Public Services and Procurement Canada

Requisition No. EZ897-171341

MERX I.D. No. _____

SPECIFICATIONS
for

EC Wilmer Marsh Site Remediation

Wilmer Marsh Unit, Columbia National Wildlife Area, Near Wilmer, BC

Project No. R.D18391.005 August 2016

APPROVED BY:

J. Laubmann — Regional Manager ES — 18 Aug 2016 — Date

Construction Safety Coordinator — 18 Aug 2016 — Date

TENDER:

Project Manager — 18 Aug 2016 — Date

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PART 1 GENERAL

1.1 INTRODUCTION

This specification is for the remediation of a portion of the Wilmer Marsh Unit of the Columbia National Wildlife Area (NWA), known as the Wilmer Marsh former refuse site (the Site) for Public Services and Procurement Canada (PSPC), on behalf of Environment Canada (EC).

The location of the lands to be remediated is located on the east side of Westside Road approximately 1.2 kilometres (km) north of the town of Wilmer, British Columbia near Invermere, British Columbia.

The work required under this contract covers:

- Site preparation activities (i.e. demarcation of exclusion zones, opening fence and installing temporary fencing) immediately prior to the active remediation component of the project.

- The remediation and restoration of significant buried debris (known as the Main Debris Zone [MDZ]) in the trail area of the Site. The remediation activities will also involve the removal of impacted soil.

All work will be carried out under contract to PSPC on behalf of EC. PSPC will be responsible for approving the final extent of materials to be removed, their destination, monitoring remediation and restoration progress, and assuring quality of the work.

Remediation and restoration activities are to be completed within the wildlife and fiscal year windows for the Site (December 12, 2016 to March 3, 2017). All final submittals must be completed by March 3, 2017.

1.2 BACKGROUND

The Wilmer Marsh former refuse site is located on the western side of the Columbia River Valley and consists of remnant river bench upland with an adjacent shoreline and marsh below. **The Site location is shown on Drawing 1.** A fence borders the Site along the western boundary (along Westside Road). There are no buildings or any other structures on the Site. The benchland is relatively flat, with steep slopes and gullies on the south, east and north boundaries. Wilmer Marsh borders the Site at the bottom of the steep slopes to the east and is located approximately 60 m lower than the upland bench. A steep trail leads down to the marsh along the southern edge of the uplands bench; the remediation work area (i.e. MDZ) is located in this steep trail area (refer to Drawing 2). Site photographs are included in Appendix C.

The Columbia NWA is a federally protected area designed to conserve wildlife and their habitat and is not intended for recreational uses. The Columbia NWA is an important segment of a bird migratory corridor within the Pacific Flyway. Unauthorized disposal of refuse occurred at the Site over the past several decades. Refuse deposited at the Site includes, but is not limited to, automobile bodies and parts, cans, glass, building debris, scrap metal, used oil containers and filters, automotive batteries, drums, etc. In 1997, approximately 150 car bodies were reportedly removed from the Site. Of particular note,

between January and March 2015, debris and contaminated soil was removed from the MDZ and surrounding slopes; approximately 6 tonnes of surficial debris and approximately 3500 tonnes of mixed soil and debris were removed.

Due to the potential presence of sensitive species/habitat in the proposed work areas at the Site, all work will be monitored by Environmental Monitors (EMs). The EMs will be retained by PSPC and will notify the Departmental Representative immediately and without delay at any time that adverse impacts to sensitive species or their habitat are observed or anticipated. The Departmental Representative will in turn inform the Contractor to stop work.

The soils at the Site are comprised of fine-textured glaciolacustrine materials that are susceptible to surface erosion and instability once disturbed. Due to the terrain and sensitive soils at the Site, the Contractor must submit an Excavation and Restoration Design Plan, reviewed and signed off (i.e. stamped/sealed/signed) by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada, for review and approval by the Departmental Representative prior to undertaking intrusive works. The Excavation and Restoration Design Plan must detail:

- The procedure for removing the debris and associated soil from the MDZ and transporting off-site (including stamped/sealed drawings).
- The procedure for restoring the slope following excavation and proposed final site condition (including stamped/sealed drawings).
- The installation of permanent erosion and sediment control measures to prevent migration of sediment/soil to adjacent undisturbed areas and to the marsh including placement of erosion and sediment and control blanket, deposition of coarse woody debris, construction of cross-ditches and seeding with native plant mix or other measures.
- The equipment to be used to conduct the excavation and restoration activities (including potential backup equipment).
- The materials to be used in the restoration of the work area following remediation and used in the installation of permanent sediment and erosion control measures (including application/installation details).

As well, due to the location of the Site within a NWA, no intrusive activities can be conducted at the Site without a permit issued by Canadian Wildlife Service (CWS); typical turnaround times for issuance of a permit is four weeks. To that end, a permit application for the remediation project must be submitted to the Canadian Wildlife Service (CWS) at least four weeks prior to commencement of any site activities (including mobilization). The Departmental Representative will coordinate the permit application for the remediation project; however, as part of the permit application, the Excavation and Restoration Design Plan must be submitted to CWS for review and approval as well. Due to these requirements and to ensure that the project can be completed within the available window, the Excavation and Restoration Design Plan must be consistent with the expectations for the project detailed in the Conceptual Approach (refer to SLR letter dated June 24, 2016 in Appendix B), with CWS expectations for the project (as outlined in the CWS letter dated August 17, 2016 in Appendix B) and with other project constraints identified in this document. Please note that the Conceptual Approach has been developed based on information provided in the Vast Resource Solutions Inc. (VRSI) 2016 Excavation Feasibility and Slope Stability

Assessment report and observations detailed in the Clarke Geoscience Ltd. (CGL) and SLR reports provided in Appendix A.

Furthermore, due to the nature of the work within steep terrain, the Contractor will be responsible for providing Geotechnical Monitors (GMs) to ensure that the work is being completed safely and in accordance with the Excavation and Restoration Design Plan; it is expected that daily supervision will be required during excavation and restoration activities.

The Departmental Representative will be retaining a Geotechnical Consultant (GC) to periodically review the remediation activities, to assess and document adherence to the Excavation and Restoration Design Plan and to provide advice on potential geotechnical issues as they arise. The GC will notify the Departmental Representative immediately and without delay any time that geotechnical concerns are identified, in addition to those identified by the Contractor's GM. The Departmental Representative will in turn inform the Contractor to stop work.

The EC Wilmer Marsh site remediation involves removal of approximately 1500 m^3 (in situ volume estimate) of refuse/debris with varying amounts of soil. Based on observations during SLR's 2016 test pitting investigation (refer to SLR report dated August 17, 2016 in Appendix A), depths of disturbed soil and/or debris on the trail slope vary from approximately 0.1 m below grade to a maximum observed depth of 2.5 m below grade. Excavation depths in the MDZ will extend to the intersection of native material.

Laboratory analytical data for the soil to be excavated from the MDZ is provided in Tables 1 through 8 (Contaminated Material) and Tables 9 through 11 (Non-Contaminated Material). Soil impacted with metals, polycyclic aromatic hydrocarbons (PAH) and petroleum hydrocarbons (e.g. toluene) exceeding the applicable Canadian Council of Ministers of the Environment (CCME) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (Agricultural (AL) land use guidelines) for the Site has been identified in the MDZ. Groundwater has not been encountered during environmental investigations at the Site.

As unauthorized disposal of refuse occurred at the Site, there is the possibility that hazardous materials (e.g., asbestos, lead piping, etc.) will comprise a portion of the debris present on the Site. The project work assumes that any hazardous building materials encountered will be handled appropriately and disposed at a facility authorized and/or licensed to accept, treat and dispose of the particular materials, subject to review and approval by the Departmental Representative.

Due to the location of the Site within a NWA, limited material handling/storage can occur on the Site. Consequently, excavated material (soil and debris) must be transported off-site to a temporary staging area for separation (i.e. screening of soil from debris) prior to disposal at the final, approved disposal facility. It will be the contractor's responsibility to arrange for such an off-site staging area (referenced in this document as the Soil and Debris Management Facility) including obtaining the relevant permits, approvals or authorizations (e.g. soil relocation agreement, as required).

Please note that installation of crushed gravel on the Site to protect access routes has been discussed with Canadian Wildlife Service. However, Canadian Wildlife Service has indicated that construction of "roads" and the importation of crushed gravel is not allowed at the Site. Consequently, no roads are to be constructed at the Site and the work program must be conducted under extended periods of dry, or frozen, ground conditions.

An as-built inspection must be conducted before March 3, 2017. The inspection must document the final areal extent of the excavated and restored areas. The Contractor is responsible for completing a final as-built drawing for the EC Wilmer Marsh site.

The Contractor is responsible for preparing an Environmental Protection Plan (EPP) prior to work commencing which includes:

- Erosion and Sediment Control Plan
- Spill Control Plan
- Non-Hazardous Solid Waste Handling and Disposal Plan
- Air Pollution Control Plan
- Contaminant Prevention Plan
- Truck Route Plan and Traffic Control Plan
- Water Management Plan
- Work Area Plan and Exclusion Zone Plan
- Cultural and Biological Resources Protection Plan

The EMs, GC and Departmental Representative will audit the Contractor's compliance with the EPP. Furthermore, the EM will report immediately to the Departmental Representative situations where the Contractor is in non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection Plan. The Departmental Representative will in turn notify the Contractor in writing of observed non-compliance and will issue a stop order of work until satisfactory corrective action has been taken.

All equipment brought to the Site must be cleaned prior to use (debris, dirt, vegetation) to minimize the potential for introduction of invasive species. The lowest impact equipment that can complete the work must be utilized in the work areas to minimize disturbance. Equipment is to be placed to minimize or eliminate impacts to areas outside of the active remediation and restoration activities. In order to minimize impacts to wildlife and vegetation, access and egress routes for equipment must be established prior to remediation and equipment must not travel off of the designated routes or in areas designated as exclusion zones. Where ground disturbance of access/egress routes is observed, temporary access mats (or other suitable measures approved by the Departmental Representative) must be employed.

All work will be carried out under contract to PSPC. The Departmental Representative will be responsible for approving the final extent of materials to be removed, their destination, monitoring remediation and restoration progress, and assuring quality of the work.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

.1 The following is a general summary of the Work included in this Project as shown on the drawings and as described in the specifications. Work under this Contract includes the following:

.1 Health and Safety Planning. Submit site-specific project Health and Safety Plan and emergency procedures to PSPC within ten working days of award. Provide

work area delineation plans to comply with Work Safe BC Prime Contractor requirements.

.2 Excavation and Restoration Design Plan. Submit Excavation and Restoration Design Plan for removal of waste and associated contaminated material from Main Debris Zone consistent with the expectations for the project detailed in the Conceptual Approach (refer to SLR letter dated June 24, 2016 in Appendix B), with CWS expectations for the project (as outlined in the CWS letter dated August 17, 2016 in Appendix B) and with other project constraints identified in this document. The Excavation and Restoration Design Plan must be approved (i.e. stamped/sealed/signed) by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada. The draft Excavation and Restoration Design Plan must be submitted to the Departmental Representative 14 working days following contract award. The Departmental Representative will review within three business days. The final, approved Excavation and Restoration Design Plan must be submitted to the Departmental Representative within three working days of receipt of comments from the Departmental Representative to ensure sufficient time for application of a project permit to CWS.

.3 The Environmental Protection Plan (EPP). The EPP is to provide a comprehensive overview of the work plan and address all known or potential environmental issues which may arise during or be impacted by work activities. Submit EPP to PSPC within ten working days of award.

.4 Location and protection of all known and unknown buried services on and adjacent to the Site. The Contractor is responsible for the identification and protection of this and all known and unknown utilities associated with this project.

.5 Completion of all works under the supervision of the Departmental Representative, with input from the EMs and GC.

.6 Repair and re-instate to their original condition any utilities or other infrastructure encountered (unless otherwise noted) during the works – including any fencing moved or damaged during works.

.7 Completion of remediation activities including site preparation activities, debris/soil excavation, operation of the off-site staging area (Soil and Debris Management Facility), physical restoration activities and implementation of sediment/erosion controls.

.8 Loading and transport of debris and soil to the off-site staging area (Soil and Debris Management Facility) for separation of materials.

.9 Disposal of debris, salvageable materials and soil (upon approval from the Departmental Representative) at an appropriately licensed facility.

.10 Final Site inspection after completion of work covered under the contract.

.2 All work must be conducted in accordance with the mitigation measures outlined in the final project permit issued by CWS as well as measures outlined in the documents in Appendix B and Approvals as required for the work.

1.4 WORK BY OTHERS

.1 Co-operate with the Site Owner and other Contractors in carrying out their respective works and carry out instructions from the Departmental Representative.

.2 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor (e.g., EM), report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of work.

1.5 WORK SEQUENCE

.1 Remediation and restoration activities are to be completed within the wildlife and fiscal year windows for the Site (December 12, 2016 to March 3, 2017). All final submittals must be completed by March 3, 2017.

.2 Conduct work in accordance with the Excavation and Restoration Design Plan which has been approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada retained by the Contractor and in accordance with the final permit issued for the remediation project by CWS. The Contractor must coordinate the work sequence accordingly.

.3 Coordinate Progress Schedule and coordinate with Site Owner during construction.

.4 Maintain fire access/control.

1.6 CONTRACTOR USE OF PREMISES

.1 Portions of the Site are potential habitat for sensitive species and therefore equipment storage, temporary material handling areas, routes for equipment and vehicle travel, etc. on the Site must be approved by the Departmental Representative in order that the impact to these areas be minimized.

.2 Co-ordinate use of premises under direction of Departmental Representative.

.3 Provide work area delineation plans and fencing to comply with Work Safe BC Prime Contractor requirements.

.4 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.

.5 At completion of operations the condition of existing work must be equal to or better than that which existed before the new work started.

1.7 OWNER AND USER OCCUPANCY

.1 During the entire remediation period, the Site Owner will manage adjacent areas.

.2 Co-operate with Departmental Representative in scheduling operations to minimize conflict and to facilitate Owner usage of adjacent areas. In the event of a conflict the Contractor must accommodate changes to their operations to minimize interference with Owner operations.

1.8 FURNISHED ITEMS

.1 Site Custodian Responsibilities:

.1 Providing available utility location information to the Contractor, safety requirements, and any site-specific work policies (e.g. CWS permit requirements/conditions).

.2 Contractor Responsibilities:

.1 Designate submittals and delivery date for each product in progress schedule.

.2 Review utility information, cross-sections, and Drawings. Submit to Departmental Representative notification of observed discrepancies or problems anticipated due to non-conformance with Contract Documents.

.3 Receive and unload products at site.

.4 Inspect deliveries; record shortages, and damaged or defective items.

.5 Handle products at site, including uncrating and storage.

.6 Protect products from damage.

.7 Provide installation inspections required by public authorities.

.8 Repair or replace items damaged by Contractor or subcontractor onsite (under their control).

1.9 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING STRUCTURES/SERVICES

.1 Execute work with least possible interference or disturbance to existing structures, services, wildlife and sensitive habitats on the property unless otherwise indicated in this contract or by the Departmental Representative.

1.10 EXISTING SERVICES

.1 Locate all utility lines within and immediately surrounding the work area. Completeness and accuracy of any available utility drawings are not guaranteed and the Contractor is responsible for confirming locations of all utilities.

.2 Notify the Departmental Representative and utility companies of intended interruption of services and obtain required permission. If work requires breaking into or connecting to existing services, the Contractor must submit a request to the Departmental Representative a minimum of 5 working days prior to the event. The Contractor must not proceed until approval has been granted. PSPC will make every effort to accommodate the request; however, PSPC will NOT accept delay charges should the request not be accepted.

.3 Minimize duration of interruptions, and where required, provide temporary services to maintain critical systems.

.4 Provide traffic control for personnel and vehicular traffic when work impacts established transportation routes (e.g., Westside Road) in accordance with Section 01 35 00.06 – Special Procedures for Traffic Control. Maintain and protect traffic on all routes during construction period except as otherwise specifically directed by the Departmental Representative. At minimum one lane must be kept open for traffic flow at all times.

.5 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.

.6 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.7 Provide adequate bridging over trenches to permit normal traffic.

.8 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

.9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

.10 Record locations of maintained, re-routed and abandoned service lines. The Contractor must complete an as-built drawing upon project completion.

.11 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.11 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy each document as follows:

.1 General Conditions

.2 All Permits, Authorizations and Approvals for the proposed works.

.3 Utility Plans.

.4 Contract Drawings.

.5 Specifications.

.6 Addenda.

.7 Change Orders and other modifications to Contract.

.8 Reviewed Shop Drawings, product data and samples.

.9 List of Outstanding Shop Drawings.

.10 One set of record drawings and Specifications for “as-built” purposes.

.11 Field Test Reports.

.12 Inspection certificates.

.13 Manufacturer's certificates.

.14 Contractor’s Excavation and Restoration Design Plan (approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada) and related site inspection reports.

.15 Field and Laboratory Test Reports.

.16 Copy of Accepted Project Schedule.

.17 Health and Safety Plan and Other Safety Related Documents including daily toolbox or tailgate meetings.

.18 Daily work records to be completed by end of each shift which include:

.1 Quantities for each Description of Work identified in the Unit Price Table and Change Orders.

.2 Description of Work performed.

.3 Current Site conditions.

.4 General information including: date, time shift started and ended, Subcontractor(s) on-site, Health and Safety items, and Environmental Protection items.

.5 Records of on-site (within site) movement of soil.

.6 Records of all material movement onto and off the Site, including records (manifests) of waste movement and disposition, and analytical records as need be.

.7 Signature of Superintendent and Departmental Representative.

.19 Worksafe BC notice of project, also to be provided to PSPC prior to mobilization to the Site.

.20 Environmental Protection Plan.

.21 Reviewed and accepted submittals.

.22 Manufacturers' installation and application instructions (as appropriate).

.23 National Building Code of Canada (as appropriate).

.24 Current construction standards of workmanship listed in technical Sections (as appropriate).

.25 Final Meeting Minutes, Agendas and associated Attachments.

.26 Other documents as specified by the Departmental Representative.

1.12 MEASUREMENT PROCEDURES

.1 Pre-mobilization Submittals will be paid in accordance with lump sum price established for all Preconstruction Meetings, Contractor's Excavation and Restoration Design Plan, planning, health and safety, and other Submittals in accordance with the Contract or required and accepted by the Departmental Representative as in accordance with the Contract prior to mobilization to Site.

.2 Mobilization will be paid in accordance with lump sum price established for mobilizing all necessary equipment, materials, supplies, facilities, and personnel associated with the Works to the Site. Includes initial insurance, bonding, approvals (including for establishment of Soil and Debris Management Facility and all other federal, provincial and municipal approvals required for completion of the remediation project), and permits (including submission of permit to CWS for remediation project and all other require federal, provincial and municipal permits required for completion of the remediation project). Additional insurance, bonding, and permits due to changes in scope, cost, and schedule as accepted by the Departmental Representative will be included in Contract amendments.

.3 Site Preparation will be paid in accordance with lump sum price established to prepare the Site for planned construction works. Includes demarcation of exclusion zones, opening fence and installing temporary fencing and protection and utility location. Includes provision of materials, labour and equipment to excavate, handle, transport (on-site and off-site), store and dispose off-site all non-contaminated, native soil required to be removed to access, excavate and dispose the contaminated material and waste in the MDZ in accordance with the Contractor's Excavation and Restoration Design Plan and the final CWS permit for the remediation project. Includes loading, hauling, interim storage, handling and disposal fees for all non-contaminated, native soil transported from Site. Payment includes transport and handling of non-contaminated, native soil at off-site Disposal Facility. Also includes removal of any incidental or generated material.

.4 Site Facilities Provision will be paid in accordance with lump sum price established to design, temporarily provide for duration of Work, and erect all infrastructure in accordance with the Contract. Includes temporary structures and facilities, equipment decontamination facility, Soil and Debris Management Facility, temporary hoarding, security fencing, federal signage, sanitary facilities, water control infrastructure, temporary erosion and sediment control measures within and adjacent to work areas, temporary access mats and temporary utility installation.

.5 Site Facilities Operation will be paid in accordance with unit rate price established for time to operate and maintain all infrastructure between mobilization and demobilization. Includes temporary structures and facilities including equipment decontamination facility, Soil and Debris Management facility, temporary hoarding, security fencing, federal signage, sanitary facilities, water control infrastructure, temporary erosion and sediment control measures within and adjacent to work areas and temporary utility installation Also includes ongoing services including project management, equipment decontamination, management of materials in Soil and Debris Management Facility, security, surveying, utilities, project meetings, inspections, progress Submittals, traffic control, health and safety, water control, Environmental Protection and cleaning (including road and access/egress route maintenance). Also, includes living out allowances, travel and room and board. Rate must not vary even if hours of work and/or days of work vary. Time will only be paid for duration in accordance with the Contract and changes in schedule as accepted by the Departmental Representative and included in Extension of Time on Contracts.

.6 Standby Time will be paid in accordance with unit rate price established, for time when construction Work is unable to proceed, and that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of the Departmental Representative in providing any information or in doing any act that the Contract expressly requires of the Departmental Representative. Includes machinery and labour standby costs. Does not include items covered by Site Facilities Operation. Standby Time may be pro-rated based on hours of work. Make all efforts to minimize impacts due to delays caused by the Departmental Representative, including re-sequencing Work. Provide documentation of a sufficient description of the facts and circumstances of the occurrence to enable the Departmental Representative to determine whether or not the Standby Time is justified. Reviews, sampling, or other work conducted by the Departmental Representative (including stoppages due to identification of sensitive species in the work area) with time allowances in accordance with the Contract will result in no increase to the Contract Amount nor Extension of Time for completion of the Work.

.7 Geotechnical Monitoring will be paid in accordance with unit rate price established for time to provide qualified GM approved by the Department Representative to ensure that the work is being completed safely and in accordance with the Contractor's Excavation and Restoration Design Plan. Also includes ongoing services including project management, project meetings, inspections, progress Submittals and health and safety. Also, includes living out allowances, travel and room and board. Rate must not vary even if hours of work and/or days of work vary. Time will only be paid for duration in accordance with the Contract and changes in schedule as accepted by the Departmental Representative and included in Extension of Time on Contracts.

.8 Excavation will be paid in accordance with unit rate price established for ex-situ weight of material removed to excavate material to extents shown on Drawings and which is classified as Contaminated Material (Hazardous Waste or Waste Quality) or classified as Waste but not classified as Non-Contaminated Material. Measurement will be as recorded on Disposal Facility weigh scale certified by Measurement Canada and results provided to Departmental Representative for material as instructed by the Departmental Representative or in accordance with the Contract for direct offsite transport. Includes temporary support onsite. Includes screening of debris/refuse from the excavated material to facilitate disposal. Includes transport of materials to the Soil and Debris Management Facility and handling and interim storage at the Soil and Debris

Management Facility. Does not include offsite transportation from the Soil and Debris Management Facility to the Disposal Facility.

.9 Contaminated Material Transport and Disposal will be paid in accordance with unit rate price established for weight of material transported as recorded on Disposal Facility weigh scale certified by Measurement Canada and results provided to Departmental Representative. Includes Contaminated Material classified as Hazardous Waste and classified as Waste Quality. Includes loading, hauling, interim storage, handling and disposal fees for all material transported from the Soil and Debris Management Facility to the off-site Disposal Facility. Payment includes transport and handling at off-site Disposal Facility.

.10 Waste Transport and Disposal will be paid in accordance with unit rate price established for weight of material removed as recorded on Disposal Facility weigh scale certified by Measurement Canada and results provided to Departmental Representative. Includes salvageable/recyclable materials and non-salvageable materials. Includes loading, hauling, interim storage, handling and disposal fees for all material transported from the Soil and Debris Management Facility to the off-Site Disposal Facility. Payment includes transport and handling at off-site Disposal Facility.

.11 Site Restoration will be paid in accordance with the lump sum price established to restore the Site to make suitable for post-Work use as instructed by the Departmental Representative and consistent with the Contractor's Excavation and Restoration Design Plan. Includes deconstructing and removal from Site all temporary facilities, removal of any incidental or generated material and installing permanent erosion and sediment control measures (deposition of coarse woody debris, construction of cross-ditches, installation of erosion and sediment control blanket and installation of erosion and sediment control measures in the gully to the marsh) and seeding disturbed areas with native plant seed mix approved by Departmental Representative.

.12 Demobilization will be paid in accordance with lump sum price established for demobilizing all equipment and personnel associated with the Works from the Site. Includes decontaminating all equipment prior to removal from Site and final cleaning.

.13 Closeout Submittals will be paid in accordance with lump sum price established for Final Site Inspection (for Certificate of Completion purposes), Closeout Meetings, provision of final as-built documents and completion documents as instructed by the Departmental Representative.

1.13 DEFINITIONS

.1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.

.2 Bar Chart graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.

.3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.

.4 Business Days: Monday through Friday (excluding statutory holidays).

.5 Certificate of Completion: see General Conditions.

.6 Change Order: PSPC form issued by the Departmental Representative to the Contractor as per the relevant Contemplated Change Notice.

.7 Confirmation Samples: soil samples collected from the base and walls of the excavation by the Departmental Representative to confirm that the remedial objectives for the Work have been met.

.8 Construction Work Week: Monday through Sunday, inclusive, (excluding statutory holidays) will constitute the construction work week and define schedule calendar working days as part of Bar Chart submission.

.9 Contaminated Material: soil and other material where substances occur at concentrations that: (i) are above the Canadian Council of Ministers of the Environment (CCME) guidelines and standards for agricultural land use and/or BC Contaminated Sites Regulation Schedule 7 Column II standards, (ii) are above background levels and pose, or are likely to pose, an immediate or long-term hazard to human health or the environment, or (iii) exceed the levels specified in policies and regulations. Includes Hazardous Waste (i.e. substance concentrations in excess of BC Hazardous Waste Regulation standards) and Waste Quality (i.e. substance concentrations less than BC Hazardous Waste Regulation standards but above CCME agricultural guidelines and standards and/or BC Contaminated Sites Regulation Schedule 7 Column II standards); does not include Non-Contaminated Material or Waste. Relevant regulations, unless otherwise in accordance with the Contract or as instructed by the Departmental Representative, include:

.1 For all sites: CCME *Canadian Environmental Quality Guidelines*, CCME *Canada-Wide Standards for Petroleum Hydrocarbons in Soil* and Federal Contaminated Sites Action Plan (FCSAP) *Federal Interim Groundwater Quality Guidelines*.

.2 For sites in BC: BC Hazardous Waste Regulations, BC Approved Water Quality Guidelines, BC Working Water Quality Guidelines and BC Contaminated Sites Regulation.

.10 Contaminated Water: liquid material where substances occur at concentrations that: (i) are above background levels and pose, or are likely to pose, an immediate or long-term hazard to human health or the environment, or (ii) meet or exceed the levels specified in policies and regulations. Includes Hazardous Waste and Waste Quality Water; does not include Non-Contaminated Water or Sewage Wastewater. Relevant regulations, unless otherwise in accordance with the Contract or as instructed by the Departmental Representative, include:

.1 For all sites: Canadian Council of Ministers of the Environment (CCME) *Canadian Environmental Quality Guideline*s, CCME *Canada-Wide Standards for Petroleum Hydrocarbons in Soil* and Federal Contaminated Sites Action Plan (FCSAP) *Federal Interim Groundwater Quality Guidelines*.

.2 For sites in BC: BC Hazardous Waste Regulations, BC Approved Water Quality Guidelines, BC Working Water Quality Guidelines and BC Contaminated Sites Regulation.

.11 Contemplated Change Notice: PSPC form issued by the Departmental Representative to the Contractor requesting Contractor to provide a quote, which may result in a Change Order.

.12 Contract: see General Conditions.

.13 Contract Amount: see General Conditions.

.14 Contractor: see General Conditions.

.15 Departmental Representative: see General Conditions.

.16 Discharge Approval: permit, certificate, approval, or any other form of authorization issued by appropriate federal agency, province, territory, or municipality having jurisdiction and authorizing offsite discharge.

.17 Disposal Facility: a facility specifically used to introduce waste into the environment for the purpose of final burial and which meets the requirements defined in Section 01 35 13.43 – Special Project Procedures for Contaminated Sites.

.18 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.

.19 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.

.20 Environmental Protection: prevention, control, mitigation, and restoration of pollution and habitat or environmental disruption during construction. Control of Environmental Pollution and Damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; vibrations; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

.21 Environmental Protection Plan: plan developed by the Contractor to ensure Environmental Protection and prevent Environmental Pollution and Damage identifying all environmental risks and mitigation measures, including: personnel requirements, emergency contacts, Environmental Protection methods, procedures, and equipment, and emergency response including a Spill Control Plan.

.22 Extension of Time: see General Conditions.

.23 Extension of Time on Contracts: PSPC form requesting an Extension of Time.

.24 Final Completion: see General Conditions.

.25 Hazardous Waste: Contaminated Material which meets the regulatory definition of Hazardous Waste.

.26 Land Surveyor: a person working for the Contractor who is a qualified, registered land surveyor licensed to practice in relevant jurisdiction.

.27 Master Plan: summary-level schedule that identifies major activities and key milestones.

.28 Materials Source Separation Program: consists of a series of ongoing activities to separate reusable and recyclable waste into categories from other types of waste at point of generation.

.29 Milestone: significant event in project, usually completion of major deliverable.

.30 Native soil: refers to the undisturbed, consolidated mineral materials (sands, silts, clays) at the Site. Includes undisturbed, consolidated mineral materials located beneath the disturbed soil/fill materials deposited anthropogenically at the Site.

.31 Non-Contaminated Material: soil and other material which meets the applicable CCME soil guidelines/standards for agricultural land use and BC Contaminated Sites Regulation Schedule 7 Column II standards. Includes undisturbed native soil at the Site which is required to be excavated per the Contractor's Excavation and Restoration Design Plan.

.32 Non-Contaminated Water: liquids which are suitable for direct discharge to the environment after removal of sediment, and which is not Contaminated Water or Sewage Wastewater. Includes surface runoff, stormwater, and groundwater which has not come into contact with Contaminated Material.

.33 On Site Instruction: instructions or other communications issued by the Departmental Representative to the Contractor.

.34 On Site Notice: notice or other communication issued by the Contractor to the Departmental Representative.

.35 Progress Payment: see General Conditions.

.36 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

.37 Qualified Professional: a person working for the Contractor who is registered in relevant jurisdiction with his or her appropriate professional association, acts under that professional association's code of ethics, and is subject to disciplinary action by that professional association, and through suitable education, experience, accreditation and knowledge can be reasonably relied on to provide advice within his or her area of expertise.

.38 Quote: Contractor's cost estimate issued to the Departmental Representative as per the relevant Contemplated Change Notice via an On Site Notice.

.39 Remediation by Excavation: complete excavation of Contaminated Material and incidental Non-Contaminated Material to the Site boundaries for the purpose of remediating the Site to meet numerical standards. Includes offsite disposal. Does not include risk assessment or risk management of material onsite. Does not include encapsulation or solidification in place.

.40 Sewage Wastewater: liquid waste which is not suitable for direct discharge to the environment, and which must be treated offsite. Includes water from hand basin, shower, personal hygiene facilities, or other liquid waste from sanitary facilities.

.41 Site: area shown on Drawings.

.42 Soil: includes (a) unconsolidated mineral or organic material; (b) fill; and (c) sediment deposited on land.

.43 Subcontractor: see General Conditions.

.44 Submit/Submittals: documents from the Contractor to the Departmental Representative as: required by Contract; stipulated in permit, certificate, approval, or any other form of

authorization; by convention or industry practice. Submittals are final only after review and accepted in writing by Departmental Representative.

.45 Substantial Performance: see General Conditions.

.46 Superintendent: see General Conditions

.47 Supplier: see General Conditions.

.48 Waste: Non-Contaminated Material that is not soil. Includes cleared and grubbed vegetation, litter, rubbish, debris, cobbles, boulders, excess construction material, lumber, steel, plastic, concrete, asphalt and other waste materials historically deposited at the Site.

.49 Waste Quality: soil or other material with substance concentrations less than the BC Hazardous Waste Regulation standards but above the CCME agricultural guidelines and standards and/or BC Contaminated Sites Regulation Schedule 7 Column II standards.

.50 Waste Reduction Plan: a written report which addresses opportunities for reduction, reuse or recycling of materials.

.51 Work: see General Conditions.

.52 Working Day: Monday through Sunday (excluding statutory holidays).

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 WORK WINDOWS

.2 Remediation and restoration activities are to be completed within the wildlife and fiscal year windows for the Site (December 12 to March 3, 2017). All final submittals must be completed by March 3, 2017.

1.4 ACCESS AND EGRESS

.1 Access to the Site is off of Westside Road (refer to Drawing 2).

.2 Provide for personnel, pedestrian and vehicular traffic in accordance with Section 01 35 00.06 – Special Procedures for Traffic Control.

.3 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.4 Design, construct and maintain temporary "access to" and "egress from" work areas in accordance with relevant municipal, provincial and other regulations.

.5 The location of the access and egress routes and on-site hauling routes must be established in consultation with the Departmental Representative prior to remediation in the form of a truck route plan to minimize disturbance to sensitive habitat at the Site. The truck route plan must be submitted as part of the Environmental Protection Plan (Section 01 35 43 - Environmental Procedures).

.6 Equipment must stay on designated access and egress routes only and must keep within limits of work. Exclusion zones with respect to access and egress are depicted on Drawing 2. Please note that the exclusion zones may include portions of the sensitive vegetation areas identified on Drawing 2 which are identified in the field by the EM as part of the exclusion zones.

1.5 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to the Site. Make arrangements with Departmental Representative to facilitate work as stated.

.2 Provide for adequate personnel and vehicle access to the Site.

.3 Where security is reduced by work, provide temporary means to maintain security.

.4 Closures: protect work temporarily until permanent enclosures are completed.

1.6 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING SERVICES

.1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permissions.

.2 If work requires breaking into or connecting to existing services, the Contractor must submit a request to the Departmental Representative a minimum of 5 working days prior to the event. The Contractor must not proceed until approval has been granted. PSPC will make every effort to accommodate the request; however, PSPC will NOT accept delay charges should the request not be accepted.

.3 Minimize duration of interruptions, and where required, provide temporary services to maintain critical systems.

1.7 SPECIAL REQUIREMENTS

.1 All personnel must check in with the site supervisor prior to entering the Site and must be wearing high-visibility vests and other required PPE at all times while on site.

.2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the Site.

.3 Secure site and excavation at night time to protect site against entry.

.4 Comply with previous Worksafe BC audit recommendations by ensuring all personnel wear appropriate respiratory protection due to dust levels.

.5 The requirements outlined in Section 01 35 29.14 pertain to both the on-site and off-site (i.e. Soil and Debris Management Facility) work areas.

.6 Operation of a conveyance (other than those identified within the documents provided in Appendix B and on the final permit issued for the remediation project by CWS) is not permitted within the NWA.

.7 Operation of motorized boats is not permitted in the marsh.

.8 Operation of equipment on the adjacent provincial land to the south is not permitted.

.9 Improvements to the trail (including the use of crushed gravel) are not permitted.

.10 The lowest impact equipment that can complete the work must be utilized in the work areas to minimize disturbance to sensitive species and their habitat.

.11 Only equipment listed on the final permit issued for the remediation project by CWS may be operated in the NWA.

.12 Equipment cannot be operated in the exclusion zones noted in Drawing 2. Equipment also cannot be operated in portions of the sensitive vegetation areas depicted in Drawing 2 which have been identified in the field by the EM as being part of the exclusion zones.

.13 The Contractor must take into account that the work is to be conducted in an area containing sensitive wildlife habitat, steep terrain, areas of sensitive vegetation and sensitive soils and that the work must be monitored by qualified EMs, GMs and GCs.

.14 Work is to be conducted under the review of EMs, GMs and GCs as indicated in Section 01 11 00.

.1 The EM will be provided by PSPC and will coordinate with the Departmental Representative. The EM will notify the Departmental Representative immediately and without delay at any time that adverse impacts to sensitive species or their habitat are observed or anticipated. The Departmental Representative will in turn inform the Contractor to stop work.

.2 The GM will be provided by the Contractor and will coordinate with the Departmental Representative. The GM will ensure that the work is being completed safely and in accordance with the Excavation and Restoration Design Plan. It is expected that daily supervision will be required during excavation and restoration activities.

.3 A GC will be provided by PSPC to periodically review the remediation activities, to assess and document adherence to the Excavation and Restoration Design Plan and to provide advice on potential geotechnical issues as they arise. The GC will notify the Departmental Representative immediately and without delay any time that geotechnical concerns are identified, in addition to those identified by the Contractor's GM. The Departmental Representative will in turn inform the Contractor to stop work.

.15 The EMs and GCs will monitor work for the duration of the program and, in coordination with the Departmental Representative, will audit the Contractor to assess and document compliance with the Contractor's Environmental Protection Plan. The EMs and GCs will advise the Departmental Representative, who will in turn advise the Contractor, before and during the work program of modifications that must be made to ensure protection of the habitat and/or wildlife present at the Site. Modifications may include equipment placement, access/egress routes, requirements for surface erosion control measures to reduce impacts in work areas, depth of excavation in steeply sloped areas, establishment of additional exclusion zones due to habitat and/or wildlife concerns and planned physical restoration activities.

.16 The Contractor must complete work in accordance with the Excavation and Restoration Design Plan which has been approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada retained by the Contractor as well as all in accordance with all permitting requirements and other project constraints identified in this document.

.17 Carry out noise generating work Monday to Sunday from 07:00 to 22:00 hours. If work is to be completed outside of these hours, written pre-approval from the Regional District of East Kootenay is required (per Bylaw No. 1396).

.18 Ensure that Contractor personnel employed on-site become familiar with and obey regulations including safety, fire, traffic and security regulations. As well, Contractor personnel operating equipment in steep slopes must demonstrate experience working in such conditions.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 ADMINISTRATIVE

.1 Schedule and administer weekly project meetings throughout the progress of the Work at the call of the Departmental Representative.

.2 Departmental Representative will prepare agenda for meetings.

.3 Distribute written notice of each meeting a minimum of two working days in advance of meeting date to all anticipated meeting participants (including Departmental Representative).

.4 Contractor must provide physical space, make arrangements for meetings on-site, and preside at meetings.

.5 Contractor must record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.

.6 Contractor must reproduce and distribute copies of the minutes within two working days after meetings and transmit to meeting participants, PSPC, Departmental Representative and affected parties not in attendance for review prior to finalization.

.7 Representative(s) of Contractor, Subcontractor(s) and suppliers attending meetings will be qualified and authorized to act on behalf of the party each represents.

1.4 PRECONSTRUCTION MEETING

.1 Within five working days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Senior representatives from EC, PSPC and their Representative, the Contractor, major Subcontractors, field inspectors, EMs, GMs and GC will be in attendance.

.3 Establish time and location of meeting and notify parties concerned as soon as possible but a minimum of three working days before the meeting.

.4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.

.5 Agenda to include:

.1 Appointment of official representative of participants in the Work.

.2 Schedule of Work: in accordance with Section 01 32 16.07 - Construction Progress Schedules – Bar Chart.

.3 Site preparation work to be completed to facilitate remediation activities (i.e. demarcation of exclusion zones, opening fence and installing temporary fencing).

.4 Schedule of submission of shop drawings and samples. Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.5 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.

.6 Delivery schedule of specified equipment.

.7 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.8 Change orders, procedures, approvals required, administrative requirements

.9 Monthly Progress Payments, administrative procedures, hold backs.

.10 Owner provided products.

.11 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.

.12 Maintenance manuals.

.13 Take-over procedures, acceptance, warranties.

.14 Appointment of inspection and testing agencies or firms.

.15 Insurances, transcript of policies.

.16 Environmental controls as prescribed in all applicable Permits, Authorizations, Approvals and as outlined in the documentation in Appendix B.

.17 List of Subcontractor(s).

1.5 COORDINATION MEETINGS

.1 At least 5 working days prior to relevant Work commencing, submit final meeting minutes and drawings from coordination with Subcontractors.

1.6 PROGRESS MEETINGS

.1 During course of work, schedule weekly progress meetings, or more frequently as required. The weekly progress meetings must be attended by the PSPC Project Manager, Departmental Representative, EMs, GMs, GC, Contractor Project Manager, Contractor Superintendent and major Subcontractors, at a minimum.

.2 Notify parties a minimum of two working days prior to meetings.

.3 Contractor is to record minutes of meetings and circulate draft minutes to attending parties and affected parties not in attendance within two working days after the meeting. Meeting minutes to be finalized upon receipt of comments.

.4 Agenda to include the following:

.1 Review, approval of minutes of previous meeting.

.2 Review of Work progress since previous meeting.

.3 Field observations, problems, conflicts.

.4 Problems which impede schedule.

.5 Corrective measures and procedures to regain projected schedule.

.6 Revision to schedule.

.7 Progress schedule, during succeeding work period.

.8 Review submittal schedules: expedite as required.

.9 Health and Safety issues, including incidents, near misses, and corrective measures.

.10 Environmental compliance and impact: review relating to requirements, changes in weather, other issues.

.11 Review proposed changes for effect on schedule and on completion date.

.12 Maintenance of quality standards.

.13 Review of budget issues.

.14 Other business.

.7 Submittals

.1 Make submittals at least 24 hours prior to scheduled progress meetings as follows:

.1 Updated progress schedule detailing activities. Include review of progress with respect to previously established dates for starting and stopping various stages of Work, major problems and action taken, injury reports, equipment breakdown, and material removal.

.2 Copies of transport manifests, trip tickets, and disposal receipts for waste materials removed from work area.

.3 Daily log sheets of transported materials.

.4 Weekly copies of site entry and work area logbooks with information on worker and visitor access.

.5 Weekly results of any health and safety-related air sampling data, including compliance air monitoring results.

.6 Other information required by Departmental Representative for progress meetings.

1.7 TOOLBOX MEETINGS

.1 During the course of the Work, schedule daily toolbox meetings at the start of each Work shift. Multiple meetings are required if the Contractor works multiple shifts within a 24-hour period.

.2 All on Site workers to attend, including Contractor, Superintendent, major Subcontractor(s), GMs, GCs, and environmental consultants. Departmental Representative may attend.

.3 Agenda to include:

.1 Planned Work activities and environmental considerations for that shift.

.2 Coordination activities required between Contractor, Subcontractor(s), Departmental Representative, and other contractor(s) including environmental consultant.

.3 Health and Safety items.

.4 Environmental Protection items.

1.8 FINAL SITE INSPECTION

.1 Within 5 Working Days of completion of Site Works but prior to Demobilization, request a meeting on Site to review the Site.

.2 Departmental Representative, Contractor, Superintendent, major Subcontractor(s), field inspectors and supervisors must be in attendance.

.3 Establish time and location of meeting subject to approval by Departmental Representative and notify parties concerned at least 3 Working Days before meeting.

.4 Agenda to include:

.1 Inspect removal of all temporary equipment, materials, supplies, and facilities.

.2 Inspect final surface grades.

.3 Inspect final vegetation.

.4 Inspect permanent facilities for performance and damage.

.5 Document all damage, deficiencies, missing items, and non-conformance.

.5 If required, and in the opinion of the Departmental Representative, perform another Final Site Inspection after resolving all documented damage, deficiencies, missing items, and non-conformance.

1.9 CLOSEOUT MEETING

.1 Within 10 Working Days of completion of the Work, request a meeting to review the project.

.2 Departmental Representative, Contractor, Superintendent, major Subcontractor(s), field inspectors and supervisors must be in attendance.

.3 Establish time and location of meeting subject to approval by Departmental Representative and notify parties concerned at least 3 Working Days before meeting.

.4 Agenda to include:

.1 Review Certificate of Completion.

.2 Review final payment.

.3 Identify lessons learned.

.4 Perform Contractor Performance Evaluation Report Form.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 REQUIREMENTS

.1 Ensure Master Plan and Project Schedule are practical and remain within specified Contract duration.

.2 Plan to complete work in accordance with prescribed milestones and time frame.

.3 Limit activity durations to maximum of approximately ten working days, to allow for progress reporting.

.4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

.5 Carry out Work in accordance with the Contract and as follows:

.1 Do not change Schedule accepted by the Departmental Representative without approval from Departmental Representative.

.2 Conduct interim reviews of Work progress based on Work schedule at Progress Meetings or as instructed by the Departmental Representative and schedule updated by Contractor as instructed by the Departmental Representative.

1.4 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit to Departmental Representative within 10 working days of Contract award Bar Chart as Master Plan for planning, monitoring and reporting of project progress. Bar Chart to include:

.1 Dates of mobilization.

.2 Dates of commencement and completion of Work for each Description of Work identified on the Unit Price Table as well as date of Contract Award, utility locates and kickoff meeting.

.3 Dates of Submittals including Health and Safety submittal, Environmental Protection Plan submittal, all other submittals required prior to project initiation as outlined in Section 01 33 00 - Submittal Procedures and close-out submittals as outlined in Section 01 33 00 - Submittal Procedures.

.4 Dates of receipt of all permits, authorizations, approvals, etc. as required for the work.

.5 Dates of inspection and testing.

.6 Dates of as-built survey and final inspection.

.7 Final Completion date within the time period in accordance with the Contract, including Amendments.

.8 Dates of Demobilization.

.3 Submit Project Schedule to Departmental Representative within five working days of receipt of acceptance of Master Plan.

1.5 PROJECT MILESTONES

.1 Project milestones form interim targets for Project Schedule. Contractor to identify key milestones on Bar Chart.

1.6 MASTER PLAN

.1 Structure schedule to allow orderly planning, organizing and execution of Work as in the Bar Chart.

.2 Departmental Representative will review and return revised schedules within 5 business days.

.3 Revise schedule and resubmit within 5 working days.

.4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.7 PROJECT SCHEDULE

.1 All remediation and restoration work is to be completed before March 3, 2017. All final submittals must be completed by March 3, 2017.

.2 Develop detailed Project Schedule derived from Master Plan.

.3 Ensure detailed Project Schedule includes as minimum milestone and activity types described above in Section 1.4.2.

1.8 PROJECT SCHEDULE REPORTING

.1 Update Project Schedule on weekly basis reflecting activity changes and completions, as well as activities in progress.

.2 Include as part of Project Schedule, narrative report identifying work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.9 PROJECT MEETINGS

.1 Discuss Project Schedule at weekly site meetings as specified in Section 01 31 19 - Project Meetings. Identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current accepted dates shown on Project Schedule.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with work affected by submittal until review is complete unless directed to do so by the Departmental Representative.

.3 Present shop drawings, product data, samples and mock-ups in SI Metric units. Where items or information is not produced in SI Metric units converted values are acceptable.

.4 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.5 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.6 Verify field measurements and affected adjacent work are coordinated.

.7 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative review of submittals.

.8 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative.

.9 Keep one reviewed copy of each submission on-site.

1.4 MANIFESTS

.1 All excavated material leaving the Site must be manifested.

.2 A copy of all manifests and/or truck weigh scale documents for material brought onto or removed from the Site are to be provided to the Departmental Representative.

.3 Manifest and/or weigh scale documents are to be completed in accordance with applicable federal and provincial regulations.

1.5 PROJECT SUBMITTAL LIST – PRIOR TO PROJECT INITIATION

#	Contractor's Submission	Submitted to PSPC	Submitted when
1	Health & Safety Plan and related Health & Safety Submittals (Sections 01 11 00, 01 35 29.14)	Departmental Representative	Within 10 working days of Contract Award
2	WorkSafe BC Notice of Project (Section 01 35 29.14)	Departmental Representative	Prior to commencing construction and within timeframe required by WorksafeBC
3	Proof of Good Standing with WorkSafe BC (Section 01 35 29.14)	Departmental Representative	Within 10 working days of Contract Award
4	Progress Meeting Material (01 31 19)	Departmental Representative	24 hours prior to scheduled meetings
5	Bar Chart as Master Plan (Section 01 32 16.07)	Departmental Representative	Within 10 working days of Contract Award
6	Project Schedule (Section 01 32 16.07)	Departmental Representative	Master Plan acceptance plus 5 working days
7	Site Layout Drawings (Section 01 35 13.43)	Departmental Representative	Within 10 working days of Contract Award
8	Equipment Decontamination Pad Design (Sections 01 35 13.43 and 01 52 00)	Departmental Representative	Within 10 working days of Contract Award
9	Environmental Protection Plan (Section 01 35 43)	Departmental Representative	Within 10 working days of Contract Award
10	Construction Facility Site Plan including location of Soil and Debris Management Facility (Sections 01 35 13.43 and 01 52 00)	Departmental Representative	Within 10 working days of Contract Award
11	Proposed Disposal Facilities and Licensing for transport of contaminated materials (including Hazardous Waste) and waste (Sections 01 35 13.43 and 02 61 00 01)	Departmental Representative	Within 10 working days of Contract Award
12	Excavation and Restoration Design Plan (Section 01 11 00, 02 61 00.01 and 31 23 33.01)	Departmental Representative	Draft within 14 working days of Contract Award, final within 3 working days of receipt of comments from Departmental Representative

1.6 PROJECT SUBMITTAL LIST – DURING PROJECT

#	Contractor's Submission	Submitted to PSPC	Submitted when
1	Progress Meeting Material (01 31 19)	Departmental Representative	24 hours prior to scheduled meetings
2	Product Data (01 61 10)	Departmental Representative	10 working days prior to use
3	Copies of all Disposal Facility acceptance certificates (certificates of disposal), manifests and/or truck weigh scale documents and/or truck counts for material removed from the Site. (Sections 01 33 00 and 02 61 00.01)	Departmental Representative	As instructed by the Departmental Representative
4	Drawings identifying all utilities within and immediately surrounding the work area (31 23 33.01)	Departmental Representative	5 working days prior to commencing any subsurface disturbance
5	Notification of interruption of services (	Departmental Representative	5 working days prior to event

1.7 PROJECT SUBMITTAL LIST – CLOSEOUT SUBMITTALS

#	Contractor's Submission	Submitted to PSPC	Submitted when
1	As-Built Record – Survey Plan (detailed topographic survey including cross ditches, and permanent restoration features) (Section 01 77 00)	Departmental Representative	At completion of work
2	Engineer/Geoscientist Of Record (EOR) for Contractor's Excavation and Restoration Design field review records, confirmation of compliance (Section 01 77 00)	Departmental Representative	At completion of work
3	Copies of all Disposal Facility acceptance certificates (certificates of disposal), manifests and/or truck weigh scale documents and/or truck counts for material removed from the Site. (Sections 01 33 00 and 02 61 00.01)	Departmental Representative	As instructed by the Departmental Representative and at completion of work

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 REFERENCES (LATEST EDITION)

.1 Manual of Uniform Traffic Control Devices (MUTCD) published by Transport Canada.

.2 Traffic Control Manual for Work on Roadways, 1999 Consolidated Office Edition, published by the British Columbia Ministry of Transportation and Infrastructure.

.3 Highway Maintenance Agreements – Maintenance Specifications – Schedule 21 published by the British Columbia Ministry of Transportation and Infrastructure.

1.4 SUBMITTALS

.1 Truck route plan as outlined in Section 01 35 43 - Environmental Procedures.

.1 Truck route plan is to be submitted for review by Departmental Representative within 10 working days of Contract award.

.2 Traffic control plan as outlined in Section 01 35 43 - Environmental Procedures.

.1 Traffic control plan is to be submitted for review by Departmental Representative within 10 working days of Contract award.

1.5 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Comply with requirements of Acts, Regulations and Bylaws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out work or haul materials or equipment, including any required permits or authorizations. Obtain such permits and authorizations.

.2 Protect travelling public from damage to person and property.

.3 Provide traffic control for personnel and vehicular traffic when work impacts established transportation routes (e.g., Westside Road). Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by the Departmental Representative. At minimum one lane must be kept open for traffic flow at all times.

.4 When working on travelled way:

.1 Place equipment in position to present minimum of interference and hazard to travelling public.

.2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.

.3 Do not leave equipment on travelled way overnight.

.5 Do not close any lanes of road without approval of the Departmental Representative. Before re-routing traffic erect suitable signs and devices in accordance with instructions contained in applicable legislation or bylaws or permits.

.6 Maintain travelled way (Westside Road between site and the town of Wilmer) to existing condition and of sufficient width for required number of lanes of traffic. Maintain access routes in a tidy condition, free from accumulation of waste products and debris, or as requested by the Departmental Representative.

.7 Provide access and temporary relocated roads as necessary to maintain traffic.

.8 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.9 Traffic routes must be maintained at all times during the completion of the project work. The Contractor must provide access and temporary relocated roads as necessary to maintain traffic.

.10 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

.11 Maintain access and egress routes.

.12 If ground disturbance of on-site access and egress routes is anticipated or observed, the Departmental Representative may stop work until mitigation measures are implemented. The Departmental Representative must provide approval for implementation of appropriate measures to prevent or repair disturbance or damage. Please note that gravel cannot be used to maintain the on-site access/egress routes and the Contractor must employ temporary access mats (or other suitable measures approved by Departmental Representative where use of access mats is not practicable) in those circumstances.

.13 The lowest impact equipment that can complete the work must be utilized in the work areas to minimize disturbance. Equipment is to be placed to minimize or eliminate impacts to areas outside of the active remediation and restoration activities.

.14 In order to minimize impacts to wildlife and vegetation, access and egress routes for equipment must be established prior to remediation and equipment must not travel off of the designated routes or in areas designated as exclusion zones.

.15 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic and protection of equipment in areas adjacent to Westside Road.

.16 Dust control: adequate to ensure safe operation at all times.

.17 Provide adequate bridging over trenches to permit normal traffic if and where required.

.18 Lighting: to assure full and clear visibility for work areas during night work operations.

.19 Provide snow removal if required, during period of work.

1.6 INFORMATIONAL AND WARNING DEVICES

.1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.

.2 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in Traffic Control Manual for Work on Roadways, 1999 Consolidated Office

Edition, published by the British Columbia Ministry of Transportation and Infrastructure.

.3 Place signs and other devices in locations recommended in Traffic Control Manual for Work on Roadways, 1999 Consolidated Office Edition, published by the British Columbia Ministry of Transportation and Infrastructure.

.4 Meet with Departmental Representative prior to commencement of work to prepare list of signs and other devices required for project. If situation on-site changes, revise list to approval of Departmental Representative.

.5 Continually maintain traffic control devices in use by:

.1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.

.2 Removing or covering signs which do not apply to conditions existing from day to day.

1.7 CONTROL OF PUBLIC TRAFFIC

.1 Provide competent flag persons, trained in accordance with, and properly equipped as specified in Traffic Control Manual for Work on Roadways, 1999 Consolidated Office Edition, published by the British Columbia Ministry of Transportation and Infrastructure in following situations:

.1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.

.2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.

.3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.

.4 Where temporary protection is required while other traffic control devices are being erected or taken down.

.5 For emergency protection when other traffic control devices are not readily available.

.6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.

.7 Delays to public traffic due to contractor's operators to be minimized as much as possible and conducted in accordance with provincial guidance and regulations.

.2 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system. Adjust, as necessary, and regularly maintain system during period of restriction. Signal system to meet requirements of Traffic Control Manual for Work on Roadways, 1999 Consolidated Office Edition, published by the British Columbia Ministry of Transportation and Infrastructure.

1.8 OPERATIONAL REQUIREMENTS

.1 Westside Road is used frequently by the public and therefore a through route must be provided at all times. In the event of an emergency, the Contractor must provide as much access on the roadway as possible.

.2 Maintain existing conditions for traffic throughout period of contract except when required for construction under contract and when measures have been taken as specified and approved by Departmental Representative to protect and control public traffic.

.3 Maintain existing conditions for traffic crossing right-of-way.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 RELATED SECTIONS

.1 Section 01 35 43 – Environmental Procedures

.2 Section 31 23 33.01 – Excavation, Trenching and Backfilling

.3 Section 02 61 00.01 – Soil Remediation

1.4 REFERENCES (LATEST EDITION)

.1 Canada Labour Code: Part 11-Occupational Health and Safety.

.2 Canada Occupational Health and Safety Regulations.

.3 Canadian Environmental Protection Act, S.C.

.4 Species-at-Risk Act.

.5 Controlled Products Regulations.

.6 Inter-provincial Movement of Hazardous Waste Regulations.

.7 National Fire Code of Canada.

.8 Transportation and Dangerous Goods Act.

.9 Canadian Council of Ministers of the Environment (CCME) Documentation.

.10 Canadian Council of Ministers of the Environment. Canada-Wide Standards for Petroleum Hydrocarbons (PHCs) in Soil.

.11 British Columbia Environmental Management Act

.12 British Columbia Contaminated Sites Regulation.

.13 British Columbia Hazardous Waste Regulation.

.14 British Columbia Water Act.

.15 British Columbia Groundwater Protection Regulation.

.16 British Columbia Workers Compensation Act.

.17 British Columbia Occupational Health and Safety Regulation.

.18 Land Development Guidelines for the Protection of Aquatic Habitat (Department of Fisheries and Oceans).

1.5 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures, Section 01 31 19 – Project Meetings, Section 01 35 00.06 Special Procedures for Traffic Control and Section 01 77 00 – Closeout Procedures.

.2 Site Layout: within 10 working days after Contract Award and prior to mobilization to site, submit site layout drawings showing existing conditions and facilities, construction facilities and temporary controls provided by Contractor including following:

.1 Equipment and personnel decontamination areas (off-site).

.2 Equipment inspection area (off-site)

.3 Means of ingress, egress and temporary traffic control facilities.

.4 Equipment and temporary material handling areas (off-site).

.5 Soil and Debris Management Facility (off-site).

.6 Exclusion Zones, Contaminant Reduction Zones, and other zones specified in Contractor's site-specific Health and Safety Plan.

1.6 REGULATORY REQUIREMENTS

.1 Related Section 01 41 00 - Regulatory Requirements.

.2 Conduct work in accordance with anticipated Permit conditions (refer to documents provided in Appendix B).

.3 Work to meet or exceed minimum requirements established by federal, provincial, and local laws and regulations which are applicable.

.1 Contractor: responsible for complying with amendments as they become effective.

.4 In event that compliance exceeds scope of work or conflicts with specific requirements of contract notify Departmental Representative immediately.

1.7 SEQUENCING AND SCHEDULING

.1 Commence Work involving contact with Contaminated or potentially Contaminated Material after all applicable Environmental Protection procedures (including those identified in the Environmental Protection Plan) and facilities are operational and accepted by Departmental Representative.

.2 All work is to be completed before March 3, 2017

1.8 SITE PREPARATION

.1 Complete activities required to facilitate remediation activities, including:

.1 Opening fence and installing temporary security fencing. Install security fencing in accordance with Section 01 56 00 – Temporary Barriers and Enclosures.

.2 Identification and demarcation of exclusion zones in the field using stakes, flagging or other visual means per Drawings 2 and 5. Based on site observations at the time of the Site preparation activities, the EMs and GCs may recommend to the Departmental Representative the identification of additional exclusion zones (e.g. sensitive vegetation areas). The Contractor must identify any additional exclusion zones requested by the Departmental Representative using stakes, flagging or other visual means. Any materials used to establish the limits of the exclusion zones must be removed upon completion of work.

.3 Utility location in accordance with 31 23 33.01 – Excavating, Trenching and Backfilling.

1.9 EQUIPMENT DECONTAMINATION FACILITY

.1 Prior to commencing work involving equipment contact with potentially contaminated materials, construct equipment decontamination facility.

.2 Provide, operate, and maintain necessary equipment, pumps, piping, and storage tanks required to collect and contain equipment decontamination wastewater and sediment and transfer materials to approved Disposal Facility.

.3 Establish location adjacent to site in pullout area to inspect equipment for soil, debris, grease, vegetation, etc. prior to equipment entering the Site.

.4 Establish location adjacent to site in pullout area for personnel decontamination.

.5 Establish off-site location for equipment decontamination.

.6 All equipment brought onto the Site must be clean and free from contaminants including but not limited to soil, grease, vegetation, weeds, debris.

.7 Equipment working in the excavation areas must be dedicated to the work area for the duration of the project. If the equipment has to leave site, the Contractor must decontaminate the equipment at the off-site equipment decontamination location prior to it returning to the Site.

.8 Decontaminate equipment at the completion of work or as directed by the Departmental Representative.

.9 Decontaminate trucks between loads of contaminated materials/waste and non-contaminated materials.

.10 Perform equipment decontamination in area where any runoff or impacted material can be contained and collected for treatment or disposal.

.11 At minimum, perform following steps during equipment decontamination off-site: mechanically remove packed dirt, grit, and debris by scraping and brushing without using steam or high-pressure water to reduce amount of water needed and to reduce amount of contaminated rinsate generated. Pay particular attention to tire treads, equipment tracks, springs, joints, sprockets, and undercarriages. Scrub surfaces with long handle scrub brushes and cleaning agent. Rinse off and collect cleaning agent. Decontaminated equipment will be subject to review by the Departmental Representative prior to returning to the Site and at the completion of work. Departmental Representative will have right to require additional decontamination to be completed if deemed necessary.

.12 Maintain inspection record on-site which includes: equipment descriptions with identification numbers; time and date of decontamination; and name of inspector with comment stating that decontamination was performed and completed.

.13 Departmental Representative will review each piece of equipment after decontamination and prior to removal from site and/or travel on clean areas. Departmental Representative will have right to require additional decontamination to be completed if deemed necessary.

.14 Take appropriate measures necessary to minimize drift of mist and spray during decontamination including provision of wind screens.

.15 Collect decontamination wastewaters and sediments which accumulate. Transfer wastewaters to designated wastewater storage tank and dispose of sediments appropriately.

.16 Furnish and equip personnel engaged in equipment decontamination with protective equipment including suitable disposable clothing, respiratory protection, and face shields.

1.10 DRUMS

.1 Storage of liquid waste: 200 L steel drums meeting Transportation and Dangerous Goods Act, closable lids, complete with labels for marking contents and date filled. No drums of liquid waste are to be stored on-site. Drums may be temporarily stored adjacent to the Site in the pullout area provided secondary containment is in place.

.2 Storage of solid waste: 200 L steel drums meeting Transportation and Dangerous Goods Act, closable lids, complete with labels for marking contents and date filled. No drums of solid waste are to be stored on-site. Drums may be temporarily stored adjacent to the Site in the pullout area provided secondary containment is in place.

1.11 VEHICULAR ACCESS

.1 Maintenance and Use:

.1 Prevent contamination of access roads or other areas of the Site in accordance with Section 02 61 00.01 – Soil Remediation.

1.12 SOIL AND DEBRIS MANAGEMENT FACILITY AND DEBRIS STOCKPILING

.1 Due to the location of the Site within a NWA and due to habitat and wildlife constraints at the Site, mixed soil and debris removed from the work areas must be transported immediately off-site for screening, sorting, stockpiling and other management activities. The Contractor must provide evidence that the Soil and Debris Management Facility is licensed and/or authorized to accept the excavated materials. The location of the Soil and Debris Management Facility must be approved by the Department Representative prior to establishment of the facility.

.2 The Soil and Debris Management Facility is to be a temporary staging area to allow for separation of excavated materials and is not the final disposal facility.

.3 Provide, maintain, and operate the Soil and Debris Management Facility as authorized and as detailed below.

.4 The Soil and Debris Management Facility must be underlain by impermeable materials (i.e. 15 mil polyethylene liner minimum) to ensure that excavated material does not come into contact with the underlying soil and that any water generated from the excavated material does not infiltrate the underlying soils. Material in the Soil and Debris Management Facility is to be covered with an impermeable cover (i.e. 6 mil polyethylene cover minimum) nightly, during periods of work stoppage, during periods of high intensity or sustained rainfall, during periods when the excavated materials are not being actively handled and as directed by the Departmental Representative. It is the Contractor's responsibility to ensure that the covers are not left off and are adequately weighted down to ensure the covers are not blown off (e.g. with tires).

.5 It is expected that separation (i.e. screening) of the soil from the general refuse/debris and potentially salvageable materials will be required to facilitate disposal of each specific category of material. Following separation of general refuse/debris and potentially salvageable materials and upon receiving approval from the Departmental Representative, the soil can be transported for disposal at an appropriately permitted facility.

.6 Debris removed from the Site which is free of soil/sediment may be temporarily stockpiled adjacent to the Site off of Westside Road, provided there is no disruption of traffic flow along Westside Road and provided the Contractor obtains approval from the BC Ministry of Transportation. All stockpiled materials must be underlain by impermeable materials (i.e. 15 mil polyethylene liner minimum).

.7 At completion of Work, Contractor must decommission Soil and Debris Management Facility, dispose of all materials associated with the facility and restore area to existing conditions.

1.13 IMPORT OF FILL MATERIAL

.1 Fill Characterization and Documentation:

.1 No fill material is to be imported to the Site due to concerns regarding the introduction of invasive or weed species. Any material imported to the Site must be immediately excavated, loaded and transported off-site at the Contractor's cost.

.2 Backfilling of the MDZ excavation will be limited to that which is required to mitigate potential erosion and health and safety hazards as outlined in the Contractor's Excavation and Restoration Design Plan and that which is required by the Departmental Representative. Backfill in these circumstances will comprise native non-contaminated soil borrowed from the direct vicinity of the excavation where deemed acceptable by the Departmental Representative, with input from the EMs and GCs.

1.14 PROGRESS CLEANING

.1 Complete cleaning in accordance with Section 01 74 11 – Cleaning.

.2 Maintain cleanliness of Work and surrounding site to comply with federal, provincial, and local fire and safety laws, ordinances, codes, and regulations.

.3 Co-ordinate cleaning operations with disposal operations to prevent accumulation of dust, dirt, debris, rubbish, and waste materials.

1.15 FINAL DECONTAMINATION

.1 Perform final decontamination of construction facilities, equipment, and materials which may have come in contact with potentially contaminated materials.

.2 Perform decontamination as specified to satisfaction of Departmental Representative. Departmental Representative will direct Contractor to perform additional decontamination if required.

1.16 REMOVAL AND DISPOSAL

.1 Remove surplus materials and temporary facilities from site.

.2 Dispose of wastes as outlined in Section 02 61 00.01 – Soil Remediation and in this section.

.3 Do not burn or bury rubbish and waste materials onsite.

.4 Do not dispose of volatile or hazardous wastes such as mineral spirits, oil, or paint thinner on to the property.

.5 Do not discharge wastes, hazardous wastes or volatile materials, such as mineral spirits, oil or paint thinner, into waterways, storm or sanitary sewers.

.6 Dispose of following materials at appropriate off-site facility identified by Contractor and accepted by the Departmental Representative:

.1 Debris including excess construction material.

.2 All salvageable materials.

.3 Non-contaminated litter and rubbish.

.4 Disposable PPE worn during final cleaning.

.5 Wastewater generated from final decontamination operations.

.7 Minimize generation of hazardous waste during remediation activities (i.e. from operations) to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes. Take necessary precautions to avoid mixing of contaminated materials, waste and/or non-contaminated materials

.8 Identify and evaluate recycling and reclamation options as alternatives to land disposal, such as:

.1 Hazardous wastes recycled in manner constituting disposal.

.2 Lead-acid battery recycling.

.9 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

1.17 CONTAMINATED MATERIAL, HAZARDOUS WASTE, NON-CONTAMINATED MATERIAL AND WASTE MANAGEMENT

.1 Segregate, excavate, handle, stockpile, load, transport and dispose all Contaminated Material, Hazardous Waste, Non-Contaminated Material and Waste within work areas as outlined in this section and in Section 01 35 43 – Environmental Procedures, Section 02 61 00.01 – Soil Remediation and Section 31 23 33.01 – Excavating, Trenching and Backfilling.

.2 Minimize generation of Contaminated Material, Hazardous Waste, Non-Contaminated Material and Waste to greatest extent practicable.

.3 Material characterization additional to information provided in Contract required by transport or Disposal Facility is the responsibility of Contractor.

1.18 CONTAMINATED MATERIAL, HAZARDOUS WASTE, NON-CONTAMINATED MATERIAL AND WASTE DISPOSAL

.1 Contaminated Material, Hazardous Waste, Non-Contaminated Material and Waste Disposal: dispose at Disposal Facility identified by Contractor and accepted by the Departmental Representative. Submit identification of the Disposal Facility(s) that will be used to treat and/or dispose of each of the categories of materials identified within 10 working days of contract award. Evidence that they are authorized and/or licensed to accept, treat and dispose of the specific category of material. Disposal Facility requirements:

.1 Be an existing off-site facility located in Canada.

.2 Be designed, constructed and operated to prevent any pollution from being caused by the facility outside the area of the facility from waste placed in or on land within the facility.

.3 Hold a valid and subsisting permit, certificate, approval, or any other form of authorization issued by a province or territory for the disposal of soil/sediment, general refuse, construction/demolition waste or other material requiring disposal.

.4 Comply with applicable municipal zoning, bylaws, and requirements.

.2 If proposed Disposal Facility is not acceptable to Departmental Representative, identify an alternate Disposal Facility that is acceptable.

.3 Dispose material as soon as practical and before March 3, 2017.

.4 Material sent to a Disposal Facility must be permanently stored at that facility.

.5 Submit Certificates of Disposal for all material disposed off-site.

1.19 CONTAMINATED MATERIAL, HAZARDOUS WASTE, NON-CONTAMINATED MATERIAL AND WASTE TRANSPORT

.1 Assume ownership of, and be responsible for, Contaminated Material, Hazardous Waste, Non-Contaminated Material and Waste once it is loaded on a vehicle for transport off-site.

.2 Transport material off-site as soon as practical. There is to be no stockpiling of material on-site.

.3 Transport material as outlined in Section 02 61 00.01 – Soil Remediation.

1.20 RECORD KEEPING

.1 Maintain bills of ladings for minimum of 375 calendar days from date of shipment or longer period required by applicable law or regulation.

END OF SECTION

PART 1 - GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.6 See 01 11 00.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit to Departmental Representative Submittals listed for review.

.2 Work affected by Submittal must not proceed until review is complete.

.3 Submit the following:

.1 Health and Safety Plan.

.2 Copies of reports or directions issued by federal and provincial health and safety inspectors.

.3 Copies of incident and accident reports.

.4 Complete set of Material Safety Data Sheets (MSDS), and all other documentation required by Workplace Hazardous Materials Information System (WHMIS) requirements.

.5 Emergency Procedures.

.6 Notice of Project.

.4 The Departmental Representative will review the Contractor's site-specific project Health and Safety Plan and emergency procedures, and provide comments to the Contractor within 5 Working Days after receipt of the plan.

.5 If changes are required, revise the plan as appropriate and resubmit to Departmental Representative within 5 Working Days.

.6 Submittal of the Health and Safety Plan, and any revised version, to the Departmental Representative is for information and reference purposes only. It will not:

.1 Be construed to imply approval by the Departmental Representative.

.2 Be interpreted as a warranty of being complete, accurate and legislatively compliant.

.3 Relieve the Contractor of his legal obligations for the provision of health and safety on the project.

1.4 REFERENCES

.1 Government of Canada:

.1 Canada Labour Code - Part II.

.2 Canada Occupational Health and Safety Regulations.

.2 National Building Code of Canada (NBC):

.1 Part 8, Safety Measures at Construction and Demolition Sites.

.3 Canadian Standards Association (CSA) as amended:

.1 CSA Z797-2009 Code of Practice for Access Scaffold.

.2 CSA S269.1-1975 (R2003) Falsework for Construction Purposes.

.3 CSA S350-M1980 (R2003) Code of Practice for Safety in Demolition of Structures.

.4 National Fire Code of Canada 2010 (as amended):

.1 Part 5 – Hazardous Processes and Operations and Division B as applicable and required.

.2 FCC No. 302, Standard for Welding and Cutting.

.5 American National Standards Institute (ANSI):

.1 ANSI A10.3, Operations – Safety Requirements for Powder-Actuated Fastening Systems.

.6 Province of British Columbia:

.1 Workers Compensation Act Part 3-Occupational Health and Safety.

.2 Occupational Health and Safety Regulation.

1.5 REGULATORY REQUIREMENTS

.1 Comply with codes, acts, bylaws, standards and regulations applicable to the performance of the Work in accordance with the Contract to ensure safe operations at Site.

.2 In event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will instruct on the course of action to be followed.

1.6 WORKER'S COMPENSATION BOARD COVERAGE

.1 Comply fully with the Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the Final Completion of the Work.

.2 Maintain Workers' Compensation Board coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

1.7 COMPLIANCE WITH REGULATIONS

.1 PWGSC may terminate the Contract without liability to PWGSC where the Contractor, in the opinion of PWGSC, refuses to comply with a requirement of the Workers' Compensation Act or the Occupational Health and Safety Regulations.

.2 It is the Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the Work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.

1.8 RESPONSIBILITY

.1 Assume responsibility as the Prime Contractor for Work under this Contract.

.1 Be responsible for health and safety of persons onsite, safety of property onsite and for protection of persons adjacent to Site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.9 HEALTH AND SAFETY COORDINATOR

.1 The Health and Safety Coordinator must:

.1 Be responsible for completing all health and safety training, and ensuring that personnel that do not successfully complete the required training are not permitted to enter the Site to perform Work.

.2 Be responsible for implementing, daily enforcing, and monitoring the site-specific Health and Safety Plan.

.3 Be on Site during execution of Work.

1.10 GENERAL CONDITIONS

.1 Provide safety barricades and lights around Site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.

.2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the Site:

.1 Provide appropriate means by use of barricades, fences, warning signs, traffic control personnel, and temporary lighting as required.

1.11 PROJECT/SITE CONDITIONS

.1 Work at Site will involve contact with contaminants identified in Specifications and environmental reports.

1.12 WORK PERMITS

.1 Obtain specialty permits related to project before start of Work.

1.13 FILING OF NOTICE

.1 The Prime Contractor is to complete and submit a Notice of Project as required by Provincial or Territorial authorities.

.2 Provide copies of all notices to the Departmental Representative.

1.14 HEALTH AND SAFETY PLAN

.1 Conduct a site-specific hazard assessment based on review of Contract, required Work, and project Site. Identify any known and potential health risks and safety hazards.

.2 Prepare and comply with a site-specific project Health and Safety Plan based on hazard assessment, including, but not limited to, the following:

.1 Primary requirements:

.1 Contractor's safety policy.

.2 Identification of applicable compliance obligations.

.3 Definition of responsibilities for project safety/organization chart for project.

.4 General safety rules for project.

.5 Job-specific safe work, procedures.

.6 Inspection policy and procedures.

.7 Incident reporting and investigation policy and procedures.

.8 Occupational Health and Safety Committee/Representative procedures.

.9 Occupational Health and Safety meetings.

.10 Occupational Health and Safety communications and record keeping procedures.

.2 Summary of health risks and safety hazards resulting from analysis of hazard assessment, with respect to site tasks and operations which must be performed as part of the Work.

.3 List hazardous materials to be brought onsite as required by Work.

.4 Indicate engineering and administrative control measures to be implemented at the Site for managing identified risks and hazards.

.5 Identify personal protective equipment (PPE) to be used by workers.

.6 Identify personnel and alternates responsible for site safety and health.

.7 Identify personnel training requirements and training plan, including site orientation for new workers.

.3 Develop the plan in collaboration with all Subcontractors. Ensure that work/activities of Subcontractors are included in the hazard assessment and are reflected in the plan.

.4 Revise and update Health and Safety Plan as required, and re-submit to the Departmental Representative.

.5 Departmental Representative's review: the review of Health and Safety Plan by Public Service and Procurement Canada (PWGSC) will not relieve the Contractor of responsibility for errors or omissions in final Health and Safety Plan or of responsibility for meeting all requirements of construction and Contract.

1.15 EMERGENCY PROCEDURES

.1 List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contacts (ie names/telephone numbers) of:

.1 Designated personnel from own company.

.2 Regulatory agencies applicable to Work and as per legislated regulations.

.3 Local emergency resources.

.4 Departmental Representative and site staff.

.2 Include the following provisions in the emergency procedures:

.1 Notify workers and the first-aid attendant, of the nature and location of the emergency.

.2 Evacuate all workers safely.

.3 Check and confirm the safe evacuation of all workers.

.4 Notify the fire department or other emergency responders.

.5 Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.

.6 Notify Departmental Representative and Site staff.

.3 Provide written rescue/evacuation procedures as required for, but not limited to:

.1 Work at high angles.

.2 Work in confined spaces or where there is a risk of entrapment.

.3 Work with hazardous substances.

.4 Underground work.

.5 Work on, over, under and adjacent to water.

.6 Workplaces where there are persons who require physical assistance to be moved.

.4 Design and mark emergency exit routes to provide quick and unimpeded exit.

.5 Revise and update emergency procedures as required, and re-submit to the Departmental Representative.

1.16 HAZARDOUS PRODUCTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials, and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to the Departmental Representative and in accordance with the Canada Labour Code.

.2 Where use of hazardous and toxic products cannot be avoided:

.1 Notify Departmental Representative beforehand of the product(s) intended for use. Submit applicable MSDS and WHMIS documents as required.

.2 In conjunction with Departmental Representative, schedule to carry out Work during "off hours" when tenants have left the building.

.3 Provide adequate means of ventilation as required.

1.17 UNFORESEEN HAZARDS

.1 Should any unforeseen or peculiar safety-related factor, hazard or condition become evident during performance of the Work, immediately stop Work and notify the Departmental Representative verbally and in writing.

1.18 POSTED DOCUMENTS

.1 Post legible versions of the following documents onsite:

.1 Health and Safety Plan.

.2 Sequence of Work.

.3 Emergency procedures.

.4 Site drawing showing project layout, locations of the first-aid station, evacuation route and marshalling station, and the emergency transportation provisions.

.5 Notice of Project.

.6 Floor plans or Site plans.

.7 Notice as to where a copy of the Workers' Compensation Act and Regulations are available on the Site for review by employees and workers.

.8 Workplace Hazardous Materials Information System (WHMIS) documents.

.9 Material Safety Data Sheets (MSDS).

.10 List of names of Joint Health and Safety Committee members, or Health and Safety Representative, as applicable.

.2 Post all Material Safety Data Sheets (MSDS) onsite, in a common area, visible to all workers and in locations accessible to tenants when Work of this Contract includes construction activities adjacent to occupied areas.

.3 Postings should be protected from the weather, and visible from the street or the exterior of the principal construction site shelter provided for workers and equipment, or as accepted by the Departmental Representative.

1.19 MEETINGS

.1 Attend health and safety preconstruction meeting and all subsequent meetings called by the Departmental Representative.

.2 Ensure all site personnel attend a health and safety toolbox meeting at the beginning of each shift, which must include:

.1 Sign-in of all attendees.

.2 Planned Work activities and environmental considerations for that shift.

.3 Hazards associated with these Work activities, including environmental hazards (eg potential for hypothermia, heat exhaustion, heat stroke).

.4 Appropriate job-specific safe work procedures.

.5 Required personal protective equipment (PPE).

.6 Appropriate emergency procedures.

.7 Review recent accidents on Site, including near misses.

.3 Retain records of all health and safety meetings onsite during Work, and retain as corporate records for a minimum of 7 years after Work is completed.

1.20 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by the Departmental Representative.

.2 Provide Departmental Representative with written report of action taken to correct non-compliance with health and safety issues identified.

.3 The Departmental Representative may issue a "stop work order" if non-compliance of health and safety regulations is not corrected immediately or within posted time.

.4 Correct non-compliance.

1.21 HAZARDOUS OCCURRENCE INVESTIGATION AND REPORTING

.1 Hazard includes:

.1 Any source of potential damage, harm or adverse effects on life, health, property or environment at work. It refers to any biological, chemical, ergonomic, physical, psychosocial and safety factor that is reasonably likely to cause harm or damage to humans, other organisms, or the environment in the absence of its control. Sometimes a hazard is referred to as being the actual harm or the health effect it caused rather than the hazard. For example the disease tuberculosis might be called a hazard by some but in general the tuberculosis-causing bacteria would be considered the “hazard” or “hazardous biological agent”. Exposure to tuberculosis would be the hazardous incident. For types of Hazards refer to Annex 3 of the Standard on Hazard Prevention Program.

.2 Hazardous Occurrence includes:

.1 An event occurring at a PWGSC managed building or worksite, or through the course of an employee's work that results in, or has the potential to result in, a fatality, injury, illness, exposure to a hazardous substance or property damage or an escapement of a hazardous material. For the purpose of investigating, recording and reporting hazardous occurrences, the following are included under this term: disabling injuries, minor injuries and near-misses.

.3 Hazardous Occurrence Investigation and Reporting Procedures:

.1 Includes information regarding the person involved and the basic circumstances surrounding the hazardous occurrence.

.2 Provides a detailed and thorough description of the hazardous occurrence and the sequence of events.

.3 Indicates corrective measures that have been taken since the occurrence.

.4 Requires the appointment of a qualified investigator.

.5 Provides recommendations for additional corrective measures, if required.

.4 Fatal or Serious Accidents Procedures:

.1 Call 911 to advise the police organization having jurisdiction to secure the scene and investigate the matter.

.2 Advise the Departmental Representative of the fatality or serious accident within 1 hour.

.3 No investigation will be conducted at the scene until the police service having jurisdiction has released the scene.

.4 No person shall, unless authorized to do so, remove or in any way interfere with or disturb any wreckage, article or thing related to the incident except to the extent necessary to: save a life, prevent injury or relieve human suffering in the vicinity; maintain an essential public service; or prevent unnecessary damage to or loss of property.

1.22 UTILITY CLEARANCE

.1 The Contractor is solely responsible for utility clearance.

.2 The Contractor will not rely upon Drawings or other information provided with utility locations.

1.23 PERSONAL PROTECTIVE EQUIPMENT PROGRAM

.1 Submit Personal Protective Equipment (PPE) program to the Departmental Representative addressing:

.1 Donning and doffing procedures.

.2 PPE selection based upon Site hazards.

.3 PPE use and limitations of equipment.

.4 Work mission duration, PPE maintenance and storage.

.5 PPE decontamination and disposal.

.6 PPE inspection procedures prior to, during, and after use.

.7 Evaluation of effectiveness of PPE program, and limitations during temperature extremes, and other appropriate medical considerations.

.8 Medical surveillance requirements for personnel assigned to work at Site.

.9 Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment.

.10 Site control measures employed at Site including site map, site work zones, use of 'buddy system', site communications including site security, alerting means for emergencies, standard operating procedures or safe work practices, and identification of nearest medical assistance.

.11 Decontamination procedures for both personnel and equipment.

.12 Emergency response requirements addressing: pre-emergency planning, personnel roles, lines of authority and communication, emergency recognition and prevention, safe distances and places of refuge, site security and control, evacuation routes and procedures, decontamination procedures not covered under decontamination section, emergency medical treatment and first aid, emergency alerting and response procedures, critique of response and follow-up, PPE and emergency equipment, site topography, layout, prevailing weather conditions, and procedures for reporting incidents to local, provincial, or federal agencies.

.13 Written respiratory protection program for project activities.

.14 Procedures dealing with heat and/or cold stress.

.15 Spill containment program if waste material is generated, excavated, stored, or managed onsite.

1.24 OFFSITE CONTINGENCY AND EMERGENCY RESPONSE PLAN

.1 Prior to commencing Work involving handling of hazardous materials, develop offsite Contingency and Emergency Response Plan.

.2 Plan must provide immediate response to serious site occurrence such as explosion, fire, or migration of significant quantities of toxic or hazardous material from Site.

1.25 PERSONNEL HEALTH, SAFETY, AND HYGIENE

.1 Training: ensure personnel entering Site are trained in accordance with specified personnel training requirements. Training session must be completed by Health and Safety Officer.

.2 Levels of Protection: establish levels of protection for each Work area based on planned activity and location of activity.

.3 Personal Protective Equipment:

.1 Furnish site personnel with appropriate PPE as specified above. Ensure that safety equipment and protective clothing is kept clean and maintained.

.4 Develop protective equipment usage procedures and ensure that procedures are strictly followed by site personnel; include following procedures as minimum:

.1 Ensure prescription eyeglasses worn are safety glasses and do not permit contact lenses onsite within work zones.

.2 Ensure footwear is steel-toed safety shoes or boots and is covered by rubber overshoes when entering or working in potentially contaminated work areas.

.3 Dispose of or decontaminate PPE worn onsite at end of each workday.

.4 Decontaminate reusable PPE before reissuing.

.5 Ensure site personnel have passed respirator fit test prior to entering potentially contaminated work areas.

.6 Ensure facial hair does not interfere with proper respirator fit.

.5 Respiratory Protection:

.1 Provide site personnel with extensive training in usage and limitations of, and qualitative fit testing for, air purifying and supplied-air respirators in accordance with specified regulations.

.2 Develop, implement, and maintain respirator program.

.3 Monitor, evaluate, and provide respiratory protection for site personnel.

.4 Ensure levels of protection as listed have been chosen consistent with site-specific potential airborne hazards associated with major contaminants identified onsite.

.5 In absence of additional air monitoring information or substance identification, retain an industrial hygiene specialist to determine minimum levels of respiratory protection required.

.6 Immediately notify Departmental Representative when level of respiratory protection required increases.

.7 Ensure appropriate respiratory protection during Work activities. As minimum requirement, ensure that persons entering potentially contaminated work areas are supplied with and use appropriate respiratory protection.

.6 Heat Stress/Cold Stress: implement heat stress or cold stress monitoring program as applicable and include in site-specific Health and Safety Plan.

.7 Personnel Hygiene and Personnel Decontamination Procedures. Provide minimum as follows:

.1 Suitable containers for storage and disposal of used disposable PPE.

.2 Potable water and suitable sanitation facility.

.8 Emergency and First-Aid Equipment:

.1 Locate and maintain emergency and first-aid equipment in appropriate location onsite including first-aid kit to accommodate number of site personnel; portable emergency eye wash; two 9 kg ABC type dry chemical fire extinguishers.

.9 Site Communications:

.1 Post emergency numbers near site telephones.

.2 Ensure personnel use of "buddy" system and develop hand signal system appropriate for site activities.

.3 Provide employee alarm system to notify employees of site emergency situations or to stop Work activities if necessary.

.4 Furnish selected personnel with 2-way radios.

.5 Safety Meetings: conduct mandatory daily safety meetings for personnel, and additionally as required by special or Work-related conditions; include refresher training for existing equipment and protocols, review ongoing safety issues and protocols, and examine new site conditions as encountered. Hold additional safety meetings on as-needed basis.

PART 2 PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

.2 Prior to commencing construction activities or delivery of materials to site, submit within 10 working days of Contract Award an Environmental Protection Plan (EPP) for review and acceptance by the Departmental Representative. The EPP is to present comprehensive overview of known or potential environmental issues, which must be addressed during Work.

.3 Address topics at level of detail commensurate with environmental issue and required work tasks.

.4 The Departmental Representative will review the Contractor's EPP and provide comments to the Contractor within three business days after receipt of the plan. Revise the plan as appropriate and resubmit to Departmental Representative.

.5 The contractor must have an EPP in place prior to initiating work. The EPP must contain all environmental mitigation measures outlined in the documentation provided in Appendix B, permits, and authorizations for the project. The EPP must include but is not limited to the following:

.1 Comprehensive overview of known or potential environmental issues to be addressed during Work

.2 Names and qualifications of persons responsible for ensuring adherence to EPP.

.3 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.

.4 Names and qualifications of persons responsible for training site personnel.

.5 Descriptions of EPP training program.

.6 Erosion and sediment control plan (including drawing) which identifies type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, permit conditions, Federal, Provincial, and Municipal laws and regulations.

.7 The Contractor must have provision in the EPP for mitigating impacts of runoff to downstream surface water bodies, including Wilmer Marsh. The EPP must include a conceptual water management plan describing all mitigation measures that will be taken by the Contractor to ensure that any contaminated material from the Project site, including soil and debris, will be isolated and contained, and to ensure that potential runoff will be intercepted and prevented from contacting potentially contaminated materials.

.8 A truck route plan detailing access/egress routes. The truck route plan must include drawings showing locations of proposed access/egress routes, exclusion zones and structures (fences, construction facilities, and sanitary facilities).

.9 Traffic control plans including methods for controlling soil disturbance related to equipment traffic on-site. Plans should also include measures to minimize amount of mud transported onto public roads by vehicles.

.10 Work area plan showing proposed activity in each portion of area and identifying exclusion zones. Plan to include measures for marking limits of work areas relative to exclusion zones including methods for protection of features to be preserved within authorized work areas. Work area plan must also depict location of fencing.

.11 Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.

.12 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.

.13 Hazardous solid waste disposal plan in the event that hazardous building materials are encountered within the excavation or other work areas.

.14 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel outside the work areas.

.15 Contaminant prevention plan that:

.1 Identifies potentially hazardous substances to be used on job site;

.2 Identifies intended actions to prevent introduction of such materials into air, water, or ground; and

.3 Details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.

.16 Procedures for identifying and protecting historical, archaeological, cultural resources and biological resources. All artifacts of historical or cultural value will remain the property of the Crown.

.17 Details of the sustainable remediation strategies to be implemented by the Contractor during the work.

1.4 REGULATORY REQUIREMENTS

.1 Protect plants and wildlife in accordance with applicable regulations, permits issued for the remediation project and the documentation in Appendix B.

.2 Provide water control in accordance with applicable regulations, permits issued for the remediation project and the documentation in Appendix B.

.3 Provide erosion and sediment control in accordance with applicable regulations, permits issued for the remediation project and the documentation in Appendix B.

.4 Comply with federal, provincial, and local anti-pollution laws, ordinances, codes, and regulations, as well as any permits issued for the remediation project and the documentation in Appendix B, when disposing of waste materials, debris, and rubbish.

1.5 FIRES

.1 Fires and burning of rubbish and waste materials on site is not permitted.

1.6 CLEANING

.1 Refer to section 01 74 11.

1.7 DISPOSAL OF WASTES

.1 Dispose of wastes as outlined in Sections 01 35 13.43 – Special Project Procedures for Contaminated Sites, and Section 02 61 00.01 – Soil Remediation.

1.8 EROSION AND SEDIMENT CONTROL

.1 Plan and execute construction by methods to control surface drainage from cuts and fills and from stockpiles, staging areas (including Soil and Debris Management Facility), and other work areas. Prevent erosion and sedimentation.

.2 Minimize amount of bare soil exposed at one time. Stabilize disturbed soils as quickly as practical. Implement measures intended to minimize erosion as detailed in Contractor's Excavation and Restoration Design Plan and as directed by the Departmental Representative, with input from the EM and the GC. Remove accumulated sediment resulting from construction activity from adjoining surfaces and water courses, and repair damage caused by soil erosion and sedimentation as directed by the Departmental Representative, with input from the EM and the GC. Any such sediment must be transferred to the Soil and Debris Management Facility for characterization.

.3 Provide and maintain temporary measures which may include silt cloth and fences, temporary drainage pumps and piping, berms, sedimentation basins, vegetative cover, and other construction required to prevent erosion and migration of silt, mud, sediment, and other debris off-site or to other areas of site where damage might result, or that might otherwise be required by Laws and Regulations. Make sediment control measures available during construction. Materials are to be new and not re-used from other sites in order to minimize the potential for introduction of invasive species. Consult the EM, GC and Departmental Representative for approval of erosion control measures. Temporary improvements must remain in place and in operation as necessary or until otherwise directed by the Departmental Representative. All temporary erosion control measures are to be removed from the work area prior to demobilization unless directed by Departmental Representative.

.4 Erosion control measures to remain at the Site following the completion of work will be installed in accordance with the Contractor's Excavation and Restoration Design Plan and must include at a minimum constructed cross-ditches, erosion and sediment and control blanket and coarse woody debris (obtained from on-site locations in order to minimize introduction of invasive or non-native species):

.1 All erosion and sediment control measures remaining at the Site following the completion of work must be fully biodegradable and fully comprised of natural fibres (i.e. no synthetic or plastic materials to be employed).

.2 Mat cover to be composed of coconut fibre/straw blend (70% agricultural straw and 30% coconut fibre blend) free of invasive plant species: double biodegradable nets, suitable of placement on up to 1:1 slopes, longevity of 18-24 months, maximum permissible shear stress of 100 Pa (+/- 4 Pa), maximum permissible velocity of 2.45 m/s (+/- 0.05 m/s).

.3 Mat must have good contact with the underlying surface (tamp down).

.4 Mat must be installed with the direction of the slope (i.e. top to bottom) with overlapping edges and pinned in place (install as per manufacturer's recommendations).

.5 Pins must be at least 50 cm long and comprised of natural materials (i.e. wood stakes) free of invasive species.

.6 The upslope end of the mat must be buried in a trench at least 300 mm deep. Backfill in the trench must be compacted.

.5 Temporary Silt Fence: assembled, ready to install unit consisting of geotextile attached to driveable posts. Geotextile: uniform in texture and appearance, having no defects, flaws, or tears that would affect its physical properties.

.6 Net Backing for Temporary Erosion and Silt Control: industrial polypropylene mesh joined to geotextile at both top and bottom with double stitching of heavy-duty cord, with minimum width of 750 mm.

.7 Posts for Temporary Erosion and Silt Control: sharpened wood, approximately 50 mm square, protruding below bottom of geotextile to allow minimum 450 mm embedment; post spacing 2.4 m maximum. Securely fasten each post to geotextile and net backing using suitable staples.

.8 Plan construction procedures to avoid damage to work or equipment encroachment outside of proposed work areas. In event of damage, promptly notify the Departmental Representative, and take action to mitigate effects. Restore affected area to existing condition.

.9 Installation:

.1 Construct temporary erosion control items as indicated by the Departmental Representative, with input from the EM and the GC.

.2 Check erosion and sediment control measures immediately after each rainfall; during prolonged rainfall check daily, during the course of the work.

.3 Silt fence may be removed temporarily following consultation with the Departmental Representative.

.4 Repair damaged silt fencing immediately upon identification of deficiencies.

.10 In addition to the mitigative measures identified in the Contractor's Excavation and Restoration Design Plan approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada., any permits issued for the remediation project and in the documentation in Appendix B), implement the following mitigative measures to reduce potential for erosion and sedimentation:

.1 Conduct remediation activities under extended periods of dry, or frozen, ground conditions.

.2 Utilize low-impact equipment such as rubber-tired 360˚ haulers or spider hoe-type excavators (with operators experienced in working on steep slopes) to reduce the potential for ground disturbance.

.3 Construct cross-ditches at the top of the trail work area to divert surface flow from the work areas.

.11 Do not disturb existing embankments or embankment protection unless requested by the Departmental Representative.

.12 Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly notify the Departmental Representative and apply corrective measures.

.13 If soil and debris from site accumulate in low areas, storm sewers, roadways, gutters, ditches, or other areas where in the Departmental Representative's determination it is undesirable, remove accumulation and restore area to original condition.

1.9 SITE CLEARING AND PLANT PROTECTION

.1 Protect on-site native vegetation areas and wildlife trees through demarcation of exclusion or “no work” zones.

.2 Protect trees and plants on adjacent properties to the Site.

.3 The Departmental Representative will coordinate with the EM to evaluate any trees located in the area of the proposed works. If the EM determines that one or more trees on-site are to be left in place during remediation, the Contractor will retain a qualified arborist to determine how to work around the tree in question. Protect roots of designated trees during remediation activities to prevent disturbance or damage. Avoid unnecessary traffic over root zones.

.4 Minimize stripping of undisturbed native soil and vegetation.

1.10 WORK ADJACENT TO WATERWAYS

.1 Do not dump excavated fill, waste material or debris in waterways.

1.11 POLLUTION CONTROL

.1 Maintain pollution control features installed under this contract.

.2 Control emissions from equipment and plant to local authorities' emission requirements.

.3 Control nuisance odours associated with diesel emissions from construction equipment.

.4 Properly maintain all construction equipment brought onto the Site.

.5 Conduct any equipment fuelling or maintenance in a designated area off-site. Guidance regarding siting of fuelling areas is provided by BC Ministry of Environment (A Field Guide to Fuel Handling, Transportation & Storage).

.6 Appropriately place drip pans beneath any equipment remaining on-site overnight.

.7 Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious toxic substances and pollutants produced by construction operations.

.8 Contractors must ensure no deleterious materials enter any surface drainage pathways located in the project area. The recommendations in the Land Development Guidelines for the Protection of Aquatic Habitat (Chillibeck et al. 1993) and the Fisheries and Oceans Canada requirements for erosion and sediment control ((http://www.pac.dfo-mpo.gc.ca/habitat/index-eng.htm) must be implemented. Silt-laden runoff water from the Site must not be allowed to enter nearby surface water. Engineering controls must be implemented to ensure proper isolation of soil from groundwater and surface water.

.9 Emergency response procedure for spills of deleterious substances must be in place. In the event of a spill, the contractor will immediately implement the emergency response procedures and then contact the Departmental Representative. In the event of a spill that cannot be easily contained or cleaned up, the Contractor will immediately implement the emergency response procedures, call 911, and then contact the Departmental Representative.

.10 Be prepared to intercept, clean up, and dispose of spills or releases that may occur whether on land or water. Maintain materials and equipment required for cleanup of spills or releases readily accessible onsite.

.11 Promptly report spills and releases potentially causing damage to environment to:

.1 Authority having jurisdiction or interest in spill or release including conservation authority, water supply authorities, drainage authority, road authority, and fire department.

.2 Owner of pollutant, if known.

.3 Person having control over pollutant, if known.

.4 Departmental Representative.

.12 Contact manufacturer of pollutant if known and ascertain hazards involved, precautions required, and measures used in cleanup or mitigating action.

.13 Take immediate action using available resources to contain and mitigate effects on environment and persons from spill or release.

.14 Provide spill response materials including, containers, adsorbent, shovels, and personal protective equipment. Make spill response materials available at all times in which hazardous materials or wastes are being handled or transported. Train workers in their location and use. Spill response materials: readily accessible, compatible with type of material being handled, and must be sufficient to respond effectively and expediently to any spill that could occur on site.

.15 Ensure that equipment and machinery is properly maintained to minimize unnecessary noise pollution. Consider local municipal noise bylaws when mobilizing equipment.

1.12 HISTORICAL / ARCHAEOLOGICAL CONTROL

.1 Identify and protect historical, archaeological, cultural resources and biological resources.

.2 All artifacts of historical or cultural value will remain the property of the Crown.

1.13 WILDLIFE AND VEGETATION PROTECTION

.1 The Site is located within a National Wildlife Area with known Species-at-Risk Act listed species in the area. The EMs will notify the Departmental Representative if sensitive species are identified in the work areas and the Departmental Representative will in turn instruct the Contractor to stop work until mitigative measures have been discussed with Canadian Wildlife Service. No standby time will be granted for stoppage due to identification of sensitive species in the work area.

.2 Allow EMs to conduct pre-remediation survey activities for potential wildlife in work areas.

.3 Do not harass or disturb any wildlife present on site or adjacent lands. Notify the EM immediately upon identification of wildlife.

.4 Allow EM to conduct vegetation and/or wildlife protection activities prior to and during excavation and debris removal activities and restoration activities. Notify the Departmental Representative in advance of such activities so that the Departmental Representative can coordinate vegetation and/or wildlife protection activities by the EMs.

1.14 WATER CONTROL

.1 Provide water control for various parts of Work including, without limitation, excavations, staging areas (including Soil and Debris Management Facility), and other work areas.

.2 Employ construction methods and precautions that ensure Work, including excavations, is stable, free from disturbance, and free of ponding water.

.3 Prevent precipitation from infiltrating or from directly running off stockpiled materials at the off-site Soil and Debris Management Facility. Cover stockpiled materials as outlined in Section 01 35 13.43 - Special Project Procedures for Contaminated Sites.

.4 Provide sufficient and appropriate labour and equipment necessary to keep Work area free of water including standby equipment necessary to ensure continuous operation of water control system.

.5 Have on hand sufficient equipment in good working condition for ordinary emergencies, including power outage, and competent workers for operation of water control equipment.

.6 Dispose of water in manner not injurious to public health or safety, to property, or to any part of work completed or under construction. Ensure that discharges from site are in compliance with applicable regulations.

.7 The Contractor is responsible for obtaining all necessary disposal and/or discharge permits as required.

1.15 DUST AND PARTICULATE CONTROL

.1 Execute work by methods to minimize raising dust from construction operations.

.2 Implement and maintain dust and particulate control measures as directed by the Departmental Representative.

.3 Address previous Worksafe BC concerns by implementing measures to protect personnel from dust inhalation and ingestion.

.4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.

.5 As minimum, use appropriate covers on trucks hauling fine or dusty material.

.6 Prevent dust from spreading to adjacent property sites.

.7 The Departmental Representative will stop work at any time when Contractor's control of dusts and particulates is inadequate for wind conditions present at site.

.8 If Contractor's dust and particulate control is not sufficient for controlling dusts and particulates into atmosphere, stop work. Contractor must discuss procedures with Departmental Representative that Contractor proposes to resolve problem. Make necessary changes to operations prior to resuming excavation, handling, processing, or other work that may cause release of dusts or particulates.

1.16 SUSTAINABLE REMEDIATION

.1 General:

.1 Use biodegradable hydraulic fluids in equipment used in and around waterways.

.2 Energy:

.1 Maintain equipment at peak performance to maximize efficiency and train operators to run equipment efficiently.

.2 Evaluate and optimize energy efficiency of equipment with high energy demands periodically and adjust operations accordingly.

.3 Air Emissions:

.1 Consolidate on-site and off-site vehicular trips to reduce fuel consumption.

.2 Maintain engines of vehicles and machinery in accordance with manufacturer recommendations.

.3 Modify field operations through combined activity schedules, an idle reduction plan, and using machinery with automatic idle-shutdown devices.

1.17 NOTIFICATION

.1 The EMs, GCs and Departmental Representative will audit the Contractor's compliance with the EPP.

.2 Departmental Representative will notify Contractor in writing of observed non-compliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of the Contractor's EPP.

.3 Contractor: after receipt of such notice, inform the Departmental Representative of proposed corrective action and take such action for approval by the Departmental Representative.

.4 The Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.

.5 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

1.18 NONCOMPLIANCE

.1 Departmental Representative will inform Contractor in writing of observed noncompliance with federal, provincial or municipal environmental laws, regulations, permits, or other environmental procedure violations.

.2 After receipt of notice, inform the Departmental Representative of the proposed corrective action. Corrective action will be subject to acceptance of Departmental Representative.

.3 Do not take action until after receipt of written acceptance.

.4 Departmental Representative will issue stop order of Work until satisfactory corrective action has been taken.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Not Used.

1.4 LAWS, REGULATIONS, PERMITS

.1 Generally, provincial and municipal laws, regulations, bylaws and other requirements do not apply on federal lands, activities or undertakings. Soil and other materials that are removed from federal lands may become subject to provincial or municipal laws and regulations.

.2 Provincial or municipal standards may be used in relation to federal lands only as guidelines for the purpose of establishing remediation goals and objectives. The term "standards" is used in this part in order to maintain consistency in terminology throughout this document, and does not imply that standards contained in provincial or municipal laws and regulations apply on Federal lands, activities or undertakings.

.3 Comply with certificates, licenses and other permits enforced at the location concerned required by regulatory federal, provincial or municipal authorities to complete the Work that have already been obtained.

.4 Obtain and pay for certificates, licenses and other permits enforced at the location concerned required by regulatory federal, provincial or municipal authorities to complete the Work that have not already been obtained or that are required to be amended.

.5 Provide applicable authorities with plans and information required for issue of acceptance certificates.

.6 Furnish inspection certificates in evidence that the Work installed conforms with the requirements of the authority having jurisdiction.

1.5 CODES, BYLAWS, STANDARDS

.1 Meet or exceed requirements of Contract, standards, and codes applicable to the performance of the Work and referenced documents.

.2 In any case of conflict or discrepancy, the most stringent requirements will apply.

.3 Perform Work in accordance with the National Building Code of Canada (NBC), and other requirements or codes in accordance with the Contract, construction standards and/or any other code or bylaw applicable to the performance of the Work and certificates, licenses and other permits enforced at the location concerned required by regulatory federal, provincial or municipal authorities to complete the Work: see 01 11 00.

.4 Comply with all attachments, references, and reports relevant to Work, including environmental protection.

1.6 SMOKING ENVIRONMENT

.1 Comply with smoking restrictions. Smoking is not permitted anywhere on the property due to the location of the Site within a National Wildlife Area and the presence of sensitive species and habitat. Smoking may occur in a designated smoking area established by the Contractor in the pull-out area adjacent to Westside Road.

.2 The Contractor is to provide a designated smoking area and is to ensure proper use and maintenance of ashtrays or other such containers to ensure there is no litter generated and to prevent ignition of vegetation.

PART 2 PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 INSTALLATION AND REMOVAL

.1 Provide temporary utilities and controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.4 WATER CONTROL

.1 Provide temporary drainage and pumping facilities to keep excavations and sites free from standing water, as detailed in Section 01 35 43 - Environmental Procedures.

1.5 TEMPORARY HEATING AND VENTILATION

.1 Provide temporary heating as required during the Work period, including attendance, maintenance and fuel.

.2 Construction heaters used inside buildings must be vented to outside or be flameless type. Solid fuel salamanders are not permitted.

.3 Provide temporary heat and ventilation in enclosed areas as required to:

.1 Facilitate progress of work.

.2 Protect Work and products against humidity and cold.

.3 Prevent moisture condensation on surfaces.

.4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.

.5 Provide adequate ventilation to meet health regulations for safe working environment.

.4 Pay costs for maintaining temporary heat.

.5 Maintain strict supervision of operation of temporary heating and ventilating equipment to:

.1 Conform to applicable codes and standards.

.2 Enforce safe practices.

.3 Prevent abuse of services.

.4 Prevent damage to finishes.

.5 Vent direct fired combustion units to outside.

.6 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.6 TEMPORARY POWER AND LIGHT

.1 Contractor must pay for and provide for temporary power during construction for temporary lighting, construction facilities and operating of power tools etc. No power is available at the Site.

.2 Provide and maintain temporary lighting throughout project.

1.7 TEMPORARY COMMUNICATION FACILITIES

.1 Provide and pay for all required temporary communications to complete the project. Communication utilities available at the Site are limited to cellular telephone coverage.

1.8 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 REFERENCES (LATEST VERSION)

.1 Canadian Standards Association (CSA International)

.2 Measurement Canada: Weights and Measures Act

1.4 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit site layout drawings including location of construction facilities and temporary controls provided by the Contractor as indicated in Section 01 35 13.43 – Special Project Procedures for Contaminated Sites within 10 working days of Contract award.

.3 Submit equipment decontamination facility design within 10 working days of Contract award.

1.5 INSTALLATION AND REMOVAL

.1 Construction facilities are to be installed off-site adjacent to Westside Road. The Contractor is responsible for obtaining the necessary permits and approvals from the Ministry of Transportation and Infrastructure.

.2 Indicate use of supplemental or other staging area (i.e. off-site Soil and Debris Management Facility).

.3 Provide construction facilities in order to execute work expeditiously.

.4 Remove from site all such work after use.

1.6 CONSTRUCTION PARKING

.1 Parking will not be allowed on the Site due to sensitive habitat. Acceptable parking areas will be determined and agreed upon by Departmental Representative prior to initiation of work.

.2 Provide and maintain adequate access to project site.

1.7 OFFICES

.1 Provide office space heated to 20 degrees C, lighted, ventilated, of sufficient size to accommodate site meetings and furnished with drawings laydown table.

.2 Provide office space heated to 20 degrees C, lighted, ventilated and with 110V power made available for the Departmental Representative and up to three other individuals

(in addition to the Contractor's personnel) to use as a work space, including at minimum a table and chairs for the Departmental Representative's use.

.3 Subcontractors to provide their own offices as necessary. Direct location of these offices to Departmental Representative for approval.

.4 Clean as outlined in Section 01 74 11 - Cleaning.

.5 Maintain at site office one record copy of:

.1 General Conditions

.2 All Permits, Authorizations and Approvals for the proposed works.

.3 Utility Plans.

.4 Contract Drawings.

.5 Specifications.

.6 Addenda.

.7 Change Orders and other modifications to Contract.

.8 Reviewed shop drawings, product data, and samples.

.9 List of Outstanding Shop Drawings.

.10 One set of record drawings and Specifications for "as-built" purposes.

.11 Field test records.

.12 Inspection certificates.

.13 Manufacturer's certificates.

.14 Contractor's Excavation and Restoration Design Plan (approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada) and related site inspection reports.

.15 Field and Laboratory Test Reports.

.16 Copy of Accepted Project Schedule.

.17 Health and Safety Plan and Other Safety Related Documents including daily toolbox or tailgate meetings.

.18 Daily work records to be completed by end of each shift which include:

.1 Quantities for each Description of Work identified in the Unit Price Table and Change Orders.

.2 Description of Work performed.

.3 Current Site conditions.

.4 General information including: date, time shift started and ended, Subcontractor(s) on-site, Health and Safety items, and Environmental Protection items.

.5 Records of on-site (within site) movement of soil.

.6 Records of all material movement onto and off the Site, including records (manifests) of waste movement and disposition, and analytical records as need be.

.7 Signature of Superintendent and Departmental Representative.

.19 Worksafe BC notice of project, also to be provided to PSPC prior to mobilization to the Site.

.20 Environmental Protection Plan.

.21 Reviewed and accepted submittals.

.22 Manufacturers' installation and application instructions (as appropriate).

.23 National Building Code of Canada (as appropriate).

.24 Current construction standards of workmanship listed in technical Sections (as appropriate).

.25 Final Meeting Minutes, Agendas and associated Attachments.

.26 Other document as specified by the Departmental Representative.

.6 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

.7 Label record documents and file in accordance with Section number listings in List of Contents of this project specification. Label each document "PROJECT RECORD" in neat, large, printed letters.

.8 Maintain record documents in clean, dry and legible condition in site office. Do not use record documents for construction purposes.

.9 Keep record documents and samples available for inspection the Departmental Representative.

1.8 FIRST AID

.1 Provide marked and fully stocked first aid case in a readily available location.

1.9 SANITARY FACILITIES

.1 Provide and maintain sanitary facilities for work force in accordance with governing regulations and ordinances. Contractor is responsible for regular, scheduled removal and disposal of sanitary waste.

.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.10 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain lockable storage for tools, equipment and materials.

.2 Locate materials not required on-site in manner to cause least interference with work activities.

.3 Storage of any equipment, tools and materials at the Site is at the discretion of the Contractor; PSPC will not be responsible for damaged, vandalized or stolen items.

1.11 CLEAN-UP

.1 Complete cleaning as outlined in Section 01 74 11 - Cleaning.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 INSTALLATION AND REMOVAL

.1 The Site is currently fenced along Westside Road (wooden post and metal wire fencing). In order to access the Site, the Contractor must temporarily open the fence. The fence is to be reinstalled to the existing condition upon completion of work. The Contractor must correct any deficiencies observed in the fencing at their cost.

.2 Temporary fencing (i.e.1.8 metre or 6 foot high panel fencing) is required along Westside Road where the Contractor has opened the existing fence to allow movement of personnel and equipment. The temporary fencing must be secured nightly to ensure unauthorized access to the Site is restricted.

.3 Provide fencing around any excavations that are unsafe for entry due to location, steepness of sides or depth.

.4 Provide temporary controls in order to execute Work expeditiously.

.5 Remove from site all such work after use.

1.4 HOARDING

.1 Provide barriers around trees and plants designated to remain in accordance with Section 01 35 43 - Environmental Procedures. Protect from damage by equipment and construction procedures.

1.5 GUARD RAILS AND BARRICADES

.1 Provide secure, rigid guard rails and barricades around work areas as required by WorksafeBC regulations.

1.6 ACCESS TO SITE

.1 Provide and maintain access routes for access to Work. Please note that the use of gravel at the Site is not allowed. If necessary, temporary access mats (or other suitable measures approved by the Departmental Representative) are to be utilized to provide access to Work.

1.7 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data: at least 10 Working Days prior to use, submit data on products to be used in Work. Include:

.1 Manufacturers' catalogue sheets, MSDS sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products or any other information in accordance with the Contract.

.2 Cross-reference product data information to applicable portions of Contract.

.2 Substitution: at least 5 Working Days prior to use and after Contract award, submit proposals for substituting products, if required. Include statements of respective costs of items originally in accordance with the Contract and the proposed substitution.

.3 Quality of Work: at least 5 Working Days prior to Work, submit alternate means to meet or correct quality of work, if required.

1.4 PRODUCTS, MATERIAL AND EQUIPMENT

.1 Use new products, material and equipment in accordance with the Contract. The term "products" is referred to throughout the specifications.

.2 Use products of one manufacturer for material and equipment of the same type or classification in accordance with the Contract.

.3 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation method in accordance with the Contracts.

.4 Notify Departmental Representative in writing of any conflict between Contract and manufacturer's instructions. Departmental Representative will instruct which document is to be followed.

.5 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact.

.6 Prevent damage, adulteration and soiling of products during delivery, handling and storage. Immediately remove rejected products from Site.

.7 Store products in accordance with Suppliers' instructions.

1.5 QUALITY OF PRODUCTS

.1 Products, materials and equipment (referred to as products) incorporated into Work must be new, not damaged or defective, and of the best quality (compatible with the specifications) for the purpose intended. As instructed by the Departmental Representative, furnish evidence as to type, source, and quality of the products provided.

.2 Defective products will be rejected regardless of previous inspections.

.1 Inspection does not relieve responsibility, but is precaution against oversight or error.

.2 Remove and replace defective products.

.3 Retain purchase orders, invoices and other documents to prove that all products utilized in the Work meet the requirements of the Contract. Produce documents as instructed by the Departmental Representative.

.4 Should any dispute arise as to quality or fitness of products, the decision rests strictly with the Departmental Representative in accordance with the Contract.

.5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.6 AVAILABILITY OF PRODUCTS

.1 Immediately upon signing the Contract, review product delivery requirements and anticipate foreseeable supply delays for any items.

.2 If delays in supply of products are foreseeable, Notify Departmental Representative of such in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of the Work.

.3 In event of failure to Notify Departmental Representative at the start of Work and should it subsequently appear that the Work may be delayed for such reason, the Departmental Representative reserves the right to substitute more readily available products of similar character.

1.7 MANUFACTURER'S INSTRUCTIONS

.1 Install or erect products in accordance with the manufacturer's instructions in accordance with the Contract.

.1 Do not rely on labels or enclosures provided with products.

.2 Obtain written instructions directly from the manufacturer.

.2 Notify Departmental Representative in writing of any conflict between Contract and manufacturer's instructions. Departmental Representative will instruct which document is to be followed.

.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the Departmental Representative to instruct the removal and re-installation.

1.8 CONTRACTOR'S OPTIONS FOR SELECTION OF PRODUCTS FOR TENDERING

.1 Products specified by "Prescriptive" specifications: select any product meeting or exceeding requirements in accordance with the Contract.

.2 Products specified by performance and referenced standard: select any product meeting or exceeding the referenced standard.

.3 Products specified to meet particular design requirements or to match existing materials: use only material in accordance with the Contract.

.4 When products are specified by a referenced standard or by performance specifications, as instructed by the Departmental Representative obtain from manufacturer and independent laboratory report showing that the product meets or exceeds the requirements in accordance with the Contract.

1.9 STORAGE, HANDLING AND PROTECTION

.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seals and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Remove and replace damaged products as instructed by the Departmental Representative.

1.10 TRANSPORTATION

.1 Pay costs of transportation of products required in performance of Work.

.2 Transport products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.3 Transport products subject to damage from weather in weatherproof enclosures.

.4 Transport in an efficient manner that does not cause delays to the Work schedule.

1.11 QUALITY OF WORK

.1 Ensure quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately Notify Departmental Representative if required Work is such as to make it impractical to produce results in accordance with the Contract. Provide alternate means to meet or correct quality of work, as accepted by the Departmental Representative.

.2 Do not employ anyone unskilled in their required duties.

.3 Perform Work to standard of fitness of Quality of Work in accordance with any decision by the Departmental Representative.

1.12 COORDINATION

.1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

1.13 REMEDIAL WORK

.1 Perform remedial Work required to repair or replace parts or portions of Work as instructed by the Departmental Representative as defective or unacceptable. Coordinate adjacent affected Work as required.

.2 Perform remedial Work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.14 STORAGE TANKS

.1 Abide by the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* for stored petroleum products and allied petroleum products tank system located on federal or Aboriginal land, or within federal jurisdiction as described in the regulations.

.2 Temporary storage tanks subject to the regulations must be registered with Environment Canada.

.3 Mobile tanks subject to the regulations must be certified to be mobile.

.4 Storage tanks to meet the following minimum requirements:

.1 Corrosion protection.

.2 Secondary containment.

.3 Containment sumps, if applicable.

.4 Overfill protection.

.5 All components of tank system must bear certification marks indicating that they conform to the standards set out in the regulations.

.6 Product transfer area must be designed to contain spills and must be located off-site.

.7 Prepare an emergency plan.

.8 Prior to first filling, storage tanks must:

.1 Be registered.

.2 Be certified and marked.

.3 Transfer area be constructed.

.4 Emergency plan in place.

PART 2 PRODUCTS

2.1 ASBESTOS CONTAINING MATERIALS PROHIBITION

.1 Any material containing any degree of asbestos is banned from use in any and all sites, designs and projects.

PART 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 PROJECT CLEANLINESS

.1 Maintain project area in tidy condition, free from accumulation of waste products and debris, or as requested by the Departmental Representative

.2 Provide on-site containers for collection of waste materials, packaging material and debris.

.3 Remove construction debris, waste materials and packaging material from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Waste materials, packaging materials and debris are to be disposed in accordance with Section 01 35 13.43 – Special Project Procedures for Contaminated Sites.

.4 Clean interior areas of temporary construction facilities prior to, during and following work.

.5 Ensure sanitary facilities are maintained in a hygienic manner.

.6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

1.4 FINAL CLEANING

.1 When Work is substantially performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review remove surplus products, tools, construction machinery and equipment.

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Rake clean other surfaces of ground.

.6 Clean dirt or mud tracked onto paved or surfaced roadways.

.7 Final cleaning will be subject to inspection by the Departmental Representative.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 INSPECTION AND DECLARATION

.1 Contractor's Inspection: Contractor Design-Builder and Subcontractors: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Design-Builder's Inspection and that corrections have been made.

.2 Attend final onsite Owner Inspection to confirm final site condition and work completed according to the contract documents.

.3 Owner Inspection: Departmental Representative, EMs, GMs and qualified Professional Engineer/Geoscientist registered or licensed in British Columbia, Canada retained by the Contractor, GCs retained by PSPC and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Any deficiencies reported by the Departmental Representative will be corrected by the Contractor at their cost.

.4 Completion: submit written certificate that the following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Operation of systems has been demonstrated to Owner's personnel.

.4 Work is complete and ready for final inspection.

.5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.

.6 The Contractor must remove all temporary construction facilities (office, sanitary facilities, equipment storage sheds, Soil and Debris Management Facility, etc.) upon completion of the work and at the direction of the Departmental Representative.

.7 The Contractor must remove any temporary erosion control measures and temporary fencing upon completion of the work and at the direction of the Departmental Representative.

.8 Environmental control measures must remain in place until the Departmental Representative, with input from the GC and EM, determines they are no longer required.

.9 The Contractor must remove all environmental control measures when the Departmental Representative determines they are no longer required.

1.4 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 –Submittals.

.1 Submit as instructed by the Departmental Representative, a written certificate that the following have been performed:

.1 Work has been completed and assessed by the Departmental Representative in accordance with the Contract.

.2 Work has been inspected by the Engineer/Geoscientist of Record (i.e. qualified Professional Engineer or Geoscientist registered or licensed in the Province of British Columbia responsible for the Contractor's Excavation and Restoration Design Plan) and is confirmed by the Engineer/Geoscientist of Record to be in compliance with the Contractor's Excavation and Restoration Plan.

.3 Disposal of contaminated materials, hazardous waste, non-contaminated materials and waste has been completed.

.4 Damage has been repaired, deficiencies have been completed, missing items have been provided, and non-conformance has been corrected, in the opinion of the Departmental Representative.

.5 Certificates required by the Fire Commissioner of Canada, and utility companies have been submitted.

.6 Work is complete and ready for Final Owner Inspection.

.2 Prepare all documentation required as part of any permits or other authorizations obtained or otherwise the responsibility of the Contractor.

1.5 AS-BUILTS AND SAMPLES

.1 Contractor is required to submit to Departmental Representative an as-built record of the Site, including information detailed below, at the completion of work. Provide 1 set of CDs in AutoCAD 14 file format with all as-built information on the CDs. The Departmental Representative must provide the original AutoCAD files for "as-built" purposes.

.2 Complete final survey showing:

.1 Location and extent of excavation, including grade/topography and the location of any utility line replacement to show the work is in conformance with Contract Documents.

.2 Location of any decommissioned and/or abandoned utilities encountered and location of any utilities encountered not on current Drawings.

.3 Location and extent of permanent erosion control features (terraces, cross-slope ditches, erosion and sediment and control blanket, etc.).

.4 Location of the fence along Westside Road.

.5 Location of the provincial-federal boundary along the southern border of the Site.

.6 Final site grading.

.3 Final survey is to be completed (stamped and sealed) by Contractor's Land Surveyor (a qualified land surveyor registered in British Columbia).

1.6 CLEANING

.1 In accordance with Section 01 74 11 - Cleaning.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work.

.2 Section 01 33 00 - Submittal Procedures.

.3 Section 01 35 13.43 – Special Project Procedures for Contaminated Sites

.4 Section 01 35 43 – Environmental Procedures

.5 Section 01 77 00 - Closeout Procedures.

.6 Section 31 23 33.01 - Excavation, Trenching and Backfilling.

1.4 SUMMARY

.1 Work includes:

.1 Providing and installing materials and equipment necessary to complete site preparation activities, remediation and restoration.

.2 Completing all activities in conjunction with and under the supervision of the Departmental Representative, with input from the EMs and the GC.

.3 Identifying subsurface utilities, disconnecting utilities and temporarily supplying utilities as required, and, reinstating all utilities and infrastructure following excavation.

.4 Implementing safety work zones, site Health and Safety Plans and Emergency Response Plans, and Environmental Protection Plan.

.5 Completing site preparation activities (i.e. demarcation of exclusion zones, opening fence and installing temporary fencing) immediately prior to the active remediation component of the project.

.6 Coordinating with the Departmental Representative to allow the EMs to conduct pre-remediation survey activities for potential wildlife and to allow the EMs to conduct vegetation and/or wildlife protection activities prior to and during excavation and restoration activities.

.7 Installing temporary access mats (or other suitable measures approved by the Departmental Representative) on on-site access routes where ground conditions are not frozen.

.8 Excavating and transferring material excavated from the trail area of the Site (i.e. Main Debris Zone) to the off-site Soil and Debris Management Facility for separation/screening of general refuse (i.e. Waste) and salvageable materials from the excavated material.

.9 Preparing the off-site Soil and Debris Management Facility, including obtaining all necessary permits, approvals and authorizations and installing impermeable liners.

.10 Screening/separating general refuse (i.e. Waste) and salvageable materials from excavated materials in the Soil and Debris Management Facility to facilitate disposal.

.11 Stockpiling of screened soils according to classification provided by the Departmental Representative (refer to Table 12, based on in situ characterization of excavated areas) or as directed by the Departmental Representative, in the Soil and Debris Management Facility while awaiting final disposal.

.12 Allowing and assisting the Departmental Representative to collect soil samples from the excavations for characterization purposes. Includes provision of equipment, materials and labour to facilitate sample collection.

.13 Loading of, transporting to, and disposing of excavated and screened soil at licensed and authorized off-site disposal facilities based on classification provided by the Departmental Representative (refer to Table 12, based on in situ characterization of excavated areas).

.14 Loading of, transporting to, and disposing of stockpiled general refuse (i.e. Waste) at licensed and authorized off-site disposal facilities.

.15 Loading of, transporting to, and disposing of stockpiled salvageable materials at facilities licensed and authorized to accept such materials.

.16 Restoring the Main Debris Zone excavation in accordance with the Contractor's Excavation and Restoration Design (approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada), the documentation provided in Appendix B and the permit issued by CWS for the remediation project. No fill material is to be imported to the Site due to concerns regarding the introduction of invasive or weed species. Backfilling of the MDZ excavation will be limited to that which is required to mitigate potential erosion and health and safety hazards and that which is required by the Departmental Representative. Backfill in these circumstances will comprise native non-contaminated soil borrowed from the direct vicinity of the excavation where deemed acceptable by the Departmental Representative, with input from the EMs and GCs.

.17 Implementing and constructing permanent erosion and sediment control features in accordance with the Contractor's Excavation and Restoration Design (approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada), the documentation provided in Appendix B and the permit issued by CWS for the remediation project. This will entail installation of measures in the gully floor to prevent overland flow of sediments to the marsh as well as implementing erosion and sediment control measures in areas of soil disturbance including depositing coarse woody debris, broadcast seeding with an approved native plant seed mix and installing erosion and sediment control blanket.

.18 Implementing and maintaining temporary erosion and sediment control measures at the Site and Soil and Debris Management Facility, including covering stockpiles, and appropriately managing any surface runoff.

.19 Providing traffic control where required to maintain a safe work or traffic area.

1.5 REFERENCES (LATEST EDITION)

.1 British Columbia Contaminated Sites Regulation and Hazardous Waste Regulation.

.2 CCME (Canadian Council of Ministers of the Environment) Contaminated Sites, Contaminated Soil and Groundwater, and Remediation of Contaminated Sites most current publications.

1.6 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

.2 Provide evidence of appropriate licensing for transport of Contaminated Materials (including Hazardous Waste) and Waste (including for any subcontractor retained to transport such materials).

.3 Identify the location of the Soil and Debris Management Facility as outlined in Section 01 35 13.43 – Special Project Procedures for Contaminated Sites. Provide evidence that the facility location is licensed and/or authorized to accept the excavated materials. Work must NOT proceed until the Departmental Representative has approved the location of the Soil and Debris Management Facility and is satisfied the facility has the required permits and approvals and is technically appropriate for the short-term storage of the excavated materials.

.4 Identify the facility(s) that are to be used to treat and/or dispose of each of the categories of materials identified as outlined in Section 01 35 13.43 – Special Project Procedures for Contaminated Sites. Provide evidence that they are authorized and/or licensed to accept, treat and dispose of the specific category of material. Work must NOT proceed until the Departmental Representative has approved facility(s) and is satisfied the receiving facilities are appropriately qualified and have the required permits and approvals and is technically appropriate for the disposal of the material.

PART 2 DELIVERY, STORAGE AND HANDLING

2.1 PROJECT/SITE CONDITIONS

.1 Existing Conditions.

.1 Review the proposed excavation areas on Drawings 3, 4 and 5 that summarizes the approximate areal extent of known debris and soil contamination. The excavation in the Main Debris Zone will extend to approximately 2.5 metres below grade in some areas.

.2 The limits of excavation will be identified in the field by the Departmental Representative as a starting point for the Contractor.

.3 Buried services to be addressed as outlined in Section 31 23 33.01 - Excavating, Trenching and Backfilling.

2.2 SEQUENCING

.1 All remediation works are to be completed within the work windows described in Section 01 14 00 - Work Restrictions.

.2 Due to the need to conduct work in accordance with the Excavation and Restoration Design Plan which has been approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada retained by the Contractor, the Contractor must coordinate the work sequence accordingly.

.3 All other work must be sequenced in consultation with the Departmental Representative.

PART 3 PRODUCTS

.1 Refer to section 01 61 10 – Product Requirements.

PART 4 EXECUTION

4.1 PREPARATION

.1 Complete activities required to facilitate remediation activities as outlined in Section 01 56 00 - Temporary Barriers and Enclosures and Section 01 35 13.43 - Special Project Procedures for Contaminated Sites.

.2 Complete plant protection as outlined in Section 01 35 13.43 - Special Project Procedures for Contaminated Sites and Section 01 35 43 - Environmental Procedures.

.3 Establish Soil and Debris Management Facility per Section 01 35 13.43 - Special Project Procedures for Contaminated Sites.

4.2 EXCAVATION

.1 Where required, provide water control as outlined in Section 01 35 43- Environmental Procedures.

.2 Complete excavation in accordance with requirements of Section 31 23 33.01 - Excavating, Trenching and Backfilling, Section 01 35 13 43 - Special Project Procedures for Contaminated Sites and Section 01 35 43 - Environmental Procedures.

4.3 SOIL STOCKPILING

.1 Following separation of refuse (i.e. Waste) and salvageable materials at the Soil and Debris Management Facility, screened soils are to be stockpiled in the Soil and Debris Management Facility according to the classification provided by the Departmental Representative (refer to Table 12, based on in situ characterization of excavated areas) or as directed by the Departmental Representative while awaiting final disposal.

4.4 SOIL, GENERAL REFUSE AND SALVAGEABLE MATERIAL TRANSPORT

.1 All soil excavated from the Main Debris Zone (i.e. Contaminated Material and Non-Contaminated Material) must be removed from the Site and be transported to a facility permitted to receive the material quality (based on classification provided by Departmental Representative) being disposed of or treated.

.2 All general refuse and construction/demolition materials (i.e. Waste) must be removed from the Site and be transported to a facility permitted to receive the material being disposed of.

.3 All salvageable materials must be removed from the Site and be transported to a facility licensed and authorized to accept such materials.

.4 Cover material while being transported to prevent release of airborne dust, vapours, or odours, and to prevent saturation and leachate generation from material.

.5 Use watertight truck bodies for transporting excavated materials. Do not allow excess water in excavated materials to flow out of vehicle during transport.

.6 Stabilize soil or other material as necessary.

.7 Transport material by appropriately licensed and equipped vehicles and operators.

.8 Manifest and correlate weights of all material transported from site documenting weight at removal from site, movement, transfer stations, interim storage, and weight of material at final disposal facility. Submit all manifests, as instructed by the Departmental Representative.

.9 Resolve discrepancies in manifests for material transported as required by regulations and as acceptable to the Departmental Representative. Discrepancies include:

.1 No manifest or an incomplete manifest.

.2 The material transported does not match the description in the manifest.

.3 The amount transported differs by more than 5% in the manifest.

.4 The material transported is in a hazardous condition.

.10 Load and transport soil in a manner as to prevent contamination of the Site and transportation routes.

.11 Contractor must not load trucks in a manner that causes spillage onto areas not underlain by an impermeable surface.

.12 Contractor must not load trucks with soil such that spillage occurs onto areas not underlain by an impermeable surface during transport.

.13 Immediately scrape up debris or material on access roads which is suspected to be contaminated as directed by the Departmental Representative and transport and place into the Soil and Debris Management Facility.

.14 Clean access and transport roads as outlined in Section –01 35 00.06 – Special Procedures for Traffic Control.

.15 Departmental Representative may collect soil samples for chemical analyses from traveling surfaces of constructed and existing access routes prior to, during, and upon completion of Work. Excavate and dispose of clean soil contaminated by Contractor's activities at no additional cost to PSPC.

4.5 RESTORATION

.1 Restore the Site in accordance with the Contractor's Excavation and Restoration Design Plan (approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada), the documentation provided in Appendix B and the final permit issued by CWS for the remediation project. In addition, site restoration must include at minimum:

.1 Construction of cross-ditches at the top of the trail area or at other locations specified by the Departmental Representative, with input from the EMs and the GC to divert surface flow from excavation areas.

.2 Implementation of permanent erosion and sediment control measures in areas of soil disturbance including depositing coarse woody debris and installing erosion and sediment and control blanket. Coarse woody debris is to be sourced from other areas of the Site to minimize the potential for introduction of invasive species. Permanent erosion control measures are to be installed as outlined in Section 01 35 43 – Environmental Procedures.

.3 Broadcast seed soil disturbance areas with a native plant seed mix prior to installation of erosion control blanket. Seek Departmental Representative approval of the proposed native plant seed mix and supplier prior to ordering. The native seed mix and supplier will also be subject to approval by the Canadian

Wildlife Service. The native seed mix must be free of invasive species. Apply seed in accordance with supplier's recommendations.

4.6 EQUIPMENT DECONTAMINATION

.1 Decontaminate equipment used during the remediation and remove from site at end of remediation activities. Refer to Section 01 35 13 43 Special Project Procedures for Contaminated Sites.

END OF SECTION

PART 1 GENERAL

1.1 MEASUREMENT PROCEDURES

.1 See 01 11 00.

1.2 DEFINITIONS

.1 See 01 11 00.

1.3 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work.

.2 Section 01 33 00 - Submittal Procedures.

.2 Section 01 35 13.43 – Special Project Procedures for Contaminated Sites

.3 Section 01 35 43 - Environmental Procedures

.4 Section 02 61 00.01 - Soil Remediation

1.4 SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit a draft Excavation and Restoration Design Plan, reviewed and signed off (i.e. stamped/sealed) by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada as outlined in 01 11 00 – Summary of Work, for review within 14 working days of Contract Award. Departmental Representative to provide comments within 3 business days of receiving draft plan. Submit final plan within 3 working days of receiving Departmental Representative comments. Keep design and supporting data on-site.

.3 Submit drawings identifying all utilities within and immediately surrounding the work area to the Departmental Representative at least 5 working days prior to commencing any subsurface disturbance. Update drawings as instructed by the Departmental Representative.

1.5 EXISTING CONDITIONS

.1 Examine subsurface investigation reports provided in Appendix A.

.2 Protect existing surface features from damage while work is in progress. In event of damage, immediately make repair as directed by Departmental Representative.

.3 Buried services:

.1 Prior to beginning excavation work, notify Departmental Representative and applicable authorities having jurisdiction and establish location and state of use of buried utilities and structures.

.2 All utilities within and immediately surrounding the work area must be located prior to Work through a BC One Call and a private utility locating company to ensure all buried services are properly located. A hydrovac may be required to confirm actual location of all utilities. Completeness and accuracy of any available utility drawings are not guaranteed and the Contractor is responsible for

confirming locations of all utilities. Clearly mark utility locations to prevent disturbance during Work.

.3 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.

.4 Cap off any obsolete/inactive buried services encountered in a manner approved by authorities having jurisdiction.

.5 Protect buried services that are required to remain undisturbed.

.6 Where utility lines or structures exist in area of excavation, obtain direction of Departmental Representative before removing and re-routing.

.7 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.8 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

.9 Contractor must survey the location of maintained, re-routed and abandoned underground lines and include on final as built drawing as outlined in 01 77 00 – Closeout Procedures.

PART 2 PRODUCTS

2.1 MATERIALS

.1 No fill material is to be imported to the Site due to concerns regarding the introduction of invasive or weed species. Backfilling of the MDZ excavation will be limited to that which is required to mitigate potential erosion and health and safety hazards and that which is required by the Departmental Representative. Backfill in these circumstances will comprise native non-contaminated soil borrowed from the direct vicinity of the excavation where deemed acceptable by the Departmental Representative, with input from the EMs and GCs.

PART 3 EXECUTION

3.1 PREPARATION/PROTECTION

.1 Complete site preparation/protection activities as outlined in Section 01 35 13.43 - Special Project Procedures for Contaminated Sites, Section 01 35 43 - Environmental Procedures, Section 01 56 00 - Temporary Barriers and Enclosures and applicable local regulations.

.2 Remove obstructions from surfaces to be excavated within limits indicated.

3.2 WATER CONTROL

.1 Protect open excavations against flooding and damage due to surface runoff.

.2 Provide water control as outlined in Section 01 35 43 - Environmental Procedures.

3.3 EXCAVATION

.1 Conduct excavation activities in accordance with requirements of Section 01 35 13.43 - Special Project Procedures for Contaminated Sites, Section 01 35 43 - Environmental Procedures and Section 02 61 00.01 - Soil Remediation and in accordance with the Contractor's Excavation and Restoration Design approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada, the documentation provided in Appendix B and the final permit issued by CWS for the remediation project.

.2 Store excavated non-contaminated material only on non-contaminated site surface areas. Ensure no contact between excavated non-contaminated material and drainage or contaminated water or contaminated material or waste.

.3 Keep excavated materials a safe distance from the excavation while awaiting transport to the off-site Soil and Debris Management Facility.

.4 Maintain sides and slopes of excavations in a safe condition by appropriate methods and in accordance with all applicable regulations - where conditions are unstable, Departmental Representative will discuss options with Contractor.

.5 Contractor must obtain all excavation permits from authority having jurisdiction including permit from CWS for the remediation project. Permission to excavate on-site must be obtained in writing from the Departmental Representative.

.6 Restrict vehicle operations directly adjacent to open trenches.

.7 Obtain Departmental Representative approval of completed excavation.

.8 Following removal of designated material, the Departmental Representative will collect confirmatory samples to ensure that impacted materials have been removed as planned. The Contractor must make clean the bottom and walls of the excavation (including water and other waste material) and provide clear access for the Departmental Representative. Assist the Departmental Representative in collection of samples including provision of equipment and personnel as necessary. In the event that contamination remains, additional material may need to be removed. Any additional work must be approved by the Departmental Representative prior to the commencement of this work.

.9 Departmental Representative will send samples for chemical analysis by a certified laboratory. Five business days (upon receipt at the laboratory) are required for standard analysis. Additional analysis required based on analytical results will require an additional four business day turnaround time. The Contractor must anticipate this and factor it into the unit price costing.

3.4 BACKFILLING

.1 All fill material must meet the requirements outlined in Section 01 35 13.43 - Special Project Procedures for Contaminated Sites.

.2 Contractor must not proceed with backfilling operations unless approved by Departmental Representative.

PART 4 RESTORATION

4.1 CLEANING AND REINSTATEMENT

.1 Upon the completion of the excavation activities, complete restoration works as outlined in Section 02 61 00.01 - Soil Remediation and in accordance with the Contractor's Excavation and Restoration Design Plan (approved by a qualified Professional Engineer or Geoscientist registered or licensed in British Columbia, Canada), the documentation provided in Appendix B and the final permit issued by CWS for the remediation project.

.2 Upon completion of Work, remove surplus material and material unsuitable for fill or grading, remove waste materials and debris, trim slopes and correct defects as directed by Departmental Representative.

.3 Clean and reinstate areas affected by Work as directed by Departmental Representative.

END OF SECTION