the proposed Disposal Facility is not acceptable to the Departmental Representative, the Disposal Facility is not able to accept the material, or the material cannot be transported to the Disposal Facility, the Contractor must identify an alternate Disposal Facility that is acceptable to the Departmental Representative and must use the accepted Disposal Facility for disposal at no extra cost to Canada.
- .5 All dredge and contingency re-dredge material must be processed to remove Suspected UXO at the Processing Facility identified by the Contractor and accepted by the Departmental Representative. If the proposed Processing Facility is not acceptable to the Departmental Representative, the Processing Facility is not able to accept the material, or the Contractor's Processing Facility is unable to fully segregate Suspected UXO, the Contractor must identify an alternate Processing Facility that is acceptable to the Departmental Representative and must use the new Processing Facility for Suspected UXO segregation at no extra cost to Canada.

1.11 Inspection of Facilities

- .1 The Departmental Representative or designee may inspect the Contractor Off-Site Offload Facility (including Y Jetty Access Area and Off-Site Stockpile Areas), Processing Facility, Treatment Facility, Disposal Facility, and any additional sediment transfer facilities, proposed by the Contractor prior to the start of construction, and at any time during completion of offloading, transportation, processing, and disposal activities to ensure that all facilities meet the requirements of the Specifications.

- .2 The Contractor must provide access to the Departmental Representative or designee to inspect the facility, including providing health and safety orientation and access to machinery to facilitate sampling, assessment, and documentation.

1.12 Misplaced Material

- .1 The Contractor is liable for misplacing any dredge material (including Identified Debris, Dredge Debris, Demolition Debris, and Suspected UXO) generated as part of this Contract from the point of loading the material into the Contractor's barge(s) at the Work Site through to disposal. The Contractor will be required to notify and coordinate with appropriate authorities if material is misplaced during transport to the Contractor Off-Site Offload Facility or during completion of offloading, material processing, transport, and disposal activities.
- .2 Should the Contractor refuse, neglect, or delay compliance with this requirement, such misplaced materials may be removed by the Departmental Representative, in which case the cost of such removal operations must be paid by the Contractor.
- .3 The Contractor is responsible for any fees, fines, penalties, or other costs resulting from misplaced materials and must not pass costs to Canada.

2. PART 2 – PRODUCTS – NOT USED

3. PART 3 – EXECUTION

3.1 Suspected UXO Monitoring and UXO Qualified Personnel

- .1 The Contractor must provide UXO Qualified Personnel to conduct full-time monitoring at the Processing Facility for identification of Suspected UXO during all Suspected UXO segregation activities. The Contractor's UXO Qualified Personnel must also be available to respond to chance finds of Suspected UXO at the Work Site during remedial dredging and other in-water activities. The UXO Qualified Personnel must:
 - .1 Be responsible for monitoring, identifying, assessing, screening, handling, segregating, temporarily storing (where safe to do so), and documenting Suspected UXO found during this project.
 - .2 Be the only personnel that may handle Suspected UXO after determining that a UXO has been identified and has been determined to be safe to move.
 - .3 The qualifications for UXO Qualified Personnel are listed in Annex A to Chapter 3 of DND's *DRAFT Range Clearance and Unexploded Explosive Ordnance (UXO) Activities Manual B-GL-381-003/TS-000* dated 12 April 2011 (provided in Appendix A to these Specifications).
 - .4 Follow, at all times, the requirements in Appendix A to these Specifications.

- .2 The Contractor must immediately notify the Departmental Representative upon discovery of Suspected UXO that are deemed unsafe to move by the UXO Qualified Personnel, either at the Work Site or at the Processing Facility. The Contractor must not handle any Suspected UXO that the UXO Qualified Personnel has deemed unsafe to move.
- .3 If Suspected UXO is discovered on DND property, and the item is deemed unsafe to move by the UXO Qualified Personnel, the UXO Qualified Personnel will call 911 and notify the operator that they are working at Canadian Forces Base Esquimalt and then immediately notify the Departmental Representative.
- .4 If Suspected UXO has been transported off of DND property and is deemed unsafe to handle by the UXO Qualified Personnel, the Contractor must call 911, and then immediately notify the Departmental Representative.
- .5 If the discovered Suspected UXO is deemed unsafe to move by the UXO Qualified Personnel, and the Contractor is unable to continue working due to the Suspected UXO, the Departmental Representative will direct work to stop, and the applicable Stand-by Time – Material Processing rate will be paid.

3.2 Munitions Scrap Screening, Storage, Packaging, and Transportation

- .1 **General Considerations:**
 - .1 The number of personnel within a danger/exclusion zone should always be the minimum required to conduct the work safely. For health and safety reasons, no one involved in the screening operations will work alone. The UXO Qualified Personnel must monitor and enforce personnel limits and safety exclusion zones for explosives related operations.
 - .2 Contractor remains responsible for the Munitions Scrap until it has been delivered and received at the designated DND facility.
- .2 **Screening of Munitions Scrap:**
 - .1 The screening of Munitions Scrap must be conducted in accordance with UXO Activities Manual B-GL-381-003/TS-000 dated 12 April 2011 and A&EI #15, Change 2.
 - .2 Each piece of Munitions Scrap must be subjected to three different levels of screening prior to being recognized as being safe to transport on public roads. Each level of screening is a concurrence of the previous one and is conducted by a more experienced and qualified technician at all time.
 - .3 The screening of Munitions Scrap must be conducted in accordance with UXO Activities Manual B-GL-381-003/TS-000 dated 12 April 2011 and A&EI #15, Change 2:
 - .1 **Level One Scrap Screening: Point of discovery by the UXO Qualified Personnel.**

- .2 Level Two Scrap Screening - Inspection: Verification by the UXO Qualified Personnel and inspected before transporting from the Processing Facility to a Contractor-provided temporary storage container at the Munitions Scrap Storage Area at Yew Point (as shown on the Drawings). The Level Two screening must never be done by the same person having done the Level One screening;
- .3 Level Three Scrap Screening - Verification: A detailed visual inspection of materials removed from the Processing Facility. This operation is performed by a UXO Qualified Personnel holding the qualifications required by DND/DAER (See Reference A&EI 15 change 2 paragraph 12). The Level Three screening must never be done by the same person having conducted either the Level One or Level Two screening.
- .4 All munitions/ordnance-related items are considered to be material potentially presenting an explosive hazard (MPPEH) until they are subjected to three levels of screening inspections. At any time during the screening process, if an item is determined or suspected to contain energetic material by the UXO Qualified Personnel or with direction from the Departmental Representative, the Contractor may be required to stop work, and will contact DND's EOD Team to further assess and dispose of the MPPEH.
- .3 Storage of Munitions Scrap:
 - .1 Munitions Scrap that have been Level Two or Level Three screened do not need to be stored in a licensed storage site; however, security measures must be in place to prevent the loads of screened Munitions Scrap temporarily stored at the Munitions Scrap Storage Area at Yew Point (as shown on the Drawings) from being tampered with. Containers used to store screened Munitions Scrap must be sealed to prevent possible tampering. The contents of any containers storing Level Three screened Munitions Scrap, for which the seals will have been broken without the consent of the person holding the responsibility for custody for the Munitions Scrap, must be reported to DND through the Departmental Representative as an Ammunition or Explosives Incident and must be 100% re-inspected prior to the shipment being offered for transportation on public roads. A chain-of-custody form must be associated with the screened Munitions Scrap. Munitions Scrap screened to different levels must be stored in separate securable approved sites/containers to ensure safety and accountability of the items.
 - .2 The Container used to store screened Munitions Scrap must have a material coating applied to the ceiling to reduce condensation.

- .4 Packaging and Transportation of Munitions Scrap:**
- .1** The designated DND facility is Canadian Forces Ammunition Depot – Dundurn, unless otherwise directed by the Departmental Representative.
 - .2** The packaging and transportation of Munitions Scrap on public roads, by commercial vehicles is regulated by Reference .13 (see Clause 1.6 in this section; including Part 7, Section 2) under an exemption given to the Minister of National Defence by Transport Canada. That exemption is conditional to the packaging requirements listed in the same publication.
 - .3** The Contractor must inform the Departmental Representative of their intention to ship Munitions Scrap at least 72 hours prior to shipment and complete the proper form (UXO-FM-11150) so DND personnel at CFB Esquimalt can inform the designated DND Facility and receive their approval. Without the approval by the designated DND Facility, the Munitions Scrap shipment must not leave the site.
 - .4** Munitions Scrap not screened to Level Three must not be transported on public roads.
 - .5** The Contractor is responsible for accountability, tracking, and chain-of-custody documentation for items from the point of discovery to return of Munitions Scrap to the designated DND facility. The Contractor’s responsibility is maintained until the shipment has been received by the designated DND facility and the chain-of-custody form has been signed by the DND facility representative authorized to accept the load.
 - .6** For the purpose of transferring Munitions Scrap to DND, the Contractor must not contact Canadian Operational Support Command (CANOSCOM) or other DND organizations directly unless specifically directed to do so by the Departmental Representative in coordination with and approval by DND.
 - .7** The contractor will be responsible for shipping the Munitions Scrap to Canadian Forces Ammunition Depot – Dundurn. The Contractor remains responsible for required corrective actions arising from the shipment of Munitions Scrap, including the need to re-screen all Munitions Scrap with broken seals on containers.

3.3 Archaeological Monitoring

- .1** The Contractor must provide an Archaeological Monitor to conduct full-time monitoring at the Processing Facility to retain structures, sites, or things that may be valued for their historical, archaeological, architectural, and paleontological significance. The Archaeological Monitor must also be available to respond to potentially archaeologically significant items at the Work Site during remedial dredging and other in-water activities, as described in the Archaeological Chance Find Management Procedures definition in Section 01 11 55

(General Instructions). This work is incidental to the segregation of Suspected UXO.

- .2 The Departmental Representative will coordinate response to the discovery. If the Departmental Representative directs work to stop, Stand-by Time – Material Processing will be paid.

3.4 In-Water Transportation to Contractor’s Off-Site Offload Facility

- .1 It is intended that the requirements of this section are to describe the requirements for in-water transportation from the Processing Facility, whether or not it is located at the Contractor’s Off-Site Offload Facility, to the Disposal Facility. Requirements regarding in-water transportation from the location of dredging at the Work Site to the Processing Facility are covered in Section 35 20 23 (Remedial Dredging and Barge Dewatering).
- .2 All dredge materials, Identified Debris, Dredge Debris, and Demolition Debris must be transported from the Processing Facility to the Contractor’s Off-Site Offload Facility (as applicable) using watertight waterborne equipment (i.e., barges). No passive barge dewatering is allowed during in-water transportation.
- .3 Watertight barges must follow the same in-water transportation requirements, means, and methods, as described in Section 35 20 23 (Remedial Dredging and Barge Dewatering).
- .4 The Contractor must transport dredge material, Identified Debris, Dredge Debris, Demolition Debris, and structures, sites, or items for disposal to the Contractor’s Off-Site Offload Facility according to the means and methods described in the Contractor’s Construction Work Plan. Deviations from the Construction Work Plan must be submitted to the Departmental Representative for review (and re-submission and further review as required), and no haul barges must leave the Work Site until the Departmental Representative has accepted such deviations.
- .5 The Contractor is responsible for assessing current and forecasted weather and sea conditions during all in-water transportation and storage activities and appropriately accounting for its potential impact on marine equipment stability.
- .6 Water management on haul barges, or other forms of waterborne transport, may be done with the addition of drying amendment if desired by the Contractor. The Contractor is responsible for ensuring that the materials to be disposed meet all Disposal Facility requirements. The Contractor must select the type of amendment and appropriate dosage to facilitate dewatering. The type of amendments or additives and means and methods of mixing must be accepted by the Departmental Representative. Use of amendments is the Contractor’s choice and is incidental for the purposes of payment, and the Contractor is responsible for ensuring that use of amendments is acceptable by the Disposal Facility, and meets requirements of federal, provincial, and local regulations; permit conditions; and the EMP.

3.5 Offloading

- .1 The Contractor must employ all BMPs as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites), Section 01 35 43 (Environmental Procedures), the EMP, and included in the permits when performing offloading activities.
- .2 The Contractor must offload in-water transportation barges at the Contractor Off-Site Offload Facility in a manner that prevents spillage of dredge material, Identified Debris, Dredge Debris, Demolition Debris, or dredge effluent to the water. A spill plate (or equivalent spill prevention measure) must be used during all offloading activities.
- .3 No dredge material, Identified Debris, Dredge Debris, Demolition Debris, or dredge effluent water transfer can begin at the Contractor Off-Site Offload Facility until the spill prevention measures are reviewed by the Departmental Representative and determined to be in place.
- .4 Any spillage on the spill plate must be removed as soon as practicable and properly disposed. Any such spillage outside of the Off-Site Stockpile Area must be promptly cleaned up.
- .5 It is the Contractor's responsibility to determine the structural capacity of the Contractor Off-Site Offload Facility that is proposed for offloading, staging, and stockpile use. The maximum structural capacity of these facilities must not be exceeded by the Contractor.

3.6 Off-Site Stockpile Area

- .1 The Contractor must employ all BMPs as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites), Section 01 35 43 (Environmental Procedures), the EMP, and included in the project permits when doing work at the Off-Site Stockpile Area.
- .2 The Contractor must treat, if applicable, and dispose of all dredge material, Identified Debris, Dredge Debris, and Demolition Debris as soon as practical. Materials may not be stockpiled for extended periods of time unless otherwise accepted by the Departmental Representative.
- .3 The Contractor must construct, operate, and maintain the Off-Site Stockpile Area within the Contractor Off-Site Offload Facility such that all effluent drainage water, stormwater, or other form of discharges from stockpiled dredge material, Identified Debris, Dredge Debris, and Demolition Debris are collected for wastewater treatment and proper disposal.
 - .1 No direct discharge of untreated effluent from the Off-Site Stockpile Area to the receiving waters is allowed.

- .2 All effluent from the Off-Site Stockpile Area must be collected, treated, and discharged to federal, provincial, state (as applicable), and local Laws and Regulations, and conditions of the permits.
- .3 The Contractor may elect to construct a wastewater treatment system at the Off-Site Stockpile Area. Wastewater management and disposal must be demonstrated by the Contractor in the Construction Work Plan for compliance with water quality requirements to discharge treated effluent back to the receiving waters, as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites). All wastewater discharged to any surface water originating from the Off-Site Stockpile Area must meet Canadian Council of Ministers of the Environment (CCME) or BC ENV water quality guidelines, or the more stringent of the two if in BC, or applicable local regulations in the United States. The Contractor must provide analytical test results to the local discharge authority prior to discharge and must account for time for the local discharge authority to review and accept the discharge as part of the completion of the work.
- .4 Timber piling Dredge Debris, Identified Debris, and Demolition Debris must be segregated from other dredge materials for separate measurement and payment for disposal as described in Section 35 20 23 (Remedial Dredging and Barge Dewatering), Section 01 11 55 (General Instructions), and Section 02 41 16.01 (Structure Demolition).
- .5 Failure to properly segregate Identified Debris, Demolition Debris, and timber piling Dredge Debris from all other Dredge Debris will forfeit result in the combined debris to be considered Dredge Debris for disposal as described in Section 35 20 23 (Remedial Dredging and Barge Dewatering), Section 01 11 55 (General Instructions), and Section 02 41 16.01 (Structure Demolition). Demolition Debris related to the Former Marine Railway will be paid for separately as identified in Section 02 41 16.01 (Structure Demolition).
- .6 The Contractor may propose to mix additives with the dredge material to bind available water and/or stabilize the dredge material during offloading, stockpiling, or dewatering activities at no extra cost to Canada. The Contractor is solely responsible for determining whether additives must be used and whether the Disposal Facility will accept the dredge material with additives for disposal. The type and amount of amendments or additives and means and methods of mixing must be accepted by the Departmental Representative. The Contractor has sole responsibility for proper storage, handling, and containment of additives. The Contractor also has sole responsibility for cleanup and damage costs related to the use of additives.
- .7 Upon completion of the work, the Contractor must remove all vestiges of dredge material, Identified Debris, Dredge Debris, Demolition Debris, liner, pump, discharge pipe, and other materials and clean up the Off-Site Stockpile Area to the pre-project condition.

3.7 Upland Transportation to Processing Facility, Treatment Facility, and/or Disposal Facility, as Applicable

- .1 The Contractor must employ all BMPs as described in Section 01 35 13.43 (Special Project Procedures for Contaminated Sites), Section 01 35 43 (Environmental Procedures), the EMP, and included in the permits when transporting dredge material, Identified Debris, Dredge Debris, and Demolition Debris to the Processing Facility, Treatment Facility, Disposal Facility, as applicable.
- .2 Once offloaded at the Contractor Off-Site Offload Facility, the material may be barged, trucked, or taken by rail to the appropriate Treatment Facility, or Disposal Facility.
- .3 The Contractor is responsible for the safe transport of all dredge material, Identified Debris, Dredge Debris, and Demolition Debris (in accordance with federal, provincial or state, and local Laws and Regulations, and conditions of the permits).
- .4 Dredge material, Identified Debris, Dredge Debris, and Demolition Debris transported from the Contractor Off-Site Offload Facility must be tarped and adequately secured in watertight containers, to minimize the release of odors and dust and to ensure that no spillage occurs, to the satisfaction of the Departmental Representative.
- .5 IL+ dredge material and materials determined to be Hazardous Waste Quality Materials must be transported by licensed haulers for such waste classes within Canada (or equivalent licensed haulers in the United States if applicable).
- .6 The Contractor is responsible for preparing and signing all manifests and obtaining all acceptances for the transportation of all materials. Waste manifests must be provided to the Departmental Representative. The Contractor must provide sufficient documentation to track all material from the Work Site to the Processing Facility, Treatment Facility, and Disposal Facility.

3.8 Material Processing, Treatment, Destruction, and Disposal

- .1 The Contractor must conduct Suspected UXO segregation activities at a Processing Facility, as described in the Construction Work Plan accepted by the Departmental Representative.
 - .1 The Contractor must provide a magazine for the safe temporary storage of Suspected UXO that have been deemed safe to move by the Contractor's UXO Qualified Personnel. The magazine must meet the requirements of the Explosives Regulations, 2013, and be licenced by Natural Resources Canada. The magazine will only be required to temporarily store Suspected UXO prior to removal by DND for appropriate disposal. The Contractor should anticipate that DND will remove Suspected UXO from

- the magazine at least on a weekly basis (pick-up by DND may be more frequent if quantities require it).
- .2 Transportation of Suspected UXOs, **with the exception of Munitions Scrap as detailed in this section**, from the Processing Facility may only be completed by DND's Explosive Ordnance Disposal Team. The Contractor must not transport Suspected UXO from the Processing Facility.
 - .3 At the Contractor's discretion, material processing methods may include sorting, screening, segregation, washing, dewatering, or redistribution by particle size of the dredge material to segregate Suspected UXO greater than 6 mm in size.
 - .4 Dredge material outside of the Leachable Metals Area are to be processed separately from materials from within the Leachable Metals Area for Suspected UXO. The Contractor must take measures to ensure that the separate material types are cleaned from the Processing Facility prior to initiating processing of a separate material type. These measures must be outlined in the Construction Work Plan, for acceptance by the Departmental Representative.
- .2 At the Contractor's discretion, optional treatment methods may include bioremediation, chemical treatment, thermal desorption, and incineration. Treatment does not include blending, mixing, stabilization, or dilution. The Contractor must carefully plan treatment so that it is completed in time for disposal, prior to the Substantial Performance date.
 - .3 Additional processing (in addition to the segregation of Suspected UXO) and/or treatment and destruction of dredge material is permitted under this Contract, and additional processing, treatment, and/or destruction activities must be completed in accordance with this Specification and Laws and Regulations. The Departmental Representative reserves the right to inspect processing, treatment, and destruction activities that are being completed at the Processing and/or Treatment Facility at any time, including conducting independent sampling and testing of dredge material. Additional processing is at the Contractor's discretion and will be performed at no additional cost to Canada.
 - .4 The Contractor must provide any and all waste discharge permits from a governing body (i.e., Transport Canada or the Queen's Harbour Master) required to operate the Processing Facility, as well as other permits and authorizations as described in the definition of the Processing Facility and in Section 01 33 00 (Submittal Procedures)
 - .5 The Contractor must provide all Certificates of Treatment (if applicable) prior to final disposal of dredge material, Identified Debris, Dredge Debris, and Demolition Debris at the Disposal Facility and Certificates of Disposals upon delivery of the material to the Disposal Facility as described in Section 01 33 00 (Submittal Procedures). Processing of dredge material must be performed at a

Processing Facility. Treatment of dredge material must be performed at a Treatment Facility. Completion of treatment activities at the Contractor Off-Site Offload Facility is not allowed unless the Contractor can provide existing permit and approval documentation indicating that the Contractor Off-Site Offload Facility is a Treatment Facility.

- .6 The Contractor must not change location of its Processing Facility, Contractor Off-Site Offload Facility, Treatment Facility, or Disposal Facility without prior notification to, and review and acceptance by, the Departmental Representative.
- .7 Dredge material or other material sent to a Disposal Facility must be permanently stored at that facility.
- .8 All materials require disposal at an accepted Disposal Facility as IL+ material or potentially greater than IL+ if the Contractor bulk handles the sediment. The Contractor may elect to propose that some of the waste materials be reclassified and disposed as a non-IL+ material at an accepted Disposal Facility. The Contractor may propose to perform additional ex situ testing of contaminated sediment for Disposal Facility waste profiling purposes. If Contractor chooses to additionally process dredged sediment to try to reduce the classification to below IL+, or performs ex situ testing for Disposal Facility waste profiling, then the risk is solely on the Contractor and no additional costs will be paid to the Contractor regardless of whether the Disposal Facility accepts the processed or treated materials at a different classification than IL+. The Contractor is not permitted to use blending as a means of reclassifying the in situ classification of sediments to be disposed off site. Reclassification may be acceptable for sediments that are treated or removed from in between previous sediment sampling points subject to appropriate assessment of stockpiled material and according to BC CSR Technical Guidance #1. The Departmental Representative must accept the reclassified material. Recycling or beneficial use of the waste materials (not disposed of at a Disposal Facility) is prohibited.
- .9 If materials are additionally processed to separate waste streams to try to reduce the quantity of IL+ disposal:
 - .1 The Contractor may elect to test each waste stream, including any wastewater generated or accumulated as part of processing and the Contractor must provide results to the Departmental Representative prior to transporting any additionally processed material from the Processing Facility. The Departmental Representative must provide written acceptance of the re-classified material, according to submittals procedures in Section 01 33 00 (Submittals Procedures), prior to the material being removed from the Processing Facility. The Contractor must allow for sufficient time for Departmental Representative review and acceptance of test results in determining its construction sequence and schedule, as part of the completion of their work.

- .2 The Contractor must provide documentation from the Disposal Facility that the Disposal Facility accepts all waste streams for disposal, whether IL+, less than IL+, or greater than IL+, such as materials determined to be Hazardous Waste Quality Materials, that may have resulted from the Contractor's processing of the dredge material.
- .3 By additionally processing the sediment to try to reclassify portions of the material for disposal purposes, the Contractor takes on sole responsibility for proper transport and disposal of all materials, regardless of reclassification results. If the Contractor's choice to process the material results in a change in the disposal classification to Hazardous Waste Quality Materials (e.g., concentrating the contaminants in a smaller waste volume), the Contractor must properly dispose of the Hazardous Waste Quality Materials following all applicable Laws and Regulations. No additional costs will be paid to the Contractor for changes resulting from reclassification of materials due to processing.
- .4 The UXO Qualified Personnel and Archaeological Monitor must inspect all processed waste streams and associated stockpiles.
- .5 The Contractor must provide safe access to the processed waste streams for Departmental Representative, Archaeological Monitor, and UXO Qualified Personnel inspection.
- .10 All wastewater discharged to any surface water originating from the Processing Facility must meet applicable permit discharge requirements. Wastewater management and disposal must be demonstrated by the Contractor in the Construction Work Plan for compliance with water quality requirements to discharge treated effluent back to the receiving waters, as described in Section 01 35 00.50 (Special Procedures for Harbour Controls). In the absence of applicable permit discharge requirements, the water must meet CCME or BC ENV water quality guidelines, or the more stringent of the two. The Contractor must provide analytical test results to the local discharge authority prior to discharge, and must account for time for the local discharge authority to review and accept the discharge as part of the completion of the work.

END OF SECTION