

## ADDENDUM 1

Please be advised of the following changes to the Contract Drawings and Tender Documents:

### DRAWINGS

Discipline	Drawing No.	Revisions
<b>General</b>	WT-G-04	<ul style="list-style-type: none"> <li>a. Alignment of discharge sewer pipe revised.</li> <li>b. Revised alignment of west gorge forcemain pipe added.</li> <li>c. Deletion of stilling basin.</li> <li>d. Deletion of culvert flowing north, beneath of lakeshore road north of site services area.</li> </ul>
	WT-G-05	<ul style="list-style-type: none"> <li>a. Alignment of discharge sewer pipe revised.</li> <li>b. Revised alignment of west gorge forcemain pipe added.</li> <li>c. Deletion of stilling basin.</li> <li>d. Deletion of culvert flowing north, beneath of lakeshore road north of site services area.</li> </ul>
<b>Civil</b>	SS-C-04, SS-C-07, SS-C-14 and SS-C-15	<ul style="list-style-type: none"> <li>a. Alignment of west gorge force main revised.</li> <li>b. Alignment of discharge pipe revised.</li> <li>c. Alignment of west diversion ditch storm sewer revised.</li> </ul>
	SS-C-25	<ul style="list-style-type: none"> <li>a. Typical Section B updated for realigned forcemain and discharge sewer. West diversion ditch typical section added.</li> </ul>
	SS-C-35	<ul style="list-style-type: none"> <li>a. Alignment of discharge sewer pipe revised.</li> <li>b. Revised alignment of west gorge forcemain pipe added.</li> <li>c. West diversion ditch grading and alignment added.</li> </ul>
	SS-C-36	<ul style="list-style-type: none"> <li>a. Alignment of discharge sewer pipe revised.</li> <li>b. Revised alignment of west gorge forcemain pipe added.</li> <li>c. West diversion ditch grading and alignment added.</li> <li>d. Ditch Inlet DICB DD-1 added, as well as profile of 300mm dia HDPE outfall pipe from DD-1 to outfall end-wall. Storm sewer pipe to be installed by horizontal directional drilling.</li> </ul>
	SS-C-37	<ul style="list-style-type: none"> <li>a. Details E and F added.</li> <li>b. Detail A deleted and changed to 'reserved'.</li> </ul>
	LTWMF-C-20, LTWMF-C-22, LTWMF-C-30, LTWMF-C-60	<ul style="list-style-type: none"> <li>a. Site grading has been amended, redirecting drainage previously conveyed to the 'stilling basin' by open ditch and pipework to the PGWMF SWM Pond.</li> <li>b. Scope for re-grading and protecting Nichols Road added to drawing. See Typical Section A.</li> <li>c. Requirement for maintaining existing swale near north limit of layover area added to drawing.</li> </ul>
	LAK-C-04, LAK-C-06B, LAK-C-13	<ul style="list-style-type: none"> <li>a. Requirement for 100mm dia PVC Bell duct in north shoulder added.</li> </ul>
	LAK-C-11	<ul style="list-style-type: none"> <li>a. Right limit of grading adjusted.</li> <li>b. Requirement for 100mm dia PVC Bell duct in north shoulder added.</li> </ul>
	LAK-C-12, LAK-C-18	<ul style="list-style-type: none"> <li>a. Right limit of grading adjusted.</li> <li>b. Right ditch deleted Nichols Road to ~ STA 11+020.</li> <li>c. Proposed cross culvert at Lakeshore Road ~STA 11+020 deleted.</li> <li>d. Proposed cross culvert at south leg of Lakeshore Road - Nichols Road intersection deleted.</li> </ul>

		e. Requirement for 100mm dia PVC Bell duct in north shoulder added.
	LAK-C-13	a. Requirement for 100mm dia PVC Bell duct in north shoulder added.
	LAK-C-15, LAK-C-16	a. Guiderail shown on applicable sections. b. Right limit of grading adjusted. c. Right ditch deleted Nichols Road to ~ STA 11+020.
	LAK-C-23	a. Notes amended with respect to scope and extent of ultimate underpass structure demolition and removal. b. Right limit of grading adjusted. c. Right ditch deleted Nichols Road to ~ STA 11+020. d. Proposed cross culvert at Lakeshore Road ~STA 11+020 deleted. e. Requirement for 100mm dia PVC Bell duct in north shoulder added.
<b>Electrical</b>	LTWMF-E-10	a. Indication of changes to contract 'C' through extension of duct bank as part of contract 'B' as indicated on the drawing. b. Provision of location of level switch high and related note as shown on the drawing.
	LTWMF-E-11	a. Indication of changes to contract 'C' through extension of duct bank as part of contract 'B' as shown on the drawing and related note added.
	LTWMF-E-30	a. Provision of location of pressure transmitter as shown on the drawing.
	LTWMF-E-31	a. Provision of location of pressure transmitter as shown on the drawing.
	LTWMF-E-32	a. Provision of location of level indicator transmitter and related note as shown on the drawing.
	PGWMF-E-10	a. Removal of duct bank run shown on drawing between the existing substation and the wheel wash, for co-ordination purposes. b. Provision of location of level switches high as shown on the drawing.
	PGWMF-E-30	a. Provision of location of flow primary element switch as shown on the drawing.
<b>Waste Transfer</b>	PGWMF-X-17	a. West diversion ditch alignment revised. b. Added "existing ditch to shoreline" c. Previous notes related to west diversion ditch removed and/or modified. d. Reference to SS-C-36 added for outlet structure. e. Added note to west diversion ditch "final location, grades and means of stabilization to be approved by Departmental Representative" f. Reference to SS-C-35 added for diversion ditch along west boundary. g. Deletion of stilling basin.
	PGWMF-X-19	a. Deletion of associated stilling basin details.

**SPECIFICATIONS**

Section	Page	Article	Description
01 52 00	1	1.2.1.2.2	Text revised: Elliott Road Main Access and Security Kiosk <del>(installed by others)</del> .
02 41 23	1	1.1.2.1	Text added: Chemical and process tanks (3 interior and 1 exterior), process piping and all process related equipment located at the existing Port Granby Water Treatment Plant (WTP). A Designated Substance Survey Report completed for the Water Treatment Building (WTP) is included Appendix W.
	2	1.1.3.1	Text revised: The Existing WTP structure and associated components (excluding chemical and process tanks (3 interior and 1 exterior), process piping and all process related equipment <del>storage tanks and Treatment and Sedimentation Lagoons</del> ).
	4	1.1.5.8	Text replaced with: Lakeshore Road underpass structure to a minimum of 1.2m below final finished grade of Lakeshore Road pavement and ditches. All illumination and traffic signal infrastructure at the underpass shall be removed prior to structure demolition. The haul roads and road subdrains and associated infrastructure are to be removed in their entirety. Drainage pipes, once verified as non-contaminated, and immediately adjacent to the concrete structure foundations may be filled with grout, cut and capped and left in place should their removal necessitate the demolition of the underpass structure foundations and walls extending below 1.2m.
32 92 19.16	2	1.5.1	Text added: Test Reports to be provided by the Contractor: certified test reports showing compliance with specified performance characteristics and physical properties to the satisfaction of the Departmental Representative.
	2	1.5.2	Text added: Certificates to be provided by the Contractor: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements to the satisfaction of the Departmental Representative.

# **Addendum 1 Specifications**

PART 1 - GENERAL

1.1 SECTION  
INCLUDES

- .1 Construction aids.
- .2 Parking.
- .3 Offices and facilities.
- .4 Project signage.
- .5 Non-potable Water Well.

1.2 MEASUREMENT AND  
PAYMENT

- .1 Payment for Construction Facilities as described herein or otherwise viewed as incidental to the Work shall be according to Lot Price. The Lot Price shall be full compensation for all labour, equipment, material and other costs incurred to do the Work including but not limited to:
  - .1 Mobilization/demobilization including all plant, labour and material as necessary to mobilize to execute the Work as described in the Contract Documents and demobilization at the end of the Work. Interim mobilizations and demobilizations as required shall be included as well.
  - .2 Provision and installation of temporary ancillary buildings, and maintenance and operation of all ancillary buildings and facilities:
    - .1 Departmental Representatives trailers.
    - .2 Elliott Road Main Access and Security Kiosk.
    - .3 Provide and maintain security.
    - .4 PGWMF Main Access and Security Kiosk.
    - .5 Contractor's trailer complex for workforce lunch room/changing/decontamination and first aid.
    - .6 Personnel contamination monitoring facility/area (portable contamination meters/manual frisking).
    - .7 Decontamination and first aid facilities.
    - .8 Radio communications.
  - .3 Provision of vehicles for Departmental Representative use as specified below in accordance with the schedule for the duration of the Work, including:

1.2 MEASUREMENT AND .1  
PAYMENT  
(Cont'd)

- (Cont'd)
- .3 (Cont'd)
- .1 Vehicles: late model, 4WD crew cabs with box/bed liners and covers, complete with maintenance package.
- .1 Vehicle 1: for full-time use.  
Paid for by Lot Price.
- .2 Vehicle 2: paid on daily unit rate based on 750 days.
- .4 Provision (except where noted), installation, operation and maintenance of:
- .1 Two wheel wash units.
- .2 Two Owner-supplied weigh scales. (Foundations by Contractor, installation and calibration by Owner, operation and maintenance by Contractor).
- .3 Weigh-scale kiosk to be supplied, installed and maintained by the Contractor.
- .4 Two Owner-supplied equipment radioactivity monitoring portals. (Foundations by Contractor, installation and calibration by Owner, operation and maintenance by Contractor).
- .5 Equipment decontamination facility.
- .2 Lot Price (by Allowance) for the installation, operation and maintenance of a non-potable groundwater well at the PGWMF to provide a sufficient water supply to construction facilities or otherwise required to perform the Work. Price to include drilling and well installation, testing, Permit to Take Water (PTTW), records, furnishing and installation of pumps, piping and appurtenances, connection and conveyance to applicable construction facilities/location of use as required.

1.3 REFERENCES

- .1 Canadian General Standards Board (CGSB)
- .1 CAN/CGSB 1.189-2000, Exterior Alkyd Primer for Wood.
- .2 CAN/CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .2 Canadian Standards Association (CSA International)
- .1 CSA-A23.1-09/A23.2-09, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
- .2 CSA-0121-08, Douglas Fir Plywood.

1.3 REFERENCES  
(Cont'd)

- .2 (Cont'd)
- .3 CAN/CSA S269.2-M87(R2003), Access Scaffolding for Construction Purposes.
- .3 Municipality of Clarington Sign By-law, 2009-0123, January 2010.
- .4 American National Standards Institute (ANSI)
  - .1 ANSI N42.38-2006, Performance Criteria for Spectroscopy-Based Portal Monitors Used for Homeland Security.
  - .2 ANSI N42.42-2006, Data Format Standard For Radiation Detectors Used For Homeland Security.
- .5 International Organization for Standardization (ISO).
  - .1 ISO 9001:2008 Quality Management Systems - Requirements.
- .6 Ontario Water Resources Act , R.R.O. Regulation 903 - Wells.

1.4 SUBMITTALS

- .1 Where indicated provide submittals in accordance with Section 01 33 00.
- .2 Prepare and submit, within 20 working days following award and prior to mobilization, site plan to be approved by the Departmental Representative indicating:
  - .1 Proposed location (coordinates) and dimensions of area to be fenced and used by Contractor.
  - .2 Location of all components.
  - .3 Avenues of ingress/egress to fenced area and details of fence installation.
  - .4 Location of weigh scales and scale kiosk(s).
  - .5 Location of wheel wash facilities.
  - .6 Location of radiation portal monitors.
  - .7 Identify areas which have to be gravel surfaced to prevent tracking of mud.
  - .8 Indicate use of supplemental or other staging area(s).
  - .9 Identify Uncontrolled and Controlled Areas and establish RPP Work Zones in accordance with Section 01 35 30.

1.5 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA S269.2.
  - .2 Provide and maintain scaffolding ramps ladders swing staging platforms and temporary stairs.
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1.6 HOISTING

- .1 Provide, operate and maintain hoists/cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for use thereof.
- .2 Hoists/cranes shall be operated by qualified operator.

1.7 SITE  
STORAGE/LOADING

- .1 Confine work and operations of employees to areas defined by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.8 CONSTRUCTION  
PARKING

- .1 Parking shall be permitted in designated areas on site provided it does not disrupt performance of Work.
- .2 Provide and maintain adequate access to project site.
- .3 Build and maintain temporary roads where indicated and provide snow removal during period of Work.
- .4 Use existing roads as authorized for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.

1.9 SECURITY

- .1 Provide and maintain security kiosks for responsible security personnel to guard site and contents of site (in accordance with paragraph 1.11). Locate security guards at main gates/entrances.
- .2 Contractor to provide full-time video surveillance of the site which is manned 24/7 during off hours.
- .3 Minimum response time for security incidents shall be 30 minutes.
- .4 Digital files of security videos shall be the property of the Departmental Representative and shall be submitted to the Departmental Representative as a component of the weekly report.



1.10 OFFICES

- .1 Provide Contractor's field office heated to 22°C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.
- .2 Provide lunch and first aid facilities for work force in accordance with governing regulations and ordinances. First aid facility to include a clearly marked and fully stocked first-aid case in a readily available location.
- .3 Subcontractors may provide their own offices, equipment, tool and material storage trailers as necessary. Direct location of these facilities.
- .4 Departmental Representative's Site offices.
  - .1 Provide one weatherproof, insulated office trailer 3 m wide x 15 m long x 2.4 m clear inside height on the LTWMF site in Uncontrolled Area. Number of rooms: two offices, one meeting room, one kitchenette. Complete with 50% opening windows with fly screens. Two exterior doors fitted with cylinder locks with the Departmental Representative in possession of all keys.
  - .2 Provide one weatherproof, insulated office trailer, 3.6 m wide x 10 m long x 2.4 m clear inside height on the PGWMF site in Uncontrolled Area. Number of rooms: one office, one meeting room, one kitchenette. Complete with 50% opening windows with fly screens. Two exterior doors fitted with cylinder locks with the Departmental Representative in possession of all keys.
  - .3 Insulate buildings. Provide heating and cooling systems to maintain 22° C inside temperature at -20° C outside temperature and cooling system to maintain an indoor uniform temperature of 20 to 22 degrees Celsius.
  - .4 Finish inside walls and ceilings with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood complete with sheet vinyl flooring.
  - .5 Install electrical lighting systems to provide minimum 750 lx using surface mounted, shielded commercial fixtures with 10% upward light component.

1.10 OFFICES  
(Cont'd)

- .4 (Cont'd)
  - .6 Provide private washroom facilities adjacent to offices complete with flush or chemical type toilet, lavatory and mirror and maintain supply of paper towels and toilet tissue.
  - .7 Equip each office with the following:
    - .1 Desks, 3 - 750 x 1500.
    - .2 Computer chairs, 3.
    - .3 Folding tables, 3 - 900 x 1800.
    - .4 Steel folding chairs, 6.
    - .5 Drafting/drawing desk, built into one of the office rooms.
    - .6 Drafting stool, one.
    - .7 Four drawer, lockable file cabinet, one.
    - .8 Bookcase, 1 - 900 x 2100 high.
    - .9 Waste baskets, 5.
    - .10 Wall mounted coat rack.
    - .11 First aid kit.
    - .12 4.5 kg fire extinguisher, one.
    - .13 Telephone: minimum of 3 incoming/outgoing lines, 3 touch tone phones with conference speaker and a minimum 3.6 m of coiled headset cord. Provide separate fax line. Provide separate high speed internet service. Provide appropriate pre-wired phone and computer jacks through the trailer necessary for a completed and fully functional telephone system.
    - .14 Photocopier: one colour scanner/copier/printer (up to 279 x 432). Include a maintenance service agreement for the duration of the contract.
    - .15 Potable bottled water cooler/dispenser and bottled water supply.
    - .16 Mini-fridge.
  - .8 Maintain clean, heat and light the office throughout the duration of the construction period.
- .5 Security and Scale Kiosk(s).
  - .1 Provide two weatherproof, insulated security kiosks, locate one at the Nichols Road Entrance and one at the Elliott Road entrance, as directed by the Departmental Representative.
  - .2 Provide one weatherproof, insulated scale house, locate as directed by the Departmental Representative.
  - .3 Provide Security and Scale Kiosks to the following:

1.10 OFFICES  
(Cont'd)

.5 (Cont'd)

.3 (Cont'd)

- .1 2.4 m wide x 3.0 m long x 2.4 clear inside height. One room, three 1.2 m x 1.0 m sliding windows.
- .2 Provide heating and cooling systems to maintain a uniform indoor temperature of 20 to 22 degrees Celsius.
- .3 Finish inside walls and ceiling. Finish floor with sheet vinyl.
- .4 Electric lighting system to provide min. 750 lx using surface mounted, shielded commercial fixtures with 10% upward light component.
- .5 Equip office with desk or full width counter top and computer chair, one lockable file cabinet, one coat rack and shelving.
- .6 Telephone: incoming/outgoing line, touchtone phone with a minimum of 3.6 m coiled handset cord. Provide separate fax line. Provide separate high speed internet service. Provide appropriate pre-wired phone and computer jacks throughout the trailer necessary for a completed and fully functional telephone system.

.6 Sample Prep and Storage Trailer:

- .1 Provide one weatherproof, insulated trailer 3.6 m wide x 10 m long x 2.4 m clear inside height on the PGWMF site in Controlled Area/RPP Zone 2. Subdivide into two equal separate and lockable spaces complete with 50% opening windows with fly screens. Two exterior doors fitted with cylinder locks with the Departmental Representative in possession of all keys.
- .2 Trailer insulation, interior finishes and electrical lighting systems same as office trailers.
- .3 Equip each space/side of the trailer with the following:
  - .1 One desk and chair.
  - .2 Four drawer lockable file cabinet.
  - .3 Wastebasket.
  - .4 Wall mounted coat rack.
  - .5 First aid kit.
  - .6 4.5 kg fire extinguisher.
  - .7 Water supply (12 L/min).
  - .8 Sink.
  - .9 Counter, full length, long direction.

1.10 OFFICES  
(Cont'd)

- .6 (Cont'd)
- .3 (Cont'd)
- .7 All trailer windows to be protected with metal bars and all doors to have metal plate with padlock capability.
- .8 All trailers to be leveled, anchored and skirted.
- .9 For all trailers and temporary buildings provide wood stairs, platform and boardwalk, painted and repainted as required with non-skid abrasive paint.
- .10 Ownership of equipment furnished under this subsection shall remain, unless otherwise specified in the Contract Documents, that of the Contractor.
- .11 Equipment furnished shall be new or like new in appearance and function.

1.11 EQUIPMENT,  
TOOL AND MATERIALS  
STORAGE

- .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.12 SANITARY  
FACILITIES

- .1 Provide enclosed sanitary facilities (washcar/restroom trailer) within Uncontrolled Area at both the LTWMF and PGWMF sites complete with hand washing facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 All sanitary facilities provided to be equipped with individual holding tanks.
- .4 Remove waste and wastewater from site on a regular basis as required in accordance with the environmental specification.
- .5 Keep sanitary facilities clean and fully stocked with necessary supplies at all times.

1.13 DE-  
CONTAMINATION  
AND FIRST AID  
STATION

- .1 Provide two temporary facility (trailers) for decontamination (in accordance with requirements of the Radiation Protection Specification Section) and for first aid (in accordance with the requirements of the Health and Safety Specification Section). One each on the LTWMF and the PGWMF sites.
- .2 Requires typical:
  - .1 Clean Room:
    - .1 Locker with emergency clothing for one.
    - .2 Bench.
    - .3 Floor drain plumbed to holding tank.
    - .4 Clothes hooks.
    - .5 Roof Vent.
    - .6 Air conditioning and heater.
  - .2 Dirty Room:
    - .1 Bench, clothes hooks, clothes hamper.
    - .2 HEPA air filtration system.
    - .3 Shower stall with privacy curtain.
      - .1 Shower head with H/C controls.
      - .2 Floor drain to holding tank, with containment berm.
    - .4 Single cot with first aid post.

1.14 TIRE AND  
UNDERCARRIAGE WASH  
SYSTEMS

- .1 Provide and operate two wheel-wash systems compliant with the radiation, environmental and Health & Safety plans suitable for the expected site conditions.
- .2 Contractor is to submit the detailed design including narrative of operations for review by the Departmental Representative. Departmental Representative comments shall be incorporated into the final design.
- .3 Provide all designs, labour, materials, equipment, parts and incidentals required for the fabrication, installation, operation and maintenance of two completely automatic, touch less, heavy-duty tire and undercarriage wash and water reclamation systems for the duration of the Project along with all ancillary facilities and components, including water recycling tank and all necessary pipes, valves, pumps, controls and indicators.
- .4 Wash systems shall be designed so that vehicles are contained within a fully enclosed space and bermed appropriately) during washing to limit the release of fluids and wash mist beyond enclosed area.

1.14 TIRE AND  
UNDERCARRIAGE WASH  
SYSTEMS  
(Cont'd)

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- .5 Contractor is to commission the wheel wash systems to the satisfaction of the Departmental Representative. Waste excavation shall not occur until the wheel wash units are operational.
- .6 The Contractor is solely responsible for ensuring equipment performance and operational efficiency to meet the performance criteria as determined by the radiation protection requirements. Contractor shall make all required adjustments to ensure proper operation throughout the duration of the Project. Failure to maintain the wheel wash systems in operational condition can be considered as a stop work item for the Departmental Representative. Should the equipment performance or operational efficiency not meet the performance criteria, the Contractor shall modify, add, and /or alter the equipment or operational procedures at his/her own expense until the system operation has met the performance criteria.

1.15 TRUCK WEIGH  
SCALE AND SCALE  
HOUSE

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- .1 Contractor to install scale foundations in accordance with manufacturers drawings located in Appendix Y to suit the equipment being supplied.
- .2 The locations of the scales and scale house(s) are to be outlined in the site plan and approved by the Departmental Representative.
- .3 Contractor to provide qualified operators to operate the scales and provide documentation confirming operator qualifications.
- .4 References:
  - .1 Government of Canada Weights and Measures Act 1985.
  - .2 Government of Canada Weights and Measures Regulations 1990.
- .5 The Owner shall provide two platform weigh scale decks and associated load cells, computer system, and software. Scale kiosk itself as well as provision of applicable power supply to scales and scale house by Contractor.

1.15 TRUCK WEIGH  
SCALE AND SCALE  
HOUSE  
(Cont'd)

- .6 The Departmental Representative shall install and commission the scale decks and associated equipment in full conformance with manufacturer's recommendations and applicable regulations.
- .7 Payment for the weighing of material is deemed to include full compensation for all labour, equipment and material required to carry out the weighing operation including any delay or inconvenience due to checking or testing carried out by the Departmental Representative.
- .8 The scale shall be located in a radiological Controlled Area. Weighing of the various axle combinations in more than one operation shall not be permitted.
  - .1 Vehicles shall enter and leave the platform at a maximum speed of 8.0 km/hr.
  - .2 The scale platform and mechanisms shall at all times be maintained clean and free from all deleterious materials.
  - .3 The mass indicator mechanism shall be enclosed in the scale house or trailer which shall be located in a radiological Controlled Area. The mass recording device shall clearly indicate the mass so that the weigh tickets can be conveniently completed by the scale operator. The weigh scale is to be equipped with an automatic printing device capable of printing tickets to conform to the requirements of the Project. Weigh tickets become part of the permanent records of the Project.
  - .4 Span calibration controls shall be sealed during the period of the operation and accessible only to the testing personnel.
  - .5 The Contractor shall supply a scale house or trailer properly ventilated and shall be clean, dry and weathertight, with a minimum floor space of 8.0 square metres and minimum head room of 2.1 metres. It shall be equipped with windows which can be opened and closed from within and from which the weigher, while seated at the console, has an unobstructed view of the vehicle to be weighed, the scale platform and the approach ramp. The scale house/trailer shall have the following:
    - .1 A means of controlling weigh tickets.
    - .2 An unobstructed door for exit in case of fire or emergency.
    - .3 Theft and vandal proof locking devices for windows and doors.

1.15 TRUCK WEIGH  
SCALE AND SCALE  
HOUSE  
(Cont'd)

- .8 (Cont'd)
- .5 (Cont'd)
  - .4 Table, chair, and bench so the scale operator can be seated during operations.
  - .5 Adequate ventilation, heating, cooling and lighting.
- .6 The Departmental Representative reserves the right to check the accuracy or test the scales at any time. Where a device is found to be in error, in excess of the Limits of Error but less than three times the Limits of Error, the Departmental Representative shall accept material measured for payment by the device for a period of 48 hours from the time the Contractor is notified in writing that the error exceeds three times the Limits of Error. When a device is found to be in error, in excess of three times the Limit of Error, the Departmental Representative shall immediately cease to accept material measured for payment by the device.
- .7 On completion of the project Owner-supplied scales and associated equipment shall be returned to the Owner.

1.16 RADIATION  
PORTAL MONITOR  
                    

- .1 Contractor to install portal monitor foundations in accordance with manufacturers' drawings located in Appendix Y to suit the equipment being supplied.
- .2 The Owner shall provide two complete radioassay systems (termed Radiation Portal Monitors) and associated computer system, and software. Provision of applicable power supply to Radiation Portal Monitors by Contractor.
- .3 Departmental Representative shall install, commission and calibrate the Radiation Portal Monitors and associated equipment in full conformacne with manufacturer's recommendations and applicable regulations.
- .4 Contractor is to operate and maintain the Radiation Portal Monitors. Operator training will be provided by the Departmental Representative.



1.16 RADIATION  
PORTAL MONITOR  
(Cont'd)

- .5 Departmental Representative shall provide all necessary permits, licenses, leases, certifications and other special requirements for the procurement, installation, operation, maintenance, and quality assurance including third party inspections required by law, act or other regulation.
- .6 On completion of the project the Owner-supplied Radiation Portal Monitors shall be returned to the Owner.

1.17 EQUIPMENT  
DECONTAMINATION PAD

- .1 Prior to commencing work involving equipment in contact with potentially contaminated materials, construct a vehicle and equipment decontamination pad in a radiological controlled area within the LTWMF to accommodate largest piece of on-site potentially contaminated equipment.
- .2 Operate, maintain and eventually deconstruct the vehicle and equipment decontamination pad.
- .3 Construction of the decontamination pad shall be in accordance with the requirements of the Environmental Procedures Specification.
- .4 A portable structure is to be provided capable of enclosing the decontamination pad to minimize the spread of airborne contamination.
- .5 Decontamination shall occur under an authorized work ticket in accordance with the RPP SOPs.
- .6 Provide, operate, and maintain suitable portable, high-pressure, low-volume decontamination wash units equipped with self-contained water storage tank and pressurizing system and capable of heating and maintaining wash waters to 80 degrees C and providing nozzle pressure of 1,035 kpa.
- .7 Provide, operate, and maintain necessary equipment, pumps, and piping required to collect and contain decontamination wastewater and sediment and transfer materials to WWTP or water management pond located in the Controlled Area that outlets to the WWTP.
- .8 Confirm to the Departmental Representative that decontaminated vehicle or equipment is satisfactory for release to the Uncontrolled Area.

1.18 CONSTRUCTION  
SIGNAGE

- .1 Provide and erect, within 15 business days of signing Contract, a project identification sign in a location designated by Departmental Representative.
- .2 Construct of wood frame and plywood construction painted with exhibit lettering produced by a professional sign painter.
- .3 Indicate on sign project description information of a design style established by the Departmental Representative.
- .4 No other signs or advertisements, other than warning signs, are permitted on site.
- .5 Provide project identification site sign comprising foundation, framing, and one 1200 x 2400 mm signboard as detailed and as described below.
  - .1 Foundations: 15 MPa concrete to CAN/CSA-A23.1/A23.2 minimum 200 mm x 900 mm deep.
  - .2 Framework and battens: SPF, pressure treated minimum 89 x 89 mm.
  - .3 Signboard: 19 mm Medium Density Overlaid Douglas Fir Plywood to CSA O121.
  - .4 Paint: alkyd enamel to CAN/CGSB-1.59 over exterior alkyd primer to CAN./CGSB 1.189.
  - .5 Fasteners: hot-dip galvanized steel nails and carriage bolts.
  - .6 Vinyl sign face: printed project identification, self adhesive, vinyl film overlay.
- .6 Locate project identification sign as directed by Departmental Representative and construct as follows:
  - .1 Build concrete foundation, erect framework, and attach signboard to framing.
  - .2 Paint all surfaces of signboard and framing with one coat primer and two coats enamel. Colour white on signboard face, black on other surfaces.
  - .3 Apply vinyl sign face overlay to painted signboard face.
- .7 Signs and notices for safety and instruction shall be in both official languages Graphic symbols shall conform to CAN/CSA-Z321.
- .8 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Departmental Representative.

1.19 RADIO  
COMMUNICATIONS

- .1 Provide and maintain two channel radio communication for the duration of the Work. Supply sufficient handsets and vehicle/equipment mounted units for the following:
  - .1 Each heavy machine and (on site) haulage truck operator.
  - .2 Construction Supervisors/Foremen.
  - .3 Departmental Representative (minimum of 3).
  - .4 Scale operator(s).
  - .5 Radiological Safety Representative (RSR) and Inspectors.
  - .6 Safety Officer.

1.20 NON-POTABLE  
WATER WELL/SUPPLY

- .1 Provide and install a non-potable water well at the PGWMF within fenced Uncontrolled Area north east of waste burial trenches to provide a sufficient water supply to construction facilities or otherwise required to perform the Work.
- .2 The Contractor is responsible for determining usage requirements and will prepare a Permit to take Water (PTTW) based on required usage for the property owner to submit to the MOE.
- .3 Well to be installed in accordance with O. Reg. 903 - Wells.
- .4 Provision of a non-potable well shall include drilling and well installation, testing, permits, records, furnishing and installation of pumps, piping and appurtenances, connection and conveyance to applicable construction facilities/location of use as required.
- .5 Well installation shall be performed by an licensed well driller as approved by the Departmental Representative.
- .6 The Contractor shall undertake all testing to confirm acceptability of the supply for use.
- .7 The non-potable water supply shall not be used for drinking purposes. The Contractor shall provide appropriate signage as required to indicate this to personnel.
- .8 Contractor will be responsible for providing additional offsite non-potable sources should the installed non-potable well not meet site facility servicing requirements.

1.21 SNOW REMOVAL .1 Clear snow and ice from access to buildings,  
bank/pile snow in designated areas only or  
remove from site as directed by the  
Departmental Representative.

PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

1.1 INTRODUCTION

- .1 Section includes demolition, and disposal of some, but not all, features at the PGWMF, as well as removal of some newly-constructed elements of the PGWMF and LTWMF once they are no longer required. The timing for removal will be detailed in the Contractor's Decommissioning Plan subject to review and approval by the Departmental Representative and will be sequenced as required to execute Work and not impede construction activities.
  - .2 Existing PGWMF features which are to be removed/decommissioned when no longer required include:
    - .1 Chemical and process tanks (3 interior and 1 exterior), process piping and all process related equipment located at the existing Port Granby Water Treatment Plant (WTP). A Designated Substance Survey Report completed for the Water Treatment Building (WTP) is included Appendix W.
    - .2 WTP Sedimentation and Treatment Lagoons, associated electrical components and appurtenances not including work covered under Section 02 61 00.
    - .3 150 mm treated effluent discharge pipe from the Sedimentation Lagoon as well and associated abandoned discharge piping from Sedimentation and Treatment lagoons.
    - .4 Associated Sedimentation Lagoon, Treatment Pond and Water Treatment Plant interconnecting Piping.
    - .5 Existing East Reservoir and associated electrical components and appurtenances not including work covered under Section 02 61 00.
    - .6 Existing West Reservoir and associated electrical components and appurtenances not including work covered under Section 02 61 00.
    - .7 Existing 19 mm HCL drip line from the WTP to the East Gorge, as well as abandoned, historic 19 mm HCl acid drip lines.
    - .8 50 mm forcemain from the East Reservoir to the Treatment Lagoon.
    - .9 50 mm forcemain from the West Reservoir to the Treatment Lagoon.
    - .10 50 mm pipeline connecting the East and West Reservoirs.
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1.1 INTRODUCTION  
(Cont'd)

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- .2 (Cont'd)
    - .11 100 mm subdrain located east of the Treatment Lagoon, catch basin at connection of 100 mm subdrain and 150 mm downstream effluent discharge pipe.
    - .12 Subdrains at PGWMF site not associated with the East Gorge Groundwater Collector.
    - .13 Half-pipe collector for the East Reservoir.
    - .14 Non-potable water well at PGWMF.
    - .15 Perimeter fencing not included in the final site plan.
    - .16 Select hydro poles and associated wiring per the direction of the Departmental Representative.
    - .17 Additional features required to be decommissioned if not otherwise specified in the Contract Documents.
  - .3 Existing PGWMF features that shall not be decommissioned include:
    - .1 The Existing WTP structure and associated components (excluding chemical and process tanks (3 interior and 1 exterior), process piping and all process related equipment.
    - .2 Metering chamber near the existing west reservoir, and the discharge pipe leading from this chamber to Lake Ontario.
    - .3 Perimeter fencing designated to be maintained as part of the final site plan.
    - .4 Hydro poles and associated wiring as designated by the Departmental Representative.
  - .4 PGWMF features that will be installed under this contract and which shall be removed/decommissioned when no longer required include:
    - .1 New West Reservoir pumping station and associated piping.
    - .2 Components of the New East Reservoir pumping station not required as part of the East Gorge Groundwater Collection system.
    - .3 Constructed Storm Water Management Ponds and associated appurtenances, drainage ditches and berms if not a part of the final site plan or covered elsewhere in the Contract Documents.
-

1.1 INTRODUCTION  
(Cont'd)

- .4 (Cont'd)
  - .4 Applicable facilities (stockpile areas, laydown areas, decontamination facilities, parking areas etc) and site services if not covered under elsewhere in the Contract Documents and not indicated as to remain in the final site plan.
  - .5 Clean PGWMF haul roads(excluding removal of asphalt) and associated berms and ditches.
  - .6 Non-potable water well installed to service PGWMF facilities.
  - .7 Perimeter fencing not included in the final site plan.
  - .8 Hydro poles and associated wiring as designated by the Departmental Representative.
- .5 LTWMF features that will be installed under this contract and which shall be removed/decommissioned once they are no longer required include:
  - .1 Haul Road, East Mound Road pavement structures to subgrade elevation, curbs, signals, signs, illumination infrastructure, barriers, culverts, sewers, maintenance holes, subdrains and dewatering infrastructure.
  - .2 Lakeshore Road detour road to 0.25 m below final grade for topsoil placement.
  - .3 Clean LTWMF haul roads (excluding removal of asphalt) and associated berms and ditches.
  - .4 Constructed Storm Water Management Pond and associated appurtenances, drainage ditches and berms if not a part of the final site plan or covered elsewhere in the Contract Documents.
  - .5 Applicable facilities (stockpile areas, laydown areas, decontamination facilities, parking areas etc.) and site services if not covered elsewhere in the Contract Documents and not indicated as to remain in the final site plan.
  - .6 Perimeter fencing not included in the final site plan.
  - .7 Hydro poles and associated wiring as designated by the Departmental Representative.

1.1 INTRODUCTION (Cont'd)	.5	(Cont'd)
	.8	Lakeshore Road underpass structure to a minimum of 1.2 m below final finished grade of Lakeshore Road pavement and ditches. All illumination and traffic signal infrastructure at the underpass shall be removed prior to structure demolition. The haul roads and road subdrains and associated infrastructure are to be removed in their entirety. Drainage pipes, once verified as non-contaminated, and immediately adjacent to the concrete structure foundations may be filled with grout, cut and capped and left in place should their removal necessitate the demolition of the underpass structure foundations and walls extending below 1.2 m.
1.2 MEASUREMENT AND PAYMENT	.1	Payment for Selective Site Demolition and associated decommissioning work as outlined in the Departmental Representative approved Contractor's Decommissioning Plan or otherwise described herein (excluding excavation of waste material, removal of asphalt and grading) shall be on a Lot Price basis. Lot Price shall all labour, equipment and materials for completion of the Work including but not limited to permitting, preparation, demolition, removal, disposal, decommissioning and associated reporting activities.
1.3 RELATED SECTIONS	.1	Section 02 41 13.14: Asphalt Paving Removal.
	.2	Section 02 61 00: Excavation and Transportation of Waste Material.
	.3	Section 02 61 10: Placement of Waste Material.
	.4	Section 31 11 00: Clearing and Grubbing.
	.5	Section 31 22 13: General Earthwork and Rough Grading.
1.4 REFERENCES	.1	Ontario Provincial Standard Specifications (OPSS)180 (Nov 2011) - General Specifications for the Management of Excess materials.
	.2	Designated Substances Survey (DSS), Appendix W.

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1.5 DEFINITIONS

- .1 Demolition: rapid destruction of building following removal of hazardous materials.
- .2 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, may include but not limited to: asbestos PCB's, CFC's, HCFC's poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material that can endanger human health or well-being or environment if handled improperly.
- .3 Waste Audit (WA): detailed inventory of materials existing at the PGWMF in building. Indicates quantities of reuse, recycling and landfill.
  - .1 Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project.
  - .2 Indicates quantities of reuse, recycling and landfill.
  - .3 Include a category for materials to be placed in the LTWMF in addition to the off-site licensed landfill.

1.6 SUBMITTALS

- .1 Decommissioning Plan: Contractor to submit a Decommissioning Plan within 90 working days after Notice of Award that shall contain the following, at a minimum:
    - .1 Waste Audit.
    - .2 Schedule of Activities.
    - .3 Method of removal and equipment to be used.
    - .4 Decommissioning Sequencing Plan.
    - .5 Procedures for specified utility decommissioning, protection and/or relocation.
    - .6 Means and methods to be employed for removal of both non-contaminated and contaminated materials.
    - .7 Means and methods for handling and management of Designates Substances.
    - .8 Procedures to be followed to drain, vent, inert, clean and demolish structures, concrete slabs, pipes drains and associated appurtenances.
    - .9 Preliminary RPP Zone limits and extents in accordance with Sections 01 35 30 and 01 56 00.
    - .10 Applicable environmental procedures to be employed in accordance with Section 01 35 43.
-

1.6 SUBMITTALS  
(Cont'd)

- .1 (Cont'd)
  - .11 Removal/Disposal of Designated Substances.
  - .12 Excavation Support and Protection Plan
  - .13 Water Management Plan.
  - .14 Storage methods and locations for liquid and solid waste material.
  - .15 Proposed temporary haul routes to be utilized.
  - .16 Identification of additional structures, utilities, or other site features which will require removal or demolition in order to accomplish the Work identified in the Contract Documents.
- .2 It is the Contractor's responsibility to review the Designated Substances Survey and include the removal and disposal of these compounds in the demolition plan.
- .3 At least two months prior to the demolition and removal of the Lakeshore Road underpass structure, and other infrastructure at the crossing of Lakeshore Road, the Contractor shall submit a Demolition Plan for review and approval by the Departmental Representative prior to commencement of the Work. The Demolition Plan shall be prepared and sealed by a Professional Engineer licensed in the Province of Ontario and is to provide a detailed description of the methodology for the demolition and removal of the underpass structure. The Demolition Plan shall include details of any temporary structural supports required to complete the work as well as the proposed sequencing of demolition work. The underpass structure shall be entirely demolished and removed to at least 1.2 m below final proposed surface elevations. Structural elements deeper than 1.2 m below final proposed surface elevations are permitted to remain in place providing the elements are entirely buried and fully decontaminated. As noted on the Contract drawings, the following infrastructure shall be removed in their entirety:
  - .1 Haul Road pavement to subgrade elevation.
  - .2 East Mound Road pavement to subgrade elevation.
  - .3 Concrete curbs.
  - .4 Asphalt Boulevards.
  - .5 Traffic Signals and all associated infrastructure.
  - .6 Traffic signage.
  - .7 Illumination infrastructure.
  - .8 Subdrainage piping.
  - .9 Culverts.

1.6 SUBMITTALS  
(Cont'd)

- .3 (Cont'd)
- .10 Sewers, Catchbasins and Maintenance Holes.
- .11 Dewatering infrastructure.
- .12 Traffic barriers.
- .13 Fencing.
- .14 Ditching, including any surface treatments and/or liners.

1.7 WASTE  
MANAGEMENT AND  
DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 20.
- .2 Non-impacted materials that cannot be salvaged for reuse or recycling shall be disposed of in accordance with applicable codes at licensed facilities.
- .3 Contaminated waste materials must be disposed of at the Containment Mound at the LTWMF.
- .4 Designated substances shall be disposed of in accordance with applicable codes and regulations as directed by the Departmental Representative.
- .5 Clean granular materials that are excavated from beneath site roadways during removal operations may be permitted to be re-used on-site as non-engineered fill material.

1.8 SITE CONDITIONS

- .1 Perform work in accordance with Section 01 35 43.
- .2 Ensure that selective demolition/decommissioning work does not adversely affect adjacent watercourses, groundwater, vegetation and wildlife.

1.9 SCHEDULING

- .1 Demolition schedule shall be in accordance with the Schedule of Activities and Decommissioning Sequencing Plan outlined in the Contractor's Decommissioning Plan approved by the Departmental Representative.
  - .2 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.
  - .3 Notify Departmental Representative in writing when unforeseen delays occur.
-

PART 2 - PRODUCTS

2.1 EQUIPMENT

- .1 Contractor is required to provide all relevant equipment to complete required demolition/decommissioning activities.
- .2 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

PART 3 - EXECUTION

3.1 PREPARATION

- .1 Inspect site with Departmental Representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Complete associated investigative work i.e. utility surveys, day-lighting, hand digging etc. to confirm accurately delineate the required limits and extents of demolition and removal.
- .3 Confirm timing of removals with Departmental Representative prior to commencement of removals.
- .4 Locate, protect and relocate utilities not designated for removal as required. Preserve active utilities traversing site in operating condition until service is no longer required and demolition/decommissioning can be undertaken.

3.2 REMOVAL  
OPERATIONS

- .1 Remove items as indicated.
  - .2 Do not disturb items designated to remain in place.
  - .3 Excavate at least 300 mm below pipe invert, when removing pipes under existing or future pavement area.
  - .4 For buildings, demolition of exterior walls and floor construction shall begin at the top of the structure and proceed downward.
  - .5 Disposal of Material.
-

3.2 REMOVAL  
OPERATIONS  
(Cont'd)

- .5 (Cont'd)
- .1 Dispose of materials not designated for salvage as applicable and in accordance with regulatory requirements.
  - .2 Material that comes into contact with contaminated waste material will be transported to the LTWMF and placed within the Containment Mound.

3.3 REMOVAL FROM  
SITE

- .1 Relocate/remove stockpiled material as directed by Departmental Representative, when it interferes with operations of project.
- .2 Remove stockpiles of non-impacted like materials by approved alternate disposal option once collection of materials is complete. Cost associated with the sizing, sorting, pre-processing, relocation loading and transportation of the stockpile material is the responsibility of the Contractor.
- .3 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.
- .4 Oversized items and waste material as defined in Section 02 61 00 and that are designated for placement in the Containment Mound shall be managed in accordance with Section 02 61 00.
- .5 Decommissioning (abandoning) of groundwater monitoring and/or supply wells to be completed in accordance with Section 01 35 43.

3.4 RESTORATION

- .1 Restore areas and existing works outside areas of demolition to conditions that existed prior to beginning of Work unless otherwise stipulated in the Contract Documents.
- .2 Employ procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

3.5 CLEANING

- .1 Remove debris, trim surfaces and leave work site clean, upon completion of Work.
- .2 Undertake cleaning as specified herein and in accordance Specification Section 01 74 11.

3.5 CLEANING  
(Cont'd)

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- .3 Use MOE approved cleaning solutions and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

PART 1 - GENERAL

1.1 RELATED  
SECTIONS

- .1 Section 31 22 13: General Earthwork and Rough Grading.
- .2 Section 32 91 19.13: Topsoil Placement and Grading.

1.2 MEASUREMENT AND  
PAYMENT

- .1 Measure hydraulic seeding in square metres including grass mixture, fertilizer and mulch. Areas of blending into existing turf grass or overlaps will not be measured for payment.
- .2 Measurement for Erosion Control Blankets as shown on the Contract Drawings or otherwise directed by the Departmental Representative shall be based on the surface area in square metres placed.

1.3 REFERENCES

- .1 Canadian Nursery Landscape Association (CNLA)
  - .1 Canadian Standards for Nursery Stock, 8th Edition, 2006.
- .2 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS 804 (formerly OPSS 572) - Construction Specification for Seed and Cover, Nov 2010.

1.4 SUBMITTALS

- .1 Product Data:
  - .1 Submit product data in accordance with Section 01 33 00.
  - .2 Provide product data for:
    - .1 Seed.
    - .2 Mulch.
    - .3 Tackifier.
    - .4 Fertilizer.
    - .5 Erosion Control Blanket.
  - .3 Submit in writing to Departmental Representative days prior to commencing work:
    - .1 Volume capacity of hydraulic seeder in litres.
    - .2 Amount of material to be used per tank based on volume.
    - .3 Number of tank loads required per hectare to apply specified slurry mixture per hectare.

1.5 QUALITY  
ASSURANCE

- .1 Test Reports to be provided by the Contractor: certified test reports showing compliance with specified performance characteristics and physical properties to the satisfaction of the Departmental Representative.
- .2 Certificates to be provided by the Contractor: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements to the satisfaction of the Departmental Representative.
- .3 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements.

1.6 SCHEDULING

- .1 Schedule hydraulic seeding to coincide with preparation of soil surface.
- .2 Schedule hydraulic seeding from May 15 to June 15.

1.7 WASTE  
MANAGEMENT AND  
DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 20.
- .2 Divert unused fertilizer from landfill to official hazardous material collections site approved by Departmental Representative.
- .3 Do not dispose of unused fertilizer into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Seed: "Canada pedigree grade" in accordance with Government of Canada Seeds Act and Regulations.
  - .1 Greenfield Mix by Pickseed or approved equal.
    - 30% Creeping Red Fescue
    - 27% Team Jr. Tall Fescue
    - 15% Aubisque Perennial Ryegrass
    - 10% Kentucky Bluegrass
    - 15% Richmond Timothy



(Cont'd)

3% Dutch White Clover

- .2 Seeding Rate: 125 kg/hectare
- .3 Nurse Crop: 10 kg/hectare
- .4 Mulch: specially manufactured for use in hydraulic seeding equipment, non-toxic, water activated, green colouring, free of germination and growth inhibiting factors with the following properties:
  - .1 Type I mulch:
    - .1 Made from wood cellulose fibre.
    - .2 Organic matter content: 95% plus or minus 0.5%.
    - .3 Value of pH: 6.0.
    - .4 Potential water absorption: 900%.
- .5 Tackifier: water dilutable, liquid dispersion.
- .6 Water: free of impurities that would inhibit germination and growth.
- .7 Fertilizer:
  - .1 To Canada "Fertilizers Act" and "Fertilizers Regulations".
  - .2 Complete synthetic, slow release with 35% of nitrogen content in water-insoluble form.
- .8 Erosion Control Blankets:
  - .1 In accordance with OPSS 804 (formerly OPSS 572) requirement.
  - .2 On all slopes 3:1 and steeper.

### PART 3 - EXECUTION

#### 3.1 WORKMANSHIP

- .1 Do not spray onto structures, signs, guide rails, fences, plant material, utilities and other than surfaces intended.
- .2 Clean-up immediately, any material sprayed where not intended, to satisfaction of Departmental Representative.
- .3 Do not perform work under adverse field conditions such as wind speeds over 10 km/h, frozen ground or ground covered with snow, ice or standing water.
- .4 Protect seeded areas from trespass until plants are established.

3.2 PREPARATION OF  
SURFACES

- .1 Fine grade areas to be seeded free of humps and hollows. Ensure areas are free of deleterious and refuse materials.
- .2 Cultivated areas identified as requiring cultivation to depth of 25 mm.
- .3 Ensure areas to be seeded are moist to depth of 150 mm before seeding.
- .4 Obtain Departmental Representative approval of grade and topsoil depth before starting to seed.
- .5 Placement of topsoil to comply with Section 32 91 19.13.

3.3 FERTILIZING  
PROGRAM

- .1 Supply and install 8-32-16 fertilizer at 350 kg per hectare in accordance with OPSS 804. Contractor to submit the application approach two weeks in advance of application for review and approval by the Departmental Representative.

3.4 PREPARATION OF  
SLURRY

- .1 Measure quantities of materials by weight or weight-calibrated volume measurement satisfactory to Departmental Representative. Supply equipment required for this work.
- .2 Charge required water into seeder. Add material into hydraulic seeder under agitation. Pulverize mulch and charge slowly into seeder.
- .3 After all materials are in the seeder and well mixed, charge tackifier into seeder and mix thoroughly to complete slurry.

3.5 SLURRY  
APPLICATION

- .1 Hydraulic seeding equipment:
  - .1 Slurry tank.
  - .2 Agitation system for slurry to be capable of operating during charging of tank and during seeding, consisting of recirculation of slurry and/or mechanical agitation method.
  - .3 Capable of seeding by 50 m hand operated hoses and appropriate nozzles.
  - .4 Tank volume to be certified by certifying authority and identified by authorities "Volume Certification Plate".

3.5 SLURRY  
APPLICATION  
(Cont'd)

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- .2 Slurry mixture applied per hectare.
  - .1 Seed: Grass mixture 125 kg.
  - .2 Mulch: Type I, 1250 kg.
  - .3 Tackifier: 20 kg.
  - .4 Water: Minimum 30,000 L.
  - .5 Fertilizer: 350 kg, ratio 8-32-16.
- .3 Apply slurry uniformly, at optimum angle of application for adherence to surfaces and germination of seed.
  - .1 Using correct nozzle for application.
  - .2 Using hoses for surfaces difficult to reach and to control application.
- .4 Blend application 300 mm into adjacent grass areas, sodded areas and previous applications to form uniform surfaces.
- .5 Re-apply where application is not uniform.
- .6 Remove slurry from items and areas not designated to be sprayed.
- .7 Protect seeded areas from trespass satisfactory to Departmental Representative.
- .8 Remove protection devices as directed by Departmental Representative.

3.6 MAINTENANCE  
DURING  
ESTABLISHMENT  
PERIOD

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- .1 Perform following operations from time of seed application until acceptance by Departmental Representative.
- .2 Grass Mixture:
  - .1 Repair and reseed dead or bare spots to allow establishment of seed prior to acceptance.
  - .2 Fertilize seeded areas 10 weeks after germination provided plants have mature true leaves in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles.
  - .3 Control weeds by mechanical or chemical means utilizing acceptable integrated pest management practices.

3.7 ACCEPTANCE

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- .1 Seeded areas will be accepted by Departmental Representative provided that:
    - .1 Plants are uniformly established and seeded areas are free of rutted, eroded, bare or dead spots.
    - .2 Areas have been fertilized.
-

3.7 ACCEPTANCE  
(Cont'd)

- .2 Areas seeded in fall will achieve final acceptance in following spring, one month after start of growing season provided acceptance conditions are fulfilled.

3.8 MAINTENANCE  
DURING WARRANTY  
PERIOD

- .1 Perform following operations from time of acceptance until end of warranty period:
  - .1 Repair and reseed dead or bare spots to satisfaction of Departmental Representative.
  - .2 Fertilize seeded areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles.

3.9 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.