

## PART 3 – DRAWINGS AND SPECIFICATIONS

RFT No. Doc5122343553, Contract No. N/A

### SUMMARY OF THE WORK:

#### SCOPE OF WORK

The project entails replacement of one generator (G1) of the facility's standby power service. The standby power service is consisting of two stationary Diesel generators, a connection box for a mobile generator, a generator paralleling switchboard (EG-A/EG-B), and two standby power switchboards (EA, EB).

Also included in the scope of work:

1. a controls upgrade,
2. all mechanical and electrical work associated with the new generator,
3. miscellaneous general trades work for dismantling and restoration of some components (exhaust plenum, dampers, silencer, louvres) as required to facilitate removal of existing equipment and moving new equipment into the building, and
4. for current TSSA and CSA B139 compliance, the fuel transfer scheme for both generator day tanks will be converted from the existing continuous fill and overflow to a pump-on-demand day tank fill with atmospheric venting. Other minor works are also needed to address the updated CSA B139 standard.

These upgrades will result in a more robust standby power system, with two stationary generators capable of paralleling, and enhanced automation to permit operation in lead-lag mode with a mobile generator and to recover from certain failure scenarios involving generators or breakers in the associated switchboards. Full compliance with current codes for fuel burning appliances and local TSSA requirement will also be achieved.

The construction work will occur in two main areas of the building: outdoors, at ground level – for a section of the fuel conveyance system, and indoors, in the Generator Room and Main Electrical Room of the Penthouse (10th floor).

The following outlines the works to be performed in the two areas.

#### **Ground Level (outdoors)**

##### **Electrical**

A mobile generator has been rented from Toromont independently by the City and is already on site, parked alongside the north wall of the building. It is integrated into the system via the existing connection box. Its purpose is to provide redundancy, as the generator being replaced is currently out of service before it is removed. *This Contractor shall assume the current rental contract with Toromont, for the duration of the project. Include the cost in this tender as a Cash Allowance as shown in the Bid Pricing Form. The intent of this arrangement is to maintain the existing condition without disruption, ie. without the need to disconnect the existing mobile generator and connect a new mobile one.*

The temporary mobile generator shall be operational for the full duration of the project and the Contractor shall maintain it throughout the project life. Maintenance shall include periodic testing, refueling, and any service that may be required while the machine is on site (e.g., replacement of fluids, electrical or mechanical adjustments etc.).

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### **Mechanical**

The underground fuel return lines serving Generator 1 and Generator 2 must be decommissioned from the building transition sump to the underground storage tank. First the fuel return line serving Generator G1 must be decommissioned, with the line serving Generator G2 left untouched. Once Generator G1 has been replaced and fully commissioned for service, the fuel return line serving Generator G2 can then be decommissioned. Three (3) separate approaches to decommission each of the two underground fuel return lines are shown on design drawings M-1A, M-1B, and M-1C.

- Base scope (shown on drawing M-1A): each double-wall non-metallic fuel return pipe shall be disconnected from the system and removed without excavation, utilizing the existing underground pipe conduits to accommodate physical removal.
- Alternate solution A1 (shown on drawing M-1B, Alternate Price A1) - currently under review by TSSA. Under this option, each underground return pipe shall be disconnected from its respective system, flushed and cleaned to remove traces of hydrocarbon, and then filled with grout to abandon the piping in place.
- Alternate solution A2 (shown on drawing M-1C, Alternate Price A2) - saw cut the existing pavement/asphalt, excavate to expose the piping, remove the return pipe, backfill the trench, and restoration of the site to the original condition. This option is expected to be exercised in the circumstance where existing conditions prevent the removal of each fuel pipe by pulling through the existing pipe conduit as described in option M-1A, and TSSA does not approve the abandonment of piping as described in option M-1B. As one of two routes for emergency vehicle access to the building will be occupied by the mobile generator throughout the course of the project, excavation work in the parking lot must be coordinated, phased, and controlled by the contractor to always maintain emergency vehicle access to the building, including traffic control/protection in the work area for both pedestrians and vehicles.

### Penthouse Level (Generator Room and Main Electrical Room)

#### **General Trades Work**

This work includes, without being limited to, the following:

- Disconnection of electrical and mechanical services supporting Generator G1. Included are power feeders and control wiring, fuel lines, combustion exhaust components up to the outlet of the combustion exhaust silencer
- Removal of the exhaust plenum sheet metal wall, motorized exhaust and recirculation dampers, acoustic silencers and louvers on Generator G1 side
- Removal of generator G1 complete with batteries, battery charger, and combustion exhaust silencer
- Slight modification of the concrete pad for Generator G1

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- Preparation of an equipment lift plan including the proposed date, time, duration, traffic-control plan, site plan, sequence of work, personnel and other relevant details as required by the City, using the services of a crane logistics/equipment moving company
- Hoisting down of removed equipment and lifting new equipment up to the Penthouse, by crane, and using the services of a logistics / equipment moving company
- Final cleanup at project completion.

### **Electrical**

Electrical work is the dominant component of the project scope and includes, without being limited to, the following:

- Supply and installation of a new generator
- New tap box to interface the existing generator feeder busduct, via cables, with the new generator terminal box
- New control wiring (in raceways) between the new generator and paralleling switchboard EG-A/EG-B. Some existing control wiring may be reused if they are long enough to be landed on the new generator. For pricing purposes assume that control wiring will be all new.
- Miscellaneous power circuits for battery charger, water jacked heater, oil pan heater
- Upgraded controls for Lead-Lag functionality in Paralleling Switchboard EG-A/EG-B and for tie automation in Standby Switchboards EA and EB.

### **NOTES:**

- the Lead-Lag functionality must be implemented as early in the project as possible, as it must work with the mobile generator now on site, and
- Toromont Power Systems must be retained for the Lead-Lag controls and KRKA Power Systems must be used for the tie automation.

All electrical work resulting in temporary loss of redundancy, switching/transfer operations, or during tests with the building load must be executed in accordance with strict methods of procedure (MOPs). Refer to the specifications for additional details on MOPs.

### **Mechanical (Ventilation, Fuel, Exhaust and Monitoring Systems)**

Mechanical work on the project is associated with the works required to accommodate the replacement of Generator G1, and the need to bring the existing fuel system up to current code to comply with TSSA requirements. All work relating to the generator system fuel, combustion, or ventilation systems must be performed by a licensed Oil Burner Technician. It generally includes:

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- Restoration of the ventilation for Generator G1, including new louvre, acoustic silencer, motorized dampers (with controls), and discharge plenum wall
- Fuel supply and return lines between the existing day tank and the new generator, complete with valves, hoses etc.
- Leak sensor c/w control module and wiring
- New combustion exhaust silencer (muffler) c/w flex coupling, insulation, jacket, and condensate drain, connected to the existing exhaust stack. New structural supports must also be provided
- Controls (wiring, field controller, programming) to integrate the new generator monitored points into the existing Building Automation System.
- Correction of the TSSA variances under which the facility currently operates, to bring the fuel system into code compliance
- Arranging for inspection(s) by TSSA or equivalent authority (OBT1) and obtaining the final report and approval of the remediated fuel system
- Arranging for a noise test and report by a qualified acoustics professional

All mechanical construction work resulting in disruption of fuel flow to the generator(s) or temporary loss of monitored data, or during tests with the building load, must be executed in accordance with strict methods of procedure (MOPs). Refer to the specifications for additional details on MOPs.

### **Testing and Commissioning**

Both the electrical and mechanical systems must be tested and commissioned to ensure the functionality and performance specified. For this purpose, it is required that support be provided by equipment manufacturers or other specialists (Independent Testing Organization, controls vendors or integrators, as applicable). The efforts of the various external parties must be coordinated for optimum outcomes, including timing and efficiency.

### **Note Regarding Access to the Penthouse (main location of the Work)**

Access to the Penthouse is through the Toronto Police 911 Call Centre on the 9th floor. This is a 7/24 hr sensitive environment and extreme caution is required when transiting through it, so as not to attract attention or disrupt its operation.

### **Working Hours**

General working hours are 7:00 am to 6:00 pm. During this time no restrictions on the Contractor's work are in effect, unless the construction activity:

- Is deemed by the City as noisy or generating vibrations

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- Interfering with the building operations (including life and safety measures) and/or occupants' regular work routines
- Requires intense and continuous traffic of personnel and movement of materials through the common areas, especially the 9<sup>th</sup> floor Call Centre
- Work impedes access to and circulation around the building (e.g. during hoisting of equipment by crane)

In these situations, work must be performed on the weekends or afterhours and/or use measures to mitigate the disruption(s).

The Contractor is expected to employ tradespeople with adequate qualifications (education, training, experience, and accreditation, where required) for the specific work to be performed.

Also, continuous reporting and coordination with the Owner's representative (Project Manager and/or Consultant) will be required during the project execution, in accordance with the terms of the Contract and per Owner's specific requirements for the building.

Specific working hours and access requirements may be imposed on the Contractor's personnel for the various work areas.

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**Technical Drawings and Specifications will be provided to online Ariba system as Appendices to Part 3:**

### **Appendix A 22241H – Drawings**

#### Electrical

E-0 – Electrical Abbreviations, Legend and Sheet List  
E-1 – Electrical Site Plan  
E-2 – Electrical Penthouse Demolition & New Work  
E-3 – Electrical Partial Single Line Diagram  
E-4 – Electrical Details

#### Mechanical

M-1A – Legend, Drawing List, Project Notes and Site Plan Option 1A  
M-1B – Site Plan Option 1B  
M-1C – Site Plan Option 1C  
M-2 – Basement Floor Plan – Fuel Oil  
M-3 – Penthouse Floor Plan – Fuel Oil  
M-4 – Penthouse Floor Plan – Ventilation  
M-5 – Fuel Oil Schematics  
M-6 – Mechanical Details 1  
M-7 – Mechanical Details 2

#### Structural

S-1 – General Notes, Abbreviations and Drawing List  
S-2 – Site Plan  
S-3 – Structural Penthouse Demolition & New Work  
S-4 – Details

### **Appendix B 22241H – Specifications**

#### Division 08 – Openings

08 91 19 Extruded Aluminum Stationary Wall Louvers

#### Division 20 – Common Mechanical Requirements

20 01 01 Mechanical General Requirements  
20 05 23 Valves  
20 05 24 Pipe Welding  
20 05 25 Excavation and Backfilling  
20 08 15 Mechanical Commissioning  
20 08 19 Project Close Out Mechanical

#### Division 23 – Heating, Ventilating, and Air Conditioning

23 11 13 Fuel Oil Systems

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23 21 13 Steel Pipe and Fittings  
23 24 16 Diesel Exhaust Systems  
23 33 14 Dampers – Operating  
23 33 19 Duct Silencers

### Division 26 – Electrical

26 05 00 Electrical General Requirements  
26 05 21 Wire and Cables 0 - 1000V  
26 05 27 Grounding  
26 05 29 Fastenings and Supports  
26 05 31 Cable Tap, Junction and Pull Boxes  
26 05 34 Conduits, Fastenings and Fittings  
26 32 13 Diesel Generator  
26 32 14 Modifications to Existing Controls

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### **GENERAL SPECIFICATIONS**

#### **GS-1. Cutting, Remedial Work and Blasting**

- 1.1. The Contractor shall perform the coring, cutting and remedial Work required to make the affected parts of the Work come together properly.
- 1.2. The Contractor shall co-ordinate the Work to ensure that the coring, cutting and remedial Work is kept to a minimum.
- 1.3. Should the Owner, the Contract Administrator, other contractors or anyone employed by them be responsible for ill-timed Work necessitating cutting or remedial Work to be performed, the cost of such cutting or remedial Work shall be valued as provided in GC 7.1 - OWNER'S RIGHT TO MAKE CHANGES, GC 7.2 - CHANGE ORDER and GC 7.3 - CHANGE DIRECTIVE.
- 1.4. Coring, cutting, x-rays, scanning and remedial Work shall be performed by specialists familiar with the Products and Owner Supplied Material affected and shall be performed in a manner to neither damage nor endanger the Work and in accordance with the Specifications and other Agreement documents.
- 1.5. The Contractor shall not carry out any blasting operation except with the prior written consent of the Contract Administrator, provided that any consent so granted shall not, under any circumstances, relieve the Contractor of the liabilities and obligations assumed by the Contractor under the Agreement.

#### **GS-2. Cleanup**

- 2.1. The Contractor shall maintain the Work and the Site in a safe and tidy condition and free from the accumulation of waste products and debris, other than that caused by the Owner, other contractors or their employees.
- 2.2. Before applying for Substantial Performance of the Work as provided in GC 5.5 - SUBSTANTIAL PERFORMANCE OF THE WORK, the Contractor shall remove waste products and debris, other than that resulting from the work of the Owner, other contractors or their employees, and shall leave the Site clean and suitable for use or occupancy by the Owner. The Contractor shall remove products, Construction Equipment, and Temporary Work not required for the performance of the remaining Work all to the satisfaction of the Contract Administrator and the Owner, acting reasonably.
- 2.3. Prior to the final Application for the Payment, the Contractor shall remove any remaining products, Construction Equipment, Temporary Work, and waste products and debris, other than those resulting from the work of the Owner, other contractors or their employees.
- 2.4. Contractor shall complete all maintenance and cleanup of the Work and Site within 24 hours of written notice from the Owner or Contractor Administrator of such. If such maintenance and cleanup is not completed within 24 hours of



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such written notice, the Owner shall be entitled to, or to engage others to, perform such maintenance and cleanup, at the Contractor's expense and set-off the costs thereof in accordance with GC 5.10 – OWNER'S SET-OFF.

- 2.5. Contractor shall repair all damage to the Site caused by the Contractor's, Subcontractor's, Supplier's or Sub-subcontractor's transportation in and out of the Site within five (5) Working Days of written notice from the Owner or Contractor Administrator to repair or before final payment, whichever is earlier. If such repair is not completed within the required time period, the Owner shall be entitled to, or to engage others to, perform such repair, at the Contractor's expense and set-off the costs thereof in accordance with GC 5.10 – OWNER'S SET-OFF.

### **GS-3. Layout**

- 3.1. The Contract Administrator shall provide baseline and benchmark information for the general location, alignment, and elevation of the Work. The Owner shall be responsible only for the correctness of such information provided by the Contract Administrator.
- 3.2. Where the Agreement provides for the Contractor to lay out the Work, this section 3.1 shall apply.
  - 3.2.1. Prior to commencement of construction, the Contract Administrator and the Contractor shall locate on site those property bars, baselines and benchmarks that are necessary to delineate the Site and to lay out the Work, all as shown on the Drawings.
  - 3.2.2. The Contractor shall be responsible for the preservation of all property bars while the Work is in progress, except those property bars that must be removed to facilitate the Work. Any other property bars disturbed, damaged or removed by the Contractor's operations shall be replaced by an Ontario land surveyor, at the Contractor's cost.
  - 3.2.3. At no extra cost to the Owner, the Contractor shall provide the Contract Administrator with such materials and devices as may be necessary to lay out the baseline and benchmarks, and as may be necessary for the inspection of the Work.
  - 3.2.4. The Contractor shall provide qualified Personnel to lay out and establish all lines and grades necessary for construction. Such Personnel shall include a licensed land surveyor responsible for conducting a survey to verify the locations of all key structures. The Contractor shall notify the Contract Administrator of any layout Work carried out, so that the same may be checked by the Contract Administrator.
  - 3.2.5. The Contractor shall install and maintain substantial alignment markers and secondary benchmarks as may be required for the proper execution and inspection of the Work. The Contractor shall

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supply one copy of all alignment and grade sheets to the Contract Administrator.

- 3.2.6. The Contractor shall assume full responsibility for alignment, elevations and dimensions of each and all parts of the Work, regardless of whether the Contractor's layout Work has been checked by the Contract Administrator.
- 3.2.7. All stakes, marks and reference points shall be carefully preserved by the Contractor. In the case of their destruction or removal, for any reason, before the date of the Substantial Performance of the Work, such stakes, marks and reference points shall be replaced, to the satisfaction of the Contract Administrator, at the Contractor's cost.
- 3.3. Where the Agreement provides for the Owner to lay out the Work, this section 3.3 shall apply.
  - 3.3.1. The Owner shall be responsible for setting out the line and setting out the required elevation of the specific parts of the Work identified in the Agreement.
  - 3.3.2. The Owner shall supply a copy of the alignment and grade sheets to the Contractor to facilitate the construction of the Work in accordance with the Agreement.
  - 3.3.3. The Owner shall install and maintain substantial alignment markers and secondary benchmarks as may be required for the proper execution and inspection of the Work.
  - 3.3.4. All stakes, marks and reference points provided by the Owner shall be carefully preserved by the Contractor. In the case of the destruction or removal as a result of the Contractor's operations, such stakes, marks and reference points shall be replaced by the Owner at the Contractor's cost.
  - 3.3.5. The Contractor shall give the Owner at least 24 hours' notice before requiring levels, lines or stakes, on any portion of the Work and the Contractor shall clearly state in such notice the exact locality or localities where such are needed for use.
  - 3.3.6. The Contractor must satisfy itself before commencing Work at any point as to the meaning and accuracy of all stakes and marks, and no Claim shall be considered by the Owner for or on account of any alleged inaccuracies or for any alterations subsequently rendered necessary on account of any such alleged inaccuracies, unless the Contractor notifies the Owner thereof in writing before commencing the Work.
  - 3.3.7. The Contractor shall be responsible for the preservation of all property bars while the Work is in progress, except those property bars which

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must be removed to facilitate the Work. Any other property bars disturbed, damaged or removed by the Contractor's operations shall be replaced by an Ontario land surveyor, at the Contractor's cost.

### **GS-4. Site and Drainage**

- 4.1. The Contractor's sheds, site offices, toilets, other temporary structures and storage areas for material and equipment shall be grouped in a compact manner and maintained in a neat and orderly condition at all times.
- 4.2. The Contractor shall keep all portions of the Work well, properly and efficiently drained, to at least the same degree as that of the existing drainage conditions, during construction and until the Work is completed. The Contractor shall be solely responsible for all Losses caused by, or resulting from, water backing up or flowing over, under, through, from, on or along any part of the Work or which any of the Work may cause to flow elsewhere and shall, at the Contractor's sole cost, repair such damage and without any extension of the Contract Time.

### **GS-5. Work Affecting the Property of Others**

- 5.1. Before Work is carried out that may affect the property or operations of any Ministry or agency of government or any Person, including a municipal corporation or any board or commission thereof, and in addition to such notices of the commencement of specified operations as are prescribed elsewhere in the Agreement, the Contractor shall give at least 48 hours' advance written notice of the date of commencement of such Ministry or agency of government or Person so affected.

### **GS-6. Quality Assurance and Quality Control**

- 6.1. The QA/QC Plan required by GC 3.13.2 shall be prepared and delivered to the Contract Administrator for review by the Contract Administrator and Owner within thirty (30) Days after the Effective Date and, after acceptance by the Contract Administrator and Owner, shall form a part of the Agreement.
- 6.2. The QA/QC Plan shall:
  - 6.2.1. be based on the standards and requirements set out in the Agreement;
  - 6.2.2. monitor, identify and rectify all non-compliance items within the Construction Schedule.
- 6.3. The Contractor shall implement and perform the Work in accordance with, and in compliance with, the QA/QC Plan accepted by the Owner. The implementation of the QA/QC Plan may be subject to quality assurance audit and acceptance by the Contract Administrator and Owner. The Contract Administrator and the Owner may perform surveillance for compliance with the QA/QC Plan and examine the Work, wherever situate, for conformance.

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### **GS-7. Project Controls and Reporting Requirements**

7.1. NOT APPLICABLE

### **GS-8. Owner Supplied Material**

8.1. NOT APPLICABLE

### **GS-9. Traffic, Maintaining Roadways and Detours**

- 9.1. Except as otherwise noted in the Agreement, the Contractor assumes all the risks and responsibilities arising out of any traffic related obstruction encountered in the performance of the Work and any traffic conditions, including traffic conditions on any Highway or road giving access to the Site caused by such obstructions, and the Contractor shall not make any Claim against the Owner for any delay or Losses occasioned thereby.
- 9.2. If the Agreement require the Contractor to maintain a Highway, the Contractor shall comply with all maintenance standards and other obligations under Laws relating Highways, including the *City of Toronto Act, 2006*.
- 9.3. The Contractor shall designate an individual to be responsible for traffic control and work zone safety. The designated individual shall be a competent worker who is qualified because of knowledge, training, and experience to perform the duties, is familiar with Book 7 of the Ontario Traffic Manual and has knowledge of all potential or actual danger to workers and motorists. Prior to the commencement of construction, the Contractor shall notify the Contract Administrator of the name, address, position, cell phone, pager, and telephone numbers of the designated individual, and update as necessary.
- 9.4. Where an existing Roadway is affected by construction, it shall, at all times, be kept open to traffic. The Contractor shall, at no additional cost to the Owner, be responsible for providing and maintaining, for the duration of the Work an alternative route for both pedestrian and vehicular traffic through the Site in accordance with the Ontario Traffic Manual, whether along the existing Highway under construction or on a detour road beside or adjacent to the Highway under construction.
- 9.5. Subject to the prior written approval of the Contract Administrator, the Contractor may block traffic for short periods of time to facilitate construction of the Work in accordance with the Ontario Traffic Manual. Any temporary lane closures shall be kept to a minimum.
- 9.6. The Contractor shall maintain, to the satisfaction of the Owner and the Contract Administrator, a road through the Site. The road through the Site shall include any detour constructed in accordance with the Agreement or required by the Contract Administrator. The cost of blading required to maintain the surface of such roads and detours shall be deemed to be included in the Fixed Price or Unit Price, as applicable. The Contractor shall

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not be required to apply de-icing chemicals or abrasives or carry out snowplowing unless otherwise specified in the Agreement.

- 9.7. Where localized and separated sections of a Highway are affected by the Contractor's operations, the Contractor shall not be required to maintain intervening sections of that Highway until such times as these sections are located within the limits of the Highway affected by the Contractor's general operations under the Agreement. Nothing in this section shall be taken as limiting the Contractor's obligation to maintain all areas of a Highway affected by the traffic control measures undertaken in relation to the Work and to fulfill all traffic control responsibilities thereon.
- 9.8. Where the Agreement provides for, or the Contract Administrator requires, detours at specific locations, payment for the construction of the detours, and if required, for the subsequent removal of the detours, shall be made at the Contract Prices appropriate to such Work.
- 9.9. Where Work is discontinued for any extended period including seasonal shutdown, the Contractor shall, when directed by the Contract Administrator, open and place the Highway and detours in a passable, safe and satisfactory condition for public travel.
- 9.10. Where the Contractor constructs a detour that is not specifically provided for in the Agreement or required by the Contract Administrator, the construction of the detour and, if required, the subsequent removal shall be performed at the Contractor's sole expense. The detour shall be constructed and maintained to structural and geometric standards approved by the Contract Administrator. Removal and site restoration shall be performed as directed by the Contract Administrator.
- 9.11. Where, with the prior written approval of the Contract Administrator, a Highway is closed and the traffic diverted entirely off the Highway to any other Highway, the Contractor shall, at no extra cost to the Owner, supply, erect and maintain traffic control devices in accordance with the Ontario Traffic Manual.
- 9.12. Compliance with the foregoing provisions shall in no way relieve the Contractor of obligations under GC 4.1 - PROTECTION OF WORK AND PROPERTY, dealing with the Contractor's responsibility for damage claims, except for claims arising on sections of a Highway within the Site that are being maintained by others.

### **GS-10. Roadway Work**

- 10.1. If at any time, in the opinion of the Contract Administrator, damage is being done or is likely to be done to any Roadway or any improvement thereon, outside the Site, by the Contractor's vehicles or other equipment, whether licensed or unlicensed equipment, the Contractor shall, on the direction of the Contract Administrator, and at no extra cost to the Owner and without an extension in Contract Time, make changes or substitutions for such vehicles

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or equipment, and shall alter loadings, or in some other manner, remove the cause of such damage to the satisfaction of the Contract Administrator.

- 10.2. The Contractor shall provide and ensure, at all times, and at no extra cost to the Owner:

10.2.1. safe and adequate pedestrian and vehicular access;

10.2.2. continuity of utility services; and

10.2.3. access for any and all emergency response vehicles and services,

to any and all properties adjoining the Site.

### **GS-11. Working Drawings**

- 11.1. Working Drawings or Working Plans means any Drawings or Plans prepared by the Contractor for the execution of the Work and may, without limiting the generality thereof, include formwork, falsework and shoring plans, roadway (that part of the Highway designed or intended for use by vehicular traffic and includes the Shoulders.) protection plans, Shop Drawings, shop plans or erection diagrams.
- 11.2. The Contractor shall arrange for the preparation of clearly identified and dated Working Drawings as called for by the Contract Documents.
- 11.3. The Contractor shall submit Working Drawings to the Contract Administrator in accordance with an agreed upon schedule or otherwise with reasonable promptness and in orderly sequence so as to not cause delay in the Work. If either the Contractor or the Contract Administrator so requests they shall jointly prepare a schedule fixing the dates for submission and return of Working Drawings. Working Drawings shall be submitted in printed form. At the time of submission the Contractor shall notify the Contract Administrator in writing of any deviations from the Contract Documents that exist in the Working Drawings.
- 11.4. The Contract Administrator shall review and return Working Drawings in accordance with an agreed upon schedule, or otherwise, with reasonable promptness so as not to cause delay.
- 11.5. The Contract Administrator's review shall check for conformity with the design concept and for general arrangement only and such review shall not relieve the Contractor of responsibility for errors or omissions in the Working Drawings or of responsibility for meeting all requirements of the Contract Documents unless a deviation on the Working Drawings has been approved in writing by the Contract Administrator.
- 11.6. The Contractor shall make any changes in Working Drawings that the Contract Administrator may require to make the Working Drawings consistent with the Contract Documents and resubmit unless otherwise directed by the

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Contract Administrator. When resubmitting, the Contractor shall notify the Contract Administrator in writing of any revisions other than those requested by the Contract Administrator.

- 11.7. Work related to the Working Drawings shall not proceed until the Working Drawings have been signed and dated by the Contract Administrator and marked with the words "*Reviewed. Permission to construct granted*".
- 11.8. The Contractor shall keep one set of the reviewed Working Drawings, marked as above, at the Site at all times.

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### **DIVISIONAL SPECIFICATIONS**

#### **DS-1. Occupational Health and Safety Act**

- 1.1. The Contractor shall take all steps necessary to prevent the spread of lead-containing dust/particles and any other designated substance(s) or hazardous material(s) from the Work site when performing Work involving, but not limited to, lead-containing paint, and to protect the Contractor, those engaged by the Contractor in performance of the Work, City employees and all others, including the general public, likely to be at or near the Work site.

#### **DS-2. Asbestos**

- 2.1. Where the Work includes removal of asbestos, the Contractor shall:
  - 2.1.1. ensure, through appropriate air testing and such other measures as may be appropriate and necessary, that the Work site and adjacent areas not been contaminated with asbestos during the performance of the Work; and
  - 2.1.2. prior to dismantling any barriers erected to contain asbestos and asbestos-containing materials, the Contractor shall provide written confirmation to the Consultant that, after conducting proper air testing and other due diligence measures, the area is safe in accordance with the requirements of the OHSA.
- 2.2. If, during the course of the Work, the Contractor or any of the subcontractors or suppliers engaged by the Contractor, disturb material that is believed to be asbestos containing material, separate and apart from asbestos abatement work forming part of the Contract, the Contractor shall act in strict compliance with the OHSA, including but not limited to the Asbestos Regulation, and without limiting the generality of the foregoing, shall:
  - 2.2.1. Stop work and evacuate the area where the asbestos containing material is believed to have been disturbed and take all precautions or actions mandated by the OHSA and notify the City immediately;
  - 2.2.2. Notify the Contract Administrator via telephone, with written notification to follow as soon as possible; and
  - 2.2.3. Refrain from entering the work area for any reason whatsoever until safe to do so, in accordance with the requirements of the OHSA and, prior to re-entry, notify the Contract Administrator for approval to recommence Work.

#### **DS-3. Workforce Development Plan**

- 3.1. Where required in the Agreement Documents, the Contractor shall implement and document the Workforce Development Plan described in "Schedule F – Owner Policies, Procedures, by-Laws and Other Requirements" to the satisfaction of the City (in its sole discretion).

#### **DS-4. Coordination and Meetings**



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- 4.1. The Contractor shall attend regular meetings with the City of Toronto and others, including but not limited to, Toronto Transit Commission, Bell Canada, Enbridge, Toronto Hydro, and business organizations as may be required by the Contract Administrator to co-ordinate services affected by the Contract and to monitor on-going administration and progress of the contract.

### **DS-5. Standard Specifications and Standard Drawings**

- 5.1. The City's Standard Specifications and Standard Drawings that apply to the Work shall be those that can be found on-line at [www.toronto.ca/ecs-standards](http://www.toronto.ca/ecs-standards) as of the date the tender for the Work is issued.
- 5.2. Any other required work, for which no specifications are contained herein, shall conform to the City of Toronto Standard Construction Specifications and Drawings for Road Works, the City of Toronto Standard Construction Specifications and Drawings for Sewers and Watermains, the Ontario Provincial Standard Specifications and the Ontario Provincial Standard Drawings.
- 5.3. This Agreement may also refer to Ontario Provincial Standards (OPS) specifications and drawings. In such case, Bidders shall acquire the applicable specifications and drawings from OPS. Information about OPS can be found at [www.ops.on.ca](http://www.ops.on.ca).

### **DS-6. Payroll Burden Rate for Work on a Time and Material Basis**

- 6.1. Standard Rate (40%)
  - 6.1.1. The Owner will pay the Contractor's Payroll Burden at a standard 40 per cent of the wages and salary portion of the Cost of Labour for change in the work in the Contract that is carried out on a Time and Material basis.
- 6.2. Option for Contractor's Actual Payroll Burden Rate
  - 6.2.1. Alternatively, the Owner will consider paying at the Contractor's actual payroll burden rate. To be considered for this option, the Contractor MUST submit their actual payroll burden rate on the Owner's prescribed Contractor's Payroll Burden Form ("Form") prior to the commencement of any work on a Time and Material basis, preferably at the pre-construction meeting.
  - 6.2.2. The Form is available from the Contract Administrator upon request and it shall be completed, certified and signed by the Contractor's external auditor. The Payroll Burden rate shall be calculated from the total expenditures of wages, salaries and benefits for all of the Contractor's employees paid during the previous 12 month calendar year (i.e. January 1<sup>st</sup> to December 31<sup>st</sup>). All permitted expenses in relation to labour costs are included on the prescribed Form.
  - 6.2.3. If accepted, the submitted Form shall be effective until January 31<sup>st</sup> of the following year and the payroll burden rate will apply to all Time and Material works carried out within the effective period of the Form. If the Contractor fails to submit a signed Form before the commencement of any work on a Time and Material basis, or if the submitted Form is not acceptable to the Owner, the Owner will apply the 40 per cent standard payroll burden rate for all works that

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are carried out on a Time and Material basis under this Contract until a Form is submitted by the Contractor and accepted by the Owner.

- 6.2.4. During the Contract period, the Contractor must submit an updated Form by January 31<sup>st</sup> of a new calendar year. If accepted, the updated Form shall be effective until January 31<sup>st</sup> of the following year. If the Contractor failed to submit an updated Form or the submitted Form is not acceptable, the Owner will apply the standard 40 per cent payroll burden rate to all Time and Material works carried out under this Contract until an updated Form is submitted by the Contractor and accepted by the Owner.
- 6.2.5. The Owner reserves the right to terminate the application of the Contractor's actual payroll burden rate and apply the standard 40 per cent payroll burden rate if the Form is found to be not accurately completed after its acceptance.
- 6.2.6. Contractor's labour rates used in the work based on a Time and Material basis are subject to verification by the City's Fair Wage Office.
- 6.2.7. All information in relation to Contractor's Payroll Burden may be audited at the Owner's discretion. The Contractor agrees to keep complete and accurate books, payrolls, accounts and employment records and make the records available for audit by the Owner upon request. The Owner reserves the right to recover any overpayment to the Contractor affected by the audit.

#### **DS-7. Organization of Work and Work Restrictions**

- 7.1. It is the Contractor's responsibility to implement all required measures (e.g. fences, enclosures, etc.) in order to strictly control the pedestrian traffic in the construction area and to prevent any pedestrian approaching into the areas of construction hazard, or any other dangerous area.
- 7.2. The Contractor shall be attentive to the needs of pedestrians that are visually or physically impaired, and the Contractor must be prepared at all times to assist in the safe and comfortable passage of these pedestrians.
- 7.3. The Contractor shall note that a number of existing utilities and services are located below the area of reconstruction and others in the near vicinity. The Contractor shall examine the site to identify potential problems associated with the accessibility, transportability and constructability of their proposed methods.
- 7.4. The Contractor shall, from time to time, adopt such approved construction or operating methods in carrying out the work as may be called for due to changing conditions that may be encountered during the progress thereof.

#### **DS-8. Disposal of Surplus Excavated Material and Removals**

- 8.1. All surplus excavated materials, removals, grindings and all other debris, including that from sewer flushing and catch basin cleaning, shall be disposed of, off site. No separate payment shall be made for the costs associated with this work.
- 8.2. The City of Toronto will not make arrangements for the disposal of surplus materials or supply bills of lading.

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- 8.3. The Contractor shall assume full ownership of the surplus excavated material and shall be solely responsible for its removal and disposal.
- 8.4. Stockpiling of excavated material within the City street allowance is not permitted. The Contractor shall dispose of all excavated material off site immediately upon removal. No additional payment will be made for costs incurred as a result of this requirement.

### **DS-9. Smog Alert Response Plans**

- 9.1. The Contractor, when notified by the Consultant that the City's Smog Alert Response Plan has been implemented, shall, where applicable:
  - 9.1.1. suspend use of oil based products except for roadway line painting required to address safety concerns or to reduce traffic congestion;
  - 9.1.2. suspend all pesticide spraying;
  - 9.1.3. suspend grass cutting operations;
  - 9.1.4. not allow refuelling during daytime hours;
  - 9.1.5. reduce equipment and vehicle idling as much as practical;
  - 9.1.6. curtail the use of two-stroke engines as much as practical;
  - 9.1.7. suspend normal street sweeping of all roadways during daytime hours except where there is an urgent need for clean-up, i.e. following a special event.
  - 9.1.8. suspend the operation of loop cutting tar pots; and
  - 9.1.9. suspend any non-essential planned traffic control device installation or modification work which will require lane closures or require complete deactivation of the traffic control device. Work that is required to address safety concerns or to reduce traffic congestion may continue.
- 9.2. Asphalt paving operations using SS-1 tack coat (water based) may continue.
- 9.3. A Smog Alert may be preceded by a Smog Watch. A Smog Watch is issued when there is a 50 percent chance that a smog day is coming within the next three (3) days. The Contractor shall not be entitled to any additional payment or extension of Contract Time due to the implementation of the Smog Alert Response Plans.
- 9.4. Notwithstanding the above, if it is necessary and the Contract Administrator ordered the suspension of paving operations, payment and/or extension of the Contract for the suspension of asphalt paving operations shall only be made if notification by the Chief Engineer and Executive Director or General Manager to suspend work is made in less than four hours prior to starting of such operations, and if such suspension has detrimentally impacted on the Contractor's work schedule. The Contractor shall provide supporting documentation identifying the impact and associated fair and reasonable costs in accordance with GC 2.6 – CONTRACTOR RECORDS and any delay in accordance with GC 7.5 - DELAYS.

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### **DS-10. Security and Construction Sign(s)**

- 10.1. The Contractor shall be responsible for the security of the work of this Contract from the time the job site is turned over to him until all work has been completed.
- 10.2. The Contractor shall take all necessary precautions to ensure that the construction site does not pose a hazard to the public for the duration of the project. Appropriate safety and warning signs must be posted. All such site security measures shall be removed from the site at the completion of the project.
- 10.3. Project information for the sign(s), if not specified in this Request for Tender, shall be provided by the Contract Administrator. The number of signs required is specified in the Pricing Form.
- 10.4. The costs for providing, installing, removing and disposing the signs shall be included in the Bidder's Pricing Form submission. No additional separate payment will be made for such work and provisions.

### **DS-11. Material and Truck Weighing**

- 11.1. The City reserves the right to randomly verify the quantity of materials supplied in connection with this Contract. Prior to unloading of materials that are priced on a unit weight basis ("unit weight materials"), the weight tickets must be provided to the Contract Administrator (or in their absence, the City's inspector). Material weight tickets that are not provided to the Contract Administrator or the City's inspector prior to unloading will not be accepted later for payment.
- 11.2. When directed by the Contract Administrator or the City's inspector, trucks carrying unit weight materials shall proceed immediately to a City's weighing facility as specified by the Contractor Administrator or the inspector. After passing through the City's weight scale and unloading the materials, the empty truck shall return to the same facility to verify the vehicle tare if so directed by the Contract Administrator or the City's inspector.
- 11.3. Should the weight verification show that the verified weight of the material is less than what is shown on the Contractor's weight ticket by more than 1.0 per cent, the payment for the affected load shall be made based on the weight measured by the City's weighing facility.
- 11.4. City staff will also adjust the method of measurement for all following loads that are not weight-verified but have been delivered to the site before a new weight verification process can prove the Contractor had rectified the weight inconsistency. The weight of the following loads will be adjusted based on an adjustment factor determined from the most recently weight-verified load
- 11.5. The City will not compensate the Contractor for any cost associated with the weight verification process.

### **DS-12. Noise Regulations**

- 12.1. The Contractor shall ensure the following:

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- 12.2. Equipment shall be maintained in an operating condition that prevents unnecessary noise, including but not limited to proper muffler systems, properly secured components and the lubrication of all moving parts;
- 12.3. Idling of equipment shall be restricted to the minimum necessary for the proper performance of the specified work.
- 12.4. Where necessary, place noise attenuation devices (barriers) around Contractor's construction equipment.