

**Part 1            General**

**1.1                MINIMUM STANDARDS**

- .1        Materials shall be new and work shall conform to the minimum applicable standards of the Canadian General Standards Board, the Canadian Standards Association, the National Building Code of Canada 2010 (NBC) and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement shall apply.

**1.2                SHOP DRAWINGS**

- .1        Submit for the Departmental Representative's review, five copies of each shop drawing.
- .2        The review is for the sole purpose of ascertaining conformance with the general design concept, and does not mean approval of the design details inherent in the shop drawings, responsibility for which shall remain with the Contractor. Such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents.
- .3        Do not commence manufacture or order materials before shop drawings are reviewed.

**1.3                PRODUCT DATA**

- .1        Product data: manufacturers catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products.
- .2        Submit five copies of product data.
- .3        Delete information not applicable to project.
- .4        Cross-reference product data information to applicable portions of Contract Documents.

**1.4                SITE LOCATES AND CLEARANCE NUMBERS**

- .1        Be responsible for all costs associated with obtaining site locates or clearance numbers for all utilities within the work area, including those utilities considered privately owned.
- .2        Engage the services of private locator firm to undertake the private locates. All known locations of Federal underground utilities ("private utilities") are indicated in the contract documents.
- .3        Provide copies of written correspondence from each respective underground utility agencies pertaining to their utility locates or work site clearance numbers.

**1.5                TAXES**

- .1        Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

## **1.6 FEES, PERMITS, AND CERTIFICATES**

- .1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

## **1.7 FIRE SAFETY REQUIREMENTS**

- .1 Comply with the National Building Code of Canada 2010 (NBC) for fire safety in construction and the National Fire Code of Canada 2010 (NFC) for fire prevention, fire fighting and life safety in building in use.

## **1.8 HAZARDOUS MATERIALS**

- .1 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of Material Safety Data Sheets (MSDS) acceptable to Human Resources Development Canada, Labour Program.
- .2 For work in occupied buildings give the Departmental Representative 48 hours notice for work involving designated substances (Ontario Bill 208), hazardous substances (Canada Labour Code Part II Section 10)

## **1.9 WELDING AND CUTTING**

- .1 At least 48 hours prior to commencing cutting or welding, provide to Departmental Representative:
  - .1 Completed welding permit.
  - .2 Return welding permit to Departmental Representative immediately upon completion of procedures for which permit was issued.
  - .3 A firewatcher shall be assigned when welding or cutting operations are carried out in areas where combustible materials within 10m may be ignited by conduction or radiation.

## **1.10 FIELD QUALITY CONTROL**

- .1 Carry out Work using qualified licensed workers or apprentices in accordance with Provincial Act respecting manpower vocational training and qualification.
- .2 Permit employees registered in Provincial apprenticeship program to perform specific tasks only if under direct supervision of qualified licensed workers.
- .3 Determine permitted activities and tasks by apprentices, based on level of training attended and demonstration of ability to perform specific duties.

## **1.11 TEMPORARY UTILITIES**

- .1 Existing services required for the work, are not to be used by the Contractor. Contractor responsible to supply all portable generators as required to meet all power requirements of the equipment and machinery required to undertake the work.

**1.12 REMOVED MATERIALS**

- .1 Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from site.

**1.13 PROTECTION**

- .1 Protect adjacent work against the spread of dust and dirt beyond the work areas.
- .2 Protect finished work against damage until take-over.
- .3 Protect operatives and other users of site from all hazards.

**1.14 HOARDING**

- .1 Erect temporary site enclosure around work site, including excavations.
- .2 Hoarding to be in full compliance with requirements of the Ontario Health and Safety Act and Regulations - 1990 (OHSA).
  - .1 Hoarding around the work site shall consist of: new 1.2m high snow fence wired to rolled steel "T" bar fence posts spaced at 2.4m o.c. complete with 2x4 lumber support for top of fence.
  - .2 In accordance with OHSA, where required, provide 1.8m high sturdy fence to protect personnel from hazards.
- .3 Keep site fenced off at all times from general public. Only remove portion of fence to provide opening to site to accommodate access, minimize duration of opening, and immediately close when not required.
- .4 Ensure site is fully enclosed when work force is not on site.
- .5 Continually monitor condition of hoarding and make good repairs.

**1.15 USE OF SITE AND FACILITIES**

- .1 Execute work with least possible interference or disturbance to the normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access, including emergency vehicles.
- .3 Maintain vehicle and pedestrian access, including emergency vehicles to and from the site.
- .4 Where security is reduced by work provide temporary means to maintain security.

**1.16 SANITARY FACILITIES**

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

- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 Location of portable facility to be approved by Departmental Representative on site.

#### **1.17 SITE STORAGE**

- .1 Storage and stockpile areas shall be equipped and maintained by the contractor.
  - .1 Storage and stockpile areas are to be contained entirely within the laydown/work area indicated.
  - .2 Contractor employee parking shall be contained within the indicated laydown/work area
- .2 Do not unreasonably encumber site with materials or equipment.
- .3 Move stored products or equipment, which interfere with operations of Departmental Representative or other contractors.
- .4 Obtain and pay for use of additional storage or work areas needed for operations.

#### **1.18 CUT, PATCH AND MAKE GOOD**

- .1 Cut existing surfaces as required to accommodate new work.
- .2 Remove all items so shown or specified.
- .3 Patch and make good surfaces cut, damaged or disturbed, to Departmental Representative's approval. Match existing material, colour, finish and texture.

#### **1.19 EXAMINATION**

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.

#### **1.20 SIGNS**

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, etcetera, in both official languages or by the use of commonly understood graphic symbols to the Departmental Representative's approval.
- .2 No advertising will be permitted on this project.

#### **1.21 ACCESS AND EGRESS**

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

#### **1.22 RECORDS**

- .1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Departmental Representative's inspection for issuance of final certificate of

completion, supply to the Departmental Representative one (1) set of white prints with all deviations neatly inked in. In addition, provide a complete colour scan of said final marked up drawings and submit each drawing in electronic PDF format to the Departmental Representative. The Departmental Representative will provide one set of clean white prints for this purpose.

- .2 Marked-up drawings are to contain, as a minimum, the following information:
  - .1 Open Cut Installation:
    - .1 Top of pipe elevation, minimum every 12m.
    - .2 Location of all fittings and valves, including elevations to geodetic benchmark.
    - .3 Pipe inverts at each manhole and catch basin.
    - .4 Pipe size.
    - .5 Vertical and horizontal location of every service crossing
  - .2 Trenchless Installation
    - .1 Depth of cover and horizontal alignment, minimum every 12m.
    - .2 Location of all fittings and valves, including elevations to geodetic benchmark.
    - .3 Pipe size.
    - .4 Vertical and horizontal location of every service crossing exposed during installation.
- .3 Drawings are to be updated at the end of each work period.
  - .1 Drawings are to be submitted for review by the Departmental Representative at the regularly scheduled construction project meetings.
  - .2 Store drawings on site in a clean dry area.
- .4 Make drawings available for review when requested by Departmental Representative.

### **1.23 GUARANTEES AND WARRANTIES**

- .1 Before completion of work collect all manufacturer's guarantees and warranties and deposit with Departmental Representative.

### **1.24 CLEAN UP**

- .1 Clean up work area as work progresses. At the end of each work period, and more often if ordered by the Departmental Representative, remove debris from site, neatly stack material for use, and clean up generally.
- .2 Upon completion remove temporary protection and surplus materials. Make good defects noted at this stage.
- .3 Clean areas under contract to a condition at least equal to that previously existing and to approval of Departmental Representative.

**1.25 BUILDING SMOKING ENVIRONMENT**

- .1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.

**1.26 DUST CONTROL**

- .1 Prevent the spread of dust for the protection of workers, finished areas of work and public.

**1.27 TESTING LABORATORY SERVICES**

- .1 Departmental Representative will appoint and pay for costs of inspection and testing services, unless indicated otherwise.
- .2 Provide safe working areas and assist with testing procedures, including provisions for materials or services and co-ordination, as required by testing agency and as authorized by Departmental Representative.
- .3 Where tests indicate non-compliance with specifications, contractor to pay for initial test and all subsequent testing of work to verify acceptability of corrected work.

**1.28 SCHEDULING**

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. When schedule has been reviewed by the Departmental Representative, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.
- .2 Carry out work during "regular hour" Monday to Friday from 07:00 to 18:00 hours, unless otherwise indicated.
- .3 Carry out the following work during "off hours", as defined as Monday to Friday from 18:00 to 07:00 hours and anytime on Saturdays, Sundays, and statutory holidays:
  - .1 Building service interruptions.
  - .2 Wall coring.
- .4 Give the Departmental Representative 48 hours notice for work to be carried out during "off hours".
- .5 Give the Departmental Representative 48 hours notice for connections of new water main work to existing water main grid.

**1.29 IMPLEMENTATION RESTRICTIONS**

- .1 Following work is to be completed within 8 weeks of award of contract:
  - .1 All sewer and water main work associated with;
    - .1 Line 0 from Sta. 0+065 up to and including Sta. 0+398
    - .2 Line 1
    - .3 Line 3 from Sta. 3+135 to Sta 3+188
    - .4 Line 5 from Sta. 5+120 up to and including 5+190
    - .5 Plan south of Line 0 as depicted on Drawing C-14.

- .6 including associated surface reinstatement as follows:
  - .1 Roadways and parking lots up to and including aggregate base course.
  - .2 All other surfaces areas up to and including final sub grade level.
- .2 Following work is to be completed between 9 and 16 weeks of award of contract:
  - .1 All sewer and water main work associated with;
    - .1 Relining of indicated storm and sanitary sewers
    - .2 Line 0 from Sta 0+000 up to and including Sta 0+065
    - .3 Line 2
    - .4 Line 0 from Sta 0+000 up to and including Sta 0+065
    - .5 Line 3 from Sta. 3+000 up to and including 3+135
    - .6 Line 4 from Sta 4+000 up to and including 4+150
    - .7 Line 5 from Sta 5+000 up to and including 5+120
    - .8 including associated surface reinstatement as follows:
      - .1 Roadways and parking lots up to and including aggregate base course.
      - .2 All other surfaces areas up to and including final sub grade level.

### **1.30 STAGING PLAN**

- .1 Submit to Departmental Representative for review and approval, a Staging Plan that outlines work stages in compliance with specified implementation restrictions and in accordance with submitted schedule. Once approved by the Departmental Representative, do not make changes to specified stages without prior written approval of Departmental Representative. Any proposed changes to the Phasing Plan will require a minimum of 7 days advanced notice. Do not work in staging areas outside of indicated times

### **1.31 TRAFFIC MANAGEMENT PLAN**

- .1 Submit to Departmental Representative for review and approval, a Traffic Management Plan.
  - .1 Traffic Management Plan to clearly illustrate how vehicle, including emergency vehicles, and pedestrian access are to be maintained to buildings and site at all times during duration of this contract.
  - .2 Once approved by the Departmental Representative, do not make changes to specified phasing without prior written approval of Departmental Representative. Any proposed changes to the Traffic Management Plan will require a minimum of 7 days advanced notice.

### **1.32 COST BREAKDOWN**

- .1 Before submitting first progress claim submit breakdown of Contract Amount in detail as directed by Departmental Representative and aggregating the Contract Amount. After approval by Departmental Representative cost breakdown will be used as the basis of progress payments.

**Part 2            Products**

**2.1            NOT USED**

**Part 3            Execution**

**3.1            NOT USED**

**END OF SECTION**



## **PART 1 – GENERAL**

### **1.1 REGULATORY REQUIREMENTS**

.1 An investigation into the presence of designated substances at the Central Experimental Farm in Ottawa, Ontario was performed in order to meet the requirements of the Canada Labour Code under Part II, section 124 which stipulates that every employer shall ensure that the health and safety at work of every person employed by the employer is protected and those employees are made aware of every “known or foreseeable health or safety hazard” in the work environment. Also, it was performed to meet the requirements of Section 30 of the *Ontario Occupational Health and Safety Act, Revised Statutes of Ontario, 1990, Chapter O.1*. By having a Designated Substances Report (DSR) conducted, the Departmental Representative will be able to inform his or her employees, contractors, and tenants of any designated substances that may be present and possibly disturbed throughout the duration of the project. The informed Departmental Representative will then be able to impose appropriate health and safety precautions for all applicable personnel as required. The *Guide to Green Government* sets out the policy requirements for the federal government to meet or exceed federal environmental statutes and regulations, and the emulation of best practices from the public and private sector. Within the *Guide to Green Government*, pollution prevention efforts are required in federal projects. Pollution prevention is defined as the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and waste, and reduce overall risk to human health and environment. These policies must be adhered to throughout the duration of the Watermain Reconstruction Project at the Central Experimental Farm in Ottawa, Ontario.

.2 The designated substances identified in the *Occupational Health and Safety Act* and its corresponding regulations are:

- .1 **Acrylonitrile** : “Designated Substance – Acrylonitrile” *O.Reg 835* (as amended by *O.Reg 490/09*)
- .2 **Arsenic** : “Designated Substance – Arsenic” *O.Reg 836* (as amended by *O.Reg 490/09*).
- .3 **Asbestos**
  - .1 “The Regulation Respecting Asbestos” *O.Reg 837* (as amended by *O.Reg 490/09*)”
  - .2 “General – Waste Management” *O.Reg 347* (as amended by *O.Reg 337/09*)

- .3 "Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations  
*O.Reg 278/05* (as amended by *O.Reg 493/09*)
- .4 *PWGSC Departmental Policy DP 057 – "Asbestos Management"*
- .4 **Benzene** : "Designated Substance – Benzene" *O.Reg 839* (as amended by *O.Reg 490/09*)
- .5 **Coke Oven Emissions**: "Designated Substance – Coke Oven Emissions" *O.Reg 840* (as amended by *O.Reg 490/09*)
- .6 **Ethylene Oxide**: "Designated Substance – Ethylene Oxide" *O.Reg 841* (as amended by *O.Reg 490/09*)
- .7 **Isocyanates**: "Designated Substance – Isocyanates" *O.Reg 842* (as amended by *O.Reg 490/09*)
- .8 **Lead** :
  - .1 "Designated Substance – Lead" *O.Reg 843* (as amended by *O.Reg 490/09*)
  - .2 "General – Waste Management" *O.Reg 347* (as amended by *O.Reg 337/09*)
  - .3 Hazardous Products Act's *Regulations Amending the Surface Coating Materials Regulations*  
SOR/2010-224
- .9 **Mercury** :
  - .1 "Designated Substance – Mercury" *O.Reg 844* (as amended by *O.Reg 490/09*)
  - .2 "General – Waste Management" *O.Reg 347* (as amended by *O.Reg 337/09*)
- .10 **Silica** : "Designated Substance – Silica" *O.Reg 845* (as amended by *O.Reg 490/09*)
- .11 **Vinyl Chloride** : "Designated Substance – Vinyl Chloride" *O.Reg 846* (as amended by *O.Reg 490/09*)
- .3 All contractors requesting tenders from subcontractors shall furnish this report to subcontractors. **This report must be read in its entirety including all text and tables.**

## 1.2 VALIDITY DATE

- .1 El Houcine Faouzi, Environmental Analyst of the Environmental Services Directorate of the Real Property Branch, PWGSC, conducted the on-site survey for this report on 2011/08/26.
- .2 The work area is located at the Central Experimental Farm in Ottawa, Ontario. The scope of the work proposed consists of installing new storm sewers.
  - .1 The scope of work for this report involved a visual inspection of site materials and contents for the presence of suspected designated substances on 2011/08/26.
  - .2 No sampling was required to complete this report.
  - .3 The surveys were limited to those areas, which could be accessed by non-destructive means. The visual inspection and sampling was limited to readily accessible areas. Destructive testing was not included in the investigation, but is recommended prior to any major demolition. No confined space was accessed for the purpose of this report.
  - .4 No other areas outside the defined work boundaries have been assessed.
  - .5 Prior to beginning work, it must be confirmed with the Departmental Representative that no additional designated substances have been brought to the project area.
  - .6 In addition, the survey refers to PCBs and halocarbons; however, it does not refer to other substances that may be present in the day-to-day usage for specialized equipment or areas in buildings (i.e. lead shields, fume hoods, etc.).
  - .7 There is a possibility that materials which could not be reasonably identified within the scope of this assessment or which were not apparent during previous site visits may exist. Should any designated substance be encountered in the course of demolition, work must be stopped, preventative measures taken, and the Departmental Representative must be notified immediately. **Do not proceed until written instructions have been received.**

## **PART 2 – DESIGNATED SUBSTANCES**

### **2.1 SURVEY RESULTS**

- .1 **ACRYLONITRILE** : Not Identified
- .2 **ARSENIC** : Not Identified
- .3 **ASBESTOS** : Not Identified
- .4 **BENZENE** : Not Identified
- .5 **COKE OVEN EMISSIONS** : Not Identified
- .6 **ETHYLENE OXIDE** : Not Identified
- .7 **ISOCYANATES** : Not Identified
- .8 **LEAD** : Not Identified
- .9 **MERCURY** : Not Identified
- .10 **SILICA : Identified**

Crystalline silica is one of the most common minerals found on the surface of the earth. It may be found in a variety of forms the most common of which is quartz. Free silica exists in two main forms; amorphous silica and crystalline silica.

Activities that can produce significant amounts of crystalline silica includes blasting, crushing, loading and dumping of rock or materials containing crystalline silica; abrasive blasting using crystalline silica or material containing crystalline silica; demolition of materials containing crystalline silica and using compressed air to clean material containing crystalline silica.

Free crystalline silica is present in concrete and crushed stones at various locations within the project area.
- .11 **VINYL CHLORIDE MONOMER**: Not Identified
- .12 **POLYCHLORINATED BIPHENYLS (PCBs)**: Not Identified

.13 **HALOCARBONS:** Not Identified

## 2.2 RECOMMENDATIONS

### **1. SILICA**

.1 Silica occurs as crystalline material in cement. Crystalline silica is regulated under "Designated Substance – Silica" O.Reg 845 (as amended by O.Reg 490/09) of the *Occupational Health and Safety Act* as a Designated Substance.

.2 Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is present in concrete, and crushed stones at various locations within the project area, appropriate respiratory protection and ventilation must be donned during the demolition and modifications of these structures.

.3 The Occupational Health and Safety Branch of the MoL has published the document entitled "*Guideline: Silica on Construction Projects*". This document classifies the disturbance of materials containing silica as Type 1, Type 2 or Type 3 work, and assigns different levels of respiratory protection and work procedures for each classification. These work procedures should be followed when performing work involving the disturbance of silica containing materials.

### **2. CONTRACTORS DUTIES**

The contractor must review the designated substance report and take the necessary precautions to protect the health and safety of the workers and the environment. As per Section 30(4) of the *Ontario Occupational Health and Safety Act*, the party hiring the contractor (i.e. Departmental Representative) shall ensure that the contractor and subcontractor (if any) for the project has received a copy of the designated substance report prior to entering a binding contract for the supply of work on the project. As per Section 27(2) (a, b, and c) of the *Ontario Occupational Health and Safety Act*, while onsite, the contractor supervisor shall exercise every reasonable precaution for the protection of a worker. If you have any questions about the designated substance report, please contact the Departmental Representative.

**END OF SECTION**

**Part 1            General**

**1.1                CASH ALLOWANCES**

- .1        Include in total tender amount, cash allowances stated herein.
- .2        Cash allowances, unless otherwise specified, cover net cost to Contractor of services, products, construction machinery and equipment, freight, handling, unloading, storage installation and other authorized expenses incurred in performing Work.
- .3        The total tender amount, and not cash allowance, includes Contractor's overhead and profit in connection with such cash allowance.
- .4        The total tender amount will be adjusted by written order to provide for an excess or deficit to each cash allowance.
- .5        Where costs under a cash allowance exceed amount of allowance, Contractor will be compensated for excess incurred and substantiated plus an allowance for overhead and profit as set out in Contract Documents.
- .6        Progress payments on accounts of work authorized under cash allowances shall be included in Departmental Representative's monthly certificate for payment.
- .7        A schedule shall be prepared jointly by Departmental Representative and Contractor to show when items called for under cash allowances must be authorized by Departmental Representative for ordering purposes so that progress of Work will not be delayed.
- .8        Amount of each allowance, for Work specified in respective specification Sections is as follows:
  - .1        Section 33 11 16, include an allowance of \$ 10,000 for water permit for the following services:
    - .1        Item 3.20 - Flushing and disinfection of water main by the City of Ottawa.

**Part 2            Products**

**2.1                NOT USED**

- .1        Not Used.

**Part 3            Execution**

**3.1                NOT USED**

- .1        Not Used.

**END OF SECTION**

## **Part 1           General**

### **1.1           REFERENCES**

- .1   Ontario Traffic Manual (OTM):
  - .1       Book 2 - Sign Design, Fabrication and Patterns. March 2005
  - .2       Book 7 - Temporary Conditions. March 2001.
- .2   Province of Ontario: Occupational Health and Safety Act and Regulation (OHSA and Regs.)
  - .1       Occupational Health and Safety Act, R.S.O. 1990 Updated 2005.
  - .2       Construction Regulation, Ontario Reg. 213/91.

### **1.2           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 travelled way:
  - .1       Place equipment in position to present minimum of interference and hazard to travelling public.
  - .2       Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
  - .3       Do not leave equipment on travelled way overnight.
- .3   Do not close any lanes of road without approval of Departmental Representative. Before re-routing traffic erect suitable signs and devices in accordance with instructions contained in Book 7 of OTM.
- .4   Keep travelled way graded, free of pot holes and of sufficient width for required number of lanes of traffic.
  - .1       Provide minimum 7 m wide temporary roadway for traffic in two-way sections through Work and on detours.
  - .2       Provide minimum 4 m wide temporary roadway for traffic in one-way sections through Work and on detours.
- .5   As required, provide gravelled detours or temporary roads to facilitate passage of traffic around restricted construction area.

### **1.3           INFORMATIONAL AND WARNING DEVICES**

- .1   Provide and maintain signs, flashing warning lights, and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response. All traffic signs are to be in accordance with Book 2 of the OTM.
- .2   Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in Book 7 of the OTM.

- .3 Place signs and other devices in locations recommended in Book 7 of the OTM.
- .4 Meet with Departmental Representative prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of Departmental Representative.
- .5 Continually maintain traffic control devices in use by:
  - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
  - .2 Removing or covering signs which do not apply to conditions existing from day to day.

#### **1.4 CONTROL OF PUBLIC TRAFFIC**

- .1 Provide competent traffic control persons, trained and properly equipped in accordance with the OHSA and Regs.:
  - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
  - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
  - .3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
  - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
  - .5 For emergency protection when other traffic control devices are not readily available.
  - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .2 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide full time traffic control flag persons.

#### **1.5 OPERATIONAL REQUIREMENTS**

- .1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified and approved by Departmental Representative. Refer to Section 01 00 10 – General Instructions for site operation requirements and restrictions.

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not Used.



**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1        Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2        Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1        Material Safety Data Sheets (MSDS). From CEF II
- .3        Province of Ontario
  - .1        Occupational Health and Safety Act, R.S.O. 1990 Updated 2005.

**1.2                SUBMITTALS**

- .1        Submit site-specific Health and Safety Plan: Within 5 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .1        Results of site specific safety hazard assessment.
  - .2        Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .2        Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative weekly.
- .3        Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4        Submit copies of incident and accident reports.
- .5        Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 00 10 – General Instructions.
- .6        Personnel training requirements including, but not limited to, the following:
  - .1        Training and qualifications of personnel and alternates responsible for site safety and health.
  - .2        Training requirements for hazards present on site.
  - .3        Training for use of personal protective equipment.
- .7        Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 3 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 2 days after receipt of comments from Departmental Representative.
- .8        Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .9        On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

**1.3 FILING OF NOTICE**

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.

**1.4 SAFETY ASSESSMENT**

- .1 Perform site specific safety hazard assessment related to project.

**1.5 MEETINGS**

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

**1.6 REGULATORY REQUIREMENTS**

- .1 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.

**1.7 PROJECT/SITE CONDITIONS**

- .1 Work at site will involve contact with:
  - .1 Vehicular Traffic.
  - .2 Heavy Construction Equipment.
  - .3 Rotating Objects.
  - .4 Overhead hoisting.

**1.8 GENERAL REQUIREMENTS**

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns. Relief from or substitution for any portion or provision of minimum Health and Safety Guidelines specified herein or reviewed site-specific Health and Safety Plan must be submitted to Departmental Representative in writing. Departmental Representative will respond in writing, either accepting or requesting improvements.

**1.9 RESPONSIBILITY**

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

**1.10 COMPLIANCE REQUIREMENTS**

- .1 Comply with Ontario Health and Safety Act, R.S.O.

- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

#### **1.11 UNFORSEEN HAZARDS**

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

#### **1.12 HEALTH AND SAFETY CO-ORDINATOR**

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

#### **1.13 POSTING OF DOCUMENTS**

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

#### **1.14 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

#### **1.15 BLASTING**

- .1 Blasting or other use of explosives is not permitted.

#### **1.16 POWDER ACTUATED DEVICES**

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

**1.17 WORK STOPPAGE**

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

**Part 2 Products**

**2.1 NOT USED**

- .1 Not used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**Part 1            General**

**1.1                FIRES**

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

**1.2                DISPOSAL OF WASTES**

- .1        Do not bury rubbish and waste materials on.
- .2        Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

**1.3                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.
- .4        Provide Erosion Control and Sediment Plan to Departmental Representative for review a minimum of 3 days prior to the start of on site work. This review is to ensure general compliance of the erosion control and sediment measures that will be enforce during the contract and does not alleviate the contractor of his obligations and responsibilities.

**1.4                SITE CLEARING AND PLANT PROTECTION**

- .1        Protect trees and plants on site and adjacent properties from all damage where indicated.
  - .1        Do not permit equipment, equipment exhaust, or stored material to come within the drip line of any tree, or in contact with any tree, shrub or plant unless otherwise in writing by the Departmental Representative.
  - .2        For work immediately adjacent to treed areas, separate work area from trees by providing snow fencing complete with "T" posts outside the furthest extent of the tree drip line for the full length of the work area. Do not encroach into this protected tree zone with equipment or materials.
  - .3        For isolated individual trees, encircle the tree outside of its drip line with snow fencing firmly attached to "T" posts.
  - .4        Continually monitor condition of snow fencing. Immediately make good any sagged or disturbed fencing.
  - .5        Do not cut or damage any trees or branches, shrubs or plants. Do not expose tree roots or root ball under any circumstances. Should tree branches be accidentally severed or tree roots exposed within excavations, immediately cover roots with wet burlap and protect from sunlight. Immediately notify the Departmental Representative and wait written instructions prior to proceeding.

- .2 In advance of any employees or subcontractors entering the work area, brief them on the requirements set out in clause 1.4.1
- .3 In advance of work, review on site with Departmental Representative proposed extent of fencing. Once reviewed and accepted by the Departmental Representative do not deviate from these measures.
- .4 Immediately notify the Departmental Representative of any activities that may require encroachment with the tree drip line and await written instructions to proceed.
- .5 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 m.
- .6 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .7 Minimize stripping of topsoil and vegetation.

## **1.5 EROSION CONTROL AND SEDIMENT PLAN**

- .1 Submit for review and approval of Engineering Erosion Control and Sediment Plan (ECSP). This review is to ensure general compliance of the erosion control and sediment measures that will be enforce during the contract and does not alleviate the contractor of his obligations and responsibilities.
  - .1 ECSP to identify procedures and temporary elements put in place during the execution of the work to prevent erosion and spread of sediment beyond the work limits.
  - .2 Measures of ECSP are to put into effect prior to commencement of main works.
  - .3 Once approved by Departmental Representative do not make changes to the ECSP without written approval of the Departmental Representative.
  - .4 Continually monitor effectiveness of erosion and sediment control measures installed under this contract. On a daily basis, check condition of erosion and sediment control measures. Repair any measures found damaged or defective.

## **1.6 VEHICLE REFUELING**

- .1 Prior to commencing construction provide for review and approval of Departmental Representative vehicle refueling plan to be followed during execution of this work. The plan must also contain a list of spill equipment to be kept on site.
- .2 In the event of a spill, immediately notify the Departmental Representative.

## **1.7 POLLUTION CONTROL**

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

**Part 2            Products**

**2.1                NOT USED**

.1            Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**



**Part 1 General**

**1.1 REGULATIONS**

- .1 Comply with the Environmental Protection Act, Ontario Regulations O. Reg. 102/04 and O. Reg. 103/94 for waste management programs on construction and demolition projects.

**1.2 DEFINITIONS**

- .1 Waste Audit (WA): Relates to projected waste generation. Involves measuring and estimating quantity and composition of waste, reasons for waste generation, and operational factors which contribute to waste.
- .2 Waste Reduction Workplan (WRW): Written report which addresses opportunities for reduction, reuse, or recycling of materials. WRW is based on information acquired from WA.

**1.3 WASTE AUDIT (WA)**

- .1 Conduct a "waste audit" to determine the waste generated during demolition or construction operations, prepare written "waste reduction workplan" and implement procedures to reduce, reuse and recycle materials to the extent possible

**1.4 WASTE REDUCTION WORKPLAN (WRW)**

- .1 Within ten days of Award of Contract, submit for review by the Departmental Representative a detailed "Waste Reduction Workplan" for the project. Include procedures for disposal of demolition and construction waste materials..

**1.5 SOURCE SEPARATION PROGRAM**

- .1 Provide a "source separation program" to disassemble and collect in an orderly fashion the materials identified in the "waste audit" that were designated for "alternative disposal" from "general waste" stream.

**1.6 CONSTRUCTION PERSONNEL BRIEFING**

- .1 All construction personnel shall be fully briefed on the waste management workplan and shall be required to conform to it for all aspects of the work. The contractor shall be responsible for the enforcement of this requirement. The Departmental Representative reserves the right to require the dismissal from the site personnel who fail to comply with the requirements of the waste management workplan.

**1.7 STORAGE, HANDLING AND PROTECTION**

- .1 Place materials defined as hazardous or toxic in designated containers.
- .2 Ensure emptied containers are sealed and stored safely.

**1.8 RECORDS**

- .1 Submit complete records of all removals from the site to the Departmental Representative for both "materials designated for alternative disposal" and "general waste" including:
  - .1 Time and date of removal
  - .2 Description of material and quantities by weight in kilograms.
  - .3 Proof that materials have been received at an Approved Waste Processing Site or certified Waste Disposal Site as required.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 APPLICATION**

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

**END OF SECTION**