

1 Minimum Standards

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

2 Shop Drawings

- .1 Submit for the Departmental Representative's review, electronic copies of each shop drawing in PDF format, unlocked, minimum 300 dpi, oriented right side up for viewing on computer screen with sheets ordered in sequence within the pdf.
- .2 The review is for the sole purpose of ascertaining conformance with the general design concept, and does not mean approval of the design details inherent in the shop drawings, responsibility for which shall remain with the Contractor. Such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents.
- .3 Do not commence manufacture or order materials before shop drawings are reviewed by Departmental Representative.
- .4 Make changes in submissions as Departmental Representative may require, consistent with Contract Documents. When submitting, notify Departmental Representative in writing of revisions other than those requested.
- .5 Include transmittal sheet indicating: project name and number; Division and section number the shop drawing is being submitted for; name, address and contact information of company submitting; stamp review by General Contractor for conformance to Contract Documents.

3 Product Data

- .1 Product data: manufacturers catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products.
- .2 Submit electronic copies of product data in PDF format, unlocked, minimum 300 dpi, oriented right side up for viewing on computer screen with sheets ordered in sequence within the pdf.
- .3 Delete information not applicable to project.
- .4 Cross-reference product data information to applicable portions of Contract Documents.
- .5 Include transmittal sheet indicating: project name and number; Division and section number the shop drawing is being submitted for; name, address and contact information of company submitting; stamp review by General Contractor for conformance to Contract Documents.

4 Samples

- .1 Samples: examples of materials, equipment, quality, finishes, workmanship.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.

- .3 Reviewed and accepted samples will become standard of workmanship and material against which installed work will be verified.
- .4 Submit 3 sets of each sample.

5 Mock-ups

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups.
- .2 Prepare mock-ups for Departmental Representative's review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .3 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .4 Prepare mock-ups in locations designated by Departmental Representative.
- .5 Prepare mock-ups in the presence of the Departmental Representative when requested by the Departmental Representative.
- .6 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when. If not indicated, then remove mock-up after review and acceptance by the Departmental Representative.

6 Taxes

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

7 Fees, Permits, and Certificates

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

8 Fire Safety Requirements

- .1 Comply with the National Building Code of Canada 2010 (NBC) for fire safety in construction and the National Fire Code of Canada 2010 (NFC) for fire prevention, fire fighting and life safety in building in use.
- .2 Welding, cutting and grinding:
 - .1 Welding, cutting and grinding refers to any work involving flame, producing heat or sparks, including, but not limited to, cutting, soldering, brazing, grinding, adhesive bonding, thermal spraying and thawing pipes, coring through slabs and walls.
 - .2 At least 5 business days prior to commencing cutting, welding or soldering procedure, provide to Departmental Representative:
 - .1 Notice of intent, indicating devices affected, time and duration of isolation or bypass.
 - .2 Completed welding permit as defined in NBC 2010 & NFC 2010.
 - .3 Return welding permit to Departmental Representative immediately upon

completion of procedures for which permit was issued.

- .3 A fire watcher as described in NBC 2010 & NFC 2010 shall be assigned when welding, cutting and grinding operations are carried out in areas where combustible materials within 10m may be ignited by conduction or radiation.
- .3 Where work requires interruption of fire alarms or fire suppression, extinguishing or protection systems:
 - .1 Provide watchman service as described in NBC 2010 & NFC 2010; In general, watchman service is defined as an individual conversant with Fire Emergency Procedures, performing fire picket duty within an unprotected and unoccupied (no workers) area once per hour.
 - .2 Retain services of manufacturer for fire protection systems on daily basis to isolate and protect all devices relating to:
 - .1 modification of fire alarms, fire suppression, extinguishing or protection systems; and
 - .2 cutting, welding, soldering or other construction activities which might activate fire protection systems.
- .4 Immediately upon completion of work, restore fire protection systems to normal operation and verify that all devices are fully operational.
- .5 Inform fire alarm system monitoring agency and local Fire Department immediately prior to isolation and immediately upon restoration of normal operation.

9 Field Quality Control

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

10 Hazardous Materials

- .1 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and the provision of Material Safety Data Sheets (MSDS).
- .2 For work in occupied buildings give the Departmental Representative 5 days notice for work involving designated substances (Ontario Bill 208), and before painting, caulking, installing carpet or using adhesives.

11 Utilities and Water

- .1 Provide temporary power entirely at own cost.
- .2 The Contractor to ensure all safety and noise abatement procedures are applied as applicable on Parliament Hill.
- .3 Contractor to provide potable water for the work.

- .4 Give the Departmental Representative one week notice related to each necessary interruption of any mechanical or electrical services throughout the course of work. Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends.

- .5 Propane is a prohibited heating fuel type.

12 Removed Materials

- .1 Unless otherwise specified, caulking, dust, and other debris generated from cutting-out and materials removed and not for reuse become the Contractor's property.
- .2 Take such removed debris and materials immediately from site.

13 Protection

- .1 Protect work temporarily until permanent enclosures are completed.
- .2 Protect finished work against damage until take-over.
- .3 Protect adjacent work against the spread of dust and dirt beyond the work areas.
- .4 Prevent dust and debris from interfering with operation and other work activities.
- .5 Provide temporary dust screens, barriers and warning signs in locations where the work is adjacent to areas used by the public or by government staff.
- .6 Protect operatives and other users of site from all hazards.
- .7 Protect exposed electrical equipment during work.

14 Scheduling the Work

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. When schedule has been reviewed by the Departmental Representative, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.
- .2 Subject to clause .6 below, carry out work during "regular work hours" Monday to Friday from 06:00am to 21:00 hours.
- .3 Carry out work that will impact and disturb the occupied spaces during after normal work hours Monday to Friday from 21:00 to 06:00 hours and on Saturdays, Sundays, and statutory holidays.
- .4 Give the Departmental Representative 5 business days notice for work to be carried out during "off hours".
- .5 Work to be carried out after hours includes, but is not limited to:
 - Delivery of materials;
 - Removal of Waste;
 - Any and all noisy above 85 dB or vibrating work.

- .6 Work such as: deliveries or removal of materials are not permitted at the following times. Shutdown site lighting and lower crane booms to horizontal position, shut off audible equipment, compressors, generators, excavation or hoisting equipment, or other noise-producing equipment:
 - .a Police Memorial Service, last Sunday in September from 08:30 to 12:30 hours.
 - .b Changing the Guard Ceremony, daily from June 28th. to August 24th, from 10:00 to 10:30 hours.
 - .c Canada Day, from July 1st. 06:00 hours to July 2nd 01:00 hours
 - .d The Sound and Light event, daily from July 10 through September 7, from 20:30 to 23:20 hours.
- .7 Coordinate construction hours with Departmental Representative for work during summer season and for special events occurring on adjacent site.
- .8 Road closures are permitted in early mornings and in evenings only. Obtain approval from Departmental Representative 10 working days in advance of planned closure.
- .9 Shut down vehicles and machinery when inactive, to reduce noise and generation of fumes. Contractor to submit a safety plan detailing the measures to be implemented to mitigate vibrations, impacts, dust, fumes must be provided to the Departmental Representative (Occupational Health and Safety Engineer) for review, at least 3 weeks prior to the start date for the work. The plans should include locations for generators, compressors and other exterior stationary machinery and equipment.
- .10 Ensure that personnel employed on site become familiar with and obey health safety, fire, traffic and security regulations.
- .11 The Departmental Representative reserves the right to temporarily stop noisy operations and generation of fumes considered disruptive to adjacent occupied areas
- .12 The Departmental Representative reserves the right to temporarily stop work due to Parliament Hill operational activities. Contractor will be given a 48-hour notice. In the event that the Departmental Representative (Occupational Health and Safety Engineer) deems it necessary to order a temporary stop work due to a health and safety concern, work shall cease immediately.
- .13 "Stop work" orders for infractions of contract documents or violations of applicable health and safety regulations will not be considered as a "stop work" period.

15 Use of Site and Facilities and Deliveries

- .1 Execute work with least possible interference or disturbance to the normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated. Refer to article on Scheduling for work that must be done during after normal work hours.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by the work, provide temporary means to maintain security levels.
- .4 Portable toilets are allowed on site.
- .5 Closures: Protect work temporarily until permanent enclosures completed.
- .6 Construction parking: no dedicated construction parking will be provided on site. Vehicles will be towed away at vehicle owner expense.
- .7 Provide a site office trailer within work area as designated by the Departmental Representative. Site office to include:

- .1 The trailer must be incorporated in the scaffolding design
- .2 Maintain interior temperature at 22 degrees C, with lighting to 750 lx, and ventilated.
- .3 Office with table, chair, laydown table for unrolled drawings, shelf, coat rack, and filing cabinet.
- .4 Meeting room to hold a meeting for up to 10 people, seated, furnished with tables and 10 chairs.
- .5 Finished inside walls and floors, with minimum 1 window for each room and a lockable door.
- .6 Maintain in clean condition
- .8 Follow traffic guidelines indicated in: Parliamentary Precinct Branch Procedure: Traffic Protection-Safe Operating Guideline-PPB, effective Date 2012/06/04.
- .9 All deliveries and removals are to be done after normal working hours only between 21:00 hrs and 06:00 hrs.
- .10 Deliver materials: refer to Article 14. Scheduling the Work
- .12 Materials shall be delivered to the designated loading area, unloaded, and immediately transported to the designated materials storage area. Do not allow materials or equipment to remain in the vicinity of the loading area.
- .11 The Departmental Representative will assign an area in the vicinity of the work area to accommodate one garbage container.
- .12 Coordinate deliveries and removals with other contractors who are working on the site.
- .13 Materials shall only be delivered when required for the project.
- .14 Use of the loading dock is permitted only between 21:00 hrs and 06:00 hrs.

16 Site Storage

- .1 Materials storage will need to be properly coordinated with the Departmental Representative and shall be equipped and maintained by the Contractor. No storage space will be available outside of the project site.
- .2 On-site storage shall only be accommodated at locations shown on the drawings within the work area.
- .3 Do not unreasonably encumber site with materials or equipment.
- .4 Move stored products or equipment which interfere with operations of Departmental Representative or other contractors.
- .5 Obtain and pay for use of additional storage or work areas needed for operations.
- .6 Do not load or permit to load any part of Work with a weight or force that will endanger to Work.

17 Cut, Patch and Make Good

- .1 Obtain Departmental Representative's written approval before cutting existing surfaces to

accommodate the work.

- .2 Where cuts are permitted: make cuts with clean, true, smooth edges or as directed by Departmental Representative.
- .3 Patch and make good surfaces cut, damaged or disturbed, to Departmental Representative's approval. Match existing material, colour, finish and texture.
- .4 Remove all items so shown or specified.
- .5 Cut existing surfaces as required to accommodate new work.
- .6 Work includes modification of existing construction. Include for cutting, fitting, adjustments to quantities, provision of accessories and all measures required to accommodate deviations in layout and nature of existing work.

18 Examination

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.
- .2 Provide photographs of surrounding properties, objects and structures liable to be damaged or be the subject of subsequent claims.
- .3 Take photographs and submit to Departmental Representative before commencement of work in any location. Assume responsibility for undocumented damage (pre-existing or not).
- .4 Take field measurements to verify or supplement dimensions.

19 Signs

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

20 Access and Egress

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.
- .2 Design, erect and maintain hoarding and covered pedestrian walkways to support all loads including wind loads and provide protection, complete with signs and electrical lighting as required by authority having jurisdiction.
- .3 Keep within limits of work and avenues of access and egress.
- .4 Use access to building as indicated.

21 Scaffolds and Work Platforms

- .1 Design, construct and maintain scaffolds and work platforms to work areas, including stairs, runways, ramps or ladders independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.
- .2 Submit engineered shop drawings stamped by a Professional Structural Engineer licensed to practice in the Province of Ontario.

22 Waste Management

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

23 Closeout Submittals

- .1 Records. As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Departmental Representative's inspection for issuance of final certificate of completion, supply to the Departmental Representative one (1) set of white prints with all deviations neatly inked in.
- .2 Guarantees and Warranties. Before completion of work collect all manufacturer's guarantees and warranties and deposit with Departmental Representative.
- .3 Submit three copies of O&M manual that contains approved shop drawings for future maintenance.

24 Common Product Requirements

- .1 Quality of Work:
 - .1 Carry out work using qualified licensed workers or apprentices in accordance with Provincial Act respecting manpower vocational training and qualification.
 - .2 Permit employees registered in Provincial apprenticeship program to perform specific tasks only if under direct supervision of qualified licensed workers.
 - .3 Determine permitted activities and tasks by apprentices, based on level of training attended and demonstration of ability to perform specific duties.
- .2 Storage, Handling and Protection:
 - .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions.
 - .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove packaging or bundling until required in work.
- .3 Manufacturer's Instructions: unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

25 Clean Up

- .1 Clean up work area as work progresses. At the end of each work period, and more often if ordered

by the Departmental Representative, remove debris from site, neatly stack material for use, and clean up generally.

- .2 Upon completion remove scaffolding, temporary protection and surplus materials. Make good defects noted at this stage.
- .3 Clean areas under contract to a condition at least equal to that previously existing and to approval of Departmental Representative.

26 Security Clearances

- .1 All personnel employed on this project will be subject to security check. Obtain requisite clearance for each individual required to enter the premises. Contractor must request security clearance 14 days prior to commencement of work, as directed by the Departmental Representative.
- .2 Personnel will be checked daily at start of work shift and given a pass which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.
- .3 No escort will be required for personnel who have obtained the required security clearance for exterior work areas.

27 Building Smoking Environment

- .1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.
- .2 Enclosed areas of work are considered to be interior work areas for the purpose of the regulation and therefore are no-smoking areas.
- .3 Enforce the no-smoking regulations at the work site.

29 Testing Laboratory Services

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

30 Cost Breakdown

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

31 Precedence

- .1 For Federal Government projects, Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

32 Project Meetings

- .1 Organize weekly project meeting to discuss progress, schedule and project issues. The Contractor will take and distribute minutes of meeting. Arrange for sub-contractors to attend meetings as required.
- .2 Within 10 working days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

33 Limestone Paver and Curb Supply

- .1 Limestone pieces are supplied in sufficient quantities to complete the specified paving surfaces, including at least an additional 15% for damages and cuttings. Contractor shall be held responsible for the supply of additional pieces if the Contractor cannot complete the required surfaces. No additional delay in work schedule shall be provided for this requirement.
- .2 Obtain limestone paving and curbs from Departmental Representative's storage facility in the National Capital Region, and transport to site.
- .3 The Contractor is responsible for costs of loading, transporting, and unloading the limestone paving and curbs.
- .4 The Contractor is responsible for damage to the limestone paving and curbs that takes place after the Contractor takes possession of the limestone paving and curbs.
- .5 Return unused limestone pavers or curbs to the Departmental Representative. Allow for cost of loading, transporting, and unloading to a facility in the National Capital Region, designated by the Departmental Representative.
- .6 See Appendix 1 for list of pallets.

34 Mowing Grass

- .1 The Contractor shall make regular mowing of existing lawn areas to be preserved, keeping the grass to a maximum height of as directed by the Departmental Representative, within the limits of the job site, to ensure the work area does not become unkempt over time.

35 Construction Yard Hoarding

- .1 Erect temporary site enclosures using Modular, construction field fence panelised with galvanized steel mesh. Modular panels of 2.300mm in height made of 16-gauge tubular sections, galvanized steel and 6-gauge galvanized steel wire mesh welded to tubular sections. Fencing to be supported on surface mounted concrete block footings. Add plastic green mesh to the galvanized steel mesh to mitigate visual impact of site fencing.
- .2 Fencing shall be in good condition and of uniform colour.
- .3 Submit fencing layout, signage type and locations of both for Departmental Representative approval no later than 10 days following award of Contract.
- .4 If pedestrian passage is blocked by the site enclosures, an alternate route must be indicated with appropriate signage.

END OF SECTION

PART 1 – GENERAL

1.1 REGULATORY REQUIREMENTS

.1 An investigation into the presence of designated substances at Parliament Hill, in Ottawa (Ontario) was performed in order to meet the requirements of the Canada Labour Code under Part II, section 124 which stipulates that every employer shall ensure that the health and safety at work of every person employed by the employer is protected and those employees are made aware of every “known or foreseeable health or safety hazard” in the work environment. Also, it was performed to meet the requirements of Section 30 of the *Ontario Occupational Health and Safety Act, Revised Statutes of Ontario, 1990, Chapter 0.1*. By having a Designated Substances Report (DSR) conducted, the Departmental Representative will be able to inform his or her employees, contractors, and tenants of any designated substances that may be present and possibly disturbed throughout the duration of the project. The informed Departmental Representative will then be able to impose appropriate health and safety precautions for all applicable personnel as required. The *Guide to Green Government* sets out the policy requirements for the federal government to meet or exceed federal environmental statutes and regulations, and the emulation of best practices from the public and private sector. Within the *Guide to Green Government*, pollution prevention efforts are required in federal projects. Pollution prevention is defined as the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and waste, and reduce overall risk to human health and environment. These policies must be adhered to throughout the duration of the North Perimeter Wall Rehabilitation Project at the Parliament Hill in Ottawa, Ontario.

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

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

- O.Reg 278/05 (as amended by
O.Reg 493/09)*
- .4 *PWGSC Departmental Policy DP
057 – “Asbestos Management”*
- .4 **Benzene:** “Designated Substance – Benzene” *O.Reg 839 (as amended by
O.Reg 490/09)*
- .5 **Coke Oven Emissions:** “Designated Substance – Coke Oven Emissions” *O.Reg 840 (as amended by O.Reg 490/09)*
- .6 **Ethylene Oxide:** “Designated Substance – Ethylene Oxide” *O.Reg 841 (as amended by
O.Reg 490/09)*
- .7 **Isocyanates:** “Designated Substance – Isocyanates” *O.Reg 842 (as amended by
O.Reg 490/09)*
- .8 **Lead:**
- .1 “Designated Substance – Lead”
O.Reg 843 (as amended by O.Reg 490/09)
- .2 “General – Waste Management”
O.Reg 347 (as amended by O.Reg 337/09)
- .3 Hazardous Products Act’s
*Regulations Amending the Surface
Coating Materials Regulations
SOR/2010-224*
- .9 **Mercury:**
- .1 “Designated Substance – Mercury”
O.Reg 844 (as amended by O.Reg 490/09)
- .2 “General – Waste Management”
O.Reg 347 (as amended by O.Reg 337/09)
- .10 **Silica:** “Designated Substance – Silica”
O.Reg 845 (as amended by O.Reg 490/09)
- .11 **Vinyl Chloride:** “Designated Substance – Vinyl Chloride” *O.Reg 846 (as amended by
O.Reg 490/09)*
- .3 All contractors requesting tenders from subcontractors shall furnish this report to subcontractors.

1.2 VALIDITY DATE

- .1 El Houcine Faouzi, Environmental Analyst of the Environmental Services Directorate of the Real Property Branch, PWGSC, conducted the on-site survey for this report on 2011/06/22.

- .2 The work area is located at the north perimeter wall on the north slope of the Parliament Hill in Ottawa, Ontario. The scope of the work proposed is understood to consist of rehabilitating the section of the wall between piers 1 to 17, the wall between piers 27 to 33 and the pathway along the wall between piers 1 to 33.
 - .1 The scope of work for this report involved a visual inspection of building materials and contents for the presence of suspected designated substances in the project areas on 2011/06/22.
 - .2 From the visual inspection suspect materials were sampled and analyzed, where appropriate, for the above substances. On the basis of this inspection, a total of three (3) samples of lead containing materials were collected on 2011/06/22 and submitted to the Accutest Laboratory (an accredited CAEAL lab) located at 146 Colonnade Road, Nepean, Ontario, K2E 7Y1 for analysis.
 - .3 The surveys were limited to those areas, which could be accessed by non-destructive means. The visual inspection and sampling was limited to readily accessible areas. Destructive testing was not included in the investigation, but is recommended prior to any major demolition. No confined space was accessed for the purpose of this report.
 - .4 Prior to beginning work, it must be confirmed with the Departmental Representative that no additional designated substances have been brought to the project area.
 - .5 In addition, the survey refers to PCBs and halocarbons; however, it does not refer to other substances that may be present in the day-to-day usage for specialized equipment or areas in buildings (i.e. lead shields, fume hoods, etc.).
 - .6 There is a possibility that materials which could not be reasonably identified within the scope of this assessment or which were not apparent during previous site visits may exist. Should any designated substance be encountered in the course of demolition, work must be stopped, preventative measures taken, and the Departmental Representative must be notified immediately. **Do not proceed until written instructions have been received.**

PART 2 - DESIGNATED SUBSTANCES

2.1 SURVEY RESULTS

.1 **ACRYLONITRILE:** Not Identified

.2 **ARSENIC:** Not Identified

.3 **ASBESTOS:** Not Identified

.4 **BENZENE:** Not Identified

.5 **COKE OVEN EMISSIONS:** Not Identified

.6 **ETHYLENE OXIDE:** Not Identified

.7 **ISOCYANATES:** Not Identified

.8 **LEAD: Identified**

Lead is a naturally occurring metal. It was used primarily in paint prior to the 1980's to increase the drying process. Lead in paint becomes a danger when it is old or damaged, as it creates lead dust and chips. Lead can also be found in soldered joints installed on piping up to the mid 1990s and in older cast iron bell and spigot joints.

.1 According to the Hazard Products Act's *Regulations Amending the Surface Coating Materials Regulations* SOR/2010-224 allowable concentration of lead in surface coatings is 0.009 percent by weight (weight of lead to weight of paint), which is equivalent to 90 parts per million (ppm).

.2 Representative paint and mortar samples, taken on 2011/06/22 from the project area, have been analyzed for lead content. Analytical results indicate that the mortar in the project area has a lead content above 90 ppm and considered to be 'lead-based' as per the aforementioned Regulation. The results are shown in Table 1 below.

Table 2 - Lead Sample Results

Sample number	Description	Location	Lead Content (ppm)
NPB-Pb-1	Mortar on stones	Between piers 1 to 17, east side, Parliament Hill	220
NPB-Pb-3	Mortar on stones	Between piers 46 to 51, west side, Parliament Hill	20900
NPB-Pb-4	Black paint	On the fence between piers 46 to 51, west side, Parliament Hill	20

Bold items exceed the 90 ppm limit for lead, as per Hazardous Products Act's *Surface Coating Materials Regulations* SOR/2005-109.

.9 **MERCURY:** Not Identified

.10 **SILICA: Identified**

Free crystalline silica is present in concrete and masonry throughout the project area.

.11 **VINYL CHLORIDE MONOMER:** Not Identified

.12 **POLYCHLORINATED BIPHENYLS (PCBs):** Not Identified

.13 **HALOCARBONS:** Not Identified

2.2 RECOMMENDATIONS

1. LEAD

If lead-containing materials are disturbed (i.e. during dry sanding, grinding, polishing and sawing operations), then proper precautions, as outlined under "Designated Substance – Lead" *O.Reg 843* (as amended by *O.Reg 490/09*) of the Occupational Health and Safety Act, must be followed.

Under Ontario Regulation 843 (as amended by *O.Reg 490/09*) of the Occupational Health and Safety Act, regulatory limits have been established for occupational exposure limits to airborne lead that may be present in a workplace. The Time Weighted Average Exposure Values to airborne lead dust or fumes should not exceed the Ministry of Labour's 0.05 milligram per cubic metre (mg/m³) limit during the removal of paints and products containing any concentration of lead. The TWAEV represents the time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse health effects].

Even though the paints in the project area have a lead content below the 90ppm threshold outlined in the Hazardous Products Act's *Surface Coating Materials Regulations SOR/2005-109*, then proper precautions, as outlined under "Designated Substance – Lead" *O.Reg 843* (as amended by *O.Reg 490/09*) of the Occupational Health and Safety Act, should be followed if lead-containing materials are disturbed (i.e. during dry sanding, grinding, polishing and sawing operations).]

Contractors performing work that requires disturbance of lead-based materials are responsible to ensure that the workers are not exposed to airborne lead dust levels in excess of the time-weighted average and Maximum Exposure Concentration for lead-containing paints. It should be noted that the use of mechanically-powered tools or torches on lead-based materials increases the concentration of airborne lead dust or fumes and thereby requiring more stringent respiratory protection and controlled work procedures.

.1 Ontario Ministry of Labour (MoL) has published the document entitled "*Guideline: Lead on Construction Projects*". This document classifies all disturbances of lead-containing materials as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, based on presumed airborne concentrations of lead generated during the work each of which will have defined work practices. Although this document is not a regulation, Ministry of Labour Inspectors use it as guidance during site inspections.

.2 The work procedure outlined below can be used as a guide but where there is conflict with the exposure limits and respiratory protection required by "Designated Substance – Lead" Regulation 843 (as amended by *O.Reg 490/09*), the most stringent requirements of Regulation 490/09 must apply.

Type 1 Operations, as defined in the MoL guideline, applies to work that includes applying coating containing lead by means of brush or roller; installing or removing lead or lead-alloy sheet materials; installing or removing lead packing, Babbitt metal or similar material; removing coating containing lead using hand-powered tools and soldering materials containing lead. Type 1 work practices outline that where workers request a respirator, the employer must provide at minimum a half-face piece air purifying respirator. Dust and waste must be cleaned up at least daily, and removed at completion of the operation.

Type 2 Operations, as defined in the MoL Guideline, applies to work that includes

removing or repairing ventilation system where dust containing lead is present within the system; applying coating containing lead by means of spraying; removing coating containing lead using mechanically-powered tools; and outdoor welding or high temperature cutting of lead-containing coating, other than during dismantling or demolishing. Type 2 work practices outline that employers must provide workers at minimum a half-face piece respirator with dust, fume and mist cartridges (plus solvent protection during spray-coating applications).

Type 3 Operations, as defined in the MoL Guideline, applies to work that includes sandblasting of lead-containing coating; indoor welding or high-temperature cutting of lead-containing coating; outdoor high-temperature cutting of material with lead-containing coating done in the course of dismantling or demolishing a machine, building, structure, or plant and burning of a surface with lead-containing coating. Type 3 work practices outline that warning signs, in sufficient numbers, must be posted to warn the public of the hazards. Before any indoor sandblasting operation is conducted, signs shall be posted at least at each entrance to the work area. For indoor or confined space burning, cutting or welding, local exhaust ventilation must be provided with sufficient velocity to capture fumes (minimum 0.5 cubic metres per second). Where local exhaust does not have HEPA filter, air must be discharged to the exterior. If local exhaust ventilation is not available, workers and all persons entering the work shall wear a positive pressure supplied air respirator. When cutting during demolition or burning outdoors, workers shall wear tight-fitting powered air purifying respirators (PAPR).

.3 The disposal of construction waste containing lead is controlled by "General – Waste Management" O.Reg 347 (as amended by O.Reg 337/09), under the *Ontario Environmental Protection Act*. The classification of the waste is dependent upon the result(s) of leachate test(s). The waste can be classified as "hazardous", "non-hazardous" or "registerable solid waste", depending on the results of the leachate test.

The leachate test, referred to as Toxicity Characteristic Leaching Procedure (TCLP) in O.Reg 347, is not part of the lab analysis for lead content in samples but must be done prior to disposal of any lead-containing waste to determine if it's "hazardous", "non hazardous", or "registerable solid waste" depending on test results.

2. SILICA

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

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

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

3. CONTRACTORS DUTIES

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

END OF SECTION

Part 1 General

1.1 Related Sections

- .1 Section 01 00 10 – General Instructions.

1.2 References

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
 - .1 Occupational Health and Safety Act, R.S.O. 1990, c. O.1, July 1, 2010.
 - .2 Occupational Health and Safety Act and Regulations for Construction Projects, O.Reg. 213/91, January 1, 2010.

1.3 Submittals

- .1 Make submittals in accordance with Section 01 00 10 – General Instructions.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .3 Submit 3 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 00 10– General Instructions.
- .7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 2 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 2 days after receipt of comments from Departmental Representative.
- .8 Departmental Representative's review of Contractor's final Health and Safety plan must not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.

- .10 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 Filing of Notice

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

1.5 Safety Assessment

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

1.6 Meetings

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

1.7 Regulatory Requirements

- .1 Do Work in accordance with Section 01 00 00 – General Instructions.

1.8 Project/Site Conditions

- .1 Work at site will involve contact with:
 - .1 Silica.

1.9 General Requirements

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.10 Responsibility

- .1 Be responsible and assume the role of **"Constructor"** as described in the Ontario Occupational Health & Safety Act and Regulations for Construction Projects.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.11 Compliance Requirements

- .1 Replace these 2 items with the following 1 item, "Comply with the Ontario Occupational Health and Safety Act and Regulations for Construction Projects, O.Reg. 213/91.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.12 Unforeseen Hazards

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in

accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.13 Posting Of Documents

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

1.14 Correction Of Non-Compliance

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

1.15 Work Stoppage

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

Part 2 Products

- 2.1 NOT USED
 - .1 Not used.

Part 3 Execution

- 3.1 NOT USED
 - .1 Not used.

END OF SECTION