Public Services and Procurement Canada

Requisition No.: _____

Buy and Sell ID No.: _____

Specifications for

Soil Treatment Facilities Operations

Multiple Locations, Alaska Highway, BC

Project No. R.000000.000 Date

APPROVED BY:

_____ _____
Regional Manager ES Date

_____ _____
Construction Safety Coordinator Date

TENDER:

_____ _____
Project Manager Date

Real Property Services Branch, Professional and Technical Services, Pacific Region
#219 – 800 Burrard Street, Vancouver, B.C. V6Z 0B9

Public Services and Procurement Canada

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3 July 2019
Date

APPROVED BY:

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Regional Manager ES

2019/07/08
Date

_____
Construction Safety Coordinator

2019.07.05
Date

TENDER:

_____
Project Manager

3 July 2019
Date

Real Property Services Branch, Professional and Technical Services, Pacific Region
#219 – 800 Burrard Street, Vancouver, B.C. V6Z 0B9

BRITISH COLUMBIA INSTITUTE OF AGROLOGISTS
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Aaron Haegele
17.01.2019
P.Ag.

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Not Used.

1.4. Work Covered by Contract

1.4.1. Work to be performed under the Contract includes, but is not limited to, the following items, including all ancillary Work, covered further in the Contract:

1.4.1.1. Site access restrictions.

1.4.1.2. Neighbouring or sensitive sites restrictions.

1.4.1.3. Site work to be conducted concurrently.

1.4.1.4. Classes of Soil are:

1.4.1.4.1. Hazardous Waste

1.4.1.4.2. Waste Quality

1.4.1.4.3. Non-Contaminated

1.4.1.5. Treatment of Contaminated Water, either onsite or offsite at Contractor's discretion.

1.4.1.6. Treatment of Contaminated Soil, specifically Petroleum Hydrocarbons. Treatment means destruction or reduction of concentrations as described in Contract. Treatment is a requirement of the Contract, and alternatives (eg direct disposal without treatment) even if compliant with regulations, are not allowed under the Contract.

1.4.1.7. Transport and stockpile of treated soil.

1.5. Location

1.5.1. The Site location is shown on Drawings.

1.6. Project/Site Conditions

1.6.1. Contractor must provide personnel and equipment with appropriate experience for site conditions, including experience in handling site-specific Contaminated Soils. Contractor to provide specialized material handling, health and safety, and environmental protection procedures, and must have knowledge of appropriate regulations.

1.6.2. Work at Site involves Work with Contaminated Soils. Complete list of anticipated contaminants and concentration levels on the Site available separately in Appendices.

1.6.3. Existing condition of the Site identified according to Drawings.

1.7. Other Contracts

1.7.1. Other contracts are currently in progress at Site.
1.7.2. Other contracts are:
1.7.2.1. Environmental and other consultants.
1.7.2.2. Other Site users may be accessing the property concurrently.
1.7.3. Further contracts may be awarded while the Contract is in progress.
1.7.4. Cooperate with other contractors in carrying out their respective works and carry out directions from Departmental Representative.
1.7.5. Coordinate Work with that of other contractors. If any part of Work under the Contract depends for its proper execution or result upon Work of another contractor, report promptly to Departmental Representative, in writing, any defects which can interfere with proper execution of this Work.

1.8. Contractor's Use of Site

1.8.1. Use of Site:
1.8.1.1. For the sole benefit of Canada.
1.8.1.2. Exclusive and only for completion of the execution of Work.
1.8.1.3. Assume responsibility for assigned premises for performance of this Work.
1.8.1.4. Be responsible for coordination of all Work activities onsite, including the Work of other contractors engaged by the Departmental Representative.
1.8.2. There are no pre-existing arrangements for access or encroachment on the neighbouring properties. Offsite access or encroachment is the responsibility of the Contractor.
1.8.3. Perform Work in accordance with Contract. Ensure Work is carried out in accordance with schedule accepted by Departmental Representative.
1.8.4. Do not unreasonably encumber Site with material or equipment.
1.8.5. Accommodate common areas with other Site users, including roadways.
1.8.6. Segregate Contractor's work area from common areas to prevent unintentional multiple employer worksite, as required.

1.9. Existing Permits

1.9.1. Existing permits are:
1.9.1.1. Iron Creek: Yukon Environment, Land Treatment Facility Permit 24-032.

1.10. Schedule Requirements

1.10.1. Work to be initiated: within 5 Working Days of Contract Award.
1.10.2. Pre-Mobilization Submittals: within 10 Working Days of Contract Award.
1.10.3. Site Works: Final Completion no later than October 1, 2019.
1.10.3.1. Work may be stopped depending on weather prior to Final Completion date by direction of the Departmental Representative.
1.10.4. Completion of the Work: no later than February 29, 2020. Includes all final Submittals including as-built documents, the Certificate of Completion, and the Statutory Declaration at Final Completion.

1.11. Hours of Work

1.11.1. Restrictive as follows:

1.11.1.1. Working Day Work Hours are 07:00 to 19:00, Monday to Sunday.

1.11.2. Work outside of Working Day and Working Hours subject to approval of Departmental Representative.

1.12. Security Clearances

1.12.1. Not Used.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. Certificate of Completion: see General Conditions.

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

1.2.3. Classification: material (including soil and water) categorized into different quality classes by the Departmental Representative based on presence and concentration of different substances. Includes Contaminated Soil, Non-Contaminated Soil, Contaminated Water, and Non-Contaminated Water. Re-Classification must have approval of Departmental Representative.

1.2.4. Confirmation Samples: soil and sediment samples collected by the Departmental Representative to confirm that the remedial objectives for the Work have been met.

1.2.5. Contaminated Soil: unconsolidated mineral or organic material, rock, fill, and sediment deposited on land, and other solid 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) exceed the levels specified in policies and regulations. Includes Hazardous Waste and Waste Quality. Does not include Non-Contaminated Soil. Relevant regulations, unless otherwise in accordance with the Contract or as directed by the Departmental Representative, include:

1.2.5.1. For all sites: Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines and CCME Canada-Wide Standards.

1.2.5.2. For sites in BC, may include risk-based site-specific target levels for remediation objectives (ie CCME Tier 3): BC Hazardous Waste Regulation, BC Approved Water Quality Guidelines, BC Contaminated Sites Regulation.

1.2.5.3. For sites in Yukon, may include risk-based site-specific target levels for remediation objectives (ie CCME Tier 3): Yukon Special Waste Regulation, Yukon Contaminated Sites Regulation.

1.2.6. Contaminated Soil Extents: lateral and vertical extents of Contaminated Soil within Onsite Soil Treatment Facility. Extents on Drawings are approximate and may vary based on field observations or Confirmation Samples.

1.2.7. Contaminated Water: liquids 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 water that is not suitable for aquatic life, irrigation, livestock or drinking water or any other water use specified in the BC Contaminated Sites Regulation or Yukon Contaminated Sites Regulation, as applicable. Includes NonAqueous

Phase Liquids (NAPL). Does not include Non-Contaminated Water or Sewage Wastewater. Relevant regulations, unless otherwise in accordance with the Contract or as directed by the Departmental Representative, include:

1.2.7.1. For all sites: Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines and CCME Canada-Wide Standards.

1.2.7.2. For sites in BC, may include risk-based site-specific target levels for remediation objectives (ie CCME Tier 3): BC Hazardous Waste Regulation, BC Contaminated Sites Regulation.

1.2.7.3. For sites in Yukon, may include risk-based site-specific target levels for remediation objectives (ie CCME Tier 3): Yukon Special Waste Regulation, Yukon Contaminated Sites Regulation.

1.2.8. Contaminated Water Treatment Plant: a temporary onsite or existing offsite facility located in Canada that is designed, constructed and operated for the handling or processing of Contaminated Water in such a manner as to change the physical, chemical or biological character or composition of the water to lower than the site-specific remedial objective, Discharge Approval, and in compliance with all regulations.

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

1.2.10. Contract: see General Conditions.

1.2.11. Contract Amount: see General Conditions.

1.2.12. Contractor: see General Conditions.

1.2.13. Departmental Representative: see General Conditions.

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

1.2.15. Disposal Facility: an offsite facility specifically used to introduce Contaminated Soil into the environment for the purpose of final burial.

1.2.16. 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.

1.2.17. 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.

1.2.18. 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.

1.2.19. Extension of Time: see General Conditions.

1.2.20. Extension of Time on Contracts: PWGSC form requesting an Extension of Time.

1.2.21. Facility Authority:

1.2.21.1. For facilities within provincial or territorial jurisdiction: the relevant provincial or territorial ministry.

1.2.21.2. For facilities on First Nation reserve land in Canada not subject to the First Nation Land Management regime: Indigenous and Northern Affairs Canada.

1.2.21.3. For facilities on First Nations reserve land in Canada subject to the First Nation Land Management regime: the relevant First Nation Council. In addition, a Qualified Professional must certify that the facility is appropriate for the relevant Contaminated Soil.

1.2.21.4. For facilities in the United States of America: either or both of the Environmental Protection Agency and the relevant State, as appropriate.

1.2.22. Field Survey: Survey conducted by Departmental Representative or their Consultant. Not a Legal Survey conducted by a Qualified Professional.

1.2.23. Final Completion: see General Conditions.

1.2.24. Hazardous Waste: Contaminated Soil (soil and water) which meets the regulatory definition of Hazardous Waste.

1.2.25. Land Treatment Facility: equivalent of Soil Treatment Facility.

1.2.26. Landfill Facility: an offsite facility specifically used to introduce Non-Contaminated Soil into the environment for the purpose of final burial.

1.2.27. 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.

1.2.28. Non-Contaminated Soil: unconsolidated mineral or organic material, rock, fill, and sediment deposited on land, and other solid material excavated incidentally. Includes cleared and grubbed vegetation, litter, rubbish, debris, cobbles, boulders, excess construction material, lumber, steel, plastic, concrete, and asphalt. Includes Topsoil and Overburden that is not re-used. Does not exceed applicable standards in BC Contaminated Sites Regulation or Yukon Contaminated Sites Regulation, as appropriate.

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

1.2.30. On Site Instruction: notices, instructions, or directions issued by the Departmental Representative to the Contractor.

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

1.2.32. Onsite Soil Treatment Facility (Onsite STF): a facility constructed and operated on property under the control of PWGSC specifically used to bioremediate (i.e. treat) Contaminated Soil originating only from federal Sites.

1.2.33. Overburden: Non-Contaminated Soil excavated incidentally above Contaminated Soil Extents that is suitable as Backfill. Does not include Topsoil, Overburden, or other Non-Contaminated Soil excavated incidentally.
1.2.34. Progress Payment: see General Conditions.
1.2.35. PWGSC: Public Works and Government Services Canada. Representative of Canada with control of the Site.
1.2.36. Qualified Professional: a person 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. Includes:
1.2.36.1. Association of British Columbia Land Surveyors or the Association of Canada Lands Surveyors.
1.2.36.2. Engineers and Geoscientists British Columbia.
1.2.36.3. College of Applied Biology.
1.2.36.4. British Columbia Institute of Agrologists.
1.2.36.5. Association of the Chemical Profession of British Columbia.
1.2.37. Quote: Contractor’s cost estimate issued to the Departmental Representative as per the relevant Contemplated Change Notice via an On Site Notice.
1.2.38. Remediation by Excavation: complete excavation of Contaminated Soil and incidental Non-Contaminated Soil to the Site boundaries for the purpose of remediating the Site to meet numerical standards. Includes full treatment and disposal. Does not include risk assessment or risk management of material onsite. Does not include encapsulation or solidification in place.
1.2.39. Sewage Wastewater: liquid waste which is not suitable for direct discharge to the environment, and which must be either treated offsite or discharged to a sanitary sewer. Includes water from hand basin, shower, personal hygiene facilities, or other liquid waste from sanitary facilities.
1.2.40. Site: work area available to Contractor according to Drawings. Does not include shared or public areas, including common roads.
1.2.41. Special Waste: Yukon equivalent of Hazardous Waste.
1.2.42. Soil Treatment
1.2.43. Subcontractor: see General Conditions.
1.2.44. Submit/Submittals: documents from the Contractor to the Departmental Representative as: required by Contract; stipulated in permit, certificate, approval, license, or any other form of authorization; by convention or industry practice. Submittals are final only after review and accepted in writing by Departmental Representative.
1.2.45. Substantial Performance: see General Conditions.
1.2.46. Superintendent: see General Conditions
1.2.47. Supplier: see General Conditions.
1.2.48. Topsoil: Non-Contaminated Soil excavated incidentally above Contaminated Soil Extents that is a surface organic layer to facilitate vegetation growth. Does not include Overburden or other Non-Contaminated Soil excavated incidentally.

1.2.49. Transfer/Interim Storage Facility: an offsite facility specifically used to transfer or short term storage Contaminated Soil during offsite transport.
1.2.50. Treatment Facility: an offsite facility specifically used to treat Contaminated Soil or Contaminated Water. Treatment Facility may treat soil, sediment, or water. All material Treated at a Treatment Facility is still considered Contaminated Soil in the Contract. All material Treated at a Treatment Facility must be Disposed at a Disposal Facility.
1.2.51. Waste Oversize Debris: Waste that is required to be excavated and is: larger than 1 cubic metre or larger than 2 metres in one dimension, cannot be removed with a typical excavator with bucket, and requires the use of special equipment (e.g., saws, hydraulic cutters, excavator hammers, vibratory pile extractors). Includes bedrock, boulders, pilings, pipes, building structures, and concrete foundations.
1.2.52. Waste Quality: soil or other material that is not suitable for industrial, commercial, urban park, residential, agricultural, wildlands or any other land use specified in the BC Contaminated Sites Regulation or Yukon Contaminated Sites Regulation, as applicable.
1.2.53. Waste Reduction Plan: a written report which addresses opportunities for reduction, reuse or recycling of materials.
1.2.54. Wastewater: Non-Contaminated Water that is not Sewage.
1.2.55. Work: see General Conditions.
1.2.56. Working Day: see General Conditions.

1.3. Action and Informational Submittals

1.3.1. Daily Work Records: at the end of each shift Submit daily Work records, during onsite Work. Include:
1.3.1.1. Quantities for each Description of Work identified in the Unit Price Table and Change Orders.
1.3.1.2. Description of Work performed.
1.3.1.3. Current Site conditions.
1.3.1.4. General information including: date, time shift started and ended, Subcontractor(s) onsite, Health and Safety items, and Environmental Protection items.
1.3.1.5. Signature of Superintendent.
1.3.2. Cash Flow: with each Progress Payment, Submit a cash flow forecast. Include:
1.3.2.1. Calculation of planned cost versus actual cost and schedule forecasting and cash flow projections on a monthly basis, indicating anticipated value of future Progress Payments, for each Description of Work identified in the Unit Price Table.
1.3.2.2. Progress Payments will not be processed until cash flow has been accepted by the Departmental Representative.
1.3.3. Coordination Meeting Minutes and Drawings: at least 5 Working Days prior to relevant Work commencing, Submit final meeting minutes and drawings from coordination with Subcontractors.
1.3.4. Quality Management Plan: within 10 Working Days after Contract award, Submit a quality management plan. Include:

1.3.4.1. Details on planned review, inspection and testing to provide Quality Assurance and Quality Control for the Work.
1.3.4.2. Subcontractors responsible for review, inspection and testing.
1.3.4.3. Schedule of submittals of review, inspection and testing results.
1.3.5. Review, Inspection, and Testing Results: within 5 Working Days of receipt, Submit all results of reviews, inspection, and testing performed as part of the Work, including laboratory reports and sampling chains of custody.

1.4. Documents Required

1.4.1. Maintain 1 copy each of the following posted at the job Site:
1.4.1.1. General Conditions.
1.4.1.2. Drawings.
1.4.1.3. Specifications.
1.4.1.4. Addenda or other modifications to Contract.
1.4.1.5. Change orders.
1.4.1.6. Copy of current Work schedule.
1.4.1.7. Reviewed and final Shop Drawings Submittals.
1.4.1.8. One set of record Shop Drawings and Specifications for “as-built” purposes.
1.4.1.9. Field and laboratory test reports.
1.4.1.10. Reviewed and accepted Submittals.
1.4.1.11. Health and Safety documents, including all daily toolbox meetings, Notice of Project, and utility clearances.
1.4.1.12. Environmental Protection Plan.
1.4.1.13. Final Meeting Minutes, Agendas and associated attachments.
1.4.1.14. Permits and other approvals.

1.5. Green Requirements

1.5.1. Use only environmentally responsible green materials/products with no Volatile Organic Compounds (VOC) emissions or minimum VOC emissions of indoor off-gassing contaminants for improved indoor air quality – subject of acceptance of Submittal of Materials Safety Data Sheet (MSDS) Product Data.
1.5.2. Use materials/products containing highest percentage of recycled and recovered materials practicable – consistent with maintaining cost effective satisfactory levels of competition.
1.5.3. Adhere to waste reduction requirement for reuse or recycling of waste materials, not including soil or water, thus diverting materials from Landfill Facility.

1.6. Setting out of Work

1.6.1. Assume full responsibility for and execute complete layout of Work to locations, lines and elevations according to Drawings.
1.6.2. Provide devices needed to layout and construct Work.
1.6.3. Supply such services and devices in accordance with the Contract to facilitate Departmental Representative’s inspection of Work.

1.7. Works Coordination

1.7.1. Coordinate Work of Subcontractors.

1.7.1.1. Designate one person to be responsible for review of Contract and Shop Drawings and managing coordination of Work.

1.7.2. Convene meetings between Subcontractors whose Work interfaces and ensure awareness of areas and extent of interface required.

1.7.2.1. Provide each Subcontractor with complete Drawings and Specifications for Contract, to assist them in planning and carrying out their respective work.

1.7.2.2. Develop coordination drawings when required, illustrating potential interference between Work of various trades and distribute to affected parties.

1.7.2.3. Facilitate meeting and review coordination drawings. Ensure Subcontractors agree and sign off on coordination drawings.

1.7.2.4. Publish minutes of each meeting.

1.7.2.5. Submit a copy of coordination drawings and meeting minutes as directed by the Departmental Representative.

1.7.3. Submit Shop Drawings and order of prefabricated equipment or rebuilt components only after coordination meeting for such items has taken place.

1.7.4. Work coordination:

1.7.4.1. Ensure cooperation between trades in order to facilitate general progress of Work and avoid situations of spatial interference.

1.7.4.2. Ensure that each trade provides all other trades reasonable opportunity for Final Completion of Work and in such a way as to prevent unnecessary delays, cutting, patching and removal or replacement of completed Work.

1.7.4.3. Ensure disputes between Subcontractors are resolved.

1.7.5. Failure to coordinate Work is responsibility of Contractor.

1.8. Record Keeping

1.8.1. On Site Instruction: Contractual correspondence from the Departmental Representative to the Contractor. Does not include Contemplated Change Notices, Change Orders, and Extension of Time on Contracts. Sequentially numbered On Site Instructions. Include cross references to applicable On Site Notifications. The status of the Contractor, including the function of Prime Contractor, must not change by reason of any On Site Instructions.

1.8.2. On Site Notifications: Contractual correspondence from Contractor to the Departmental Representative. Includes Submittals. Does not include Quotes, and Extension Of Time On Contracts. Must be as a sequentially numbered On Site Notifications. Include cross references to applicable On Site Instructions. The status of the Contractor, including the function of Prime Contractor, must not change by reason of any On Site Notifications.

1.8.3. Maintain adequate records to support information provided to Departmental Representative.

1.8.4. Maintain asbestos waste shipment records or other Hazardous Waste Manifests for minimum of 3 years from date of shipment or longer period required by applicable law or regulation.

1.8.5. Maintain bills of ladings for minimum of 300 Working Days from date of shipment or longer period required by applicable law or regulation.

1.9. Change Documents

1.9.1. Change Documents do not relieve Contractor of any obligation.

1.9.2. Change Documents do not change the Contractor's responsibility for sequencing, methods and means.

1.9.3. Change Documents do not change by any reason the status of the Contractor, including the function of Prime Contractor or as supervisor.

1.9.4. Change Documents include:

1.9.4.1. Change Order: There may be a change to the Contract Amount by reason of any Change Order. No Extension of Time for completion of the Work by reason of any Change Order.

1.9.4.2. Contemplated Change Notice: No increase to the Contract Amount by reason of any Contemplated Change Notice. No Extension of Time for completion of the Work by reason of any Contemplated Change Notice.

1.9.4.3. Extension of Time on Contracts: No increase to the Contract Amount by reason of any Extension of Time on Contracts. There may be an Extension of Time for completion of the Work by reason of an Extension of Time on Contracts.

1.9.4.4. Quote: No increase to the Contract Amount by reason of any Quote. No Extension of Time for completion of the Work by reason of any Quote.

1.10. System of Measurement

1.10.1. The metric system of measurement (SI) will be employed on the Contract.

1.11. Field Surveying

1.11.1. Contractor's Qualified Professional for Surveying is a Land Surveyor, i.e. a member of either the Association of British Columbia Land Surveyors or the Association of Canada Lands Surveyors.

1.11.2. Departmental Representative will measure volumes using equipment such as tape measurements, non-differential GPS, or theodolite. Departmental Representative will not Survey using a Qualified Professional.

1.11.3. Volumes to be measured by a Contractor's Qualified Professional. All data collected by Contractor's Qualified Professional subject to review by Departmental Representative.

1.12. Inspection

1.12.1. Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Site, allow access to such Work whenever it is in progress. Work at locations other than Site includes offsite Facilities.

1.12.2. Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative directions, or law of Site.

1.12.3. If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

1.12.4. Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

2. PART 2 - PRODUCTS

2.1. Asbestos Containing Materials Prohibition

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

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Pre-Mobilization Submittals will be paid in accordance with lump sum price established for all Preconstruction Meetings, final design, 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.

1.1.2. 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.

1.1.3. Site Preparation will be paid in accordance with lump sum price established to prepare the Site for planned construction works. Includes clearing and grubbing, construction of temporary onsite access roads, grading at final stockpile location, and removal and storage of Soil Treatment Facility cover liner(s). Also includes removal of any incidental or generated material. Also includes Preconstruction Precondition Survey, final stockpile location base survey, and Preconstruction As-Built Documents.

1.1.4. Site Restoration will be paid in accordance with the lump sum price established to restore the Site to make suitable for post-Work use. Includes deconstructing and removal from Site all temporary facilities, removal of any incidental or generated material, and replacement of Soil Treatment Facility cover liner(s).

1.1.5. 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.

1.1.6. Closeout Submittals will be paid in accordance with lump sum price established for Final Site Inspection (for Certificate of Completion purposes), Closeout Meetings, and final As-Built Documents as directed by the Departmental Representative.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Preconstruction As-Built Documents: at least 5 Working Days prior to commencing any subsurface disturbance, Submit drawings identifying all infrastructure, including utilities, on the Site. Update drawings as directed by the Departmental Representative.

1.3.2. Breakdown of Lump Sum Prices: at least 5 Working Days prior to submitting the first Progress Payment, Submit a breakdown of the Contract lump sum prices including labour, material and time, in detail as directed by the Departmental Representative and aggregating Contract Amount.

1.3.3. As-Built Documents: within 10 days of completing site Work, provide Drawings showing all Work, including infrastructure, utilities, excavation limits, backfill material limits and compaction, final grades, and any other improvements or reinstatements.

1.4. Mobilization and Demobilization

1.4.1. Move all personnel, equipment, supplies, and incidentals to and from the Site.

1.5. Site Preparation

1.5.1. Protection:

1.5.1.1. Protect existing features with temporary barriers and enclosures as required by applicable local regulations.

1.5.1.2. Protect natural and man-made features required to remain undisturbed. Protect existing trees from damage unless otherwise required or located in an area to be occupied by new construction.

1.5.1.3. Protect buried utilities that are required to remain undisturbed.

1.5.1.4. Provide temporary structures to divert flow of surface water as appropriate.

1.5.2. Security and Safety:

1.5.2.1. Provide safety measures to ensure worker and public safety.

1.5.2.2. Ensure Site is secure during onsite Work, provide, install, and remove fencing, temporary hoarding, and other security measures as appropriate. Provide onsite personnel security 24 hours/ day 7 days/week as appropriate or in accordance with Contract.

1.5.2.3. Site including all construction areas should be secured with locked fencing, temporary hoarding and security personnel as required.

1.6. Onsite Access Roads

1.6.1. Maintain onsite access roads as follows:

1.6.1.1. Obtain permission to use existing onsite access roads or to construct temporary roads.

1.6.1.2. Maintain and clean roads for duration of Work, keep dry and free of mud.

1.6.1.3. Repair damage incurred from use of roads.

1.6.1.4. Provide photographic documentation of roads used by construction vehicles before, during and after Work.

1.6.1.5. Clean onsite access roads as directed by the Departmental Representative.

1.7. Site Restoration

1.7.1. Final site grades must be within 5 cm of pre-existing grades before Work commenced, unless otherwise specified.

1.7.2. Re-establish pre-existing drainage, unless otherwise specified.

1.7.3. Clean permanent access roads of contamination resulting from project activity as required or as directed of Departmental Representative, with no increases to Contract Amount or Extension of Time for completion of the Work.

1.7.4. Upon Final Completion of Work, remove Non-Contaminated Soil and debris, trim slopes, and correct defects as directed by the Departmental Representative.
1.7.5. Protect newly graded areas from traffic and erosion and maintain free of trash or debris until demobilization is completed and accepted by the Departmental Representative.
1.7.6. Reinstate pre-existing utilities and other infrastructure to original location and condition, meeting current standards, codes, and other requirements, unless otherwise indicated or as directed by the Departmental Representative.
1.7.7. Reinstate surface to pre-existing conditions, including surface material (eg vegetation, gravel, pavement), unless otherwise indicated or as directed by the Departmental Representative.

1.8. Existing Services

1.8.1. Size, depth and location of existing utilities and structures as specified are for guidance only. Completeness and accuracy are not guaranteed.
1.8.2. Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative. All utilities entering Site must be confirmed prior to subsurface disturbance (ie do not rely on as-built documents). As appropriate, confirm locations of buried utilities by independent utility locator and using hand test excavations or hydrovac methods.
1.8.3. Remove abandoned service lines within 2m of structures. Cap or otherwise seal lines at cut-off points as directed by Departmental Representative.
1.8.4. Maintain and protect from damage all utilities and structures encountered, unless Work involves temporarily breaking, rerouting, or connecting existing utilities.
1.8.5. Where Work involves temporarily breaking, rerouting, or connecting into existing utilities, obtain permission from utility companies of intended interruption of services, and carry out Work at times determined by the authorities having jurisdiction.
1.8.6. Submit schedule to and obtain approval for any shutdown or closure of active service. Adhere to schedule accepted by Departmental Representative and provide notice to affected parties.
1.8.7. Provide temporary services as required to maintain critical systems.
1.8.8. Where unknown utilities are encountered, immediately verbally notify Departmental Representative and confirm findings in writing.

1.9. Existing As-Built Documents

1.9.1. The Departmental Representative will provide 2 sets of Drawings, 2 sets of Specifications, and 2 copies of the original AutoCAD files for “as-built” purposes.
1.9.2. As Work progresses, maintain accurate records to show all deviations from the Contract. Note changes as they occur on as-built Specifications, Drawings and Shop Drawings.
1.9.3. Drawings and Shop Drawings: legibly mark each item to record actual construction, including:

1.9.3.1. Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
1.9.3.2. Field changes of dimension and detail.
1.9.3.3. Changes made by change orders.
1.9.3.4. Details not on original Drawings.
1.9.3.5. References to related Shop Drawings and modifications.
1.9.4. Contract Specifications: legibly mark each item to record actual workmanship of construction, including:
1.9.4.1. Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
1.9.4.2. Changes made by addenda and change orders.
1.9.5. As-built information:
1.9.5.1. Record changes in red ink.
1.9.5.2. Mark on 1 set of Drawings, Specifications and Shop Drawings at Final Completion of project and, before final inspection, neatly transfer notations to second set.
1.9.5.3. Submit 1 set in editable AutoCAD 14 file format with all as-built information.
1.9.5.4. Submit all sets as directed by the Departmental Representative.
1.9.6. As required, surveying to be completed by a Land Surveyor for as-built documents.

2. PART 2 - PRODUCTS

2.1. Not Used
2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used
3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Preconstruction Meeting Minutes: within 2 Working Days of the Preconstruction Meeting, Submit meeting minutes.

1.3.2. Progress Meeting Minutes: within 2 Working Days of a Progress Meeting, Submit meeting minutes. Submit revised minutes within 2 Working Days of receiving comments by Departmental Representative.

1.3.3. Information for Progress Meetings: at least 2 Working Days prior to scheduled Progress Meetings, Submit all information in accordance with the Contract for Progress Meetings. Include:

1.3.3.1. Agenda for the proposed Progress Meeting.

1.3.3.2. Updated Project Schedule.

1.3.3.3. Copies of transport manifests and disposal receipts for all materials removed from Site.

1.3.3.4. Other information as directed by the Departmental Representative or relevant to agenda for upcoming progress meeting.

1.3.4. Final Site Inspection: within 2 Working Days of the Final Site Inspection, Submit meeting minutes.

1.3.5. Closeout Meetings: within 2 Working Days of the Closeout Meeting, Submit meeting minutes.

1.4. Administrative

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

1.4.2. Prepare agenda for meetings.

1.4.3. Submit written notice with agenda of each meeting 2 Working Days in advance of meeting date as directed by the Departmental Representative.

1.4.4. Provide physical space and make arrangements for meetings, or arrange for teleconference meetings, as directed by Departmental Representative.

1.4.5. Preside at meetings.

1.4.6. Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.

1.4.7. Maintain records of meeting minutes for a minimum of 2 years after Work is completed.

1.4.8. Representative of Contractor, Subcontractor(s) and Supplier(s) attending meetings must be qualified and authorized to act on behalf of party each represents.

1.5. Preconstruction Meeting

1.5.1. Within 5 Working Days after award of Contract, request a meeting of parties in Contract to discuss and resolve administrative procedures and responsibilities.

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

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

1.5.4. Agenda to include:

1.5.4.1. Appointment of official representative of participants in the Work, including Contractor's Superintendent and Departmental Representative.

1.5.4.2. Schedule of Work.

1.5.4.3. Schedule of Submittals.

1.5.4.4. Requirements for temporary facilities.

1.5.4.5. Site security.

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

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

1.5.4.8. Appointment of inspection and testing agencies or firms.

1.5.4.9. List of Subcontractor(s).

1.6. Progress Meetings

1.6.1. During course of Work schedule progress meetings weekly subject to approval by Departmental Representative.

1.6.2. Contractor, Superintendent, major Subcontractor(s) involved in Work, and Departmental Representative are to be in attendance.

1.6.3. Agenda to include:

1.6.3.1. Review and acceptance of minutes of previous meeting.

1.6.3.2. Review health and safety, including incidents, near misses, and corrective measures.

1.6.3.3. Review Environmental Protection, including incidents, near misses, and corrective measures.

1.6.3.4. Review contractual compliance.

1.6.3.5. Review regulatory compliance.

1.6.3.6. Review communications, problems or concerns with community.

1.6.3.7. Review of Work progress since previous meeting.

1.6.3.8. Field observations, problems, conflicts.

1.6.3.9. Updated progress schedule detailing activities planned over next 2 week period. Include review of progress with respect to previously established dates for starting and stopping various stages of Work.

1.6.3.10. Problems which impede construction schedule.

1.6.3.11. Corrective measures and procedures to regain projected schedule.

1.6.3.12. Revision to construction schedule.

1.6.3.13. Progress schedule, during succeeding Work period.

1.6.3.14. Review submittal schedules: expedite as required.

1.6.3.15. Maintenance of quality standards.
1.6.3.16. Quantities of material transported, treated, and disposed.
1.6.3.17. Review proposed changes for effect on construction schedule and on Final Completion date.
1.6.3.18. Other business.
1.6.4. Submit draft Progress Meeting Minutes for review and comment by Departmental Representative. Incorporate comments into final Progress Meeting Minutes.

1.7. Toolbox Meetings

1.7.1. 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.
1.7.2. All on Site workers to attend, including Contractor, Superintendent, major Subcontractor(s), and environmental consultants. Departmental Representative may attend.
1.7.3. Agenda to include:
1.7.3.1. Planned Work activities and environmental considerations for that shift.
1.7.3.2. Coordination activities required between Contractor, Subcontractor(s), Departmental Representative, and other contractor(s) including environmental consultant.
1.7.3.3. Health and Safety items.
1.7.3.4. Environmental Protection items.

1.8. Final Site Inspection

1.8.1. Within 5 Working Days of completion of Site Works but prior to Demobilization, request a meeting on Site to review the Site.
1.8.2. Departmental Representative, Contractor, Superintendent, major Subcontractor(s), field inspectors and supervisors must be in attendance.
1.8.3. Establish time and location of meeting subject to approval by Departmental Representative and notify parties concerned at least 3 Working Days before meeting.
1.8.4. Agenda to include:
1.8.4.1. Inspect removal of all temporary equipment, materials, supplies, and facilities.
1.8.4.2. Inspect final surface grades.
1.8.4.3. Inspect final vegetation.
1.8.4.4. Inspect permanent facilities for performance and damage.
1.8.4.5. Document all damage, deficiencies, missing items, and non-conformance.
1.8.5. 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

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

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

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

1.9.4. Agenda to include:

1.9.4.1. Review Certificate of Completion.

1.9.4.2. Review final payment.

1.9.4.3. Identify lessons learned.

1.9.4.4. Perform Contractor Performance Evaluation Report Form.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Master Plan: within 10 Working Days after Contract award, Submit a Master Plan (baseline schedule).

1.3.2. Schedule of Interruption of Services: at least 5 Working Days prior to any shutdown or closure of active utilities or facilities Submit a schedule identifying type of service and dates of shutdown or closure.

1.3.3. Project Schedule and Updates: with Progress Payment, Submit a Project Schedule updated as appropriate. Progress Payment submission is incomplete without an updated Project Schedule acceptable to Departmental Representative.

1.4. Requirements

1.4.1. Ensure Master Plan and detail Project Schedules are practical and remain within specified Contract duration.

1.4.2. Plan to complete Work in accordance with prescribed milestones and time frame.

1.4.3. Limit activity durations to maximum of approximately 10 Working Days, to allow for progress reporting.

1.4.4. 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.

1.4.5. Include Work sequencing description and schedule:

1.4.5.1. Work Sequencing description must describe methods, means, and sequences to perform each major task.

1.4.5.2. Work Sequencing schedule must show on a Gantt chart, start, end and dependencies of each major task and also indicates Work to be performed in sequence and in parallel.

1.4.5.3. Major tasks includes all items identified on Unit Price Table.

1.5. Master Plan

1.5.1. Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).

1.5.2. Departmental Representative will review and return revised schedules within 5 Working Days.

1.5.3. Revise impractical schedule and resubmit within 5 Working Days.

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

1.6. Project Schedule

1.6.1. Develop detailed Project Schedule derived from Master Plan.

1.6.2. Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:

1.6.2.1. Dates of commencement and completion of Work for each Description of Work identified on the Unit Price Table.

1.6.2.2. Dates of Submittals including Shop Drawings, product data, MSDS sheets and samples.

1.6.2.3. Dates of inspection and testing.

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

1.7. Project Schedule Reporting

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

1.7.2. 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.

1.8. Project Meetings

1.8.1. Discuss Project Schedule at regular site 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 approved dates shown on baseline schedule.

1.8.2. Weather related delays with their remedial measures will be discussed and negotiated

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Shop Drawings: at least 5 Working Days prior to commencing applicable Work, Submit Shop Drawings signed by a Contractor's Qualified Professional.

1.4. General

1.4.1. Submission details to be commensurate for type of Work and Site conditions. Details depend on Work performed and Contractor's methods, means, and sequences.

1.4.2. Contractor’s responsibility for errors and omissions in Submittals is not relieved by the Departmental Representative’s review of Submittals.

1.4.3. Notify Departmental Representative in writing at time of Submittals, identifying deviations from requirements of Contract and stating reasons for deviations.

1.4.4. Contractor’s responsibility for deviations in Submittals from requirements of Contract is not relieved by the Departmental Representative’s review of Submittals unless Departmental Representative gives written acceptance of specific deviations.

1.4.5. Make any changes in Submittals which Departmental Representative requires to be in accordance with the Contract and resubmit as directed by the Departmental Representative.

1.4.6. Notify Departmental Representative in writing, when resubmitting, of any revisions other than those directed by the Departmental Representative.

1.4.7. Do not proceed with Work until relevant Submittals are finalized and have been accepted.

1.4.8. 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 responsibility of Contractor.

1.4.9. 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. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

1.4.10. Verify field measurements and affected adjacent Work are coordinated.

1.4.11. Adjustments made on Submittals by the Departmental Representative will not result in an increase the Contract Amount nor an Extension of Time for completion of the Work. If adjustments result in an increase to the Contract

Amount or an Extension of Time for completion of the Work, notify Departmental Representative and receive approval prior to proceeding with Work.

1.4.12. Keep one final copy of each Submittal onsite.

1.5. Submission Requirements

1.5.1. Coordinate each Submittal with the requirements of the Work and the Contract. Individual Submittals will not be reviewed until:

1.5.1.1. Submittals are complete.

1.5.1.2. All related information is available.

1.5.2. Allow 10 Working Days for Departmental Representative's review of each Submittal, unless otherwise specified.

1.5.3. All Submittals are to be sent to Departmental Representative in duplicate as a hardcopy and in electronic format compatible with Departmental Representative's software.

1.5.4. Submittals must include:

1.5.4.1. Date and revision dates.

1.5.4.2. Project title and number.

1.5.4.3. Name and address of:

1.5.4.3.1. Subcontractor.

1.5.4.3.2. Supplier.

1.5.4.3.3. Manufacturer.

1.5.4.4. Signature of Superintendent, certifying approval of Submittals, verification of field measurements and in accordance with the Contract.

1.5.4.5. Contractor's Qualified Professional to sign and seal Submittals in accordance with the Contract or as required by the nature of the Submittal. Submittals to include at a minimum 1 hard copy of original ink sealed document.

1.5.4.6. Details of appropriate portions of Work as applicable.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Soil and Water Management Plan: within 10 Working Days after Contract award and prior to mobilization to Site, Submit methods, means, and sequences for Soil and Water Management onsite for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Include

1.3.1.1. Personnel and equipment decontamination.

1.3.1.2. Segregation of different Classifications are segregated.

1.4. Sequencing and Scheduling

1.4.1. Commence Work involving contact with Contaminated or potentially Contaminated Soil or Wastewater after all applicable Environmental Protection procedures (including those identified in Contaminated Soil and Non-Contaminated Soil Management Plan and Environmental Protection Plan) and facilities (including those identified in Site Layout) are operational and accepted by Departmental Representative.

1.4.2. Plan work sequencing and traffic patterns to prevent contamination of clean areas due to traffic or debris.

1.5. Drums

1.5.1. Provide, maintain, and operate drum staging pad as required.

1.5.2. Construct drum staging pad with sump capable of collecting leachate and rain runoff. Place impermeable liner that contours over top of berm, and collects leachate and runoff from staging pad which is conducted solely to sump on staging pad. Leachate is Contaminated Water.

1.5.3. Storage of solid or liquid waste: 200 L steel drums meeting Transportation and Dangerous Goods Act, closable lids, complete with labels for marking contents and date filled.

1.6. Personnel Decontamination Facility

1.6.1. Provide an area or areas close to the workers' changing facilities to enable workers and other personnel leaving areas such as exclusion area to remove deleterious and Contaminated Soils from boots, clothing and skin surfaces.

1.6.2. Be responsible for ensuring that all materials, chemicals, protective clothing, wash water and deleterious materials are collected, treated and disposed of in accordance with applicable environmental standards and regulations.

1.6.3. Personnel Decontamination Facility to be available for use by persons other than the Contractor's workers and Subcontractors, including federal employees, other contractor(s), and environmental agencies. Provide use of facilities to other persons.

1.7. Equipment Decontamination Facility

1.7.1. Prior to commencing Work involving equipment contact with potentially Contaminated Soil, construct equipment decontamination facilities to accommodate the largest potentially contaminated equipment onsite.

1.7.2. Collect and contain equipment decontamination wastewater and sediment. Transfer collected wastewater and sediment to treatment facilities accepted by Departmental Representative.

1.8. Equipment Decontamination

1.8.1. At minimum, perform following steps during equipment decontamination: 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.

1.8.2. If required, as directed by the Departmental Representative, use high-pressure, low-volume, hot water or steam supplemented by detergents or solvents as appropriate. 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. Air dry equipment in clean area before removing from Site or travelling on clean areas. Perform assessment as directed by the Departmental Representative to determine effectiveness of decontamination.

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

1.8.2.2. Collect decontamination wastewater and sediment which accumulate in decontamination location. Treat collected wastewater as Contaminated Water. Manage decontamination sediment as Hazardous Waste.

1.8.3. In the opinion of the Departmental Representative, each piece of equipment must be inspected by the Departmental Representative after decontamination and prior to travel on clean areas or demobilization from Site. Perform additional decontamination as required in the opinion of the Departmental Representative.

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

1.9. Progress Decontamination

1.9.1. Decontaminate equipment after working in potentially contaminated Work areas and prior to subsequent Work or travel on clean areas.

1.10. Final Decontamination

1.10.1. Perform final decontamination of construction facilities, equipment, and materials which may have come in contact with potentially Contaminated Soil prior to demobilization from Site.

1.11. Contaminated Soil and Water Management

1.11.1. Remove all Contaminated Soil and Water within Work areas in accordance with the Contract and as directed by the Departmental Representative. Remove Non-Contaminated Soil and Water incidental to the Work or as directed by the Departmental Representative.

1.11.2. Material and Water will be Classified based on insitu results, field observations, field measurements, and/or ex-situ characterization as directed by the Departmental Representative.

1.11.3. Departmental Representative solely responsible for Classification. Contractor cannot re-Classify material.

1.11.4. Contractor solely responsible for Transportation, Treatment, and Disposal based on Classification by Departmental Representative.

1.11.5. Excavate, Transport, Treat, and Dispose Material separately into the classifications in accordance with the Contract or as directed by the Departmental Representative. Take necessary precautions to avoid mixing of different classifications.

1.11.6. Material characterization (eg sampling and testing) additional to information provided in Contract required for Transportation, Treatment Facility or Disposal Facility responsibility of Contractor.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Submit to Departmental Representative Submittals listed for review.
1.3.2. Work affected by Submittal must not proceed until review is complete.
1.3.3. Submit the following:
1.3.3.1. Health and Safety Plan.
1.3.3.2. Copies of reports or directions issued by federal and provincial health and safety inspectors.
1.3.3.3. Copies of incident and accident reports.
1.3.3.4. Complete set of Material Safety Data Sheets (MSDS), and all other documentation required by Workplace Hazardous Materials Information System (WHMIS) requirements.
1.3.3.5. Emergency Procedures.
1.3.3.6. Notice of Project.
1.3.4. 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.
1.3.5. If changes are required, revise the plan as appropriate and resubmit to Departmental Representative within 5 Working Days.
1.3.6. 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:
1.3.6.1. Be construed to imply approval by the Departmental Representative.
1.3.6.2. Be interpreted as a warranty of being complete, accurate and legislatively compliant.
1.3.6.3. Relieve the Contractor of his legal obligations for the provision of health and safety on the project.

1.4. References

1.4.1. Government of Canada:
1.4.1.1. Canada Labour Code - Part II.
1.4.1.2. Canada Occupational Health and Safety Regulations.
1.4.2. National Building Code of Canada (NBC):
1.4.2.1. Part 8, Safety Measures at Construction and Demolition Sites.
1.4.3. Canadian Standards Association (CSA) as amended:
1.4.3.1. CSA Z797-2009 Code of Practice for Access Scaffold.
1.4.3.2. CSA S269.1-1975 (R2003) Falsework for Construction Purposes.

1.4.3.3. CSA S350-M1980 (R2003) Code of Practice for Safety in Demolition of Structures.
1.4.4. National Fire Code of Canada 2010 (as amended):
1.4.4.1. Part 5 – Hazardous Processes and Operations and Division B as applicable and required.
1.4.4.2. FCC No. 302, Standard for Welding and Cutting.
1.4.5. American National Standards Institute (ANSI):
1.4.5.1. ANSI A10.3, Operations – Safety Requirements for Powder-Actuated Fastening Systems.
1.4.6. Province of British Columbia (as appropriate):
1.4.6.1. Workers Compensation Act Part 3-Occupational Health and Safety.
1.4.6.2. Occupational Health and Safety Regulation.
1.4.7. Yukon Territory (as appropriate):
1.4.7.1. Occupational Health and Safety Act.
1.4.7.2. Workers' Compensation Act.
1.4.7.3. Occupational Health and Safety Regulation

1.5. Regulatory Requirements

1.5.1. 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.
1.5.2. 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 direct on the course of action to be followed.

1.6. Worker's Coverage

1.6.1. Comply fully with the relevant Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the Final Completion of the Work.
1.6.2. Maintain Workers coverage as required by relevant acts and regulations during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

1.7. Compliance with Regulations

1.7.1. 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.
1.7.2. 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

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

1.8.1.1. 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.
1.8.1.2. 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

1.9.1. The Health and Safety Coordinator must:
1.9.1.1. 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.
1.9.1.2. Be responsible for implementing, daily enforcing, and monitoring the site-specific Health and Safety Plan.
1.9.1.3. Be on Site during execution of Work.

1.10. General Conditions

1.10.1. Provide safety barricades and lights around Site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.
1.10.2. Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the Site:
1.10.2.1. Provide appropriate means by use of barricades, fences, warning signs, traffic control personnel, and temporary lighting as required.

1.11. Project/Site Conditions

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

1.12. Work Permits

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

1.13. Filing of Notice

1.13.1. The Prime Contractor must complete and submit a Notice of Project as required by Provincial or Territorial authorities.
1.13.2. Provide copies of all notices to the Departmental Representative.

1.14. Health and Safety Plan

1.14.1. 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.
1.14.2. Prepare and comply with a site-specific project Health and Safety Plan based on hazard assessment, including, but not limited to, the following:
1.14.2.1. Primary requirements:
1.14.2.1.1. Contractor's safety policy.

1.14.2.1.2. Identification of applicable compliance obligations.
1.14.2.1.3. Definition of responsibilities for project safety/organization chart for project.
1.14.2.1.4. General safety rules for project.
1.14.2.1.5. Job-specific safe work procedures.
1.14.2.1.6. Inspection policy and procedures.
1.14.2.1.7. Incident reporting and investigation policy and procedures.
1.14.2.1.8. Occupational Health and Safety Committee/Representative procedures.
1.14.2.1.9. Occupational Health and Safety meetings.
1.14.2.1.10. Occupational Health and Safety communications and record keeping procedures.
1.14.2.2. 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.
1.14.2.3. List hazardous materials to be brought onsite as required by Work.
1.14.2.4. Indicate engineering and administrative control measures to be implemented at the Site for managing identified risks and hazards.
1.14.2.5. Identify personal protective equipment (PPE) to be used by workers.
1.14.2.6. Identify personnel and alternates responsible for site safety and health.
1.14.2.7. Identify personnel training requirements and training plan, including site orientation for new workers.
1.14.3. 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.
1.14.4. Revise and update Health and Safety Plan as required, and re-submit to the Departmental Representative.
1.14.5. Departmental Representative's review: the review of Health and Safety Plan by Public Services 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

1.15.1. List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contacts (ie names/telephone numbers) of:
1.15.1.1. Designated personnel from own company.
1.15.1.2. Regulatory agencies applicable to Work and as per legislated regulations.
1.15.1.3. Local emergency resources.
1.15.1.4. Departmental Representative and site staff.
1.15.2. Include the following provisions in the emergency procedures:
1.15.2.1. Notify workers and the first-aid attendant, of the nature and location of the emergency.
1.15.2.2. Evacuate all workers safely.
1.15.2.3. Check and confirm the safe evacuation of all workers.

1.15.2.4. Notify the fire department or other emergency responders.
1.15.2.5. Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.
1.15.2.6. Notify Departmental Representative and Site staff.
1.15.3. Provide written rescue/evacuation procedures as required for, but not limited to:
1.15.3.1. Work at high angles.
1.15.3.2. Work in confined spaces or where there is a risk of entrapment.
1.15.3.3. Work with hazardous substances.
1.15.3.4. Underground work.
1.15.3.5. Work on, over, under and adjacent to water.
1.15.3.6. Workplaces where there are persons who require physical assistance to be moved.
1.15.4. Design and mark emergency exit routes to provide quick and unimpeded exit.
1.15.5. Revise and update emergency procedures as required, and re-submit to the Departmental Representative.

1.16. Hazardous Products

1.16.1. 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.
1.16.2. Where use of hazardous and toxic products cannot be avoided:
1.16.2.1. Notify Departmental Representative beforehand of the product(s) intended for use. Submit applicable MSDS and WHMIS documents as required.
1.16.2.2. As required, in conjunction with Departmental Representative, schedule to carry out Work during "off hours" when tenants have left the building.
1.16.2.3. Provide adequate means of ventilation as required.

1.17. Unforeseen Hazards

1.17.1. 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

1.18.1. Post legible versions of the following documents onsite:
1.18.1.1. Health and Safety Plan.
1.18.1.2. Sequence of Work.
1.18.1.3. Emergency procedures.
1.18.1.4. Site drawing showing project layout, locations of the first-aid station, evacuation route and marshalling station, and the emergency transportation provisions.
1.18.1.5. Notice of Project.
1.18.1.6. Floor plans or Site plans.

1.18.1.7. Notice as to where a copy of the Workers' Compensation Act and Regulations are available on the Site for review by employees and workers.
1.18.1.8. Workplace Hazardous Materials Information System (WHMIS) documents.
1.18.1.9. Material Safety Data Sheets (MSDS).
1.18.1.10. List of names of Joint Health and Safety Committee members, or Health and Safety Representative, as applicable.
1.18.2. 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.
1.18.3. 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
1.19.1. Attend health and safety preconstruction meeting and all subsequent meetings called by the Departmental Representative.
1.19.2. Ensure all site personnel attend a health and safety toolbox meeting at the beginning of each shift, which must include:
1.19.2.1. Sign-in of all attendees.
1.19.2.2. Planned Work activities and environmental considerations for that shift.
1.19.2.3. Hazards associated with these Work activities, including environmental hazards (eg potential for hypothermia, heat exhaustion, heat stroke).
1.19.2.4. Appropriate job-specific safe work procedures.
1.19.2.5. Required personal protective equipment (PPE).
1.19.2.6. Appropriate emergency procedures.
1.19.2.7. Review recent accidents on Site, including near misses.
1.19.3. 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
1.20.1. Immediately address health and safety non-compliance issues identified by the Departmental Representative.
1.20.2. Provide Departmental Representative with written report of action taken to correct non-compliance with health and safety issues identified.
1.20.3. 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.
1.20.4. Correct non-compliance.

1.21. Hazardous Occurrence Investigation and Reporting
1.21.1. Hazard includes:
1.21.1.1. 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.

1.21.2. Hazardous Occurrence includes:

1.21.2.1. 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.

1.21.3. Hazardous Occurrence Investigation and Reporting Procedures:

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

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

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

1.21.3.4. Requires the appointment of a qualified investigator.

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

1.21.4. Fatal or Serious Accidents Procedures:

1.21.4.1. Call emergency number to advise the police organization having jurisdiction to secure the scene and investigate the matter.

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

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

1.21.4.4. Unless authorized to do so, do not allow anyone to 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

1.22.1. Contractor is solely responsible for utility clearance.

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

1.23. Personal Protective Equipment Program

1.23.1. Submit Personal Protective Equipment (PPE) program to the Departmental Representative addressing as appropriate:

1.23.1.1. Donning and doffing procedures.

1.23.1.2. PPE selection based upon Site hazards.
1.23.1.3. PPE use and limitations of equipment.
1.23.1.4. Work mission duration, PPE maintenance and storage.
1.23.1.5. PPE decontamination and disposal.
1.23.1.6. PPE inspection procedures prior to, during, and after use.
1.23.1.7. Evaluation of effectiveness of PPE program, and limitations during temperature extremes, and other appropriate medical considerations.
1.23.1.8. Medical surveillance requirements for personnel assigned to work at Site.
1.23.1.9. 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.
1.23.1.10. 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.
1.23.1.11. Decontamination procedures for both personnel and equipment.
1.23.1.12. 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.
1.23.1.13. Written respiratory protection program for project activities.
1.23.1.14. Procedures dealing with heat and/or cold stress.
1.23.1.15. Spill containment program if waste material is generated, excavated, stored, or managed onsite.

1.24. Offsite Contingency and Emergency Response Plan

1.24.1. Prior to commencing Work involving handling of hazardous materials, develop offsite Contingency and Emergency Response Plan.
1.24.2. 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

1.25.1. Training: ensure personnel entering Site are trained in accordance with specified personnel training requirements. Training session must be completed by Health and Safety Officer.
1.25.2. Levels of Protection: establish levels of protection for each Work area based on planned activity and location of activity.
1.25.3. Personal Protective Equipment:

1.25.3.1. Ensure all site personnel are furnished with appropriate PPE.
1.25.3.2. Unless identified otherwise in site-specific health and safety plan, minimum PPE to include: industrial protective headwear, high-visibility safety apparel, and protective footwear.
1.25.3.3. Ensure that safety equipment and protective clothing is kept clean and maintained.
1.25.4. Develop protective equipment usage procedures and ensure that procedures are strictly followed by site personnel; include following procedures as minimum:
1.25.4.1. Ensure industrial protective headwear is of appropriate CSA Standard and meets other appropriate standards.
1.25.4.2. Ensure high-visibility safety apparel is of appropriate CSA Standard and meets other appropriate standards.
1.25.4.3. Ensure protective footwear is of appropriate CSA Standard and meets other appropriate standards.
1.25.4.4. Dispose of or decontaminate PPE worn onsite at end of each workday.
1.25.4.5. Decontaminate reusable PPE before reissuing.
1.25.4.6. Ensure site personnel have passed respirator fit test prior to entering potentially volatile contaminated work areas, as appropriate.
1.25.4.7. Ensure facial hair does not interfere with proper respirator fit.
1.25.5. Respiratory Protection:
1.25.5.1. 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.
1.25.5.2. Develop, implement, and maintain respirator program.
1.25.5.3. Monitor, evaluate, and provide respiratory protection for site personnel.
1.25.5.4. Ensure levels of protection as listed have been chosen consistent with site-specific potential airborne hazards associated with major contaminants identified onsite.
1.25.5.5. In absence of additional air monitoring information or substance identification, retain an industrial hygiene specialist to determine minimum levels of respiratory protection required.
1.25.5.6. Immediately notify Departmental Representative when level of respiratory protection required increases.
1.25.5.7. 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.
1.25.6. Heat Stress/Cold Stress: implement heat stress or cold stress monitoring program as applicable and include in site-specific Health and Safety Plan.
1.25.7. Personnel Hygiene and Personnel Decontamination Procedures. Provide minimum as follows:
1.25.7.1. Suitable containers for storage and disposal of used disposable PPE.
1.25.7.2. Potable water and suitable sanitation facility.
1.25.8. Emergency and First-Aid Equipment:
1.25.8.1. 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.

1.25.9. Site Communications:

1.25.9.1. Identify, supply and implement appropriate dedicated communication devices for Site and post emergency numbers near dedicated devices.

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

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

1.25.9.4. Furnish selected personnel with 2-way radios.

1.25.9.5. 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.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Non-Contaminated Soil Transport and Disposal will be paid in accordance with unit rate price established for weight of material disposed. Measurement as recorded on weigh scale certified by Measurement Canada and results provided to Departmental Representative on Certificates of Disposal. Includes Treatment or any other processing of material required by Disposal Facility but not required by the Contract.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Environmental Protection Plan: within 10 Working Days after Contract award and prior to mobilization to Site, Submit a plan detailing protection of the environment. Include:

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

1.3.1.2. Identify requirements that plan complies with. Includes: permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract.

1.3.1.3. Communications identifying emergency contact list and conditions for implementing emergency contact. Emergency contact to include: Contractor emergency response team including Superintendent; Departmental Representative and alternate, and other contractor(s) and individuals as directed by the Departmental Representative; and federal, provincial, and municipal emergency contacts.

1.3.1.4. Work Area showing proposed activity in each portion of areas, such as exclusion zone(s), decontamination zone(s) and clean zone(s), and identifying areas of limited use or non-use. Ensure plan includes measures for marking limits of use areas and methods for protection of features to be preserved within authorized Work areas.

1.3.1.5. Drawings showing locations of proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials onsite.

1.3.1.6. Historical, Archaeological, Cultural Resources, Biological Resources and Valued Habitat Protection that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and valued habitat. Include procedures if previously unknown historical, archaeological, cultural, and biological resources are discovered during Work. Includes Species At Risk.

1.3.1.7. Non-Contaminated Soil and Water Management including onsite handling to manage Solid Waste, Sewage, and Wastewater.

1.3.1.8. Non-Contaminated Soil Transport and Disposal including transportation frequency and identifying offsite disposal facilities to manage Solid Waste.

1.3.1.9. Traffic Control including signage and traffic control personnel for Site ingress and egress. Vehicles and vehicle traffic must comply with all federal, provincial, and municipal laws and regulations.

1.3.1.10. Noise Control identifying methods, means, and sequences for preventing, monitoring, and controlling noise for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Include thresholds and procedures if: noise does not comply with appropriate levels, or if there are public complaints.

1.3.1.11. Vibration Control identifying methods, means, and sequences for preventing, monitoring, and controlling vibration for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Include thresholds and procedures if: vibration does not comply with appropriate levels, there are public complaints, or if onsite or offsite damage occurs.

1.3.1.12. Vapours, Dust, and Particulate Control identifying methods, means, and sequences for preventing, monitoring, and controlling vapours, dust and other airborne particulates for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Include thresholds and procedures if: vapours, dust, and particulates do not comply with appropriate levels, there are public complaints, or if onsite or offsite damage occurs.

1.3.1.13. Spill Control identifying methods, means, and sequences for preventing, monitoring, and controlling spills for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Identify reporting requirements for spills. Identify locations and contents of spill kits.

1.3.1.14. Erosion and Sediment Control identifying methods, means, and sequences for preventing, monitoring, and controlling erosion and sedimentation for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract.

1.3.1.15. Work in or Adjacent to Waterways Control, as required, identifying methods, means, and sequences for preventing, monitoring, and controlling work in or adjacent to waterways for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract.

1.3.2. Submit amended Environmental Protection Plan if there changes to the assumed site conditions, changes to the Work procedures, or in the event that any methods and procedures are inadequate as directed by the Departmental Representative.

1.3.3. Submit Spill and Response Report for all Spills. Include: description of spill (location, time, quantity and quality), notifications (including copies of any reports forwarded to regulatory agencies), and describe any remediation activities (time, quantity, quality, and fate of spill impacted material). Include environmental analytical results for spill or other environmental testing.

1.3.4. After hours work: at least 5 Working Days prior to commencing after hours work Submit a schedule showing requested dates, times, and reasons for after hours work. Approval will only be granted for reasons valid, if request can be reasonably accommodated by other contractors and Site users, and third parties are not adversely affected, in the sole opinion of the Departmental Representative.

1.4. Cleaning

1.4.1. Maintain cleanliness of Work and surrounding Site to comply with federal, provincial, and municipal fire and safety laws, ordinances, codes, and regulations applicable to the performance of the Work.

1.4.2. Coordinate cleaning operations with disposal operations to prevent accumulation of dust, dirt, debris, rubbish, and waste materials.

1.4.3. Ensure cleanup of the Work areas each day after Final Completion of Work.

1.5. Site Clearing and Plant Protection

1.5.1. Minimize stripping of Topsoil and vegetation. Use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction.

1.5.2. Restrict tree and plant removal to areas in accordance with the Contract or as directed by the Departmental Representative. To greatest extent practicable, prune or top the vegetation instead of grubbing/uprooting. Protect all other trees and plants onsite and offsite.

1.5.3. Salvage all trees and plants to be removed in accordance with the Contract or as directed by the Departmental Representative.

1.5.4. Wrap salvaged trees in burlap, trees and shrubs adjacent to construction Work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m minimum.

1.5.5. Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.

1.5.6. Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high water mark. If material is removed from the waterbody, set it aside and return it to the original location once construction activities are completed.

1.5.7. Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.
1.5.8. Restore bed and banks of the waterbody to their original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct fish passage should be restored.
1.5.9. If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, then ensure that appropriately-sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.

1.6. Species At Risk

1.6.1. Protect all Species At Risk as identified in federal, provincial, and municipal laws and regulations.
1.6.2. Modify Work procedures, including stopping Work, as instructed by a Qualified Professional or Departmental Representative to protect Species At Risk.

1.7. Non-Contaminated Soil and Water Management

1.7.1. Solid waste
1.7.1.1. Remove all Non-Contaminated Soil within Work areas in accordance with the Contract and as directed by the Departmental Representative.
1.7.1.2. Remove surplus materials and temporary facilities from Site.
1.7.1.3. Do not burn or bury any waste onsite.
1.7.1.4. Do not discharge wastes into streams or waterways.
1.7.1.5. Do not dispose of volatile or hazardous materials such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
1.7.1.6. Dispose of all Non-Contaminated Soil at a Landfill Facility.
1.7.2. Sewage
1.7.2.1. Store Sewage from toilet facilities with wastewater from handbasins, and/or showers, for ultimate disposal.
1.7.2.2. Provide, operate, and maintain Sewage storage tanks to store Sewage Wastewater.
1.7.2.3. Transport and dispose of Sewage at a Disposal Facility, or discharge to municipal sanitary sewer system in compliance with Municipal requirements, as accepted by Departmental Representative.
1.7.2.4. Discharges: comply with applicable discharge limitations and requirements; do not discharge Sewage to Site sewer systems that do not conform to or are in violation of such limitations or requirements; and obtain approval prior to discharge of Sewage.
1.7.3. Wastewater
1.7.3.1. Dewater various parts of Work including, excavations, structures, foundations, and Work areas, unless otherwise specified or directed by Departmental Representative.
1.7.3.2. Employ construction methods, plant procedures, and precautions that ensure Work, including excavations, are stable, free from disturbance, and dry.

1.7.3.3. Direct surface waters that have not contacted potentially Contaminated Soils to surface drainage systems.
1.7.3.4. Control surface drainage including ensuring that gutters are kept open, wastewater is not allowed across or over pavements or sidewalks except through accepted pipes or properly constructed troughs, and runoff from unstabilized areas is intercepted and diverted to suitable outlet.
1.7.3.5. Dispose of Wastewater in manner not injurious to public health or safety, to the environment, to onsite or offsite property, or to any part of Work completed or under construction.
1.7.3.6. Control disposal or runoff of Wastewater containing suspended materials or other harmful substances in accordance with local authority requirements.
1.7.3.7. Ensure pumped Wastewater into waterways, sewer or drainage systems is free of suspended materials. Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to storm sewers, watercourses or drainage areas.
1.7.3.8. Obtain permits to discharge Wastewater to environment or municipal system (sewer, ditches).
1.7.3.9. Do not discharge water which may have come in contact with potentially Contaminated Soil or otherwise be Contaminated directly offsite to the environment or to municipal system.

1.8. Non-Contaminated Soil Transport and Disposal

1.8.1. Assume ownership of, and be responsible for, Non-Contaminated Soil once it is loaded on a vehicle, barge, or other vessel for Transport. Assume ownership of, and be responsible for, Non-Contaminated Soil Disposed.
1.8.2. Transport material as soon as practical; do not unreasonably stockpile onsite.
1.8.3. Cover material while being transported to prevent release of airborne dust, vapours, or odours, and to prevent saturation and leachate generation from material.
1.8.4. Excess water in material must not be allowed to flow out of vehicle or vessel during transport.
1.8.5. Stabilize material as necessary.
1.8.6. All vehicles, vessels and operators must be appropriately licensed and equipped to transport Non-Contaminated Soil.
1.8.7. Barges must be inspected by an independent Marine Surveyor.
1.8.8. Non-Contaminated Soil Disposal: dispose all Non-Contaminated Soil, at Landfill Facility provided by Contractor and accepted by the Departmental Representative.
1.8.9. Landfill Facility must:
1.8.9.1. Be an existing offsite facility located in British Columbia or the Yukon.
1.8.9.2. 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.
1.8.9.3. Hold a valid and subsisting permit, certificate, approval, license, or other required form of authorization issued by the BC government or the Yukon

government, as appropriate, for the Disposal of relevant Non-Contaminated Soil.

1.8.9.4. Comply with the BC Environmental Management Act and BC Landfill Criteria for Municipal Solid Waste, or Yukon Environment Act and Yukon Solid Waste Regulations, as appropriate.

1.8.9.5. Comply with applicable municipal zoning, bylaws, and other applicable requirements.

1.8.10. Dispose material as soon as practical and within 100 Working Days of leaving Site or as required by Contract unless otherwise accepted by Departmental Representative.

1.8.11. Material sent to a Landfill Facility must be permanently stored at that facility.

1.8.12. If proposed Landfill Facility is not acceptable to Departmental Representative, provide an alternate Landfill Facility that is acceptable.

1.9. Traffic Control

1.9.1. Ensure pedestrians have safe and unencumbered access in public areas. Provide traffic control personnel as required or as directed by Departmental Representative.

1.9.2. 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.

1.9.3. Comply with current version of BC Ministry of Transportation and Infrastructure Traffic Control Manual for Work on Roadways.

1.9.4. Provide and maintain road access and egress to property fronting Site and in other areas in accordance with the Contract, except where other means of road access exist that are accepted.

1.9.5. Prevent tracking or spilling of debris or material onto public roads.

1.9.6. Immediately sweep or scrape up debris or material on public roads.

1.9.7. Clean public roads within a minimum 200 m radius of the Site entrance at least once per shift, or as directed by Departmental Representative.

1.10. Noise Control

1.10.1. Maintain acceptable noise levels not injurious or objectionable to public health or safety or to the environment.

1.10.2. Comply with applicable municipal noise bylaws and other applicable requirements unless otherwise specified or directed by Departmental Representative.

1.10.3. Obtain consent from Departmental Representative for all after hours Work, including weekends and holidays.

1.10.3.1. Proceed only as directed by the Departmental Representative.

1.11. Vibration Control

1.11.1. Maintain acceptable vibration levels not injurious to public health or safety, to the environment, to onsite or offsite property, or to any part of Work completed or under construction.

1.12. Vapours, Dust and Particulate Control

1.12.1. Execute Work by methods to minimize releasing vapours or raising dust from construction operations.

1.12.2. Implement and maintain vapours, dust and particulate control measures immediately as directed by the Departmental Representative during Work and in accordance with regulations and in accordance with the Contract.

1.12.3. Prevent vapours and fugitive dust from the Site from interfering with onsite and offsite uses.

1.12.4. Prevent vapours and dust from spreading to neighbouring properties.

1.12.5. Cover or wet down dry materials and rubbish to prevent vapours and blowing dust and debris. Provide dust control for temporary roads, excavations, and stockpiles.

1.12.6. Provide positive means to prevent vapours and airborne dust from dispersing into atmosphere. Use fresh (non-saline) water for dust and particulate control.

1.12.7. As minimum, use appropriate covers on vehicles, including trucks, barges, and trains, hauling vapour-generating or fine or dusty material. Use watertight vehicles to haul wet materials.

1.12.8. Inadequate procedures:

1.12.8.1. Stop relevant Work if dust and particulate control is not sufficient for controlling dusts and particulates into atmosphere, or when monitoring indicates that dust or particulate levels equal or exceed regulated or levels in accordance with the Contract.

1.12.8.2. Submit procedures proposed to resolve problem.

1.12.8.3. Make necessary changes to operations prior to resuming excavation, handling, processing, or other Work that can cause release of dusts or particulates.

1.12.8.4. Departmental Representative can stop relevant Work at any time when Contractor's Work procedures are inadequate to prevent release of dusts or particulates, or when monitoring indicates that dust or particulate levels equal or exceed regulated or levels in accordance with the Contract. Do not proceed with stopped Work until corrections accepted by Departmental Representative.

1.13. Spill Control

1.13.1. Pollution includes spills or other releases from Contractor’s activities that could potentially contaminate soil, sediment, water, and atmosphere from discharge of hazardous, deleterious or regulated substances, including from equipment and material handling.

1.13.2. Prevent spills or releases.

1.13.2.1. Maintain temporary erosion and pollution control features.

1.13.2.2. Do not store fuel onsite other than tanks forming part of the equipment.

1.13.2.3. Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, poured concrete or other chemicals do not enter the watercourse.

1.13.2.4. Control emissions from equipment and plant to meet applicable authorities' emission requirements.
1.13.2.5. Contractor to regularly inspect all machinery on the Site to ensure it is in good repair and free of leaks.
1.13.3. Inadequate procedures:
1.13.3.1. Stop relevant Work if procedures are inadequate to prevent spills or other releases, or when monitoring indicates that release equals or exceeds regulated or levels in accordance with the Contract.
1.13.3.2. Submit procedures proposed to resolve problem.
1.13.3.3. Make necessary changes to operations prior to resuming excavation, handling, processing, or other Work that can cause spills or other releases.
1.13.3.4. Departmental Representative can stop relevant Work at any time when Contractor's Work procedures are inadequate to prevent spills or other releases, or when monitoring indicates that release equals or exceeds regulated quantities or levels in accordance with the Contract. Do not proceed with stopped Work until corrections accepted by Departmental Representative.
1.13.4. Be prepared to intercept, cleanup, and dispose of spills or other releases that can occur whether on land or water.
1.13.5. Spill kits and containment are to be maintained onsite and ready for deployment in the event of spills or other releases.
1.13.5.1. Spill kits are to include sufficient quantities of absorbent material, containers, booms, shovels and other tools, and personal protective equipment.
1.13.5.2. Spill response materials must be compatible with type of equipment being used or type of material being handled.
1.13.5.3. Spill kits are to be in close proximity to machinery.
1.13.5.4. During the Work there are to be trained and qualified personnel available that are ready to deploy spill kits when necessary.
1.13.6. Take immediate action using available resources to contain and mitigate effects on environment and persons from spill or release.
1.13.7. Promptly report spills and releases potentially causing damage to environment to:
1.13.7.1. Authority having jurisdiction or interest in spill or other release including conservation authority, water supply authorities, drainage authority, road authority, and fire department.
1.13.7.2. Contractor emergency response team including Superintendent
1.13.7.3. Departmental Representative and other contractor(s) and individuals as directed by the Departmental Representative.
1.13.8. Departmental Representative can collect samples for chemical analyses prior to, during, and upon Final Completion of Work to monitor potential pollution caused by Contractor’s activities. Assist Departmental Representative in collection of samples.
1.13.9. Remediation of soil, sediment or water contaminated by Contractor’s activities.
1.13.9.1. Remediate all soil, sediment or water contaminated by Contractor’s activities associated with the Work onsite and offsite.

1.13.9.2. Remediation includes excavation, pumping, testing, transport, treatment and disposal as appropriate for the type of contamination incurred, and at a minimum in accordance with the Contract.
1.13.9.3. Submit procedures for remediating soil, sediment or water contaminated by Contractor's activities.
1.13.9.4. Remediate as directed by the Departmental Representative.
1.13.9.5. Contractor is responsible for any additional investigation, testing, and assessments required as acceptable to the Departmental Representative.

1.14. Erosion and Sediment Control

1.14.1. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas, from stockpiles, staging areas, and other Work areas. Prevent erosion and sedimentation.
1.14.2. Minimize amount of bare soil or sediment exposed at one time. Stabilize disturbed soil or sediment as quickly as practical. Strip vegetation, regrade, or otherwise develop to minimize erosion. Remove accumulated sediment resulting from construction activity from adjoining surfaces, drainage systems, and water courses, and repair damage caused by soil erosion and sedimentation as directed by the Departmental Representative.
1.14.3. Provide and maintain temporary erosion and sediment control measures.
1.14.3.1. Temporary erosion and sediment control measures are required to prevent erosion and migration of silt, mud, sediment, and other debris offsite or to other areas of Site where damage might result, or that might otherwise be required by laws and regulations.
1.14.3.2. Temporary erosion and sediment control measures include: silt fences, hay or straw bales, ditches, geotextiles, drains, berms, terracing, riprap, temporary drainage piping, vegetative cover, dikes, mulching, sediment traps, detention and retention basins, grading, planting, retaining walls, culverts, pipes, guardrails, temporary roads, and other measures appropriate to specific condition. Also includes isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, underwater cable installation).
1.14.3.3. Place silt fences and/or hay or straw bales in ditches to prevent sediment from escaping from ditch terminations.
1.14.3.4. Unless directed by the Departmental Representative, remove temporary erosion and sediment control devices upon Final Completion of Work. Temporary erosion and sediment control devices once removed become property of Contractor.
1.14.4. Whenever sedimentation is caused by stripping vegetation, regrading, or other development, remove it from adjoining surfaces, drainage systems, and watercourses, and repair damage as quickly as possible.
1.14.5. Construct fill areas to prevent erosion. Contain and stabilize waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby waterbodies to prevent re-entry.

1.14.6. Do not disturb existing embankments or embankment protection in accordance with the Contract.

1.14.7. Inspect regularly, maintain, and repair erosion and sediment control measures and structures during the course of construction. Check erosion and sediment control measures weekly after each rainfall; during prolonged rainfall check daily. Erosion and sediment control measures must remain in place and in operation as necessary or until otherwise directed by the Departmental Representative.

1.14.8. If soil, sediment and debris from Site accumulate in low areas, storm sewers, roadways, gutters, ditches, or other areas where it is undesirable, remove accumulation and restore area to original condition, as directed by the Departmental Representative.

1.15. Work In or Adjacent to Waterways

1.15.1. Approvals and Practices:

1.15.1.1. Obtain Discharge Approval prior to commencing work which may impact waterways.

1.15.1.2. As required, comply with Fisheries Act Authorization and other relevant authorizations and in accordance with the Contract.

1.15.1.3. Follow practices described in Fisheries and Oceans Canada (September 1993) Land Development Guidelines for the Protection of Aquatic Habitat.

1.15.1.4. Follow practices described in BC Ministry of Environment (March 2004) Standards and Best Practices for Instream Works.

1.15.2. Timing

1.15.2.1. Time work in water to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed.

1.15.2.2. Minimize duration of in-water work.

1.15.2.3. Conduct instream work during periods of low flow, or at low tide, to further reduce the risk to fish and their habitat or to allow work in water to be isolated from flows.

1.15.2.4. Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.

1.15.3. Site Selection

1.15.3.1. Design and plan activities and works in wetland and waterbody such that loss or disturbance to aquatic habitat is minimized and sensitive spawning habitats are avoided.

1.15.3.2. Design and construct approaches to wetland and waterbody such that they are perpendicular to the watercourse to minimize loss or disturbance to riparian vegetation.

1.15.3.3. Avoid building structures on meander bends, braided streams, alluvial fans, active floodplains or any other area that is inherently unstable and may result in erosion and scouring of the stream bed or the built structures.

1.15.3.4. Undertake all instream activities in isolation of open or flowing water to maintain the natural flow of water downstream and avoid introducing sediment into the watercourse.

1.15.4. Aquatic Life Protection

1.15.4.1. Ensure that all in-water activities, or associated in-water structures, do not interfere with aquatic life passage, constrict the channel width, or reduce flows.

1.15.4.2. Retain a Qualified Professional to ensure applicable permits for relocating fish are obtained and to capture any fish trapped within an isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters. Fish may need to be relocated again, should flooding occur on the site.

1.15.4.3. Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.

1.15.4.4. Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.

1.15.5. Operation of Machinery

1.15.5.1. Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.

1.15.5.2. Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the waterbody.

1.15.5.3. Limit machinery fording of the watercourse to a one-time event (ie over and back), and only if no alternative crossing method is available. If repeated crossings of the watercourse are required, construct a temporary crossing structure.

1.15.5.4. Use temporary crossing structures or other practices to cross streams or waterbodies with steep and highly erodible (eg dominated by organic materials and silts) banks and beds. For fording equipment without a temporary crossing structure, use stream bank and bed protection methods (eg swamp mats, pads) if minor rutting is likely to occur during fording.

1.15.5.5. Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Permits: at least 10 Working Days prior to mobilization to Site, Submit copies of all permits, certificates, approvals, or any other form of authorizations and all reporting required.

1.4. Laws, Regulations, Permits

1.4.1. Generally, provincial, territorial and municipal laws, regulations, bylaws and other requirements do not apply to federal lands, works or undertakings. Soil, sediment, water or other materials that are removed from federal lands may become subject to provincial, territorial or municipal laws and regulations.

1.4.2. Provincial, territorial 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, territorial or municipal laws and regulations apply on Federal lands, activities or undertakings.

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

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

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

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

1.5. Codes, Bylaws, Standards

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

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

1.5.3. 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.

1.5.4. Certificates, licenses and other permits enforced at the location concerned required by regulatory federal, provincial, territorial or municipal authorities to complete the Work: see 01 11 00.

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

1.6. Smoking Environment

1.6.1. Smoking on the Site is not permitted.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. 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, environmental protection, stockpile areas, access, onsite roadways, temporary hoarding, security fencing, federal signage, office facilities, sanitary facilities, stormwater management infrastructure, lighting, and utilities.

1.1.2. Site Facilities - Operation will be paid in accordance with lump sum price established to operate and maintain all infrastructure between mobilization and demobilization. Includes temporary structures and facilities, environmental protection, stockpile areas, access, onsite roadways, temporary hoarding, security fencing, federal signage, office facilities, sanitary facilities, stormwater management infrastructure, lighting, and utilities. Also includes ongoing services including administration, overhead, project management, security, surveying, noise monitoring, vibration monitoring, utilities, project meetings, inspections, progress Submittals, traffic control, health and safety, Environmental Protection cleaning, and operation during inclement weather. Also, includes living out allowances, travel and room and board.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. 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. Include:

1.3.1.1. Equipment and personnel decontamination areas.

1.3.1.2. Means of ingress, egress and temporary traffic control.

1.3.1.3. Equipment and material staging areas.

1.3.1.4. Stockpile areas and construction details, including base preparation and water control features.

1.3.1.5. Exclusion areas, contaminant handling areas, and other areas identified in Contractor's site-specific Health and Safety Plan and Environmental Protection Plan.

1.3.1.6. Grading, including contours, required to construct temporary facilities.

1.3.1.7. Location of all temporary facilities including: Contaminated Water Treatment Plant, truck wash and decontamination units, office trailers, modular camp structures, parking, storage, environmental monitoring stations, above ground and underground utilities, and temporary facilities and roads.

1.3.2. Signs: at least 5 Working Days prior to posting, Submit any signs viewable by public.

1.4. Utilities

1.4.1. Utilities not identified as being available on Site must be supplied at the Contractor's expense. Provide supplied utilities for entire work force, including Subcontractors and Departmental Representative and their consultants

1.5. Fire Protection

1.5.1. Provide and maintain temporary fire protection equipment during performance of Work required by governing codes, regulations and bylaws.

1.6. Access and Delivery

1.6.1. Only the designated entrance in accordance with the Contract can be used for access to Site.

1.6.1.1. Maintain for duration of Contract.

1.6.1.2. Make good damage resulting from Contractor's use.

1.6.2. Use of the Site will be granted to the Contractor through the Departmental Representative.

1.7. Installation and Removal

1.7.1. Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.

1.7.2. Identify areas which have to be graveled or otherwise treated to prevent tracking of mud.

1.7.3. Indicate use of supplemental or other staging area.

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

1.7.5. Provide temporary utilities in order to execute Work expeditiously.

1.7.6. Remove from Site all such Work after use.

1.8. Site Storage/Loading

1.8.1. Confine work and operations of employees in accordance with the Contract. Do not unreasonably encumber premises with products.

1.8.2. Storage space must be limited to the Site.

1.8.3. Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.9. Construction Parking

1.9.1. Parking of private vehicles will not be permitted on Site.

1.9.2. Provide and maintain adequate access to project site.

1.10. Security

1.10.1. Be responsible security of site and contents of site after working hours and during holidays. Provide onsite security personnel as appropriate and in accordance with the Contract.

1.10.2. Control access to Site and maintain a log of all personnel onsite. No non-Work visitors allowed without prior written consent of Departmental Representative.

1.11. Departmental Representative and Consultant Offices

1.11.1. Provide office facilities for the exclusive use of the Departmental Representative and their consultants with the following intent:

1.11.1.1. Two work stations within the factory fabricated modular units.

1.11.1.2. Work stations must include; 1 desk (minimum size 120 cm x 50 cm, minimum height 70 cm), 1 swivel desk chair (minimum load requirement 100 kg), 1 bookshelf (minimum 3 shelves with a minimum shelf height of 32 cm), 1 locking filing cabinet (minimum dimensions 50 cm x 39 cm x 60 cm), 1 garbage can, and 1 recycling bin.

1.11.1.3. Building envelope: watertight construction.

1.11.1.4. Completed building: exterior to interior minimum sound attenuation of STC 30.

1.11.1.5. Building interior environment: heated and cooled to maintain temperature of 20 degrees C minimum to 25 degrees C maximum with relative humidity of 35% to 60%.

1.11.1.6. Provide ventilation and outdoor air as per ASHRAE 62.1 – 2010 Standard.

1.11.1.7. Building lighting: maintain measured lighting level of 200 lx at 1500 mm above finished floor, after building finishes and painting complete.

1.11.1.8. Thermal performance of window units: Maximum heat transfer rate (U-value) not to exceed 2.0 W/m2K.

1.11.1.9. Regularly collect refuse and recyclables and keep the office clean and properly maintained with heat and light.

1.11.1.10. Provide private washroom facilities in offices in accordance with the Contract, complete with flush or chemical type toilet, lavatory and mirror and maintain supply of paper towels and toilet tissue.

1.11.1.11. Furnish offices in accordance with the Contract.

1.11.1.12. The work stations and contents must be for the sole use of the Departmental Representative and their consultant(s) for the duration of the Work and may, if necessary, be used concurrently with other inspection agencies.

1.11.2. Installation:

1.11.2.1. Install level and plumb.

1.11.2.2. Install stairs.

1.11.2.3. Adjust doors and windows for smooth operation.

1.11.3. Provide a minimum of 2 parking spaces for Departmental Representative and their consultants adjacent to offices.

1.12. Equipment, Tools and Materials Storage

1.12.1. Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

1.12.2. Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.13. Sanitary Facilities

1.13.1. Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

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

1.14. Construction Signage

1.14.1. Provide and erect 2 project signs within 10 Working Days of mobilization in a location designated by Departmental Representative. Project signs to include: name of project, name of Client, information contact number in both official languages using graphic symbols to CAN/CSA-Z321. Project signs to be a minimum of 1200 x 2400mm unless otherwise directed by Departmental Representative

1.14.2. Contractor signage must be approved by Departmental Representative.

1.14.3. Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Departmental Representative.

1.15. Protection and Maintenance of Traffic

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

1.15.2. Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.

1.15.3. Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs.

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

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

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

1.15.7. Construct access and haul roads necessary.

1.15.8. Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic must be avoided.

1.15.9. Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

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

1.15.11. Location, grade, width, and alignment of construction and hauling roads: subject to approval by Departmental Representative.

1.15.12. Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.

1.15.13. Provide snow removal during period of Work.

1.15.14. Remove, upon completion of work, haul roads designated by Departmental Representative.

1.16. Truck Wash and Decontamination Units

1.16.1. Supply, install and operate the truck wash, including the installation of a water supply.

1.16.1.1. No vehicles which have come in contact with Contaminated Soil must leave the Site without passing through the truck wash.

1.16.1.2. The truck wash must provide, at a minimum, the ability to wash truck tires and load boxes to a minimum height of 1.7 m.

1.16.1.3. Truck wash must have a solid separation tank and all solids collected must be classified as Contaminated Soil and disposed of at a Disposal Facility.

1.16.1.4. Recycle or treat as Contaminated Water truck wash water.

1.16.2. Supply personnel decontamination units (minimum of 2) for use by hazardous material, testing and inspection personnel working in areas of hazardous materials and for general clean-up of personal protective equipment to remove Contaminated Soil. Provide decontamination units for work force

1.16.2.1. At least one personnel decontamination unit must have overhead shower capability.

1.16.2.2. The personnel decontamination units to be available to Departmental Representative and their consultants.

1.16.2.3. The personnel decontamination units are subject to acceptance of Departmental Representative.

1.16.3. The truck wash and personnel decontamination units must be maintained in good working order during onsite Work.

1.16.4. The truck wash and personnel decontamination units must be removed from the Site during Site Decommissioning.

1.17. Clean-Up

1.17.1. Remove construction debris, waste materials, packaging material from work site daily.

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

1.17.3. Store materials resulting from demolition activities that are salvageable.

1.17.4. Stack stored new or salvaged material not in construction facilities.

1.18. Storage Tanks

1.18.1. 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.

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

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

1.18.4. Storage tanks to meet the following minimum requirements:

1.18.4.1. Corrosion protection.

1.18.4.2. Secondary containment.

1.18.4.3. Containment sumps, if applicable.

1.18.4.4. Overfill protection.
1.18.5. All components of tank system must bear certification marks indicating that they conform to the standards set out in the regulations.
1.18.6. Product transfer area must be designed to contain spills.
1.18.7. Prepare an emergency plan.
1.18.8. Prior to first filling, storage tanks must:
1.18.8.1. Be registered.
1.18.8.2. Be certified and marked.
1.18.8.3. Transfer area be constructed.
1.18.8.4. Emergency plan in place.

2. PART 2 - PRODUCTS

2.1. Not Used
2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used
3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Not Used.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Product Instructions: at least 10 Working Days before Substantial Performance of the Work is completed, Submit instructions and data by personnel experienced in maintenance and operation of products and equipment constructed and remaining onsite, if required.

1.3.2. Closeout Documents: within 20 Working Days of Final Completion of Site Restoration, Submit completion documents and as-built documents.

1.4. Completion Documents

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

1.4.1.1. Work has been completed and inspected by the Departmental Representative in accordance with the Contract.

1.4.1.2. Treatment and disposal of treatable soils have been completed and disposal of all other soils has been completed.

1.4.1.3. 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.

1.4.1.4. Equipment and systems have been tested, adjusted and balanced, and are fully operational, as applicable.

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

1.4.1.6. Operation of systems has been demonstrated to the personnel as directed by the Departmental Representative, as applicable.

1.4.1.7. Qualified Professional report documenting backfilling has met all requirements of the Contract.

1.4.1.8. Work is complete and ready for Final Site Inspection.

1.4.2. Defective products will be rejected, regardless of previous inspections. Replace defective products.

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

2. PART 2 - PRODUCTS

2.1. Not Used
2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used
3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Contaminated Water - Pumping and Disposal will be paid in accordance with volume of contaminated water pumped out of Soil Treatment Facility sump(s) and transported offsite for disposal.

1.1.2. Contaminated Water – Management will be paid in accordance with lump sum price established to design, temporarily provide for duration of Work, operate, and erect all onsite ancillary tanks, storage containers, equipment and piping to collect, store, and sample contaminated or potentially Contaminated Water. Includes provision and operation of Onsite Contaminated Water Treatment Plant. Includes provision and operation of bulk storage tanks and loading facilities for Offsite Water Treatment Facility.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Contaminated Water Treatment Provision Plan: within 10 Working Days after Contract award and prior to mobilization to Site, Submit methods, means, and sequences for Contaminated Water Treatment Plant Provision for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Includes onsite infrastructure for onsite or Offsite Contaminated Water Treatment Facility.

1.3.2. Onsite Contaminated Water Treatment Plant Testing:

1.3.2.1. Within 5 Working Days of conducting initial operations testing, and prior to operating or discharge, Submit results of initial operations test.

1.3.2.2. Within 5 Working Days of sampling Submit sampling results of operational (recurrent) testing.

1.3.3. Offsite Contaminated Water Treatment Facility Plan: at least 10 days prior to transporting material to a Treatment Facility, Submit documentation describing Treatment Facility. Include for each Treatment Facility:

1.3.3.1. Letter from a Qualified Professional that the Treatment Facility is appropriate for the quantity and quality of Contaminated Soil to be Treated, signed and sealed by Qualified Professional.

1.3.3.2. Letter from Treatment Facility that they can accept the quantity and quality of Contaminated Soil to be Treated at the Facility, signed by an authorized representative of the Facility.

1.3.3.3. Copy of permit, certificate, approval, license, or other required form of authorization issued by a Facility Authority for the Treatment of relevant Contaminated Soil.

1.3.4. Certificate of Treatment: within 30 Working Days of treatment at Offsite Contaminated Water Treatment Facility Facility, Submit documentation verifying that materials have been treated by Contractor. Include:
1.3.4.1. Issued by the Treatment Facility.
1.3.4.2. On company letterhead.
1.3.4.3. Name and location of facility where the material is being treated.
1.3.4.4. Date and weight for each shipment received and total weight received at the offsite facility.
1.3.4.5. Date and weight for each treatment event and total weight treated at the offsite facility.
1.3.4.6. Treatment methodology.
1.3.4.7. Laboratory certificates demonstrating treatment objectives were met.
1.3.4.8. Disposition of treated material.
1.3.4.9. Signed by identified authorized treatment company representative.

1.4. Contaminated Water Transport

1.4.1. Assume ownership of, and be responsible for Contaminated Water once it is loaded on a vehicle, barge, or other vessel for transport offsite or once it enters the Onsite Contaminated Water Treatment Plant.

1.5. Onsite Contaminated Water Treatment Plant

1.5.1. Onsite Contaminated Water Treatment: at Contractor's discretion, treat at Treatment Facility onsite provided by Contractor and accepted by the Departmental Representative.
1.5.2. Design Requirements:
1.5.2.1. Design and Operating Criteria: design Contaminated Water Treatment Plant capable of treating Contaminated Water generated from dewatering excavations and Work areas to meet Discharge Approval requirements, capable of removing oil, suspended solids, particulates, and asbestos fibers, and filter water through 5-micron particulate filter prior to discharge.
1.5.2.2. Ensure that discharges from Site are in compliance with applicable permit requirements and limitations.
1.5.3. Initial Testing: determine performance of Contaminated Water Treatment Plant provided by Contractor as follows prior to commencing excavation:
1.5.3.1. Test run with potable water to ensure it is operating currently and no leaks are occurring.
1.5.3.2. Performance verification (contaminant removal) of Contaminated Water treated, stored, tested, assessed, and accepted by Departmental Representative prior to discharge.
1.5.3.3. Provide access for independent collection of treated stored water samples by the Departmental Representative.
1.5.4. Operational Testing:
1.5.4.1. Operate Contaminated Water Treatment Plant using experienced, qualified personnel and in accordance with manufacturer's instructions and procedures as Submittals by Contractor.

1.5.4.2. Collect, analyze, and assess samples as required by Contractor's Qualified Professional.
1.5.4.3. Provide access for independent collection of samples by the Departmental Representative.
1.5.4.4. On basis of analytical results by Contractor or Departmental Representative obtained from samples collected at the discharge point, make system modifications required for effluent to satisfy effluent criteria, or continue with normal dewatering operations as directed by the Departmental Representative.
1.5.5. Decommissioning/Dismantling:
1.5.5.1. Decontaminate and remove salvageable components of Contaminated Water Treatment Plant including treatment system, pumps, piping, and electrical equipment.
1.5.5.2. Dispose of non-salvageable equipment and materials at Disposal Facility accepted by the Departmental Representative. Decontaminate salvageable equipment as required prior to demobilization from Site.
1.5.6. Discharge to environment: obtain Discharge Approval from authority having jurisdiction.

1.6. Offsite Contaminated Water Treatment Facility

1.6.1. Offsite Contaminated Water Treatment: at Contractor’s discretion, treat at Treatment Facility offsite provided by Contractor and accepted by the Departmental Representative.
1.6.2. Offsite Treatment Facility must:
1.6.2.1. Be an existing offsite facility located in Canada or the United States.
1.6.2.2. Be designed, constructed and operated for the handling or processing of waste in such a manner as to change the physical, chemical or biological character or composition of Contaminated Water. Treatment includes bioremediation and filtering. Treatment does not include blending, mixing, or dilution
1.6.2.3. Hold a valid and subsisting permit, certificate, approval, license, or other required form of authorization issued by a Facility Authority for the treatment of relevant Contaminated Soil.
1.6.2.4. Comply with applicable municipal zoning, bylaws, and other applicable requirements.
1.6.3. Treat material as soon as practical and within 100 Working Days of leaving Site or as required by Contract unless otherwise accepted by Departmental Representative.

2. PART 2 - PRODUCTS

2.1. Not Used

2.1.1. Not Used.

3. PART 3 - EXECUTION

3.1. Not Used

3.1.1. Not Used.

END OF SECTION

1. PART 1 - GENERAL

1.1. Measurement Procedures

1.1.1. Onsite Soil Treatment Facility Preparation and Closure will be paid in accordance with lump sum price established to prepare and close the existing Soil Treatment Facility for planned construction works. Includes clearing and grubbing, and minor repairs to liner. Also includes final grading of remaining soil and placement and securing of final cover as directed by the Department Representative.

1.1.2. Fertilizer Supply will be paid in accordance with unit rate price established for weight of fertilizer supplied to the Onsite Soil Treatment Facility. Includes all associated costs to provide and store the high nitrogen water soluble fertilizer at the location specified by the Departmental Representative.

1.1.2.1. Fertilizer Application will be paid in accordance with unit rate price established for weight of fertilizer applied to the Onsite Soil Treatment Facility. Includes all associated costs to apply the fertilizer to the Onsite Soil Treatment Facility, application will be at the discretion of the Department Representative.

1.1.3. Soil Tilling will be paid in accordance with unit rate price established for hours of soil tilling to include accessing the Onsite Soil Treatment Facility cell(s) and till the soil as directed by Department Representative and specified in Appendix A. The soil tilling schedule will be at the discretion of the Department Representative, and subject to weather conditions for optimal soil tilling.

1.1.4. Water Application will be paid in accordance with unit rate price established for volume of water supplied and applied to the final stockpile to assist with continued bioremediation. Include all costs associated with dispersing water over each lift relocated to the final stockpile.

1.1.5. Treated Soil Relocation will be paid in accordance with unit rate price established for volume of soil, to remove treated soil from the cell(s) and transport to final stockpile location as directed by the Departmental Representative and as specified in Appendix A.

1.1.5.1. Volume to be measured from final stockpile by Contractor's Qualified Professional Land Surveyor at completion of Treated Soil Relocation.

1.2. Definitions

1.2.1. See 01 11 55.

1.3. Action and Informational Submittals

1.3.1. Contaminated Sites Onsite STF Operation Plan: within 10 Working Days after Contract award and prior to mobilization to Site, Submit methods, means, and sequences for Contaminated Sites Onsite STF Operation for compliance with: applicable permits, certificates, approvals, or any other form of authorizations; other federal, provincial, or municipal requirements; and in accordance with the Contract. Include:

1.3.1.1. Repair material.

1.3.1.2. Procedures for repair.
1.3.1.3. Monitoring and inspection requirements.

2. PART 2 - PRODUCTS

2.1. Fertilizer

2.1.1. Fertilizer to have N:P:K ratio of 10:1:1 or higher for Nitrogen (eg 30:3:3 or 40:4:4). Fertilizer to be in weatherproof container suitable for unprotected storage onsite for at least 1 year.

2.2. Equipment

2.2.1. Tiller to be one or more tractor and/ or excavator to achieve efficient aeration of each 400 mm lift:

2.2.1.1. Tractor to be four wheel drive or track mounted with cultivator (including disks or tines, or combination) as appropriate for site conditions to complete Work within Schedule.

2.2.1.2. Excavator to be a tracked excavator with a suitable attachment (including allu bucket, mixer, tiller, auger, screener, raker, or combination) as appropriate for site conditions to complete Work within Schedule.

3. PART 3 - EXECUTION

3.1. Onsite Soil Treatment Facility Preparation

3.1.1. Prior to transport and placement of material to Onsite Soil Treatment Facility:

3.1.1.1. Inspect visually cover liner for damage. Notify Departmental Representative of any significant damage.

3.1.1.2. Make good repairs of any pre-existing damage to Onsite Soil Treatment Facility cover liner. Be prepared to repair a minimum of 10 square meters of liner. As an Optional Work item, a cover liner may be provided where an existing liner is in poor enough condition it cannot be reused or repaired for its intended purpose. Replacement liners to be 25 mil OR RPE 25 ultraviolet resistant, or equivalent, including up to 4 liners at JJJ Gravel Pit, 2 liners at Km 713 Gravel Pit and 1 liner at Iron Creek Maintenance Camp.

3.1.1.3. Pump sump water from Owner's Soil Treatment Facility, so that the placed soil drains. Treat or otherwise discharge water as approved by Departmental Representative.

3.1.1.4. Make good repairs of Iron Creek STF exterior berms. Place and compact eroded material or Owner supplied material to repair berm and match surrounding grades. Straighten fence posts and compact material around posts in the eroded area. Replace and secure berm covers with existing or Owner supplied covers.

3.2. Not Used

3.3. Soil Treatment

3.3.1. Remove debris from the Soil Treatment Facility. Debris is Non-Contaminated Waste that will interfere with tilling of soil within the Land Treatment Facility at a Landfill. Debris includes: rocks, concrete, brick, metal, wood.

3.3.2. Supply and apply fertilizer to soils in Owner's Soil Treatment Facility as directed by Department Representative. This includes all associated costs to transport and store the nitrate fertilizer at the location specified by the Departmental Representative. The fertilizer will be a high nitrogen water soluble fertilizer and will be applied as directed by Department Representative.

3.3.3. Aerate Till the upper 400 mm of the contaminated soil within Soil Treatment Facility based on field observations by Departmental Representative. This process will be repeated for additional lifts as the upper layer is deemed treated by the Departmental Representative.

3.3.4. Facilitate soil confirmation sampling in-situ in the Onsite Soil Treatment Facility as directed by Department Representative. Departmental Representative responsible for confirmation sample collection, analysis and assessment.

3.3.4.1. If space permits an alternative approach to in-situ soil sampling may be conducted as approved by the Departmental Representative. Any alternative method must provide access to soil for samples to be representative of the equivalent of each in-situ 10 m x 10 m square area in the Onsite Soil Treatment Facility.

3.3.4.2. Alternative approach must include sampling assistance if required

3.3.5. Once confirmation samples have been collected by the Department Representative it may take up to 7 Working Days to complete analysis and assessment. No Standby Time charges or increases to Contract Amount or Extension of Time for completion of the Work can be incurred for Confirmation Sampling results provided within 7 Working Days, not including day of sample collection.

3.3.6. Following in-situ sampling and confirmation by Departmental Representative, move treated soil from Soil Treatment Facility to the final treated soil stockpile area located within 100 m of the Soil Treatment Facility as directed by the Departmental Representative.

3.3.7. Supply and apply water (as needed) to the final stockpile following the relocation of each lift to assist with bioremediation as required based on field observations at application rates and methodology as accepted by Departmental Representative.

3.3.8. Trucks are only to operate on Onsite Soil Treatment Facility when there is a minimum of 1m of soil present.

3.3.9. Tracked equipment is only to operate on Onsite Soil Treatment Facility when there is a minimum of 0.5 m of soil present

3.4. Onsite Soil Treatment Restoration

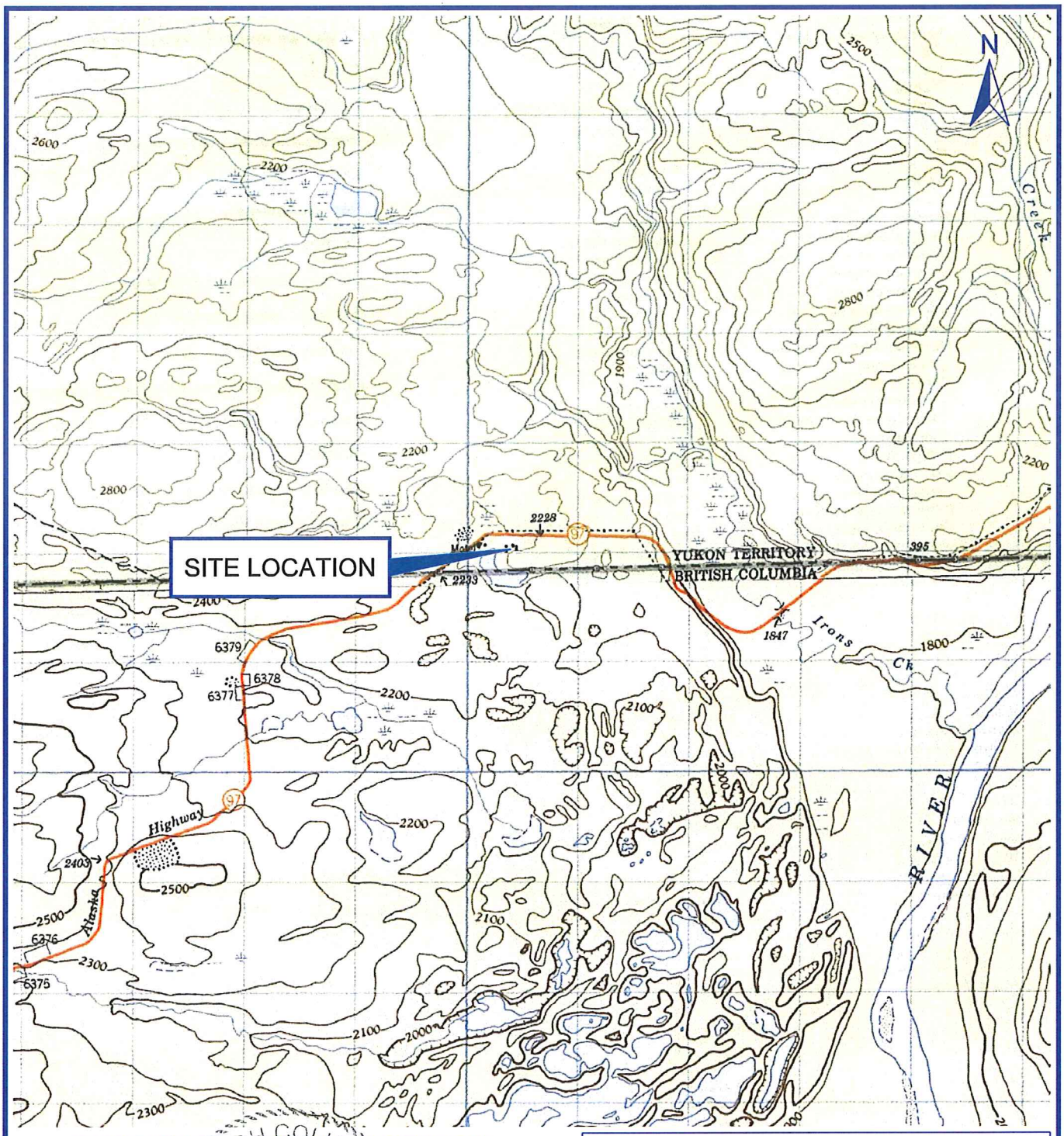
3.4.1. At completion of transport and placement of material to Onsite Soil Treatment Facility:

3.4.1.1. Grade soil for drainage to prevent ponding within soil treatment facility.

3.4.1.2. Cover soil with cover liner.

END OF SECTION

Drawing No.	Drawing Title
Iron Creek Maintenance Camp	
1	Site Location Map
2	Site Plan
7	Biocell Cover Extending Southwest
8	SW Isometric View of Biocell with Cross-Section A-A



REFERENCED FROM : ETOPO MAP SYSTEM NTS MAP 94 D/04 AND 94 M/13

BRITISH COLUMBIA INSTITUTE OF AGROLOGISTS
2314
Aaron Haegele
July 14, 2016

0 0.5 1 2 3 km

SCALE 1:50,000
WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
NAD 1983 UTM Zone 9 V

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

SLR global environmental solutions

PUBLIC WORKS AND GOVERNMENT SERVICES
IRON CREEK MAINTENANCE CAMP
KM 922 ALASKA HIGHWAY
YUKON TERRITORY

LAND TREATMENT FACILITY TREATMENT

SITE LOCATION MAP

Date: June 22, 2016

Project No. 205.03812.00000

Drawing No. 1

Cadfile name: S_205-03754-00000-A1.dwg

Y.T. HIGHWAY NO. 1 (ALASKA HWY)

PLAN 90461 CLSR
2005-0105 LTO

LOT 4
GROUP 758

LOT 1001 QUAD
95 D/4 PLAN
74906 CLSR

SLOPE DOWN

EDGE OF TREES

WELL HOUSE

SLOPE DOWN

TRAILER

TRAILER

YARD

SALT SHED

MW14-01-S
MW14-05
MW14-06
MW14-01-D
MW14-07
MW14-02
MW14-03
MW14-04

NEW MAINTENANCE GARAGE LOCATION

NEW AST FUELING PAD LOCATION

LOT 3
GROUP 758 PLAN
50934 CLSR

MW11-32
M10-22D
MW10-22
MW11-33
MW10-23
SLOPE FOR DRAINAGE
MW10-26
MW10-25
MW11-31
MW11-30
EDGE OF TREES
MW10-27
MW10-24

POSITIVE DRAINAGE DITCHES

N

NOTES:
REFERENCED FROM: YUKON HIGHWAYS AND PUBLIC WORKS GEOYUKON ONLINE MAPPING APPLICATION, SLR CONSULTING DRAWINGS ACADD10-87.DWG AND ACADD11-249.DWG AND SITE RECONNAISSANCE INFORMATION.

LEGAL DESCRIPTION:
LOT 3 GROUP 758 PLAN 50934 CLSR
YUKON TERRITORY

LEGEND:

- PROPERTY BOUNDARY
- SITE BOUNDARY
- LTF FACILITY AREA
- FENCE
- TOP OF BERM
- TOE OF BERM
- TOP OF CRUSH
- TOE IF CRUSH
- BOREHOLE LOCATION COMPLETED AS A MONITORING WELL
- BOREHOLE LOCATION COMPLETED AS A MONITORING WELL (DESTROYED)

BRITISH COLUMBIA INSTITUTE OF AGROLOGISTS
2314
Aaron Haegele
Jul 14, 2016
P.Ag.

0 10 20 40 60 m

SCALE 1:1,000
WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
NAD 1983 UTM Zone 9 V

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

PUBLIC WORKS AND GOVERNMENT SERVICES
IRON CREEK MAINTENANCE CAMP
KM 922 ALASKA HIGHWAY
YUKON TERRITORY

LAND TREATMENT FACILITY TREATMENT

SITE PLAN

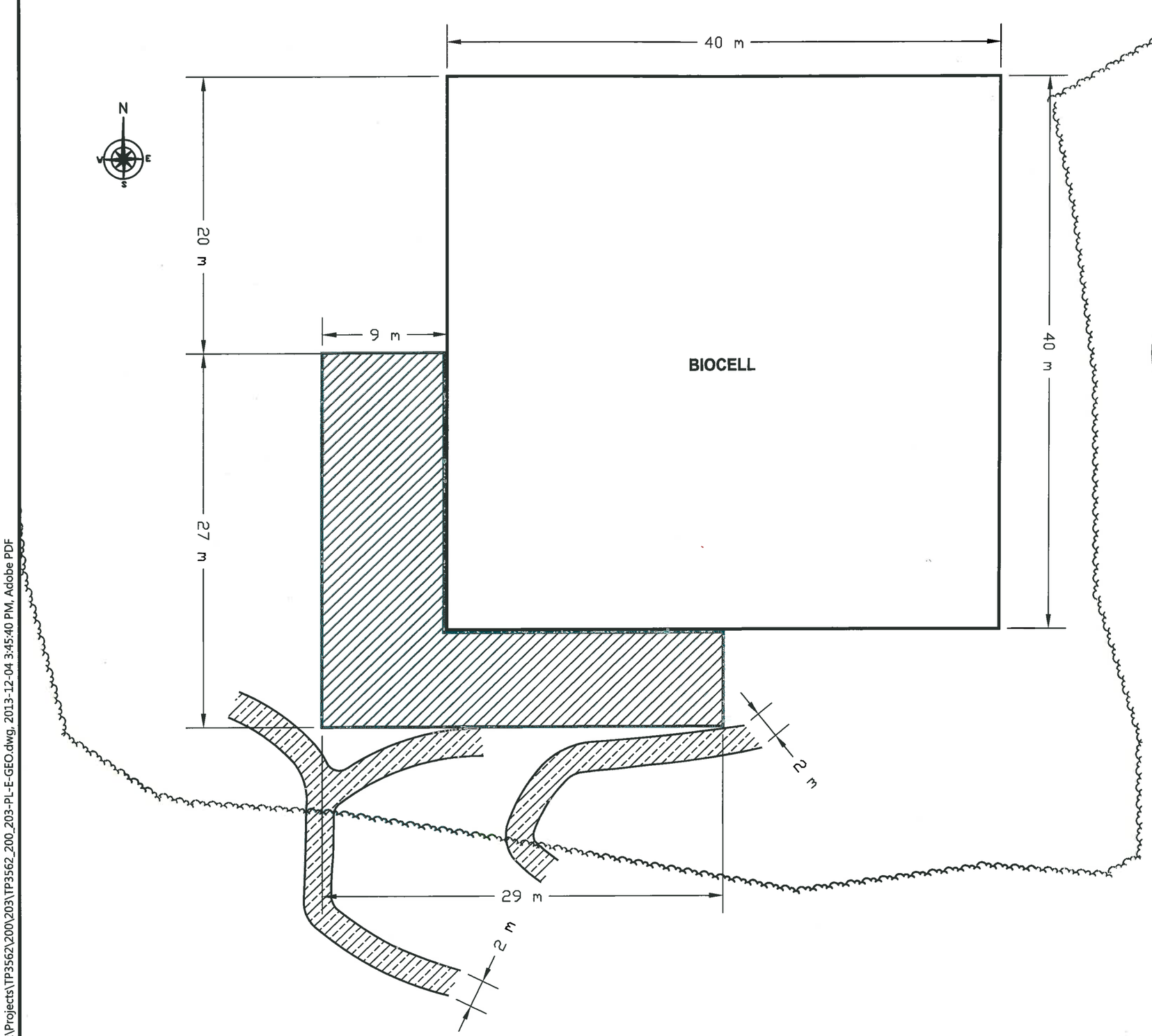
Date: June 22, 2016

Drawing No. 2

Project No. 205.03812.00000

SLR global environmental solutions

Cadfile name: S_205-03754-00000-A1.dwg



PROFESSIONAL ENGINEER
YUKON TERRITORY
PHILIPPE GINGRAS
13-12-05

LEGEND

- Existing Treeline
- Southwest Biocell Cover Extension
- Positive Drainage

0 3m 6m 9m 12m 15m

NO.	VERSION	DATE	BY	VERIF.	APPR.
B	AS BUILT	2013-11-28	D.W.	S.A.	P.G.
A	AS BUILT	2013-11-15	D.W.	S.A.	P.G.

Public Works and Government Services Canada

KILOMETRE 922 ALASKA HIGHWAY, YUKON TERRITORY

BIOCELL COVER EXTENDING SOUTHWEST

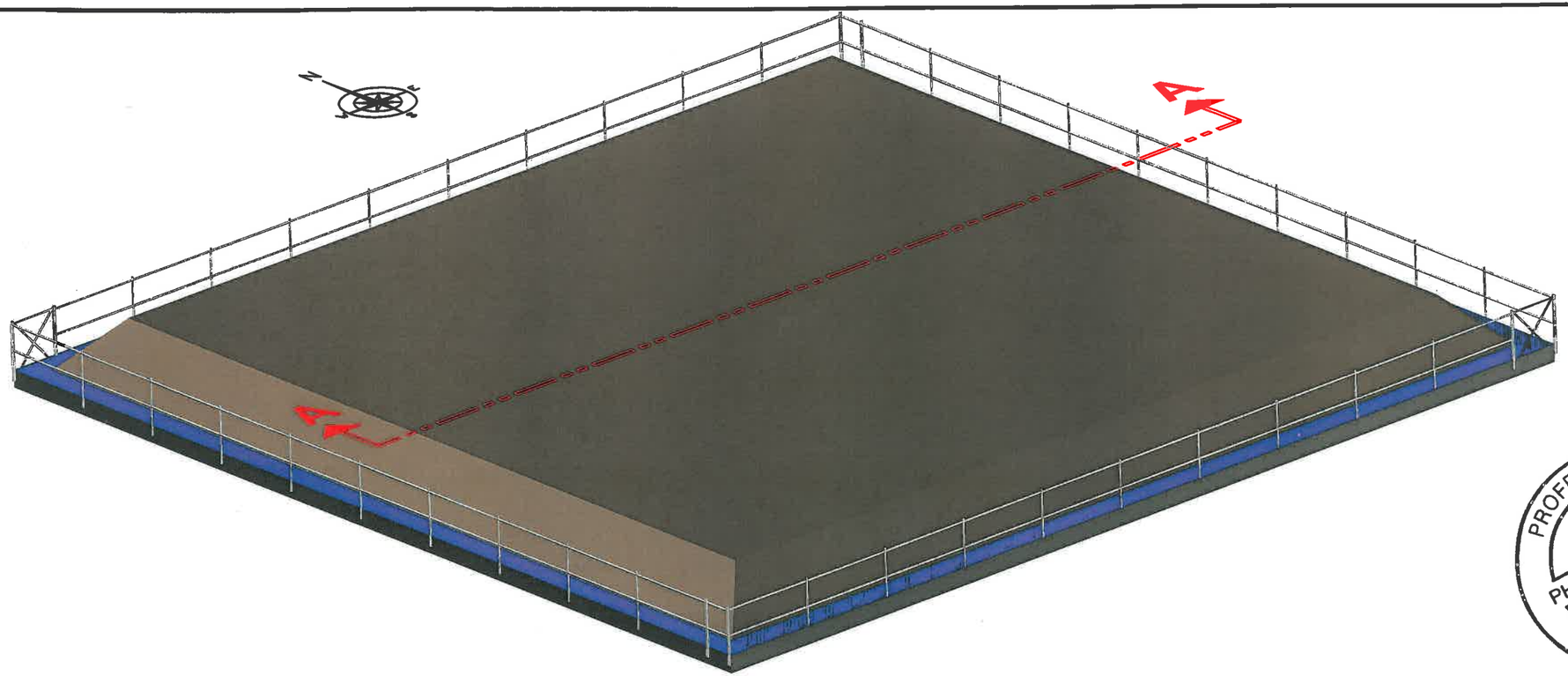
SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
#136, 2301 Premier Way
Sherwood Park, Alberta, T8H 2K8, Canada
Phone: (780) 416-0414 Fax: (780) 416-0417

MEASUREMENT UNIT:	SCALE:	DATE (month-year):
METRE	1:300	DECEMBER 2013
DRAWN BY: D. WILSON	VERIFIED BY: S. ALIMOHAMED	APPROVED BY: P. GINGRAS
PROJECT NO: TP3562_200_203	DRAWING NO: TP3562_200_203-PL-E-GEO	PAGE NAME: BIOCELL

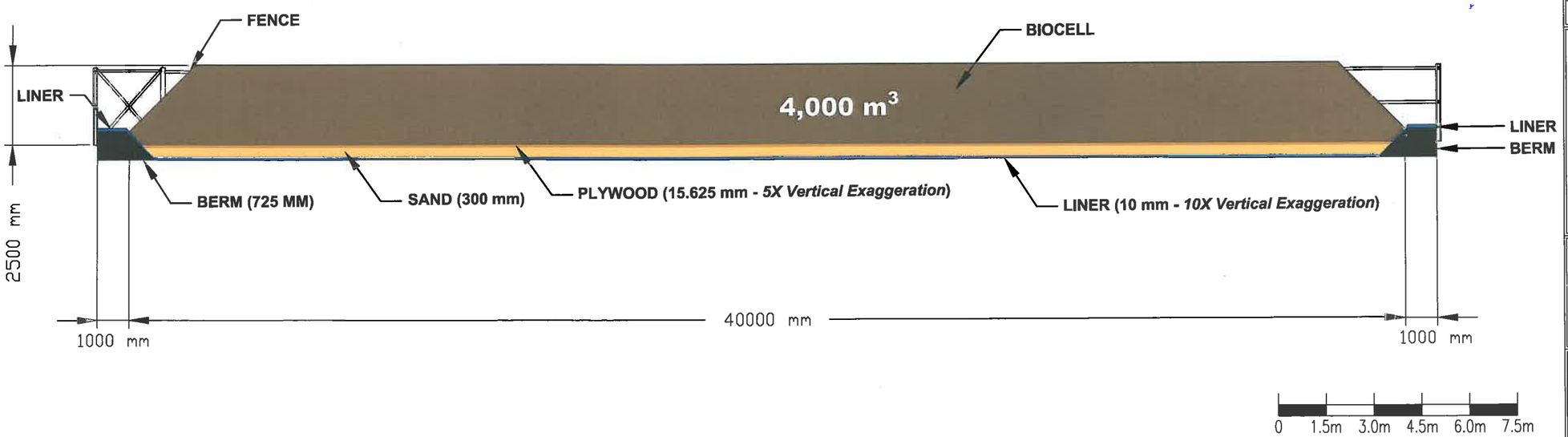
FIGURE 7

G:\Projects\TP3562\200\203\TP3562_200_203-PL-E-GEO.dwg, 2013-12-04 3:45:40 PM, Adobe PDF



PROFESSIONAL ENGINEER
YUKON TERRITORY
PHILIPPE GINGRAS
13.12.05

SECTION AA
Scale 1:150



NO.	VERSION	DATE	BY	VERIF.	APPR.
B	AS BUILT	2013-11-29	D.W.	S.A.	P.G.
A	AS BUILT	2013-11-14	D.W.	S.A.	P.G.

Public Works and Government Services Canada

KILOMETRE 922 ALASKA HIGHWAY, YUKON TERRITORY

SW ISOMETRIC VIEW OF BIOCELL WITH CROSS-SECTION A-A

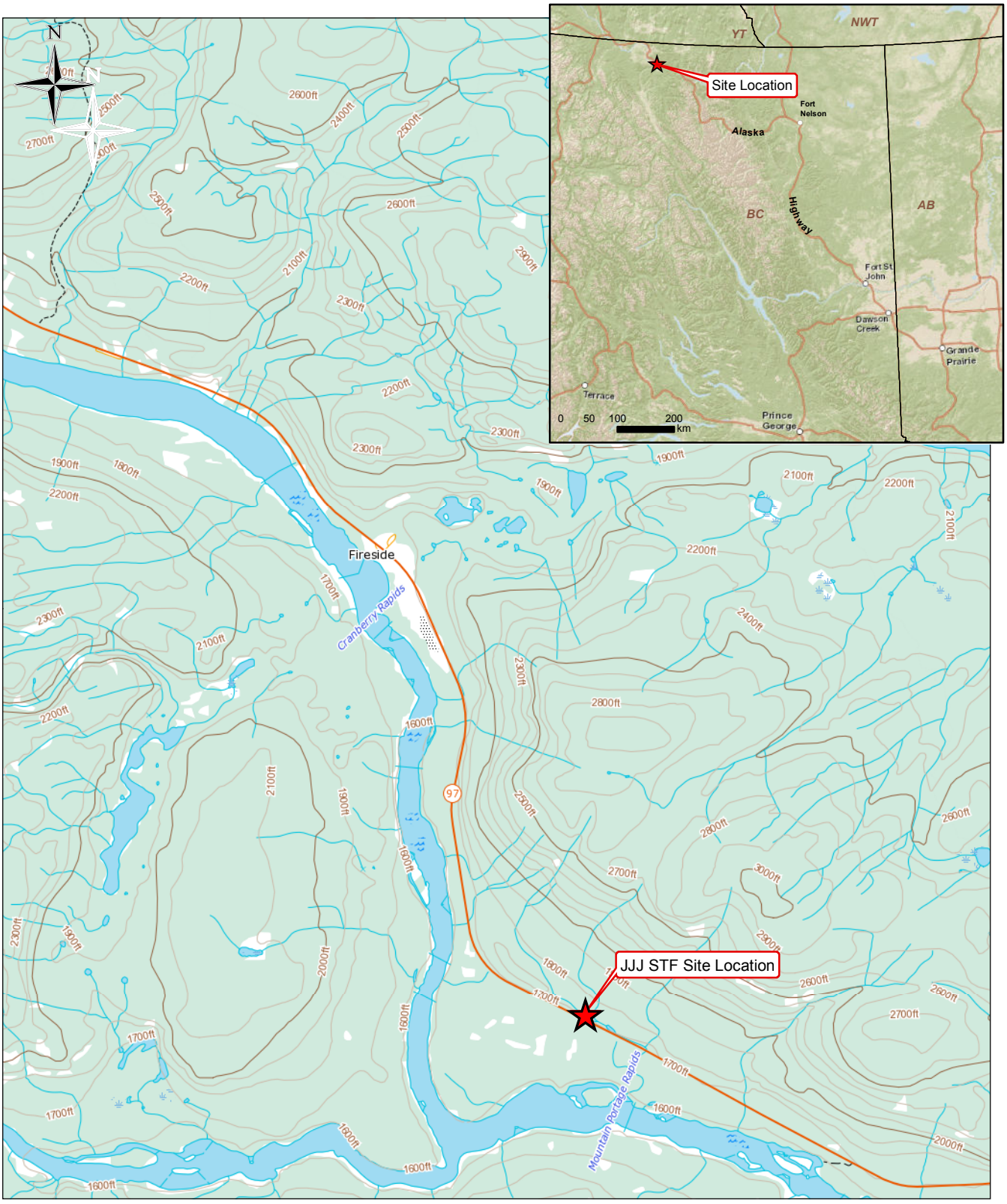
SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
#136, 2301 Premier Way
Sherwood Park, Alberta, T8H 2K8, Canada
Phone: (780) 416-0414 Fax: (780) 416-0417

MEASUREMENT UNIT:	SCALE:	DATE (month-year):
MILLIMETRE	AS SHOWN	DECEMBER 2013
DRAWN BY: D. WILSON	VERIFIED BY: S. ALIMOHAMED	APPROVED BY: P. GINGRAS
PROJECT NO: TP3562_200_203	DRAWING NO: TP3562_200_203-BIOCELL3D-B	PAGE NAME: CS

FIGURE 8

Drawing No.	Drawing Title
JJJ Gravel Pit	
636200-1008	JJJ STF Site Location
636200-1009	Site Plan – JJJ Gravel Pit
636200-1010	Soil Treatment Facility #4 Design Specifications



LEGEND

★ Site Location

NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

SNC·LAVALIN

CLIENT NAME:	PROJECT LOCATION:
Public Works and Government Services Canada	JJJ STF Alaska Highway, BC

JJJ STF Site Location

0 0.5 1 2 3 4 Kilometers

BY	DATE	REF No.	REV.
PB	2017-03-03	636200-1008	0
CHK'D: CS	SCALE: 1:50,000		

MXD Path: P:\Current Projects\Public Works and Gov't Services Canada\623385 Fireside\4.0 Execution\4.5 GIS and Drawings (Secure)\GIS\MapSeries\623385-001.mxd

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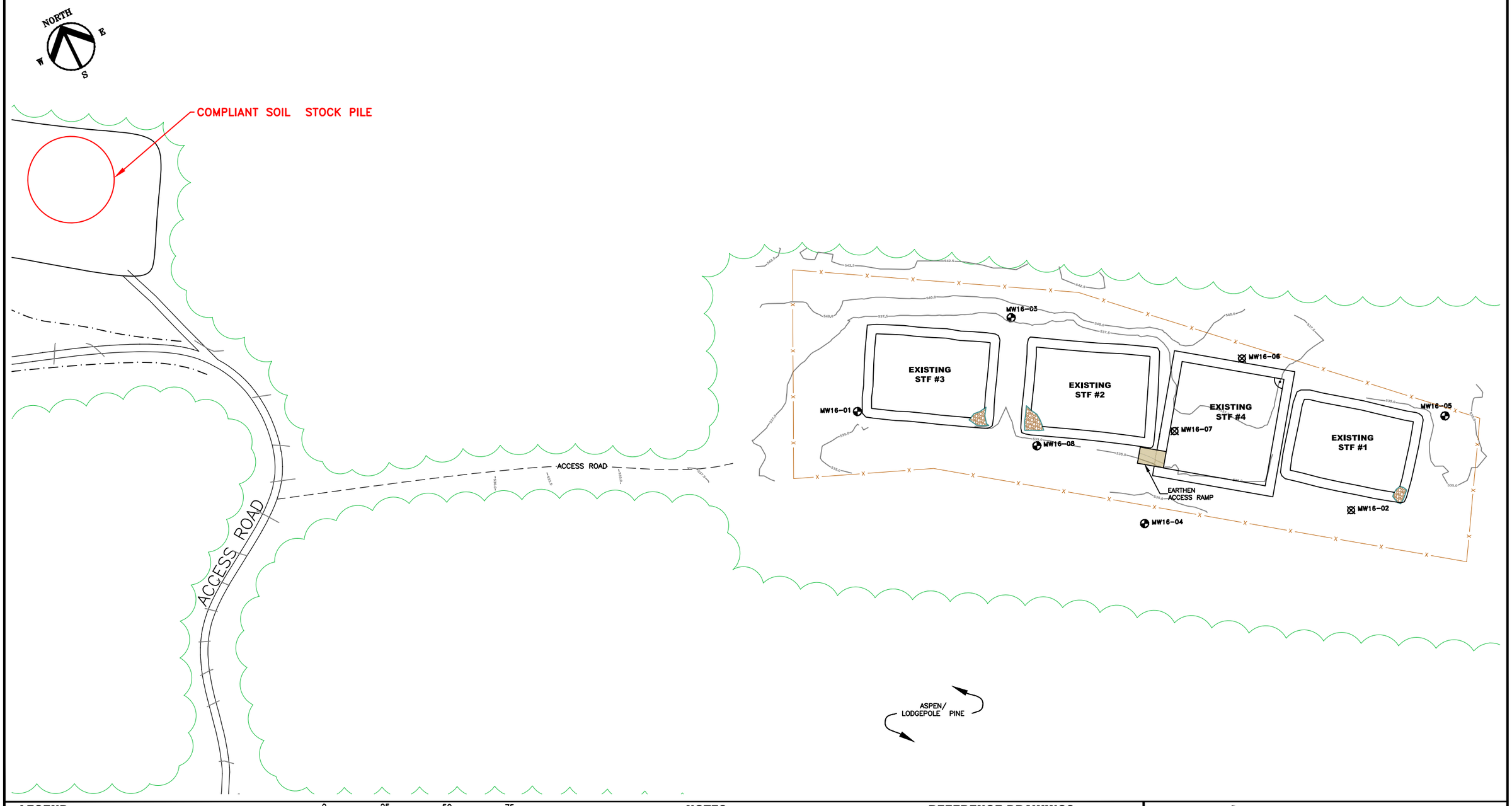


LEGEND

- TREE LINE (APPROX.)
- MONITORING WELL LOCATION
- MONITORING WELL TO BE DECOMMISSIONED
- DECOMMISSIONED MONITORING WELL
- FENCE
- SOIL BERM
- SOIL PILE
- LEACHATE COLLECTION SYSTEM
- TOPOGRAPHICAL LINE AND ELEVATION (masl) — 537.5

0 25 50 75 METRES

NOTES

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED PRIOR TO INTRUSIVE WORK. NOT ALL UTILITIES MAY BE SHOWN.

REFERENCE DRAWINGS

IMAGERY	1969	GOOGLE EARTH
DWG. NO.	DATE	DESCRIPTION

REVISIONS

REV.	DATE	DESCRIPTION	BY	CHK
1	2018-03-29	ISSUED TO CLIENT	PES	CS
0	2018-03-26	ISSUED TO CLIENT AS DRAFT	PES	CS

SNC·LAVALIN

CLIENT NAME: PUBLIC SERVICES AND PROCUREMENT CANADA

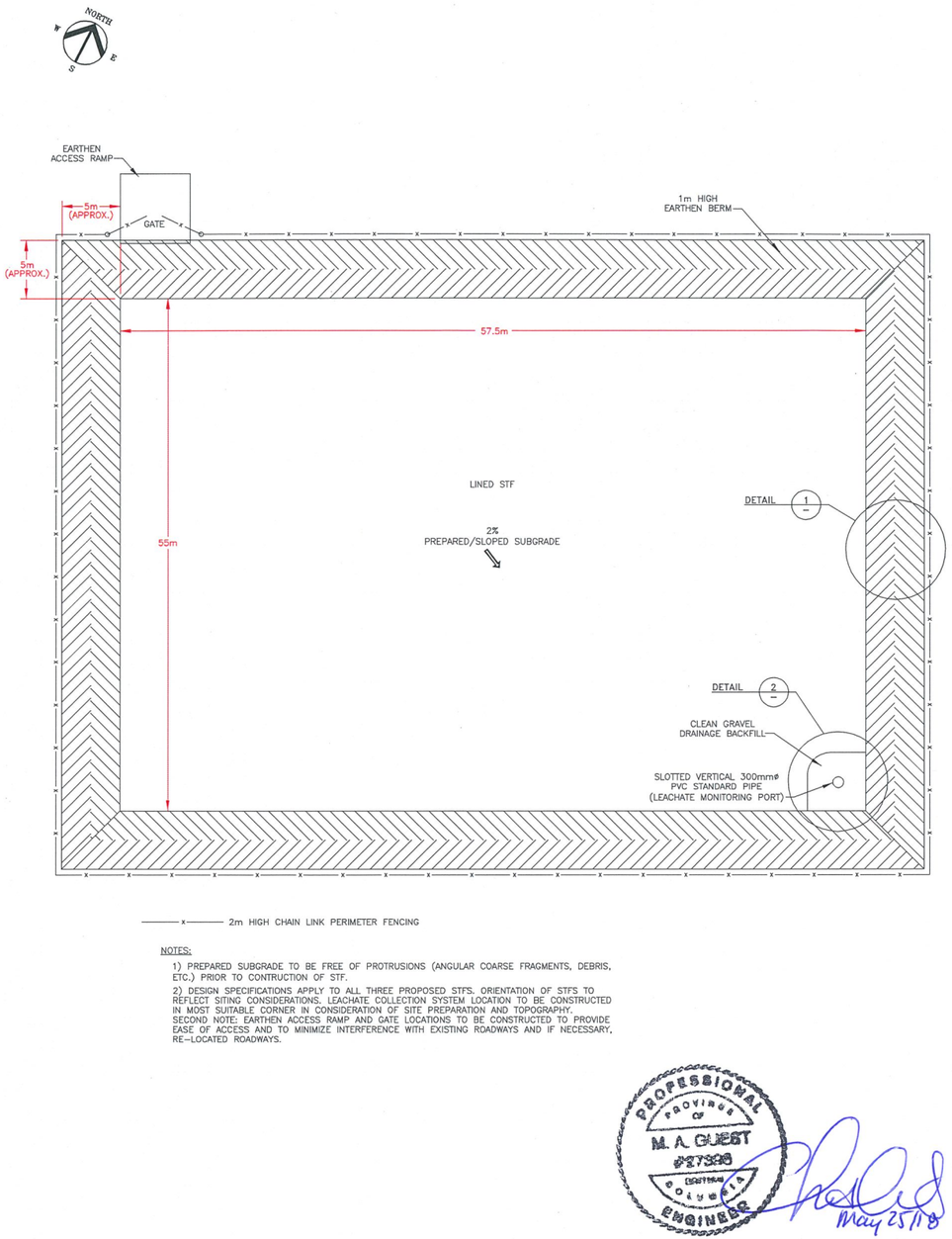
PROJECT LOCATION: JJJ GRAVEL PIT KM 839 ALASKA HIGHWAY, FIRESIDE, B.C.

TITLE:

SITE PLAN - JJJ GRAVEL PIT

DWN BY: PES	SCALE: 1:1,500	DATE: 2018-03-16	DWG No: 636200-1009 REV.: 1
CHK'D: CS	PLOT: 20190604.1149	CADFILE: 636200R23	

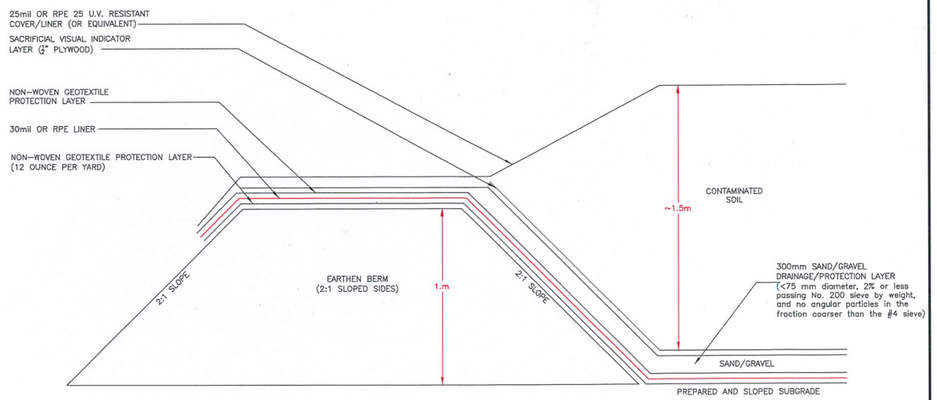
PATH: D:\PWGSC-ALASKAHGWY-FIRESIDE\CAD\636200R23.DWG



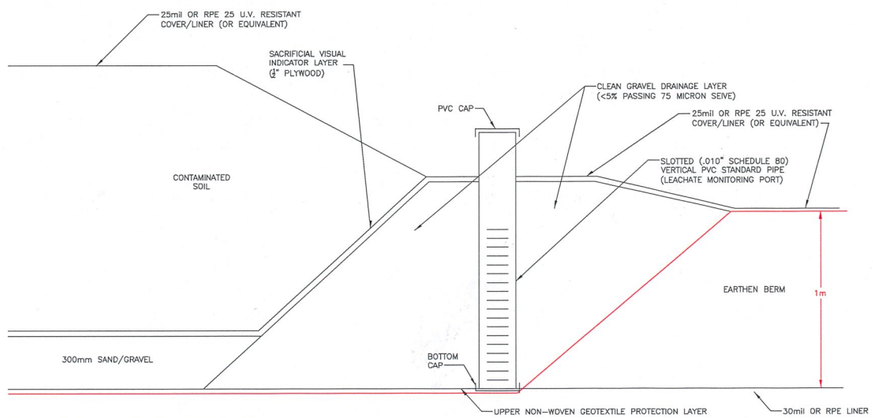
NOTES:

1) PREPARED SUBGRADE TO BE FREE OF PROTRUSIONS (ANGULAR COARSE FRAGMENTS, DEBRIS, ETC.) PRIOR TO CONTRUCTION OF STF.

2) DESIGN SPECIFICATIONS APPLY TO ALL THREE PROPOSED STFS. ORIENTATION OF STFS TO REFLECT SITING CONSIDERATIONS. LEACHATE COLLECTION SYSTEM LOCATION TO BE CONSTRUCTED IN MOST SUITABLE CORNER IN CONSIDERATION OF SITE PREPARATION AND TOPOGRAPHY. SECOND NOTE: EARTHEN ACCESS RAMP AND GATE LOCATIONS TO BE CONSTRUCTED TO PROVIDE EASE OF ACCESS AND TO MINIMIZE INTERFERENCE WITH EXISTING ROADWAYS AND IF NECESSARY, RE-LOCATED ROADWAYS.



DETAIL 1
N.T.S.



NOTE: IT IS CRITICAL THAT THE BOTTOM LINER HAVE NO TENSILE FORCE IN CORNER OF LEACHATE MONITORING SUMP FOLLOWING INSTALLATION.

DETAIL 2
N.T.S.

LEGEND

NOTES

1. ORIGINAL DRAWING IN COLOUR.
2. SCALE IS APPROXIMATE.

REFERENCE DRAWINGS

DWG. NO.	DATE	DESCRIPTION
–	–	–

REVISIONS

REV.	DATE	DESCRIPTION	BY	CHK
1	2018-05-25	ISSUED TO CLIENT	PES	MG
0	2018-03-26	ISSUED TO CLIENT AS DRAFT	PES	CS

SNC·LAVALIN

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

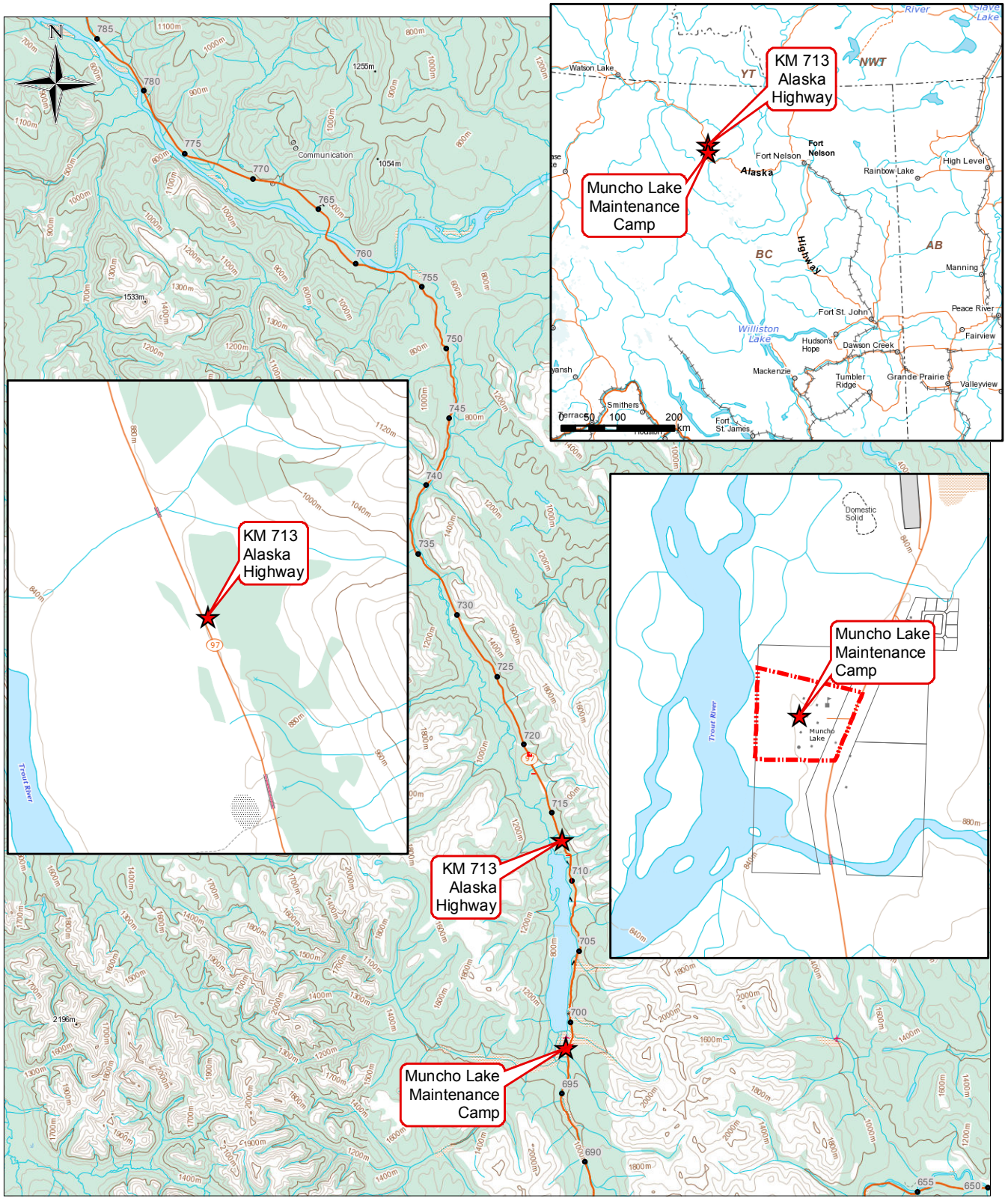
PROJECT LOCATION: JJJ GRAVEL PIT km839 ALASKA HIGHWAY, FIRESIDE, B.C.

TITLE: **SOIL TREATMENT FACILITY #4 DESIGN SPECIFICATIONS**

DWN BY: PES	SCALE: AS SHOWN	DATE: 2018-03-16	DWG No:	REV.: 1
CHK'D: CS	PLOT: 20180525.1032	CADFILE: 636200R18	636200-1010	

PATH: P:\CURRENT PROJECTS\PWGSC\636200 FIRESIDE\4.0 EXECUTION\4.5 GIS AND DRAWINGS\CAD\636200R18.DWG

Drawing No.	Drawing Title
Km 713 Gravel Pit	
635031-1001	Muncho Lake and Km 713 Gravel Pit, Alaska Highway, BC (location map)
635031-LET10	Soil Treatment Facility Layout, Km 713 Gravel Pit
635031-LET11	Soil Treatment Facility Configuration, Km 713 Gravel Pit



LEGEND

- KM Markers
- Site Location
- Site Boundary

NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

SNC·LAVALIN

CLIENT NAME:	PROJECT LOCATION:
Public Works and Government Services Canada	Muncho Lake Alaska Highway, BC

Muncho Lake and Km 713 Gravel Pit
Alaska Highway, BC

0 4.5 9 18 27 36 Kilometers

BY: DM	DATE: 2017-03-31	REF No: 635031-1001 REV: 0
CHK'D: SJWM	SCALE: 1:20,000	

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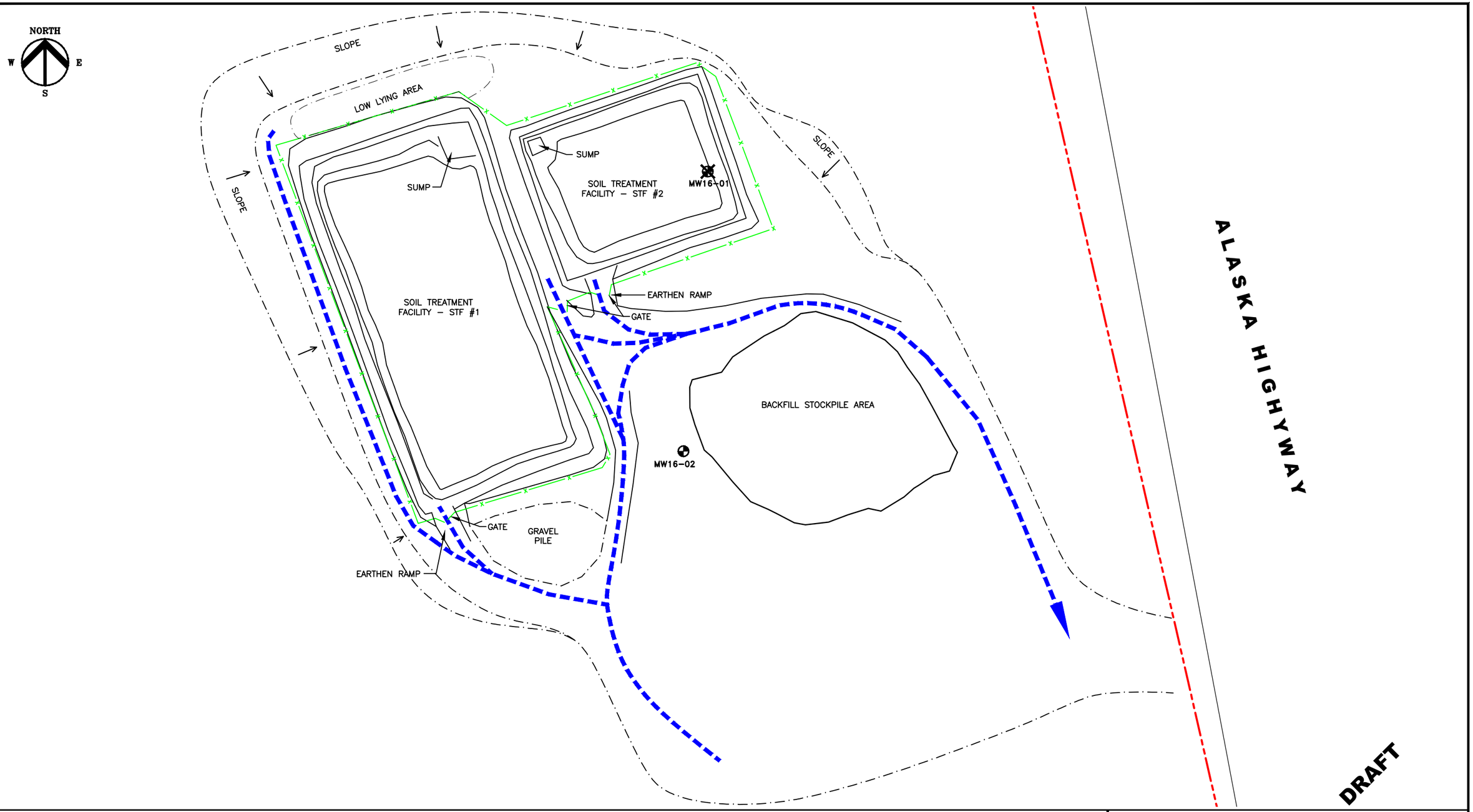

LEGEND

0 5 10 METRES 50

- PROPERTY BOUNDARY
- x EXISTING FENCE
- EXISTING ACCESS ROAD
- NEW ROAD
- SLOPE/EDGE OF CLEARING (APPROX.)
- MONITORING WELL
- MONITORING WELL TO BE DECOMMISSIONED

NOTES

1. ORIGINAL DRAWING IN COLOUR.

REFERENCE DRAWINGS

DWG. NO.	DATE	DESCRIPTION

REVISIONS

REV.	DATE	DESCRIPTION	BY	CHK
1	2019–02–14	STF 1 & 2 AREA UPDATE	EM	SM
0	2018–03–26	ISSUED AS DRAFT	PRT	TM

SNC·LAVALIN

CLIENT NAME: PUBLIC SERVICES AND PROCUREMENT CANADA

PROJECT LOCATION: LIARD MAINTENANCE CAMP, KM 762.5 ALASKA HIGHWAY, B.C.

TITLE: **SOIL TREATMENT FACILITY LAYOUT, KM 713 GRAVEL PIT**

DWN BY: PRT/EM	SCALE: 1:1,000	DATE: 2019–02–14	DWG No: 635031-LET10 REV.: 2
CHK'D: TM	PLOT: 20190214.0927	CADFILE: 635031R26	

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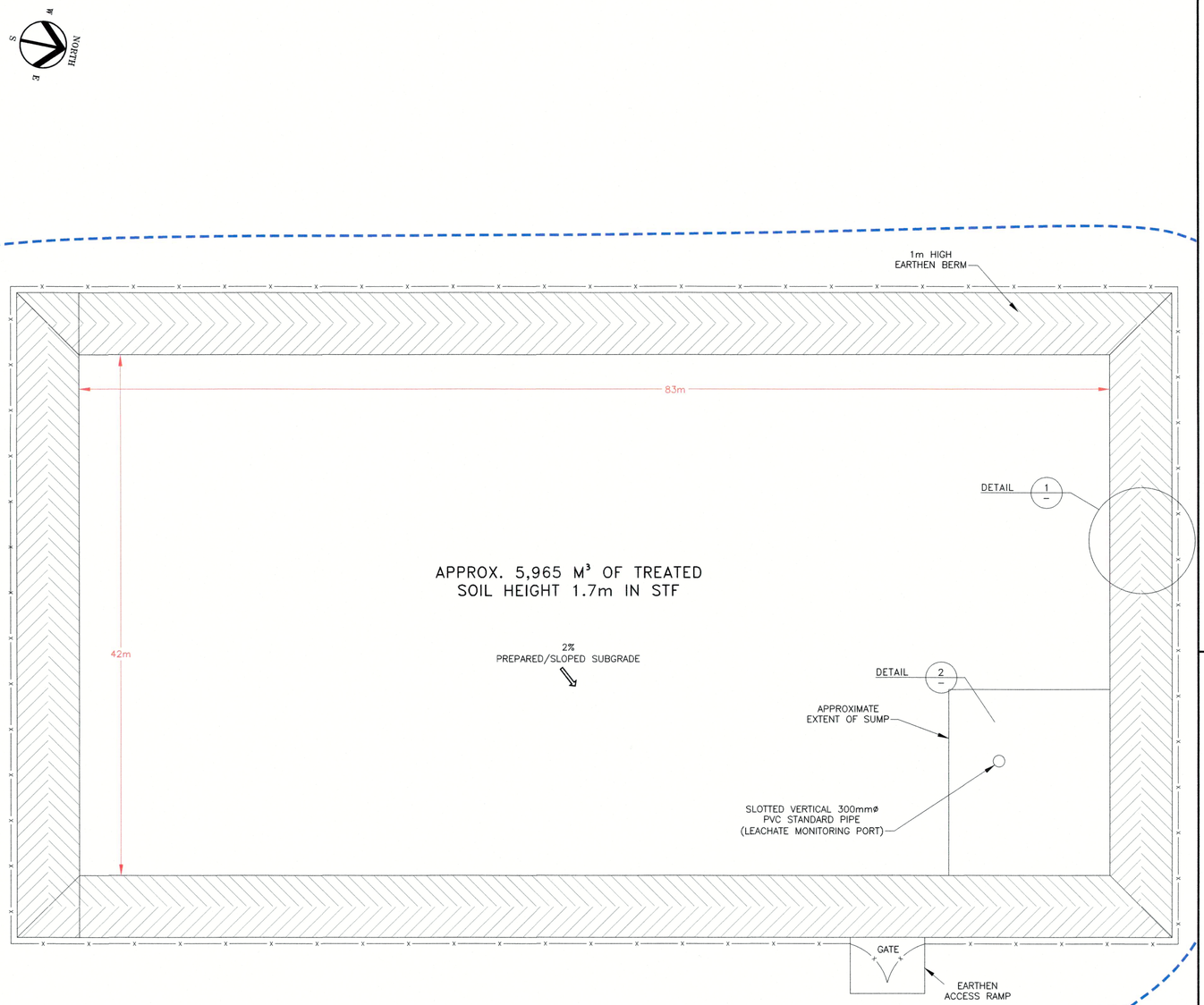
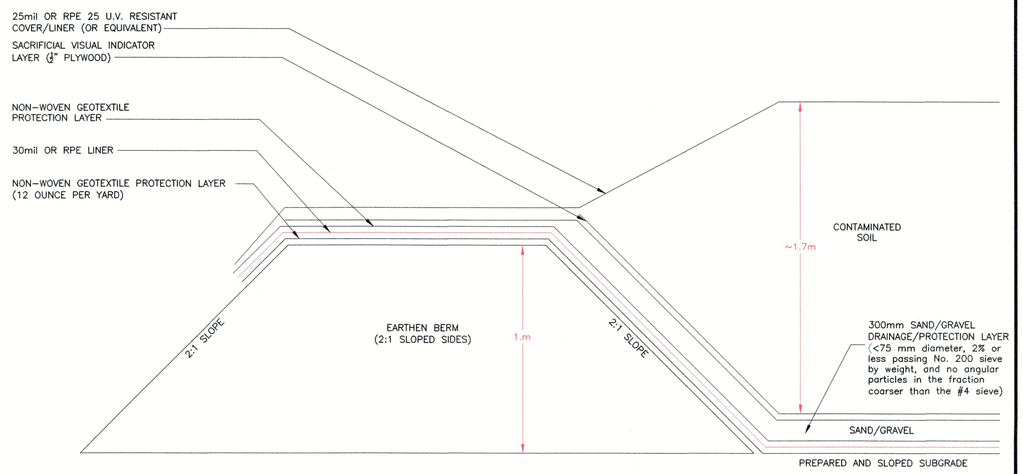
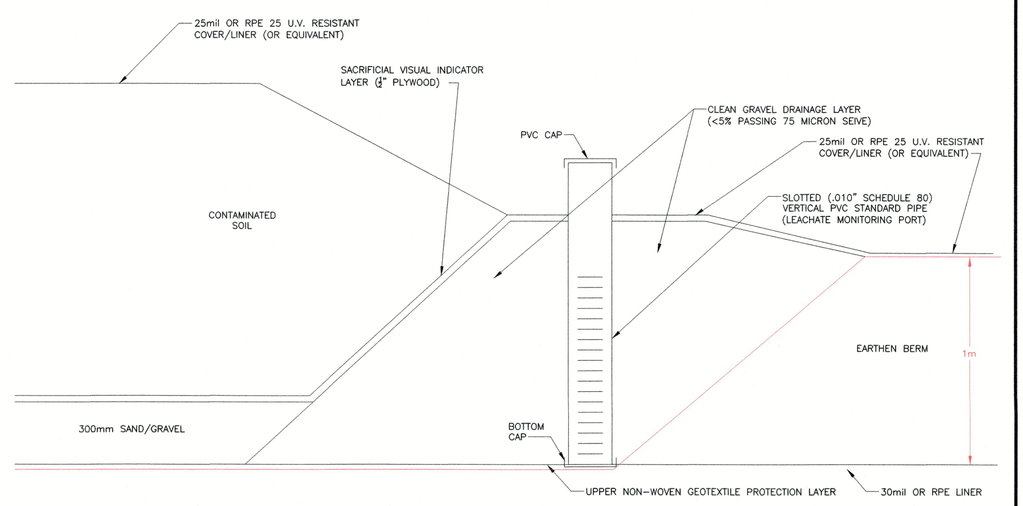




DETAIL 1
N.T.S.



DETAIL 2
N.T.S.

LEGEND

0 5 10 15
METRES

NOTES

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED ON SITE. NOT ALL UTILITIES MAY BE SHOWN.

BRITISH COLUMBIA INSTITUTE OF AGROLOGISTS
2455
William W. Hung
May 24/18
P.Ag.

REFERENCE DRAWINGS

DWG. NO.	DATE	DESCRIPTION
–	–	–

REVISIONS

REV.	DATE	DESCRIPTION	BY	CHK
0	2018-05-25	ISSUED TO CLIENT	PRT	BH

SNC·LAVALIN

CLIENT NAME: PUBLIC SERVICES AND PROCUREMENT CANADA

PROJECT LOCATION: KM 713 GRAVEL PIT ALASKA HIGHWAY, B.C.

TITLE: **SOIL TREATMENT FACILITY CONFIGURATION KM 713 GRAVEL PIT**

DWN BY: DM	SCALE: AS SHOWN	DATE: 2016-07-05	DWG No:	REV.: 0
CHK'D: SJWM	PLOT: 20180524,1629	CADFILE:	635031-LET11	

PATH: P:\CURRENT PROJECTS\PWGSC\635031 MUNCHO LAKE\4.0 EXECUTION\4.5 GIS AND DRAWINGS\CAD\635031-LET11.DWG

Appendix No.	Appendix Title
A	FY 2019/2020 Soil Treatment Facility Data and Proposed Sequencing of Operations

SLR Consulting (Canada) Ltd.
1586 Ogilvie Street,
Prince George, BC V2N 1W9

Tel: 250-562-4452
Fax: 250-562-4458

Memorandum

To:	Brad Klaver	**From:**	Chelsea Webb Aaron Haegele
Company:	Public Services and Procurement Canada		
cc:		**Date:**	July 16, 2019
Subject:	**FY 2019/2020 SOIL TREATMENT FACILITY DATA AND PROPOSED SEQUENCING OF OPERATIONS**		

SLR Consulting (Canada) Ltd. (SLR) is pleased to provide the following Soil Treatment Facility (STF) data summary and proposed sequencing of tilling operations for treatment of soil at the following locations along the Alaska Highway:

- Iron Creek Maintenance Camp (ICMC), at km 922 in the Yukon Territory;
- JJJ ("Triple J") Gravel Pit, at km 835 in British Columbia; and
- Km 713 Gravel Pit, at km 713 in British Columbia.

1.0 DATA SUMMARY

1.1 Soil Treatment Facility Dimensions

The following Table 1 summarizes the available details of the STF's at the locations detailed above. The approximate number of lifts required to complete treatment for each STF is included, the lifts are assumed to be approximately 400mm each, this is an estimate and included only for planning purposes. The number of lifts required at each STF may vary depending on equipment used, variability in cell thickness, and other factors. The location plans, site plans and STF specifications where available are included within the tender drawing set.

Table 1: Summary of STF Details

Maintenance Camp	STF Location	STF Inside Dimensions (Approximate L x W)	Current Approximate STF Volume (m^3)	Estimated Lifts Required to Treat
Iron Creek (Km 922)	Iron Creek (Km 922)	STF #1 = 40m x 40m	STF #1 =4,025	STF #1 = 6 lifts
Fireside (Km 839)	JJJ Gravel Pit (Km 835)	STF #1 = 48 m x 67 m STF #2 = 51 m x 70 m STF #3 = 46 m x 62 m STF #4 = 65 m x 58 m	STF #1 = 9,960 STF #2 = 5,255 STF #3 = 8,207 STF #4 = 13,540	STF #1 = 8 lifts STF #2 = 4 lifts STF #3 = 7 lifts STF #4 =9 lifts
Muncho Lake (Km 698)	Km 713 Gravel Pit (Km 713)	STF #1 = 83 m x 42 m STF #2 = 30 m x 38 m	STF #1 = 8,000 STF #2 = 7,030	STF #1 = 6 lifts STF #2 = 6 lifts

1.2 Contaminants of Concern

The primary contaminants of concern within the various STF's soils are petroleum hydrocarbons. They include heavy and volatile hydrocarbons including but not limited to: heavy extractable petroleum hydrocarbons (HEPH), light extractable petroleum hydrocarbons (LEPH), benzene, ethylbenzene, toluene, xylenes and several polycyclic aromatic hydrocarbons.

The secondary contaminants of concern that are not being remediated within this scope of works are road salts (sodium and chloride) and several trace elements.

2.0 PROPOSED SEQUENCING OF TREATMENT OPERATIONS

Specific proposed sequencing of treatment operations at the three locations are detailed below. Each tilling lift should be approximately 400 mm thick. Fertilizer application may occur prior to the soil tilling of each lift, so as to best facilitate mixing into the soil and bioremediation during the aeration process, and the fertilizer application will be at the discretion of the Department Representative.

The final stockpile location of soil deemed appropriate to be removed from the STF as directed by the Department Representative will be at the discression of the Owner. For purposes of planning, the stockpile location is expected to be within 100 m of the STF the soil is originating from.

2.1 Iron Creek Maintenance Camp

The sequence of operations at Iron Creek Maintenance Camp is proposed as follows:

- Remove STF #1 cover liner and hold downs, preserve liner for future use;
- Till the first lift of STF #1, conduct the soil sampling program in-situ, these samples will be submitted for analysis;
- Wait for analytical results to be available, while waiting for analytical results, conduct STF repairs as directed by the Department Representative. Repairs to the southern, southwestern and western exterior berm are detailed below and photos are included at the end of the memo;
    - Repair exterior STF berm, replace and secure exterior STF berm cover;
        - The existing berm cover has moved over the southern fence. Remove berm cover from the fence and place along the repaired berm. If berm cover cannot be reused, use Owner supplied berm cover located adjacent and to the northeast of the STF;
        - The southern STF berm has eroded, and material is required to be placed and compacted in the eroded areas. Transport, place and compact material to bring eroded berm areas to match surrounding grades and to secure fence post(s). Use material eroded from bank first, and if required, use Owner supplied material adjacent and to the northeast of the STF. Berm material eroded into surrounding areas to be moved to the exterior berm area;

- Straighten fence post(s) into alingnment on the eroded berm area;
- Replace and secure remaining STF berm covers that are disturbed;
- Berm cover sections to be placed with a minimum 0.5 metre overlap to protect from undercutting erosion; upper sections to be placed overtop of lower sections;
- Maintain positive drainage ditches and repair as necessary;

- When analytical results are available and the previously sampled lift soils are approved by the Department Representative for removal from the STF. Load the approved soils into trucks and transport to the final stockpile location as designated by the Department Representative. Begin tilling the next lift of STF #1;
- Continue to repeat process above as time permits;
- Place STF #1 cover liner and hold downs.

2.2 JJJ Gravel Pit

The sequence of operations at JJJ Gravel Pit is proposed as follows:

- Till the first lift of STF #1, conduct the soil sampling program in-situ, these samples will be submitted for analysis;
- Move to STF #4, till the first lift of STF #4, conduct the soil sampling program in-situ, these samples will be submitted for analysis;
- Move to STF #2, till the first lift of STF #2, conduct the soil sampling program in-situ, these samples will be submitted for analysis;
- Move to STF #3, till the first lift of STF #3, conduct the soil sampling program in-situ, these samples will be submitted for analysis;
- Move back to STF #1, it is expected that analytical results will be available and the previously sampled lift soils will be approved by the Department Representative for removal from the STF. Load the approved soils into trucks and transport to the final stockpile location as designated by the Department Representative. Begin tilling the next lift of STF #1;
- Move to STF #4, STF #2 and STF # 3 sequentially and continue to repeat process above as time permits.

2.3 Km 713 Gravel Pit

The sequence of operations at Km 713 Gravel Pit is proposed as follows:

- Remove STF #2 cover liner, preserve liner for future use if possible;

- Till the first lift of STF #2, conduct the soil sampling program in-situ, these samples will be submitted for analysis;

- Move to STF #1, till the first lift of STF #1, conduct the soil sampling program in-situ, these samples will be submitted for analysis;

- Move back to STF #2, it is expected that analytical results will be available and the previously sampled lift soils will be approved by the Department Representative for removal from the STF. Load the approved soils into trucks and transport to the final stockpile location as designated by the Department Representative. Begin tilling the next lift of STF #2;

- Move to STF #1 and continue to repeat process above as time permits.

Photo 1: View of Iron Creek western berm disturbed cover, facing south.

Photo 2: View of Iron Creek southern berm showing disturbed berm cover (foreground) and berm repair area (background), facing west.

Photo 3: View of Iron Creek southern berm repair area, looking west.

Photo 4: View of Iron Creek southern berm fence post to be secured and realigned.

Photo 5: View of Iron Creek southern berm repair area, facing north.

Photo 6: View of Iron Creek southern berm repair area facing east.

Photo 7: View of Owner supplied berm cover, if required, located northeast of the Iron Creek STF.

Photo 8: View of Owner supplied berm repair material, if required, located northeast of the Iron Creek STF.