

Part 1 General

1.1 DESCRIPTION OF WORK

- .1 Work under this Contract covers the furnishing of all labour, materials and equipment required to provide construction services for the stabilization of the slope on Trunk 30 (Cabot Trail) at kilometer +/-9.1, near Corney Brook, Cape Breton Highlands National Park, NS. The Project shall include:
- .2 CONCRETE WALL AT EXISTING SOLDIER PILE WALL
 - .1 Drill and grout steel dowels at edges of new concrete wall to tie the wall to the stable rock face.
 - .2 Place forms and rebar for the concrete wall.
 - .3 Place concrete.
 - .4 Drill, install and test tie-back anchors.
 - .5 Drill weep holes through concrete wall.
 - .6 Supply and operation of traffic control, including temporary traffic lights at both approaches for duration of the project.
- .3 ROCK WEDGE STABILIZATION
 - .1 Layout proposed anchors.
 - .2 Prepare rock surface to accommodate the anchor plate.
 - .3 Drill, install and test rock anchors.
 - .4 Supply and operation of traffic control, including temporary traffic lights at both approaches for duration of the project.

1.2 CODES

- .1 Meet or exceed requirements of: Contract documents, Specified standards, codes and referenced documents.

1.3 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy of each of the following:
 - .1 Contractors Health and Safety Plan
 - .2 Contractors Traffic Control Plan
 - .3 Contract Drawings;
 - .4 Specifications;
 - .5 Addenda;
 - .6 Reviewed shop drawings;
 - .7 Change orders;
 - .8 Other modifications to Contract;
 - .9 Field test reports;
 - .10 Copy of approved work schedule; and
 - .11 Waste Reduction Work Plan
 - .12 Manufacturers' installation and application instructions.

1.4 WORK SCHEDULE

- .1 Provide within 5 working days after Contract Award, construction schedule showing material delivery dates, key milestones, anticipated progress stages and final completion of work within the time period required by Contract Documents and as specified herein. The schedule should include a detailed construction plan/sequence and include time for ordering, preparation and delivery of all materials.
- .2 The Contractor shall complete all Work related to this Contract to the approval of the Departmental Representative on or before 12 weeks after contract award.
- .3 Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of Departmental Representative.

1.5 CONTRACTORS USE OF SITE

- .1 A laydown area at Trout Brook, approximately 700 m from the site has been approved by Parks Canada. Any additional areas required shall be approved by Departmental Representative prior to use.
- .2 The Contractor shall maintain the site in a tidy condition free from the accumulation of waste products and debris. Upon completion of the work, remove surplus products, tools, machinery and equipment from the site. Completion of clean-up as required for total completion of the work.
- .3 Contractor shall provide any and all traffic control services required for the project.
- .4 Contractor to obtain all necessary permits to perform work and to comply with all permit requirements and conditions.

1.6 PROJECT MEETINGS

- .1 The Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

1.7 SETTING OUT OF WORK

- .1 The contractor is to provide devices needed to lay out and construct work.
- .2 The contractor is to assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated.
- .3 The Contractor shall provide coordinates, elevations and dimensions in the field, as required by the Departmental Representative.
- .4 The contractor is to make the Departmental Representative aware of any discrepancies between the contract drawings and field measurements and inform the Departmental Representative when errors are discovered.

1.8 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative of findings.
- .2 Attention will be made to the existing fiber optic cable under the inland shoulder and construction activities will not take place in this area.

1.9 ADDITIONAL DRAWINGS

- .1 Departmental Representative may furnish additional drawings for clarification. These additional drawings have the same meaning and intent as if they were included with plans referred to in Contract documents.

1.10 CONSTRUCTION SAFETY MEASURES

- .1 The Contractor must submit a project specific Safety Plan prior to the pre-construction meeting.

1.11 EXCAVATION

- .1 Prior to commencing any excavation the Contractor shall check for and become aware of all buried utilities and submit findings for review and approval by Departmental Representative.

END OF SECTION

Part 1 General

1.1 GENERAL REQUIREMENTS

- .1 The form of Tender includes a lump sum priced item.
- .2 The submitted tender prices will be inclusive of all costs for the complete supply and installation of all materials, labour and equipment required to complete the work. No separate payment will be made for any testing, inspections and approvals required by Contractor.

1.2 LUMP SUM

- .1 There will be no separate measurement for payment of any work completed under this item. Payment will be based upon the overall percentage of completion as determined by the Departmental Representative.
- .2 The work of the lump sum item is inclusive of the entire scope of the project and shall include the following:
 - .1 All mobilization and demobilization to the site, access to the site, temporary utilities, construction facilities and temporary barriers and enclosures.
 - .2 New traffic control devices and measures must maintain minimum one lane, two-way traffic at all times, include proper lights, signage and barriers and be fully compliant with all NSTIR regulations.
 - .3 Protection of all cultural resources.
 - .4 All environmental protection, including erosion controls, sedimentation controls, de-watering and dust control.
 - .5 Field surveys for layout of the construction work items and for collection of as-built condition information.
 - .6 Testing, inspections and permits from all regulatory agencies and groups required to complete work.
 - .7 Design, construction and maintenance of all temporary structures (water diversions, piling, shoring, bracing, underpinning etc.) if required to complete the work. The site includes unstable areas and steep cliffs and temporary structures may be required to complete construction safely.
 - .8 Supply and installation of cast-in-place concrete wall with dowels, rebar and weep holes.
 - .9 Supply, install, test and lock off tie-back anchors and rock anchors, including all associated hardware, i.e., bearing plates, washers, nuts, etc.
 - .10 Cleaning of work site, including removal of waste, debris and recyclable materials.
 - .11 Restoration of all areas disturbed by construction activities to original condition or better.
 - .12 Removal of all surplus materials from the site at completion of work.
 - .13 Preparation and submission of all close-out submittals and as-built drawings.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by the Departmental Representative are specified under various sections.

1.2 APPOINTMENT AND PAYMENT

- .1 The Departmental Representative will appoint and pay for laboratory testing services except as follows:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .2 If contractor casts concrete lagging units themselves, instead of ordering them from a certified precast manufacturer.
 - .3 Inspection and testing performed exclusively for Contractor's convenience.
 - .4 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
 - .5 Mill tests and certificates of compliance.
 - .6 Tests specified to be carried out by Contractor under the supervision of the Departmental Representative.
 - .7 Additional tests specified as follows:
 - .1 Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, the contractor shall pay costs for additional tests or inspections as required by the Departmental Representative to verify acceptability of corrected work.

1.3 CONTRACTOR'S RESPONSIBILITIES

- .1 If casting concrete lagging units themselves, contractor must coordinate and pay costs for a testing consultant to provide rebar inspection and concrete testing adhering to the testing guidelines throughout this specification.
- .2 Provide labour, equipment and facilities to:
 - .1 Provide access to Work for inspection and testing.
 - .2 Facilitate inspections and tests.
 - .3 Make good Work disturbed by inspection and test.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
 - .5 Provide equipment necessary for rock anchor testing.
- .3 Notify the Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
- .4 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.

- .5 Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by the Departmental Representative.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 DEFINITIONS

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
- .6 Master Plan: summary-level schedule that identifies major activities and key milestones.
- .7 Milestone: significant event in project, usually completion of major deliverable.
- .8 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.
- .9 Project Planning, Monitoring and Control System: overall system operated by Departmental Representative to enable monitoring of project work in relation to established milestones.

1.2 REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 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.

1.3 SUBMITTALS

- .1 Submit to Departmental Representative within 5 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .2 Submit Project Schedule to Departmental Representative within 5 working days of receipt of acceptance of Master Plan.

1.4 PROJECT MILESTONES

- .1 Project milestones form interim targets for Project Schedule.
 - .1 Work to achieve substantial completion within 8 weeks of Contract Award.

1.5 MASTER PLAN

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Departmental Representative will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.6 PROJECT SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Shop Drawings, Samples.
 - .3 Permits.
 - .4 Mobilization.
 - .5 Construct Concrete Wall at Existing Soldier Pile Wall.
 - .6 Install Rock Bolts for Wedge Stabilization.
 - .7 Cleanup and Demobilization.

1.7 PROJECT SCHEDULE REPORTING

- .1 Update Project Schedule every 2 weeks reflecting activity changes and completions, as well as activities in progress.
- .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.8 PROJECT MEETINGS

- .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.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 11 00 -General Instructions.
- .2 Section 01 32 16.07 - Construction Progress.
- .3 Section 01 35 29 – Health and Safety.
- .4 Section 01 45 00 - Quality Control.
- .5 Section 01 78 00 - Closeout Submittals.

1.2 ADMINISTRATIVE

- .1 Submit to the Departmental Representative submittals listed for review in each spec section. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to the Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify the Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by the Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by the Departmental Representative's review.
- .10 Keep one reviewed copy of each submission on site.
- .11 Make any changes in submissions which Departmental Representative may require consistent with Contract Documents and resubmit as directed by Departmental Representative.

- .12 Notify Departmental Representative, in writing, when resubmitting of any revisions other than those requested by Departmental Representative.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .3 Allow 5 working days for the Departmental Representative's review of each submission.
- .4 Adjustments made on shop drawings by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative prior to proceeding with Work.
- .5 Make changes in shop drawings as the Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify the Departmental Representative in writing of revisions other than those requested.
- .6 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .7 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.

- .3 Setting or erection details.
- .4 Capacities.
- .5 Performance characteristics.
- .6 Standards.
- .7 Operating weight.
- .8 Relationship to adjacent work.
- .8 After the Departmental Representative's review, distribute copies.
- .9 Submit 6 prints of shop drawings for each requirement requested in specification Sections and as the Departmental Representative may reasonably request.
- .10 Submit 6 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .11 Delete information not applicable to project.
- .12 Supplement standard information to provide details applicable to project.
- .13 If upon review by the Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .14 The review of shop drawings by PWGSC is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
 - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.4 SAMPLES

- .1 Samples: materials, equipment quality, finishes, workmanship.
- .2 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .3 Deliver samples prepaid to the Departmental Representative's business address.
- .4 Notify the Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.

- .5 Adjustments made on samples by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which the Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 PROGRESS PHOTOGRAPHS

- .1 Submit electronic and hard copy of colour digital photographs in “.jpg” format.
- .2 Identification: name and number of project and date of exposure indicated.
- .3 Number of viewpoints: location of viewpoints determined by Department Representative.
- .4 Frequency: monthly and at completion of excavation and services before concealment.

1.6 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

1.7 WORK SCHEDULE

- .1 Provide within 5 working days after contract award, schedule showing anticipated progress stages and final completion of work within time period required by Contract Documents.
- .2 Interim reviews of work progress based on work schedule will be conducted as decided by Department Representative and schedule updated by Contractor in conjunction with and to approval of Department Representative.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Regulate traffic in accordance with the Public Highways Act (Nova Scotia) and stipulated in the Temporary Workplace Traffic Control Manual (NSTWTCM) distributed by the Nova Scotia department of Transportation and Infrastructure Renewal latest edition.
- .2 The Department Representative reserves the right to direct the contractor to reduce either the number or length of traffic control work areas during peak traffic volumes or when cumulative delays exceed the specified maximum.

1.2 REFERENCES

- .1 Manual of Uniform Traffic Control Devices (MUTCD) for streets and Highways – 2002.
- .2 Nova Scotia Temporary Workplace Traffic Control Manual – Latest Edition.

1.3 PROTECTION OF PUBLIC TRAFFIC

- .1 A TC-132NS flashing light units with lights ahead signs will be required at both approaches to the site, as well as proper work zone signage and spacing.
- .2 Comply with requirements of Acts, Regulations and By-Laws 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.
- .3 When working on travelled way:
 - .1 Place equipment in position to present minimum of interference and hazard to travelling public.
 - .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
 - .3 Do not leave equipment on travelled way overnight.
- .4 Do not close any lanes of road without approval of Departmental Representative. Before re-routing traffic erect suitable signs and devices in accordance with instructions contained in Part D of MUTCD and Nova Scotia Temporary Workplace Traffic Control Manual.
- .5 Keep travelled way sufficient width for required number of lanes of traffic.
- .6 It will not be permitted to infill inland ditch for a detour lane.
- .7 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, unless other means of road access exist that meet approval of Departmental Representative.

1.4 INFORMATIONAL AND WARNING DEVICES

- .1 Provide and maintain NSTIR approved temporary, fully actuated traffic signals; signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- .2 All traffic signs are to be bilingual or symbolic and shall be Level 1 reflectivity.
- .3 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in Part D, Temporary Conditions Signs and Devices, of MUTCD manual and Nova Scotia Temporary Workplace Traffic Control Manual.
- .4 Place signs and other devices in locations recommended by NSTCM.
- .5 The Contractor shall provide an Accredited sign Supervisor, who has successfully completed the Temporary Workplace Traffic Control Training Course, to be on site at all times when active construction is taking place. The Accredited Traffic Control Sign Supervisor will be responsible to supervise the placement and dismantling of all temporary conditions signs and devices that indicated to the road user that highway construction activity exists and also to ensure that proper traffic control producers are carried out in accordance with NSTWTCM. The Accredited Sign Supervisor is considered part of the contractors supervision and administration staff and compensation from the provision of this individual is considered incidental to the work.
- .6 A traffic control plan and emergency response plan must be approved by the Departmental Representative prior to commencing any work.
- .7 Continually maintain traffic control devices in use by:
 - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Removing or covering signs which do not apply to conditions existing from day to day.

1.5 CONTROL OF PUBLIC TRAFFIC

- .1 Provide traffic control personnel who have a valid provincial license and are trained in accordance with, and properly equipped as specified in NSTCM manuals in following situations:
 - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
 - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
 - .3 When workmen or equipment are employed at locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
 - .5 For emergency protection when other traffic control devices are not readily available.

- .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .7 At each end of restricted sections where pilot vehicles are required.
- .2 All Traffic Control Personnel shall be equipped with portable radios of sufficient range to ensure continuous communication within the traffic control zone.
- .3 All construction vehicles shall operate in accordance with and are subject to traffic control restrictions and operations in place on the project.

1.6 OPERATIONAL REQUIREMENTS

- .1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified and approved by Departmental Representative to protect and control public traffic, existing conditions for traffic to be restricted as follows:
 - .1 In accordance with TWTCM.
 - .2 Maintain, at minimum, one-lane two-way traffic, by way of NSTIR approved temporary, fully actuated traffic signals. If required traffic may be shut down in both directions for a period of no longer than 20 minutes during the hours of 10:00 p.m. to 6:00 a.m.
 - .3 Maintain existing conditions for traffic crossing right-of-way containing work except that, when required for construction under this Contract and when measures have been taken as specified herein and approved by Departmental Representative to protect and control public traffic.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.

1.2 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Province of Nova Scotia Occupational Health and Safety Act, S.N.S. 1996.

1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan within 7 work days of Notice to Proceed and prior to commencement of work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .3 Submit 2 copies of Contractor's authorized representatives work site health and safety inspection reports to Departmental Representative weekly.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial Health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS MSDS - Material Safety Data Sheets.
- .7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.
- .8 Departmental Representative's review of Contractor's final Health and Safety Plan should not be construed as approval and does not reduce the Contractor's full responsibility for construction Health and Safety.
- .9 Medical Surveillance: Where prescribed by legislation, regulation or safety programs, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
- .10 On-site Contingency and Emergency Response Plan: Address standard operation procedures to be implemented during emergency situations.

- .11 Submit other data, information and documentation upon request as stipulated elsewhere in this section.

1.4 FILING OF NOTICE

- .1 File Notice of Project and other Notices with provincial authorities prior to commencement of work.
- .2 Upon request, Departmental Representative will provide name and mailing address of provincial department to whom the Notice of Project shall be sent.

1.5 HAZARD ASSESSMENTS

- .1 Implement and carry out a health and safety hazard assessment program as part of the work. Program to include:
 - .1 Initial hazard assessment carried out immediately upon notification of contract award prior to commencement of Work.
 - .2 Ongoing hazard assessments performed during the progress of work identifying new or potential health risks and safety hazards not previously known. As a minimum, hazard assessment shall be carried out when:
 - .1 New sub-trade work, new subcontractors or new workers arrive at the site to commence another portion of the Work.
 - .2 The scope of the Work has been changed by Change Order.
 - .3 Potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety representative.
 - .3 Hazard assessments to be project and site specific, based on review of contract documents, site and weather conditions.
 - .4 Each hazard assessment to be made in writing. Keep copies of assessments on site for duration of work. Upon request, make available to Departmental Representative for inspection.

1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work. Have Contractor's Site Superintendent in attendance. Departmental Representative will advise of time and location.
- .2 Provide site safety orientation sessions to all workers and other authorized persons prior to granting them access to work site. Brief persons on site conditions and on the minimum site safety rules in force at the site.
- .3 Conduct site-specific occupational health and safety meetings during the entire work as follows:
 - .1 Formal meetings on a minimum monthly basis.
 - .2 Informal "tool box" meeting on a regular basis from a predetermined schedule.
- .4 Keep workers informed of anticipated hazards, on safety practices and procedures to be followed and of other pertinent safety information related to:

- .1 Progress of work;
- .2 New sub-trades arriving on site, and;
- .3 Changes in site and project conditions.
- .5 Record and post minutes of meeting. Make copies available to Departmental Representative upon request.

1.7 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Health and Safety Plan shall contain the following three (3) parts:
 - .1 Part 1: List of individual health risks and safety hazards identified by hazard assessments.
 - .2 Part 2: List of specific measures to control or mitigate each hazard and risk identified in part one of Plan. Describe the engineering controls, personnel protective equipment and safe work practices to be implemented and followed when performing work related to each identified hazard or risk.
 - .3 Part 3: Emergency Measures and Communications Procedures as follows:
 - .1 Emergency Measures: on-site operating procedures, evacuation measures and emergency response to be implemented in the occurrence of an incident. Procedures to be specific and relevant to identified hazards. Measures to complement and be integrated with the facility and tenants Emergency Response Plans in place at site. Obtain information on existing emergency and evacuation plans from Departmental Representative and incorporate appropriate data.
 - .2 Communication Procedures:
 - .1 List of names and telephone numbers of designated officials, to be contacted should an incident or emergency situation occur, including the following.
 - .1 General Contractor and all Subcontractors.
 - .2 Federal and Provincial Departments and local emergency resources organizations, as applicable laws and regulations.
 - .3 Officials from PWGSC and Parks Canada. Departmental Representative will provide list of names to be included.
 - .2 Procedures implemented at site to communicate and share information between workers, subcontractors, and General Contractor on work activities and in particular those which might endanger workers and Facility employees.
 - .3 Prepare Health and Safety Plan in a three column format, addressing the Three parts specified above, as follows:

Column 1	Column 2	Column 3
Identified	Control Measures	Emergency

	Hazard	Implemented	Measures and Communications Procedures
.4		Develop Health and Safety Plan in collaboration with all subcontractors. Address all work and activities of subcontractors as they arrive on site. Immediately update Plan and submit to Departmental Representative.	
.5		Implement, maintain and enforce compliance with requirements of the Health and Safety Plan until final completion of work and demobilization from site.	
.6		As work progresses, review and update Plan addressing additional health risks and safety hazards identified by on-going hazard assessments.	
.7		Submit revised versions of Plan to Departmental Representative.	
.8		Post a typed written copy, including all updates of the Health and Safety Plan in a common visible location at work site.	
.9		Submission of the Health and Safety Plan, and updates to the Departmental Representative is for review and information purposes only. Its submission shall not be construed to imply approval by Departmental Representative, be interpreted as a warranty of being complete, accurate and legislate compliant and shall not relieve the Contractor of his legal obligations for the provision Health and Safety of the Construction Project.	
.10		Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.	

1.8 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.9 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act, Occupational Safety General Regulations, N.S. Reg.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations made under part II of the Canada Labour Code.
- .3 Observe and enforce construction safety measures required by:
 - .1 2010 National Building Code of Canada, Part 8;
 - .2 Provincial Worker's compensation Board;
 - .3 Municipal Statutes and ordinances.

- .4 In event of conflict between any provisions of above authorities the most stringent provision shall apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- .5 A copy of the Canada Labour Code Part II may be obtained by contacting:
Canadian Government Publishing
Public Works & Government Services Canada
Ottawa, ON, K1A 0S9
Tel: (819) 956-4800 or 1-800-635-7943

1.10 UNFORSEEN HAZARDS

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction. Advise Departmental Representative verbally and in writing.

1.11 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have a minimum 2 years' site-related working experience specific to activities.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of site supervisor.

1.12 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous locations on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.
- .2 Post all permits on site. Submit copies to Departmental Representative.

1.13 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.

Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.14 BLASTING

Blasting or other use of explosives is not permitted on site.

1.15 POWDER ACTUATED DEVICES

- .1 Use powder actuated fastening devices only after receipt of written permission from Departmental Representative.

1.16 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations of Work.

1.17 SITE CONTROL AND ACCESS

- .1 Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop unauthorized persons from circulating within construction areas and remove from site.
- .2 Implement procedures for granting permission to enter into work site to all persons who require access. Procedures to include the provision of a site safety orientation session.
- .3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required.
- .4 Erect signage at entry points and at other strategic locations around site, clearly identifying construction area(s) as being "off limits" to unauthorized persons. Signage must be professionally made in both official languages or by use of well-understood graphic symbols.
- .5 Secure site at night time or provide security guard(s) as deemed necessary to protect site against entry.
- .6 Ensure persons granted access are fitted and wear appropriate personnel protective equipment (PPE). Be responsible for the provision of such PPE to persons who require access to conduct work or perform inspections.

1.18 PROTECTION

- .1 Provide temporary facilities for protection and safe passage of public pedestrians and vehicular traffic around adjacent work site.
- .2 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.
- .3 Carry out work placing emphasis on health and safety of public, site personnel and protection of the environment.
- .4 Should unforeseen or peculiar safety related hazard or condition become evident during performance of work, immediately take measures to rectify the situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

1.19 PERMITS

- .1 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.
- .2 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental Representative in writing and obtain Departmental Representative's approval to proceed prior to carrying out that portion of the work.

1.20 MINIMUM SITE SAFETY RULES

- .1 Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements at the work site and obeyed by all persons granted access:
 - .1 Wear personal protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat and safety footwear. Wear eye protection where appropriate.
 - .2 Immediately report unsafe activities, conditions, near-miss accidents, injuries and damages.
 - .3 Maintain site in tidy condition.
 - .4 Obey warning signs and safety tags.
- .2 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non-compliance of such rules. Post such information on site.

1.21 TOOLS AND EQUIPMENT SAFETY

- .1 Implement and follow a scheduled tool and equipment inspection/maintenance program at work site. Regularly check tools, equipment and machinery for safe operation and perform maintenance at pre-established time and frequency intervals as recommended by manufacturer. Include subcontractors equipment as part of the inspection process.
- .2 Use standardized checklists to ensure established safety checks are stringently followed.
- .3 Immediately tag and remove items found faulty or defective off site.
- .4 Maintain written documentation on each inspection. Make available to Departmental Representative upon request.

1.22 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information Systems (WHMIS).
- .2 Keep MSDS data sheets on site. Provide copies of all data sheets to Departmental Representative upon receipt of materials on site.
- .3 Put all MSDS data sheets on site, in a common area, visible to workers.

1.23 PROJECT / SITE CONDITIONS

- .1 The following are known or potential project related safety hazards at site:

- .1 A failure of the rock mass has occurred on the coastal side of the roadway as a result of unstable rock wedges and the project herein is being carried out to remediate future failures. There is a large possibility of further unstable subsurface conditions throughout the site and further loading of the subgrade and bedrock due to construction activities may induce increased instability. Special planning will be required to carry out the construction sequence in a safe manner.
 - .2 Steep cliffs are present throughout the majority of site and working from heights will be required to complete the scope of the project.
 - .3 Rock cuts adjacent to the site have been actively releasing quantities of rock ranging from small individual pieces falling into the ditch to larger wedges that have filled the ditch and landed on the road.
 - .4 The site will be open to one way traffic throughout the entire project which could pose risk to construction staff and equipment.
 - .5 The site is continually exposed to high winds and planning may be required to ensure safe construction practices under windy conditions.
 - .6 Snow and ice may be present during construction and could induce slips/trips/falls as well as risk to moving equipment.
 - .7 The working area of the site is relatively small being limited to one lane and may become congested during construction activities.
 - .8 The nature of the project will require earth works equipment, drill-rigs, cranes and large trucks which may pose risk to field personnel during mobilization and construction activities.
 - .9 Drilling equipment may have numerous spinning/moving parts and can pose risk to workers if not properly guarded.
- .2 Above lists shall not be construed as being complete and inclusive of safety and health hazards encountered as a result of Contractor's operations during the course of work. Include above items into the hazard assessment program specified herein.

1.24 ACCIDENT REPORTING

- .1 Investigate and report incidents and accidents as outlined in Provincial Occupational Safety and Health Act and Regulations.
- .2 Investigate and immediately report to Departmental Representative incidents and accidents which result, or have the potential of resulting in:
 - .1 Injuries requiring medical aid.
 - .2 Property damage in excess of \$5,000.00.
 - .3 Required notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable regulations.
- .3 Medical aid in above clause shall have the same meaning as the term "medical aid injury" as defined in the Canadian Dictionary of Safety Terms - 1987 issue, from the Canadian Society of Safety Engineers (C.S.S.E.) as follows:
 - .1 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 74 21 – Construction/Demolition Waste Management and Disposal

1.2 SITE SET-UP AND USE

- .1 All site activities related to construction AND USE are to be confined within the defined project boundaries.
- .2 Work sites will be equipped with appropriate and properly maintained sanitary facilities.
- .3 Garbage must be collected and removed daily from the work site. All material must be removed, transported and disposed of in accordance with existing federal, provincial, and municipal solid waste disposal guidelines and/or regulations.
- .4 Littering is prohibited.
- .5 Temporary storage, parking areas, and turn-a-round facilities for contractor-related equipment and vehicles will be limited to those areas agreed to and designated by the Departmental Representative.

1.3 FIRES

- .1 Fires and burning of rubbish on site not permitted.

1.4 DRAINAGE

- .1 Provide Erosion and Sediment Control Plan identifying type and location of erosion and sediment controls provided. Ensure plan includes monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations, EPA 832/R-92-005, Chapter 3 requirements.
- .2 Storm Water Pollution Prevention Plan (SWPPP) to be substituted for erosion and sediment control plan.
- .3 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .4 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .5 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.5 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.

- .2 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.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Topsoil and vegetation should not be removed to obtain fill for road construction purposes.
- .5 Restrict tree removal to areas indicated or designated by the Departmental Representative.
- .6 Vegetation should not be cleared unless approved by Departmental Representative.
- .7 Bulldozers, graders and other clearing and grubbing equipment should not be operated outside of designated clearing boundaries and should have a restricted turning radius.
- .8 Trees and other vegetation outside the limits indicated on the drawing should not be cut or removed; trees or snags posing a danger to operations would be an exception.
- .9 Trees and debris should not be permitted to fall outside cleared areas or into water courses.
- .10 Whenever possible, organic debris removed during grading operations should be stored for use during site restoration. Such stockpiles should be located well away from any streams or water body and should be covered with coarse material or tarps to minimize wind and water erosion.
- .11 For excavation of new work, grubbing operations should only be carried out where required. The vegetative mat should be disturbed in the grubbing operations area only.

1.6 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment to local authorities' emission requirements.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.7 DISPOSAL OF WASTE

- .1 Do not bury rubbish and waste materials on site. Remove all garbage from site daily.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits or oil into water, storm or sanitary sewers.
- .3 Dispose of uncontaminated construction/demolition materials which cannot be recycled or reused, at an approved construction and debris disposal site.

1.8 EARTH MOVEMENT

- .1 All excavated material must be disposed of at an approved location and in an approved manner.
- .2 Any proposed sources of borrow material shall be approved by the Departmental Representative prior to start-up. Fill materials or aggregate used during this Contract shall not contain sulphide-bearing material as defined by the proposed Guidelines for Development on Slates in Nova Scotia (April, 1991).
- .3 When vegetation must be removed, then the extent and duration of exposure should be kept to a minimum. Plan the phases of development so that only areas that are actively being developed are exposed.
- .4 Dust control measures will be necessary, especially when asphalt is removed. The use of chemical dust control agents must be pre-approved by the Departmental Representative.
- .5 Where there is potential for severe erosion and/or downstream "siltation" the Contractor shall cover excavations during major precipitation events as directed by Departmental Representative.

1.9 HAZARDOUS MATERIALS

- .1 Dangerous goods, whose release into the environment could cause adverse effect, should be stored and handled in a manner which gives due regard for workers and public safety, and for the protection of the environment.
- .2 No material toxic to fish or any aquatic life shall be permitted to enter any stream, river, or lake. This shall include, but not be limited to lubricants, fuels, testing fluids, insecticides, detergents, herbicides, cement, lime or concrete.
- .3 The management of fuels, lubricants and chemicals must meet with the requirements of the Nova Scotia Dangerous Goods and Hazardous Wastes Management Criteria and all other appropriate provincial and federal regulations.
- .4 Fueling and lubricating of equipment cannot be done closer than 100 m to any watercourse.
- .5 All refueling and lubricating operations should employ protection measures such as drip pans, to reduce the potential for escape or petroleum products to the environment.
- .6 The Departmental Representative must be immediately contacted after a spill of more than 10 L of fuel or lubricant, and after any amount of other chemical products has escaped.
- .7 Storage of hazardous material, including explosives, shall not be permitted, except for quantities which shall normally be expected to be utilized in a day of Work, and which are not permitted to stockpile.

1.10 ENVIRONMENTAL INCIDENT OR EMERGENCY

- .1 In the event of an environmental incident or emergency such as:

- .1 Chemical spill or petroleum spill,
- .2 Poisonous or caustic gas emission,
- .3 Biological or chemical explosion,
- .4 Hazardous material spill,
- .5 Sewage spill,
- .6 Contaminated water into waterways,
- .7 The Contractor or his employees shall:
 - .1 Notify the Contractor's job superintendent.
 - .2 Call the local emergency services and give type of emergency.
 - .3 Notify the environmental emergency reporting system (1-800-565-1633)
 - .4 Notify the Departmental Representative.
- .2 The Contractor is to submit to Departmental Representative a copy of its Environmental/Spill Response Plan for approval.

1.11 SITE DECOMMISSIONING

- .1 Unless prior permission from the Departmental Representative is obtained, all contractor equipment, facilities and materials must be removed from the site at the finish of each work phase, or if work is suspended due to weather or other circumstances, upon the suspension of work activities.
- .2 All work sites must be returned to a neat and tidy condition upon site abandonment.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 INSPECTION

- .1 Allow the Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by the Departmental Representative instructions, or law of Place of Work.
- .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.
- .4 The Departmental Representative may order any 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.

1.2 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by the Departmental Representative for purpose of inspecting and/or testing portions of Work.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by the Departmental Representative at no cost to the Departmental Representative. Pay costs for retesting and re-inspection.

1.3 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

- .1 Notify appropriate agency and the Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.5 REJECTED WORK

- .1 Remove defective Work, which has been rejected by the Departmental Representative as failing to conform to Contract Documents, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of the Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by the Departmental Representative.

1.6 REPORTS

- .1 Provide copies to subcontractor of work being inspected or tested.

1.7 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by the Departmental Representative and may be authorized as recoverable.

1.8 MILL TESTS

- .1 Submit mill test certificates as requested.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use or as directed by Departmental Representative.

1.2 DEWATERING

- .1 Provide temporary drainage to keep excavations and site free from standing water.
- .2 Ensure discharge is not contaminated with sediment, oil, etc.

1.3 TEMPORARY POWER AND LIGHT

- .1 Departmental Representative will not provide and pay for temporary power during construction for temporary lighting and operating power tools.
- .2 Arrange for connection with approval utility company. Pay all costs for installation, maintenance and removal.
- .3 Temporary power for electric cranes and other equipment requiring in excess of above is the responsibility of the Contractor.
- .4 Provide and maintain temporary lighting throughout the project.
- .5 Coordinate with all Parks Canada/PWGSC Staff.
- .6 Install temporary facilities for power to approval of local power supply authorities.
- .7 Provide and pay for temporary power and lights for use of Departmental Representative site office.

1.4 TEMPORARY COMMUNICATION FACILITIES

- .1 Provide and pay for temporary telephone, fax and data hook up, lines and equipment as necessary for own use and use of Departmental Representative.

1.5 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

1.6 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 All surface modifications are restricted to the identified corridors. Accurate delineation of these corridors by field survey is required prior to commencement of construction.

1.7 STORAGE SHEDS

- .1 Provide adequate weather-tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.

1.8 ACCESS

- .1 Provide and maintain adequate access to project site.
- .2 Build and maintain temporary roads where indicated and provide snow removal during period of work.
- .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.
- .4 All surface modifications are restricted to the identified construction corridors. Accurate delineation of these corridors by field survey prior to commencement of construction is required.
- .5 All vehicle traffic is restricted to existing roadways or as indicated in project plans. A field visit will be scheduled with the Contractor for locational confirmation and all areas of proposed construction will be marked in the field with orange flagging tape prior to commencement of work.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 ACCESS

- .1 Provide and maintain adequate access to project site.
- .2 Build and maintain temporary roads where indicated or directed and provide snow removal during period of work.
- .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.

1.2 STORAGE SHEDS

- .1 Provide adequate weather-tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather at locations approved by the Departmental Representative.

1.3 SANITARY FACILITIES

- .1 Provide a portable toilet facility at PWGSC Engineers site trailer, located at Petit Etang.
- .2 Provide sanitary facilities for workers in accordance with governing regulations and ordinances.
- .3 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.4 SITE SIGNS & NOTICES

- .1 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction shall be in both official languages. Graphic symbols shall conform to CAN3-Z321-77.
- .2 Maintenance and Disposal of Site Signs:
 - .1 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.

Part 2 Materials

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.2 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.3 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Be responsible for damage incurred due to lack of or improper protection.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 Within text of each specifications section, reference may be made to reference standards.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether any product or system is in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be borne by Contractor in event of non-conformance.

1.2 QUALITY

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout the project.

1.3 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify Departmental Representative/Project Managers at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative/Project Managers reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.

- .4 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .5 Touch-up damaged factory finished surfaces to Departmental Representative/Project Managers satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.5 TRANSPORTATION

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

1.6 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative may establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

1.8 CO-ORDINATION

- .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.9 REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.10 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or pedestrian and vehicular traffic.

- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 QUALIFICATIONS OF SURVEYOR

- .1 Qualified registered land surveyor, licensed to practice in Nova Scotia and acceptable to the Departmental Representative.

1.2 SURVEY REFERENCE POINTS

- .1 Existing base horizontal and vertical control points are designated on drawings.
- .2 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
- .3 Make no changes or relocations without prior written notice to the Departmental Representative.
- .4 Report to the Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- .5 Require surveyor to replace control points in accordance with original survey control.

1.3 SURVEY REQUIREMENTS

- .1 Establish two permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
- .2 Establish lines and levels, locate and lay out, by instrumentation.
- .3 Stake for grading, fill placement, granular material, and culvert placements.
- .4 Stake slopes and berms.
- .5 Establish pipe invert elevations.

1.4 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify the Departmental Representative of findings.
- .2 Remove abandoned service lines within 2m of structures. Cap or otherwise seal lines at cut off points as directed by the Departmental Representative.

1.5 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.
- .3 Record locations of maintained, re-routed and abandoned service lines.

1.6 SUBMITTALS

- .1 Submit name and address of Surveyor to the Departmental Representative.
- .2 On request of the Departmental Representative, submit documentation to verify accuracy of field engineering work.

- .3 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform and do not conform with Contract Documents.

1.7 SUBSURFACE CONDITIONS

- .1 Promptly notify the Departmental Representative if subsurface conditions within project area differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should the Departmental Representative determine that conditions do differ materially, instructions will be issued for changes in Work as provided in Changes and Change Orders.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED SECTION

- .1 Section 01 77 00 - Closeout.

1.2 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.
- .2 Remove waste materials from site at regularly scheduled times or dispose as directed by Department Representative. Do not burn waste materials on site.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide on-site containers for collection of waste materials and debris.
- .5 Provide and use clearly marked separate bins for recycling.
- .6 Remove waste material and debris from site and deposit in waste container at end of each working day.
- .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8 Dispose of waste materials, and debris off site at approved facilities.

1.3 FINAL CLEANING

- .1 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review, remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris including that caused by Owner or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Sweep and wash clean paved areas.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 1 General

1.1 DEFINITIONS

- .1 Materials Source Separation Program (MSSP): Consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .2 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
- .3 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .4 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .5 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .6 Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .7 Separate Condition: Refers to waste sorted into individual types.
- .8 Source Separation: Acts of keeping different types of waste materials separate beginning from first time they became waste.

1.2 DOCUMENTS

- .1 Maintain at job site, one copy of following documents:
 - .1 Waste Reduction Workplan.

1.3 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 Submittal Procedures.
- .2 Prepare and submit following prior to project start up:
 - .1 Submit 2 copies of completed Waste Reduction Workplan (WRW).

1.4 WASTE REDUCTION WORKPLAN (WRW)

- .1 Prepare WRW prior to project start up.
- .2 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .3 Describe management of waste.
- .4 Post WRW or summary where workers at site are able to review content.

1.5 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non salvageable materials from salvaged items. Transport and deliver non salvageable items to licensed disposal facility.
- .5 Protect structural components not removed for demolition from movement or damage.
- .6 Protect surface drainage, mechanical and electrical from damage and blockage.
- .7 Separate and store materials produced during dismantling of structures in designated areas.
- .8 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On-site source separation is recommended.
 - .2 Remove co-mingled materials to off-site processing facility for separation.
 - .3 Provide waybills for separated materials.

1.6 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner, into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
 - .1 Total tonnage generated.
 - .2 Tonnage reused or recycled.
 - .3 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material by material basis as identified in pre demolition material audit.

1.7 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by existing facility.

1.8 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 APPLICATION

- .1 Do Work in compliance with WRW.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2 CLEANING

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

END OF SECTION

Part 1 General

1.1 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
- .2 Departmental Representative Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .3 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Equipment and systems have been tested, adjusted and are fully operational.
 - .4 Operations of systems have been demonstrated to Departmental personnel.
 - .5 Work is complete and ready for Final Inspection.
- .4 Final Inspection: when items noted above are completed, request final inspection of work by Departmental Representative, and Contractor. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.
- .6 Commencement of Lien and Warranty Periods: date of Departmental acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .7 Final Payment: When Departmental Representative considers final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. If work is deemed incomplete by Owner and Departmental Representative, complete outstanding items and request re-inspection.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Canadian Environmental Protection Act (CEPA).

1.2 FORMAT

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings.
 - .1 Identify contents of each binder on spine.
- .4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by systems under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in dwg format on CD.

1.3 AS-BUILT DOCUMENTS AND SAMPLES

- .1 Maintain, in addition to requirements in General Conditions, at site for the Departmental Representative one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
 - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.

- .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by the Departmental Representative.

1.4 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

- .1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by the Departmental Representative.
- .2 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
- .3 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .2 Field changes of dimension and detail.
 - .3 Changes made by change orders.
 - .4 Details not on original Contract Drawings.
 - .5 References to related shop drawings and modifications.
- .4 Specifications: mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .5 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.
- .6 Provide digital photos, if requested, for site records.

1.5 FINAL SURVEY

- .1 Submit final site survey certificate in accordance with Section 01 71 00 - Examination and Preparation, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

1.6 WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in manufacturers, within ten days after completion of the applicable item of work.
- .4 Except for items put into use with Departmental permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION