This specification outlines the requirements for environmental protection and general protection for air, water and soil during the course of the work.

PART 1 REFERENCES

This specification refers to the following standards, specifications, or publications:

Government of Newfoundland and Labrador, Department of Transportation and Infrastructure (TI), Highway Design and Construction Division, Highway Specifications Book:

Section 310	Use of ~~Pits,~~ Quarries and Stockpiles for Production of Materials Supplied by the Contractor
Section 405	Temporary Diversion of Streams
Section 520	Storage or Disposal of Old Asphaltic Pavement
Section 810	Use of Herbicides for Brush Control Operations
Section 820	Storage and Handling of Fuels and Other Hazardous, Toxic or Dangerous Material
Division 12	Standard Drawings

Government of Newfoundland and Labrador, Environmental Protection Act (SNL 2002 cE 14.2):

Regulation 58/03 Storage and Handling of Gasoline and Associated Products and Regulations

Pesticides Control Regulations

Government of Newfoundland and Labrador, Water Resources Act:

Regulation 65/03, Environmental Control Water and Sewage Regulations, 2003 under the Water Resources Act (O.C. 2003-231)

Government of Newfoundland and Labrador, Department of Environment and Climate Change (ECC), Policies:

Infilling Bodies of Water W.R. 91-1

Use of Creosote Treated Wood in Fresh Water W.R. 92-2

Treated Utility Poles in Water Supply Areas W.R. 93-01

Land and Water Developments in Protected Public Water Supply Areas-01 W.R. 95

Other

Fisheries Act of Canada, R.S.C., 1985, C. F-14

PART 2 GENERAL

2.1 DEFINITIONS

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

.2 Environment Protection: prevention/control of pollution and habitat or environment disruption during construction.

2.2 GENERAL

.1 All work is to be done in accordance with local, provincial, and federal environmental regulations and any specific requirements for this contract are to be strictly adhered to by the Contractor.

.2 Particular attention is drawn to the requirements of the Federal Fisheries Act and regulations for works affecting fish habitat as stipulated by the Department of Fisheries and Oceans of Canada (DFO).

.3 The Owner's Representative is responsible for obtaining Permits required by the Provincial Department of Environment & Climate Change and the Federal Department of Fisheries and Oceans prior to tendering. Permit cost will be paid for under project costs outside of this contract.

~~.3~~.4 A copy of all permits shall be kept on the Work Site for the duration of the Contract and shall be made available upon request of an inspector designated to act on behalf of the Department or an employee of an Authority Having Jurisdiction.

.5 If any suspected artifacts of historical or archaeological value are uncovered or any endangered plant or animal species or any contaminated soil(s) are identified during the Work, the Contractor shall cease Work, in accordance with General Conditions, GC 8 - Delay, until the site has been reviewed by representatives of the appropriate agencies and the Owner has approved resumption of the Work.

~~.4~~.6 Additional conditions of approval as detailed in the Contract Documents, shall be carried out by the Contractor.

2.3 SUBMITTALS

.1 Submit in accordance with Section 01345.

.2 Submit Environmental Protection Plan (EPP) for review by Owner before delivering materials to site or commencing construction activities.

.3 EPP shall include comprehensive overview of known or potential environmental issues to be addressed on site during construction.

.4 Address topics at level of detail commensurate with environmental issue and required construction tasks.

.5 Include in Environmental Protection Plan (EPP):

.1 Names of persons responsible for ensuring adherence to EPP.

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

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

.4 Descriptions of environmental protection personnel training program.

.5 Submit a site-specific Stormwater Pollution Prevention Plan (SPPP) in accordance with Regulation 65/03, Environmental Control Water and Sewer Regulations. Include the site-specific Erosion and Sediment Control Plan (ESCP) identifying the type and location of erosion and sediment control measures to be provided on site. Include monitoring and reporting requirements to ensure that ESCP control measures are in compliance with erosion and sediment control plan, Federal and Provincial regulations, and Municipal by-laws.

.6 Submit drawings indicating locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.

.7 Submit a site-specific Traffic Control Plan (TCP) including measures to reduce erosion of temporary and existing roadbeds by construction traffic, especially during wet weather.

.1 TCP to include measures to minimize amount of material transported onto paved public roads by vehicles or runoff.

.8 Submit a Spill Control Plan (SCP) including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.

.9 Submit a Solid Waste Disposal Plan (SWDP) for non-hazardous solid wastes identifying methods and locations for solid waste disposal including clearing debris.

.10 Submit an Air Pollution Control Plan (APCP) detailing provisions to ensure that dust, debris, materials, and trash, are contained within the project site.

.11 Submit a site-specific Contaminant Prevention Plan (CPP) identifying the proper procedures and actions to be implemented to prevent potentially or expected hazardous substances due to the presence of any hazardous substances within the project site. The intent of the CPP is to:

.1 Prevent introduction of designated substances (DS) into air, water, or ground;

.2 Detail provisions for storage and handling of these materials in compliance with Federal, Provincial, and Municipal laws.

.12 Submit a Wastewater Management Plan (WMP) identifying 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 of lines.

.13 Owner to confirm if historical, archaeological, cultural, or biological resources and wetlands are likely to be present on site. If required by Owner, submit an Identification and Protection Plan (IPP) that defines procedures for identifying and protecting historical, archaeological, cultural and biological resources and wetlands.

.14 Submit a Pesticide Treatment Plan (PTP) identifying the presence of any pesticides within the site. PTP to be updated as required.

2.4 ENVIRONMENTAL COMPLIANCE INSPECTION

.1 The Contractor shall be responsible for designating an on-site environmental representative who is familiar with the Contractors submitted Environmental Protection Plan. They shall have the ability to address environmental issues, acquire staff, and procure materials when there is the potential for water and runoff issues, including holidays and weekends.

.2 The Contractor's representative shall monitor the weather forecasts and prior, during, and after wind or rainfall events the entire site shall be inspected for environmental mitigation deficiencies, and any deficiencies immediately addressed. The erosion and sediment controls shall also be inspected periodically, at the start of each day of work. The Contractor

shall report to the Owner on the inspections including any deficiencies and action taken to address.

.3 The Owner may retain an environmental inspector who, along with the consultant and construction technicians, will monitor the Work ~~with regard to~~regarding compliance with environmental requirements of the Drawings and Specifications as well as any applicable acts and regulations.

2.5 DUST CONTROL

.1 The Contractor shall ensure that dust does not become a problem for adjacent property Owners or construction site personnel or a hazard to vehicular traffic.

.2 When required, or as directed by the Owner's representative, water or an acceptable dust suppressant such as calcium chloride shall be used by the Contractor on haul routes or other locations on the project to control dust.

2.6 FIRES

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

2.7 STORM WATER AND DRAINAGE MANAGEMENT

.1 The Contractor is responsible for storm water and drainage management during the period of the contract. This includes the collection, channeling, containment, settling, discharge, and any other operations to effectively control storm runoff and prevent problems of erosion and siltation of adjacent or downstream areas.

~~.1~~.2 Ensure that the ESCP measures are provided and that its recommendations are followed on site, in accordance with the site-specific SPPP, at all times during construction.

~~.2~~.3 Provide temporary drainage and pumping as necessary to keep excavations and site free from water. Run off from adjacent areas shall be channelled, piped, diverted, or confined to prevent the water from entering construction zones and becoming contaminated.

.4 Do not pump water containing suspended materials into waterways, sewer or drainage system.

~~.3~~.5 Where due to rain events, runoff from construction zones and areas of exposed soils contains mud or silt, appropriate measures shall be taken by the Contractor to confine, settle, or channel such water so that adjacent watercourses or water bodies are not adversely affected. Such measures may include the provision of mud basins, settling basins, ditch blocks, silt

fencing, temporary ditching, or other means necessary to prevent pollution.

.4.6 Control disposal or run-off of water containing suspended materials or other harmful substances in accordance with Authority Having Jurisdiction.

.5.7 Construct temporary silt traps or sediment curtain of adequate height and length to effectively isolate sediment-laden water, as directed by Owner, prior to commencing excavation of any nature. Use Non-woven geotextile materialshould never be used.

2.8 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 The Erosion and Sedimentation Control Plan (ESCP) shall be prepared by a licensed Professional Engineer with experience in erosion and sediment control. The ESCP shall be submitted to the Owner for review prior to any ground disturbance.

.1.2 Submit an Erosion and Sedimentation Control Plan (ESCP) as per this specification to control negative impacts on water and air quality; plan should meet these objectives:

.1 Prevent loss of soil during construction by storm water run-off and wind erosion.
.2 Protect stockpiled topsoil.
.3 Prevent sedimentation of storm sewers, receiving streams and air pollution with dust or particulate matter.

.3 The ESCP shall, at a minimum:

.1 Identify any watercourses, water bodies, floodplains, wetlands, or outfalls near the ground-disturbing activity.
.2 Delineate the boundaries of the area to be disturbed and indicate the numeric value of the hectares that will be impacted.
.3 Indicate existing and proposed elevations. Drainage patterns for existing and final ground contours shall be provided.
.4 Indicate all proposed drainage controls.
.5 Provide a general construction schedule for the proposed work including the anticipated start and completion dates for all ground-disturbing activities. Additionally, provide the associated dates for the installation and removal of all erosion and sediment Best Management Practices (BMPs).
.6 Show the location of all erosion and sediment BMPs and their position relative to the ground-disturbing activities.
.7 Identify development activities/areas with the potential to generate pollutants such as: vehicle fueling, trash collection, topsoil and other material stockpiles, dewatering discharge, etc.

.8 For all structural erosion and sediment control BMPs, provide a detail of installation methods including any sizing calculations (flow volumes, rates, etc.).

.9 When required, provide drainage computations.

.4 Erosion control is implemented at the source where erosion occurs or is predicted to occur. Some common erosion control BMPs are:

.1 Surface roughening
.2 Temporary grasses and permanent vegetative cover
.3 Mulch
.4 Erosion Control Blankets
.5 Plastic Sheet Covering
.6 Dust Control
.7 Armouring
.8 Live Stakes
.9 Live Fascines

.5 Sediment control is implemented some distance from the source. Some common sediment control BMPs are:

.1 Sidewalk subgrade barriers
.2 Temporary sediment silt fences
.3 Filtration bags and socks
.4 Fiber rolls and wattles
.5 Vegetated buffers
.6 Storm drain inlet protection
.7 Filtration berms

~~.2~~.6 Erosion and sedimentation control measures shall be carried out as detailed in the contract documents and the submitted ESCP.

~~.3~~.7 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of Authorities Having Jurisdiction.

~~.4~~.8 Erosion and sediment control measures shall be inspected, maintained, and repaired, prior to and after wind or rainfall events to the satisfaction of the Owner.

~~.5~~.9 Inspect, repair, and maintain temporary erosion and sedimentation control measures during construction until permanent vegetation has been established.

~~.6~~.10 Silt fences are to be installed as per the Standard Drawing Form 1238 of the TI, Highway Specifications Book.

.~~7~~.11 Remove temporary erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

.12 During periods of heavy rain, where in the opinion of the Owner, the movement of excavated material and equipment may give rise to extensive mud conditions, or the potential to seriously impact watercourses or adjacent land, the Contractor may be required to suspend operations until such time as site conditions allow operations to resume. The Contractor shall not be paid for such downtime.

.13 In the event that a watercourse becomes significantly laden with siltation due to natural or local conditions, such as flooding, excessive rainfall, or other unforeseen environmental factors, the Owner or Department reserves the right to issue a Stop Work Order to the Contractor. This action may be taken to ensure that the affected conditions are adequately addressed. The issuance of such a Stop Work Order shall remain in effect until such time that the conditions improve to a level that permits safe and effective continuation of the work.

.1 It is explicitly understood that the issuance of a Stop Work Order under these circumstances shall not be considered a valid ground for any delay claim or compensation by the Contractor. The Contractor acknowledges that neither the Owner nor the Department is liable for any time extensions, cost reimbursements, or other claims associated with delays resulting from the effects of siltation, flooding, or other related conditions that lead to the issuance of a Stop Work Order.

.~~8~~.2 The Contractor is expected to comply with all directives issued by the Owner, Department or other agencies to mitigate or address the situation, and to resume work promptly once conditions are deemed suitable for continuation.

2.9 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties where indicated and as per Spec Section 02104.

.2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 metres.

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

.4 Minimize stripping of topsoil and footprint of disturbed vegetation. Adopt a segmented approach to construction whenever possible.

.5 Restrict tree removal to areas indicated or designated by the Owner.

2.10 WORK ADJACENT TO WATERWAYS

.1 Works performed in and around waterways will be carried out in accordance with regulations of local, provincial and / or federal authorities having jurisdiction. All work must comply with Department of Environment and Climate Change requirements.

.2 Construction equipment to be operated on land only.

.3 Keep waterways free of excavated fill, waste material and debris.

.4 Design and construct temporary crossings to minimize erosion and sedimentation in waterways. Select the most appropriate erosion and sediment control measures specific to site characteristics and potential erosion/sedimentation sources. Submit erosion and sediment control plan as per this specification.

.5 Do not skid logs or construction materials across waterways.

.6 As required, and as per the erosion and sediment control plan, intercept sediment laden surface water run-off during cut operations and direct to silt traps before entry into waterways.

.7 As required, and as per the erosion and sediment control plan, sandbags to be used to construct sediment traps in active streams.

.8 Obtain approval in writing or permit from Department of Fisheries and Oceans of Canada prior to blasting or excavation under water or in inter-tidal zone of water courses and bodies.

.9 Coffer dams must be constructed of non-erodible materials as approved by the Owner. Water from work areas must be pumped a minimum of 50 metres from waterway into sediment traps, or as directed by the Owner.

.10 Extreme care must be taken to prevent entry of cement, lime, or fresh concrete into waterway.

.11 Cuts and fills adjacent to waterways are to be vegetated and stabilized, and ditch run-offs constructed to prevent entry of silt into waterway.

.12 On conclusion of construction, debris must be disposed of to prevent its entry into waterways, and the stream bed returned to its original configuration or as approved by the Owner.

.13 Do not use waterway beds for borrow material.

.14 Storage of machinery and equipment shall not be within 30 m of a watercourse.

.15 Ground vegetation within 30 metres of waterway may not be disturbed until actual start of waterway crossing construction commences.

.16 Erosion control features in accordance with the approved drawings shall be installed a minimum of 24 hours prior to crossing construction and approved by the Owner.

.17 Debris and excavated material within the Work Area shall be removed from the watercourse and adjacent areas for disposal or placement in a manner such that it cannot be returned to the watercourse.

.18 Precautions shall be taken by the Contractor to prevent discharge or loss of any harmful material into a watercourse including but not limited to creosote, hydrocarbons, biocides, fertilizers, cement, lime, paint or fresh concrete.

.19 No grubbing, excavation, embankment construction or installation of drainage structures shall take place within the buffer zones on both sides of each natural watercourse, as indicated in the Contract Documents, until the appropriate erosion and sediment control measures are installed in order to ensure that run-off, by the time it reaches a watercourse, does not have a suspended solids level in excess of:

.1 25 mg/L over background levels during any short term exposure, less than 24 hours.
.2 5 mg/L from background levels for longer term exposure, 24 hours to 30 days; or
.3 Other level approved by the Department.
.4 Installation, inspection, maintenance and repair of these structures shall be in accordance with the applicable Items from the Contract Documents.

.20 Within a buffer zone, any temporary Work Area access roads, haul roads and/or areas constructed for the installation of a drainage Structure, shall be surfaced with at least 100 mm of clean gravel or rock placed the same day they are built, to provide sufficient cover to the soil exposed so as to provide environmental protection to the watercourse from runoff.

.21 No blasting shall take place in or near a watercourse without prior written consent from Authorities Having Jurisdiction.

.22 Any ruts created by equipment within 30 m of a watercourse shall be immediately graded smooth and blanketed with hay/straw mulch.

.23 In order to prevent the spread of invasive plants, no washing of tools or machinery shall occur within 30 m or a watercourse of wetland.

.24 All exposed erodible material within 30 m of a watercourse or wetland shall be stabilized with hay mulch at the end of each work day.

.25 The Contractor shall not place an earth or rock causeway in the watercourse for the purpose of creating a temporary access Structure, without specific approval of the Owner and the appropriate regulatory authority(ies), in writing.

.26 Instream Work shall be carried out between June 1st and September 30th unless explicitly approved by the Authority Having Jurisdiction. Instream Work consists of work below the shoulder of the bank of the watercourse, whether wetted or not. The Contractor shall notify the Owner, in writing, at least 7 business days in advance of the anticipated date of commencement of instream Work.

.27 Water control for all culvert installations in natural watercourses, other than those for which a site-specific method and/or sequence is indicated in the Contract Documents, is specified, shall be accomplished using one of the following methods:

.1 Installing the new culvert in the dry and diverting the watercourse through it upon completion. This method is to be completed in accordance ~~to~~with TI, Highway Specifications Book, Section 405;

.2 Constructing a temporary clear/light coloured plastic-lined diversion channel in the dry; or

.3 Stemming the flow upstream and pumping the flow around the Work Area, ensuring the pump runs whenever there is sufficient water, and having the discharge back into the stream immediately below the Work Area.

.28 If it is necessary to isolate the stream from the Work Area, the Contractor shall construct cofferdams consisting of, as a minimum, a layer of 6-mil clear polyethylene sandwiched between an outer (stream-side) wall of sandbags and an inner wall of earth fill.

.29 The Owner, upon receiving notice from the Contractor as to when construction shall ~~actually~~ commence, will arrange an on-site meeting with representatives from the Department of Fisheries and Oceans Canada and the Contractor, prior to commencement of the instream Work.

.1 No Work shall commence until the Owner verifies with the regulatory agencies having jurisdiction that the Work Site is approved for the commencement of instream Work.

2.11 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this contract in accordance with site specific SPPP.

.2 Control emissions from equipment and plant in accordance with local authorities' emission requirements. Check with local authorities for any environmental compliance requirements.

.3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.

.1 Provide temporary enclosures as required.

.4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

.5 Clean up spills of preservative materials immediately with absorbent material and safely discard to landfill.

~~.4~~.6 Do not dispose of unused preservative materials into sewer systems, into streams, lakes, onto ground or in other locations where they will pose health or environmental hazards.

2.12 WASTE DISPOSAL AREAS

.1 Develop waste disposal sites in a planned manner to dispose of surplus materials to satisfaction of Owner.

.2 Limits of waste disposal area shall be clearly defined and approved by the Owner prior to clearing and reinstating to conditions at start of Work.

.3 Establish temporary haul roads to and within designated sites to ensure disposal areas are fully utilized. Remove on completion.

.4 Establish temporary berms on lower side of waste disposal area. Ensure inside drainage pattern to appropriate point of concentration with drainage managed in accordance with subsection Drainage of this specification. Dump in a regular manner upstream of the drain.

.5 Establish side berms in a proactive manner as Work progresses with corresponding drainage.

.6 On completion of Work, push berms in to contain waste materials and establish final perimeter outside drainage pattern. Blend berms to general contours of site and materials contained and reinstate to original condition.

.7 Do not bury rubbish and waste materials on site.

.8 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

2.13 VEHICULAR MOVEMENTS

.1 Confine vehicles and equipment to existing disturbed areas (access roads, borrow pits, disposal areas, highways and future right-of-ways).

2.14 DEWATERING~~ENVIRONMENTAL MITIGATION~~

~~.1 The Contractor shall complete the Work in accordance with Environmental Compliance Inspection of this section, and the following conditions:~~

~~.2~~.1 In dewatering an excavation, whether a roadway cut, foundation excavation, a pit or a quarry, the Contractor shall ensure that any turbid water pumped out or released has a suspended solids level, by the time it reaches a watercourse, of no more than 25 mg/L over background levels during any short term exposure (less than 24 hours) and 5 mg/L from background levels for longer term exposure (24 hours to 30 days) or other level approved by the Department.

~~.3~~.2 Erosion and sedimentation control measures required to achieve this level of compliance when dewatering is conducted for roadway or foundation excavations shall be constructed, inspected, maintained and repaired in accordance with the Contract Documents.

~~.4~~.3 It shall be the Contractor's responsibility to install, inspect, and maintain, at their own expense, to the satisfaction of the Authority Having Jurisdiction any erosion control measures for pits and quarries that may be required, and to obtain permission to pump or release any turbid water onto properties abutting and beyond.

~~.5~~.4 The Contractor shall be responsible to repair, at their own expense, any and all damage resulting from the dewatering.

~~.1 The Erosion control measures shall be as detailed in the Contract Documents and if additional measures are required in addition to those indicated, the Owner shall order and approve such Work under the appropriate Items.~~

~~.6~~.5 Natural materials produced and/or supplied by excavation or from pits and quarries shall not contain any friable, soluble or reactive minerals, or other deleterious materials or conditions that would make the material prone to decomposition or disintegration, or present any environmental hazard, from the presence of the parent material or its by-products, when exposed to the natural elements after placement in the Work.

~~.1 Additional conditions of approval as detailed in the Contract Documents, shall be carried out by the Contractor.~~

~~.2 A copy of all permits shall be kept on the Work Site for the duration of the Contract and shall be made available upon request of an inspector designated to act on behalf of the Department or an employee of an Authority Having Jurisdiction.~~

2.15 WETLAND PROTECTION

.1 Drainage is to be maintained in its natural state wherever possible, with provision being made for spring flooding. Where existing drainage patterns cannot be maintained, alternate drainage will be installed to approximate normal conditions with the approval of the Owner.

.~~7~~2 Equipment shall not be stationed, and materials shall not be stored in a wetland at any time, and equipment operations shall be limited to the footprint of the existing roadbed or the new roadbed being constructed.

~~2.15~~2.16 FUEL STORAGE AND HANDLING

.1 The Contractor shall take proper environmental protection measures, such as having spill clean-up and absorption materials at the Work Area, during fuelling and maintenance of the Equipment. Oil spills shall have oil specific absorbents applied to them immediately, and all contaminated soil and absorbent shall be collected for proper disposal within four hours after application. Leaking equipment and/or fuel lines shall be repaired and/or replaced immediately.

.2 Equipment shall not be fuelled within 30 m of a watercourse, wetland or groundwater source (private well).

.3 Fuel and other hazardous materials shall not be stored within 100 m of a watercourse, wetland or groundwater source (private well), as identified in the Contract Documents or field by the Owner.

.4 Machinery and pollutants shall be located or stored in areas not in danger of floodwaters.

.5 Hydrocarbon storage shall be in accordance with TI, Highway Specifications Book, Section 820. Furthermore, all on-site storage and handling of petroleum shall comply with the Storage and Handling of Gasoline and Associated Products and Regulations, NLR 58/03. All storage tanks shall be registered and approved by Department of Digital Government and Service NL. The Contractor shall follow the procedure for spill reporting. Any spillage in excess of 70 L of gasoline or associated product, or of a substance that is deleterious to fish shall be reported immediately through the Environmental Emergencies telephone line at 1-800-563-9089.

.6 All storage tanks for fuel must be drained within one week after asphalt production has been completed. Fuel oil must not remain in tanks over the winter.

~~2.16~~2.17 ENVIRONMENTAL REQUIREMENTS AND APPROVALS

.1 Use of herbicides as part of Work under 02111 Clearing & Grubbing shall be completed in accordance with TI, Highway Specifications Book, Section 810 Use of Herbicides for Brush Control Operations. Each product to be used, its application rate, and area of use is subject to regulations under the Pesticides Control Regulations of the Environmental Protection Act.

.2 Pits and quarries shall be stripped, worked and at the completion of the work restored, in accordance with TI, Highway Specifications Book, Section 310, part 310.04 Permits and Authorizations from Outside Bodies and 310.11 Environmental Requirement of Pits and Quarries.

.3 The Contractor shall abide by restrictions provided by the Water Resources Management Division, Provincial Department of Environment and Climate Change on any in-stream activity or alteration to a body of water.

~~.1~~.4 Contractors shall maintain compliance with the Environmental Control Water and Sewage Regulations, 2003 under the Water Resources Act. This legislation is administered by the Government Services Centre Division of Digital Government and Service NL.

~~.2~~.5 All asphalt being removed shall be disposed of in accordance with TI, Highway Specifications Book, Section 520 and as outlined in the Certificate of Approval issued from the Authority Having Jurisdiction. A well-defined area shall be designated for the temporary storage of off-spec and waste asphalt. Where possible, off-spec and waste asphalt shall be recycled on-site. Otherwise, this material shall be removed on a minimum of a weekly basis to either an approved waste disposal site for disposal, or an approved waste asphalt storage site for recycling. These sites must be approved by the Authority Having Jurisdiction.

~~.3~~.6 Any asphalt plant being operated within a radius of 1.5 km of a regularly used building, either residential or commercial, or an organized recreational area, must control their dust emissions such that compliance is obtained with the air standards enforced by the Department of Digital Government and Service NL. In order to comply, the efficient operation of either a baghouse dust collector or a wet scrubber on the drier emissions would be necessary. These controls may be waived in an area where there are three or less regularly used buildings if the Contractor makes satisfactory arrangements with the owners and occupiers of all buildings. Under such circumstances, a written agreement between the Contractor and owner/occupier, signed by both parties, must be submitted to both the Owner and the Department of Digital Government and Service NL.

.4.7 All sections of the asphalt plant which could contribute to air or water pollution must be maintained in efficient operating condition.

.5.8 Where a wet scrubber and settling ponds are used, it shall be operated as a closed loop system, with water for the scrubber re-circulated from the secondary settling pond. Systems that do not re-circulate scrubber are unacceptable.

.6.9 Contractors wishing to set up an asphalt plant (bag house or wet scrubber) at a site must first obtain an environmental approval from Department of Digital Government and Service NL before proceeding.

2.172.18 NOTIFICATION

.1 Owner will notify Contractor in writing of observed non-compliance with Federal, Provincial, or Municipal environmental laws or regulations, permits, and other elements of environmental protection.

.2 Contractor: after receipt of such notice, inform Owner of proposed corrective action and take such action as approved by the Authorities Having Jurisdiction.

.1 Take action only after receipt of written approval by the Authorities Having Jurisdiction.

.3 Owner may issue stop order of work until satisfactory corrective action has been taken.

.4 No time extensions will be granted or equitable adjustments allowed to Contractor for such suspensions.

PART 3 PRODUCTS

3.1 MATERIALS

.1 Geotextile for silt fence in accordance with 02897, Table 3.Not Applicable

3.1.2 Calcium chloride in accordance with 02250 – Calcium Chloride.

PART 4 EXECUTION

4.1 NOT APPLICABLE

PART 5 PAYMENT

5.1 MEASUREMENT FOR PAYMENT

.1 Silt fence will be paid by the linear meter.

5.2 BASIS OF PAYMENT

.1 With the exception of silt fence, no separate or direct payment will be made for all Work specified in this specification. Silt fence, if required, will be included as a pay item in the MERX Schedule of Quantities and Prices. Costs of all other work specified in this section are deemed to be included in the lump sum and unit prices quoted in the MERX Schedule of Quantities and Prices.

.2 The Contractor shall be paid the value of Silt Fence based upon the following schedule:

.1 30% for initial installation.
.2 50% pro-rated based on the construction complete or schedule.
.3 20% once removed.

~~.1~~.3 Dust control will be measured in accordance with 02250 – Calcium Chloride.

~~.2~~.4 Asphalt removal will be measured in accordance with 02574 – Reshaping & Patching Asphalt Pavement.