

## 1. MINIMUM STANDARDS

- .1 Materials shall be new unless identified otherwise and work shall conform to the minimum applicable standards of the Canadian General Standards Board, the Canadian Standards Association, the National Building Code (NBC), the Ontario Building Code and all applicable Provincial and Municipal codes including all amendments up to tender closing date and other codes of provincial or local application. In the case of conflict or discrepancy the most stringent requirement shall apply. Meet or exceed requirements of:
  - .1 Contract documents.
  - .2 Specified standards, codes and referenced documents.

## 2. TAXES

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

## 3. 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.

## 4. FIRE SAFETY REQUIREMENTS

- .1 Comply with the National and Ontario Building Codes for fire safety in construction and the National Fire Code of Canada (NFC) for fire prevention, firefighting and life safety in building in use.
- .2 Welding and cutting:
  - .1 Before welding, soldering, grinding and/or cutting work, obtain a permit from the Fire Prevention Unit as directed by the Departmental Representative. Store flammable liquids in approved CSA containers inspected by the Fire Prevention Unit. No open flame shall be used unless authorized by the Fire Prevention Unit.
  - .2 At least 48 hours prior to commencing cutting, welding or soldering procedure, provide to Client:
    - .1 Notice of intent, indicating devices affected, time and duration of isolation or bypass.
    - .2 Completed welding permit as defined in FCC 302.
    - .3 Return welding permit to Departmental Representative immediately upon completion of procedures for which permit was issued.
  - .3 A fire watcher as described in FCC 302 shall be assigned when welding or cutting 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 FCC 301; 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 or as approved by FCC, 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 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.

## 5. HEALTH AND SAFETY REQUIREMENTS

### .1 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 An Act Respecting Occupational Health and Safety Act, R.S.O. 1990, c. O.1

### .2 HEALTH AND SAFETY SUBMITTALS

- .1 Submit site-specific Health and Safety Plan: Within three (3) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety
- .2 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.
- .3 Submit three (3) copies of Contractor's authorized representative's work site health and safety inspection reports to Client 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 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within two (2) days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative.
- .7 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

### .3 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 Client Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

#### **.4 RESPONSIBILITY**

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .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.

#### **.5 COMPLIANCE REQUIREMENTS**

- .1 Comply with Occupational Health and Safety Act, Industrial and Commercial Establishments Regulations, R.R.Q.

#### **.6 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 Territory having jurisdiction and advise Client Representative verbally and in writing.

#### **.7 HEALTH AND SAFETY COORDINATOR**

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:
  - .1 Have site-related working experience specific to activities associated with (construction/demolition).
  - .2 Have working knowledge of occupational safety and health regulations.
  - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
  - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
  - .5 Submit two copies of WHMIS MSDS for all specified products and materials.

### **6. SCHEDULING**

- .1 **Schedule:** Five (5) days following Award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. Departmental Representative will review and return comments within five (5) days. Take necessary measures to complete work within scheduled time. Do not change construction schedule without notifying Departmental Representative.
- .2 For work that is indicated as work under separate contracts, this means:
  - .1 Work will be done by contractors retained under separate contract;

- .2 The Contractor will provide the appropriate window/time duration indicated on Sequencing Diagram, for the other contractors to complete their work.
- .3 The Contractor may advance his work, upon approval of the Departmental Representative, to the extent that it does not impact contracted work of others.
- .3 **Working Hours:**
  - .1 Work will be permitted only during the following times:
  - .2 During the week: Monday to Friday between 18:00 and 06:00.
  - .3 On Weekends: Friday 18:00 to Monday 06:00, and statutory holidays

## 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.

## 8. TEMPORARY UTILITIES

- .1 Existing services required for the work, may be used by the Contractor without charge. Ensure capacity is adequate prior to imposing additional loads. Connect and disconnect at own expense and responsibility.
- .2 Notify the Departmental Representative and utility companies of intended interruption of services, obtain requisite permission.
- .3 Give the Departmental Representative forty-eight (48) hours' notice related to each necessary interruption of any mechanical or electrical service throughout the course of the work. Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends.

## 9. REMOVED MATERIALS

- .1 Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from site.
- .2 Materials identified to be removed, salvaged and/or recovered and reinstalled or reused are to be cleaned, inspected, maintained and are to be securely stored on site as approved by Departmental Representative.

## 10. ACTION AND INFORMATION SUBMITTALS

- .1 **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.

**.2 SHOP DRAWINGS**

- .1 Submit for the Client Representative's review, one (1) electronic copy of each shop drawing in Portable Document Format (PDF) format and a full list of shop drawings schedule to be submitted.
- .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 Provide product data for new all items shown on shop drawings.
- .4 Do not commence manufacture or order materials before shop drawings are reviewed.
- .5 Contractor to clearly indicate which product options are selected on shop drawings, e.g.: function, finish, power supply options.

**.3 PRODUCT DATA**

- .1 Product data: manufacturers catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products.
- .2 Submit electronic PDF copies of product data.
- .3 Delete information not applicable to project.
- .4 Cross-reference product data information to applicable portions of Contract Documents.

**11. QUALITY**

- .1 Product Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout project.
- .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

**12. PROTECTION**

- .1 Protect finished work against damage until take-over.
  - .2 Protect adjacent work against the spread of dust and dirt beyond the work areas.
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- .3 Protect operatives and other users of site from all hazards.
- .4 Protect all existing equipment, fixtures, finishes, etc. that are to remain against any and all damage until take over. Repair and clean any damaged or soiled existing equipment, fixtures, finishes, etc.
- .5 Protect all existing duct sensitive sensors (smoke detectors) from construction-generated dust. If smoke detectors require to be by-passed, dust generating work shall be carried out after hours.
- .6 All dust generating work preparatory work, i.e.: pipe/conduit, cutting, threading, etc., must be carried out outside of air handling plenum. Only assembly of materials is permitted in plenum area.
- .7 Provide filter media on all return air openings from each floor for the duration of the project. Replace the filter media on a regular weekly schedule. The schedule shall continue until the end of construction in each Tower, at which point all temporary filters shall be removed.
- .8 Provide temporary plywood hoarding, dust screens, covers, railings, supports and other protection as required.

### 13. USE OF SITE AND FACILITIES

- .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.
- .2 Maintain existing services to building for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Sanitary facilities will be assigned for Contractor's personnel. Others shall not be used. Keep facilities clean.
- .5 The Departmental Representative will turn over rooms, spaces, and floors, including mechanical and electrical rooms to the contractor in accordance. The Departmental Representative will restrict access to building equipment, controls, and services. Access to be negotiated one (1) week in advance.
- .6 The Departmental Representative will schedule use of elevators, elevator lobbies, loading docks, and travel routes to loading docks. The Contractor must submit a request for access forty-eight (48) hours in advance for specified periods of time. Where approved for use, protect at all times from damage, safety hazards and overloading of existing equipment and exceeding operating requirements.
- .7 When the Contractor requires access through rooms including, spaces, or floors occupied by others, arrangements must be planned at the weekly Site Meeting.

### 14. SITE STORAGE

- .1 The Departmental Representative will assign storage space which shall be equipped and maintained by the Contractor.
  - .2 Do not unreasonably encumber site with materials or equipment.
  - .3 Move stored products or equipment which interferes with operations of Departmental Representative or other contractors.
  - .4 Obtain and pay for use of additional storage or work areas needed for operations.
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## 15. CUT, PATCH AND MAKE GOOD

- .1 Cut existing surfaces and penetrations as required accommodating new work.
- .2 Remove all items as shown or specified.
- .3 Patch and make good surfaces cut, damaged or disturbed, to Departmental Representative's approval. Match existing assembly, material, colour, finish and texture.
- .4 Perform scanning of existing concrete floor slabs for all areas to be subjected to cutting and/or coring. Submit copies of scanning reports/results to Departmental Representative.
- .5 Fit work airtight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.
- .6 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.
- .7 Install fire stops and smoke seals in accordance with ULC-S115-1995 around pipe, ductwork, cables, and other objects penetrating fire separations to provide fire resistance not less than the fire resistance rating of surrounding floor, ceiling, and wall assembly. Fill in all openings resulting from removals with firestop and smoke seals in accordance with ULC-S115-1995.

## 16. SLEEVES, HANGERS AND INSERTS

- .1 Coordinate setting and packing of sleeves and supply and installation of hangers and inserts. Obtain Departmental Representative's approval before cutting into structure

## 17. EXAMINATION

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.
- .2 Dimensions of all existing building elements are for information only and must be verified on site. Contractor is responsible to verify all dimensions and report any discrepancies to the Departmental Representative.
- .3 Before starting the work on the site, submit a list and a photographic report of existing conditions with respect to work areas and indicate any observable previous damage to buildings or elements of buildings, etc. Provide 48 hours advance notice to the Departmental Representative before starting this inspection.
- .4 This report and list will be presented to the Departmental Representative for confirmation and acceptance.

## 18. PROJECT MEETINGS

- .1 Departmental Representative will arrange the project meetings as required and assume responsibility for setting times and recording and distributing minutes. The contractor's key personnel and subtrade key personnel will attend these meeting as noted.

## 19. ACCESS AND EGRESS

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, re-routing of operations and client deliveries etc., 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
- .3 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.

## 20. SCAFFOLDS AND WORK PLATFORMS

- .1 Design, install, and inspect scaffolds and work platforms required for work in accordance with relevant municipal, provincial and other regulations.
- .2 Provide design drawings, signed and sealed by qualified Professional Engineer licensed in the province of Ontario, where prescribed.
- .3 Additions or modifications to scaffolding must be approved by Professional Engineer in writing.

## 21. PUBLIC WAY PROTECTION

- .1 Design, erect and maintain hoarding and pedestrian walkways to support all loads including and provide protection, complete with signs and electrical lighting as required by authority having jurisdiction.

## 22. SIGNS

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

## 23. WASTE MANAGEMENT

- .1 Comply with the Ontario Environmental Protection Act, R.S.O. 1990, c. E.19, for waste management program on construction and demolition projects.
  - .2 Conduct "waste audit" to determine waste generated during demolition or construction operations, prepare written "waste reduction work plan" and implement procedures to reduce, reuse and recycle materials to the extent possible.
  - .3 Provide a "source separation program" to disassemble and collect in an orderly fashion the following "materials designated for alternative disposal" from the "general waste" stream.
    - .1 Cardboard (corrugated)
    - .2 Steel
    - .3 wood (not including treated or laminated wood)
  - .4 Submit complete records of all removals from site for both "materials designated for alternative disposal" and "general waste" including:
    - .1 Time and date of removal
    - .2 Description of material and quantities.
    - .3 Proof that materials have been received at an Approved Waste Processing Site or certified Waste Disposal Site as required.
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## 24. CLOSEOUT SUBMITTALS

- .1 Two (2) weeks prior to any scheduled training, submit to Departmental Representative six (6) copies of approved Operations Data and Maintenance Manual in both official languages, compiled as follows:
    - .1 Bind data in vinyl hard cover 3 "D" ring type loose leaf binders for 212 x 275 mm size paper. Binders must not exceed 75 mm thick or be more than 2/3 full.
    - .2 Enclose title sheet labelled "Operation Data and Maintenance Manual," project name, date and list of contents. Project name must appear on binder face and spine.
    - .3 Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
  - .2 Include following information plus data specified.
    - .1 Maintenance instruction for finished surface and materials.
    - .2 Copy of hardware and paint schedules.
    - .3 Description: Operation of the equipment and systems defining start-up, shut-down and emergency procedures, and any fixed or adjustable set points that affect the efficiency of the operation. Include nameplate information such as make, size, capacity and serial number.
    - .4 Maintenance: Use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:
      - .1 lubrication products and schedules.
      - .2 trouble shooting procedures.
      - .3 adjustment techniques.
      - .4 operational checks.
      - .5 Suppliers names, addresses and telephone numbers and components supplied by them must be included in this section. Components must be identified by a description and manufacturers part number.
  - .5 Guarantees showing:
    - .1 Name and address of projects.
    - .2 Guarantee commencement date (date of Interim Certificate of Completion).
    - .3 Duration of guarantee.
    - .4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.
    - .5 Signature and seal of Guarantor.
  - .6 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.
  - .3 Spare parts: List all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate to unique application. All parts/tools detailed must be identified as to manufacturer, manufacturer part number and supplier (including address).
  - .4 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.
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## 25. RECORDS

- .1 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. The Departmental Representative will provide two sets of clean white prints for this purpose.

## 26. GUARANTEES AND WARRANTIES

- .1 Before completion of work collect all manufacturer's guarantees and warranties and deposit with Departmental Representative.

## 27. BUILDING SMOKING ENVIRONMENT

- .1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.

## 28. DUST CONTROL

- .1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of work and public.
- .2 Maintain and relocate protection until such work is complete.
- .3 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.
- .4 Protect all occupied, operating finished areas and equipment from dust.

## 29. CLEANING

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

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Clean and polish glass, walls, stainless steel, ceiling, laminate and mechanical and electrical fixtures. Replace broken, scratched or damaged finishes.
- .5 Remove stains, spots, marks and dirt from electrical and mechanical fixtures, walls, floors, ceiling and new finishes.
- .6 Vacuum clean and dust Work area, behind grilles, louvres and screens.

### 31. HAZARDOUS MATERIAL DISCOVERY

- .1 Asbestos: Demolition of spray or trowel-applied asbestos is hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered in course of demolition work, immediately stop work and notify Departmental Representative.

END OF SECTION

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