

- 1.1 Description of Work
- .1 The work will be carried out on the Point Wolfe and Herring Cove Roads within Fundy National Park. The work includes two major culverts, both along Hueston Brook, one minor cross culvert on Point Wolfe Road, asphalt seal for two parking lots on Point Wolfe and replacing guiderail posts along Point Wolfe and Herring Cove Road.
 - .2 PWGSC will have a Department Representative available to work collaboratively and jointly with the Contractor to determine field quantities.
 - .3 The work of this contract includes the provision of all materials, labour, equipment, and ancillaries, all as necessary for the completion of the work as indicated on the drawings and as described in the specifications and notes. Work on this project consists generally of, but not limited to, the following:
 - .1 Pulverize existing asphalt and reuse on site at culvert locations for shoulder material.
 - .2 Excavating till, fill and bedrock as required to facilitate construction as shown on the drawings.
 - .3 Clearing and Grubbing as required along the roadway.
 - .4 Relocate existing directional signs as required.
 - .5 Replace existing culverts with new, as indicated on drawing.
 - .6 Supply, install and remove all environmental protection measures required, such as silt fences, diversion ditches and check dams.
 - .7 Topsoil and Hydro-seed all areas disturbed by construction.
 - .8 Remove, and re-install guardrail and all associated accessories as indicated on drawings.
 - .9 Remove, supply and install new guardrail posts

and reinstate guiderail in sections indicated on drawings.

.10 Supply and install new timber posts for all new signs as required.

.11 Supply, placing and compacting asphalt as shown on drawings.

.12 Supply, placing and compacting new granular up to underside of asphalt as shown on drawings.

.13 Supply and install new temporary pavement markings.

.14 Relocated existing utility poles as required/directed by appropriate authorities.

.15 Supply all necessary road signs and traffic control.

.16 Paint centerline for Point Wolfe and Herring Cove Roads. Also re stripe lines in both parking lots at the end of Point Wolfe Road

.17 All other labour, materials and work necessary to complete the project to the Department Representative's full satisfaction.

.4 All work to be carried out in accordance with applicable federal and provincial regulations for those agencies having jurisdiction for the work. The work is subject to the National Park Act and Regulations, Canadian Environmental Protection Act, and the NB Occupational Health and Safety Act and Regulations.

.5 The Contractor is advised that other construction work may be being performed at several different locations by others during the time frame of this contract.

.6 Maintain work during construction. Undertake continuous and effective maintenance work day by day, with adequate equipment and forces so that the work is continuously kept in a condition satisfactory to Department Representatives.

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- 1.2 Familiarization with Site .1 Before submitting a bid, it is recommended that bidders visit the site to review and verify the form, nature and extent of the work, materials needed, the means of access and the temporary facilities required to perform the Work.
- .2 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- 1.3 Codes and Standards .1 Perform work in accordance with the 2010 National Building Code of Canada and any other code of provincial or local application, including all amendments up to bid closing date, provided that in any case of conflict or discrepancy, the more stringent requirement shall apply.
- .2 Materials and workmanship must meet or exceed requirements of specified standards, codes and referenced documents.
- 1.4 Interpretation of Documents .1 Supplementary to the Order of Precedence article of the General Instructions of the Contract, the Division 01 sections take precedence over the technical specification sections in other Divisions of the Specification Manual.
- 1.5 Term Engineer .1 Unless specifically stated otherwise, the term Engineer where used in the Specifications and on the Drawings shall mean the Department Representative as defined in the General Instructions of the Contract.
- 1.6 Setting out Work .1 The Contractor will set stakes to define location, alignment and elevations of work, and measurement of the work.
- .2 Supply such devices as straight edges and templates required to facilitate Departmental Representative's inspection of work.
- .3 Supply stakes and other survey markers required for laying out work.

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- 1.7 Cost Breakdown
- .1 Before submitting first progress claim submit breakdown of Contract price in detail as directed by Departmental Representative and aggregating contract price. Required forms will be provided for application of progress payment.
 - .2 List items of work numerically following the same division/section number system of the specification manual and thereafter sub-divide into major work components and building systems as directed by Departmental Representative.
 - .3 Upon approval, cost breakdown will be used as basis for progress payment.
- 1.8 Measurement for Payment
- .1 Notify Departmental Representative sufficiently in advance of operations to permit required measurements for payment.
- 1.9 Maintenance of Work During Construction
- .1 Maintain work during construction. Undertake continuous and effective maintenance work day by day, with adequate equipment and forces so that the roadway or structures are continuously kept in a condition satisfactory to Department Representative.
- 1.10 Codes
- .1 Perform work in accordance with National Parks Act, Code of Practice of the Department of Labour, as it pertains to the Temporary Workplace Traffic Control Manual (Department of Transportation & Public Works and any other code of federal, provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
 - .2 Materials and workmanship must conform to or exceed applicable standards of Canadian General Standards Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM) and other standards organizations.
 - .3 Conform to latest revision of any referenced standard as re-affirmed or revised to date of specification. Standards or codes not dated shall be deemed editions in force on date of tender advertisement.

- 1.11 Work Within Park .1 The project is within a national park boundaries and Boundaries
Boundaries
- .1 If any damage occurs during construction, the Contractor is responsible to bear the expense to immediately restore such damaged areas to the satisfaction of the Department Representative.
- .2 If Contractor fails to repair damage to the satisfaction of the Department Representative, the Department Representative may complete repairs at the Contractor's expense.
- .3 The Contractor shall ensure that contracted work meets the standards outlined in the contract specification and drawings.
- .4 The Contractor shall ensure that no damage will be done to underground telephone cables.
- .5 All sources of aggregate and asphalt cement must be submitted to the Department Representative for approval at least two weeks prior to the start of any work.
- .6 The Contractor is responsible to follow the Provincial requirements regarding the following:
- .1 Pit and Quarry Guidelines
 - .2 Environmental Construction Practice specifications
- .7 The Contractor will make arrangements with authorities or owners of private properties for quarrying and transporting materials and machinery over their properties and be responsible for obtaining and paying of fees.
- 1.12 Documents .1 Maintain at job site, one copy each of following:

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- Required
- .1 Contract drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed drawings
 - .5 Change orders
 - .6 Other modifications to Contract
 - .7 Copy of approved work schedule
- 1.13 Departmental Representative
- .1 Departmental Representatives can be contacted at:

Public Works & Government Services Canada
189 Prince William Street
Saint John, NB E2L 2B9

Telephone: (506) 636-4416 Facsimile: (506) 636-4376
- 1.14 Work Schedule
- .1 Provide to the Department Representative in writing and within 10 working days after Contract award, a detailed construction schedule and traffic control plan. The schedule shall show proposed work to be undertaken and anticipated completion dates for each category of work in the Unit Price Table.
 - .2 After receiving the Contractor's plan and prior to start of construction, a meeting involving Contractor, Department Representative and Parks Canada will be held at a place and time to be determined by the Department Representative. This meeting will review implications of the contract, design, schedule of work, methods of construction, environment protection methods and traffic control.
 - .3 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 Departmental Representative.
 - .4 No work will begin until the pre-construction meeting is held.
 - .5 Following the pre-construction meeting and approval of the schedule and traffic control plan, the work will be so scheduled to meet the time restraints and have the project completed on time.
 - .6 During construction, one lane of roads (Point Wolfe

of service lines in area of work and notify Department Representative of findings.

- .3 Submit schedule to and obtain approval from Department Representative for any shut down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
- .4 Where unknown services are encountered immediately advise Department Representative and confirm findings in writing.
- .5 Record locations of maintained, re routed and abandoned service lines.
- .6 Ensure pedestrian and other traffic is not unduly impeded, interrupted or endangered by execution or existence of work or plant.
- .7 Maintain existing signs at all times. When it is necessary to temporarily remove a sign, it shall be dismantled and re-established on a temporary post or stand set back from construction area. The work is considered to be incidental and no separate payment will be made for maintaining or moving signs.
- .8 Verify locations of any underground utilities.

1.20 Additional Drawings

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

1.21 Relics, Antiques and Wildlife Habitat

- .1 Protect relics, antiquities, wildlife habitat, items of historical or scientific interest such as cornerstones and contents, animal nesting sites, commemorative plaques, inscribed tablets, and similar objects found during course of work.
- .2 Give immediate notice to Department Representative and await Department Representative's written instructions before proceeding with work in this area.

- .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.
- 1.22 National Park Act
- .1 For projects within boundaries of National Park, perform work in accordance with National Parks Act.
- 1.23 Measurement of Quantities
- .1 Linear: Items which are measured by metre or of kilometre, such as pavement markings will be measured along centreline of installation unless otherwise shown on plans.
 - .2 Area:
 - .1 Longitudinal and transverse measurements for areas to be measured horizontally.
 - .2 Longitudinal and transverse measurements for such items as topsoil and seeding to be made on actual flat or sloped surface seeded or sodded.
 - .3 Volume:
 - .1 In computing volumes of excavation, average end area method will be used unless otherwise directed by Department Representative in writing.
 - .2 Term: Litre shall mean 1000 mL or L.
 - .3 All volume measurements refer to in place measure unless specified elsewhere in specification.
 - .4 Mass:
 - .1 Term "tonne" shall mean 1000 kg.
 - .2 Materials which are specified for measurement by mass shall be weighed on scales approved by and at locations designated by Department Representative. Units used to haul material being paid for by mass shall bear legible identification numbers plainly visible to scale person as it approaches and leaves scale-house.
 - .5 Time:
 - .1 Unless otherwise provided for elsewhere or by written authority of Department Representative, hourly rental of equipment will be measured in actual

measures are in compliance with Federal, Provincial, and Municipal laws and regulations.

.5 Drawings showing locations of material on site.

.6 Traffic control Plans including measures to minimize amount of mud transported onto paved public roads by vehicle runoff.

.7 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas.

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

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

.10 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site.

.11 Containment prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial and Municipal laws and regulations for storage and handling of these materials.

.12 Waste water management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing lines.

.13 Pump around plan for construction of the two culverts located within Hueston Brook.

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- 1.1 Submittals
- .1 Upon acceptance of bid and prior to commencement of work, submit to Departmental Representative the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Shop Drawing Submittal Schedule specified in Section 01 33 00
 - .3 Waste Management Plan specified in Section 01 74 22
 - .4 Environmental Plan specified in Section 01 35 44
 - .5 Health and Safety Plan specified in Section 01 35 28
 - .6 Dust Control Plan specified in Section 32 15 60.
- 1.2 Work Schedule
- .1 Upon acceptance of bid submit:
 - .1 Preliminary work schedule within 10 calendar days of contract award.
 - .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted bid.
 - .3 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
 - .4 Work schedule content to include as a minimum the following:
 - .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with;

- .2 Written narrative on key elements of work illustrated in bar chart, providing sufficient details to demonstrate a reasonable implementation plan for completion of project within designated time.
- .3 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .5 Work schedule must take into consideration and reflect the work phasing.
- .6 Schedule work in cooperation with the Departmental Representative.
- .7 Completed schedule shall be approved by Departmental Representative. When approved, take necessary measures to complete work within scheduled time. Do not change schedule without Departmental Representative's approval.
- .8 Ensure that all subtrades and subcontractors are made aware of the work constraints and operational restrictions specified.
- .9 Schedule Updates:
- .1 Submit when requested by Departmental Representative.
- .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
- .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .10 Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Departmental Representative. Address and take corrective measures on items identified by reviews and as directed by Departmental Representative. Update schedule accordingly.

- .11 In every instance, change or deviation from the Work Schedule, no matter how minimal the risk or impact on safety or inconvenience to tenant or public might appear, will be subject to prior review and approval by the Departmental Representative.
- 1.3 Project Meetings
- .1 Schedule and administer project meetings, held on a bi-weekly basis, for entire duration of work and more often when directed by Departmental Representative as deemed necessary due to progress of work or particular situation.
 - .2 Prepare agenda for meetings.
 - .3 Notify participants by e-mail 4 days in advance of an unscheduled meeting date.
 - .1 Ensure attendance of all subcontractors.
 - .2 Departmental Representative will provide list of other attendees to be notified.
 - .4 Hold meetings at project site or where approved by Departmental Representative.
 - .5 Preside at meetings and record minutes.
 - .1 Indicate significant proceedings and decisions. Identify action items by parties.
 - .2 Distribute to participants by e-mail or by facsimile within 3 calendar days after each meeting.
 - .3 Make revisions as directed by Departmental Representative.

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1.1 Measurement .1 All measurement shall be along a horizontal plane unless otherwise indicated.

1.2 Pay Items

Earthwork

- .1 Clearing and Grubbing:
- .1 Unit of Measurement: hectare (ha).
 - .2 Method of Measurement: measured area of horizontal or sloped surface, as applicable for acceptable Clearing or Grubbing.
 - .3 This item includes: cutting and disposal of all trees, brush and vegetation from areas indicated.
 - .4 This item includes: removal and disposal of all stumps, roots, downed timber, embedded logs, rootmat, humus, topsoil and other material from areas indicated, including areas of excavation and areas of fill less than 3 m deep. Includes stockpiling topsoil for re-use in the work later.
- .2 Mass Excavation-Common:
- .1 Unit of Measurement: cubic metre (m³).
 - .2 Method of Measurement: average end area method between cross sections taken after grubbing and/or topsoil removal and to the lines and elevations indicated.
 - .3 This item includes: excavation, movement/transporting, placement as fill and compaction to the lines and elevations indicated. This item includes unsuitable material not suitable for re-use as fill, and disposal off site. Written authorization required from Department Representative for unsuitable material. This item includes removals, disposal off site or re-use in the work, of all existing stone walls, gabion walls, boulder walls, and other structures and items required to be removed and not specifically included in other pay items.
- .3 Class A1 Borrow:
- .1 Unit of Measurement: cubic metre
 - .2 This item includes: transportation, supply, placement and compaction in layers.

.4 **Culverts**

.1 Unit of Measurement: metre (m).

.2 Method of Measurement: along centreline of new culvert pipe, from end to end of culvert, or extension, as laid and as accepted by the Department Representative.

.3 This item includes: pipe, footings, pipe bedding and low permeability fill, compaction, and reinstatement.

.4 This item includes excavation and removal of existing CSP culverts, and disposal of all old culvert material for which there is no direct payment.

.5 Excavation and backfilling for culverts will be paid under mass excavation - common.

.5 **Asphalt Removal**

.1 Unit of Measurement: square metre (m²).

.2 Method of measurement: plan measurement from width and length of existing asphalt surfaces.

.3 This item includes: milling and pulverizing with Class A material as indicated on the plan or as directed by the Department Representative.

.4 Approximately 100 percent of milled asphalt quantity to be reused as shoulder material.

Road Construction

.6 Gravels:

.1 As per NBDTI Standard Specifications Item 201

.2 Unit of Measurement: Metric Tonne (1000 kg).

.3 Method of Measurement: from accepted truck slips, except as provided below.

.4 There shall be no payment for extra thickness of gravels placed or gravels placed outside of limits. Whenever in the opinion of the Department Representative there is extra thickness, the appropriate weight will be deducted.

.5 This item includes: supply, placement and compaction of gravel as indicated for roadway, and shoulder. It excludes gravels at structures and where included in other pay items, e.g. culverts. It excludes any gravels for temporary traffic routes/widening.

.7 Asphaltic Concrete:

.1 Type B - Base Course. Type D - Surface Course.

.2 Unit of Measurement: Metric Tonne (1000 kg)

.3 Method of Measurement: from accepted truck slips, except as provided below.

.4 There shall be no payment for extra thickness or extra width of asphalt placed. Wherever in the opinion of the Department Representative there is extra thickness, the appropriate weight will be deducted.

.5 Pavement markings to be reinstated with the same layout as existing.

.6 Adjustments will be made to progress estimates to compensate for changes in liquid asphalt prices at time of Tender and prices in effect during construction. Increases or decreases in excess of 5% of the Benchmark Tender Price will be paid or deducted accordingly. The governing price will be the monthly weighted average asphalt binder rack price quoted on Ontario Hot Mix Producers Association OHMPA at <http://www.ohmpa.org>. This adjustment will include and changes in taxes outlined in General Instructions. The benchmark price shall be the AC Price Index quoted for the month in which the tender closed. The adjustments shall be computed based on the changes in the average monthly price in excess of or less than the benchmark at time of production. The Engineer shall then calculate the adjustment to be stated in the Monthly Progress Estimate. The

liquid asphalt cost adjustment shall be calculated using the quantity of the item added to the progress estimate since the last estimate. In cases where liquid asphalt is included in the price of Asphalt Concrete, the liquid asphalt quantity will be determined using the mix design.

.8 Tact Coat:

.1 Unit of measurement: square metre (m²)

.9 Line Striping:

.1 Unit of Measurement: linear metre (m)

.10 Shoulder Material

.1 Unit of measurement: metric Tonne

.2 Payment includes processing Rap. Stockpiling transportation from stockpile to work, placing, shaping and compaction.

Landscaping

.11 Topsoil:

.1 Unit of Measurement: square metre (m²)

.2 Method of Measurement: plan area measure.

.3 This item includes: excavation, grading, topsoil, lime and fertilizer, required accessories, and maintenance, if any areas are designated by the Department Representative during construction. It excludes reinstatement of existing grassed areas, for which there is no direct payment.

.12 Hydraulic Seeding:

.1 Unit of Measurement: square metre (m²)

.2 Method of Measurement: slope measure, from slope height and horizontal length of sections.

.3 This item includes: hydroseed mix, mulch, erosion control agent, water and fertilizer as specified and maintenance to ensure successful growth, with re-seeding if required for which there is no direct payment.

Miscellaneous

.13 W-Beam Guiderail:

.1 Unit of Measurement: lineal metre (m)

- .2 This item includes: the removal of the existing guiderail, the common excavation and backfill, supply and placing posts, re-using steel W-beam guiderail, reflectors, hardware, all accessories, and surface reinstatement and all materials and labour for the finished product, including concrete.
- .14 Riprap:
.1 Unit at measurement: metric tonne
.2 There shall be no extra payment for extra thickness of Riprap placed or Riprap placed outside of the limits
.3 This item includes supply and placement of the specified Riprap
- .15 Environmental Protection:
.1 Unit of measurement: Lump sum
.2 This item includes the supply, installation and maintenance of all protection measures covered in Section 01 15 44
- .16 Traffic Control:
.1 Unit of measurement: Lump sum
.2 This item includes all work required for traffic control during construction covered in Section 01 55 26
- .17 All and any items not specifically included in the Measurement for Payment and Pay Item List are considered incidental to the work and are to be included in the tendered price for related work.

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- 1.1 Related Sections .1 Section 01 78 00 - Closeout Submittals.
- 1.2 Submittal General Requirements .1 Submit to Departmental Representative for review General Requirements requested submittals specified in various sections of the specifications including shop drawings, samples, permits, compliance certificates, test reports, work management plans and other data required as part of the work.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for Departmental Representative's review and not cause delay in Work. Failure to submit in ample time will not be considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with work until relevant submissions have been reviewed.
- .4 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units, provide soft converted values.
- .6 Review submittals prior to submission. Ensure that necessary requirements have been determined and verified and that each submittal has been checked and coordinated with requirements of Work and Contract Documents.
- .1 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by Departmental Representative and considered rejected.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

- .9 Contractor's responsibility for errors, omissions or deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative's review.
- .10 Submittal format: paper originals, or alternatively clear and fully legible photocopies of originals.
- Facsimiles are not acceptable, except in special circumstances pre-approved by Departmental Representative. Poorly printed non-legible photocopies or facsimiles will not be accepted and be returned for resubmission.
- .11 Make changes or revision to submissions which Departmental Representative may require, consistent with Contract Documents and resubmit as directed by Departmental Representative. When resubmitting, identify in writing of any revisions other than those requested.
- .12 Keep one reviewed copy of each submittal document on site for duration of Work.

1.3 Shop Drawings and Product Data

- .1 The term "shop drawings" means fabrication drawings, and erection drawings, diagrams, illustrations, schedules, performance charts, technical product data, brochures, specifications, test reports installation instructions and other data which are to be provided by Contractor to illustrate compliance with specified materials and details of a portion of work.

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- 1.1 Section Includes .1 Fire Safety Requirements.
- 1.2 Related Work .1 Section 01 35 28 - Health and Safety Requirements.
- 1.3 References .1 Fire Protection Standards issued by Fire Protection Services, Labour Program Division of Service Canada:
- .1 FCC No. 301-June 1982 Standard for Construction Operations.
 - .2 FCC No. 302-June 1982 Standard for Welding and Cutting.
- .2 FCC standards may be viewed at:
- .1 <http://www.hrsdc.gc.ca/en/lp/lo/fp/standards/commissioner.shtml>
 - .2 Fire Protection Services - Atlantic Region office, Halifax, N.S, (902) 426-6053.
- 1.4 Fire Safety Requirements .1 Implement and follow fire safety measures during Work. Comply with following:
- .1 National Fire Code.
 - .2 Fire Protection Standards FCC 301 and FCC 302.
 - .3 Federal and Provincial Occupational Health and Safety Acts and Regulations.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

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- 1.1 Related Work .1 Section 01 35 24 - Special Procedures on Fire Safety Requirements.
- 1.2 Submittals .1 Submit to Departmental Representative copies of the following documents, including updates:
- .1 Site Specific Health and Safety Plan
 - .2 Name and qualifications of person to be retained full time as H&S Co-ordinator.
- 1.3 Compliance Requirements .1 Comply with the Occupational Health and Safety Act for the Province of New Brunswick, and the Occupational Health and Safety Act Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code Part II, and the 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 National Building Code of Canada;
 - .2 Provincial Worker's Compensation Board; and
 - .3 Municipal statutes and ordinances.
- .4 In event of conflict between any provisions of above authorities the most stringent provision will 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, Ontario, K1A 0S9
Tel: (819) 956-4800 (1-800-635-7943)
Publication No. L31-85/2000 E or F)
- .6 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to Departmental Representative upon request.

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- 1.4 Responsibility
- .1 Be responsible for health and safety of persons on site, of property and for protection of persons and public circulating adjacent to work operations to extent that they may be affected by conduct of the Work.
 - .2 Enforce compliance by all workers, sub-contractors and other persons granted access to work site with safety requirements of Contract Documents, applicable Federal, Provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- 1.5 Site Control and Access
- .1 Control work site and entry points to construction areas.
 - .1 Delineate and isolate construction areas from other areas of site Facility by use of appropriate means.
 - .2 Post notices and signage at entry points and at other strategic locations identifying entrance onto site to be restricted to authorized persons only.
 - .3 Signage must be professionally made, bilingual in both official languages or display internationally understood graphic symbols.
 - .2 Approve and grant access to site only to workers and authorized persons.
 - .1 Immediately stop non-authorized persons from circulating in construction areas and remove from site.
 - .2 Provide site safety orientation to all persons before granting access. Advise of site conditions, hazards and mandatory safety rules to be observed on site.
 - .3 Secure site at night time to extent required to protect against unauthorized entry.
 - .4 Ensure persons granted access to site wear appropriate personal protective equipment (PPE) suitable to work and site conditions.

.1 Provide such PPE to authorized persons who require access to perform inspections or other approved purposes.

- 1.6 Protection
- .1 Carry out work placing emphasis on health and safety of the Public, Facility personnel, construction workers and protection of the environment.
 - .2 Erect safety barricades, lights and signage on site to effectively delineate work areas, protect pedestrian and vehicular traffic around and adjacent to work and to create a safe working environment.
 - .3 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.
- 1.7 Filing of Notice
- .1 File Notice of Project and other Notices with Provincial authorities prior to commencement of Work.
- 1.8 Permits
- .1 Post on site permits, licenses, compliance certificates specified in Section 01 10 10.
 - .2 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental Representative in writing and obtain his/her approval to proceed before carrying out that portion of work.
- 1.9 Hazard Assessments
- .1 Conduct site specific health and safety hazard assessment before commencing project and during course of the work. Identify risks and hazards resulting from site conditions, weather conditions and work operations.
 - .1 Also, conduct assessment when the scope of work has been changed by Change Order and when potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety Representative.

- .2 Record results in writing and address in Health and Safety Plan.
- .3 Keep copy of all assessments on site.

1.10 Project/Site
Condition

- .1 The following are known or potential project related health, environmental and safety hazards at site which must be properly managed if encountered during course of work:
 - .1 Existing site and environmental conditions are:
 - .1 Working near watercourse.
 - .2 Working on steep or uneven ground.
 - .3 Working with adverse weather conditions.
 - .4 Working near trench excavations.
 - .5 Working near public traffic.
 - .6 Working near tress and overhead obstructions.
 - .7 Working near heavy moving machinery.
 - .2 Above list shall not be construed as being complete and inclusive of potential health, and safety hazards encountered during work. Include above items into hazard assessment process.
 - .3 Obtain from Departmental Representative, copy of MSDS Data sheets for existing hazardous products stored on site or used by Facility personnel.

1.11 Health and
Safety Meetings

- .1 Attend pre-construction health and safety meeting conducted by Departmental Representative. Have following persons in attendance:
 - .1 Site Superintendent.
 - .2 Contractor's designated Health and Safety Site Supervisor.
 - .3 Health & Safety Site Coordinator.
 - .4 Departmental Representative will advise of date, time and location.

1.12 Health and
Safety Plan

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work.
 - .1 Submit copy to Departmental Representative within 14 calendar days of acceptance of bid.
 - .2 Submit updates as work progresses.
- .2 Health and Safety Plan shall contain three (3) parts with following information:
 - .1 Part 1 - Hazards: List of individual health risks and safety hazards identified by hazard assessment process.
 - .2 Part 2 - Safety Measures: engineering controls, personal protective equipment and safe work practices used to mitigate hazards and risks listed in Part 1 of Plan.
 - .3 Part 3a: Emergency Response: standard operating procedures, evacuation measures and emergency response in the occurrence of an accident, incident or emergency.
 - .1 Include response to all hazards listed in Part 1 of Plan.
 - .2 Evacuation measures to complement the Facility's existing Emergency Response and Evacuation Plan. Obtain pertinent information from Departmental Representative.
 - .3 List names and telephone numbers of officials to contact including:
 - .1 General Contractor and all Subcontractors.
 - .2 Federal and Provincial Departments as stipulated by laws and regulations and local emergency resource organizations, as needed based on nature of emergency or accident.

.3 Officials from PWGSC and site Facility management. Departmental Representative will provide list.

.3 Part 3b - Site Communications:

.1 Procedures used on site to share work related safety issues between workers, subcontractors, and General Contractor.

.2 List of critical tasks and work activities, to be communicated with the Facility Manager, which has risk of affecting tenant operations, or endangering health and safety of Facility personnel and the general public. Develop list in consultation with the Departmental Representative.

.4 Prepare Health and Safety Plan in a three column format, addressing the three parts specified above, as follows:

Column 1	Column 2	Column 3
Part 1 Identified Hazards	Part 2 Safety Measures	Part 3a/3b Emergency Response & Site Communications

.5 Develop Plan in collaboration with subcontractors. Address work activities of all trades. Revise and update Plan as Sub-contractors arrive on site.

.6 Implement and enforce compliance with requirements of Plan for full duration of work to final completion and demobilization from site.

.7 As work progresses, review and update Plan. Address additional health risks and safety hazards identified by on-going hazard assessments.

.8 Post copy of Plan, and updates, on site.

.9 Submission of the Health and Safety Plan, and updates, to the Departmental Representative is for review and information purposes only. Departmental Representative's receipt, review and any comments made of the Plan shall not be construed to imply approval in part or in whole of such Plan by Departmental Representative and shall not be interpreted as a warranty of being complete and accurate or as a confirmation that all health and

safety requirements of the Work have been addressed and that it is legislative compliant. Furthermore, Departmental Representative's review of the Plan shall not relieve the Contractor of any of his legal obligations for Occupational Health and Safety provisions specified as part of the Work and those required by provincial legislation.

1.13 Safety
Supervision and
Inspections

- .1 Designate one person to be present on site at all times, responsible for supervising health and safety of the Work.

- .1 Person to be competent in Occupational Health and Construction Safety as defined in the Provincial Occupational Health and Safety Act.

- .2 Assign responsibility, obligation and authority to such designated person to stop work as deemed necessary for reasons of health and safety.

- .3 Conduct regularly scheduled informal safety inspections of work site on a minimum bi-weekly basis.

- .1 Note deficiencies and remedial action taken in a logbook or diary.

- .4 Keep inspection reports on site.

1.14 Training

- .1 Ensure that all workers and other persons granted access to site are competently trained and knowledgeable on:

- .1 Safe use of tools and equipment.

- .2 How to wear and use personal protective equipment (PPE).

- .3 Safe work practices and procedures to be followed in carrying out work.

- .4 Site conditions and minimum safety rules to be observed on site, as given at site orientation session.

- 1.15 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 to be obeyed by all persons granted site access:
 - .1 Wear personnel protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, safety footwear and eye protection.
 - .2 Immediately report unsafe activity or condition at site, near-miss accident, injury and damage.
 - .3 Maintain site in tidy condition.
 - .4 Obey warning signs and safety tags.
 - .2 Brief workers on site safety rules and on disciplinary measures to be taken by Departmental Representative for violation or non compliance of such rules. Post rules on site.
 - .3 The following actions or conduct by Contractor, workers and subcontractors will be considered as non conformance with the health and safety requirements of the contract for which a Non-Compliance Notification will be issued to the General Contractor by the Departmental Representative:
 - .1 Failure to follow the minimum site safety rules specified above.
 - .2 Negligence resulting in serious injury or major property damage.
 - .3 Deliberate non-compliance with Federal and Provincial Acts and Regulations.
 - .4 Falsification of information in Workers Compensation Reports, safety reports and other health and safety related documents submitted to Departmental Representative or to Authority having jurisdiction.
 - .5 Possession of firearms on site.
 - .6 Possession of non-prescriptive illegal drugs or alcohol.

.7 Action, or lack thereof, resulting in the issuance of Warnings, Fines or Stop Work Orders from a Provincial Authority having jurisdiction.

.8 Violation of other specified health and safety rules and requirements as determined by Departmental Representative.

.4 See elsewhere in this section for details on Non-Compliance Notifications and resulting disciplinary measures.

1.16 Accident Reporting

.1 Investigate and report the following incidents and accidents:

.1 Those as required by Provincial Occupational Safety and Health Act and Regulations.

.2 Injury requiring medical aid as defined in the Canadian Dictionary of Safety Terms-1987, published by 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.

.2 Property damage in excess of \$5000.00,

.3 Interruption to Facility operations with potential loss to a Federal Dept. in excess of \$5000.00,

.4 Those which require notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable law or regulations.

.2 Send written report to Departmental Representative for all above cases.

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|---------------------------------|----|--|
| 1.17 Tools and Equipment Safety | .1 | Routinely check and maintain tools, equipment and Equipment Safety machinery for safe operation. |
| | .2 | Conduct checks as part of site safety inspections. When requested, submit proof that checks and maintenance have been carried out. |
| | .3 | Tag and immediately remove from site items found faulty or defective. |
| | | |
| 1.18 Hazardous Products | .1 | Comply with requirements of Workplace Hazardous Materials Information System (WHMIS). |
| | .2 | Keep MSDS data sheets for all products delivered to site. Post on site. Submit copy to Departmental Representative upon receipt. |
| | | |
| 1.19 Confined Spaces | .1 | Carry out work in confined spaces in compliance with:
.1 Provincial Occupational Safety and Health Regulations and;
.2 Canada Occupational Safety and Health Regulations (COSH) made under the Canada Labour Code - Part II. |
| | .2 | Conduct hazard assessment and address in Safety Plan before entering confined space. |
| | | |
| 1.20 Posting of Documents | .1 | Post on site safety documentation as stipulated by Authorities having jurisdiction and as specified herein. Place in a common visible location. |
| | | |
| 1.21 Site Records | .1 | Maintain on site a copy of all health and safety documentation and reports specified to be produced as part of the work and received from authorities having jurisdiction. |
| | .2 | Upon request, make available to Departmental Representative and to other authorized safety representative for review. Provide copy when directed by Departmental Representative. |

- 1.22 Non-Compliance and Disciplinary Measures
- .1 Immediately address and correct health and safety violations and non-compliance issues.
 - .2 Negligence or failure to follow occupational health and safety provisions specified in the Contract Documents and of those of applicable federal and provincial laws and regulations could result in disciplinary measures taken by the Departmental Representative against the General Contractor.
 - .3 PWGSC uses a system of Non-Compliance Notifications and Disciplinary Measures on projects as follows:
 - .1 A non-compliance notification will be issued to the General Contractor, by the Departmental Representative, whenever there is a violation or failure to follow any of the project's occupational health and safety requirements by a worker, subcontractor or any other person to whom the Contractor has granted access to the work site.
 - .2 Non-Compliance notifications are progressive in nature resulting in increased disciplinary measures imposed depending on the frequency, nature and severity of the infraction.
 - .3 Disciplinary measures could include:
 - .1 Removal of the offending person or party from site;
 - .2 Financial penalties in the form of progress payment reduction or holdback assessments made against the Contract and;
 - .3 Taking the Work Out of Contractor's Hands in accordance with the General Instructions.
 - .4 Departmental Representative will make final decision as to what constitutes a violation and when to issue a Non-Compliance Notification.
 - .5 Non-compliance Notifications issued by Departmental Representative shall not be construed as to overrule or disregard warnings, orders and fines levied against Contractor by a regulatory agency having jurisdiction.
 - .6 Details of the Non-Compliance Notification and Disciplinary Measures system will be provided by

Departmental Representative upon acceptance of bid and prior to commencement of work.

- .7 Further details on the disciplinary system will be provided at the pre-construction Health and Safety meeting.
- .8 Be responsible to fully brief workers and subcontractors on the operation and importance of this system.

END

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- 1.1 Related Work .1 Section 01 74 22 - Waste Management and Disposal.
- 1.2 References .1 WHMIS: Workplace Hazardous Materials Information System, Health Canada.
- .2 Transportation of Dangerous Goods Act. Transport Canada, updated 2008-02-21.
- .3 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, Department of Fisheries and Oceans Canada, 1998.
- .4 MBCA: Migratory Birds Convention Act, Environment Canada, 1994.
- .5 Canadian Coast Guard Regulations, Department of Fisheries and Oceans Canada.
- .6 Canadian Shipping Act, Transport Canada, 2001.
- .7 AWWPA: American Wood Preserver Association
- 1.3 Definitions .1 Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .2 Wetlands: land where the water table is at, near or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands," and mineral wetlands or mineral soil areas that are influenced by excess water but produce little or no peat.
- .3 Watercourse: refers to the bed and shore of a river, stream, lake, creek, pond, marsh, estuary or salt-water body that contains water for at least part of each year.

- .4 Alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threatens ecosystems, habitats or species with economic or environmental harm.
- .5 Buffer zone: a vegetated land that protects watercourses from adjacent land uses. It refers to the land adjacent to watercourses, such as streams, rivers, lakes, ponds, oceans, and wetlands, including the floodplain and the transitional lands between the watercourse and the drier upland areas.

1.4 Transportation

- .1 Transport hazardous materials and hazardous waste in compliance with Federal Transportation of Dangerous Goods Act.
- .2 Do not overload trucks when hauling material. Secure contents against spillage.
- .3 Maintain trucks clean and free of mud, dirt and other foreign matter.
- .4 Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the Work. Take extra care when hauling dredged material and other hazardous materials. Immediately clean any spillage and soils.
- .5 Before commencement of work, advise the Departmental Representative of the existing roads and temporary routes proposed to be used to access work areas and to haul material to and from the site, including roads to the dredged disposal field.

1.5 Hazardous Material Handling

- .1 Handle and store hazardous materials on site in accordance with WHMIS procedures and requirements.
- .2 Store all hazardous liquids in location and manner to prevent their spillage into the environment.
- .3 Maintain written inventory of all hazardous materials kept on site. List product name, quantity and storage date.
- .4 Keep MSDS data sheets on site for all items.

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- 1.6 Petroleum, Oil and Lubricants
- .1 Comply with Federal and Provincial laws, regulations, codes and guidelines for the storage of fuel and petroleum products on site.
 - .2 Locate fuel storage facility outside Park and minimum 100 m from any water body. Any fuel storage tankage(s) used shall be of adequate double-walled safety construction and shall be enclosed by an impermeable containment dyking system. When no longer required, the fuel storage area shall be cleaned up to the satisfaction of the Departmental Representative and any fuel-contaminated soil removed to the nearest approved industrial waste disposal site.
 - .3 Do not dump petroleum products or any other deleterious substances on ground or in the water. Any spilled and/or ponded fuel shall be immediately recovered and placed in secure containers.
 - .4 Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.
 - .5 Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre (55 gallon) overpack spill kit for containment and cleanup of spills.
 - .6 Maintain vehicles and equipment in good working order to prevent leaks on site.
 - .7 In the event of a petroleum spill, immediately notify the Departmental Representative and the Canadian Coast Guard (CCG) at 1-800-565-1633 (24 hour report line). Perform clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.
 - .8 Fuelling of vehicles or equipment will not be permitted within 100 m of any body of water.
- 1.7 Disposal of Wastes
- .1 Do not bury rubbish, demolition debris or waste materials on site.

- .2 Dispose of, and recycle demolition debris and waste materials in accordance with project waste management requirements specified in Section 01 74 22.
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial laws, regulations, codes and guidelines.
- .5 Any construction, contaminated soil or demolition debris will be disposed of in a Provincially approved manner (Either a permit or receipts for tippage must be submitted to the departmental representative to verify that the material was disposed of in a provincially approved manner).

1.8 Vegetation

- .1 Work should be scheduled to avoid periods of heavy precipitation. Short-term erosion and sediment control measures (i.e. silt fence, straw bales, temporary matting, geotextile filter fabric) must be installed to prevent runoff from entering any adjacent waterway. These structures will remain in place until natural vegetation has been established.
- .2 Fill material used in construction must be clean and non-toxic (free from fuel, oil, grease invasive species and/or contaminants).
- .3 Any exposed soil area must be minimized by limiting the area that is exposed at one time and by limiting the time that any one area is exposed. All stockpiled material must be covered and/or dyked to prevent erosion or silty runoff from leaving the site. Exposed soil should be replanted or sodded to ensure soil stabilization.
- .4 Avoid disturbance of vegetation and natural features where possible. All work is to be confined to the site limits delineated and/or directed by the Departmental Representative.
- .5 Restore disturbed areas as close as possible to

natural conditions to the satisfaction of the Departmental Representative. Backfill excavate, grade and contour soil, replace topsoil, fertilize and reseed with approved seed mixture.

- .6 No staging of materials/equipment will take place on any environmentally sensitive areas, beaches or dunes. All staging area sites, if required, will be determined by the Departmental Representative.
- .7 If materials of potential historical or cultural interest are encountered, work will cease at that location and the Departmental Representative will be notified immediately.
- .8 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance.
- .9 Minimize stripping of topsoil and vegetation.

1.9 Socioeconomic Restrictions

- .1 Abide by municipal and provincial regulations for any restrictions on work performed during the nighttime and on flood lighting of the site. Obtain applicable permits.
- .2 Equip equipment and machinery with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.
- .3 Adequate signage and safety measures must be supplied during transportation of materials and equipment.

1.10 Water Quality

- .1 Maintenance of equipment must be carried out on a regular basis.
- .2 The construction material must be clean and non-toxic (free of fuel, oil, grease, and/or any contaminants).
- .3 Remove any accidental release of concrete on site prior to solidification.
- .4 Ensure concrete trucks are clean and will not release any material during transport to the site.
- .5 Do not discharge residual or rejected concrete on

site. Do not wash and clean concrete vehicles on site. Carryout all dumping and cleaning operations at the concrete plant according to all provincially approved practices/regulations.

- .6 Follow any sediment and erosion control plan and an emergency response plan provided by the Departmental Representative.

1.11 Bird and Bird
Habitat

- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
- .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
- .3 Do not approach concentrations of seabirds, waterfowl and shorebirds.
- .4 During nighttime work, position floodlights in opposite direction of nearby bird nesting habitat.
- .5 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work.
- .6 Should nests of migratory birds in wetlands be encountered during work, immediately notify Departmental Representative for directives to be followed.
 - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.
- .7 Ensure that food scraps and garbage are not left at the work site.

- 1.12 Fish and Fish Habitat
- .1 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced in the water.
 - .2 To minimize the possibility of fish habitat contamination, all construction equipment which will be immersed into the water of a watercourse, or has the possibility of coming into contact with such water during the course of the work, must be cleaned and washed to ensure that they are free of marine growth and alien species.
 - .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and other miscellaneous tools and equipment previously used in a marine environment.
 - .3 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and before use in or over the body of water.
 - .4 Conduct cleaning and washing operations as follows:
 - .1 Scrap and remove heavy accumulation of mud and dispose appropriately.
 - .2 Wash all surfaces of equipment by use of a pressurized fresh water supply.
 - .3 Immediately follow with application of a heavy sprayed coating of undiluted vinegar or other environmentally approved cleaning agent to thoroughly remove all plant matter, animals and sediments.
 - .4 Check and remove all plant, animal and sediment matter from the all bilges and filters.
 - .5 Drain standing water from equipment and let fully dry before use.
 - .6 Upon removal from the water, drain standing water from equipment and let fully dry before removal off the site.
 - .5 Record of Assurance Logbook:
 - .1 Maintain an on-going log of past and present usage and washdowns of all equipment to illustrate mitigation measures undertaken against fish habitat contamination by alien species.

- .2 Write data in a hard cover bound logbook,
- .3 Include the following:
 - .1 Date and location where equipment was previously used in a watercourse or wetland;
 - .2 Type of work performed.
 - .3 Dates of washdown for each piece of equipment;
 - .4 Cleaning method and cleaning agent(s) used.

- .6 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to Departmental Representative for review.
- .7 Abide by requirements and recommendations of the Federal Department of Environment and the Department of Fisheries and Oceans - Habitat Protection and Sustainable Development Branch in cleaning and washdown of equipment.
- .8 The Contractor shall be responsible to follow the conditions of the WAWA permit which will be obtained by PWGSC.

1.13 Air Quality

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum. Cover or wet down dry material and rubbish to prevent blowing dust and debris.
- .2 Apply dust control measures to roads, parking lots and work areas.
- .3 Spray surfaces with water or other environmentally approved product. Use purposely suited equipment or machinery and apply in sufficient quantity and frequency to provide effective result and continued dust control during the entire course of the work.
- .4 Do not use oil or any other petroleum products for dust control.

- .5 All construction equipment must be fitted with standard and well-maintained noise suppression devices. Construction activities must respect appropriate time restriction and use smaller, less disturbing equipment where possible.
 - .6 Control emissions from equipment and plant to local authorities emission requirements.
- 1.14 Fires
- .1 Fires and burning of rubbish on site is not permitted.
- 1.15 Work adjacent To Waterways
- .1 The Contractor is required to install, inspect and maintain in good working order temporary erosion, siltation and pollution control features, as required. These devices are to be removed in proper manner upon completion of the project.
 - .2 Do not operate construction equipment in waterways.
 - .3 Do not use waterway for borrow material without Departmental Representative's approval.
 - .4 Do not dump excavated fill, waste material or debris in waterways.
 - .5 Design and construct temporary crossings to minimize erosion to waterways.
 - .6 Do not skid logs or construction materials across waterways.
 - .7 Avoid indicated spawning beds when construction temporary crossings of waterways.
 - .8 Do not blast under water or within 100 m of indicating spawning beds.
 - .9 Building or construction, materials, when not in use, should be stored in at least 10 m from high water mark. Ant stock materials or waste management being stored on the project shall be situated in such a manner that will prevent erosion and/or deposition of this material into ant watercourse and the materials must be covered when not in use.
 - .10 Work performed in and around waterways will be

carried out in accordance with regulations of
authorities having jurisdiction.

- .11 Cuts and fills adjacent to waterways are to be stabilized, and ditch run-outs constructed to prevent entry of silt into waterways. In vicinity of maintain as much of the existing vegetation as possible.
- .12 On conclusion of construction, debris must be disposed of to prevent its entry into waterways and stream bed returned to its original configuration.

1.16 Drainage

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

END

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- 1.1 Related Sections .1 Section 01 33 00 - Submittal Procedures
- 1.2 Inspection .1 Give timely notice requesting inspection of Work designated for special tests, inspections or approvals by Departmental Representative or by inspection authorities having jurisdiction.
- .2 In accordance with the General Instructions, Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents.
- .3 If Contractor covers or permits to be covered Work designated for special tests, inspections or approvals before such is made, uncover Work until particular inspections or tests have been fully and satisfactorily completed and until such time as Departmental Representative gives permission to proceed.
- .4 Pay costs to uncover and make good work disturbed by inspections and tests.
- 1.3 Testing .1 Tests on materials, as specified in various sections of the Specifications is the responsibility of the Contractor except where stipulated otherwise.
- .1 Provide all necessary instruments, equipment and qualified personnel to perform tests.
- .2 At completion of tests, turn over 2 sets of fully documented tests reports to the Departmental Representative. Submit in accordance with Section 01 33 00.
- .1 Obtain additional copies for inclusion of a complete set in each of the maintenance manuals specified in Section 01 78 00.
- .3 Unspecified tests may also be made by Departmental Representative, at the discretion of the Departmental Representative. The costs of these tests will be paid for by the Departmental Representative.

- .4 Where tests or inspections reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests and inspections incurred by Departmental Representative as required to verify acceptability of corrected work.
- 1.4 Independent Inspection Agencies
- .1 Departmental Representative will engage and pay for service of Independent Inspection and Testing Agencies for purpose of inspecting and testing portions of Work except for the following which remain part of Contractor's responsibilities:
- .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
- .2 Inspection and testing performed exclusively for Contractor's convenience.
- .3 Testing, adjustment and balancing of equipment and other building systems.
- .4 Tests as specified within various sections designated to be carried out by Contractor under the supervision of Departmental Representative.
- .2 Provide sufficient advance notice to Departmental Representative of time when the Work will be ready for testing by designated Testing Agency in order for Departmental Representative to make attendance arrangements with such Agency. When directed by Departmental Representative notify the Agency directly.
- .3 When specified or directed, submit Representative samples of materials, in required quantities, to Testing Agency for testing purposes. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
- .4 Provide labour and facilities to obtain, handle and deliver samples.
- .5 Provide sufficient space on site for Testing Agency's exclusive use to store equipment and cure test samples.

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- .6 Employment of Independent Inspection and Testing Agencies by Departmental Representative does not relax responsibility to perform Work in accordance with Contract Documents.
- 1.5 Access to Work
- .1 Facilitate Departmental Representative's access to Work. If part of Work is being fabricated at locations other than construction site, make preparations to allow access to such Work whenever it is in progress.
- .2 Furnish labour and facility to provide access to the work being inspected and tested.
- .3 Co-operate to facilitate such inspections and tests.
- 1.6 Rejected Work
- .1 Remove and replace defective Work, whether result of poor workmanship, use of defective or damaged products and whether incorporated in Work or not, which has been identified by Departmental Representative as failing to conform to Contract Documents.
- .2 Make good damages to new construction and finishes resulting from removal or replacement of defective work.

END

- 1.1 Site Access and Parking
- .1 The Departmental Representative will designate Contractor's access to project site as well as parking facilities for equipment and workers.
 - .2 The Contractor is advised that while parking facilities for his workers and subcontractors will be on property, such parking facilities may be remote from the actual site of the work. In any case, follow all instructions from the Departmental Representative in regards to parking facilities.
 - .3 Parking facilities at site are limited and cannot be used by Contractor. Make arrangements elsewhere for Contractor's vehicles including those of subcontractors and workers.
 - .4 Provide snow removal and dust control during period of work.
 - .5 Maintain new and existing roads and parking areas at site, where used by Contractor, for duration of contract.
 - .1 Keep clean and free of mud and dirt by washing on a regular basis.
 - .2 Provide snow removal in areas located within construction site or enclosed by work.
 - .3 Make good and repair damage resulting from Contractor's use of existing roads, asphalted areas and lawns on site.
- 1.2 Contractor's Site Office
- .1 Be responsible for and provide own site office, if required, including electricity, heat, lights and telephone. Locate site office as directed by Departmental Representative.
- 1.3 Material Storage
- .1 Material storage space on site is limited. Coordinate delivery to minimize storage period on site before being needed for incorporation into work.
- 1.4 Construction Sign and Notices
- .1 Upon request by Departmental Representative, erect a self supporting project sign in location indicated.

- .2 Departmental Representative will provide a vinyl sign facing for installation by Contractor on sign framework. Sign frame to be plywood face of approximately 1200 x 2400 mm in size complete with required wood framing at 400 mm o/c and support posts.
 - .3 Install sign plumb and level in neat wood framework and securely anchor in ground by posts to withstand wind pressure of 160 km/h.
 - .4 Contractor or subcontractor advertisement signboards are not permitted on site.
 - .5 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction shall be in both official languages or commonly understood graphic symbols conforming to CAN3-Z321-96(R2006).
 - .6 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.
- 1.5 Removal of Temporary Facilities
- .1 Remove temporary facilities from site when directed by Departmental Representative.

END

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- 1.1 Description .1 This section is to provide traffic control pursuant to the New Brunswick Work Area Traffic Control Manual (WATCM).
- 1.2 Related Work .1 Section 01 10 10 - General Instructions
.2 Section 01 35 28 - Health and Safety Requirements
- 1.3 Reference Standard .1 Regulate traffic in accordance with the requirements of the WATCM, distributed by the New Brunswick Department of Transportation & Infrastructure and Parks Canada regulations.
.2 The engineer 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.
- 1.4 Measurement for Payment .1 See Section 01 29 00 - Project Particulars and Measurement.
- 1.5 Protection of Public Traffic .1 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.
.2 When working on traveled way:
.1 Place equipment in position to present minimum of interference and hazard to traveling public.
.2 Keep equipment units as close together as working conditions will permit and preferably on same side of traveled way.
.3 Do not leave equipment on traveled way overnight.
.3 Do not close any lanes of roadway without approval of Department Representative. Before re routing traffic, erect suitable signs and devices in accordance with instructions contained in the TWTCM. Provide sufficient crushed gravel to ensure a smooth riding surface during work.

- .4 Keep traveled way well graded, free of pot holes and of sufficient width that required number of lanes of traffic may pass.
 - .5 Limit construction to maintain at least one lane of traffic at all times and two lanes after work hours.
 - .6 When directed by Department Representative, provide well graded, detours or temporary roads to facilitate passage of traffic around restricted construction area. Provide and maintain signs and lights and maintain roadway.
 - .7 Provide and maintain reasonable road access and egress to property fronting along or in vicinity of work under Contract unless approved otherwise by Department Representative.
- 1.6 Informational and Warning Devices
- .1 Provide and maintain signs and other devices required to indicate construction activities or other temporary and unusual conditions resulting from project work which may require road user response.
 - .2 All traffic signs are to be bilingual or symbolic and shall be Level 1 reflectivity.
 - .3 Supply and erect signs, declinators, barricades and miscellaneous warning devices as specified in NB WATCM.
 - .4 Place signs and other devices in locations recommended in the NB WATCM.
 - .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 condition signs and devices that indicate to the road user that highway construction activity exist and also to ensure that proper traffic control procedures are carried out in accordance with the WATCM. The Accredited Sign Supervisor is considered part of the contractor's supervision and administration staff and

compensation the provision this individual is considered incidental to the work.

- .6 A traffic control plan must be approved by the engineer 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.

1.7 Control of Public
Traffic

- .1 Provide traffic control personnel who have a valid provincial license and trained in accordance with and properly equipped as specified in the WATCM, in following situations:
 - .1 When public traffic is required to pass working vehicles or equipment which may block all or part of traveled 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 workers or equipment are employed on traveled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
 - .5 For emergency protection when other traffic control devices are not readily available.
 - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
 - .7 At each end of restricted sections where pilot vehicles are required.

- .2 Provide pilot vehicles which will be in continual operation and where public traffic must use particularly hazardous routes or where traffic is required to remain in one lane or change periodically from one lane to another or negotiate sections of construction at restricted speed. Pilot vehicles will be required during the months of July, August and September 2010.
- .3 All Traffic Control Personnel and pilot vehicles shall be equipped with portable radios of sufficient range to ensure continuous communication within the traffic control zone.
- .4 All construction vehicles shall operate in accordance with and are subject to traffic control restrictions and operations in place on the project.

1.8 Pilot Vehicles

- .1 Payment for pilot vehicle (s) shall be included under section 01 29 00 1.2.1.
- .2 Where required to maintain traffic flow and as directed by the Department Representative, provide sufficient pilot vehicles to keep a steady and controlled flow of traffic moving around or through construction area with the maximum delay to traffic limited to 10 minutes.
- .3 Pilot vehicles to be operated continuously in conjunction with traffic control personnel stationed at each end of restricted work area.
- .4 Equip pilot vehicles with:
 - .1 A large sign(s) with minimum 200 mm high letters designating vehicle as a pilot vehicle, showing in both directions.
 - .2 An arrow board.
 - .3 Flashing orange lights mounted on roof at either side so as to be clearly visible in both directions.
 - .4 Signs and flashing lights to be used both day and night.

.5 Vehicle to be capable of transporting up to five cyclists and their bicycles thru the work zone.

1.9 Traffic
Management Plan
Requirement

- .1 Contractor to provide a detailed traffic management plan, prior to construction.
- .2 Traffic control measures are summarized as follows:
 - .1 One of the two affected roads will remain open to the public at all times and will be a contract obligation.
 - .2 Complete road closures (both roads) will not be permitted, unless some exceptional circumstances arise.
 - .3 Escort vehicles will be used through construction during the summer season. Radio communications and one-way traffic controls will be used during the shoulder seasons.
- .3 The required traffic measures will be included in the construction contract. A detailed construction sequencing and Traffic Management Plan will be required prior to construction. On-going information and communications will be maintained throughout the construction period.

END

- 1.1 Definitions .1 Hazardous Material: Product, substance, or organism that is used for its original purpose, and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- 1.2 Waste Management .1 Provide waste management plan. Incorporate environmental and sustainable practices in managing waste resulting from work.
- .2 Divert as much waste as possible from landfill.
- .3 Coordinate work of subtrades and subcontractors to ensure all possible waste reduction and recycling opportunities are taken. Follow waste management requirements specified in trade sections of the Specifications.
- .4 Reduce waste during installation of new materials. Undertake practices which will optimize full use of materials and minimize waste.
- .5 Provide on-site facilities to collect, handle and store anticipated quantities of reusable, salvageable and recyclable materials.
- .6 Establish methods whereby hazardous and toxic materials, and their containers used on site are properly handled, stored and disposed in accordance with applicable federal, provincial and municipal laws and regulations.
- 1.3 Disposal Requirements .1 Burying or burning of rubbish and waste materials is prohibited.
- .2 Disposal of volatile materials, mineral spirits, oil, paint, and other hazardous materials into waterways, storm, or sanitary sewers is prohibited.
- .3 Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction.

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- 1.1 Section Includes .1 Administrative procedures preceding inspection and acceptance of Work by Departmental Representative.
- 1.2 Related Sections .1 Section 01 78 00 - Closeout Submittals
- 1.3 Inspection and Declaration .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
- .1 Notify Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the completed work.
- .2 Departmental Representative's Inspection: Accompany Departmental Representative during all substantial and final inspections of the Work.
- .1 Address defects, faults and outstanding items of work identified by such inspections.
- .2 Advise Departmental Representative when all deficiencies identified have been rectified.
- .3 Note that Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that Contractor performs following work and turns over the specified documents:
- .1 Project record as-built documents;
- .2 Compliance certificates from applicable authorities; and
- .3 Reports resulting from designated tests.
- .4 Correct all discrepancies before Departmental Representative will issue the Certificate of Completion.

- 1.1 Section Includes
 - .1 Project Record Documents.
 - .2 Operations and Maintenance Data.

- 1.2 Related Sections
 - .1 Section 01 33 00 - Submittal Procedures

- 1.3 Project Record Documents
 - .1 Departmental Representative will provide 2 white print sets of contract drawings and 2 copies of Specifications Manual specifically for "as-built" purposes.
 - .2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
 - .3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.
 - .4 As-Built Drawings:
 - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
 - .2 Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
 - .3 Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
 - .4 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
 - .5 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

- .6 As-built Specifications: legibly mark in red each item to record actual construction, including:
 - .1 Changes made by Addenda and Change Orders.
 - .2 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.
- .7 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.
- 1.4 Reviewed Shop Drawings
 - .1 Provide a complete set of all shop drawings reviewed for project.

END
