

**GENERAL INSTRUCTIONS****Part 1 General****1.1 TAXES**

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

**1.2 FEES, PERMITS and CERTIFICATES**

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

**1.3 REGULATORY REQUIREMENTS**

- .1 References and Codes:
  - .1 Materials shall be new and work shall conform to the minimum applicable standards of the "References" indicated in the specification sections, 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 Building Smoking Environment:
  - .1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.
- .3 Hazardous Material Discovery:
  - .1 Stop work immediately when material resembling spray or trowel-applied asbestos, Polychlorinated Biphenyl (PCB), mould or other designated substance is encountered during demolition work.
    - .1 Take preventative measure and promptly notify Departmental Representative.
    - .2 Do not proceed until written instructions have been received from Departmental Representative.

**1.4 FIRE SAFETY REQUIREMENTS**

- .1 Comply with both the National Building Code of Canada 2010 and the National Fire Code of Canada 2010 for safety of persons in buildings in the event of a fire and the protection of buildings from the effects of fire, as follows;
  - .1 The National Building Code (NBC): for fire safety and fire protection features that are required to be incorporated in a building during construction.
  - .2 The National Fire Code (NFC):
    - .1 The on-going maintenance and use of the fire safety and fire protection features incorporated in buildings.

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- .2 The conduct of activities that might cause fire hazards in and around buildings.
  - .3 Limitations on hazardous contents in and around buildings.
  - .4 The establishment of fire safety plans.
  - .5 Fire safety at construction and demolition sites.
- .2 Welding and cutting:
  - .1 At least one week 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 NFC.
    - .3 Return welding permit to Departmental Representative immediately upon completion of procedures for which permit was issued.
  - .2 "Fire Watchers" as described in NFC shall be assigned when welding or cutting operations are carried out in areas where combustible materials within 15m may be ignited by conduction or radiation.
- .3 Where work requires interruption or cause activation of fire alarms or fire suppression, extinguishing or protection systems:
  - .1 Provide "Watchman Service" as described in NFC; 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 service providers for fire protection systems on daily basis or as approved by Departmental Representative, to isolate and protect all devices relating to:
    - .1 Modification of fire alarms, fire suppression, extinguishing or protection systems; and/or
    - .2 Cutting, welding, soldering or other construction activities that might activate fire protection systems.
  - .3 Immediately upon completion of work, restore fire protection systems to normal operation and verify that all devices are fully operational.
  - .4 Inform fire alarm system monitoring agency and local Fire Department immediately prior to isolation and immediately upon restoration of normal operation.

**1.5 HOT WORK PERMIT**

- .1 Hot work means any work where a flame is used or a source of ignition may be produced, i.e., riveting, welding, cutting, grinding, burning and heating.
- .2 Before the beginning of work, the Contractor must have applied for and received A "Hot Work Permit" from Departmental Representative.

**GENERAL INSTRUCTIONS****1.6 QUALITY CONTROL**

- .1 Testing Laboratory Services:
  - .1 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.
  - .2 Where tests indicate non-compliance with specifications, contractor to pay for initial test and all subsequent testing of work to verify acceptability of corrected work.

**1.7 FIELD QUALITY CONTROL**

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

**1.8 EXAMINATION and PREPARATION**

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.
- .2 Before commencing work, establish location and extent of services lines in area of work and notify Departmental Representative of findings.

**1.9 HAZARDOUS MATERIALS**

- .1 Hazardous Materials: product, substance, or organism that may cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .2 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of Material Safety Data Sheets (MSDS).
- .3 For work in occupied buildings, give the Department Representative one week notice for work involving designated substances (Ontario Bill 208), hazardous substances (Canada Labour Code Part II Section 10), and before painting, caulking, installing carpet or using adhesives and other materials, that cause off gassing.

**1.10 TEMPORARY BARRIERS AND ENCLOSURES**

- .1 Maintain existing services to building and provide for personnel and vehicle access.
- .2 Installation during week-ends from Friday 8pm to Monday 6am

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- .3 Convene a meeting with Departmental Representative and user prior the work of this section to review user requirements and get Approval for construction and location of this work.
  - .4 Hoarding:
    - .1 Design, erect and maintain temporary site enclosure of 2440mm tall prefabricated modular fencing of welded metal frame with wire mesh infill conforming to City of Ottawa BY-LAW No. 2014-220 Part XII – Construction Fencing. Location as indicated on plans. Design to be coordinated and review by Departmental Representative.
    - .2 Design, erect and maintain temporary covered pedestrian walkways and provide protection, complete with signs and electrical lighting as required by authority having jurisdiction. Design to be coordinated and review by Departmental Representative.
    - .3 Provide three lockable truck entrance gates and one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
    - .4 No fencing should compromise identified fire exit of existing building. Fire exit route should be maintained accessible during entire construction period from building to nearest Public Street.
  - .5 Weather Enclosures:
    - .1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in wall, floors and roofs.
    - .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
    - .3 Design enclosures to withstand wind pressure and snow loading that have been calculated.
  - .6 Dust and sound Control:
    - .1 Provide dust tight screens or partitions to localize dust-generating activities, and for protection of workers, finished areas of work and public.
      - .1 Maintain and relocate protection until such work is complete.
      - .2 Protect all furnishings within work area with 0.102 mm thick polyethylene film during construction. Remove film during non-construction hours and leave premises in clean, unencumbered and safe manner for normal daytime function.
  - .7 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.
  - .8 Protection:
    - .1 Protect work against damage until take-over.
    - .2 Protect adjacent work against the spread of dust and dirt beyond the work areas.
    - .3 Protect operatives and other users of site from all hazards.

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- .4 Provide fences around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

**1.11 WORK RESTRICTIONS**

- .1 Existing facility to remain in operation during expansion construction. Plan work in accordance with section 01 32 18 – Construction Progress Schedule – Bar Chart (Gantt) as to minimize impact on operation and personnel work.
- .2 Regular operating hours are from Monday to Friday from 6:00 am to 8:00 pm
- .3 Proper planning is required to allow fresh air intake to be relocated as necessary.
- .4 EXITING:
  - .1 All required fire exit in existing facility to be maintained. If execution of work requires to temporarily condemn an exit, a new NBC compliant exit, approved in writing by Departmental Representative, as to be provided before closing and working at targeted exit. Refer to article 1.3 above.
  - .2 Provide safe access to evacuation route, from each exit even where exiting within work zones.
- .5 NOISE/DUST and ODOUR:
  - .1 Any noise, dust and odor generating work has to be performed off regular hours: Monday to Friday between 8:00pm to 6:00am and weekend from Friday 8:00pm to Monday 6:00am. All work area to be cleaned and ready for Facility operations at 6:00am.

**1.12 SECURITY CHECK**

- .1 All personnel employed on this project will be subject to security check. Obtain requisite clearance, for each individual required to enter the premises.
- .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.

**1.13 SECURITY ESCORT**

- .1 All personnel employed on this project shall be escorted when executing work in non-public areas during normal working hours. Personnel shall be escorted in all areas after normal working hours.
- .2 Submit an escort request to Departmental Representative at least 14 days before the service is needed. For requests submitted within the time mentioned above, the Departmental Representative will pay for the costs of the security escort. The cost incurred by a late request will be charged to the Contractor.
- .3 Any escort request may be cancelled free of charge if notification of cancellation is given at least 4 hours before the scheduled time of the escort. The cost incurred by a late cancellation will be charged to the Contractor.

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- .4 The calculation of costs will be based on the average hourly rate of a security officer for a minimum of 8 hours per day for a late service request and 4 hours for late cancellations.

**1.14 COST BREAKDOWN**

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

**Part 2 Products****2.1 NOT USED**

- .1 Not used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

## **PART 1 – GENERAL**

### **1.1 REFERENCES**

1. Federal Legislation
  1. Canada Labour Code, Part II, section 124 and 125. Canada Occupational Health and Safety Regulations
  2. Transportation of Dangerous Goods Act, 1992 (TDGA)
  3. Canada Consumer Product Safety Act
    1. Surface Coating Materials Regulations SOR/2005-109.
  4. Canadian Environmental Protection Act, 1999 (CEPA)
    1. PCB Regulations (SOR/2008-273)
    2. Federal Halocarbon Regulations, 2003 (SOR/2003-289)
2. Provincial Legislation
  1. Ontario Occupational Health and Safety Act, R.S.O. 1990, 2010 edition.
    1. Ontario Regulation 490/09 – Designated Substances (O.Reg. 490/09).
    2. Ontario Regulation 278/05 – Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations, (O.Reg. 278/05).
    3. Ontario Regulation 213/91 for Construction Projects (O.Reg. 213/91)
  2. Ontario Environmental Protection Act, R.R.O. 1990,
    1. Ontario Regulation 347/09, General – Waste Management (O.Reg. 347/09).
    2. Ontario Regulations 362/90 – Waste Management, PCBs (O.Reg. 362/90)
    3. Ontario Regulation 463/10, Ozone Depleting Substances and Other Halocarbons (O.Reg. 463/10).
3. Canadian General Standards Board (CGSB).
4. Canadian Standards Association (CSA International). CAN/CSA-Z94.4-11 - Respiratory Protection
5. Underwriters' Laboratories of Canada (ULC).

### **1.2 DEFINITIONS**

Asbestos-Containing Materials (ACMs): means material that contains 0.5 per cent or more asbestos by dry weight as per Ontario Regulation 278/05.

Time-weighted average exposure limit (TWael): the time-weighted average airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day or work week as prescribed by Ontario Regulation 490/09 Designated Substances, as amended.

### **1.3 RELATED SECTIONS**

Not used

## 1.4 DESIGNATED SUBSTANCES

A designated substances survey was completed in support of the Roof Replacement Project, 1030 Innes Road, Ottawa, Ontario. Refer to Designated Substances Summary Report Roof Replacement Project, 1030 Innes Road, Ottawa, Ontario, dated October 2015 (DST Consulting Engineers Inc, Project No.: GV-SO-021925) for the description of the methodology used to assess the designated substances within the project areas.

Confirm with the Departmental Representative that no additional designated substances have been brought to the project area prior to beginning work.

Additional designated substances and hazardous materials may exist outside the accessible survey area but are beyond the scope of this project.

Should any additional material, suspected to be a designated substance, be encountered within the project area, any disturbance of such material must be stopped, precautionary measures taken, and the Departmental Representative must be notified immediately. Do not proceed until written instructions have been received.

1. ACRYLONITRILE: Not Identified

2. ARSENIC: Not Identified

3. ASBESTOS: Not Identified

Samples of the following materials were collected and confirmed to be non-asbestos: modified bitumen flat roofing materials and associated roofing material layers, caulking applied to flashing materials and base of rooftop windows; grey caulking applied to the seams of metal clad piping throughout the roof; and tar applied to ductwork insulation on the south side of the roof.

4. BENZENE: Not Identified

5. COKE OVEN EMISSIONS: Not identified

6. ETHYLENE OXIDE: Not Identified

7. ISOCYANATES: Not Identified

8. LEAD: **Suspected**

No lead (in paint/surface coatings) samples were collected as part of the survey. However, detectable concentrations of lead may be present in the surface coatings of red metal flashing and siding products.

9. MERCURY: Not Identified

10. SILICA: Identified

Free crystalline silica is expected to be present in roofing material layers.

11. VINYL CHLORIDE MONOMER: Not Identified



12. Polychlorinated Biphenyls (PCBs): Not Identified

13. Halocarbons: **Suspected**

Halocarbons are suspected to be present in rooftop cooling units.

14. Microbiological: **Suspected**

Avian wildlife was observed on the roof of the building (one bird at the time of the site survey). Minor amounts (less than one square metre) of avian fecal matter may be present throughout the roof area that may be a source of bacteriological contamination due to the health concern of mycotic organisms inhabiting avian fecal matter.

## 1.5 RECOMMENDATIONS

### 1. LEAD

1. Follow recommendations provided in the Ontario Ministry of Labour (MoL) Guideline entitled "Guideline: Lead on Construction Projects". This guideline classifies all lead disturbances as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, and assigns different levels of respiratory protection and work procedures for each classification.
2. Work procedures and personal protective equipment must be used to ensure that workers are not exposed to airborne lead levels that exceed the TWAEEL of 0.05 milligram per cubic metre (mg/m<sup>3</sup>) prescribed by O.Reg 490/09, as amended.
3. Even at low concentrations, there may be a potential for exposure to high concentrations of lead depending on the activities performed that disturb the lead-containing materials. At low lead concentrations, conducting a risk assessment to assess the potential for exposure is required to determine the need to follow precautionary measures.
4. Disposal of construction waste containing lead must be done in accordance with O.Reg 347/90 – General Waste Management, as amended, under the Ontario Environmental Protection Act and the federal Transportation of Dangerous Goods 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. Based upon analytical results, bulk leachate samples were determined to be non-hazardous for disposal with respect to lead.

### 2. SILICA

1. Comply with Ontario Regulations O.Reg 490/09 when performing works that may disturb silica-containing materials. The regulation provides requirements for allowable exposure levels.
2. Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is present in select materials within the project area, appropriate

respiratory protection and ventilation must be donned during the demolition and modifications of these structures.

3. Follow recommendations provided in the MoL Guideline entitled "Guideline: Silica on Construction Projects". This document classifies all silica disturbances 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. HALOCARBONS

The handling, transport and disposal of halocarbons is governed by the following:

- Ozone-depleting Substances Regulations, 1998, as amended;
- O.Reg 463/10, Ozone Depleting Substances and Other Halocarbons;
- O.Reg 238/01, Refrigerants; and
- Federal Halocarbon Regulations, 2003 (FHR).

When suspected halocarbon-containing equipment is taken out of service, the halocarbon refrigerants must be captured and reclaimed by a licensed technician. The presence of halocarbon refrigerants within unit's no longer in service should be verified. If halocarbon refrigerants are found to be present, they must be captured and reclaimed by a licensed technician. Appropriate records of equipment decommissioning must be maintained in accordance with requirements of the FHR.

### 4. MICROBIOLOGICAL

1. Due to the health concern of mycotic organisms inhabiting avian fecal matter, it is recommended that disturbance avian/animal fecal matter (where present) be performed following the appropriate work procedures given in the document Mould Guidelines for the Canadian Construction Industry CCA 82-2004 published by the Canadian Construction Association (CCA 82-2004). Disturbance shall avoid cross-contamination of unaffected areas. Disposal of waste should be performed in accordance with local, municipal, provincial, and/or federal jurisdictions having authority.

**END OF SECTION**

**CONSTRUCTION PROGRESS SCHEDULE - BAR CHART (GANTT)****Part 1 General****1.1 DEFINITIONS**

- .1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (GANTT Chart): graphic display of schedule related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.
- .6 Milestone: significant event in project, usually completion of major deliverable.
- .7 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

**1.2 REQUIREMENTS**

- .1 Ensure Detail Schedules are practical and remain within contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.

**1.3 SUBMITTALS**

- .1 Submit to Departmental Representative within 10 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.

**1.4 PROJECT MILESTONES**

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).

**CONSTRUCTION PROGRESS SCHEDULE - BAR CHART (GANTT)**

- .2 Departmental Representative will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

**1.5 PROJECT SCHEDULE**

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
  - .1 Award.
  - .2 Shop Drawings, Samples.
  - .3 Permits.
  - .4 Mobilization.
  - .5 Siding and Roofing / Sector.
    - .1 Demolition
    - .2 Repairs, temporary support, wood works, vapor barrier
    - .3 Roof reconstruction
    - .4 Roof metal flashing
  - .6 Structural Steel.
  - .7 Interior Architecture (Walls, Floors and Ceiling).
  - .8 Plumbing & Mechanical
    - .1 Equipment disconnection
    - .2 Equipment reinstallation
    - .3 Drainage
  - .9 Lighting & Electrical.
  - .10 Testing and Commissioning.
  - .11 Supplied equipment long delivery items.

**1.6 PROJECT SCHEDULE REPORTING**

- .1 Update Project Schedule on a two (2) week basis reflecting activity changes and completions, as well as activities in progress.

**1.7 PROJECT MEETINGS**

- .1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.
- .2 Weather related delays with their remedial measures will be discussed and negotiated.

**CONSTRUCTION PROGRESS SCHEDULE - BAR CHART (GANTT)****Part 2            Products****2.1                NOT USED**

.1        Not used.

**Part 3            Execution****3.1                NOT USED**

.1        Not used.

**END OF SECTION**

**SUBMITTAL PROCEDURES****Part 1 General****1.1 RELATED REQUIREMENTS**

- .1 Section 01 45 00 - Quality control.
- .2 Section 01 78 00 - Closeout submittals.

**1.2 ADMINISTRATIVE REQUIREMENTS**

- .1 Submit to Departmental Representative listed for review. Submit within two weeks and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to the Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify the Departmental Representative in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Keep one reviewed copy of each submission on site.

**1.3 SHOP DRAWINGS AND PRODUCT DATA**

- .1 Submit drawings stamped and signed by professional engineer registered or licensed in Canada, in the Province of Ontario.
- .2 Indicate in shop drawings materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

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- .3 Allow 15 working days for the Departmental Representative's review of each submission.
  - .4 Adjustments made on shop drawings by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative prior to proceeding with Work.
  - .5 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify the Departmental Representative in writing of revisions other than those requested.
  - .6 Accompany submissions with transmittal letter, in [duplicate], containing:
    - .1 Date.
    - .2 Project title and number.
    - .3 Contractor's name and address.
    - .4 Identification and quantity of each shop drawing, product data and sample.
    - .5 Other pertinent data.
  - .7 Submissions include:
    - .1 Date and revision dates.
    - .2 Project title and number.
    - .3 Name and address of:
      - .1 Subcontractor.
      - .2 Supplier.
      - .3 Manufacturer.
    - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
    - .5 Details of appropriate portions of Work as applicable:
      - .1 Fabrication.
      - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
      - .3 Setting or erection details.
      - .4 Capacities.
      - .5 Performance characteristics.
      - .6 Standards.
      - .7 Operating weight.
      - .8 Wiring diagrams.
      - .9 Single line and schematic diagrams.
      - .10 Relationship to adjacent work.
  - .8 After the Departmental Representative's review, distribute copies.

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- .9 Submit one (1) printed copy and one (1) electronic copy of shop drawings for each requirement requested in specification Sections and as the Departmental Representative may reasonably request.
  - .10 Submit one 1(electronic) copy of product data sheets or brochures for requirements requested in specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
  - .11 Submit one (1) electronic copy of test reports for requirements requested in specification Sections and as requested by the Departmental Representative.
    - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
    - .2 Testing must have been within (3) years of date of contract award for project.
  - .12 Submit one (1) electronic copy of certificates for requirements requested in specification Sections and as requested by the Departmental Representative.
    - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
    - .2 Certificates must be dated after award of project contract complete with project name.
  - .13 Submit one( 1) electronic copy of manufacturer's instructions for requirements requested in specification Sections and as requested by the Departmental Representative .
    - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
  - .14 Submit one (1) electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by the Departmental Representative.
  - .15 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
  - .16 Submit one (1) electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by the Departmental Representative.
  - .17 Delete information not applicable to project.
  - .18 Supplement standard information to provide details applicable to project.



**SUBMITTAL PROCEDURES**

- .19 If upon review by the Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, electronic copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

**1.4 SAMPLES**

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to the Departmental Representative's business address.
- .3 Notify the Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative before proceeding with Work.
- .6 Make changes in samples which the Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and approved samples will become standard of workmanship and material against which installed Work will be verified.

**1.5 MOCK-UPS**

- .1 Erect mock-ups in accordance with 01 45 00 - Quality Control.

**1.6 PHOTOGRAPHIC DOCUMENTATION**

- .1 Submit electronic and hard copy of colour digital photography in jpg format, fine resolution, monthly with progress statement.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Number of viewpoints: 2 locations.
- .1 Viewpoints and their location as determined by the Departmental Representative.
- .4 Frequency of photographic documentation: weekly or as directed by the Departmental Representative.

**SUBMITTAL PROCEDURES****1.7 CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Worker's Compensation Board status.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**HEALTH AND SAFETY REQUIREMENTS****Part 1 General****1.1 REFERENCES**

- .1 Province of Ontario
  - .1 Respecting Occupational Health and Safety Act and Regulation for Construction Project, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91, as amended, current edition.

**1.2 SUBMITTALS**

- .1 Make submittals in accordance with Section 01 33 00 – Submittals.
- .2 Submit two complete Site-Specific Health and Safety Plan in an indexed format, in a three ring binder (One for Construction site, one for Departmental Representative): Within 7 days after date of contract award 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 copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with 01 33 00 Submittals.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.
- .7 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

**1.3 FILING OF NOTICE**

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

**1.4 SAFETY ASSESSMENT**

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

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**HEALTH AND SAFETY REQUIREMENTS**

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Page 2 of 3

**1.5 MEETINGS**

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

**1.6 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.

**1.7 COMPLIANCE REQUIREMENTS**

- .1 Comply with the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.
- .2 Comply with Health & Safety Elements of CAN/CSA, Z462 most current edition.
- .3 Comply with CAN/CSA, Z460 most current edition.

**1.8 UNFORSEEN HAZARDS**

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

**1.9 POSTING OF DOCUMENTS**

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

**1.10 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.

**HEALTH AND SAFETY REQUIREMENTS****1.11 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**

**ENVIRONMENTAL PROCEDURES****Part 1 General****1.1 REFERENCES**

- .1 Definitions:
  - .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
  - .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- .2 Reference Standards:
  - .1 Canada Green Building Council (CaGBC)
    - .1 *LEED Canada-NC, 2009*, LEED (Leadership in Energy and Environmental Design) : Green Building Rating System Reference Package For New Construction and Major Renovations.
    - .2 Rating System for Existing Building, *LEED Canada BE:E&E 2009*.
  - .2 U.S. Environmental Protection Agency (EPA)/Office of Water
    - .1 EPA 832/R-92-005-92, Storm Water Management for Construction Activities, Chapter 3.

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prior to commencing construction activities or delivery of materials to site, provide Environmental Protection Plan for review and approval by Departmental Representative.
- .3 Ensure Environmental Protection Plan includes comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Include in Environmental Protection Plan:
  - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
  - .2 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Ensure plan includes measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.

**ENVIRONMENTAL PROCEDURES**

- .3 Spill Control Plan including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .4 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .5 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .6 Waste Water Management Plan identifying methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

**1.3 FIRES**

- .1 Fires and burning of rubbish on site are forbidden.

**1.4 DRAINAGE**

- .1 Proceed in accordance with the laws and regulations Federal, Provincial, Municipal laws and regulations and EPA 832/R-92-005, Chapter 3 requirements.

**1.5 POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.
  - .1 Provide temporary enclosures where indicated as directed by Departmental Representative.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

**1.6 NOTIFICATION**

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
  - .1 Do not take action until after receipt of written approval by Departmental Representative.

**ENVIRONMENTAL PROCEDURES**

- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Bury rubbish and waste materials on site after receipt of written approval from Departmental Representative.
- .4 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.

**END OF SECTION**



**REGULATORY REQUIREMENTS****Part 1 General****1.1 REFERENCES AND CODES**

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
  - .1 Contract documents.
  - .2 Specified standards, codes and referenced documents.

**1.2 HAZARDOUS MATERIAL DISCOVERY**

- .1 Asbestos: demolition of spray or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray or trowel-applied asbestos is encountered during demolition work. Notify Departmental Representative.
- .2 PCB: Polychlorinated Biphenyl: stop work immediately when material resembling Polychlorinated Biphenyl is encountered during demolition work. Notify Departmental Representative.
- .3 Mould: stop work immediately when material resembling mould is encountered during demolition work. Notify Departmental Representative.

**1.3 BUILDING SMOKING ENVIRONMENT**

- .1 Comply with smoking restrictions and municipal by-laws.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**QUALITY CONTROL****Part 1 General****1.1 INSPECTION**

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

**1.2 INDEPENDENT INSPECTION AGENCIES**

- .1 Independent Inspection/Testing Agencies may be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinspection.

**1.3 ACCESS TO WORK**

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

**QUALITY CONTROL****1.4 PROCEDURES**

- .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

**1.5 REJECTED WORK**

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.

**1.6 REPORTS**

- .1 Submit 4 copies of inspection and test reports to Departmental Representative. Inspection reports should include photos of job progress and execution details.
- .2 Provide copies to subcontractor of work being inspected or tested manufacturer or fabricator of material being inspected or tested.

**1.7 TESTS AND MIX DESIGNS**

- .1 Furnish test results and mix designs as requested.

**1.8 MOCK-UPS**

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups.
- .2 Construct in locations as specified in specific Section acceptable to Departmental Representative.
- .3 Prepare mock-ups for Departmental Representative review with reasonable promptness and in orderly sequence, to not cause delays in Work.

**QUALITY CONTROL**

Page 3 of 3

- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, Departmental Representative will assist in preparing schedule fixing dates for preparation.
- .6 Remove mock-up at conclusion of Work or when acceptable to Departmental Representative.
- .7 Mock-ups may remain as part of Work.
- .8 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

**1.9 MILL TESTS**

- .1 Submit mill test certificates as required of specification Sections.

**1.10 EQUIPMENT AND SYSTEMS**

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**TEMPORARY UTILITIES****Part 1 General****1.1 INSTALLATION AND REMOVAL**

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

**1.2 DEWATERING**

- .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

**1.3 WATER SUPPLY**

- .1 Provide continuous supply of potable water for construction use.
- .2 Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal.

**1.4 TEMPORARY HEATING AND VENTILATION**

- .1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.
- .2 Construction heaters used inside building must be vented to outside or be flameless type. Solid fuel salamanders are not permitted.
- .3 Provide temporary heat and ventilation in enclosed areas as required to:
  - .1 Facilitate progress of Work.
  - .2 Protect Work and products against dampness and cold.
  - .3 Prevent moisture condensation on surfaces.
  - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
  - .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .4 Maintain temperatures of minimum 10 degrees C in areas where construction is in progress.
- .5 Ventilating:
  - .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
  - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
  - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
  - .4 Ventilate storage spaces containing hazardous or volatile materials.

**TEMPORARY UTILITIES**

Page 2 of 3

- .5 Ventilate temporary sanitary facilities.
- .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .6 Permanent heating system of building, not to be used unless authorized in writing by Departmental Representative. Be responsible for damage to heating system if use is permitted.
- .7 On completion of Work for which permanent heating system is used, replace filters. Then verify and clean all electrical heating appliances.
- .8 Ensure Date of Substantial Performance and Warranties for heating system do not commence until entire system is in as near original condition as possible and is certified by Departmental Representative.
- .9 Departmental Representative will pay utility charges when temporary heat source is existing building equipment.
- .10 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
  - .1 Conform to applicable codes and standards.
  - .2 Enforce safe practices.
  - .3 Prevent abuse of services.
  - .4 Prevent damage to finishes.
  - .5 Vent direct-fired combustion units to outside.

**1.5 TEMPORARY POWER AND LIGHT**

- .1 Provide and pay for temporary power during construction for temporary lighting and operating of power tools, to a maximum supply of 600 volts.
- .2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- .3 Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Contractor.
- .4 Provide power supply for construction use and assume costs Connect to existing power supply in accordance with Canadian Electrical Code and provide meters and switching.
- .5 Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of Departmental Representative provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps which have been used for more than 3 months.

**TEMPORARY UTILITIES**Page 3 of 3

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**1.6 COMMUNICATION FACILITIES**

- .1 Provide and pay for temporary telephone, fax, data, hook up, lines and equipment necessary for own use and use of Departmental Representative

**1.7 FIRE PROTECTION**

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

**END OF SECTION**

**CONSTRUCTION FACILITIES****Part 1 General****1.1 RELATED SECTIONS**

- .1 Section 01 51 00 - Temporary utilities
- .2 Section 01 56 00 - Temporary barriers and enclosures

**1.2 REFERENCES**

- .1 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB 1.189-84, Exterior Alkyd Primer for Wood.
  - .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .2 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1/A23.2-94, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
  - .2 CSA-0121-M1978(R2003), Douglas fir Plywood.
  - .3 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.

**1.3 SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Scaffolding shop drawings:
  - .1 Provide complete scaffolding shop drawings of all building scaffolding indicating components and connectors, platforms, load capacity, attachment to existing building and imposed loads on existing structure.
  - .2 Shop drawings to bear seal of professional engineer licensed to practice in the province of Ontario, Canada.
- .3 Roof staging and work plan:
  - .1 Submit drawings demonstrating maximum imposed loads, work areas, loading areas, storage areas and staging areas for work to be performed on and adjacent to existing roofs. All roof activities must not exceed standard snow load capacity of 2.4 kPa.
- .4 Site layout plan:
  - .1 Submit site layout plan indicating all items as indicated in paragraph 1.2 and 1.3 of this Section.

**1.4 INSTALLATION AND REMOVAL**

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation, scaffolding, storage areas and location of waste and recycling bins.



**CONSTRUCTION FACILITIES**

- .2 Provide construction facilities in order to execute work expeditiously.
- .3 Remove from site all such work after use.

**1.5 SCAFFOLDING**

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs necessary for the execution of the works, and ensure maintenance.
- .3 Installation and use of scaffolding must not permanently or visibly impact existing building and finishes to remain.
- .4 Do not exceed structural capacity of existing building components.
- .5 Provide personnel access from grade to roof areas as main access to the work.

**1.6 HOISTING**

- .1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment.
- .2 Hoists and cranes to be operated by qualified operator.

**1.7 SITE STORAGE/LOADING**

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

**1.8 CONSTRUCTION SITE PARKING**

- .1 Parking will be permitted on site provided it does not disrupt performance of Work and existing roads.
- .2 Provide and maintain adequate access to project site.
- .3 Do not restrict any access lanes and fire routes on property.
- .4 It is permitted to use existing roads to have access to the site, ensure maintenance of these roads during the whole duration of the works, and repair damages that may be occur.
- .5 Clean runways and circulation areas where used by Contractor's equipment.

**1.9 OFFICES**

- .1 For Contractor's use:

**CONSTRUCTION FACILITIES**

- .1 Provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing lay down table.
- .2 Provide marked and fully stocked first aid case in a readily available location.

**1.10 EQUIPMENT, TOOL AND MATERIALS STORAGE**

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

**1.11 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 Use of building sanitary facilities is not permitted.

**1.12 CONSTRUCTION SIGNAGE**

- .1 No other signs or advertisements, other than warning signs, are permitted on site.
- .2 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSA-Z321.
- .3 Maintain approved signs and notices in good condition for duration of project, and dispose off site on completion of project or earlier if directed by Departmental Representative.

**1.13 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**CONSTRUCTION FACILITIES**

**Part 3       Execution**

**3.1       NOT USED**

.1       Not Used.

**END OF SECTION**

**COMMON PRODUCT REQUIREMENTS****Part 1 General****1.1 REFERENCES**

- .1 Conform to standard indicated in the specifications.

**1.2 QUALITY**

- .1 Refer to Section 01 45 00 – Quality control.

**1.3 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 when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

**1.4 TRANSPORTATION**

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by Departmental Representative will be paid for by Departmental Representative. Unload, handle and store such products.

**COMMON PRODUCT REQUIREMENTS****1.5 MANUFACTURER'S INSTRUCTIONS**

- .1 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.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.

**1.6 QUALITY OF WORK**

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative whose decision is final.

**1.7 CO-ORDINATION**

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

**1.8 CONCEALMENT OF ELEMENTS**

- .1 In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation inform Departmental Representative if there is interference. Install as directed by Departmental Representative

**1.9 REMEDIAL WORK**

- .1 Refer to section 01 73 00 - Execution of Works.
- .2 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .3 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

**COMMON PRODUCT REQUIREMENTS****1.10 LOCATION OF FIXTURES**

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

**1.11 FASTENINGS-GENERAL**

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

**1.12 FASTENINGS - EQUIPMENT**

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi fine quality unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

**1.13 PROTECTION OF WORK IN PROGRESS**

- .1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

**1.14 EXISTING UTILITIES**

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants and pedestrian and vehicular traffic.

**COMMON PRODUCT REQUIREMENTS**

- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**EXECUTION OF WORK****Part 1 General****1.1 SUBMITTALS**

- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit written request in advance of cutting or alteration which affects:
  - .1 Structural integrity of elements of project.
  - .2 Integrity of weather-exposed or moisture-resistant elements.
  - .3 Efficiency, maintenance, or safety of operational elements.
  - .4 Visual qualities of sight-exposed elements.
  - .5 Work of Departmental representative or separate contractor.
- .3 Include in request:
  - .1 Identification of project.
  - .2 Location and description of affected Work.
  - .3 Statement on necessity for cutting or alteration.
  - .4 Description of proposed Work, and products to be used.
  - .5 Alternatives to cutting and patching.
  - .6 Effect on Work of Departmental representative or separate contractor.
  - .7 Written permission of affected separate contractor.
  - .8 Date and time work will be executed.

**1.2 MATERIALS**

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

**1.3 PREPARATION**

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

**1.4 EXECUTION**

- .1 Execute cutting, fitting, and patching, including excavation and fill, to complete Work.



**EXECUTION OF WORK**

Page 2 of 2

- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Remove samples of installed Work for testing unless indicated otherwise.
- .6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .7 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .8 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .9 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .10 Restore work with new products in accordance with requirements of Contract Documents.
- .11 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .12 At penetration of fire separation wall, ceiling, or floor construction, completely seal voids with firestopping material in accordance with Section 07 84 00 – Firestopping full thickness of the construction element.
- .13 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.
- .14 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**CLEANING****PART 1 - GENERAL****1.1 Project cleanliness**

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Remove debris and waste materials from the site at regularly scheduled times or dispose of as directed by Departmental Representative.
- .3 Clear snow and ice from access to building. Bank/pile snow only in areas designated by Departmental Representative.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Provide and use marked separate bins for recycling.
- .7 Remove debris and waste materials from the site, and place them in waste containers at the end of each shift.
- .8 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**1.2 Final cleaning**

- .1 When Work is Substantially Performed remove surplus materials, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste materials and debris except for those generated by other contractors and leave the premises clean and ready for occupancy.
- .3 Prior to final inspection, remove surplus materials, tools and construction equipment.
- .4 Remove waste materials and debris other than those generated by other contractors.
- .5 Dispose of waste material off site at predetermined times or dispose of as directed by Departmental Representative. Waste materials should not be burnt on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

**CLEANING**

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- .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .8 Remove dust, stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, floors and doors.
- .9 Clean lighting reflectors, lenses, and other lighting surfaces.
- .10 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .11 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
- .12 Inspect finishes, fitments and equipment and ensure that they fulfil the prescribed operational and performance quality requirements.
- .13 Remove dirt and other disfiguration from exterior surfaces.
- .14 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .15 Carefully clean equipment and fixtures, and clean mechanical equipment filters.
- .16 Clean roof surfaces, down-spouts, drains and drainage components.
- .17 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .18 Remove snow and ice from access to building.

**END OF SECTION**

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL****Part 1 General****1.1 WASTE MANAGEMENT GOALS**

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and confirm Departmental Representative's Waste Management Plan and Goals.
- .2 Departmental Representative's Waste Management Goal 75 percent of total Project Waste to be diverted from landfill sites. Provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3 Accomplish maximum control of solid construction waste.
- .4 Preserve environment and prevent pollution and environment damage.

**1.2 DEFINITIONS**

- .1 Class III: non-hazardous waste - construction renovation and demolition waste.
- .2 Demolition Waste Audit (DWA): relates to actual waste generated from project.
- .3 Inert Fill: inert waste - exclusively asphalt and concrete.
- .4 Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .5 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .6 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .7 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .8 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2 Returning reusable items including pallets or unused products to vendors.
- .9 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .10 Separate Condition: refers to waste sorted into individual types.
- .11 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

- .12 Waste Audit (WA): detailed inventory of materials in building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill. Refer to Schedule A.
- .13 Waste Management Co-ordinator (WMC) : contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
- .14 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is based on information acquired from WA (Schedule A).

**1.3 DOCUMENTS**

- .1 Maintain at job site, one copy of following documents:
  - .1 Waste Audit.
  - .2 Waste Reduction Workplan.
  - .3 Material Source Separation Plan.
  - .4 Schedules A, B, C completed for project.

**1.4 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare and submit following prior to project start-up:
  - .1 Submit 2 copies of completed Waste Audit (WA): Schedule A.
  - .2 Submit 2 copies of completed Waste Reduction Workplan (WRW): Schedule B.
  - .3 Submit 2 copies of completed Demolition Waste Audit (DWA): Schedule C.
  - .4 Submit 2 copies of Materials Source Separation Program (MSSP) description.
- .3 Submit before final payment summary of waste materials salvaged for reuse, recycling or disposal by project using deconstruction/disassembly material audit form.
  - .1 Failure to submit could result in hold back of final payment.
  - .2 Provide receipts, scale tickets, waybills, and show quantities and types of materials reused, recycled, co-mingled and separated off-site or disposed of.
  - .3 For each material reused, sold or recycled from project, include amount in tonnes and the destination.
  - .4 For each material land filled or incinerated from project, include amount in tonnes of material and identity of landfill, incinerator or transfer station.

**1.5 WASTE AUDIT (WA)**

- .1 Conduct WA prior to project start-up.

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

- .2 Prepare WA: Schedule A.
- .3 Record, on WA - Schedule A, extent to which materials or products used consist of recycled or reused materials or products.

**1.6 WASTE REDUCTION WORKPLAN (WRW)**

- .1 Prepare WRW prior to project start-up.
- .2 WRW should include but not limited to:
  - .1 Destination of materials listed.
  - .2 Deconstruction/disassembly techniques and sequencing.
  - .3 Schedule for deconstruction/disassembly.
  - .4 Location.
  - .5 Security.
  - .6 Protection.
  - .7 Clear labelling of storage areas.
  - .8 Details on materials handling and removal procedures.
  - .9 Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.
- .3 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .4 Describe management of waste.
- .5 Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.
- .6 Post WRW or summary where workers at site are able to review content.
- .7 Set realistic goals for waste reduction, recognize existing barriers and develop strategies to overcome these barriers.
- .8 Monitor and report on waste reduction by documenting total volume and cost of actual waste removed from project.

**1.7 DEMOLITION WASTE AUDIT (DWA)**

- .1 Prepare DWA prior to project start-up.
- .2 Complete DWA: Schedule C.
- .3 Provide inventory of quantities of materials to be salvaged for reuse, recycling, or disposal.

**1.8 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)**

- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by Departmental Representative.

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .4 Provide containers to deposit reusable and recyclable materials.
- .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated materials in areas which minimize material damage.
- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
  - .1 Transport to approved and authorized recycling facility.
- .8 Collect, handle, store on-site, and transport off-site, salvaged materials in combined condition.
  - .1 Ship materials to site operating under Certificate of Approval.
  - .2 Materials must be immediately separated into required categories for reuse or recycling.

**1.9 STORAGE, HANDLING AND PROTECTION**

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed for demolition from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
- .7 Protect surface drainage, mechanical and electrical from damage and blockage.
- .8 Separate and store materials produced during dismantling of structures in designated areas.
- .9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
  - .1 On-site source separation is recommended.
  - .2 Remove co-mingled materials to off-site processing facility for separation.
  - .3 Provide waybills for separated materials.

**1.10 DISPOSAL OF WASTES**

- .1 Do not bury rubbish or waste materials.

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

- .2 Do not dispose of waste volatile materials mineral spirits oil paint thinner into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
  - .1 Number and size of bins.
  - .2 Waste type of each bin.
  - .3 Total tonnage generated.
  - .4 Tonnage reused or recycled.
  - .5 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

**1.11 USE OF SITE AND FACILITIES**

- .1 Execute work with least possible interference or disturbance to normal use of premises.

**1.12 SCHEDULING**

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 SELECTIVE DEMOLITION**

- .1 Do not demolish building elements beyond what is indicated on Drawings without approval by Departmental Representative's.

**3.2 APPLICATION**

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

**3.3 CLEANING**

- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.



**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused/recycled into specified sort areas.

**3.4 DIVERSION OF MATERIALS**

- .1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Departmental Representative and consistent with applicable fire regulations.
  - .1 Mark containers or stockpile areas.
  - .2 Provide instruction on disposal practices.
- .2 On-site sale of salvaged recovered reusable recyclable materials is not permitted.
- .3 Demolition Waste:

Material Type	Recommended Diversion %	Actual Diversion %
Acoustic Tile	50	
Acoustical Insulation	100	
Carpet	100	
De-mountable Partitions	80	
Doors and Frames	100	
Electrical Equipment	80	
Furnishings	80	
Marble Base	100	
Mechanical Equipment	100	
Metals	100	
Rubble	100	
Wood (uncontaminated)	100	
Other		

- .4 Construction Waste:

Material Type	Recommended Diversion %	Actual Diversion %
Cardboard	100	
Plastic Packaging	100	
Rubble	100	
Steel	100	
Wood (uncontaminated)	100	
Other		

**3.5 WASTE AUDIT (WA)**

- .1 Schedule A - Waste Audit (WA):

(1) Material Category	(2) Material Quantity Unit	(3) Estimated Waste %	(4) Total Quantity of Waste (unit)	(5) Generation Point	(6) % Recycled	(7) % Reused
Wood and						

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

Plastics Material Description						
Off-cuts						
Warped Pallet Forms						
Plastic Packaging						
Cardboard Packaging						
Other						
Doors and Windows Material Description						
Painted Frames						
Glass						
Wood						
Metal						
Other						

**3.6 WASTE REDUCTION WORKPLAN (WRW)****.1 Schedule B:**

(1) Material Category	(2) Person(s) Respon- sible	(3) Total Quantity of Waste (unit)	(4) Reused Amount (units) Projected	Actual	(5) Recycled Amount (unit) Projected	Actual	(6) Material(s) Destina- tion
Wood and Plastics Material Description							
Chutes							
Warped Pallet Forms							
Plastic Packag ing							
Card- board Packag ing							
Other							

**CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL**

Doors and Windows Material Description							
Painted Frames							
Glass							
Wood							
Metal							
Other							

**3.7 DEMOLITION WASTE AUDIT (DWA)****.1 Schedule C - Demolition Waste Audit (DWA):**

(1) Material Description	(2) Quantity	(3) Unit	(4) Total	(5) Volume (cum)	(6) Weight (cum)	(7) Remarks and Assumptions
Wood						
Wood Stud						
Plywood						
Baseboard- Wood						
Door Trim - Wood						
Cabinet						
Doors and Windows						
Panel Regular						
Slab Regular						
Wood Laminate						
Byfold - Closet						
Glazing						

**END OF SECTION**

**CLOSEOUT SUBMITTALS****PART 1 - GENERAL****1.1 Priority**

- .1 For Federal Government projects, Division 1 sections take precedence over technical specification sections in other divisions of the Project Specifications.

**1.2 Related Requirements****1.3 Submittals**

- .1 Prepare instructions using personnel experienced in maintenance and operation of described products;
- .2 Copies will be returned after the final inspection, with the Departmental Representative's comments;
- .3 Revise the content of documents as required prior to final submittal;
- .4 Two weeks prior to Substantial Completion of the Work, submit to Departmental Representative three (3) final hard copies and (1) one copy in PDF format of the operation and maintenance manuals
- .5 Replacement equipment/materials, special tools and replacement parts provided must be new, without defect and of the same manufacturing quality as those products used to perform the work;
- .6 Upon request, provide documents confirming the type, source of supply and quality of products supplied;
- .7 Pay the transportation costs for these products.
- .8 When existing equipment is dismantled or replaced, the existing blue lamicoid plates on the equipment must be returned to Departmental Representative.

**1.4 Presentation**

- .1 Organize data as an instructional manual;
- .2 Binders: vinyl, hard covered, 3 "D" ring, loose leaf 219 x 279 mm with spine and pockets;
- .3 When multiple binders are required, correlate data into related consistent groupings. Identify the contents of each binder on the spine;
- .4 Cover: identify each binder with typed or printed title "Building Management Manual"; list the Project title of the and identify subject matter of contents;
- .5 Arrange the contents by systems, under section numbers and sequence of table of contents; that will be provided by the Commissioning representative.
- .6 Provide drawing with reinforced punched binder tabs. Bind in with the text; fold larger drawings to the size of text pages.
- .7 Data sheets: Mark each sheet to clearly identify specific products and parts as well as data application to installation; delete non necessary information.
- .8 Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

**CLOSEOUT SUBMITTALS**

- .9 As required, to supplement product data, provide logical sequence typewritten instructions for each procedure, incorporating manufacturer's instructions.

**1.5 Documents and samples to place in the Project Record**

- .1 Maintain, in addition to the requirements in General Conditions, at site for the Departmental Representative one record copy of:
  - .1 Contract Drawings;
  - .2 Specifications;
  - .3 Addenda;
  - .4 Change orders and other modifications to Contract;
  - .5 Reviewed shop drawings, product data and samples;
  - .6 Field test records;
  - .7 Inspection certificates;
  - .8 Manufacturer certificates;
  - .9 Warranties.
- .2 Store record documents and samples in the field office apart from documents used for construction. Provide files, racks and secure storage.
- .3 Label record documents and file in accordance with section number listings in the list of contents of this project record.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by the Departmental Representative.

**1.6 Recording actual site conditions**

- .1 Record information on two (2) sets of opaque drawings and keep one copy in project record.
- .2 Record information using red felt-tip pens.
- .3 Record information concurrently with construction progress. Do not conceal the Work until the required information is recorded.
- .4 Contract drawings and shop drawings: mark each item to record actual construction, including:
  - .1 Field changes of dimension and detail;
  - .2 Changes made by change orders;
  - .3 Details not on original contract drawings;
  - .4 References to related shop drawings and modifications.
  - .5 Pipes invert level recorded to geodetic datum at all manholes and catch basins

**1.7 Materials and finishes**

- .1 Construction materials, finishes, and other applied materials: provide product data sheets showing the catalogue number, dimensions, composition and colour and texture designations for products and materials. Provide information required to re-order custom manufactured products.
- .2 Provide instructions regarding cleaning agents and methods as well as recommended cleaning and maintenance schedules, and indicate any

**CLOSEOUT SUBMITTALS**

precautions to be taken against harmful methods or products.

- .3 Additional requirements: according to the provisions of the various technical sections of the specifications.
- .4 Cooperate with Departmental Representative to set out a work schedule so as to minimize conflicts and facilitate use of the premises by Users.

**1.8 Special tools**

- .1 Supply special tools in the quantities prescribed in the different technical sections of the Specifications.
- .2 Tools must bear a tag indicating their associated function and equipment.
- .3 Deliver and store special tools in the location indicated by the Departmental Representative.
- .4 Receive and identify special tools and submit inventory listing to the Departmental Representative. Insert the approved list in the maintenance manual.

**1.9 Storage, Handling and Protection**

- .1 Store materials and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and to satisfaction of the Departmental Representative.

**1.10 Warranties and bonds**

- .1 Warranties shall be worded as follows: Her Majesty the Queen in Right of Canada.
- .2 Separate warranties with index tab sheets keyed to the Table of Contents listing. All warranties must be in operation and maintenance manuals.
- .3 Except for items put into use with the Departmental Representative's permission, do not modify the warranty effective date until the date of Substantial Completion is determined.
- .4 Verify that documents are in proper form and contain all necessary information.

**END OF SECTION**