

1.1 Contract Documents

1. Work will be performed under one contract; bound by the Agreement Between Owner and Contractor, Canadian Standard Construction Document - CCDC 2-2008 Stipulated Price Contract.

2.1 General Conditions

1. The General Conditions of the Stipulated Price Contract, Standard Construction Document - CCDC 2-2008, and the Supplementary General Conditions, Section 00400 shall form an integral part of this Specification.

3.1 General Requirements

1. All provisions of each Section of Division 1 shall apply to all other Divisions and Sections of the Specification.

END OF SECTION 01000

1.1 Description of Work

- .1 All Work described in the Specifications, Schedules, Drawings or referred to in the Contract Documents, shall be governed by the General Conditions & Supplementary General Conditions of the Stipulated Price Contract - CCDC 2-2008.
- .2 All Work described in Division I includes, but is not restricted to, the following requirements for setting out procedures, administration, standards, approvals, general construction safety/protection of property and people.
- .3 Work in these Specifications is divided into descriptive Sections which are not intended to indemnify absolute contractual limits between the Contractor and his Subcontractors, nor between Subcontractors or Suppliers. The Contractor shall be responsible for organizing all division of labour and supply of materials necessary and essential to complete the Project in all its parts, to provide a total enclosure and protection from weather of interior spaces, and as established in the General Conditions of the Contract.

2.1 Work Covered By Contract Documents

- .1 Work of this Contract comprises the construction of all works required and as shown for a complete project, including but not limited to the following:-
 - .1 Demolition of library and fire station buildings.
 - .2 Removal to be complete, including footings and services back to street main lines.
 - .3 Removal of driveways and sidewalks back to streets and street sidewalks
 - .4 Backfill compaction of native and placement of topsoil and seed.
 - .5 Removal of all debris and excess excavated material from the site.
 - .6 All work as shown on the Drawings and as specified.
 - .7 Full restoration of site, with grading completed to provide good drainage (no ponding).

3.1 Codes Reference Standards, Regulatory Agencies and Specifications

- .1 Perform all Work in accordance with current Ontario Building Code O. Reg. 332/12 and any other code of Provincial or local application,

provided that, in any case of conflict or discrepancy, the more stringent requirements shall apply and govern.

- .2 Perform all Work in accordance with all requirements of the Construction Safety Act, latest edition, of the Province of Ontario, as well as all other applicable regulations of jurisdictional authorities.
- .3 Meet or exceed requirements of contract documents, specified standards, codes and referenced documents.
- .4 Remedial Work required to review and/or correct Work installed, covered, buried and not inspected shall be carried out at the Contractors expense.
- .5 Reference standards and specifications are quoted in this Specification to establish minimum standards. Work which in quality exceeds these minimum standards shall be considered to conform.
- .6 Should the Contract Documents conflict with quoted reference standards or specifications, the General Conditions of the Contract shall govern.

4.1 Documents Required

- .1 Maintain at job site, one copy each of the following:-
 - .1 Contract Drawings/Specifications/Addenda.
 - .2 Copy of Approved Current Work Schedule.
 - .3 Building Permit/Drawings.
 - .4 Field Instructions and Site Inspection Reports.
 - .5 Notices of Change and Change Orders.
 - .6 Independent Inspection and Field Test Reports.
 - .7 Authority Inspection Permits, Reports and Certificates.

5.1 Work Schedule

- .1 Provide to the Consultant, within ten (10) working days after Contract award, a construction schedule showing anticipated progress stages, sequencing, milestone dates, delivery dates and final completion of Work within time period required by Contract Documents.
- .2 Provide to the Consultant, prior to the first Project Site Meeting a shop drawing schedule showing the discipline, received date, schedule

required date, and status of each shop drawing to be provided.

- .3 Provide updated schedules on an monthly basis to permit the Consultant to evaluate and communicate to the Owner the status of Work for future Progress Billing purposes.

6.1 Site Meetings/Progress Records

- .1 Interim monthly reviews of Work Progress, based on the current Work Schedule, will be conducted by the Consultant, Project Manager, and Contractor and any necessary corrections to the schedule shall be noted and updated by Contractor in conjunction with all subtrades and suppliers to the satisfaction of the Consultant, Project Manager at least once every thirty (30) working days. Copies of the updated schedule shall be submitted to the Consultant, Project Manager for their review and comments.

7.1 Approval of Work

- .1 Where reference is made to jurisdictional authorities, it shall mean all authorities who have within their constituted powers the right to enforce the laws of the place of building.
- .2 Where reference is made in these Specifications that Work is to proceed or to meet the approval of jurisdictional authorities, Consultant or others, such approval shall be in writing.

8.1 Work During Non-Business Hours

- .1 The Contractor is cautioned that the Consultant, Project Manager and/or Sub-Consultants, cannot be committed to site attendance at the site except for normal working hours i.e. Monday to Friday 7:00 am to 6:00 p.m. excluding holidays. All and any Work performed during such times, requiring either the presence of the, Project Manager, Consultants, Owner or other Authorities, and carried out without their specific written prior approval, shall be performed solely at the General Contractor's responsibility.
- .2 Notify the Consultant, Project Manager at least ninety-six (96) hours in advance of Work at night (7:00 p.m. to 6:00 a.m.) on weekdays, Saturdays, Sundays and Statutory or declared holidays. Undertake no work during the foregoing times without the Consultant's, Project Manager's written approval.
- .3 The Contractor shall be responsible for and pay all costs for

Haldimand County Inspection Fees based on a Cost plus 15% administration fee, which are additional to the inspection fees paid, for all inspections which are carried out on weekdays after 6:00 p.m., Saturdays, Sundays, Statutory or declared holidays.

9.1 Project Co-ordination

- .1 Assume full responsibility for the co-ordination and co-operation of all trades.
- .2 Employ a qualified superintendent who shall:-
 - .1 Be on the site at all times and control all Work throughout.
 - .2 Have full authority to act on the Consultant's instructions.
 - .3 Have full knowledge of Construction and this Project in particular.
 - .4 Not be changed without prior approval of the Consultant.
- .3 Co-ordinate use of construction plant and equipment including cranes, hoists, ladders, scaffolds and similar items with the work of the various trades. The cost of such use is subject to whatever arrangement exists between Contractor and trades. Include all costs with respect to construction plant and equipment in the Contract Price.
- .4 Co-ordinate all service terminations with appropriate Authorities.
- .5 Ensure compliance with Transport Canada Regulations for all Work on the air side of this project.

10.1 Workmen, Suppliers and Subcontractors

- .1 Assign Work only to workmen, suppliers and Subcontractors who have complete knowledge, not only of the conditions of this Specification, but of jurisdictional requirements, reference standards and specifications, in particular of Transport Canada.
- .2 Give preference to use of local workmen, suppliers and Subcontractors wherever possible.

11.1 Co-operation and Co-ordination of Subcontractor's Work

- .1 Co-ordinate all construction components in each area and on which subsequent Work depends to facilitate mutual progress, and to

prevent conflict between parts of the Work performed by all trades.

- .2 The Contractor shall ensure that each of his Subcontractors make known to him, and to other Subcontractors, the environmental and surface conditions required for the execution of the Subcontractor's Work, and the sequence of other's Work required for installation of the Subcontractor's Work.
- .3 The Contractor shall ensure that each Subcontractor, before he commences his Work, fully understands the site requirements and conditions preceding and subsequent to his Work, and that each Subcontractor execute his preparatory Work properly as required by the Subcontractors whose Work depends upon it.
- .4 Schedule delivery of materials, supplied by one Subcontractor to be installed by another, well in advance of commencement of the installation.

12.1 Contractor's Use of Site

- .1 Do not unreasonably encumber site with materials or equipment. Remove all materials from site as they accumulate daily.
- .2 Use of site is limited and restricted to the areas for work and storage as shown on the drawings and as designated by the Consultant.
- .3 Restore, at completion of Work, all adjacent property, surfaces, sidewalks, etc. to original condition of commencement of work to satisfaction of the Consultant.

13.1 Access to Site

- .1 The Contractor shall direct and control access and disposal of all construction materials and equipment onto and within the site. He shall provide flagmen and guards as required.
- .2 The Contractor shall be completely responsible for disposal vehicles, and materials and equipment while they are on the site, and shall pay all costs for their immediate removal or relocation should they impede the access of others.

14.1 Parking

- .1 Parking shall be allowed only with the prior approval and in

authorized areas as agreed to and directed by the Consultant.

15.1 Access for Equipment

- .1 Fitments and other equipment shall be made up in sections of such size as can be easily transported in and through the building to the final location without alteration or damage to the building.
- .2 Should it become necessary at any time during the execution of the Work to move materials and/or equipment which have been temporarily placed, when so directed by the, make arrangements with those who are furnishing such materials and equipment to move them or cause them to be moved to a different location as directed without additional charge.

16.1 Examination of Site Before Execution of Work

- .1 Examine site, and ensure that each Subcontractor whose Work is related to site conditions has examined it, so that all are fully informed on all particulars, which affect Work thereon and at the place of building, and in order that construction proceeds competently and expeditiously.
- .2 Examine completed Work, Work in progress, and Work yet to be carried out by others under other Sections of the Specifications.
- .3 Verify dimensions of completed Work in place before fabrication of Work to be incorporated with it.
- .4 Verify that previously executed Work and surfaces are satisfactory for installation or application, or both, and that performance of subsequent Work will not be affected. Commencement of Work shall constitute acceptance of site conditions and surfaces as satisfactory.
- .5 Report to Consultant any and all defects in previously completed Work which will affect the scheduling and quality of all subsequent Work.
- .6 No allowance will be made for difficulties encountered in the Work which were in existence or could have been anticipated at the time the Work was tendered.

17.1 Protection of Work, Property and Persons

- .1 Work shall include necessary methods, materials and construction to ensure that no damage or harm to Work, materials, property and persons results from the Work of this Contract. Temporary facilities relating to protection are specified in Section 01500. Schedule the work so that security and safety is maintained at all times.
- .2 Keep excavations Work free of water at all times. Pump dry as required.
- .3 Locate, identify and protect existing services to remain from damages. If necessary, relocate active services to ensure that they function continuously in safety and without risk of damage. Any damage caused to existing services and/or property shall be made good at the Contractor's expense.
- .4 Do not damage landscaped areas by piling of surplus soil over them, by dumping of debris over them or compacting the soil within the drip line of the trees/shrubs.
- .5 Special precautions to be taken to protect all existing planting on the site. Do not damage or cut root systems of existing trees; stockpile any surplus material over them or use trees for anchorage. Remove only those trees or shrubs which are designated to be removed and/or replanted. Protect, and if damaged make good, adjacent property.
- .6 Assume full responsibility for the provision of all protection against rain, wind, snow, ice, storms, frost, heat and vandalism so as to maintain work area free from injury or damage.
- .7 Cease work and notify the Consultant if low temperatures make it impossible to continue operations safely in spite of cold weather precautions.
- .8 Notify the Consultant should the job be closed down for any reason and assume full responsibility, for providing adequate protection, security, etc. during the shutdown.
- .9 The Contractor is cautioned to use appropriate demolition methods in order to fully protect all existing structure. Do not carry out any work in a manner that will endanger any structural members, services.

- .10 Take all necessary precautions to protect the occupants, the public, passersby and adjoining property against flying dust and debris.

18.1 Fire Prevention and Safety

- .1 The Contractor shall enforce fire protection methods of good housekeeping, and adherence to local and underwriter's fire regulations. Provide ULC approved fire extinguishers, and other fire fighting services and equipment except where more explicit requirements are specified as the responsibility of individual Subcontractors.
- .2 Maintain clear emergency exit paths for personnel at all times.
- .3 Use only fire resistant tarpaulins and similar protective covering on site.
- .4 Ensure that each Subcontractor stores his volatile waste in approved closed containers and removes them from premises daily.

19.1 Public Protection

- .1 When necessary, the Contractor must post a flagman who will be responsible for safety and direction of pedestrian traffic past the site.
- .2 Maintain existing exiting routes and access from the existing premises.

20.1 Provisions for Traffic

- .1 Particular effort shall be applied to the safety of pedestrian flow past the site. Any activity which has potential for interference with pedestrian flow shall first be approved by the Consultant. Provide temporary guide barriers, signage and flagmen as required for safe and efficient control of pedestrian flow.

21.1 Mud Tracking

- .1 The Contractor shall take all steps necessary to prevent the tracking of mud beyond the site and assume all responsibilities for the tracking of mud, dirt and debris resulting from his operations, beyond the site and shall pay all costs necessary for the clean-up resulting from this operation.

22.1 Dust Control

- .1 The Contractor shall take such steps as may be required to prevent dust nuisance resulting from his operations from spreading beyond the site.
- .2 Where the work requires the sawing of asphalt or the sawing or grinding of concrete, blades and grinders of the wet type shall be used together with sufficient water to prevent the incidence of dust. The cost of all such preventative measures shall be borne by the Contractor.

23.1 Security

- .1 The contractor shall provide secure, solid closures to any opening which will not be able to be closed in with the new construction due to any circumstances which may arise.
- .2 Ensure that the site security is operating at all times construction is proceeding and that the temporary site enclosure is secured at the end of each days work.

24.1 Salvage and Disposal

- .1 Items of antiquity, including coin, art, anthropology, etc. which are on the site at the time of signing of Contract, which are uncovered or unearthed during the construction, shall remain the property of the Owner and shall be turned over to him immediately and without prejudice.
- .2 Unless otherwise specified, salvaged material which will not to be reused, surplus materials and construction debris shall become property of Contractor. The Contractor shall pay all associated costs and arrange for the safe removal and disposal away from site.

25.1 Location of Apparatus

- .1 The location of apparatus, fixtures, outlets, etc., shown or specified shall be considered as only approximate. The actual locations shall be as directed and as required to suit the conditions at the time of installation. Before installation the Contractor shall notify the Consultant and ascertain the actual desired final location required. The Consultant shall have the right to change these locations without change to the Contract Sum providing the distance moved does not

exceed 3000 mm (10'-0") and the information is given before the installation is made.

26.1 Existing Services

- .1 Where Work involves capping/cutting or relocation of existing services, carry out work at times directed by governing authorities.
- .2 Before commencing Work, establish location and extent of service lines in area of Work and notify the Consultant of findings.
- .3 Submit schedule to and obtain approval from the Consultant and Owner and for any shutdown 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 Consultant and confirm findings in writing.
- .5 Record location of all new, capped or abandoned site services accurately on "Construction Record Drawings".
- .6 All rough-in to point of equipment connection is to be carried out by the Mechanical and Electrical Contractors as part of the General Contract for the Work. This Contractor shall be responsible for setting of the equipment in place and ensuring that all electrical and mechanical connections to this equipment is carried out correctly and as required by the equipment manufacturer.
- .7 Do not interrupt existing services except as approved by the Consultant. Give the Consultant or governing authority seven (7) days clear notice of intention to interrupt existing services.
- .8 In the event existing services are uncovered or disrupted accidentally, make complete restoration on a priority basis and provide adequate protection to avoid further disruption until diversion or alternative arrangements are made.

27.1 Drainage

- .1 The Contractor shall ensure that positive drainage is provided to gravel and concrete walkways and asphalt paving, as set in their final positions. Provide constant slopes for drained surfaces to drains and drainage courses.

- .2 Provide temporary grading as required to give positive drainage away from building to prevent water damage during the course of construction.
- .3 Verify the extent of each area served by a drain, or drainage course, to eliminate possible undrained surfaces. Co-ordinate the Work of involved Subcontractors before each proceeds.

28.1 Cleaning

- .1 Each Subcontractor shall clean and remove from his finished Work all stains, soiling, markings, labels, scratches, spatters, droppings, and debris. He shall leave his Work and adjacent finished Work in new condition.
- .2 Ensure that only cleaning materials are used which are recommended for the purpose by both the manufacturer of the surface to be cleaned and of the cleaning material.
- .3 No debris, waste or excess material shall be burned or buried at site. Ensure that volatile fluid wastes are not disposed of in storm or sanitary sewers or in open drain courses. Do not allow waste material and debris to accumulate in an unsightly or hazardous manner. Provide containers in which to collect waste material and debris. Sprinkle dusty accumulations with water.
- .4 Ensure that cleaning operations are scheduled to prevent dust or other foreign matter affecting surfaces which are wet or tacky.
- .5 Each Subcontractor shall supply the Contractor with instructions for final cleaning of his Work, and for inclusion in Project Data Book as more exactly specified in each trade Section and in Section 01300.
- .6 Ensure that cleanup is carried out daily to provide a neat, orderly and safe site for all personnel working on the site.

1.1 Generally

- .1 Cash allowances and the Construction Contingency Allowance specified shall be carried, administered and co-ordinated by the General Contractor as part of the Work of his Contract.
- .2 Include the General Contractor's charges for overhead and profit, on account of all Cash Allowances and Construction Contingency Allowance as specified, in the Contract Price in accordance with the General Conditions of the Stipulated Price Contract. Article GC 4.1 Cash Allowances and Article GC 4.2 Contingency Allowance.
- .3 Include with each expenditure from the appropriate Allowances, all applicable taxes as specified in the General Conditions of the Stipulated Price Contract, Article GC 10.1 - Taxes and Duties. HST is extra to the amounts carried for this work.
- .4 List all Allowances separately on each and every billing and expend Allowances only on the Consultant's agreement and written instructions.
- .5 Credit the Owner with unused portion of all Allowances in statement of reconciliation prior to the final billing for the project. The Consultant will issue a final Change Order to cover this payment.

2.1 Construction Contingency Allowance

- .1 **Include in your tender a Construction Contingency Allowance to cost and perform additional Work as directed by the Consultant and Owner.**

A Cash Allowance of Twenty Thousand Dollars (\$20,000.00).

3.1 Cash Allowances

- .1 **For Inspection and Testing Services Specified for:**

Section 02200 : Earthwork

A Cash Allowance of Two Thousand Dollars (\$2,000.00).

1.1 Generally

- .1 The Contractor shall be responsible for preparing, for the first project site meeting, a schedule of all requested and required submittals listing all shop drawings, samples, reports, manuals, drawings intended for submission to the Consultant.
- .2 The Contractor shall co-ordinate and distribute all submissions, to the Consultant as well as Subtrades and suppliers, to ensure that the flow of documents is performed in a timely manner to maintain the construction schedule.
- .3 All submittals specified and requested in all Sections of these Specifications shall be made by the General Contractor, directly to the Consultant. Submit copies to the Sub-Consultants and jurisdictional authorities only on the instructions or in agreement with the Consultant.

1.2 Construction Schedules

- .1 Submit in accordance with Section 01005.

1.3 Guarantees and Warranties

- .1 Provide the extended guarantees as specified in each applicable Section of this Specification.
- .2 Extended guarantees shall commence on termination of the standard one year guarantee granted in this Contract as specified in Article GC 12.3 - Warranty of the General Conditions, and shall be an extension of these same provisions.
- .3 Each extended guarantee shall be submitted in a format, identical to the other and as approved by Consultant.
- .4 The Project Data Book shall
 - consist of a hard-cover, black, vinyl-covered, loose-leaf, 215 x 280 mm (8½" x 11") binder
 - have a title sheet, or sheets preceding data on which shall be recorded Project name, date, list of contents and Contractor's and Subcontractors' names
 - be organized into applicable Sections of Work with each section separation by hard paper dividers with plastic covered

- tabs marked by Section
- contain only typed or printed information and notes, and neatly drafted drawings
- contain Warranties/Guarantees including extended Warranties/Guarantees with the names, addresses and phone numbers for servicing.

1.4 Inspection Laboratory Reports

- .1 Submit reports in duplicate unless specified otherwise, signed by a responsible officer of the inspection and testing laboratory, for the items as specified in other Sections of the Specifications in Articles entitled, "Source Quality Control" and "Field Quality Control".

1.5 Application for Payment

- .1 Applications for Payment must be accompanied by:
 - .1 The Contractor's Statement of Payment.
 - .2 Progress Draw showing a schedule of values of various trades and for various parts of the work in a format acceptable to the Consultant.
 - .3 A Statutory Declaration, duly signed by the Contractor and all Subcontractors, stating that all Subcontractors and suppliers have been paid to date and that there are no liens outstanding or filed.
 - .4 Letter of Good Standing from Workplace Safety and Insurance Board (WSIB).

1.6 Construction Record Drawings:

- .1 The Contractor will be provided with two sets of prints to be used as Record Drawings on which he shall mark clearly "IN RED, IN A NEAT AND LEGIBLE MANNER", all deviations from the Contract Documents in the Work as constructed, caused by site conditions and including Consultant originated changes, Contractor/Sub-Contractor originated changes, Site Instructions, Supplementary Instructions, Addenda, instructions by correspondence and Jurisdiction authority approvals. Carefully record location of concealed elements which are required for maintenance, alteration work, and building additions, including elements of foundation, horizontal and vertical location of utilities and appurtenances, location of internal utilities concealed in construction, and all field changes of dimension and detail. Eradicate all obsolete information.

- .2 Maintain record drawings in good condition, available at all times for inspection by Consultant's site representatives, and do not use for construction purposes.

END OF SECTION 01300

1.1 General Requirements

- .1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

2.1 Inspection

- .1 The materials furnished by the Contractor shall be inspected by the Contractor and Inspection/Testing Agency at the source, time of delivery and at such other times as requested by the Consultants.
- .2 The review of the information covering materials and equipment by the Consultants shall in no way release the Contractor or Inspection/Testing Agency from his responsibility for the proper design, installation and performance of any material, equipment or arrangement or from the liability to replace same should it prove defective or deficient.

3.1 Inspections by Owner

- .1 The inspection and testing for all earthwork including subgrade, bearing surfaces and granular fill shall be carried out by the General Contractor, paid under the appropriate cash allowance within this Specification.
- .2 The Contractor shall ensure that the testing/ inspection is carried out in conformance with these specifications including samples, reporting, etc.

4.1 Independent Inspection Agencies

- .1 Independent Inspection/Testing Agencies will be engaged by the Consultant for the purpose of inspecting and/or testing portions of Work as outlined in the specifications..
- .2 Cost of such services for each portion of the Work noted, shall be paid for by the Contractor as part of the Cash Allowance specified under Section 01050. Do not expend such allowances without approval of Consultant.
- .3 The Contractor shall ensure that the inspection/testing is carried out in conformance with these specifications, including sampling and reports.

- .4 Equipment required for executing inspection and testing by the appointed agencies shall be provided by them for their specific use.
- .5 Employment of Inspection/Testing Agencies does not relax the responsibility of the Contractor to perform the Work in accordance with the Contract Documents.
- .6 If defects are revealed during inspection and/or testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defects and irregularities as advised by the Consultant at no cost to the Owner.
- .7 Allow Inspection/Testing Agencies access to the Work, offsite manufacturing and fabrication plants. Co-operate to provide reasonable facilities for such access.

5.1 **Procedures**

- .1 Prepare schedule of testing to be given to testing company. Notify the appropriate agency and Consultant a minimum of two (2) working days in advance of the requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in the Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient to store and cure test samples.

6.1 **Rejected Work**

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

Price the difference in value between the Work performed and that called for by the Contract Documents, the amount of which shall be determined by the Consultant.

7.1 Reports

- .1 Reports shall contain the following information:
 - .1 Date and time of inspection or test.
 - .2 Weather conditions and ambient air temperatures during the inspection.
 - .3 Testing method employed by proper standard reference and specific paragraph or other detailed information as applicable.
 - .4 Inspection description and details and other relevant information.
 - .5 Test results in detail, complete with applicable graphs and other clarifying documents and information.
 - .6 Printed name and signature of person having conducted inspection or test, and name, title and signature of Supervisor having verified the report.
- .2 Inspection and Testing Agency shall provide written report for each inspection and test made, one (1) copy to the Consultants; two (2) copies to the Contractor direct, who shall forward one (1) copy to the Sub-Contractor, supplier or manufacturer concerned and two (2) copies for the data books.

8.1 Tests and Mix Designs

- .1 Furnish test results as requested and required.

1.1 General Requirements

- .1 Work shall include temporary facilities and controls required as construction aids or by jurisdictional authorities or as otherwise specified. Install to meet needs of construction as Work progresses. Maintain during use, remove at completion of need and make good adjacent Work and property affected by their installation.
- .2 Work shall include fixed or portable structures as shown and as required for storage, offices, washrooms, etc. as required for safety, security and to meet the needs of the construction project and the Owner as otherwise specified.
- .3 Temporary facilities shall include provisions for construction safety as required by the Construction Safety Act, 213/91 amended O. Reg. 64/18 of the Province of Ontario, or latest edition, as well as all other applicable regulations of jurisdictional authorities.
- .4 Construct temporary Work of new materials unless use of second-hand materials is approved by the Consultant.
- .5 Ensure that structural, mechanical and electrical characteristics of temporary facilities are suitable and adequate for use intended. Be responsible that no harm is caused to persons and property by failure of temporary facilities because of placing, location, stability, protection, structural sufficiency, removal or any other cause.
- .6 Pay all costs for any and all temporary facilities and controls including, but not limited to, permits, transportation, set-up, maintenance and leases.

2.1 Construction Aids

- .1 Erect scaffolding independent of building walls, and remove promptly when no longer required. Do not allow scaffolds to interfere with continuing "Work".
- .2 Each user of scaffolding which is not his own shall be responsible for its examination and testing before using it. He shall make it secure if necessary, or shall notify the Contractor in writing that he will not commence Work until it is made secure; otherwise he will be held responsible for accidents and acceptance of the scaffolding.

- .3 Work shall include temporary enclosure for building as required to protect it, in its entirety or in its parts, against the elements, to maintain environmental conditions required for Work within the enclosure, and to prevent damage to materials stored within. Design enclosures to withstand wind pressures required for the building by jurisdictional authorities. Use structural framing of building for support of temporary enclosure framing only upon verification that the load limits of the building frame will not be exceeded, and upon approval of the Consultant. Keep surfaces of enclosures free of snow and ice to avoid overloading of building structure. Erect enclosures to allow complete accessibility for installation of materials during the time enclosures remain in place.

3.1 Protective Fences, Devices, Barricades

- .1 Install temporary constructions to ensure protection to the public, premises and all personnel as specified other Sections of this Specification and the General Conditions of the Contract. Fencing to enclose the entire work area, on all sides.
- .2 Protect roofs by substantial temporary construction to ensure that no damage occurs. Protection shall be provided by materials of sufficient thickness, positively secured to prevent all damage to structure and finish, and to waterproofing qualities of membranes whenever each of these individual components are exposed. Damage shall include harm resulting from all construction Work, such as falling objects, wheel and foot traffic, failure to remove debris, or scaffolding and hoisting operations.
- .3 Work shall include barricades for traffic control and to prevent damaging traffic over finished areas, sidewalk and curb protection, as well as safety barricades, hoardings and otherwise as may be required.
- .4 **Erect protective enclosures around all trees and planting material noted to remain. Verify all items to be protected with the Consultant prior to commencement of work.**

4.1 Security

- .1 Maintain security of construction site by control of access through enclosing fences during times Work is in progress, and by locking hardware otherwise.

- .2 Maintain security at all times construction is shut down because of a strike or a lockout, or for whatever reason the project is unoccupied.
- .3 Maintain security and construction of site in accordance with Section 01005

5.1 Field Office

- .1 Erect a secure weathertight insulated temporary office for the Consultant's and Contractor's use. It shall contain facilities as required for Contractor, a Conference table and chairs for site meetings, and facilities for the Consultant.
- .2 Heat and light the office to minimum code requirements for office buildings.
- .3 Maintain and pay for telephone and facsimile service at the site available to Contractors and the Consultant during entire construction.

6.1 Washroom Facility

- .1 Provide for the Contractor's use a Portable washroom, located where agreed with Owner.

7.1 Temporary Water, Electricity, Heat, Lighting

- .1 The Contractor shall be responsible for and shall assume the cost for provision of water, electricity, heat and lighting required for construction of the facilities, for the duration of the project.
- .2 The Contractor shall supply electric power for all construction purposes. Make connections available to any part of the Work within distance of a 100'-0" extension. Provide power at temporary storage sheds and field office and classroom facility.
- .3 Temporary electric service shall include distribution conductors and necessary components. Provide a power centre for miscellaneous tools and equipment with weatherproof distribution box, a minimum of four 20 Amp grounded outlets, and circuit breaker protection for each outlet.

.4 **Provide lighting for:**

- .1 emergency evacuation, safety and security throughout the Project at intensity levels required for jurisdictional authorities
- .2 performance of Work throughout areas as required, evenly distributed, and at intensities to ensure that proper installations and applications are achieved
- .3 performance of finishing Work in areas as required, evenly distributed and of an intensity of at least 15 foot candles.

- .5 Make arrangements for disconnection of water, sewer, gas, electric and telephone utilities as required prior to commencement of demolition. Pay connection and disconnection charges, and for use of services required by construction.

8.1 Dust Control

- .1 Prevent spread of dust beyond the construction site by wetting or by other means approved by the Consultant.

9.1 Project Identification

- .1 Work shall include Project sign painted by a professional sign painter on overlaid plywood, framed and mounted on braced posts. Only Owner's, Project, Consultant's and Sub-Consultant's and Contractor's names shall appear on sign. Submit shop drawings for approval. Size of sign shall be 2400mm x 2400mm (8' x 8') approximately.
- .2 Erect sign in location as directed by the Consultant. Project sign to be detailed later.
- .3 Only specified Project sign and notices regarding safety, caution or instructions shall be placed on or near site.

1.1 Construction Safety Measures

- .1 Observe and enforce construction safety measures required by National Building Code latest edition, Provincial Government, Workplace Safety and Insurance Board and municipal statutes and authorities.
- .2 In event of conflict between any provisions of above authorities, the most stringent provision governs.

2.1 Fire Protection

- .1 Eliminate fire hazards and prevent damage to work, materials, equipment and other property, both public and private.
- .2 Provide and maintain in working order, adequate temporary Underwriters' labelled fire extinguishers and locate in prominent positions, to the approval of authorities having jurisdiction.

3.1 First Aid

- .1 Provide and maintain on the site in a clean, orderly condition, completely equipped first aid facilities which shall be readily accessible at all times to all employees.
- .2 Designate certain employees who are properly instructed to be in charge of first aid. At least one such employee shall always be available on the site while work is being carried on.
- .3 A telephone call list for summoning aid, such as doctors, ambulances, Pulmotors, and rescue squads from outside sources shall be conspicuously posted.

4.1 Overloading

- .1 Ensure no part of Work is subjected to a load which will endanger its safety or will cause deformation.

5.1 Falsework

- .1 Design and construct falsework in accordance with CSA S269.1-16 or latest edition.

6.1 Scaffolding

- .1 Design and construct scaffolding in accordance with CSA Z797-18 or latest edition.

7.1 Cranes/Hoisting Equipment

- .1 Do not commence any hoisting/erection on site without prior approval of the Consultant.
- .2 Prepare a schedule of operations when such equipment is to be employed and submit for approval.

8.1 Disposal of Wastes

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .3 Fires and burning of rubbish on the site shall not be permitted.

9.1 Siltation Control

- .1 Erect siltation control fences were noted on drawings to protect existing drainage channels.

10.1 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 discharge systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

11.1 Pollution Control

- .1 Control emissions from equipment and plant to local authorities emission requirements.

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

12.1 Toxic and Hazardous Waste

- .1 Prior to commencement of Work, ensure that all reasonable precautions have been taken to determine if toxic or hazardous substances are present on the site.
- .2 Address unforeseen conditions expeditiously and report to the Consultant, jurisdiction having authority, immediately, any conditions found on the site.
- .3 Do not bury any waste material on the site which could be deemed to be considered toxic or hazardous.

END OF SECTION 01510

PART 1 - GENERAL

1.1 General Requirements

- .1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 Work in Other Sections

- .1 Related Work Specified in Other Sections

Section 02200 : Earthwork
Section 02210 : Site Grading
Section 02260 : Topsoil & Finish Grading

1.3 Scope of Work

- .1 This section specifies the preservation of existing vegetation on the site.

PART 2 - PRODUCTS

2.1 Materials

- .1 Snow Fencing: Wood slats with wire lacing and galvanized steel T rails or approved equivalent, 1800mm high.
- .2 Drain Pipe: 100mm diameter perforated P.V.C. drain pipe complete with required connectors and end grates.
- .3 Wound Treatment: Braco or equivalent.
- .4 Equipment: adequate and specific for removal and moving of trees.

PART 3 - EXECUTION

3.1 Preparation

- .1 Contractor shall lay out extent of tree preservation line for Consultant's approval prior to any excavation.

- .2 Contractor shall lay out extent of lateral drain lines for Consultant's approval prior to installation.
- .3 No excavation shall be carried out within the drip lines of trees to be saved. Root loss must be minimal.
- .4 No heavy equipment shall be driven over the tree lawn area, to alleviate soil compaction around the tree roots.
- .5 No equipment or materials should be allowed to hit, abrade or otherwise damage any limbs or branch of a tree hanging over the immediate construction area.
- .6 No soil or construction materials should be piled over the tree lawn areas or around the trunks.

3.2 Installation

- .1 Stake fencing with adequate rails to ensure an upright line of fencing. Damaged or uneven sections must be repaired immediately.
- .2 All existing trees and shrubs which are to remain shall be completely protected by snow fencing erected beyond the drip line the tree's canopy. Areas within the protective fencing will remain undisturbed and will not be used for the storage of building materials or equipment.
- .3 No contaminants will be dumped or flushed where feeder roots of trees exist.
- .4 Where limbs or portions of trees are removed to accommodate construction work, they will be removed carefully in accordance with accepted arboriculture practice.
- .5 Where root systems of protected trees are exposed directly to construction work or damaged in any way, they shall be trimmed neatly and the area backfilled with appropriate material to prevent desiccation.
- .6 Where necessary, trees will be given an overall pruning to restore the balance between roots and top growth or to restore the appearance of the trees.

- .7 Within the specified distances from the tree trunk, no roots over one (1) inch in diameter are to be cut if avoidable; any that are cut should be cleanly cut and will have to be painted with wound treatment.
- .8 Where tunnelling has been used, extreme care must be taken when backfilling that no air pockets remain to further injure the tree.
- .9 It is further directed that when backfilling tunnel, especially where under trees, a good soil mixture must be used. It should consist of 67% genuine top soil and 33% peat moss. Such soil should help greatly in promoting the growth of new roots.

3.3 Site Services

- .1 If a situation arises where services must be located in line with the root system of a tree or trees, and the trees are to be saved, the following methods of removal must be followed if the trees are to remain viable after construction.
 - : Trees 8 to 12 inches in diameter may only be trenched by machine to within ten (10) feet of tree trunk. From here on work must be by hand.
 - : Trees 12 inches or more in diameter may only be trenched by machine to within fifteen (15) feet of tree trunk. From here on, boring or trenching must be by hand and no roots over one inch in diameter be cut if avoidable.
 - : Where impossible to tunnel the distance required by the above criteria, it is suggested that tunnelling begin at the specified distance with sufficient surface openings to make work feasible or removal may be abandoned, with the approval of the Owner/ Consultant.

3.4 Clean-Up

- .1 All material resulting from grubbing the site shall be hauled off site.
- .2 Remove snow fence only after completion of all work and ensure that area within its bounds is in same condition as it was prior to construction.

PART 1 – GENERAL

1.1 General Requirements

- .1 Division 1, General Requirements is a part of this Section and shall apply as if repeated here.

1.2 Work in Other Sections

- .1 Related Work Specified in Other Sections:

Section 01500 : Temporary Facilities & Controls

1.3 Qualifications

- .1 Execute work of this Section only by a firm who specializes in such work, has adequate equipment and skilled tradesmen to perform it expeditiously, and is known to have been responsible for demolition work similar to that specified, during a period of at least the last five years.

1.4 Requirements of Regulatory Agencies

- .1 Perform demolition work in accordance with latest edition requirements of CSA S350-M1980 (R2003), the Fire Protection Act and the Occupational Health and Safety Act and Regulations for Construction Projects of the Province of Ontario, Section 01005 General Instructions of the specifications and as otherwise required by jurisdictional authorities to save persons and property from harm resulting from work of this Section.
- .2 Obtain and pay for permits, notices and inspections required by jurisdictional authorities for work of this Section.

1.5 Salvage and Disposal of Materials

- .1 Assume responsibility for demolition and removal of elements noted to be removed or altered in the condition they are at time notified of award of demolition contract.
- .2 Items of antiquity, including coin, art, anthropology etc. which are on the site at the time of bidding and when uncovered or unearthed during the course of construction shall remain the property of the Owner and shall be turned over to him immediately and without prejudice.

- .3 All excess materials resulting from the demolition necessary for the project, except as specified or noted on the drawings, shall become the property of the Contractor who shall remove the same as quickly as possible to his designated disposal area. The retention of materials on the site for sale or salvage purposes is forbidden. Burning of materials and/or debris on the site is strictly forbidden.
- .4 Remove, clean, store, and protect all specified salvage items until required to be built into the project.
- .5 Remove debris daily, immediately as it accumulates. Do not overload trucks and otherwise take means to prevent spillage during travel.

1.6 Access to Site

- .1 Provide for complete and safe access at all times to the building for the Owner and the public to the areas designated for continuous operations by the Owner.
- .2 Do not impede pedestrian or vehicular traffic on public ways within or adjacent to the premises by Work in progress or stored materials.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.1 Examination

- .1 Before commencing any demolition Work, ensure in examination of the site that all possible factors concerning the demolition have been investigated, and in particular the following are known:-
 - .1 Methods and means available for material handling, disposal, storage and transportation.
 - .2 Method of construction of structures, fixtures and services to be demolished.
 - .3 Disconnection of services to all fixtures completed.
 - .4 Hoarding and temporary barriers installation completed.

- .2 Review demolition Work to be performed in its entirety with the Consultant. Do not proceed without his approval of demolition methods which will be used.

3.2 Special Protection

- .1 Ensure that adjacent private and public properties, both within and without the premises, are protected from damage resulting from work of this Section. Protection shall consist of fences, barricades, signs, and substantial constructions to provide physical protection. Property shall include, but not be limited by, structures and their finishes and appurtenances; site improvements; trees, planting and landscaping; furnishings, fixtures, hardware and equipment.
- .2 Protect existing items designated to remain and materials designated for salvage. In event of damage, immediately replace such items or make repairs to approval of Consultant and at no additional cost to the Owner.
- .3 Erect shoring, bracing and other structures to prevent collapse, settlement and movement of property.
- .4 Post danger signs in conspicuous locations to warn persons that demolition is in progress. Barricade all access by unauthorized persons to areas in which demolition is in progress.
- .5 Employ sufficient competent watchmen to guard all portions of the work site during all times outside of regular working hours. This shall include nights, Sundays, holidays, and during strikes and lockouts, until demolition work is completed.
- .6 It is essential that the minimum inconvenience be experienced by neighbourhood premises. Tarpaulins, and spraying with water shall be employed to keep down dust nuisance. Noise shall be kept to a minimum.
- .7 Remove protections and barricades only if and when directed by Consultant.
- .8 Notify the Consultant, Sub-Consultants immediately of any damage to structures, buried and above-ground services, trees or shrubs, bench marks or survey monuments which occurs as a result of Work of this Section.

3.3 Existing Services

- .1 Verify the location of all existing services within the project boundary prior to commencing work. Arrange and pay for the disconnection, capping and plugging of all gas, water, sewer, hydro, telephone and other services to the buildings at the property line. In each case, the utility company involved shall be notified in advance, and its approval obtained before commencing that portion of the work.
- .2 Do not interrupt existing services except as approved by the Consultant. Give the Consultant seven (7) days clear notice of intention to interrupt existing services. In the event existing services are uncovered or disrupted accidentally, make complete restoration on a priority basis and provide adequate protection to avoid further disruption until diversion or alternative arrangements are made.

3.4 Schedule of Demolition

- .1 Commence demolition as soon as all permits are obtained, temporary facilities are in place and when authorized by the Owner.
- .2 Elements noted to be removed and disposed of shall include, but not be limited to the following:-
 - .1 unit masonry walls, floor structure, drywall partitions & bulkheads, acoustic tile/drywall/specialty ceilings and suspension systems, resilient & tile flooring.
 - .2 doors and windows, glazing, framing, hardware, washroom partitions/accessories, millwork, equipment, furnishings, prefabricated structures.
 - .3 mechanical ducts/grilles/plumbing fixtures & trim, electrical conduit/wires/fixtures & equipment.
 - .4 foundations walls and footings.
 - .5 all services, back to main line connection point in the street.
 - .6 sidewalks and driveways.

3.5 Schedule of Salvage and Relocation

- .1 Ensure that the specifications and drawings are referred to for the complete extent of this Work. Carry out all salvage under the supervision of the applicable Subcontractor whose Work includes the reinstallation of that specific product.

- .2 Elements noted to be removed, relocated and reinstalled shall include but not be limited to the following:-

3.6 Restoration

- .1 Remove hoarding, barricades and other temporary construction on completion of demolition.
- .2 Reinstall areas immediately adjacent to the work to match the condition of adjacent undisturbed work. Backfill all excavations and compact to provide uniform, even surface.
- .3 All areas to receive topsoil and seed per Section 02260.

END OF SECTION 02110

PART 1 - GENERAL

1.1 General Requirements

- .1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 Work In Other Sections

- .1 Related Work Specified in Other Sections

Section 02104 : Tree Preservation
Section 02110 : Demolition
Section 02210 : Site Grading
Section 02260 : Topsoil & Finish Grading
Section 02550 : Site Services

- .2 Products Specified Under Work of This Section
and Removed Under Work of Other Sections

Section 02550 : Site Services

1.3 Scope of Work

- .1 Work of this Section shall include but not be limited to the following:
 - .1 Excavation for removal of entire building including foundation walls and footings.
 - .2 Excavation and removal of asphalt paving and sidewalks include granular subbase.
 - .3 Employment of adequate equipment for excavation, backfill, compaction, haulage and disposal.
 - .4 Excavate from within the limits of construction all organic and unacceptable material and replace with suitable, compatible and acceptable material. Haul away for disposal all material which will not be reused elsewhere on site as specified in Section 02110.
 - .5 Backfill and compaction for removal of all services back to main connection at the street.
 - .6 Backfill and compaction and grading for all areas to be sodded or seeded, up to 150mm from finished grade.
 - .7 Grading and compaction for all swales to be constructed.
 - .8 Testing of all subbase bearing and backfill compaction.

1.4 Requirements of Regulatory Agencies

- .1 Work of this Section shall include protection measures, consisting of materials, constructions and methods, required by the Occupational Health and Safety Act 2006, and Regulations for Construction Projects O. Reg. 213/91, amended Ontario Reg. 142/17, of the Province of Ontario, and as otherwise imposed by jurisdictional authorities to save persons and property from harm.

1.5 Special Protection

- .1 Ensure that the locations of existing buried utilities and other services have been established by an investigation conducted together with the utilities of services concerned.
- .2 When unknown services are encountered during execution of work of this Section: identify, notify appropriate authority and the Consultant and brace and support them.
- .3 Prevent damage to sides and bottoms of excavated pits and trenches from exposure to sun and rain which would cause cave-ins or softening of beds on which foundations and drains rest. Prevent flow of water and earth fines into excavated pits and trenches. Pump and/or divert water that fill excavations immediately and continuously as required. Do not discharge water to adjacent properties.

1.6 Examination

- .1 Ensure in examination of the site that all possible factors concerning earthwork are investigated, and that the following are known in particular:
 - methods and means available for material handling, disposal, storage and transportation
 - physical conditions of site, including ground water table and drainage courses
 - conformation and conditions of ground surfaces
 - character, quality and quantity of surface and sub-surface materials.

1.7 Field Quality Control

- .1 Excavation and placement of fill shall be carried out under the

control of the Soils Engineers. The Owner will appoint an inspection and testing company to inspect and report on compliance with the Specification of the Work of this Section.

- .2 Inspection and testing shall include approval of materials, adequacy of backfilling, fill, and necessary analysis and inspection of materials and operations to ensure specified compaction density is obtained. The testing and inspection shall include but not be limited to gradation, Standard Proctor Density, optimum moisture content determination, thickness and degree of compaction of each lift, and plate test for determination of Young's Modulus. Inspection and testing shall also include approval of materials and adequacy of bearing surfaces.
- .3 The costs of inspection and testing will be paid from the Cash Allowance covering this work as set forth in Section 01050.
- .4 Copies of all inspection reports to be forwarded to the Consultant.
- .5 At least two (2) weeks prior to commencing work, inform the Soils Engineer of proposed source of fill materials and provide access for sampling.

1.8 Disposal of Materials

- .1 **All surplus excavated material, which will not be reused within the site, shall be removed from the site by the Contractor. Soil to be tested and Letter of Acceptance from the Owner of the proposed dump site is to be submitted to the Consultant.**
- .2 All contaminated excavated material shall be stock piled, on polyethylene and covered with tarpaulins, on a concrete slab on the site designated by the Owner.

PART 2 - PRODUCTS

2.1 Materials

- .1 Fill "A": Granular material meeting Standard Specifications #314 of Ministry of Transportation and Communications, Ontario, for Class "A" Selected Granular Base Course. Minimum compaction density = 98% Standard Proctor.

- .2 Fill "B": Granular material meeting Standard Specifications #314, of Ministry of Transportation and Communications, Ontario, for Class "B" Selected Granular Base Course. Minimum compaction density = 98% Standard Proctor.
- .3 Fill "C": Site or imported material, containing no organic or foreign matter, and which the Sub-Contractor can demonstrate is compactible to a density of 98% Standard Proctor and is acceptable to the Soils Engineer.
- .4 Fill "D": Clear crushed stone graded 19.0 mm (3/4") to minimum depth of 200 mm (8"). Install as noted on the drawings.
- .5 Topsoil: as specified in Section 02260.
- .6 Notify the Consultant three (3) days before commencement of work as to source supply for all imported fill.
- .7 Silt/Sediment Fence: as manufactured by Mirafi and conforming to Ontario Provincial Standard Specifications.

PART 3 - EXECUTION

3.1 Preparation

- .1 Supervise stripping and stockpiling of the topsoil away from the buildings, walkways building, parking area and driveways, for use in later grading around the building, where required and acceptable, and the removal of unsuitable soil and debris from the site.
- .2 Prior to commencement of excavation, ensure that silt/sediment fencing is installed where shown on drawings.
- .3 Compact footing excavation to 95% Standard Proctor Density.
- .4 Final subgrade level for all areas should be established so that all subgrade is sloped towards catchbasins and manholes.
- .5 Observe the rules and regulations governing the respective utilities during excavation. Report to the Consultant existing unlocated services encountered, and do not continue with excavation without the Consultant's instructions. Repair damages to services should they occur.

- .6 Carry out excavation to the extent, elevations and depths required to permit complete demolition and inspection of the work.
- .7 Keep excavations clear of water at all times and check for adequacy of all pumping requirements and water control until foundation work and backfilling are completed.
- .8 Provide barriers, fences or other safety measures and adequate warning lights during the hours of darkness as required or directed.
- .9 Note that earthmoving equipment with high concentrated wheelloads may disturb the subgrade. The Contractor shall take appropriate precautions when such equipment is in operation.

3.1 Backfilling

- .1 Do not commence backfill until the subgrade is properly consolidated and approval is obtained from the Soils Engineer. Remove debris, rubbish, shoring, etc. before backfilling proceeds.
- .2 Remove debris, rubbish, shoring, etc. before backfilling proceeds.
- .3 After completion of backfilling, check the fill surface for conformity with required profiles and contours. If necessary remove or add as required to correct elevations. Roll and check again. Concrete shall not be placed over any area not checked for correct elevation.

3.2 Site Grading

- .1 Cut or fill the entire site area to extent shown on Drawings and as required for providing the final grades and contours. Refer to Section 02210.
- .2 Grade up to perimeter of building, new gravelled area, new drainage swales, and existing areas damaged during construction to within 150mm (6") of proposed finished grades.
- .3 Where required, raise sodded and/or landscaped areas only to rough grade levels with Fill "C", deposited in layers not to exceed 200 mm (8"). Consolidate each layer before placing the next.

3.3 Adjustment

- .1 Replace Defective Earthwork and make good areas where settlement has occurred during the warranty period of Contract.
- .2 Topsoil and seeding to be carried out as per Section 02260 – Topsoil and Finish Grading.

END OF SECTION 02200

PART 1 – GENERAL.

1.1 General Requirements

- .1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 Work in Other Sections

- .1 Related Work Specified in Other Sections

Section 02200	:	Earthwork
Section 02260	:	Topsoil & Finish Grading
Section 02550	:	Site Services

1.3 Scope of Work

- .1 Provision of all labour, equipment, machinery, materials, tools, services and incidentals to establish and construct finished grades for the entire project.

1.4 Underground Services and Structures

- .1 Information concerning location and nature of existing underground services and structures must be obtained from the various agencies concerned, the Contractor and the Owner.

1.5 Requirements of Regulatory Agencies

- .1 Work of this Section shall include protection measures, consisting of materials, constructions and methods required by the Occupational Health and Safety Act, O.R. 213/91, of the Province of Ontario, and as otherwise imposed by Jurisdictional Authorities to save persons and property from harm.

1.6 Special Protection

- .1 Ensure that adjacent property is not damaged in any way by site grading work; by the removal, stockpiling and transporting of materials; by blown sand or dust, or by spillage during the removal, stockpiling and transporting of materials; by the collapse or movement of excavated banks and stockpiles; or by storm water from altered drainage courses.

- .2 Do not excavate or grade until locations of services has been verified and protective measures taken are satisfactory to all that are concerned.
- .3 Ensure that no damage is caused by earthwork to existing structures, trees, buried and above-ground services, bench marks and survey monuments on the site, or adjacent property. Arrange or ensure that all damage which occurs is repaired completely and immediately.

1.7 Soils Investigation

- .1 Visit site and examine site and soil conditions and be satisfied that work can be carried out in accordance with requirements or contract documents.

1.8 Testing

- .1 Take samples of existing topsoil (one litre sample per 300m³ of stockpiled soil minimum), and have tested.

PART 2 - PRODUCTS

2.1 Materials:

- .1 Fill: as specified in Section 02200.
- .2 Topsoil: as specified in Section 02260.
- .3 Silt Sediment Fencing: as specified in Section 02200.

PART 3 - EXECUTION

3.1 Layout

- .1 Stake out high points, low points, swales, and specific site elements to establish clear interpretation of grade.
- .2 Set grades by means of grade stakes clearly marked with final and subgrade elevations.

3.2 Rough Grading

- .1 Subgrade constitutes a compacted machine finished surface.
- .2 Establish the subgrade parallel to approved finished grades and shape the subgrade so that free drainage is permitted at all times.
- .3 Establish uniform slopes between points for which finish grades are approved or between such points and existing grade.
- .4 Round and smooth grades at top and toe of slopes and banks.
- .5 The subgrade established will clearly exhibit the land form character and balance and interrelationship delineated by contract documents.
- .6 Blend smoothly and flush with existing grades.
- .7 Do not grade when material is wet or frozen.
- .8 Do not obstruct flow in swales and provide adequate surface runoff and drainage at all times.
- .9 Ensure that all surfaces and gutters are properly graded with adequate falls so as to drain.
- .10 Get all rough grading work approved prior to placing other materials on subgrade.
- .11 Existing grade contours, where shown on plans, are approximate only.
- .12 Provide for the following minimum depths of topsoil in areas indicated:

In Flower Beds	450mm
In Planting Bed Areas	600mm
In Sodded/Seeded Areas	150mm

3.3 Final Grading

- .1 Final grade constitutes a smooth surface free of all pockets and depressions. All final grading shall be in accordance with the drawings, specifications and to the satisfaction of the Landscape.

- .2 Round and smooth grades at top and toe of slopes and banks. Blend smoothly and flush with existing grades.
- .3 Clean surface of all stones, rocks, branches, extraneous material, etc. larger than 40mm in diameter and live weeds.
- .4 Get approval by Consultant of finish grading, prior to commencement of any subsequent work.

3.4 Field Quality Control

- .1 Assist Inspection Company in the execution of their work.

END OF SECTION 02210

PART 1 - GENERAL

1.1 General Requirements

- .1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 Work in Other Sections

- .1 Related Work Specified in Other Sections

Section 02200 : Earthwork
Section 02550 : Site Services

1.3 Samples

- .1 Submit soil analysis report of imported topsoil to the Consultant for approval.

1.4 Site Conditions

- .1 Report in writing to the Consultant prior to commencing work any conditions or defects encountered on site, upon which the work of this section depends, and which may adversely affect the performance of the work.
- .2 Verify that rough grading has been carried out to the design drainage intent for the site. Commencement of work of this section shall be deemed as acceptance of the subcontractor.

1.5 Quality Assurance

- .1 Obtain approval of the topsoil in writing from the Consultant.
- .2 Test topsoil for NPK, Mg, Soluble salt content, organic matter and pH.
- .3 Submit 2 copies of the soil analysis report and recommendations for correction to the Consultant.
- .4 Should the source of topsoil be exhausted, test topsoil from new source, submit soil analysis report and recommendations for correction and obtain the approval from the Consultant before using.

1.6 Submittals

- .1 Be prepared to submit a 10kg sample of topsoil to the Consultant for approval, if requested.
- .2 Submit required sample of topsoil to the testing laboratory and indicate intended use, type of mulches to be applied, type of subsoil and quality of drainage.

1.7 Product Delivery, Storage and Handling

- .1 Stockpile topsoil in locations designated by the Consultant.
- .2 Do not stockpile topsoil in a frozen or muddy condition.

1.8 Protection

- .1 Protect all trees and planting areas to remain in accordance with Section 02104 - Tree Preservation. Make good all damage caused by construction activity at no extra cost.
- .2 Prevent damage to existing buildings, sidewalks, pavement, utility lines, servicing, and other existing structures which are to remain.

PART 2 - PRODUCTS

2.1 Materials

- .1 Native Topsoil: Existing topsoil stripped and stockpiled on the site shall be used with the approval of the Consultant. The Contractor shall be responsible for all testing and quantities required to complete all work.
- .2 Imported Topsoil: A fertile, friable natural loam; containing not less than 4% organic matter for clay loams and not less than 2% organic matter for sandy loams to a maximum of 15%, and capable of sustaining vigorous plant growth, free of subsoil contamination, roots and stones over 50mm in diameter, reasonably free of weeds (as determined by the Consultant), and having a pH ranging from 6.0 to 7.5.

- .3 Peat Moss: Partially decomposed, fibrous, of cellular stems and leaves of sphagnum moss varieties varying in texture from porous to spongy; crumbly or compact, and fairly elastic or homogenous in texture; free of decomposed colloidal residue wood, sulphur and iron; brown, finely shredded with no particles over 1/4"; and with an acidity range from 5.5 pH to 6.0 pH.
- .4 Manure: Well rotted, unleached cattle manure; free from harmful chemicals and other injurious substances, and sawdust, shaving, or similar refuse; at least 8 months old, but not more than 2 years old; and with no more than 25% straw, leaves, or other unacceptable materials for planting use.
- .5 Fertilizer: Shall be complete fertilizer, and shall contain no less than 25% urea-formaldehyde with the following percentages by weight of nitrogen, phosphoric acid, and potash in that order for sod (18-6-9).

PART 3 - EXECUTION

3.1 Preparation

- .1 Reuse existing topsoil under seeded areas only. Remove all deleterious material including rocks, roots, etc. Ensure that all services are removed and trenches compacted.
- .2 Fine grade the subgrade eliminating uneven areas and filling low spots. Remove all debris and all subsoil that has been contaminated. Verify all rough grading elevations to ensure that the drainage design intent for the site has been maintained.
- .3 Compact finished subgrade to 85% Standard Proctor Dry density for areas under sod or planting.
- .4 Scarify subgrade to a depth of 150mm.
- .5 Verify that drainage is away from the building and slopes to drain, swales, etc. have been installed correctly, uniformly and evenly.
- .6 All subgrade shall be approved by the Consultant before the placement of topsoil.

- .7 Place existing and imported topsoil in dry weather on dry unfrozen subgrade to obtain minimum depth of 150mm under seeded and sodded areas after settlement and compaction, a minimum depth of 450mm for flower beds and a minimum of 600mm under shrub beds.
- .8 Prior to finish seeding, incorporate specified fertilizer at the rate of 11 lbs. per 1,000 sq.ft. into the top 2" of soil surface. This operation may be done by discing or harrowing, or hand raking in confined areas.
- .9 Apply lime and disc into top 4" of soil surface before incorporation of fertilizer if soil tests indicate the need for lime. A pH range of 6.5 - 7.5 is recommended for turf areas to be seeded.
- .10 Rake topsoil smooth to indicate finish grade elevations.
- .11 Topsoil to be compacted to a firmness sufficient to show a heel imprint of not more than 3mm deep. The top 50mm of topsoil shall be of a fine texture suitable for placement of seed.
- .12 Manually spread topsoil around trees and plants to prevent damage by grading levelling equipment.
- .13 Float the area until surface is smooth. Cut smooth falls to catch basin rims and finish up flush.
- .14 Do not cover catch basins, valve covers or inspection pits.
- .15 Fine grade the topsoil to ensure positive drainage away from buildings and sidewalks; provide positive drainage from curb edges.
- .16 Leave surface smooth, uniform and sufficiently firm to prevent sinkage pockets when irrigated.
- .17 Obtain approval of topsoil grading prior to the placing of plant material or sod.

3.2 Spreading of Topsoil

- .1 Spread dry topsoil during dry weather over approved, dry, unfrozen subgrade where sod is indicated.
- .2 Keep topsoil 40mm below finished grade for sodded areas.

Elsewhere bring topsoil up to finished grade.

- .3 Keep topsoil for planting beds 150mm above adjacent seeded, paved, sidewalk areas.
- .4 Apply topsoil to the following minimum depths:
 - 150mm for sodded/seeded areas
 - 450mm for flower beds
 - 600mm for shrub beds
- .5 Fine grade topsoil eliminating rough and low areas and to ensure positive drainage.
- .6 Roll topsoil with a 50kg roller to compact and retain surface.
- .7 Make good any damage caused by topsoil spreading activities at no extra cost.

3.3 Clean-up

- .1 Clean up immediately any soil or debris spilled onto pavement or concrete.
- .2 Restore any topsoil stock piles from the site and leave in a 'rake clean' condition acceptable to the Consultant.

END OF SECTION 02260

PART 1 - GENERAL

1.1 General Requirements

- .1 Division 1, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 Work In Other Sections

.1 Related Work Specified in Other Sections

Section 02110 : Demolition
Section 02200 : Earthwork
Section 02260 : Topsoil & Finish Grading

.2 Products Specified Under Work of Other Sections and
Installed Under Work of This Section

Section 02200 : Earthwork

1.3 Qualifications

- .1 Execute the work of this Section by a Subcontractor who has equipment adequate for project, and skilled tradesmen supervised by foremen experienced in the type of work specified.

1.4 Requirements of Regulatory Agencies

- .1 Work of this Section shall be in accordance with the following documents, latest revisions:
- Ontario Provincial Standard Specifications and Details
 - Haldimand County
 - The Ontario Building Code - O.Reg. 332/12, 350/06 and 423/06, latest edition.
 - The Canadian Plumbing Code – latest edition

1.5 Inspection and Testing

- .1 The Contractor shall employ an independent inspection and testing company to carry out all testing and inspection as required. The Owner will appoint the inspection and testing company. The cost of inspection and testing shall be paid by the Contractor, out of the Cash Allowance for this testing.

1.6 Warranty

- .1 The Contractor hereby warrants that the work shall remain in such condition as will meet the approval of the Consultant for a period of one (1) year from the date of substantial performance for the project.

1.7 Permits/Fees

- .1 The Contractor shall obtain all disconnection Servicing Permits from Haldimand County. The Contractor shall be responsible for all necessary inspections.

1.8 Scope of Work

- .1 It is the intent of these Specifications to disconnect all existing services, overhead and buried in such a manner as to leave each of the services complete and in satisfactory operating conditions. Disconnection shall be at the street main location. All services on the subject property are to be removed entirely.
- .2 All material required to complete the work under the Contract shall be supplied by the Contractor and compensation therefor shall be deemed to be included in the prices bid for the items of work for which it is to be used.
- .3 The Contractor shall obtain and pay for the trench excavation permit for the street connection as required by Haldimand County.
- .4 Excavation, backfill and bedding of all services to remain and shown on the drawings is a part of this Section and OPSS Specification and OPSD details and shall apply as if repeated here.

1.9 Special Protection

- .1 Ensure that the locations of existing buried utilities and other services have been established by an investigation conducted together with the utilities of services concerned.
- .2 When unknown services are encountered during execution of work of this Section: identify, notify appropriate authority and the Consultant and brace and support them.

- .3 Prevent damage to sides and bottoms of excavated pits and trenches from exposure to sun and rain which would cause cave-ins or softening of beds on which foundations and drains rest. Prevent flow of water and earth fines into excavated pits and trenches. Pump or divert water that fill excavations.

PART 2 - PRODUCTS

2.1 Materials

- .1 General: All materials supplied and installed shall be in accordance with Ontario Provincial Standards and Details and to meet Haldimand County Requirements.
- .2 Granular Fill: as specified in Section 02200.

PART 3 - EXECUTION

3.1 Examination

- .1 Ensure in examination of the site that all possible factors concerning earthwork are investigated, and that the following are known in particular:
 - methods and means available for material handling, disposal, storage and transportation
 - physical conditions of site, including ground water table and drainage courses
 - conformation and conditions of ground surfaces
 - character, quality and quantity of surface and sub-surface materials.

3.2 Removal and Disposal

- .1 The removal shall be in complete conformance with requirements of Ontario Provincial Standard Specifications and Details, Haldimand County Standard Specification and Details.

- .2 Arrange for capping and plugging of existing services, as required.
- .3 Excavate to extent and depth required for disconnection of services.

3.3 Adjustment

- .1 Replace Defective Services and make good areas where settlement has occurred during the warranty period of Contract at no additional cost to the Owner.

END OF SECTION 02550