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# 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
Northern Contaminated Site Program
Canada Place/Place du Canada
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Edmonton
Alberta
T5J 4C3

| | |
|---|---|
| **Title - Sujet** Rayrock Remediation Project<br>Rayrock Remediation Project | |
| **Solicitation No. - N° de l'invitation**<br>EW699-220778/B | **Amendment No. - N° modif.**<br>008 |
| **Client Reference No. - N° de référence du client**<br>PCC-EW699-220778 | **Date**<br>2021-11-09 |
| **GETS Reference No. - N° de référence de SEAG**<br>PW-$NCS-003-12159 | |
| **File No. - N° de dossier**<br>NCS-1-44063 (003) | **CCC No./N° CCC - FMS No./N° VME** |

**Solicitation Closes - L'invitation prend fin**
**at - à** 02:00 PM Mountain Standard Time MST
**on - le** 2021-11-16 Heure Normale des Rocheuses HNR

**F.O.B. - F.A.B.**
**Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐

| | |
|---|---|
| **Address Enquiries to: - Adresser toutes questions à:**<br>Bilous, Isabelle | **Buyer Id - Id de l'acheteur**<br>ncs003 |
| **Telephone No. - N° de téléphone**<br>(780) 782-8714 ( ) | **FAX No. - N° de FAX**<br>(418) 566-6167 |

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**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**

Canada

**This amendment is raised to modify solicitation EW699-220778/B as follows:**

**1. ANNEX A – SPECIFICATIONS AND DRAWINGS**

**REVISE** the following Specification sections as follows:

| **Section 44 41 13 – Process Water Treatment** | | | |
|---|---|---|---|
| **Type** | **Clause** | **Page** | **Revision(s)** |
| **Replace** | 1.5.1 | 3 | "Package PWTP Vendor shall have designed, fabricated, and delivered at least five (5) packaged systems of similar process and capacity, and used for similar purposes in North America, within the last ten (10) years and which have proven successful operation. Similar process is defined as the same treatment process (i.e. filtration), but not necessary in the same application." |

**2. Questions and Answers**

Article GC.5.10 mentions that if the *Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay Canada an amount equal to the aggregate of*

a. all salaries, wages and travelling expenses incurred by Canada in respect of persons overseeing the performance of the Work during the period of delay;
b. the cost incurred by Canada as a result of the inability to use the completed Work for the period of delay; and
c. all other expenses and damages incurred or sustained by Canada during the period of delay as a result of the Work not being completed by the day fixed for its completion.

**Question 81:** For GC.5.10 a) Could Canada be more specific and explain what is meant by "persons overseeing"? How many persons does this represent and what amount per day should the Contractor expect?

**Answer 81:** We would anticipate up to 3 people. The specific individuals and associated salaries, travel expenses, etc. would be dependent on the specific circumstance and it is not possible to predetermine an amount per day.

**Question 82:** For GC.5.10 b) Could Canada be more specific about the actual amount that the inability to use the Work represents and what it is based on?

**Answer 82:** It is not possible to predetermine an amount. This would be determined in consultation with the affected parties.

**Question 83:** For GC.5.10 c) Could Canada be more specific about the expenses and amount of damages this would represent? What would be the anticipated value per day?

**Answer 83:** Please see Answer 82.

**Question 84:** Finally, could Canada confirm a maximum amount per day that it would claim? Could Canada insert a total amount that it would be entitled to claim?

**Answer 84:** Please see Answer 82.

**Question 85:** Contractor proposes to ensure cost and schedule relief for events beyond Contractor's reasonable control of the nature of Force Majeure, including but not limited to Covid-19, epidemics, pandemics or the worsening of or failure to contain same, and the imposition or variance of quarantines. Covid-19 (which should be a Force Majeure event) has already commenced although the full impacts are still not known. In cases of Covid-19 future impact, then in addition to extending the time of completion, Canada shall compensate the Contractor for the additional, out of pocket costs necessarily incurred as a result of the impact on the Contractor's performance of the Work. Not all Covid-19-related impacts on the Work will necessarily involve a change to the Contract. Could PSPC consider adding such a provision?

**Answer 85:** Bidders should price their bids according to current conditions. Should these conditions change, Canada could agree to pay for the associated costs through the normal, properly approved change order process.

**Question 86:** Section 44 41 13 1.5 QUALIFICATION states:
Package PWTP Vendor shall have designed, fabricated, and delivered at least five (5) packaged systems of similar process and capacity, and used for similar purposes in North America, within the last five (5) years and which have proven successful operation. ….
Could you extend the requirement of the “last five (5) years” to the “last (10) years”?

**Answer 86:** Yes. Please refer to associated specification revisions.

**Question 87:** What assumptions are the two design maximum daily flowrates (3,000 cubic meters per day and 300 cubic meters per hour) based on?

**Answer 87:** The design intent is that all surface water and interstitial water (pore water) from the Mill Lake organic sediments can be removed and treated in one water treatment season (assumed to be from about May 15 to October 15).

**Question 88:** Does the preliminary Site-Specific Health and Safety Plan that is requested count in the 100-page limit for the Technical Bid? A typical health and safety plan for a northern remote site with various activities can reach up to 100-pages in itself.

**Answer 88:** Yes, the preliminary Site-Specific Health and Safety Plan is included in the 100 page limit for the Technical Bid. The preliminary-Site Specific Health and Safety Plan should demonstrate an understanding of the project requirements but is not expected to include the same level of detail required in the Site Specific Health and Safety Plan described in Section 01 35 29.13 Health, Safety, and Emergency Response Procedures for Contaminated Sites.

**Question 89:** Please confirm that we can use the rock face adjacent to the CDF for aggregate production for temporary road and lay down areas as well as for any other aggregate requirement.

**Answer 89:** These locations are acceptable for new blast rock aggregate production. All specifications requirements (in particular those for Sediment and Erosion Control) must be adhered to.

**Question 90:** Compaction of each lift of Cohesive Soil shall be carried out using large enough compaction equipment to achieve compaction with tamping feet providing full penetration depth through each lift as approved by the DR. Hauling equipment will not be accepted in lieu of compaction equipment. (Ref: Spec section 31 22 13 article 3.12.14)

Please confirm that use of a smooth roller or 50 ton pneumatic truck is acceptable for the very small quantities of clay.

**Answer 90:** The use of compaction equipment with tamping feet providing full penetration depth through each lift is required as identified in the specification.

**Question 91:** Can PSPC provide the detailed log of all known surface debris?

**Answer 91:** Known wastes are described in Appendix A of the Tender documentation and on the contract drawings.

**Question 92:** Equipment decontamination is specified in 01 35 13.43 1.11 but does explicitly indicate whether the cost of equipment (or portions of equipment such as cables, hoses, etc.) that cannot meet site release criteria for radioactive contamination should be carried in the bid. Who is liable for costs if decontamination of site equipment cannot be completed, and so must be disposed of?

**Answer 92:** The project notes that Mill Lake sediment remediation is driven by high metals concentrations in sediment and not elevated radiation levels. Residual radioactive contamination on equipment is not expected if appropriate decontamination procedures are followed.

**Question 93:** Specifications regarding remediation verification have not been identified. That is, is there any requirement for the contractor to perform radiation monitoring of remediated areas to confirm the radioactive material has been removed to the established clean-up criteria, or will this be completed by a third party? Please clarify.

**Answer 93:** There is no requirement for the contractor to perform radiation monitoring of remediated areas to confirm the radioactive material has been removed to the established clean-up criteria. Achievement of remedial

targets will be determined by the DR. The project notes that Mill Lake sediment remediation is driven by high metals concentrations in sediment and not elevated radiation levels.

**Question 94:** Section 01 10 00 1.1.106 states "NORM Debris: Known Debris and Unknown debris that exceeds the NORM criteria following cleaning and removal of all dirt and adhered materials. Norm Debris shall be processed, resized, and disposed of by the Contractor onsite at the Confined Disposal Facility (CDF)."

a. Please reference or specify the applicable "NORM criteria".
b. This appears to be a requirement for work but is in the definition section. Please clarify.
c. Also please clarify how additional (unknown) "NORM debris" is to be identified and characterized, and how the costs to deal with unknown quantities will be addressed.

**Answer 94:** NORM screening criteria are identified in Section 02 41 23 Debris Removal, Clause 3.2.5.
The requirement for waste screening is identified under Part 3 Execution of Section 02 81 00 Hazardous Material. This is a requirement of the work.

NORM screening criteria are also identified in Section 02 81 00 Hazardous Material Clause 3.2.3.

Placement of NORM debris into the CDF is not anticipated as part of the project. However, if this situation occurs, the placement of NORM debris into the CDF subsequent to the screening and classification of the debris will be considered as a contract change.

**Question 95:** Specification 01 35 29.14 1.6.1 states "All workers present on-site shall be designated as NEWs with the CNSC prior to their arrival."

a) There is no known requirement for CNSC involvement in designation of an individual as a NEW. Please clarify and provide a reference to CNSC documentation describing this process. Note this requirement also appears in 01 35 29.14 1.3.6
b) This requirement is not consistent with the RPP (Section 5.3.1) that states "Personnel performing work on licensed INAC sites who have the potential to receive an effective dose of ionizing radiation greater than the regulatory dose limits for members of the public will be classified as Nuclear Energy Workers (NEWs)." Please clarify.
c) This is also not consistent with Specification 01 35 29.14 1.3.3.5 that requires "A description of the required classifications of workers as either Nuclear Energy Workers (CNSC-licensed sites) or Occupationally Exposed Workers (non-CNSC-licensed sites) vs. members of the public; the requirements/process to classify workers and inform them of their classification…."

**Answer 95**: Please refer to the specification revisions included in Amendment 004.

**Question 96:** Specification 01 35 29.14 1.5.1.4 states "Training and qualification for RSO shall include:…. Certified in a RSO training recognized by the AHJ.".

a) Please clarify and provide examples of "training recognized by the AHJ". Note this requirement also appears in 01 35 29.14 1.3.2.
b) Please indicate what level of education and/or experience would be considered equivalent to this training.

**Answer 96:** CNSC REGDOC-2.2.3: Personnel Certification: Radiation Safety Officers (https://nuclearsafety.gc.ca/eng/acts-and-regulations/consultation/comment/regdoc2-2-3-1.cfm) provides information on the Personnel Certification for Radiation Safety Officers. While this document is intended for Class II facilities, it provides a description of requirements for certification and many of the responsibilities for the position noted in Section 2.0 of this REGDOC are the same as the responsibilities of the RSO at Rayrock.

CNSC does not have explicit training and certification requirements. As per REGDOC-2.7.1, Radiation Protection (http://www.nuclearsafety.gc.ca/eng/acts-and-regulations/regulatory-documents/published/html/regdoc2-7-1/index.cfm), the Departmental Representative/AHJ would expect the following in regards to knowledge and training of an RSO:

*A.2 Radiation protection personnel*
*Radiation protection personnel are responsible for ensuring the radiation protection of workers, and may be assisted by technical personnel responsible for performing specific tasks. All licensees, regardless of*

*their size, will have someone responsible for radiation protection, licensing and compliance matters. These individuals should understand the NSCA [Nuclear Safety Control Act], the applicable regulations made pursuant to the NSCA, and the conditions of the licence under which their activities are being carried out. Radiation protection personnel should also be well informed about the current radiation protection principles, methods and practices related to the licensed activity.*

*Training for radiation protection personnel should cover at least all topics associated with radiation protection at the level of detail required by their responsibility in ensuring the day-to-day safety of workers and of the public. Radiation protection personnel should also be trained in methods and techniques for controlling, using, handling, storing and disposing of nuclear substances and prescribed equipment, and for controlling, using or operating the applicable radiation devices and prescribed equipment. Training should cover the methods and techniques for monitoring radioactive contamination and supervising decontamination work, and for monitoring and controlling the radiation dose rates and radiation exposure of all workers.*

**Question 97:** RPP Table 6-2 provides "Contamination Limits for Surfaces of Equipment and Items".

a. Please clarify if the limits apply to alpha or beta/gamma contamination.

b. The table provides limits only for non-fixed contamination. Please confirm there are no applicable limits for fixed contamination.

**Answer 97:** The limits provided in Table 6-2 for Controlled and Public Areas are drawn directly from CNSC "Radioisotope Safety – Monitoring for Radioactive Contamination" available at the following link: http://nuclearsafety.gc.ca/eng/nuclear-substances/licensing-class-II-nuclear-facilities-and-prescribed-equipment/information-class-II-licensed-facilities/radioisotope-safety-monitoring-contamination.cfm

For Rayrock, the limits are applicable for alpha emitters and their daughter products defined as "Class A", and the link provides instructions for relating measurement readings to these criteria.

The limits for non-fixed contamination are revised for equipment leaving as follows:

| Contamination Type | Controlled Areas | Public Areas | Equipment Leaving Site** |
|---|---|---|---|
| Non-fixed, Bq/cm$^2$ * | 3.0 | 0.3 | 0.01 ($\alpha$)<br>0.2 ($\beta/\gamma$) |

*averaged over a 100 cm$^2$ area.
**All non-fixed contamination should be removed if possible.

The intention for these limits is to verify that radioactive dust from site activities does not accumulate on surfaces and equipment and assumes that the dust will not remain long enough to become fixed. Fixed contamination is only anticipated for mining debris remaining on the site. Specification Section 02 41 23 Debris Removal, Clause 3.2 provides instructions for the Waste Material Screening and Disposal that is needed for items with fixed contamination.

**Question 98:** Specification 01 35 29.14 1.3.2.4 requires "Proof of registration as an RSO with the Canadian Nuclear Safety Commission (CNSC)". It is assumed this is referring to certification of an RSO is described in CNSC REGDOC 2.2.3. Per that document, "certification" of an RSO is relevant to Class II Nuclear Facilities and Prescribed Equipment Regulations. The RayRock site is not a Class II nuclear facility, and the certification requirement is not applicable. Please clarify.

**Answer 98:** Section 01 35 29 14 Radiation Protection Clause 1.3.2.1.4 was removed in Amendment 004.

**Question 99:** Specification 01 35 29.14 1.7.1.1.1.1 states "All Work within Mill Lake associated sediment removal, the CDF construction limits and associated Contaminated Material excavation, and Process Water Treatment activities shall all be performed within a HR-RZ." Please clarify. It would be expected that site preparatory work (such as land surveying, establishing fences and boundaries, some pre-construction or site preparation work, and similar non-intrusive work can be carried out before the implementation of all

radiation protection procedures. It might be expected that all radiation protection procedures need to be in place prior to commencing intrusive work (excavation, dredging, etc.). Please clarify. Also, it might be expected that all radiation protection requirements will be lifted in areas that have been remediated. Please clarify the requirements to be met for removal of radiation protection measures.

**Answer 99:** Work staging, including the timing of the Radiation Zone implementation and decommissioning is to be identified in the Contractor's Site-Specific Radiation Protection Plan (SSRPP). Workplace safety/worker protection is the responsibility of the Contractor and the workplace protection measures identified in the SSRPP will need to match the level of workplace risk.

Establishment of the High Risk Radiation Zone (HR-RZ) is only required before the start of intrusive work, and must be maintained throughout the period that potentially Contaminated Material and sediment is being handled. This includes any ground disturbance activities such as drilling, scraping, blasting, excavation, etc. Non-intrusive work may proceed both before the setup of the HR-RZ and after its decommissioning, but handling of the Contaminated Material and sediment should be performed under HR-RZ procedures. The Contractor should notify the Departmental Representative at the conclusion of Contaminated Material and sediment handling to verify procedures for HR-RZ decommissioning. Work in the location of the HR-RZ that takes place before or after setup of the zone (before and after intrusive work) is considered LR-RZ.

**Question 100:** Specification 01 35 29.14 is silent with regards to verifying a worker's previous radiation dose history to assure that five-year limits on radiation exposure are not exceeded. Please clarify.

**Answer 100:** The Contractor is responsible for the control of occupational and public exposure to radiation at the Rayrock site in accordance with their Site-Specific Radiation Protection Plan (SSRPP). Monitoring of a workers occupational exposure is a project requirement. It is understood that everybody receives an Average Effective Dose from Natural Background Radiation (http://nuclearsafety.gc.ca/eng/resources/radiation/introduction-to-radiation/radiation-doses.cfm). Monitoring of Nuclear Energy Worker (NEW) effective dose is intended to track the occupational exposure to verify the additional dose received from working at the Rayrock site. The Contractor is not required to track the dose received by the NEW during periods when they are off site; however, it is recommended that any NEW who undergoes high exposure medical procedures, such as computed tomography of the abdomen and pelvis (abdominal CT Scans), report the procedure to their supervisor and have the effective dose from the procedure recorded in their records.

If the person has previously held NEW status at another location, and their effective dose records can be made available, that information must be considered when establishing their five-year limit. For the general public, including persons who have not held NEW status before, starting work at the Rayrock site would represent the start of their five-year period.

**Question 101:** The local area may be expected to have naturally occurring elevated levels of radioactivity. Please clarify the requirements and process for establishing background levels for radioactivity. Background characterization is necessary for gamma radiation, contamination levels, radon, NORM in soils and rocks, etc. Confirm all radiation criteria are net of background (i.e. after background has been subtracted).

**Answer 101:** Rayrock is licenced with a Waste Nuclear Substance Licence which permits CIRNAC to possess, manage, and store nuclear substances. At Rayrock, those substances primarily consists of tailings, but includes any radioactive (uranium-containing) material resulting for the former mining activities. While Naturally-Occurring Radioactive Material (NORM) is certainly present, it is impossible to differentiate between NORM and regulated radioactive material. All radiation criteria provided for the Rayrock site are as measured (total and not net of background). No radiation measured at Rayrock will be considered NORM. The Rayrock project includes a number of other sites (Sun Rose, REX, etc.). Radiation measured at these sites is considered NORM except as identified in the specifications.

**Question 102:** RPP Section 6.6 states " an inventory of discrete radiation sources such as…. check sources will be maintained.". The definition of "radiation source" is not provided. The CNSC definition of a "radioactive source" (considered in this instance to be the same as a "radiation source" is "Radioactive material that is permanently sealed in a capsule or closely bonded in a solid form, and which is not exempt from regulatory control." [CNSC REGDOC-3.6, Glossary of CNSC Terminology]. This interpretation would

mean that check sources that are exempt regulatory control do not need to be part of an inventory as they are not (by CNSC definition) “radioactive sources”. Also note that Nuclear Substances and Radiation Devices Regulations Section 8.1. provides an exemption for check sources. Please confirm.

**Answer 102:** There is currently no inventory of radiation sources at the Rayrock Remediation Project sites. The Departmental Representative will inform the Contractor should radiation sources be brought to the site, and the Contractor must maintain an inventory, in accordance with the Radiation Protection Plan, of any radiation sources that they bring to Project sites.

**Question 103:** RPP Section 6.8.1.2 states “Intakes of radioactive material (chronic or acute) shall be detected and quantified by bioassay analysis…” Please confirm that is only required per RPP Section 6.8.1.2 “If the annual effective dose of a person is likely to reach or exceed 5 mSv per year, and the internal dose component (dose to a person from radioactive material taken into the body) is likely to reach or exceed 1 mSv per year”.

**Answer 103:** Bioassay analysis is only required if the annual effective dose of a person is likely to reach or exceed 5 mSv per year, and the internal dose component is likely to reach or exceed 1 mSv per year. In accordance with RPP Section 6.8.1, a CNSC-Licensed Dosimetry Service Provider will be required under these conditions; the CNSC-Licensed Dosimetry Service Provider will provide any bioassay requirements.

**Question 104:** RPP Section 6.9.2 states “ For the NORM material expected on sites, the contaminants will have a suitable beta/gamma emission in addition to any alpha particles emitted, to allow contamination detection via a beta/gamma type instrument. Geiger-Mueller pancake detectors are a suitable type for detection of this type of contamination…” The section later states “An example of a suitable instrument is the Ludlum Model 12 rate meter coupled with a Ludlum Model 43-5 “Pancake” Geiger Mueller detector. “ The Ludlum Model 43-5 is an alpha-detecting probe. See https://ludlums.com/products/all-products/product/model-43-5 Please clarify. It is suggested an appropriate probe is the Ludlum 44-9. https://ludlums.com/products/all-products/product/model-44-9 Please confirm.

**Answer 104:** Radioactive material at the Rayrock site is to be considered waste nuclear material, not NORM. Examples of instrumentation provided in the RPP were not intended as recommendations for these products. The Contractor is responsible for providing contamination survey instruments that are suitable for the type of radiation emitted from the contamination associated with a former uranium mine.

**Question 105:** RPP Section 6.13.6 is titled “Personal Contamination”. Please define what level of contamination would be defined as “Personal Contamination”.

**Answer 105:** Section 6.13 of the RPP covers Emergency situations, so the personal contamination sub-section is referencing any event where personnel come in contact with known or expected radiation contamination sources. Personal contamination should only be considered a potential issue for the HR-RZ. PPE and work procedures must be designed to prevent exposure to radioactive material, so any uncontrolled exposure contravenes the ALARA principal. Reporting skin contamination events to the CNSC is only required for the following circumstances:

1. If a nuclear energy worker (NEW) was calculated to have received an extremity (skin) dose above 50 mSv.
2. If a Non-NEW was calculated to have received an extremity (skin) dose above 5 mSv.

Most work performed at the Rayrock site will be in areas where the risk of exposure to radioactive material is very low. Even in the HR-RZ, most material that will be placed in the CDF will have relatively low uranium concentrations; however, the intent of the RPP is to control exposure to radiological hazards. Any exposure of personal clothing or skin to potentially contaminated material in the HR-RZ should be considered reportable to the RSO. By tracking personal contamination, even for minor incidents (near-misses), the RSO can make changes to work procedures or PPE within the HR-RZ to reduce the potential for exposure. The RSO is responsible for investigating incidents to verify if the contamination event is CNSC reportable.

Additional information on CNSC Expectations for Response During Skin Contamination Events may be found with the following link: https://www.nuclearsafety.gc.ca/eng/pdfs/cnsc-expectations-for-licensee-response-during-skin-contamination-events-eng.pdf.

**Question 106:** Section 01 10 00 Part 1 article 1.1.45
Contractor's Blasting Consultant: Blasting specialist responsible for the quality of blasting, preparation of blast designs and vibration monitoring of the sensitive structures for Peak Particle Velocity (PPV) or overpressures. Please provide the PPV limit applicable for the project.

**Answer 106:** Bidders are to use a blast vibration limit of 25 mm/s, unless otherwise required by regulations.

**Question 107:** Please provide the following information pertaining to the design criteria for the two river crossings:

- Air temperature (number of 'freezing degree-days')
- Upstream ice formation (thickness/strength)
- Hydrological effects (particularly with reference to spring break-up and river stage)
- Current velocity

**Answer 107:** Project-specific information is not available.

**Question 108:** Do you have any information regarding the retention capacities of the resins based on the pilot test that was conducted, to estimate the quantities of resin necessary for the entire project?

**Answer 108:** Contractor is expected to develop their own quantity estimates based on their proposed methods. Field test results obtained to date are provided in the following supporting documents: 2020 Mill Lake Sediment Sampling, Rayrock Remediation Project (AECOM, September 2020) and 2020 Field Investigation Summary Kwetᶩ̨ʔaà (Rayrock) Remediation Project (AECOM, August 2021). Based on pumping of 385,000 m3 of dredge slurry at 1.75% dry weight solids, conditioned with 100-ppm chemical conditioning polymers, an estimated 34,900 litres (42,000 kg) of polymer were estimated. Minimal capture rate for chemical conditioning polymers with a suspended solids load to the geotextile tubes is > 99.9%.

**Question 109:** Is the sediment and clay interface determination of a clean surface based solely on a visual inspection? To provide a clean interface clay will require removal and placement in the CDF. How much clay can be removed from this interface layer to provide a clean surface and be placed in the CDF?

**Answer 109:** A visual inspection will be used to determine the acceptable level of organic sediment removal. The project currently assumes that this interface will be removed during winter months, though this is not a requirement. Assume that approximately 0.3 m of clay will be removed during the excavation of the organics sediment and clay interface. Payment for the movement of this interface material will be made as payment item 35 20 24.01-1 Sediment Removal.

**Question 110:** Will equipment leaving the Radiation Zones, with the potential for contamination, be fully inspected by the Departmental Representative? What will occur when sections of equipment cannot be physically measured, such as inside piping, inside pumps, inside vessels, etc..? Will this equipment then be deemed to be contaminated?

**Answer 110:** Equipment leaving the Radiation Zones will be inspected for contamination by the Contractor's RSO, and by the Departmental Representative as a Quality Assurance measure.

**Question 111:** If equipment is found to be contaminated and decontamination efforts are not reducing the concentrations, will Canada reimburse the contractor for the residual value of equipment that cannot be released from site Radiation Zones? Will equipment and materials deemed to be high in radiation be allowed to be disposed within the CDF?

**Answer 111:** The project notes that Mill Lake sediment remediation is driven by high metals concentrations in sediment and not elevated radiation levels. Residual radioactive contamination on equipment is not expected if appropriate decontamination procedures are followed.

**Question 112:** What is the % solids concentration expected of the organic sediment within the geotubes to guarantee mechanical stability of the mass?

**Answer 112:** A dry weight solids >28% of material dewatered and consolidated in the geotextile tubes is estimated in order to meet tube sizing and capacity requirements, dewatering efficacy, and CDF sizing. A guaranteed level of mechanical stability of the mass cannot be provided as site variabilities (contractor methods, material variabilities, etc.) are expected.

**Question 113:** Will Canada consider changing the unit for Itemized Price 35 20 24.01-1, Sediment Removal from a cubic metre (m3) to a bone dry tonne (BDT) to account for any variability in the characteristics within the organic sediment material?

**Answer 113:** No, this pay item unit will not be changed. We would not be able to measure BDT as this material is staying on site in a CDF for closure. The best measurement of project productivity and completion is insitu volume as measured by bathymetry.

**Question 114:** The Geosynthetic Clay Liner Specifies: Written 10-Year guarantee that the entire work constructed by the Contractor and Supplier is free of defects in materials and workmanship. (Ref: Reference - Section 31 32 19.15 Article 1.9.3.2)

The Liner Installers have advised us that they can only offer a 5 Year Pro-Rated Material Warranty and 2 Year Workmanship Warranty on the BGM Liner install.

Please confirm that the required guarantee shall be adjusted to meet the liner installer's limitations.

**Answer 114:** The material warranty can be reduced to 5 years. The workmanship warranty can be reduced to 2 years.

**Question 115:** Section 44 41 13, art. 3.3.2 mentions: "Online measurement data must be made available to the DR or their Authorized Personnel as it becomes available through remote monitoring communications equipment, to be supplied by the Contractor". Due to limitations associated with the remote site location, may the data be made available through local data logger store and data then be sent via email as per the communication protocol that will be put in place and agreed with DR? (Ref: Specification Section 44 41 13, art. 3.3.2)

**Answer 115:** Yes, the data can be sent by email at least once daily.

**Question 116:** Section 44 41 13, art. 3.3.1 mentions : "using devices approved by DR for automated online sensing which possess a sampling frequency of 2 hours or less.". Can PSPC provide the list of approved devices by DR? (Ref: Specification Section 44 41 13, art. 3.3.1)

**Answer 116:** Treated Water Quality Instruments should be manufactured by Hach, ABB, Siemens or Endress+Hauser. Equivalent manufacturers with applicable certification, such as the Canadian Standards Association, may be approved by the Departmental Representative.

**Question 117:** Referring to Section 44 41 13, art. 1.4.8, if the daily sampling and onsite analysis results are demonstrated to be consistent, reliable, and reproductible with offsite analysis through a 3rd Party certified laboratory, may the offsite analysis be reduced to 2 times a week? The reason is the logistics of the site location to send and receive analysis from a 3rd Party certified laboratory located outside of N.-T. (Reference: SPEC-IFT SPEC COMBINED-RAYROCK-2021-08-18 - Section 44 41 13, art. 1.4.8)

**Answer 117:** The third party laboratory samples are to be conducted weekly during plant operations. Refer to the revised Section 44 41 13, Clause 1.4.8 as provided in Amendment 7.

**Question 118:** Referring to Section D on Drawing C18, the berm section between chainage 110 – 125 indicates a 1:4 blasted bedrock cut slope, however this area is above original ground elevation. Please confirm that all earthworks to the left of Chainage 95 on this drawing (similarly for Section E) is all fill and that no bedrock blasted slope is possible. Revise slope details and sump location accordingly.

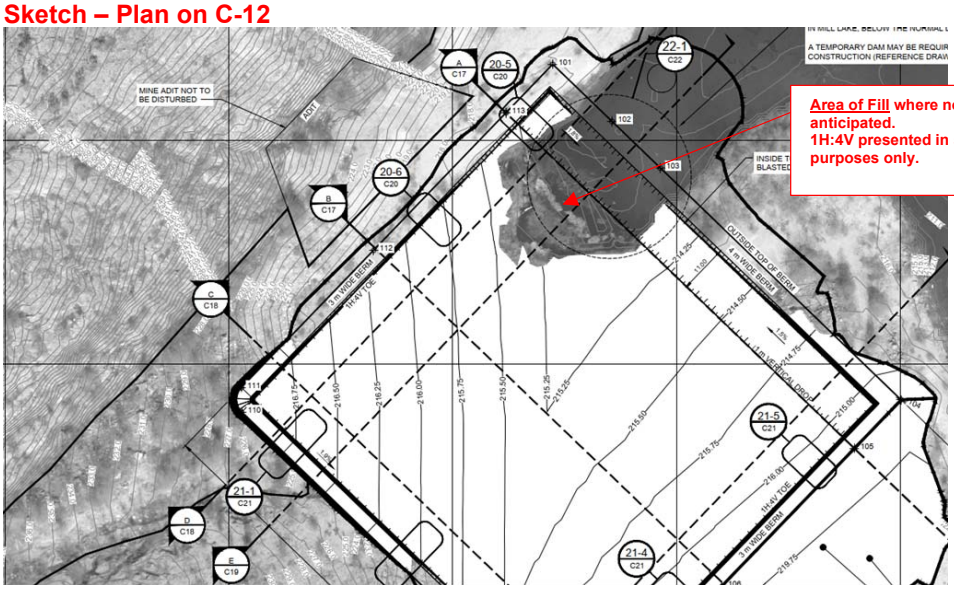
**Answer 118:** In areas where fill is required (such as the Mill Cove area referenced above) the expectation is that the 2H:1V interior berms would be constructed at the same time (as illustrated in DETAIL 22-1 on C-22). The location of the sump and other items take this into account and do not need to be revised. IFC drawing sections (C-17 to C-19) will be revised for clarity.

References in Drawing Notes and Sketch provided below:

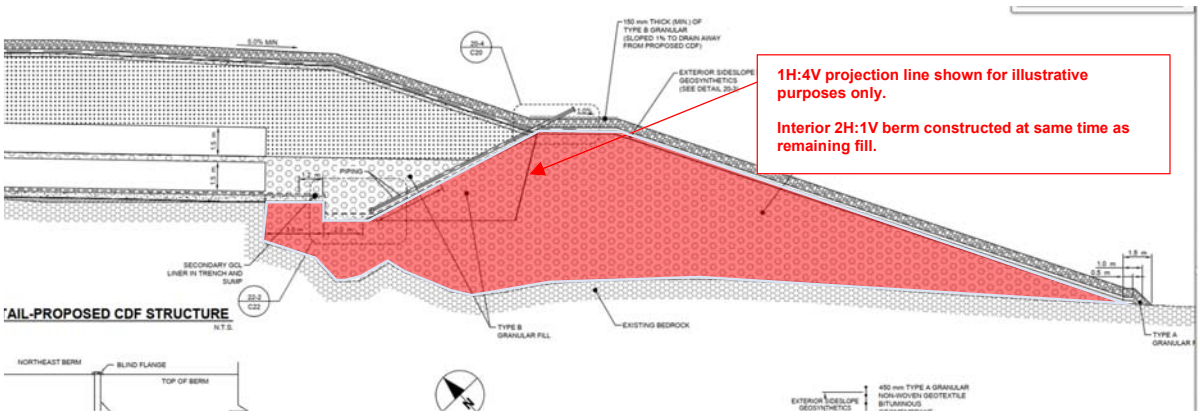
**See Note 6 (C-12 and C-13):**
*THIS ROUGH GRADING SURFACE IS NOT CONSTRUCTABLE IN AREAS OF FILL AT 1H:4V SLOPE. THESE SHALL BE CONSTRUCTED AT THE SAME TIME AS THE BERMS **(2H:1V)**. THE ROUGH GRADING SURFACE IS PRESENTED FOR CONSTRUCTION LAYOUT PURPOSES.*

**See Note 5 (C17-22):**
CONTRACTOR SHALL REMOVE AREAS OF BEDROCK CUT, AS SHOWN IN THE DRAWINGS, PRIOR TO CONSTRUCTION OF BERM FILLS. AREAS OF ANTICIPATED BEDROCK CUT ARE SHOWN AS THOSE IN WHICH THE ORIGINAL GROUND IS ABOVE THE ROUGH GRADING SURFACE. THE ROUGH GRADING SURFACE INCLUDES THE PROJECTION OF A 4V:1H SLOPE FROM THE INSIDE TOP OF DESIGN BERM AS SHOWN IN THE DRAWINGS. IN THE ABSENCE OF A BEDROCK CUT, THE BERM ***(2H:1V)*** FILLS SHALL BE CONSTRUCTED AS SHOWN IN THE DRAWINGS.

**Sketch – Plan on C-12**




**Sketch – DETAIL 22-1 on C-22**




**Question 119:** Can the dock at Chico Lake be buried in the WR1 fill area?
**Answer 119:** Yes

**Question 120:** What diameter are the power poles that need to be removed?
**Answer 120:** The poles were not measured; they appear to be "standard" power poles. See photographs in supporting document *2020 Field Investigation Summary Kwetᶓ̀ǫ̀aà (Rayrock) Remediation Project (AECOM, August 2021)*.

**Question 121:** Does the DR have any objection to excavation of contaminated soil within the CDF footprint under frozen conditions.
**Answer 121:** There would be no objection**.**

**Question 122:** Aside from the CDF footprint, have any other areas been specifically identified for bedrock quarry borrow.
**Answer 122:** Yes, the blast material recovered from the Mill Creek Lowering can be used as borrow material (refer to Drawing C10).

**Question 123:** The RFP requests the identification of a Traditional Knowledge Advisor and a Community Liaison. Do bidders need to provide specific names for these individuals in their proposal?
**Answer 123:** For the specific positions (i.e. Traditional Knowledge Advisor and Community Liaison), bidders are required to provide evidence they have contacted the Tłı̨chǫ Government and received confirmation these positions can be filled. Specific individuals do not need to be named in a bidder's proposal as there are a number of individuals in the Tłı̨chǫ Communities that can fill those positions. The successful contractor will be required to provide specific names after contract award.

**Question 124:** Can/should bidders include assumptions, limitations, or other conditions in their proposal?
**Answer 124:** As per R2710T GI02 Completion of Bid, "any condition or qualification placed upon the bid may be cause for disqualification." Bidders who include conditions or qualifications will be asked to remove the conditions in order to be responsive to the requirements of the RFP.

**Question 125:** Could you please provide the SDS for the chemicals that were used in the sediment dewatering testing program. I've included the list of chemicals referenced in the tender package, below.
Cationic: AQUAFLOC C1290, AQUAFLOC C1260, AQUAFLOC C1320
Anionic: AQUAFLOC A1440, AQUAFLOC A1422
Coagulants: AQT 6450, AQT 5141
**Answer 125:** The safety data sheets are available online and through the manufacturers. It is best to obtain SDS directly from the manufacturers. For an online example for Aquafloc, refer to the following link: Safety data sheet of 'AQUAFLOC' (Version 3) (dydsa.com)

**Question 126:** The Permittee shall have a maximum of 258,000 litres and 30,000 lb of fuel stored on the land use site at any time, unless otherwise approved by the Board. (Ref: EXISTING PERMITS AND LICENCES-RAYROCK-2021-08-18, Part C: Conditions Applying to All Activities point 70)
Can PSPC provide the rationale for these limits and can these be flexible to allow for contractor evaluation of the required needs for the project?
**Answer 126:** The maximum fuel storage is dictated by the Land Use Permit. The fuel limits originate from CIRNAC's Land Use Permit application, submitted to the Wek'eezhii Land and Water Board (WLWB) in September 2020. WLWB approval would be required for substantial changes to the maximum fuel storage (i.e. >10% change), which requires a 90 day review timeline. If the contractor requires such an approval, this must be identified as soon as practical in the project schedule to prevent delays.

**Question 127:** Can PSPC provide details on the site closing procedures, activities (equipment washing and decontamination), and schedule to understand the impact on the process water treatment scope?
**Answer 127:** Refer to Section 01 71 13 Mobilization and Demobilization, Section 01 35 13.43 Special Project Procedures for Contaminated Sites, and Section 02 50 00 Site Remediation. It is anticipated that the equipment can be decontaminated once all waste is placed in the CDF, and the cap installation is nearly complete. The treatment plant is anticipated to operate as the CDF cap is installed to manage precipitation and filtrate from the geotextile tubes.

**Question 128:** The bottom slopes of the CDF as specified in the drawings exceed 0.5%. Please provide adjusted final grade to be level with aggregate, no grade, for the installation by the geotextile container

manufacturer and as recommended for stability, safety and general best practice in the industry. In other words, the true bottom of the CDF should still have a final slope of 0.5% or less for drainage but the grade below the geotubes should be at zero. (Ref: Drawings C10 to C19)

**Answer 128:** The contractor is responsible to submit a Confined Disposal Facility Construction Plan as described in Section 01 11 00 Summary of Work, which includes their proposed filling plan to establish the BGM protective layer and geotextile tube base grade using Type B and/or Contaminated Material accordingly. The geotextile tubes grading is assumed to be at a 1% grade or less as per industry practice.

**Question 129:** Section 44 41 13 Process Water Treatment article 1.4. details the maximum grab concentration for treated water. Appendix C, table of test results Data, from the field summary 2021 of the Amendment 6, presents ammonia results above the set maximum grab concentration for treated water. Is it possible to confirm that the treatment train described in Article 2.4 Packaged PWTP, of Section 44 41 13 will allow the contractor to meet the maximum grab concentration for treated water? If so, is it possible to confirm the operation requirements to meet these criteria.

**Answer 129:** As provided in *Amendment 007,* ammonia oxidation, oxidant quenching, and post-treatment monitoring has been added to the specifications. The contractor's Mill Lake Water Treatment Facility Operations and Maintenance Plan is to include details on the operation, maintenance, and monitoring as described in Section 44 41 13 Process Water Treatment.

**Question 130:** It is specified only one size of Geotextile tube to use. But physically on site they are able to put a second layer, we will be required to use different sizes for the second layer. Are we allowed to use different Geotextile tubes sizes? (Ref: Spec Section 31 05 19.14 Geotextile Tubes Article 2.1.2)

**Answer 130:** Contractors must prepare their bids using the geotextile tube size and quantity specified in the contract documents. Alternate tube lengths can be proposed by the contractor in their Confined Disposal Facility Construction Plan, Dewatering and Sediment Removal Plan and Geotextile Tube Dewatering Installation and Management Plan submissions.

**Question 131:** In the bid form, it is specified supply 22 Ea Geotextile tube. Based on our calculation, there is no way that we will be able to contain all the sediment in those 22 tubes. Are you considering increasing the number if tube needed?

**Answer 131:** Contractors must prepare their bids using the geotextile tube size and quantity specified in the contract documents. Alternate tube lengths can be proposed by the contractor in their Confined Disposal Facility Construction Plan, Dewatering and Sediment Removal Plan and Geotextile Tube Dewatering Installation and Management Plan submissions.

**Question 132:** In SPEC-IFT APP D WATER TREATMENT-RAYROCK-2021-08-18 Page 22 of 123 Section 4.2.1, it is mentioned during the test 3, uranium was removed from 840 µg/L to 0.1 – 4.2 g /L by the GAC column and one stage of IX column with Amberlite HPR4800 resin. In the document SPEC-IFT SPEC COMBINED-RAYROCK-2021-08-18 section 44 41 13 articles 1.4.7.2. we have a Max value for the uranium of 190 µg/L. How should we consider the discrepancies between the uranium concentration ?

**Answer 132:** During Test 3, uranium was removed from 840 µg/L to 0.1 – 4.2 **µg /L** by the GAC column and one stage of IX column with Amberlite HPR4800 resin.

**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.**