



21 March 2016  
Version 2.0

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## 2016 REVISIONS

**PLEASE NOTE:** It is the responsibility of each General Contractor, Trade Contractor, Manufacturer and Supplier, to review each of the respective trade definition scopes, as revisions have been made throughout the document that may or may not be different from previous versions.

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**21 March 2016**

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## Introduction

The following trade definitions were developed and refined with the assistance of the appropriate trade associations and trade contractors in an attempt to establish a set of guidelines for trades to use when tendering a project. The definitions herein are intended to supplement the specifications by providing the contractor a complete list of Included and exclusions pertaining to the work scope being tendered.

These definitions do not add work items nor exclude them from a prime contract, but where work under each scope is included in the contract documents, the trade definitions designate which contractor is responsible to do that work. It does not eliminate the requirements of the contractor to follow and abide by all applicable codes including but not limited to the Worker's Compensation Board, Occupational Health & Safety and all applicable building codes etc.

These trade definitions will be reviewed on a yearly basis. All member companies and trade associations may request changes to any or all trade definitions by providing their request in writing to the Alberta Construction Association or the Edmonton Construction Association, care of the Trade Definitions Committee, before January 1<sup>st</sup> of each year. The request must include the change, reason for the change and the effect on the other scopes. The Trade Definitions Committee will review and rule on all requests. Changes to the definitions will be finalized and published on March 1<sup>st</sup> each year.

This document is for use during the tender process and is intended to coordinate job site activities.

# Building Information Modeling (BIM)

## DEFINITION

BIM is a computer aided design system that renders a 4D accurate digital representation of a building being designed or built. In addition 3D graphic attributes for all components in the building can be added. Specifications for all the components of the building can be attached to each item.

If specified in the tender documents, each trade will allow for associated costs in their tender, to provide personnel, computer equipment and software necessary to complete their portion of the Building Information Modeling.

If the tender documents require each trade to assist in the development of a BIM model with no detailed outline of the assistance requirements, ALL contractors shall include and exclude the following items in their tender:

## INCLUDED

1. Supply appropriate personnel to assist in development of the BIM model by providing information with respect to the individual trade scope with regards to:
  - a. Equipment and material being supplied;
  - b. Installation requirements of material and equipment being installed;
  - c. Provide the appropriate information (dimensions, sizes, clearances, quantities) of all products being installed to assist with interference and coordinate the final installation of equipment and systems;
  - d. Supply personnel to attend meetings as specified to assist in the development of the BIM model.

**Note:** If meeting requirements are not detailed in the tender documents it will be assumed that one (1) person will be required to attend one (1) meeting weekly with a duration of four (4) hours for a duration appropriate to their scope.

## EXCLUDED

1. Supply of equipment, software or computer operators;
2. Computer generated drawings.

**Note:** Unless otherwise specifically noted in the tender documents all computer drafting is to be carried out by the General Contractor, Engineer or personnel designated by the Owner with no costs to be borne for this service by the Sub Contractor.

# Commissioning

## DEFINITION

Commissioning is the verification of a product or system's functionality by checking all aspects of the system and comparing the results with the requirements of the tender documents.

All contractors shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Equipment start-up by appropriately trained or manufacturer certified technicians;
2. Verification of equipment, materials and systems to ensure they meet design intent and specifications;
3. Documentation for completed system and equipment commissioning and/or testing;
4. Completing and submitting commissioning documents supplied by the Owner's commissioning agent.

## EXCLUDED

1. 3<sup>rd</sup> party commissioning;
2. Development and supply of commissioning sheets required for 3<sup>rd</sup> party commissioning.

# Piling – Timber, Pipe, Steel, Sheet and Precast Concrete

## DEFINITION

This tender shall be for the supply and installation of timber, pipe, steel sheet and precast concrete piling and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Concrete within pipe piles;
2. Equipment necessary to install the piles;
3. Load testing of piles, when specified in the tender documents;
4. Protection of concrete in piles from freezing;
5. Engineered drawings;
6. Where a pile foundation is designed by a piling contractor he shall be responsible for the adequacy of the surrounding services and/or structures to withstand the vibrations or other effects of the piling installation proposed by the piling contractor;
7. Provision and maintenance of all lines and levels as required;
8. Provision and maintenance of stakes indicating pile locations;
9. Pile casing if specified;
10. Provide an estimated quantity of tailings to be removed.
11. Trade specific lighting to perform tasks;
12. Trade cleanup - cleanup for work carried out by this trade;
13. Warranty and/or Guaranty;
14. Submittals and O&M documentation as specified in the tender documents;
15. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trades specification section;
16. Protection of other trades' work from damage when performing this trades scope of work;
17. Building Information Modeling (BIM) as it applies to this trade scope.

## Piling – Timber, Pipe, Steel, Sheet and Precast Concrete, cont'd.

### EXCLUDED

1. Building permits;
2. Concrete testing;
3. Hand trimming or cutting of tops and top treatment of piles or caissons. Straightening, and cutting rebar to specified elevations and removal of all concrete residue (laitance) from rebar;
4. Inspection services;
5. Installation of dowels;
6. Pile caps;
7. Piles for site work not detailed on structural drawings such as light standards, fence posts, planters and sign bases;
8. Placing of pile dowels and anchor bolts;
9. Removal of natural or man-made obstructions either below ground or overhead which interfere with the piling contractor's work;
10. Removal of tailings and pre-bore material;
11. Responsibility for damage to subsurface structures, services and utilities whose exact location has not been established and identified on the site by the tender documents prior to commencement of the piling work;
12. Shoring and protection of any banks, structures, services and utilities as well as continued maintenance and protection of same;
13. Supply and maintain complete access, egress and working surface suitable for the free movement of piling rigs and ancillary equipment;
14. Pile casings are excluded unless specifically identified in the specifications;
15. Removal of excess tailings – by General Contractor;
16. Temporary heat, general lighting, power, sanitation and water for general construction;
17. Hoarding;
18. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
19. Supply and maintenance of garbage and recycling bins for construction waste;
20. Removal of construction waste from job site;
21. General site security.

# Piling – Drilled Cast-In-Place, and Expanded Base Piles

## DEFINITION

This tender shall be for the supply and installation of drilled cast-in-place and expanded base piling and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Equipment necessary to install the piles;
2. Facilities and equipment for inspections;
3. Load testing of piles when specified in the tender documents;
4. Protection of concrete in piles from freezing;
5. Supply only of dowels; Set by the General Contractor;
6. Where a pile foundation is designed by a piling contractor he shall be responsible for the adequacy of surrounding services and/or structures to withstand the vibrations or other effects of the piling installation proposed by the piling contractor;
7. Straightening, and cutting rebar to specified elevations and removal of all concrete residue (laitance) from rebar;
8. Provision and maintenance of all lines and levels as required;
9. Provision and maintenance of stakes indicating pile locations;
10. Temporary heat for protection of work in this scope;
11. Provide an estimated quantity of tailings to be removed;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade;
14. Warranty and/or Guaranty;
15. Submittals and O&M documentation as specified in the tender documents;
16. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
17. Protection of other trades' work from damage when performing this trade's scope of work;
18. Building Information Modeling (BIM) as it applies to this trade scope.

## **Piling – Drilled Cast-In-Place, and Expanded Base Piles, cont'd.**

### **EXCLUDED**

1. Building permits;
2. Concrete testing;
3. Extension of any piles above grade level;
4. Hand trimming or cutting of tops of piles or caissons.
5. Inspection services;
6. Installation of dowels;
7. Pile caps;
8. Piles for site work not detailed on structural drawings such as light standards, fence posts, planters and sign bases;
9. Placing of pile dowels and anchor bolts;
10. Removal of natural or man-made obstructions either below ground or overhead which interfere with the work in this scope;
11. Removal of tailings and pre-bore material;
12. Responsibility for damage to sub-surface structures, services and utilities whose exact location has not been established and identified by the purchaser prior to commencement of the piling work;
13. Shoring and protection of any banks, structures, services and utilities as well as continued maintenance and protection of same;
14. Supply and maintain complete access, egress and working surface suitable for the free movement of piling rigs and ancillary equipment;
15. Pile casings are excluded unless specifically identified in the specifications;
16. Temporary heat, general lighting, power, sanitation and water for general construction;
17. Hoarding;
18. Supply and maintenance of garbage and recycling bins for construction waste;
19. Removal of construction waste from job site.

# Concrete Formwork

## DEFINITION

This tender shall be for the supply and installation of all concrete formwork and concrete and all components required for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Formwork for all cast-in-place concrete elements shown on structural drawings including strip footings, spread footings, raft slabs, pile caps, grade beams, foundations walls, retaining walls, shear walls, core walls, columns, column capitals, suspended slab soffits, edges and openings, suspended beams, suspended drop panels, bulkheads, upstands, downturns, slab depressions, wall openings, floor openings, trench drains, utility pits and corridors, sump pits, elevator pits, suspended stairs, stairs on grade, housekeeping pads, concrete bases for mechanical and electrical equipment or piping;
2. Formwork, place and finish structural slab on grade where poured monolithically with a suspended slab;
3. Place concrete into forms for strip footings, spread footings, raft slabs, pile caps, grade beams, foundations walls, retaining walls, shear walls, core walls, columns, upstands, trench drains, utility pits, sump pits, elevator pits;
4. Form and pour infills where access openings were left to facilitate construction when indicated in the tender documents;
5. Place and finish suspended slabs;
6. Reshoring of all new concrete elements as required to support the work of this trade;
7. Reshoring of all existing structure as required to support the work of this trade;
8. Design of all temporary support systems including scaffolding, formwork, falsework and reshoring. Design and erection drawings to be prepared by an approved professional engineer as specified in the contract documents and as required by the authority having jurisdiction;
9. Ensure adequate soil bearing capacity for shoring systems and mudsill surfaces;
10. Maintain scaffolding, formwork, falsework and reshoring;
11. Remove formwork, falsework and reshoring;
12. Abandon stay-in-place formwork;
13. Architectural concrete requirements including curing and protection;
14. Place concrete to all concrete forms listed herein unless specifically excluded in this Section;
15. Formwork and provide loose dowels for construction joints;
16. Drill and grout dowels;
17. Set column anchor bolts and all concrete embedded items supplied by others;
18. Form utility block outs;
19. Supply and installation of void form;
20. Supply and installation of waterstop;
21. Set stair treads and nosings in cast-in-place concrete stairs;
22. Finish to top of concrete walls, footings, ledges, sills, corbels, grade beams, suspended beams;
23. Form, place and finish shrinkage strips when indicated in tender documents;
24. Temporary guardrails, fall protection system, stairs, ladders, walkways and barricades to facilitate the work of this trade;
25. Unload and hoist reinforcing steel;
26. Provide all layout from principle references and main elevations, namely a benchmark and two intersecting base lines provided by others, to correct lines and levels for all work of this trade scope;
27. Coordinate with trades requiring sleeves or other materials to be cast into concrete;
28. Rigging equipment, hoisting, scaffolding and elevating work platforms necessary to complete the work of this trade;
29. Maintain mushroom cap rebar protection and replace caps as necessary for the duration of the work of this trade;
30. Cleaning of dirt and debris from forms prior to pouring concrete;

## Concrete Formwork, cont'd.

31. Assist the general contractor by coordinating the concrete quantity, timing and the arrival of the concrete trucks to the job site;
32. Assist and cooperate with the independent concrete testing agency as required;
33. Form watch in the event of a formwork failure during a concrete pour;
34. Trade specific lighting to perform tasks;
35. Trade cleanup – cleanup for work performed by this trade;
36. Warranty and/or Guaranty;
37. Submittals and O&M documentation as specified in the tender documents;
38. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
39. Protection of other trades' work from damage when performing this trade's scope of work;
40. Building Information Modeling (BIM) as it applies to this trade scope;
41. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.

## EXCLUDED

1. Concrete formwork not shown on structural drawings;
2. Inspection and testing;
3. Supply of ready-mix concrete;
4. Supply and placement of reinforcing steel and wire mesh;
5. Architectural precast concrete;
6. Precast stairs;
7. Precast sumps pits and utility structures;
8. Control joint saw cutting;
9. Formwork, place and finish slab on deck and steel stair pans;
10. Formwork, place and finish non-structural slab on grade;
11. Site concrete curbs and walkways;
12. Scaffolding/man lifts required to perform reinforcing steel installation;
13. Rigging equipment and labor for unloading and hoisting reinforcing steel;
14. Concrete curbs, housekeeping pads and equipment pads not shown on structural drawings by General Contractor;
15. Supply and install waterproofing and drainage board to excavation shoring systems where one sided forms are being used;
16. Place and finish concrete toppings;
17. Supply of steel embeds;
18. Survey control (two intersecting base lines and one benchmark elevation to be supplied by others);
19. Traffic topping;
20. Supply stair treads and nosings;
21. Supply and install caisson and pile dowels;
22. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
23. Temporary heat, general lighting, power, sanitation and water for general construction;
24. Hoarding;
25. Final Cleaning before turnover;
26. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
27. Firestopping;
28. Supply and maintenance of garbage and recycling bins for construction waste;
29. Removal of construction waste from job site;
30. General site security.

# Concrete Finishing (Flatwork)

## DEFINITION

This tender shall be for the placing and finishing of all concrete flatwork and all components required for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Place and finish slab on grade, structural slab on grade, slab on metal or composite metal deck, stairs, landings and concrete toppings;
2. Place and finish concrete to steel stair tread pans and landings;
3. Concrete slab wet cure;
4. Concrete slab chemical cure, seal and hardener;
5. Trowelled in concrete slab hardener;
6. Trowelled in concrete coloring;
7. Herring bone, tined, stamped patterns in a concrete surface as indicated on the tender documents;
8. Assist the general contractor by coordinating the concrete quantity, timing and the arrival of the concrete trucks to the jobsite;
9. Layout, setting, and maintaining all top of concrete grades including supply and install screed pins;
10. Place and finish column diamond infills and other slab opening infills required to facilitate construction;
11. Ensure welded wire mesh reinforcing is chaired and or lifted into proper location within concrete slabs;
12. Rigging equipment and labor to hoist concrete finishing equipment;
13. Assist and cooperate with the independent concrete testing agency as required;
14. Trade specific lighting to perform tasks;
15. Trade cleanup – cleanup for work performed by this trade;
16. Warranty and/or Guaranty;
17. Submittals and O&M documentation as specified in the tender documents;
18. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
19. Protection of other trades' work from damage when performing this trade's scope of work;
20. Building Information Modeling (BIM) as it applies to this trade scope.

## Concrete Finishing (Flatwork), cont'd.

### EXCLUDED

1. Concrete supply;
2. Concrete pumping;
3. Hoisting;
4. Place and finish suspended slabs;
5. Formwork, place and finish structural slab on grade where poured monolithically with a suspended slab;
6. Formwork, falsework and reshoring;
7. Exterior concrete paving;
8. Inspection and testing;
9. Supply and place reinforcing steel, wire mesh and reinforcing steel accessories;
10. Architectural precast concrete;
11. Precast stairs;
12. Concrete curbs, housekeeping pads and equipment pads not shown on structural drawings;
13. Survey control (two intersecting base lines and one benchmark elevation to be supplied by others);
14. Traffic topping;
15. Concrete slab polishing;
16. Control joint saw cutting;
17. Supply and set loose dowels;
18. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
19. Temporary heat, general lighting, power, sanitation and water for general construction;
20. Hoarding;
21. Final Cleaning before turnover;
22. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
23. Firestopping;
24. Supply and maintenance of garbage and recycling bins for construction waste;
25. Removal of construction waste from job site;
26. General site security.

# Exterior Landscaping

## DEFINITION

This tender shall be for the supply and installation of exterior landscaping and all components necessary for a complete installation:

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Excavation of shrub beds and tree pits;
2. External irrigation systems, including sleeves, trenching and backfill: the mechanical contractor shall provide suitably sized and accessible water service to a landscaped area, including such back-flow prevention devices, meters or other equipment as necessary to comply with all government codes and regulations (see Mechanical Included and Electrical, Included);
3. Fine grading and preparation of topsoil for seed and sod bed;
4. Maintenance of new landscape construction as specified in the tender documents;
5. Pedestrian aggregate paths and trails;
6. Placing and spreading of topsoil obtained onsite or off-site as specified; providing soil mixes and soil screening, as specified;
7. Seeding and/or sodding as specified;
8. Landscape materials as specified on the landscape drawings/plans;
9. Plant material;
10. Fertilizer and soil amendments as specified;
11. Tree grates and tree guards, precast concrete tree boxes, wooden and precast concrete planters;
12. Wood edgers, wood retaining walls, screening, wood free-standing or attached pagodas, pergolas and gazebos;
13. Trees and shrubs specified to be moved and stored, or moved to another location;
14. Use and application of specified horticultural materials, i.e. pesticides, sterilants, lime, etc.;
15. Soil structuring systems for tree planting in hard surface applications;
16. Scaffolding/man lifts where required to perform work by this trade scope;
17. Trade specific lighting to perform tasks;
18. Trade cleanup - cleanup for work carried out by this trade;
19. Warranty and/or Guaranty;
20. Submittals and O&M documentation as specified in the tender documents;
21. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
22. Protection of other trades' work from damage when performing this trade's scope of work;
23. Building Information Modeling (BIM) as it applies to this trade scope.

## Exterior Landscaping, cont'd.

### EXCLUDED

1. Asphalt paving and integral edging;
2. Concrete, except for precast concrete items specifically noted under Included;
3. Gabion structures;
4. Indoor landscaping;
5. Interlocking pavers, paving stones, turf-stones/grass-paver systems, sidewalk blocks and modular block retaining walls, including the excavation and compaction of sub grade, and supply and compaction of base;
6. Metal tree grate frames;
7. Painting;
8. Precast concrete accessories required to match the building precast features;
9. Removal or disposal of excess top soil or sub soil from on-site stockpiles;
10. Hoisting;
11. Repair of landscape areas not specifically identified;
12. Tree demolition or removal;
13. Water proofing or insulation of planters, parking structures or roof top landscaping;
14. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. Final Cleaning before turnover;
18. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
19. Supply and maintenance of garbage and recycling bins for construction waste;
20. Removal of construction waste from job site;
21. General site security.

## Reinforcing Steel – Supply and Installation

### DEFINITION

This tender shall be for the supply and delivery to site of all reinforcing steel bars and welded mesh or structural wire fabric required for poured-in-place concrete in accordance with tender drawings and specifications.

The Contractor providing the pricing for this section shall include for both the Supply and Installation of the Reinforcing Steel.

### A) Supply of Reinforcing Steel

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

#### INCLUDED

1. Stud Rails;
2. Epoxy coated rebar and patch kit;
3. One hour free unloading time;
4. Fabrication of bars; this shall include smooth rods for joints and threaded reinforcing bars cut, bent, bundled and tagged or color coded;
5. Mechanical and exothermic couplers - supply only;
6. Preparation of placing drawings and bar lists;
7. Supply reinforcing steel for concrete filled masonry and similar type blocks;
8. Supply of welded wire mesh or structural wire fabric in flat sheets or rolls;
9. Support and/or spacer bars when specified or specifically shown on the drawings;
10. Welded wire mesh or structural wire fabric for concrete encased conduits or duct;
11. Rock or soil anchors or equivalent bars;
12. Post tensioning cables and accessories required to provide a complete Post Tensioning system as specified in the bid documents;
13. Embedded plates with rebar welded to it;
14. Warranty and/or Guaranty;
15. Submittals and O&M documentation as specified in the tender documents;
16. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
17. Building Information Modeling (BIM) as it applies to this trade scope.

#### EXCLUDED

1. Accessories for masonry or similar type blocks, including 9 ga. (3.8 mm) wire ties or similar type ties;
2. Continuity strip;
3. Inspection or testing;
4. Light gauge forms and temperature reinforcement when specified to be included in the structural steel documents (see Structural Steel Included);
5. Placing of accessories, tie wire and epoxy coated tie wire, inserts;
6. Placing of post tensioning cables, accessories and supports;
7. Supply of reinforcing bar supports for composite floor decking (see Cold Rolled Metal Framing, Included);
8. Reinforcing steel used in drilled cast-in-place piles, dynamically cast-in-place piles and pipe piles;
9. Supply of caisson and pile dowels;
10. Dowel protection;
11. Hoisting equipment and Operators for off-loading;
12. Dowels welded to Pile Plates.

## B) Installation of Reinforcing Steel

### DEFINITION

**Installation** shall mean providing labor only to facilitate the receiving, unloading, handling and storage of reinforcing steel material at the project site, including moving to final location, assembling, pre-assembling, installation, initial correction and adjustment.

**Hoisting** shall mean raising and lowering only of all reinforcing steel materials on site from delivery trucks, site storage areas and pre-assembly areas to another designated place at the work site. Hoisting includes equipment and operator but does not include labor or rigger.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Installation of mechanical and exothermic couplers, including machinery and labor to install;
2. Installation of reinforcing steel and welded wire fabric;
3. Supply and installation of accessories tie wire and epoxy coated tie wire;
4. Supply all materials required for temporary and/or permanent connection of the component parts of the reinforcing steel;
5. Supply and installation of support and spacer bars not specified nor specifically shown on the drawings;
6. "Touching Up" of epoxy coated reinforcing bars;
7. Tying reinforcing into cages for masonry where shown on drawings (see Masonry, Excluded);
8. Post tension cables, accessories, supports and anchorage reinforcement;
9. Installation only of composite floor reinforcing bar supports, supplied by others (see Cold Rolled Metal Framing, Included);
10. Rigging equipment and labor for unloading and hoisting;
11. Scaffolding/man lifts where required to perform work by this trade scope;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade;
14. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
15. Warranty and/or Guaranty;
16. Submittals and O&M documentation as specified in the tender documents;
17. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
18. Protection of other trades' work from damage when performing this trade's scope of work;
19. Commissioning as it applies to this trade scope;
20. Building Information Modeling (BIM) as it applies to this trade scope.

## Reinforcing Steel – Installation, cont'd.

### EXCLUDED

1. Caisson and pile dowels;
2. Expansion sleeves, caps, wrapping, greasing and accessories;
3. Field welding;
4. Hoisting;
5. Inserts;
6. Lifting of mesh during pouring of concrete;
7. Chairing of mesh prior to pour;
8. Lines, templates and grades;
9. Placing bars and supply and placing of accessories to masonry or similar type blocks;
10. Reinforcing steel for masonry including dowels;
11. Tying reinforcing steel to water stops;
12. Scaffolding which supports concrete formwork;
13. Maintenance of Dowel protection after initial installation;
14. Drilling and grouting of Dowels;
15. Aerial work platform with Operator;
16. Fall protection anchor points;
17. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final Cleaning before turnover;
21. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
22. Supply and maintenance of garbage and recycling bins for construction waste;
23. Removal of construction waste from job site;
24. General site security.

# Masonry

## DEFINITION

This tender shall be for the supply and installation of Brick, Tile, Stone and Concrete Block Construction.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Anchors & ties;
2. Brick, units as specified in the tender documents;
3. Building air barrier and insulation used behind masonry facing;
4. Installation of miscellaneous metals (supplied by others) in masonry;
5. Built-in metal flashing - supplied by others;
6. Caulking (other than firestopping),
  - a. Masonry to masonry and;
  - b. Caulking of joints in masonry or masonry to other materials, including caulking where it forms part of the expansion or control joint, where masonry is the last work to be installed;
7. Cavity wall flexible sheet membrane, behind masonry, which forms part of the building air barrier or vapor barrier and where masonry is the last component to be installed, including connection to work of preceding trade where required. If connection is required by any trade following the masonry installation then the masonry contractor provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the masonry system;
8. Cavity wall insulation complete with adhesives, anchors, etc., behind masonry, where masonry is the last component to be installed;
9. Clay flue lining;
10. Clay tiles;
11. Cleaning of masonry;
12. Clear waterproofing of exterior masonry only (waterproofing is all clear finishes to masonry not included under Special Wall Coatings Scope) (see Painting, Excluded);
13. Concrete and grout fill in masonry only;
14. Concrete blocks, glued blocks and glass blocks;
15. Cutting required for other trades in new work only;
16. Damp proof course in masonry;
17. Demolition of existing masonry when the materials are to be re-used or retained as specified;
18. Hoisting;
19. Samples as specified in the tender documents;
20. Installation only of precast concrete band courses, copings, sills and heads which fall within masonry cladding, including supply and installation of insulation and vapor barrier behind these items;
21. Loose fill or foam insulation in masonry;
22. Masonry laid with mortar containing bonding agents regardless of being pre-laid or otherwise;
23. Mortar;
24. Non-rigid and fabric flashing when built into masonry;
25. Parging of cavity masonry walls only when specified;
26. Reinforcing steel placed only in masonry - supplied by others to the job site, clearly tagged and identified as to end use;
27. Stone (natural and artificial), granite, terracotta facing over 50 mm, including anchorages;
28. Testing of material of this trade where specifically called for in the masonry specifications;
29. Weep holes and venting devices;
30. Wire reinforcing to mortar joints;
31. Accessories for masonry or similar type blocks, including up to 9 gauge (3.8 mm) wire ties or similar type ties;

## Masonry, cont'd.

32. Scaffolding/man lifts where required to perform work by this trade scope;
33. Trade specific lighting to perform tasks;
34. Trade cleanup - cleanup for work carried out by this trade;
35. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
36. Warranty and/or Guaranty;
37. Submittals and O&M documentation as specified in the tender documents;
38. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trades specification section;
39. Protection of other trades' work from damage when performing this trades scope of work;
40. Building Information Modeling (BIM) as it applies to this trade scope.

## EXCLUDED

1. Anchor slot;
2. Demolition (see Included above);
3. Fabrication and tying of reinforcing steel (see Reinforcing Steel – Placement, Included);
4. Installation of frames;
5. Permanent lateral support devices on top of masonry walls;
6. Temporary heat for mortar shack;
7. Temporary support and shoring for lintels;
8. Welding;
9. Inspection;
10. Temporary wind-bracing;
11. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
12. Temporary heat, general lighting, power, sanitation and water for general construction;
13. Hoarding;
14. Final Cleaning before turnover;
15. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
16. Firestopping;
17. Supply and maintenance of garbage and recycling bins for construction waste;
18. Removal of construction waste from job site;
19. General site security.

# Structural Steel

## DEFINITION

This tender shall be for the supply, fabrication and installation of structural steel and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Anchors for structural steel;
2. Base plates and bearings for structural steel members;
3. Beams, purlins, girts forming part of the structural steel frame;
4. Bearing plates and angles for structural steel members for the support of steel deck;
5. Bins and hoppers of 6 mm plate or heavier, attached to the structural steel frame;
6. Bracing for steel members, trusses or frames;
7. Brackets attached to the structural steel;
8. Bridge bearings connected to the structural steel members;
9. Cables for permanent bracing or suspension systems;
10. Canopy framing if attached to the structural steel frame;
11. Cold rolled channels and girts as specified when used as structural members;
12. Columns;
13. Conveyor galleries and supporting bents (exclusive of conveyor stringers, deck plate and supporting posts which are normally part of the conveyor assembly);
14. Crane rails and stops, excluding unless otherwise noted final alignment of the rails;
15. Curb angles and plates attached to the structural steel frame if shown on the structural steel drawings;
16. Diaphragms for bridges;
17. Deck support angles at columns, walls, if shown on the structural steel drawings;
18. Door frame supports attached to the structural steel frame;
19. Embedded items connecting structural steel;
20. Expansion joints connected to the structural steel frame (excluding expansion joints for bridges);
21. Field bolts to connect structural steel components;
22. Floor plates, roof plates (raised pattern or plain) and steel grating connected to the structural steel frame;
23. Girders;
24. Grillage beams of structural steel;
25. Hangers supporting structural steel framing;
26. Jacking girders;
27. Lintels if attached to steel frame and shown on the structural drawings;
28. Mechanical roof support and floor opening framing shown on structural drawings;
29. Monorail beams of standard structural steel shapes;
30. Open-web steel joists, including anchors, bridging, headers and trimmers; also, when specified-to be included in the structural steel contract documents, light-gauge forms and temperature reinforcement;
31. Sash angles attached to the structural steel frame (see Reinforcing Steel, Excluded);
32. Separators, angles, tees, clips and other detail fittings essential to the structural steel frame;
33. Shear connectors/studs, except when installed through sheet steel deck (see Metal Deck, Included);
34. Shelf angles attached to the structural steel frame, if shown on structural drawings;
35. Shop fasteners or welds, and fasteners required to assemble parts for shipment;
36. Steel tubes or cores for composite columns;
37. Steel window sills attached to the structural steel frame;
38. Struts;
39. Suspended ceiling supports of structural steel shapes at least 75 mm in depth;
40. Temporary components to facilitate transportation to the site;

## Structural Steel, cont'd.

41. Tie, hanger and sag rods forming part of the structural steel frame;
42. Trusses;
43. Steel stairs, walkways, ladders and handrails forming part of the structural steelwork. Only if shown on the structural drawings and specifically noted by the structural engineer to be supplied by the structural fabricator;
44. Field Connection Materials:
  - a. When the fabricator erects the structural steel, he shall supply all material required for temporary and for permanent connection of the component parts of the structural steel.
  - b. When the erection of the structural steel is not part of the fabricator's contract, unless otherwise specified, the fabricator shall furnish appropriate bolts and nuts (plus washers, if required) or special fasteners, of suitable size and in sufficient quantity for all field connections of steel to steel which are specified to be thus permanently connected, plus an over-allowance of two per cent of each size to cover waste.
  - c. Unless otherwise specified in the tender documents, welding electrodes, back-up bars, temporary shims, leveling plates, fitting-up bolts and drift pins required for the structural steel shall not be furnished by the fabricator when the erection of the structural steel is not part of the fabricator's contract;
45. Priming, where specified;
46. Prepare steel finish to receive special coatings, where specified;
47. Unloading and hoisting;
48. Inspection when specified in the tender documents;
49. Hoarding when required for special welding procedures;
50. Scaffolding/man lifts where required to perform work by this trade scope;
51. Trade specific lighting to perform tasks;
52. Trade cleanup - cleanup for work carried out by this trade;
53. Warranty and/or Guaranty;
54. Submittals and O&M documentation as specified in the tender documents;
55. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
56. Protection of other trades' work from damage when performing this trade's scope of work;
57. Commissioning as it applies to this trade scope;
58. Building Information Modeling (BIM) as it applies to this trade scope.

## Structural Steel, cont'd.

### EXCLUDED

1. Loose bolts other than for fastening items of structural steel;
2. Placing of embedded items;
3. Steel deck regardless of specification;
4. Supply and installation of grouting;
5. Supply and/or installation of shear connectors which penetrate steel deck;
6. V-rib pans;
7. Inspection – when not specified in the tender documents;
8. Bins and hoppers not covered in Structural Steel Included;
9. Bridge bearings not connected to structural steel items;
10. Catch basin frames;
11. Concrete for filling HSS columns. Concrete is to be supplied and poured in columns by others;
12. Connection material for other trades (e.g. precast concrete);
13. Conveyor stringers, deck plate and supporting posts;
14. Drain pipes;
15. Drilling of holes into masonry or concrete, including core drilling of anchor rods for bridges and drilling for deck support angles;
16. Edge forming less than 3.2mm thick for steel deck;
17. Grout;
18. Hoppers and chutes;
19. Lag bolts, machine bolts and shields or inserts for attaching shelf angles, trimmer angles and channels to masonry, or concrete;
20. Machine bases, rollers and pulleys;
21. Metal-clad doors and frames;
22. Miscellaneous steel (see Miscellaneous Steel, Included);
23. Shear connectors through sheet steel deck (see Metal Deck, Included);
24. Sheet steel cladding;
25. Sheet steel deck (see Metal Deck, Included);
26. Sheet steel flashing;
27. Shoring under composite floors and stub girders;
28. Steel doors;
29. Steel sash;
30. Steel stacks;
31. Steel tanks and pressure vessels;
32. Temporary bracing for other trades;
33. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
34. Temporary heat, general lighting, power, sanitation and water for general construction;
35. Hoarding;
36. Final Cleaning before turnover;
37. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
38. Firestopping;
39. Supply and maintenance of garbage and recycling bins for construction waste;
40. Removal of construction waste from job site;
41. General site security.

# Cold Rolled Metal Framing

## DEFINITION

This tender is for the supply and installation of all load bearing metal framing and exterior gypsum sheathing as required for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Load bearing steel studs for exterior walls, interior walls, stairwells and elevator or mechanical shafts as specified on the structural drawings, which includes all studs from 33 mil to 97 mil (20 gauge to 12 gauge, inclusive) (metric equivalents 0.84 mm to 2.46 mm);
2. Steel stud framing for all exterior walls subject to wind loads or lateral forces;
3. Steel stud framing for all parapets when steel stud framing specified on the project;
4. Steel framing for all exterior soffits, including hangers and supports, when part of the light gauge load bearing assembly;
5. Steel stud framing for metal roof trusses or floor joists systems;
6. Cross bracing for lateral loads;
7. Composite floor decking, perimeter metal and foam closure strips trims, end enclosures, side-lap washers and restraint straps which are supported by load bearing steel studs;
8. Supply only, reinforcing bar supports for composite floor, installation by others (see Reinforcing Steel Installation);
9. Steel deck when screwed to steel stud joists or trusses;
10. Cutting of openings in deck materials marked by other trades at the time of deck installations;
11. Reinforcing of pre-marked openings in roof deck up to 450 mm across flutes and 300 mm in floor decking;
12. Metal cover plates over deck at change of plane or direction;
13. Temporary shoring and bracing of metal decking, including removal of shoring;
14. Man-lifts, scaffolding and cranes when required for hoisting and material handling and to perform work by this trade scope;
15. Thermal and acoustical insulation to all box beams, lintels, sills and jamb stud assemblies when insulations are specified on the project;
16. Miscellaneous caulking and sealants to acoustical rated walls when specified and attached to metal framing;
17. Installation of flexible sheet membrane; placed under roof curb framing and parapet walls, which forms part of the building air barrier or vapor barrier and when installation of curb framing is the first component installed. If connection is required by any trade following installation of cold formed steel framing, then the trade contractor responsible for installation of cold formed steel framing will provide a minimum 200 mm overlap material to each side of the roof curb framing.
18. Exterior gypsum sheathing applied to exterior walls, bulkheads, parapets, and soffits when this work forms a part of a complete assembly;
19. Fasteners (including Engineering of same) for attachment of all items in this scope;
20. Installation only, of welded pressed metal door and window frames supported by load bearing metal framing members;
21. Engineering of all load bearing walls, floor decks and roof systems in this scope if not provided by Engineer of Record;
22. Engineering of connection details and wind-load walls, when specified by Engineer of Record;
23. Shop drawings for all panelized wall systems and floor deck layout;
24. Trade specific lighting to perform tasks;
25. Trade cleanup – cleanup of work performed by this trade;
26. General cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
27. Warranty and/or Guaranty;
28. Submittals and O&M documentation as specified in the tender documents;
29. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or in this trades specification section;
30. Protection of other trades' work from damage when performing this trade scope of work;
31. Building Information Modeling (BIM) as it applies to this trade scope.

## Cold Rolled Metal Framing, cont'd.

### EXCLUDED

1. Plywood sheathing;
2. Supply and installation of wood or metal backing – by others;
3. Firestopping;
4. Supply and installation of access panels;
5. Building paper and exterior membranes;
6. Temporary safety handrails, or alternative safety tie-off system;
7. Snow removal;
8. Structural steel;
9. Metal deck when attached to structural steel;
10. Welding;
11. Wire mesh, reinforcing bars and concrete;
12. Temporary access to each floor level;
13. Non load bearing steel stud framing unless incorporated as part of the load bearing steel framing system;
14. Interior finishes to steel stud framing;
15. Insulation (except as noted in work Included);
16. Reinforcing or structural framing of openings larger than mentioned, see Included;
17. Hoarding;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Security costs. Where Security is required for trades to complete their work these services and cost for same will be provided by the General Contractor;
20. Supply and maintenance of garbage and/or recycling bins for construction waste;
21. Removal of construction waste from the jobsite;
22. General site security.

# Miscellaneous Steel – Supply and Installation

## DEFINITIONS

**Installation** shall mean providing labor only to facilitate the receiving, unloading, handling and storage of miscellaneous steel material at the project site, including moving to final location, assembling, pre-assembling, installation, initial correction and adjustment.

**Hoisting** shall mean raising and lowering only of all miscellaneous steel materials on site from delivery trucks, site storage areas and pre-assembly areas to another designated place at the work site. Hoisting includes equipment and operator but does not include labor or rigger.

Unless otherwise specified in the tender documents, the following items are considered miscellaneous steel and shall be supplied, fabricated, shipped to site and installed under this section.

When the miscellaneous steel fabricator erects miscellaneous steel, all material required for temporary and/or permanent connections of the component parts of the miscellaneous steel shall be supplied by that contractor.

## A) Supply Only of Miscellaneous Steel

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Access doors and frames - except trade-name items and those required for servicing mechanical and electrical equipment;
2. Angles and channel frames for doors and wall openings - drilling and tapping by others;
3. Benches and brackets;
4. Bolts - only include those bolts and anchors required for anchoring miscellaneous steel supplied under this list;
5. Bumper posts and rails;
6. Burglar/security bars;
7. Clothes line poles, custom fabricated types only;
8. Coat rods, custom fabricated types only;
9. Corner protection angles;
10. Expansion joint angles, plates custom fabricated, etc., including types made from steel, or a combination of steel and non-ferrous metal;
11. Fabricated convector frames and enclosures;
12. Fabricated items when clearly detailed or specified and made from 2.0 mm (14 ga.) and heavier steel, except where included in another division;
13. Fabricated steel framing for curtain walls, storefronts and soffits where shown on architectural drawings, not detailed on structural drawings and not enclosed by architectural metal;
14. Fabricated wire mesh and expanded metal partitions and screens;
15. Fire escapes;
16. Flag poles - steel custom fabricated. (Excluding hardware);
17. Custom fabricated foot scrapers, mud and foot grilles, including pans, but less chains;
18. Frames, grating and plate covers for manholes, catch basins, sumps, trenches, hatches, pits, etc., except cast iron, frames and covers;
19. Gates, grilles, grillwork and architectural louvers, excluding baked enamel or when forming part of mechanical system;
20. Grating type floors and catwalks - excluding those forming part of active mechanical system;
21. Handrails, balusters and any metal brackets attached to steel rail including plastic cover, excluding steel handrails forming part of structural steel framing;
22. Joist hangers, custom fabricated types only as specified on tender drawings;

## Miscellaneous Steel – Supply Only, cont'd.

23. Joist strap anchors;
24. Lintels, unless shown on structural drawings;
25. Mat recess frames, custom fabricated types only;
26. Mobile chalk and tack board frames, custom fabricated types only;
27. Monorail beams of standard shapes, excluding trade name items, unless shown on structural drawings;
28. Shop drawings and/or erection diagrams;
29. Shop preparation and/or priming;
30. Sleeves if specified, except for mechanical and electrical division;
31. Steel ladders and ladder rungs not forming part of structural steel or mechanical work;
32. Steel stairs and landings not forming part of structural steel;
33. Steel hangers for the support of stair mid-landings or stringers;
34. Table and counter legs, frames and brackets, custom fabricated types only;
35. Thresholds and sills, custom fabricated types only;
36. Vanity and valance brackets, custom fabricated types only;
37. Steel fill plates – steel;
38. Bins and hoppers not included in Structural Steel (see Structural Steel, Included);
39. Canopy framing not attached to structural steel;
40. Door and corner guards;
41. Overhead Door frames not covered in Structural Steel Included;
42. Edge forming less than 3.2 mm thick for steel deck and not covered in Metal Deck Included;
43. Embedded steel parts not required for structural steel or deck;
44. Flagpoles and supports;
45. Floor plates, roof plates and grating not attached to structural steel;
46. Hose and tire storage brackets;
47. Lintels over wall recesses;
48. Lintels which are either an integral part of door frames or not attached to the structural steel frame;
49. Members made from gauge material except cold-formed channels indicated in Structural Steel Included;
50. Shelf angles not covered in Structural Steel Included;
51. Steel stairs, landings, walkways, ladders and handrails;
52. Steel window sills not covered in Structural Steel Included;
53. Support for sheet steel deck at column cut outs and for openings not requiring framing connected to structural steel;
54. Trench covers;
55. Trim angles, eave angles or fascia plates not directly attached to the structural steel frame;
56. Warranty and/or Guaranty;
57. Submittals and O&M documentation as specified in the tender documents;
58. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
59. Building Information Modeling (BIM) as it applies to this trade scope.

## Miscellaneous Steel – Supply Only, cont'd.

### EXCLUDED

1. Bases and supports for mechanical and electrical equipment where detailed on mechanical or electrical drawings;
2. Bolts other than for anchoring items of miscellaneous steel;
3. Cast iron frames and covers for manhole and catch basins;
4. Chain link and woven wire mesh;
5. Glulam connections and anchorages;
6. Joist hangers, trade-name type;
7. Metal cladding and covering;
8. Precast concrete connections and anchorages in building structure. Reinforcing steel or mesh;
9. Roof and floor hatches when trade-name items;
10. Sheet metal items, steel decking and siding steel deck closures;
11. Shoring under composite floors and stub-girders;
12. Steel stacks;
13. Steel reinforcement for architectural metal storefronts, curtain walls and windows;
14. Stud shear connectors when used with steel deck. Stone anchors;
15. Thimbles and breeching, also mechanical fire dampers;
16. Window and area wells;
17. Bins and hoppers constructed of steel less than 2.0 mm (14 ga.);
18. Drilling and tapping for angles and channel frames for doors and wall openings.

## **B) Installation Only of Miscellaneous Steel**

This contractor shall include and exclude the following items regardless of where they may appear in the Architectural or Structural documents unless specifically noted otherwise in this scope:

### **INCLUDED**

1. Unloading and Hoisting;
2. Inspection;
3. Installation of stairs, handrails, wall rails which require field welding for installation and other steel items which require field welding for installation;
4. Supply of all materials and equipment required for temporary and/or permanent connection of the component parts of the miscellaneous steel;
5. Welding to install or join together supplied items which require field welding or assembly or would be unreasonable to be shipped in one piece for others to install;
6. Scaffolding/man lifts where required to perform work by this trade scope;
7. Trade specific lighting to perform tasks;
8. Trade cleanup - cleanup for work carried out by this trade;
9. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
10. Warranty and/or Guaranty;
11. Protection of other trades' work from damage when performing this trade's scope of work.

### **EXCLUDED**

1. Coring and grouting;
2. Placing of embedded items;
3. Steel deck regardless of specifications;
4. Any items which do not require field welding for installation.
5. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
6. Temporary heat, general lighting, power, sanitation and water for general construction;
7. Hoarding;
8. Final Cleaning before turnover;
9. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
10. Firestopping;
11. Supply and maintenance of garbage and recycling bins for construction waste;
12. Removal of construction waste from job site;
13. General site security.

# Architectural Woodwork - Supply

## DEFINITION

This tender shall be for the supply of architectural woodwork, in a finished state, delivered to site, built-up or knocked-down depending on job conditions.

**Finished state** means surfaces are to be sanded, dusted, cleaned and marks, stains and spots removed, ready for receipt of any specified undercoat and finish coat, or where specified to be shop applied finished, with the finish already applied, or constructed from a prefinished material (standing and running trim or site constructed millwork not included). In addition to above, when finish is specified to be shop applied then this contractor shall also fill nail holes.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

### Exterior

1. Clear wood preservative where specified;
2. Exterior molding, fascia, and trim from clear "D and Better, first and seconds" material. Random length-only;
3. Glass and plastic glazing including sealed units and removable double glazing panels installed where it occurs in architectural woodwork. Factory or site installation at architectural woodwork contractor's option;
4. Ornamental wood columns, posts, brackets, (including half timbering), if specified of clear kiln dried "D and Better, first and seconds" material;
5. Plywood (including overlay faced type) where detailed with solid wood edging. Supplied in 2400 mm lengths, unless otherwise specified;
6. Wood doors, including plastic laminate or fibreboard faced-doors and cores for metal clad one side (metal cladding, fitting or machining for hardware not included). Exterior wood patio sliding doors with hardware;
7. Wood Screens or shutters, wood vents, louvres or sun baffles, wood seats, benches or planters, if specified of clear kiln dried "D and Better, first and seconds" material. (No metal parts included other than implanted rods in seats and benches);
8. Wood stairs (stringers long and knocked-down), handrails, railings and balustrades (not cut to length) if specified of clear kiln dried "D and Better" material;
9. Custom designed wood window frames and sash, door frames complete with wood trim including wood, fibreboard panels and insulation to same. Wood sash to be factory fitted, including supply and installation of workable sash hardware, weather stripping and fly-screens to same;
10. Building Information Modeling (BIM) as it applies to this trade scope;

### Interior

11. Computer keyboard trays and CPU holders whether factory fabricated or trade name;
12. Custom built wood and/or plastic laminate or plastic laminate covered push and pull bars and guard rails to both wood and metal doors and frames (no metal fastening devices);
13. Glass and plastic glazing and fibreboard supplied and installed where it is completely surrounded by architectural woodwork and in wood doors, including sealed units and/or removable glazing panels;
14. Hardwood plywood, (unfinished, or brand name pre-finished if specified) for all wall or ceiling paneling (no backing material);
15. Interior wood trim to metal or trade name windows as, and if, detailed on drawings;
16. Mirrors where installed in wood frames;
17. Openings cut out, wood moldings and glass supplied and fitted in wood doors (does not include metal glazing stops unless specified);
18. Openings cut out and wood moldings supplied and fitted for metal grilles in wood doors (does not include metal grilles or installation of same);
19. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trades specification section;

## Architectural Woodwork – Supply, cont'd.

20. Plastic laminate and fibreboard base and kick plates to architectural woodwork. (Supplied only, no screws or material for attaching);
21. Plastic laminate wall rails and window stools when applied to wood substrate. Plastic laminate coverings to walls, ceilings and metal doors (strapping, backing, glue, and installations not included). Plastic laminate paneling complete with wood substrate where specifically called for "factory fabricated", see Excluded;
22. Pressure treated fireproofing of architectural woodwork items where specified. Does not include sanding after treatment;
23. Factory applied finishes to architectural woodwork, when specified, excluding site touch-up. Matching materials to be provided by this trade to others for site touch-up;
24. Toilet and shower partitions of wood and plastic laminate covered, complete with hardware;
25. Venetian blinds between the glass in wood frames or sash if wood frames are supplied by the architectural millwork supplier;
26. Wood and plastic faced cabinets, complete with wood bases and splash-back, tables, benches (items constructed from dimensional lumber regardless of location - not included), pews, seats, desks, shelving, convector covers of wood and plastic laminate attached to architectural woodwork.  
**NOTE:** The following hardware to architectural woodwork (casework only) whether specified under Cash Allowance or not is included in this tender: drawer slides and shelf standards (factory installed), clips (supplied only), lazy susans (factory installed); workable cabinet hardware, limited to hinges, catches, pulls, locks, casters, sliding door tracks, sheaves or glides (supplied and factory installed). Jobsite adjusting of hardware is not included;
27. Wood boards, interior siding, battens and moldings when exposed to view for decorative and display purposes (any grade);
28. Wood display cases supplied only as architectural woodwork factory fabricated fixture including glass, standards, brackets and sliding track. Interior lining other than wood and plastic laminate material not included.  
**NOTE:** To jobsite built showcases; plastic laminate, hardwood and wood trim only supplied loose for jobsite fitting;
29. Wood doors, bi-fold doors (only brand name wood bi-fold doors will be supplied with the required hardware the manufacturer includes with the doors), plastic laminate, overlay plywood or fibreboard faced, mineral core, sound rated doors c/w seals when specified, lead lined doors and cores for metal clad one side. (Hardware for doors, beveling, fitting or machining for hardware or other specialty doors not included);
30. Wood egg-crate ceiling panels or other types of wood diffusers where supplied separately from lighting fixtures for luminous ceilings and valance and cove lighting (see Electrical, Excluded);
31. Wood frames, borrowed light frames, and wood sash complete with workable hardware;
32. Wood ironing boards in wood cabinets (including workable hardware);
33. Wood lockers;
34. Wood or wood composite moldings, rails, random lengths unless otherwise specified (no end trimming or factory assembling);
35. Wood, plastic laminate, fibreboard, polymer, plastic and synthetic marble counter tops, including splash backs, aluminum molding for same, or self-edge, (no jobsite labor). Wood counter tops for metal cladding (no cladding). (Does not include glue for jobsite installation);
36. Wood, plastic, or wood-and-metal tote drawers or trays in architectural woodwork cabinets including metal or wood slides;
37. Wood shelves for metal standards or metal frames where detailed (no metal framing, standards, or brackets);
38. Wood stairs (knocked-down with stringers long), wood balustrades and handrails (not cut to length), wood plugs included;
39. Wood or wood composite trim for notice or bulletin boards;
40. Wood or wood composite valances, including plastic laminate faced, plywood or overlay plywood type, solid wood or plastic laminate, (not including blocking unless specified as clear material);
41. Warranty and/or Guaranty;
42. Submittals and O&M documentation as specified in the tender documents;
43. Building Information Modeling (BIM) as it applies to this trade scope.

## Architectural Woodwork – Supply, cont'd.

### EXCLUDED

1. Caulking whatsoever or door weather-stripping;
2. Chalkboard, whiteboard, tackboard or corkboard of any kind;
3. Cleaning of glass or plastic (other than confined areas);
4. Cloth, burlap, or vinyl fabric of any kind;
5. Coat rods or coat hooks or supports for coat rods/hooks of any material except wood;
6. Counter balanced hardware to interior pass through doors;
7. Counter tops with integral sink or basin, including counter tops, splash-backs and fascia of the same material connected thereto (see Mechanical Sub-Section B, Included);
8. Cutting of holes for metal grilles, grommets, sinks, specialty items, or electrical and mechanical fittings into architectural woodwork fixtures;
9. Decking or sheathing to walls, ceilings, floors;
10. Door cores, frames, or trim for metal cladding;
11. Exterior plywood other than edged plywood;
12. Exterior wall facing, siding, fascia siding, or soffit materials other than trim and edged plywood, items constructed from dimensional lumber not specified of clear kiln dried "D and Better" material regardless of location;
13. Fence and sidewalk material;
14. Glass blocks;
15. Glue or adhesive for jobsite installation;
16. Hardware or installation or machining for same, except to sash and cabinets;
17. Items or materials not constructed entirely of wood or composite materials containing wood fiber other than those listed as included;
18. Jobsite assembly and/or installation and/or fitting of architectural woodwork;
19. Linoleum, carpet, tile or any other floor covering material for covering of wood fixtures, cabinets or stairs, or metal trim for same;
20. Machining, beveling or fitting of doors to receive hardware (except fire rated doors);
21. Materials for floor covering of any kind;
22. Materials for interior coverings to walls, beams, ceilings and posts (except siding solid wood boards and battens and hardwood plywood and plastic laminate panels);
23. Metal astragal (unless forming an integral part of fire labeled wood doors);
24. Metal clad wood doors, frames, panels, or glazing of same;
25. Metal covering of doors, frames, windows, counter tops, and splash backs;
26. Metal feet, metal legs, decorative legs and leveling feet and brackets made of non-wood products, or pipe hanging rods;
27. Metal fixtures and counter-tops or wood bases to same;
28. Metal inserts into doors and other architectural woodwork; metal frames to cabinets, tables and benches; metal casing, base or other metal trims; metal fastening brackets;
29. Metal lining or metal sash for fume cabinets, drawers, or bins. Metal drawers or metal inserts to cabinets (i.e. metal file card holders, etc.);
30. Metal louvres, grilles, kick-plates or thresholds;
31. Metal sash, frames, doors, corner posts, glass or glazing, or panels of any kind for same;
32. Metal screens, shades, blinds, or guards, except fly screens to sash;
33. Mirrors in metal frames, or attached with rosettes or clips;
34. Overhead garage-type doors, or glass and hardware for same (wood frames and trim supplied knocked-down where detailed and specified as "D and Better" clear material);
35. Painting, priming, acid-proofing, staining, oiling, preservative treatment, or fireproofing other than pressure treating;
36. Plastic skylights or domes;
37. Providing space for painting contractor or others for any painting or priming of exterior or interior architectural woodwork (clear-dip preservative done by architectural woodwork when specified);
38. Re-additions and/or renovations to existing buildings: no material will be supplied for patching, repairing, extending or replacing existing work unless clearly specified and detailed;

## Architectural Woodwork – Supply, cont'd.

39. Re-supply of glass, plastic, or plastic laminate, broken or damaged on the job after delivery in good order;
40. Sanding of standing and running trim other than drum sanding of flats;
41. Site measurements;
42. Specialty folding or sliding doors of fabric, wood and/or metal (wood bi-fold doors, wood frames and trim where specified and detailed to be supplied), except exterior wood sliding patio doors;
43. Stair landings of any kind, structural or support material for same;
44. Structural framing material, rough bucks, cant strips, furring strips, blocking or backing;
45. Trade-name toilet and shower partitions;
46. Trade-name cooler or freezer doors;
47. Trade-name furniture, cabinet work, or counter tops and wood bases to same;
48. Trellis screening, pagodas and pergolas;
49. Upholstery work;
50. Wall mounted shelf standards, or clips and brackets to same;
51. Wood, fibreboard or plastic letters;
52. Wood and/or plastic laminated rails when they are an integral part of Entrances, Storefronts and Windows or Curtainwall;
53. Wood bumpers to exterior or loading bays (except clear material "D or Better" where specified);
54. Wood frames, outside trim to same, for vinyl, plastic and metal covered windows, except where combined in mullion, or transom frames with custom wood windows and/or glazing in wood;
55. Wall protection of plastic or non-wood materials.

## Architectural Woodwork - Installation

This tender shall be for the installation of all Interior items delivered freight to site under the Architectural Woodwork Supply Scope and all other items from the following list which are clearly indicated to be required by the plans and specifications.

**Installation** shall mean receiving, unloading, handling, uncrating and storage of Architectural Woodwork at the project site, including moving to final location, assembling, installation, correction and adjustment.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Caulking;
2. Cut outs for grommets, electrical and mechanical fixtures incorporated in Architectural Woodwork;
3. Demolition of existing installations when the materials are to be re-used or retained as specified (when specifications call for refinishing of existing installation, this contractor shall remove the items so specified and deliver to factory for refinishing);
4. Unloading and hoisting;
5. Installation of closet rods and coat hooks where attached to Architectural Woodwork (closet rods and coat hooks supplied by others);
6. Installation of metal grilles to Architectural Woodwork (see Mechanical Sub-Section C Ventilation and Sheet Metal Ductwork, Included);
7. Installation of wall mounted standards and brackets (supply by others);
8. Installation of wood siding and paneling to interior walls and ceilings;
9. Machining, beveling or fitting for door hardware and the installation of the door hardware. Door hardware to be supplied by others;
10. Mark out backing in walls as required for all equipment provided by this scope;
11. Protection of other trades work from damage when performing this trades scope of work;
12. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trades specification section;
13. Scaffolding;
14. Physical measurements of dimensions required from the project site;
15. Trade cleanup - cleanup for work carried out by this trade;
16. Supply of nails, screws, glue, caulking and fasteners required to install Architectural Woodwork;
17. Testing where specifically required by the specifications;
18. Trade clean up;
19. Wood ceiling (except those which are part of suspended ceiling system) and wood light boxes;
20. Wood stops to glazed screens finish nailed on one side, other side tacked only;
21. All architectural millwork supplied with a factory finish shall have the fastening holes filled and touched up by the installer;
22. Building Information Modeling (BIM) as it applies to this trade scope;
23. Commissioning as it applies to this trade scope.

## Architectural Woodwork – Installation, cont'd.

### EXCLUDED

1. Architectural Woodwork excluded under supply scope unless otherwise noted under Included in this scope;
2. Architectural Woodwork included under supply scope EXTERIOR, see Included;
3. Firestopping;
4. Hoarding;
5. Installation of metal doors and metal door frames;
6. Rough bucks and nailing strips concealed behind gypsum board;
7. Temporary heat, light, power and sanitation and water;
8. Filling of nail holes on site installed woodwork. (See Section 36 Painting, Included);
9. Final Cleaning before turnover;
10. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
11. Supply and maintenance of garbage and recycling bins for construction waste;
12. Removal of construction waste from job site;
13. General site security.

## Architectural (finishing) Hardware – Supply Only

This contractor shall include the supply only of the following items, regardless of where they may appear in the Tender Documents, unless specifically noted otherwise in this scope.

Architectural hardware supplied is to be included as they relate to:

1. Wood doors and frames;
2. Hollow metal doors and frames;
3. Doors and frames in demountable partitions;
4. Detention doors and frames.

### INCLUDED

1. Butts, Pivots, Hinges, Floor Hinges, Spring Hinges (Double and single acting);
2. Locksets, Latch Sets, Privacy Sets and Exit Devices complete with Standard or Electric Strikes, Deadlocks and Padlocks. Cylinders for all Master keyed items;
3. Electrified Locksets, Throw Bolts, Hinges, Exit Devices, and Magnetic Locks;
4. Push and Pull Plates, Push and Pull Bars;
5. Kick Plates, Armour, Mop and Stretcher (except hardboard and as described in Excluded);
6. Closing Devices, including Surface, Concealed, Overhead and Floor Type, complete with all required brackets to ensure proper and complete installation;
7. Stops, Holders and Bumpers, including the following types: Overhead, Surfaces and Concealed, Wall and Floor Mounted, Crash Chain Stops;
8. Handrail Brackets (Name brand only);
9. Weather-stripping, Sound Proofing and Threshold:
  - a. Threshold – Aluminum, Brass or Bronze;
  - b. Weather-stripping for Head, Jamb, Meeting Stile and Door Bottom;
  - c. Automatic Door Bottoms;
10. Fire Safety Devices (these components must be compatible with the main fire safety system as provided under the electrical scope). These devices are attached to (or concealed in) the door or/and frame and are part of the door control system;
11. Door Silencers – Rubber Mutes;
12. Door Bolts – Manual and automatic, including Flush, Surface, Cane, Cremone, Barrel, Chain and Slide;
13. Coordinators;
14. Mullion – Removable Type (trade name);
15. Door Viewers;
16. Letter Box Plates;
17. Keys, Key Blanks and Key Control Cabinets;
18. Chain Door Guards;
19. Exit Alarms, Battery Operated;
20. Pocket Door Hardware, including Frame, Track and Hangers;
21. Electrically assisted or operated closers;
22. All hardware for doors in demountable partitions;
23. Card readers, proximity readers, door position switches including all components required for a complete and working access control system;
24. Push button access controls;
25. Key switches relating to electrified door hardware;
26. Security bars (name brand only);
27. Uninterrupted power supply – battery backup only for hardware supplied in the Hardware trade definition;
28. Warranty and/or Guaranty;
29. Submittals and O&M documentation as specified in the tender documents;
30. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trades specification section;
31. Hardware templates;
32. Building Information Modeling (BIM) as it applies to this trade scope;
33. Commissioning as it applies to this trade scope.

## Architectural (finishing) Hardware – Supply Only, cont'd.

### EXCLUDED

1. Installation of all hardware (except auto openers/closers as described in Included);
2. Electrical Hook-up or connection of Alarms, Locks, Magnets, Strikes, Detectors or Magnetic Holders and Door Closers;
3. Custom-made handrail Brackets, Kick, Push and Pull Plates and Bars, Thresholds or Sills;
4. Window Hardware;
5. Hardboard, Plastic Laminate, PVC Kick plates and Push plates when they are to match the Wall Protection that is specified;
6. Cabinet Hardware;
7. Wood Locker Hardware;
8. Overhead Door Hardware;
9. Bi-fold Door and Hardware Package;
10. Sliding Door and Hardware Package;
11. Folding Door and Hardware Package;
12. Aluminum Sliding and Automatic Door Hardware;
13. Aluminum Door Hardware;
14. Metal Toilet Partition Hardware;
15. Smoke and ionization detectors (Wall or Ceiling Mounted) that are not part of the door closer/holder unit;
16. Mail Chutes or Holding Units;
17. Surface mounted wood or plastic laminated push-pull or guard bars for aluminum, wood or metal doors or sidelights;
18. Door signs, nameplates or numbers;
19. Weld-on hinges supplied complete with steel frame;
20. Supply of all wire for electronic hardware;
21. Fastening devices used to install millwork to walls or floors;
22. Cutting of tactile cues to handrail, unless dimensions are provided by the General Contractor in a timely fashion;
23. Metal handrail brackets;
24. Offload of hardware at site;
25. Unless otherwise noted in the tender documents finishing hardware is to be installed by the General Contractor.

## Access Control Systems – Supply & Installation

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

Access Control systems shall be included as they relate to:

1. Wood Doors and Frames;
2. Hollow Doors and Frames;
3. Aluminum Doors and Frames;
4. Demountable Partitions.

### INCLUDED

1. Keypads;
2. Card Readers;
3. Biometric Readers;
4. Request to exit devices (motion sensor, push button, or other device) unless directed otherwise in the tender documents;
5. Door Position Switches;
6. Door Controllers;
7. Main Controllers;
8. Wireless Controllers;
9. Credentials (ID cards, fobs, etc.);
10. Programmers and Update Devices;
11. Setup of System;
12. Training of End User;
13. Door security and/or monitoring systems including remote devices, card access readers, enunciators, central processing unit, etc., as required by the system including wiring. Components of a trade name door security and/or monitoring system which is specified to be supplied by one supplier and which must be door and/or door frame mounted shall be supplied by the electrical contractor for installation by the door and/or frame supplier, otherwise, all door and/or door frame mounted components shall be supplied and installed by others; wiring for these components shall be by the electrical contractor in either case;
14. Scaffolding/man lifts where required to perform work by this trade scope;
15. Trade specific lighting to perform tasks;
16. Trade cleanup - cleanup for work carried out by this trade;
17. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
18. Warranty and/or Guaranty;
19. Submittals and O&M documentation as specified in the tender documents;
20. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
21. Protection of other trades' work from damage when performing this trade's scope of work;
22. Building Information Modeling (BIM) as it applies to this trade scope;
23. Commissioning as it applies to this trade scope.

## Access Control Systems – Supply & Installation, cont'd.

### EXCLUDED

1. Cameras, unless directed otherwise in the tender documents;
2. Modifications needed to mount equipment and pedestals, rails and other surfaces;
3. Security, unless directed otherwise in the tender documents;
4. Network Patch Panels, Networking Wiring and Network or Computer Setup;
5. Installation of wiring and/or conduit;
6. Architectural Hardware (unless directed otherwise in the tender documents);
7. Mounting of Power Supplies and other devices requiring 120 VAC.
8. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
9. Temporary heat, general lighting, power, sanitation and water for general construction;
10. Door wiring for overhead and automatic doors - electrical supply hook up, interconnecting wiring, conduit and boxes. Control devices by others (see Electrical, Included);
11. Hoarding;
12. Final Cleaning before turnover;
13. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
14. Firestopping;
15. Supply and maintenance of garbage and recycling bins for construction waste;
16. Removal of construction waste from job site;
17. General site security.

# Architectural Metal Panels

## DEFINITION

This tender shall be for the supply and installation of Architectural Metal Panels. The surface is flat faced or custom curved. The metal panels shall be formed from aluminum, steel, galvanized steel or galvalume, stainless steel, copper or other metals. The finish or coating is shop applied, pre-painted, anodized or porcelain enamel.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Architectural Metal Panels formed from aluminum or steel or other metals, with either a shop applied, pre-painted, anodized or porcelain enamel, finish/coating;
2. Aluminum composite panel systems;
3. Factory insulated metal building panels;
4. Related caulking, flashing and fasteners incorporated into the system;
5. Clips and sub-girts;
6. Plywood or gypsum board when forming part of the panel system (i.e. Laminated);
7. Related insulation, adhesives, vapor barriers and air barriers;
8. Flexible sheet membrane which forms part of the building air barrier directly behind the Architectural Panel System including connection to work of preceding trade where required. If connection is required by any trade following the metal panel installation then the metal panel contractor provides a maximum 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the Architectural Metal Panel System;
9. Manufacturer's warranty only beyond the normal one year maintenance warranty;
10. Hoisting;
11. When any prefinished metal flashing of the Architectural Panel System is required by other trades that specifically matches the panel color and gauge and is not duplicated by the supply of the prefinished flat sheets applicable to preformed metal wall and metal roofing, then it is to be supplied by this trade freight included to the contractors shop (see Excluded);
12. Scaffolding/man lifts where required to perform work by this trade scope;
13. Trade specific lighting to perform tasks;
14. Trade cleanup - cleanup for work carried out by this trade;
15. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
16. Warranty and/or Guaranty;
17. Submittals and O&M documentation as specified in the tender documents;
18. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
19. Protection of other trades' work from damage when performing this trade's scope of work;
20. Commissioning as it applies to this trade scope;
21. Building Information Modeling (BIM) as it applies to this trade scope.

## Architectural Metal Panels, cont'd.

### EXCLUDED

1. Fabrication and/or installation of any flashing material not incorporated into Architectural Metal Panel System (i.e. Flat prefinished sheet material for built-up roofing contractor);
2. Extruded aluminum wall or soffit cladding;
3. Metal spandrel and infill panels incorporated into glazed systems;
4. Metal roofing and metal wall and soffit cladding;
5. Wood or metal components of the wall (unless incorporated in the panel system) used to construct parapets, pony walls, structural frames, etc.;
6. Factory pre-assembled translucent panels;
7. Insulation or vapor barrier behind structure which panel system is fastened to;
8. Backing and support for other trades;
9. Stainless steel items which do not form a part of the Architectural Metal Panel System;
10. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
11. Temporary heat, general lighting, power, sanitation and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Firestopping;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Removal of construction waste from job site;
18. General site security.

# Siding

## A) Preformed Wall Cladding and Metal Soffit

### DEFINITION

This tender shall be for the supply and installation of preformed metal wall cladding and metal soffits.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Cladding roll formed from sheet steel (pre-painted, galvanized, galvalume finish), stainless or weathering steel, aluminum or other metals;
2. Liner panel of materials listed (item 1 above) forming part of a preformed metal wall and/or soffit cladding assembly;
3. Aluminum soffit, fascia, siding, gutter and downspouts;
4. Gutter and downspouts that form an integral part of the preformed metal wall and soffit cladding;
5. Related closures, caulking, flashings and fasteners incorporated into the system;
6. Internal sub-grits;
7. Related insulation, adhesives, vapor barriers and air barriers including other materials from the barriers to the finished metal surface;
8. Stationary louvers of matching materials (installed in cladding) including wire mesh or bird screens;
9. Translucent panels to match cladding profile;
10. Flexible sheet membrane which forms part of the building air barrier directly behind the metal cladding system including connection work of preceding trade where required. If connection is required by any trade following the metal cladding installation then the cladding contractor provides a minimum 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the metal cladding system;
11. Manufacturer's warranty only beyond the normal one year maintenance warranty;
12. Hoisting;
13. When any pre-finished metal flashing of the cladding system is required by other trades that specifically matches in color and gauge that specified for the metal wall cladding, then the pre-finished flat sheets are to be supplied by this trade freight included to the contractors shop (see Excluded), the supply of flashing material does not apply to this trade if duplicated under the metal roofing scope;
14. Scaffolding/man lifts where required to perform work by this trade scope;
15. Trade specific lighting to perform tasks;
16. Trade cleanup - cleanup for work carried out by this trade;
17. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
18. Warranty and/or Guaranty;
19. Submittals and O&M documentation as specified in the tender documents;
20. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
21. Protection of other trades' work from damage when performing this trade's scope of work;
22. Testing if specified;
23. Building Information Modeling (BIM) as it applies to this trade scope;
24. Flashings for equipment openings as they pertain to wall penetrations;
25. Installation of flexible membranes around or onto window framing or openings.

## A) Preformed Wall Cladding and Metal Soffit, cont'd.

### EXCLUDED

1. Metal deck;
2. Fabrication, installation of any flashing material not incorporated into metal cladding system (i.e. flat pre-finished material for built-up roofing contractor);
3. Wood or metal components of the wall (unless as incorporated in the preformed metal wall system) used to construct parapets, pony walls, structural frames, etc.;
4. Gypsum board and metal support for same;
5. Metal spandrel and infill panels incorporated into glazed systems;
6. Extruded aluminum wall cladding;
7. Metal roofing;
8. Insulation or vapor barrier behind structure which cladding system is fastened to;
9. Metal soffit and/or wall cladding if profile, gauge and color is to match metal roofing;
10. Architectural Metal Panels;
11. Factory pre-assembled translucent panels;
12. Backing and supports for other trades;
13. Structural purlins and girts;
14. Metal linear ceiling profiles used as a wall ceiling or soffit (see Component Ceiling Systems, Included);
15. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
16. Temporary heat, general lighting, power, sanitation and water for general construction;
17. Hoarding;
18. Final Cleaning before turnover;
19. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
20. Firestopping;
21. Supply and maintenance of garbage and recycling bins for construction waste;
22. Removal of construction waste from job site;
23. General site security.

## B) Vinyl Siding, Metal Siding and Metal Soffit

This tender shall be for the supply and installation of vinyl and metal siding.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Cladding roll formed from sheet steel (pre-painted, galvanized, galvalume finish), stainless or weathering steel, aluminum or other metals;
2. Liner panel of materials listed (item 1 above) forming part of a preformed metal wall and/or soffit cladding assembly;
3. Aluminum soffit, fascia, siding, gutter and downspouts;
4. Gutter and downspouts that form an integral part of the preformed metal or vinyl siding and soffit;
5. Related closures, caulking, flashings and fasteners incorporated into the system;
6. Internal sub-grits;
7. Related insulation, adhesives, vapor barriers and air barriers including other materials from the barriers to the finished metal surface;
8. Stationary louvers of matching materials (installed in cladding) including wire mesh or bird screens;
9. Flexible sheet membrane which forms part of the building air barrier directly behind the vinyl and metal siding including connection work of preceding trade where required. If connection is required by any trade following the vinyl and metal siding installation then the cladding contractor provides a minimum 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the metal cladding system;
10. When any pre-finished metal flashing of the cladding system is required by other trades that specifically matches in color and gauge that specified for the vinyl and metal siding, then the pre-finished flat sheets are to be supplied by this trade freight included to the contractors shop (see Excluded), the supply of flashing material does not apply to this trade if duplicated under the metal roofing scope;
11. Flashings for equipment openings as they pertain to wall penetrations;
12. Installation of flexible membranes around or onto window framing or openings;
13. Hoisting;
14. Scaffolding/man lifts where required to perform work by this trade scope;
15. Trade specific lighting to perform tasks;
16. Trade cleanup - cleanup for work carried out by this trade;
17. General Cleanup – provide 1 in 10 workers to assist for 4 hours weekly to assist in general jobsite cleanup;
18. Manufacturer's warranty only beyond the normal one year maintenance warranty;
19. Warranty and/or Guaranty;
20. Submittals and O&M documentation as specified in the tender documents;
21. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
22. Protection of other trades' work from damage when performing this trade's scope of work;
23. Testing if specified;
24. Building Information Modeling (BIM) as it applies to this trade scope.

## B) Vinyl Siding, Metal Siding and Metal Soffit, cont'd.

### EXCLUDED

1. Metal deck;
2. Fabrication, installation of any flashing material not incorporated into vinyl and metal siding (i.e. flat pre-finished material for built-up roofing contractor);
3. Wood or metal components of the wall (unless as incorporated in the preformed metal wall system) used to construct parapets, pony walls, structural frames, etc.;
4. Gypsum board and metal support for same;
5. Metal spandrel and infill panels incorporated into glazed systems;
6. Extruded aluminum wall cladding;
7. Metal roofing;
8. Insulation or vapor barrier behind structure which cladding system is fastened to;
9. Metal soffit and/or wall cladding if profile, gauge and color is to match metal roofing;
10. Architectural Metal Panels;
11. Factory pre-assembled translucent panels;
12. Backing and supports for other trades;
13. Structural purlins and girts;
14. Metal linear ceiling profiles (see Component Ceiling Systems);
15. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
16. Temporary heat, general lighting, power, sanitation and water for general construction;
17. Hoarding;
18. Final Cleaning before turnover;
19. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
20. Firestopping;
21. Supply and maintenance of garbage and recycling bins for construction waste;
22. Removal of construction waste from job site;
23. General site security.

# Roofing and Related Sheet Metal

## DEFINITION

The roof is the weather proof covering on top of a roof deck structure that together with the walls forms a separator between the inside and outside environments of a building. A roofing assembly generally consists of a membrane or primary roof covering designed to weather proof the roof deck structure and may incorporate thermal insulation, and a vapor retarder, to improve the building's thermal resistance. A roofing system is an external assembly of interacting roofing components installed to complete the roof assembly above the roof deck structure and inner face and top of adjacent parapet walls.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Demolition of the existing roofing system when it is to be immediately followed with the installation of a new roofing system;
2. Control joint covers including roof area dividers and expansion joints;
3. All types of membrane flashing when they form part of and are installed in conjunction with the roofing system;
4. Acoustical deck insulation when supplied by others in a pre-formed custom fit condition;
5. Thermally formed skylights, smoke and access hatches which incorporate a base frame in a single unit;
6. Supply and installation of roofing materials including:
  - a. Primary roof membrane systems;
  - b. Gypsum board when applied over a roof deck as part of the roofing system;
  - c. Auxiliary leveling surfaces, strapping and Z-bars;
  - d. Roof Air/Vapor barriers;
  - e. Preformed rigid roof insulation;
  - f. Cants manufactured from insulation;
  - g. Bitumen including hot and cold process asphalt, pitch and modified bitumen and roofing adhesives;
  - h. Aggregates for membrane protection and gravel ballast, including concrete pavers not exceeding a unit mass of 45 kg;
  - i. Bituminous emulsions;
  - j. Bituminous primers;
  - k. Roof walkways;
  - l. Caulking, sealants, sealing compounds, gaskets, backing rod and packing;
  - m. Coatings;
  - n. Reinforcing fabric and membranes;
  - o. Mechanical roof fasteners;
  - p. Protection mats, filter fabrics and separator sheets;
  - q. Steep-slope roofing materials, underlayment's and flashings;
7. Flexible sheet membranes which form part of the building's air barrier or vapor retarders which are installed in a location that does not require another trade to construct components over the flexible sheet membrane. The roofing contractor will make connection to flexible sheet membranes install by other trades prior to the application of the roofing system, provided that a minimum of 200 mm of compatible membrane/material is accessible to complete the tie-in. Unless otherwise specified, the roofing contractor will provide a minimum 200 mm of overlapping material extending beyond the exterior point of the roofing system for any membrane connections required by any trade after installation of the roofing system;
8. Sheet Metal Flashing of all metal types forming part of the roofing system including:
  - a. Eaves troughs, downspouts and metal splash pans;
  - b. Gum cups/pots/boxes;
  - c. Parapet, curb and control joint flashing;
  - d. Control joint covers;
  - e. Any prefinished metal flashing of the roofing system in stock and chosen from standard 8000 or 10,000 color series in 22, 24 and 26 gauge metal (0.72 mm, 0.58 mm and 0.43 mm);
9. One-hour fire watch re: hot-work;
10. Installation of flashings for drains and plumbing vents – as supplied by others;

## Roofing and Related Sheet Metal, cont'd.

11. Flashing all roof curbs and sleepers if required (seal into roof membrane);
12. Shop drawings for sloped insulation systems and roof accessories;
13. Protection of other trades work from damage by the roofing contractor;
14. Hoisting of roofing materials;
15. Scaffolding/man lifts where required to perform work by this trade scope;
16. Trade specific lighting to perform tasks;
17. Trade cleanup - cleanup for work carried out by this trade;
18. Warranty and/or Guaranty;
19. Submittals and O&M documentation as specified in the tender documents;
20. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
21. Protection of other trades' work from damage when performing this trade's scope of work;
22. Commissioning as it applies to this trade scope;
23. Building Information Modeling (BIM) as it applies to this trade scope.

### EXCLUDED

1. Supply of roof specialties including mechanical roof drains, vent flashings, fall arrest anchors and roof jacks;
2. Metal sleeves for through deck openings, vents, etc.;
3. Preformed or field cut reglets;
4. Separate curbs for skylights, hatches and roof mounted HVAC equipment;
5. Insulating of roof curbs;
6. Structural decking or deck infill, including any component below the decking;
7. Through wall flashing;
8. Wood or metal roofing system components used to construct parapets, perimeter and curb blocking, curbs, control joints and sleeper supports;
9. Any membrane to be covered by material not installed by the roofing contractor;
10. Poured-in-place, light, medium or heavy concrete fill and paving blocks exceeding 45 kg each in mass;
11. Inspection and/or testing;
12. Metal roofing and related flashings;
13. Wood and metal walkways;
14. Installation of counter flashings for mechanical vents, ducts and chimneys is by others;
15. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
16. Temporary heat, general lighting, power, sanitation and water for general construction;
17. Hoarding;
18. Final Cleaning before turnover;
19. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
20. Firestopping;
21. Supply and maintenance of garbage and recycling bins for construction waste;
22. Removal of construction waste from job site;
23. General site security.

# Vegetated Roof Systems

## DEFINITION

A vegetated roof system is a waterproof roofing assembly on top of a roof deck structure, together with exterior walls, and overburden forming a roof assembly, able to support living plants while separating the inside and outside environments of a building.

Vegetated roof systems also termed as green roofs, eco-roofs, or landscaped roofs, of varying slopes include both conventional and protected membrane systems. The components above the roofing membrane consists of rigid insulation for protected membrane systems, and must include a membrane protection layer for conventional membrane systems, a root barrier, drainage layer, filter layer, growing medium (a.k.a. engineered soil), paving stones or loose gravel for non-vegetated zones, and specially selected living plants. The assembly may include a moisture retention layer, an irrigation system, ponds or landscape features.

### Vegetated roofs are categorized based on type of installation:

- a. **Substrate System:** growing medium is conveyed onto a combination of components required for containment, drainage, and protection from root penetration. The vegetation is planted onsite.
- b. **Modular System:** self-contained trays of growing medium and plants grown offsite and placed onto the roof surface. A protection layer is installed between the roof membrane and trays.
- c. **Pre-Grown Vegetated Blanket System:** thin mats or rolls of vegetation grown offsite and placed over a combination of components required for containment, drainage, and protection from root penetration. Additional thickness of growing medium may also be installed in accordance with project requirements.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Supply and installation of vegetated roof components includes:
  - a. Roof membrane protection layer in sheets, mats or boards, see Excluded;
  - b. Root barrier;
  - c. Drainage layer;
  - d. Moisture retention layer;
  - e. Filter cloth;
  - f. Growing medium; (maximum depth of 200 mm)
  - g. Modular pre-grown vegetated trays;
2. Curbs or dividers to contain and separate the vegetated roof assembly from non-vegetated zones, see Excluded;
3. Placement of gravel (maximum grain size of 64 mm) or concrete pavers (not exceeding 45 kg each) in non-vegetated zones;
4. Compaction and leveling of growing medium substrate to specified minimum thickness, see Excluded;
5. Supply and installation of soil stabilization systems or materials for steep sloped applications;
6. Specified electronic leak detection system installation including testing prior to and after completion of vegetated roof assembly included in the roofing contractors scope of work, see Excluded;
7. Installation of subsurface irrigation drip lines when supplied by others;
8. Scaffolding/man lifts where required to perform work by this trade scope;
9. Installation of flashings for drains and plumbing vents – as supplied by others;
10. Flashing all roof curbs and sleepers if required (seal into roof membrane);
11. Trade specific lighting to perform tasks;
12. Trade cleanup - cleanup for work carried out by this trade (including cleaning all debris from roof drains);
13. Warranty and/or Guaranty;
14. Submittals and O&M documentation as specified in the tender documents;
15. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
16. Protection of other trades' work from damage when performing this trade's scope of work;
17. Commissioning as it applies to this trade scope;
18. Building Information Modeling (BIM) as it applies to this trade scope.

## Vegetated Roof Systems, cont'd.

### EXCLUDED

1. Supply, connection, and commissioning of integrated irrigation systems;
2. Supplemental irrigation including supply of water, hoses, and spraying equipment;
3. Temporary protection from other trades of the roof membrane surface, plants and growing medium, or other components not installed by the roofing contractor;
4. Electronic leak detection testing after planting or successive work by others on or adjacent to the vegetated roof section;
5. Prevention measures for growing medium erosion or displacement from wind or rain, as well as prevention of over compaction of growing medium caused by storage of materials or traffic from other trades;
6. Poured-in-place or pre-cast concrete curbs or planter boxes, concrete fill, and paving blocks exceeding 45 kg each in mass;
7. Landscaping or decorative features on or adjacent to the growing medium including ponds, fountains, lighting, large rocks greater than 64 mm in size, etc.;
8. Patios, decks, or decorative pathways for use by people for non-maintenance purposes on the roof surface, including safety railings or barriers;
9. Planting or seeding including ongoing maintenance of the plants and growing medium during and after vegetation establishment period;
10. Growing medium preparation such as watering, fertilizing, and amending to meet planting, landscaping or irrigation requirements of the project;
11. Growing medium infill for planter boxes greater than 200 mm in depth;
12. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
13. Installation of counter flashings for mechanical vents, ducts and chimneys is by others;
14. Temporary heat, general lighting, power, sanitation and water for general construction;
15. Hoarding;
16. Final Cleaning before turnover;
17. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
18. Firestopping;
19. Supply and maintenance of garbage and recycling bins for construction waste;
20. Removal of construction waste from job site;
21. General site security.

# Metal Sheet Roofing

## DEFINITION

This tender shall be for the supply and installation of metal sheet roofing.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Related closures, caulking, flashings and fasteners incorporated into the system;
2. Internal sub-girts and clip systems;
3. Liner panel of materials forming part of the preformed metal roofing assembly;
4. Gypsum board when applied over a roof deck as part of the roofing system;
5. Auxiliary boards such as plywood and/or wood strapping when applied over a roof deck as part of the metal roofing system;
6. Related insulation, adhesives, vapor barriers and air barriers;
7. Flexible sheet membranes which form part of the building air barrier directly behind the metal roofing system including connection to work of the preceding trade where required. If connection is required by any trade following the metal roofing installation then the metal roofing contractor provides a minimum 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the metal roofing system;
8. Gutter and downspouts that form an integral part of the preformed metal roofing system;
9. Installation only of acoustical insulation strips for acoustic steel deck which is supplied by others in a preformed custom fitted condition;
10. Metal soffits and/or wall cladding if profile, gauge and color is to match metal roofing including related insulation, vapor barrier and sub-girts;
11. Acrylic or polycarbonate skylights, fiberglass skylights (when same profile as metal roof), smoke or access hatches, all when used within the "Preformed metal roofing" area;
12. Hoisting of roofing materials;
13. Scaffolding;
14. When any prefinished metal flashing is required by the other trades that specifically match in color and gauge that specified for the metal roofing, then the prefinished flat sheets are to be supplied by this trade freight included to the contractors shop, see Excluded;
15. Installation of flashings for drains and plumbing vents supplied by others;
16. Scaffolding/man lifts where required to perform work by this trade scope;
17. Installation of flashings for plumbing vents – as supplied by others;
18. Trade specific lighting to perform tasks;
19. Trade cleanup - cleanup for work carried out by this trade;
20. Warranty and/or Guaranty;
21. Submittals and O&M documentation as specified in the tender documents;
22. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
23. Protection of other trades' work from damage when performing this trade's scope of work;
24. Commissioning as it applies to this trade scope;
25. Building Information Modeling (BIM) as it applies to this trade scope.

## Metal Sheet Roofing, cont'd.

### EXCLUDED

1. Fabrication and/or installation of any flashing material not incorporated into metal roof system (i.e. Flat pre-painted material for built up roofing contractor);
2. Wood or metal components of the roofing (unless incorporated in the preformed metal roofing system) used to construct; parapets, perimeter and curb blocking, curbs, control joints and sleeper supports;
3. Metal soffits and/or wall cladding (see Included);
4. Aluminum/glass or aluminum/fiberglass skylight systems or skylights outside the preformed metal roofing area;
5. Separate curbs for skylights or hatches, etc.;
6. Through wall flashing;
7. Backing and supports for other trades;
8. Purlins or other structural materials;
9. Insulation or vapor barrier behind structure which metal roofing is fastened to;
10. Roof drains connected to an internal system;
11. Installation of counter flashings for mechanical vents, ducts and chimneys is by others;
12. Structural metal deck or any component below the decking;
13. Supply and installation of fall arrest anchors;
14. Inspection and testing;
15. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
16. Temporary heat, general lighting, power, sanitation and water for general construction;
17. Hoarding;
18. Final Cleaning before turnover;
19. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
20. Firestopping;
21. Supply and maintenance of garbage and recycling bins for construction waste;
22. Removal of construction waste from job site;
23. General site security.

# Metal Deck

## DEFINITION

This tender shall be for the supply and installation of metal deck.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

This contractor shall supply and install all metal decking including but not limited to the following:

1. Metal roof deck;
2. Metal floor deck;
3. Acoustic roof deck;
4. Pre-painted roof deck;
5. Metal deck to wall areas.

## INCLUDED

1. Steel and foam cell deck closures where installed between structural support and decking;
2. Supply only, notched metal or foam cell deck closures incorporated into other construction from top or underside of deck;
3. Cutting of openings in deck marked by other trades at the time of deck installations;
4. Reinforcing of pre-marked openings in roof deck up to 450 mm across the flutes and 300 mm in floor decking;
5. Shear connectors when shown field welded through the metal deck;
6. Touch up top (and bottom side of decking where architecturally exposed), where metallic coating has been burned or marred by welding (see Excluded);
7. Metal cover plates over deck at change of plane or direction;
8. Acoustic insulation strips for acoustic roof deck supply only to the trade requiring;
9. Edge forming less than 3.2 mm thick for steel deck;
10. Hoisting;
11. Scaffolding/man lifts where required to perform work by this trade scope;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade;
14. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
15. Warranty and/or Guaranty;
16. Submittals and O&M documentation as specified in the tender documents;
17. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
18. Protection of other trades' work from damage when performing this trade's scope of work;
19. Commissioning as it applies to this trade scope;
20. Building Information Modeling (BIM) as it applies to this trade scope.

## Metal Deck, cont'd.

### EXCLUDED

1. Reinforcing or structural framing of openings larger than mentioned, see Included;
2. Field painting including touch-up to the underside of deck, top cords or flanges of supporting steel members where discoloration due to welding has occurred on non-exposed deck;
3. Mechanical clips, nails, adhesives or other fasteners for securing insulation, thermal barrier or vapor retarder to steel deck;
4. Cutting and drilling of holes for attachment of suspended ceiling hangers or for attachment of any work by other trades;
5. Bearing plates, shelf angles, supports at steel columns and/or other structural materials required to support the steel deck;
6. Wood nailers, cants, vapor retarder, insulation, thermal barrier, waterproofing membrane and ballast;
7. Architectural trim;
8. Forming at floor deck perimeter or openings;
9. Cutting openings in floor deck after concreting;
10. Shoring under composite floors;
11. Supply and/or installation of shear connectors not welded through metal deck;
12. Shear transfer elements;
13. Metal deck when part of the Cold Rolled Steel Framing assembly (see Cold Rolled Steel Framing, Included);
14. Metal cladding;
15. Metal roofing;
16. Caulking;
17. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
21. Firestopping;
22. Supply and maintenance of garbage and recycling bins for construction waste;
23. Removal of construction waste from job site;
24. Final cleaning before turnover;
25. General site security.

# Entrances, Storefronts and Windows

## DEFINITION

This tender shall be for the supply and installation of materials and components within the fenestration, connected to, and forming an integral part of this scope, and for extruded aluminum wall cladding, aluminum laminated panels, and aluminum formed sheet panels, porcelain panels and cement panels, except for infill panels forming part of other trade scopes.

**Fenestration** means within a floor span.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Anchoring devices:
  - a. Supply and installation of anchors which are part of the framing;
  - b. Supply only of anchors or inserts which are part of the structure;
2. Architectural glass and metal doors including sliding, swinging, revolving and balanced doors, complete with hardware (including plastic and/or plastic laminate push pulls where an integral part of the door (see Architectural Woodwork, Included). All components for complete installation of automatic doors including any interconnecting wiring (see Electrical, Included), when they form an integral part and are within the fenestration of this scope, commissioning NOT included;
3. Architectural metal patio or balcony doors, complete with hardware;
4. Architectural metal sills, flashing and trims forming part of entrances, storefronts and windows and other architectural metal sills, flashing and trims of matching materials, see Excluded;
5. Caulking (other than firestopping), joint backing and perimeter sealing;
6. Demolition of existing installations when the materials are to be re-used or retained as specified;
7. Darkroom revolving doors of architectural metals;
8. Electrical security and monitoring devices, mounted on doors and door frames within this scope, i.e. locks, card readers, door monitors, switches, strike release, panic devices, magnets, etc., supplied and installed; wiring by electrical (see Electrical, Included). Installation only of components for trade name security and monitoring systems specified to be furnished by one supplier to the electrical contractor and which must be mounted on doors and frames within this scope; supplied by the electrical contractor for installation by this contractor;
9. Extruded aluminum wall cladding, see Definition;
10. Factory pre-assembled translucent panels;
11. Flexible sheet membrane which forms part of the building air barrier and is an integral part of the entrances, storefronts and windows system including connection to work of preceding trade where required. If connection is required by any trade following the entrances, storefronts and windows installation then the entrances, storefronts and windows contractor provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the entrances, storefronts and windows system;
12. Fly screens to venting windows;
13. Architectural metal framing;
14. Glass, glazing and glazing materials;
15. Glazing and architectural metal framing that is sloped in excess of 15 degrees beyond vertical, or curved which is connected to and forming part of this scope as per definition;
16. Guard rails including architectural metal and wood and plastic laminate where they are an integral part of, and built into metal entrances and storefronts and special windows (installation only of rails other than metal attached to special windows);
17. Hoisting;
18. Industrial steel sash;
19. Infill panels, including insulation where it forms an integral part of a panel;
20. Initial cleaning between removable/non-removable multiple glazing;
21. Insulation within the fenestration;
22. Interior architectural metal glazed partitions, including recreational arena and court glass and glazing;

## Entrances, Storefronts and Windows, cont'd.

23. Entrances and storefronts (interior or exterior);
24. Preparation of framing for hardware supplied by others for doors not covered under Included;
25. Shop drawings and engineering of entrances, storefronts and windows to the specified design criteria;
26. Single glazing, multiple glazing and sealed units, plastic, fiberglass and similar materials;
27. Spandrel and infill panels, e.g. extruded aluminum wall cladding, cement, porcelain, etc. including insulation where it forms an integral part of a panel;
28. Stiffeners and/or steel reinforcement where required and where it is enclosed by the architectural metal section, see Excluded;
29. Supply only of architectural framing to be embedded in concrete;
30. Supply and installation of operating hardware;
31. Testing where specifically required by the specifications;
32. Thermally formed wall domes or pyramids which are not part of or connected to the roofing system;
33. Venetian blinds between glass supplied under this scope;
34. Scaffolding/man lifts where required to perform work by this trade scope;
35. Trade specific lighting to perform tasks;
36. Trade cleanup - cleanup for work carried out by this trade;
37. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
38. Manufacturer's warranty only beyond the normal one year maintenance warranty;
39. Warranty and/or Guaranty;
40. Submittals and O&M documentation as specified in the tender documents;
41. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
42. Protection of other trades' work from damage when performing this trade's scope of work;
43. Commissioning as it applies to this trade scope;
44. Building Information Modeling (BIM) as it applies to this trade scope.

## Entrances, Storefronts and Windows, cont'd.

### EXCLUDED

1. Concrete;
2. Doors, door frames and entrances, storefronts and window frames of steel, wood, metal clad wood, plastic laminate, polyvinyl chloride and fiberglass;
3. Glass or plastic panels when supplied and installed under Architectural Woodwork;
4. Installation of membranes or flashing, included under this scope, which cannot be installed or fastened during entrances, storefronts and windows installation;
5. Insulation, support or furring members, within entrance and storefront systems and windows, that are normally supplied and erected by others;
6. Interior wood sills or surrounds;
7. Insulation within framing supplied and erected by others;
8. Pressed steel frames;
9. Moveable, demountable partitions;
10. Shower doors;
11. Structural steel, see Included;
12. Sun control devices not between glass i.e. venetian blinds, drapes, sunshades, louvers etc. unless connected to the aluminum window frame system;
13. Sun screens, bird screens, guard screens;
14. Supply of flashing, sills or trim prefinished to match any materials not included in this scope, see Included;
15. Supply and installation of non-rigid membrane air/vapor barriers which form part of the structure and connects to the entrances, storefronts and windows, see Included;
16. Weather louvers mechanical and architectural (see General Mechanical Sub Section C Ventilation and Sheet Metal Ductwork, Included);
17. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final Cleaning before turnover;
21. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
22. Firestopping;
23. Supply and maintenance of garbage and recycling bins for construction waste;
24. Removal of construction waste from job site;
25. General site security.

## Hollow Metal Doors and Pressed Steel Frames – Supply Only

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

All the preparation required to accommodate the following shall apply as they relate to:

1. Finish Door Hardware;
2. Access Control;
3. Security Systems.

### INCLUDED

1. All Hollow Metal Doors and Pressed Steel Frames (except access doors for Mechanical and Electrical equipment);
2. Preparation of both Doors and Frames to accept approved Hardware (except mounting holes 12mm diameter or smaller);
3. Reinforcing of Doors and Frames for surface applied Hardware;
4. Provide suitable low voltage connection boxes on both Doors and Frames to allow for electrified hardware connections;
5. Provide suitable Electrical Raceways in Doors and Frames to accommodate wiring for electrified hardware (unless directed otherwise in the tender documents);
6. Suitable Anchoring System to allow for the proper installation of frames;
7. Suitable Frame Spreader Bars for maintaining Frame integrity during transport;
8. Preparation of Doors to accept glass as described in the tender documents;
9. Touch-up priming where coating abraded during the assembly process for the purpose of reducing the incidence of oxidation (rust) (not as a final prime coat);
10. Glazing Bead or Stop complete with suitable fastening devices;
11. Warranty and/or Guaranty;
12. Submittals and O&M documentation as specified in the tender documents;
13. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
14. Building Information Modeling (BIM) as it applies to this trade scope.

### EXCLUDED

1. Installation of Doors and Frames;
2. Blast Resistant Doors and Frames;
3. Detention Doors and Frames;
4. Stainless Steel Doors and Frames;
5. Acoustic Doors and Frames;
6. Glass and Glazing;
7. Caulk and Caulking;
8. Insulation within Frames;
9. Hoarding;
10. Flashings;
11. Finish painting or full priming;
12. Pre-hanging of doors;
13. Final cleaning or prepping of doors or frames to receive finish Paint;
14. Termination of electrified Hardware;
15. Supply of door or window hardware;
16. Fastening devices other than required to meet Fire Rating parameters (existing masonry application);
17. Cladding of doors and frames;
18. Access doors and frames for Mechanical and Electrical.

## Glass and Glazing

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Caulking (other than firestopping), joint backing and perimeter sealing to glass and glazing;
2. Demolition of existing installations when the materials are to be re-used or retained as specified;
3. Glass doors (except in architectural woodwork) and sliding hardware, including locks, for site fabricated display cases;
4. Handcrafted leaded stained glass, glass, plastics, x-ray and infill panels to:
  - a. Balustrades (other than escalators);
  - b. Hollow metal;
  - c. Metal clad wood doors;
  - d. Metal display cases;
  - e. Metal frames other than those falling under: curtain wall scope, entrances, storefronts and windows scope;
  - f. Pressed steel (frames and applied stops to be pre-drilled, fitted and installed complete with fastening devices by supplier prior to glazing by this trade);
  - g. Prefinished demountable partitioning;
5. Glass shelving (except in architectural woodwork) including shelf standards, clips and brackets;
6. Glass smoke baffles and sprinkler baffles including shimming, fasteners and caulking for fastening of the glass to the supporting system (supporting system supplied and installed by others);
7. Hoisting;
8. Manufacturer's warranty only beyond the normal one year maintenance warranty;
9. Mirrors, including glass, plastics, stainless steel, chrome plated in standard and tilting tamperproof frames, J moulds and clips, unless specified to be part of Architectural Woodwork (see Architectural Woodwork, Included);
10. Shop drawings and engineering of glass and glazing to the specified design criteria;
11. Scaffolding/man lifts where required to perform work by this trade scope;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade;
14. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
15. Warranty and/or Guaranty;
16. Submittals and O&M documentation as specified in the tender documents;
17. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
18. Protection of other trades' work from damage when performing this trade's scope of work;
19. Commissioning as it applies to this trade scope;
20. Building Information Modeling (BIM) as it applies to this trade scope.

## Glass and Glazing, cont'd.

### EXCLUDED

1. Concrete;
2. Glass to architectural woodwork;
3. Glass to overhead doors;
4. Glass to curtain wall and entrances, storefronts and windows;
5. Mirrors, glass, polycarbonate and acrylic when installed in wood frames or standard manufactured cabinets, display cases, furniture, fixtures, casework, countertops and tabletops;
6. Railing, capping and supports to balustrades and wall rails;
7. Recreational arena and court glass and glazing;
8. Shower doors;
9. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
10. Precut glass stops and beads for demountable partitions to be supplied by the demountable partition trade scope;
11. Temporary heat, general lighting, power, sanitation and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Firestopping – for all trades scopes other than Mechanical and Electrical;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Removal of construction waste from job site;
18. General site security.

# Curtain Wall

## DEFINITION

This tender shall be for the supply and installation of components within the fenestration, connected to, and forming an integral part of this scope.

**Curtain Wall** is that fenestration which continues past one or more floor spans.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Anchoring devices:
  - a. supply and installation of anchors which are part of the grid;
  - b. supply only of anchors or inserts which are part of the structure;
1. Architectural glass and metal doors including sliding, swinging, revolving and balanced doors, complete with hardware (including plastic and/or plastic laminate push pulls where an integral part of the door, see architectural woodwork, all components for complete installation of automatic doors including any interconnecting wiring (see Electrical, Included), when they form an integral part and are within the fenestration of this scope;
2. Architectural metal sills, flashing and trims forming part of the curtain wall and other architectural metal sills, flashing and trims of matching materials/finish, see Excluded;
3. Caulking (other than firestopping), joint backing and perimeter sealing;
4. Demolition of existing installations when the materials are to be re-used or retained as specified;
5. Electrical security and monitoring devices, mounted on doors and door frames within this scope, i.e. locks, card readers, door monitors, switches, strike release, panic devices, magnets, etc., supplied and installed; wiring by electrical (see Electrical, Included). Installation only of components for trade name security and monitoring systems specified to be furnished by one supplier to the electrical contractor and which must be mounted on doors and frames within this scope supplied by the electrical contractor for installation by this contractor;
6. Factory pre-assembled translucent panels;
7. Flexible sheet membrane which forms part of the building air barrier and is an integral part of the curtain wall system including connection to work of preceding trade where required. If connection is required by any trade following the curtain wall installation then the curtain wall contractor provides a maximum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the curtain wall system;
8. Fly screens to venting windows;
9. Glass, glazing and glazing materials;
10. Glazing and architectural metal framing that is sloped in excess of 15 degrees beyond vertical, or curved, within the curtain wall;
11. Guard rails including architectural metal and wood and plastic laminate where they are an integral part of and built into the curtain wall (installation only of rails other than metal attached to the curtain wall);
12. Initial cleaning between removable/non-removable multiple glazing;
13. Insulation within the curtain wall;
14. Preparation of framing for hardware supplied by others where doors are not part of this trade;
15. Shop drawings and engineering of curtain wall system to the specified design criteria;
16. Skylights - glazed architectural metal framing, flat or sloped greater than 15 degrees, or curved, not attached to window framing, entrances and storefronts framing and not included under Roofing scope;
17. Spandrel and infill panels - e.g. cement, porcelain, extruded aluminum wall cladding, etc. including insulation where it forms an integral part of a panel;
18. Stiffeners and/or steel reinforcement where required and where it is enclosed by the architectural metal section;
19. Venetian blinds between glass supplied under this scope;

## Curtain Wall, cont'd.

20. Scaffolding/man lifts where required to perform work by this trade scope;
21. Hoisting;
22. Trade specific lighting to perform tasks;
23. Trade cleanup - cleanup for work carried out by this trade;
24. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
25. Manufacturer's warranty only beyond the normal one year maintenance warranty;
26. Testing where specifically required by the specifications;
27. Warranty and/or Guaranty;
28. Submittals and O&M documentation as specified in the tender documents;
29. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
30. Protection of other trades' work from damage when performing this trade's scope of work;
31. Building Information Modeling (BIM) as it applies to this trade scope;
32. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Concrete work;
2. Doors, door frames and curtain wall frames of steel, wood, metal clad wood, plastic laminate, polyvinyl chloride and fiberglass;
3. Flashing, sills or trim prefinished to match any materials not included in this scope;
4. Glass or plastic panels when supplied and installed under Architectural Woodwork;
5. Insulation, support or furring members, within curtain wall systems, that are normally supplied and erected by others;
6. Interior wood sills or surrounds;
7. Shower doors;
8. Skylights which are thermally formed and incorporate a base frame only which relate to the roofing system;
9. Structural steel, see Included;
10. Sun control devices not between glass i.e. Venetian blinds, drapery, etc.;
11. Sun screens, bird screens, guard screens, sunshades and louvers attached to the frame unless connected to the aluminum window frame system;
12. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
13. Temporary heat, general lighting, power, sanitation and water for general construction;
14. Hoarding;
15. Final Cleaning before turnover;
16. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
17. Firestopping;
18. Supply and maintenance of garbage and recycling bins for construction waste;
19. Removal of construction waste from job site;
20. General site security.

## Lath, Plaster and Stucco

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Acrylic plaster systems;
2. Beads, plaster stop and expansion joints, casing and trim which are an integral part of the work;
3. Building paper for lathing, plastering and stucco systems;
4. Caulking (other than firestopping) to structural, mechanical or electrical penetrations in lath and plaster or stucco systems;
5. Caulking (other than firestopping) where it forms part of the expansion or control joint;
6. Fire rating to recessed fixtures when constructed of materials within this scope;
7. Flexible sheet membrane which forms part of the building air barrier directly behind a plaster or stucco system including connection to work of preceding trade where required. If connection is required by any trade following the plaster or stucco installation then the lath, plaster and stucco contractor provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the plaster or stucco system;
8. Inserts, hangers, trim and support moldings capable of supporting light fixtures (electrical light fixtures exceeding 610 mm x 1220 mm shall be independently supported by others);
9. Inserts, hangers, trim and support moldings capable of supporting radiant panels and mechanical grilles (panels and grilles exceeding 610 mm x 1220 mm shall be independently supported by others);
10. Installation only of access doors;
11. Installation only of metal door frames supported by steel stud and plaster system only;
12. Installation only of pre-manufactured metal deck filler covered with plaster or stucco;
13. Installation only of plaster trims (frames) for lighting fixtures (excluding lighting fixture components);
14. Lathing systems and metal furring for plaster and stucco;
15. Lathing systems for ceramic, mosaic tile;
16. Metal channels lighter than 2.0 mm (14 ga.) for plaster systems;
17. Plastering and stucco - plain, acoustical, ornamental, cast or molded, textured plaster applied to concrete, including veneer plaster systems, veneer board and all other gypsum plaster based casts and molded shapes;
18. Plaster sound baffles;
19. Rigid insulation when used as plaster or stucco base;
20. Sound insulation to plaster and stucco system only (mineral wool, fibrous batt, fibre board, noise stop board, resilient sound board, gasket and caulking) all directly behind plaster and stucco only;
21. Steel stud partitions for plaster systems only, including load bearing steel studs, 12 ga. or lighter, (2.6 mm/97 mils) where required to support lath and plaster systems and where lath and plaster is specified for both sides of the wall (see Gypsum Board and Metal Framing, Included);
22. Testing of material where specified;
23. Thermal insulation (batt, rigid or loose fill attic insulation) directly behind plaster, including where walls are strapped (not to include cavity wall insulation);
24. Vapor barrier directly behind plaster;
25. Supply and installation of prefinished metal moldings for support of radiant panels when installed as an integral part of the Lath and Plaster Ceiling Systems;
26. Hoisting;
27. Scaffolding/man lifts where required to perform work by this trade scope;
28. Trade specific lighting to perform tasks;
29. Trade cleanup - cleanup for work carried out by this trade;
30. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
31. Warranty and/or Guaranty;
32. Submittals and O&M documentation as specified in the tender documents;
33. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
34. Protection of other trades' work from damage when performing this trade's scope of work;
35. Building Information Modeling (BIM) as it applies to this trade scope.

## Lath, Plaster and Stucco, cont'd.

### EXCLUDED

1. Building paper under finishes other than lath, plaster or stucco;
2. Corner guards or expansion joint covers which are pre-manufactured and surface mounted;
3. Exterior gypsum sheathing and metal suspension for same;
4. Installation of air grilles, access panels and accessories if independently suspended;
5. Poly vapor hats (see Electrical, Included);
6. Steel door frames for steel stud partitions;
7. Steel studs or suspension systems when any material other than lath, plaster or stucco is applied to one or both sides;
8. Supply of access doors;
9. Supports for light fixtures and radiant panels exceeding 610 mm x 1220 mm;
10. Thermal insulation except for batt insulation directly behind plaster system only and rigid insulation where used as a plaster or stucco base;
11. Supply of trims and/or moldings for radiant panels when specified to be supplied with the radiant panel. This contractor to install (see General Mechanical Sub-Section B Prime Mechanical);
12. Load bearing steel studs when part of the Cold Rolled Steel Framing system section;
13. Supply and installation of backing in steel stud partitions – by others;
14. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. Final Cleaning before turnover;
18. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
19. Firestopping;
20. Supply and maintenance of garbage and recycling bins for construction waste;
21. Removal of construction waste from job site;
22. General site security.

## Gypsum Board and Metal Framing (Drywall)

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Caulking (other than firestopping) to structural, mechanical or electrical penetrations in gypsum board systems;
2. Gypsum board metal accessories, e.g. corner bead, casing bead, metal trim;
3. Exterior gypsum sheathing or rigid or semi-rigid insulation when used as a sheathing material and applied directly to the exterior surface of steel studs only;
4. Factory laminated vinyl gypsum board if there are no prefinished demountable partitions on the project to be tendered;
5. Fire rating to recessed fixtures in gypsum board systems;
6. Flexible sheet membrane which forms part of the building air barrier directly behind a gypsum board system including connection to work of preceding trade where required. If connection is required by any trade following the gypsum board installation then the Gypsum Board and Metal Framing contractor provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the gypsum board system;
7. Gypsum board backing and/or metal suspension system where ceiling is partially or wholly covered with acoustic tile or wood or other material. Joint treatment on exposed or unexposed to be included;
8. Gypsum board including joint treatment where applicable;
9. Hoisting;
10. Inserts, hangers, trim and support moldings capable of supporting light fixtures (electrical light fixtures exceeding 610 mm x 1220 mm shall be independently supported by others);
11. Inserts, hangers, trim and support moldings capable of supporting radiant panels and mechanical grilles (panel and grilles exceeding 610 mm x 1220 mm shall be independently supported by others);
12. Installation of flexible sheet membrane; placed under roof curb framing and parapet walls, which forms part of the building air barrier or vapor barrier and when installation of curb framing is the first component installed. If connection is required by any trade following installation of metal framing, then the trade contractor responsible for installation of metal framing will provide a minimum 200 mm overlap material to each side of the roof curb framing;
13. Metal framing for and Installation of access doors to gypsum board surfaces, doors supplied by others;
14. Installation only of gypsum board trims (frames) to gypsum board surfaces for lighting fixtures (excluding lighting fixture components);
15. Installation only of pre-manufactured metal deck fillers when covered with gypsum board;
16. Installation only of steel door frames supported by metal stud and gypsum board system;
17. Metal suspension system and/or metal furring capable of supporting all appurtenances supported by ceiling, for exposed gypsum board or spray-textured ceilings;
18. Scaffolding;
19. Sound baffles made of materials described in this scope, including lead shielding;
20. Sound and fire insulation to gypsum board system only (mineral wool, ceramic, fibrous batt, fibre board, noise stop board, acoustical lead shielding, resilient sound bar, gasket and caulking) all directly behind gypsum board;
21. Sprayed gypsum board texture to gypsum board ceilings and to concrete surfaces including the primer paint for same (see Painting, Excluded);
22. All steel studs, including lateral load bearing studs, excluding assemblies of other sections (see Gypsum Board and Metal Framing, Excluded; Cold Rolled Steel Framing, Included; Lath and Plaster, Included; Demountable Partitions, Included & Excluded);
23. Supply and installation of cementitious wall board (see Tile, Terrazzo, Marble and Granite, Included);
24. Thermal insulation (batt, rigid or loose fill attic insulation) directly behind gypsum board, including where wall are strapped (not to include cavity wall insulation);
25. Steel stud framing for all parapet and curb walls except when Cold Rolled Steel Framing is specified on the project;
26. Vapor barrier directly behind gypsum board;
27. Scaffolding/man lifts where required to perform work by this trade scope;
28. Trade specific lighting to perform tasks;
29. Trade cleanup – cleanup for work carried out by this trade;
30. General cleanup – provide 1 in 10 workers to assist for 4 hours weekly to assist in general jobsite cleanup;

## Gypsum Board and Metal Framing (Drywall), cont'd.

31. Warranty and Submittals and O&M documentation as specified in the tender documents;
32. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trades specification section;
33. Protection of other trades' work from damage when performing this trades scope of work;
34. Supply and installation of prefinished metal moldings for support of radiant heating panels when installed as an integral part of the gypsum board ceiling system;
35. Supply and installation of all sheet lead sound baffles and sound barriers where required for sound attenuation and which are integral to the gypsum board system or above gypsum board partitions installed by this trade;
36. Supply and installation of security mesh or panels up to 3.8mm (9 ga.) in gypsum board or ceiling assemblies;
37. Engineering costs associated with this trade required for the design of steel stud framing and/or wall systems to suit a specific project, as indicated in the tender documents;
38. Building Information Modeling (BIM) as it applies to this trade scope;
39. Commissioning as it applies to this trade scope.

### EXCLUDED

1. Building paper;
2. Corner guards or expansion joint covers which are pre-manufactured and surface mounted;
3. General and final clean up;
4. Gypsum board or exterior gypsum sheathing when applied over a roof deck as part of the roofing system;
5. Hoarding;
6. Installation of air grilles, access panels and accessories if independently suspended;
7. Metal furring for direct attachment of metal siding;
8. Poly vapor hats (see Electrical, Included);
9. Steel studs for lath and plaster systems, both sides, and no sheathing or other materials attached (see Lath, Plaster and Stucco, Included & Excluded);
10. Steel studs for prefinished demountable partitions;
11. Supports for light fixtures and radiant panels exceeding 610 mm x 1220 mm;
12. Temporary heat, light, power, sanitation and water;
13. Supply of trims and/or moldings for radiant panels when specified to be supplied with the radiant panel. This contractor to install (see General Mechanical Sub-Section B Prime Mechanical);
14. Load bearing steel studs when part of the Cold Rolled Steel Framing system;
15. Exterior gypsum sheathing when part of the Cold Rolled Steel Framing system;
16. Steel framing for exterior soffits, including hangers and supports, when part of the Cold Rolled Steel Framing system;
17. Supply and installation of backing in steel stud partitions – by others;
18. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
19. Temporary heat, general lighting, power, sanitation and water for general construction;
20. Hoarding;
21. Final Cleaning before turnover;
22. Security costs. Where security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
23. Firestopping;
24. Supply and maintenance of garbage and recycling bins for construction waste;
25. Removal of construction waste from job site;
26. General site security.

# Tile, Terrazzo, Marble and Granite

## DEFINITION

This scope shall be for the supply and installation of Tile, Terrazzo, Marble, Granite, and Slate and Stone construction.

**Tile** is the following products provided they do not exceed 50 mm in thickness:

1. Burned clay products, (includes pavers) either glazed or unglazed, as used in the tile industry;
2. Composition materials, marble tiles, terrazzo tiles, glass mosaics, porcelain and all substitute materials for tile made in tile-like units;
3. Mixtures in tile-like form of cement, metals and other materials, that are made for and intended for use as a finished floor surface, stair treads, stair risers, stair base and stringer, promenade roofs, walks, walls, ceilings, swimming pools and all places where tile is used to form a finished interior or exterior surface for practical use, sanitary finish or decorative purposes (excludes resilient floor coverings, acoustic or ceiling tile).

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Application of a coat or coats of cement mortar, prepared to proper tolerance to receive tile on floors, walls and ceilings regardless of whether the cement mortar coat is wet or dry at the time the tile is applied to it;
2. Caulking/grouting (other than firestopping) between individual tiles, or marble, granite, slate or precast terrazzo panels;
3. Cementitious wallboard when used as a backing for this trade;
4. Cleaning of installed products (i.e. acid cleaning);
5. Decorative tile inserts in other materials;
6. Laying, cutting or setting and sealing of all tile where used for floors, bases, walls, ceilings, walks, promenade roofs, exterior veneers, stair treads, stair risers, facings, hearths, fireplaces and decorative inserts, together with any marble plinths, thresholds or window stools used in connection with any tile work;
7. Scratch coat for ceramic tile;
8. Setting of tile by the adhesive method with organic and/or inorganic thin bed bonding materials where such bonding material is applied to the backing surface and/or the backing of tile units or sheets of tile;
9. Setting, sealing and installation of prefabricated tile systems;
10. Slate, where used as above in place of tile and 50 mm thick or less;
11. Stone (Natural and Artificial), marble, granite, slate, precast Terrazzo or cultured marble where used as a floor or wall finish, interior or exterior, same as tile and where same is 50 mm thick or under, regardless of size or shape;
12. Supply of non-slip tile nosing for poured concrete stairs;
13. Testing as specified;
14. Terrazzo where used as a finish for walls, floors, bases, curbs, stair treads, stair risers, stair base and stair stringer, which is poured in place, contains an aggregate which is to be ground. Includes rustic terrazzo - either ground or not;
15. Waterproofing material or coating when part of the backing system for installation of materials used by this trade;
16. Hoisting;
17. Scaffolding/man lifts where required to perform work by this trade scope;
18. Trade specific lighting to perform tasks;
19. Trade cleanup - cleanup for work carried out by this trade;
20. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
21. Warranty and/or Guaranty;
22. Submittals and O&M documentation as specified in the tender documents;
23. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
24. Protection of other trades' work from damage when performing this trade's scope of work;
25. Building Information Modeling (BIM) as it applies to this trade scope.

## **Tile, Terrazzo, Marble and Granite, cont'd.**

### **EXCLUDED**

1. Caulking between materials in this scope and others, e.g. metal, glass or brick, etc.;
2. Continuous metal supporting angles, metal slots, boxes or anchorages which are built into the structural wall;
3. Expansion joints, flashing;
4. Lead pans;
5. Metal lath;
6. Miscellaneous iron work and manufactured specialty items, mat sink age frames;
7. Testing of pools, showers, etc.;
8. Waterproof membranes when not used in conjunction with materials used by this trade;
9. Wood grounds;
10. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
11. Temporary heat, general lighting, power, sanitation and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Firestopping;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Removal of construction waste from job site;
18. General site security.

# Component Ceiling Systems & Manufactured Acoustical Units

## DEFINITION

This tender shall be for the supply and installation of:

1. Manufactured acoustical units when used for the primary purpose of acoustical sound absorption;
2. Manufactured components that form an integral part of a suspended ceiling system installed as an interior ceiling finish and/or exterior soffit;
3. The same manufactured component materials as above when used as an interior wall finish and/or exterior cladding.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Component ceiling systems consisting of one or more of the following:
  - a. Cellulose, mineral or glass fibre acoustical tile;
  - b. Cellulose, mineral or glass fibre acoustical ceiling lay-in-panels;
  - c. Gypsum ceiling lay-in panels;
  - d. Perforated and/or un-perforated metal pan ceiling panels;
  - e. Vinyl or plastic ceiling panels;
  - f. Wood veneer ceiling panels;
  - g. Linear metal and/or wood linear ceiling and/or soffit system;
  - h. All luminous ceiling, decorative lenses and/or valence lay in panels, leaf-type reflectors, egg crate louvers, and/or light diffusers weather made of metal plastic wood or glass;
  - i. Preformed decorative ceilings;
2. Component ceiling suspension systems specifically designed for the support of component ceiling system or when used as a wall finish consisting of:
  - a. Adhesives, staples, nails, screws, etc. for attachment of ceiling systems components and/or manufactured acoustical units;
  - b. Carrying channels and furring channels (not exceeding 2.0 mm thick or 14 ga. materials) when used:
    - i. As an integral part of component ceiling systems;
    - ii. To meet Underwriters Laboratories Canada designs;
    - iii. To support manufactured acoustical units;
  - c. Concealed and/or semi-concealed suspension systems;
  - d. Exposed metal grid suspension systems;
  - e. Inserts and hangers capable of supporting component ceiling systems and all superimposed loads (electrical light fixtures exceeding 610 mm x 1220 mm shall be independently supported by other);
  - f. Inserts, hangers, trim and support moldings capable of providing perimeter support for edge radiant heat panels when installed as an integral part of the component ceiling system, and when trim and support materials are specified to match the ceiling system;
  - g. Metal and/or wood linear ceiling suspensions and furring systems;
  - h. Metal and plastic moldings required in conjunction with the direct support of the component ceiling suspension systems installed by this trade (see Electrical, Excluded);
  - i. Metal furring required to accept materials installed by this trade;
  - j. Sound isolation hangers which form an integral part of the hanger assembly of a component ceiling suspension system;
3. Demolition of existing installations when the materials are to be re-used or retained as specified;
4. Fire protective boxes and/or blankets for electrical fixtures and mechanical diffusers as required in Underwriters Laboratories Canada designs for floor/roof – ceiling assemblies;
5. Hoisting and material handling;
6. Insulating blankets laid directly on top of ceiling suspension system installed by this trade;
7. Luminous light and/or decorative lenses and/or louvers, including metal and/or plastic support molding when installed in architectural valences not constructed by this trade (see Electrical, Excluded);

## Component Ceiling Systems & Manufactured Acoustical Units, cont'd.

8. Manufactured acoustical units consisting of:
  - a. Sound absorbing wall panels;
  - b. Sound absorbers;
  - c. Suspended sound baffles;
9. Preformed architectural light coves and valances when used as a direct support or forming an integral part of a component ceiling system installed by this trade;
10. Preformed metal break-shapes (not exceeding 2.0 mm thick or 14 ga material) when used as a direct support of or forming an integral part of a ceiling system installed by this trade;
11. Preformed valance and curtain pockets when used as a direct support or forming an integral part of a component ceiling system installed by this trade;
12. Scaffolding as required by this trade;
13. Scaffolding/man lifts where required to perform work by this trade scope;
14. Trade specific lighting to perform tasks;
15. Trade cleanup - cleanup for work carried out by this trade;
16. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
17. Warranty and/or Guaranty;
18. Submittals and O&M documentation as specified in the tender documents;
19. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
20. Protection of other trades' work from damage when performing this trade's scope of work;
21. Building Information Modeling (BIM) as it applies to this trade scope.

## Component Ceiling Systems & Manufactured Acoustical Units, cont'd.

### EXCLUDED

1. Acoustical plaster ceiling finishes and suspension systems;
2. Acoustical wall treatment where constructed of materials that are not a manufactured acoustical material and recognized as an acoustically rated unit e.g. carpet underlay, sprayed wall coatings and coverings, etc.;
3. Caulking;
4. Gypsum board, plaster or wood fabricated valance pockets, curtain pockets, architectural light coves and valances;
5. Gypsum board and/or plaster ceiling finishes and suspension systems;
6. Inserts and hanger supports for Electrical and Mechanical fixtures exceeding 610 mm x 1220 mm;
7. Trims and/or molding for radiant panels when specified to be supplied with the radiant panel;
8. Gypsum board backing including suspension systems;
9. Job fabricated enclosures for acoustical batt and/or blankets;
10. Light lenses, egg crate lenses or louvres when forming an integral part of an individual light fixture when part of electrical scope;
11. Luminous light and/or decorative lenses, including metal and/or plastic support molding when installed as a sign band;
12. Metal flashing when not of the same color or material as the prefinished metal linear fascia and soffits;
13. Metal moldings or suspension that is not an integral part of work done by this trade;
14. Non-factory applied finishes or site finishing of any work under this trade section except for touch-up;
15. Perforated or un-perforated metal and/or hardboard liners, wall cladding or exterior soffits when comprised of metal siding or decking products;
16. Preparation of concrete, wood or gypsum surfaces to receive work by this trade;
17. Preparation of reflected ceiling drawings;
18. Removal of existing materials except as provided in Included;
19. Sound absorption panels and/or sound dampening systems used for mechanical and equipment;
20. Sound attenuation barriers where used in plenum space above partitions connected and/or sealed to ceiling system or structure above;
21. Sprayed applied acoustical materials;
22. Structural components required to meet specific Underwriter Laboratory Canada designs other than that forming an integral part of component ceiling systems;
23. Supplementary safety chains and support devices as may be required for electrical, mechanical, etc. fixtures;
24. Wood blocking, furring, strapping, trims and casings for materials other than those used by this trade;
25. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
26. Temporary heat, general lighting, power, sanitation and water for general construction;
27. Hoarding;
28. Final Cleaning before turnover;
29. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
30. Firestopping;
31. Supply and maintenance of garbage and recycling bins for construction waste;
32. Removal of construction waste from job site;
33. General site security.

## Resilient Floor Coverings

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Verification of moisture and alkalinity testing that was not done by others. This may mean conducting moisture indicator testing (not moisture testing);
2. Minor preparation of substrate surfaces including filler and primer, sub-floors to be made level and true by others (General Contractor);
3. Acclimatization of all materials;
4. Approved panel underlayment when specified prior to the installation of resilient flooring;
5. Following types of resilient flooring:
  - a. Vinyl sheet and tile flooring including solid vinyl and vinyl composition tile;
  - b. Linoleum sheet and tile flooring;
  - c. Rubber sheet and tile flooring;
  - d. Cork tile flooring;
  - e. Specialty resilient flooring (safety flooring, gym flooring, etc.);
  - f. Conductive flooring;
6. Following types of bases:
  - a. Vinyl and rubber base;
  - b. Self-cove and flash coved resilient sheet flooring bases including trim capping;
7. Vinyl and rubber stair coverings (treads, risers, stringers, nosings, landing coverings, and hazard warning strips);
8. Resilient floor coverings for exterior locations;
9. Fixed resilient flooring mats and runners when specified in conjunction with regular resilient flooring installation, or when sold separately;
10. Resilient flooring accessories, including:
  - a. Reducing / transition strips;
  - b. Nosings, including metal;
11. Adhesives with application;
12. Custom installation requirements when specified (such as heat welding, flash coving, provision of special drains, water jet cutting for inlay work, etc.);
13. Seaming plans when so specified;
14. Removal of packaging material and remnants specifically pertaining to this trade;
15. Provision and packaging of maintenance materials and excess stock as specified;
16. Provision of care and maintenance instructions for Owner's Maintenance Manual;
17. Caulking to own work where required;
18. Hoisting;
19. Trade specific lighting to perform tasks;
20. Trade cleanup - cleanup for work carried out by this trade;
21. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
22. Warranty and/or Guaranty;
23. Submittals and O&M documentation as specified in the tender documents;
24. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
25. Protection of other trades' work from damage when performing this trade's scope of work;
26. Building Information Modeling (BIM) as it applies to this trade scope.

## Resilient Floor Coverings, cont'd.

### EXCLUDED

1. Secure, heated, on-site storage;
2. Substrate testing including moisture (vapor emission) and alkalinity tests;  
**Note:** This work may be included where flooring is the only contract (as in the installation of resilient flooring in existing rooms or areas) subject to prior agreement with the Owner;
3. All other preparation of surfaces required for installation of resilient flooring including substrate preparation, and supply and installation of self-leveling cementitious underlayment and poured latex toppings;
4. Trowelled-on latex underlayment except when specified in conjunction with specific installation systems;
5. Maintenance and protection of installed resilient flooring prior to Substantial Performance. Such protection shall be provided by others using materials and methods acceptable to the resilient floor covering manufacturer;
6. Repairs to damage by others during and after completion and acceptance of the work;
7. Cleaning and sealing or the application of any other type of protective coatings, unless specified;
8. Base to demountable partitions, unless specified;
9. Loose laid resilient mats and runners;
10. Resilient flooring as an integral part of access flooring systems, unless specified;
11. Resilient bulletin / tack boards on walls, unless specified;
12. Resilient desk top coverings to millwork, unless specified;
13. Barricades;
14. Temporary heat, general lighting, power, sanitation and water for general construction;
15. Hoarding;
16. Final Cleaning before turnover;
17. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
18. Supply and maintenance of garbage and recycling bins for construction waste;
19. Removal of construction waste from job site;
20. General site security.

## **Carpeting**

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### **INCLUDED**

1. Verification of moisture and alkalinity testing that was not done by others;
2. Minor preparation of substrate surfaces including filler and primer, sub-floors to be made level and true by others (General Contractor);
3. Acclimatization of all materials;
4. Approved panel underlayment when specified prior to the installation of carpet flooring;
5. Carpet cushion (underlay);
6. Broadloom carpet for:
  - a. Tacked installations;
  - b. Tack-less installations;
  - c. Direct glue down installations;
  - d. Wall carpet;
  - e. Base, excluding metal wall capping, incorporated in wall structure;
  - f. Specialty installation such as display stands, etc.;
  - g. Outdoor / exterior installation;
7. Modular carpet or tile for loose laid and glue-down installations;
8. Fixed carpet mats and runners when specified in conjunction with regular carpet installation, or when sold separately;
9. Carpet accessories, including:
  - a. Binder bars;
  - b. Reducing strips;
  - c. Nosings (other than wood or metal);
10. Resilient (rubber and vinyl) and wood base and stair stringers when so specified;
11. Adhesives with application;
12. Seaming plans when so specified;
13. Removal of packaging material and remnants specifically pertaining to this trade;
14. Provision and packaging of maintenance materials and excess stock as specified;
15. Provision of care and maintenance instructions for Owner's Maintenance Manual;
16. Hoisting;
17. Scaffolding/man lifts where required to perform work by this trade scope;
18. Trade specific lighting to perform tasks;
19. Trade cleanup - cleanup for work carried out by this trade;
20. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
21. Warranty and/or Guaranty;
22. Submittals and O&M documentation as specified in the tender documents;
23. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
24. Protection of other trades' work from damage when performing this trade's scope of work;
25. Commissioning as it applies to this trade scope;
26. Building Information Modeling (BIM) as it applies to this trade scope.

## Carpeting, cont'd.

### EXCLUDED

1. Secure, heated, on-site storage;
2. Substrate testing including moisture (vapor emission) and alkalinity tests;  
**Note:** that this work may be included in the work where flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
3. All other preparation of surfaces required for installation of resilient flooring including substrate preparation, and supply and installation of self-leveling cementitious underlayment and poured latex toppings;
4. Trowelled-on latex underlayment except when specified in conjunction with specific installation systems;
5. Base to demountable partitions, unless specified;
6. Loose laid carpet mats and runners;
7. Carpet as an integral part of access flooring systems, unless otherwise specified;
8. Carpet bulletin and tack boards on walls;
9. Maintenance and protection of installed carpet flooring prior to Substantial Performance. Such protection shall be provided by others using materials and methods acceptable to the carpet manufacturer;
10. Repairs to damage by others during and after completion of work;
11. Barricades;
12. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
13. Temporary heat, general lighting, power, sanitation and water for general construction;
14. Hoarding;
15. Final Cleaning before turnover;
16. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
17. Firestopping;
18. Supply and maintenance of garbage and recycling bins for construction waste;
19. Removal of construction waste from job site;
20. General site security.

## Finished Flooring

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### A) Hardwood Flooring

#### INCLUDED

1. Verification of moisture and alkalinity testing that was not done by others. This may mean conducting moisture indicator testing (not moisture testing);
2. Minor preparation of substrate surfaces including filler and primer, sub-floors to be made level and true by others (General Contractor);
3. Acclimatization of all materials;
4. Approved moisture barrier or sheathing membrane when specified;
5. Approved resilient / acoustical underlayment when specified;
6. All hardwood flooring including, but not limited to the following:
  - a. Solid strip and plank flooring;
  - b. Solid parquet flooring (including self-adhesive parquet flooring);
  - c. Engineered strip and plank flooring;
  - d. Engineered parquet flooring (including self-adhesive engineered parquet flooring);
  - e. Acrylic impregnated wood flooring;
  - f. Strip block flooring;
  - g. Sports flooring including sub-floors, resilient pads, vent-cove base, and floor sockets;
  - h. Special proprietary hardwood flooring systems;
  - i. Wood base and quarter round trim;
  - j. Wood stair assemblies (i.e., wood treads, risers, nosings, and stringers (excluding metal nosings) where indicated);
7. Hardwood flooring accessories, including:
  - a. Moldings and trims;
  - b. Reducing / transition strips;
  - c. Thresholds;
  - d. Expansion fillers;
8. All adhesives required for installation;
9. All fasteners required for installation (nails, staples, screws, etc.);
10. All site-applied surface finishes, seals, stains, and bleaches, including site touch-up of factory applied finishes;
11. Layout / pattern plans when so specified;
12. Removal of packaging material and remnants specifically pertaining to this trade;
13. Provision and packaging of maintenance materials and excess stock as specified;
14. Hoisting;
15. Provision of care and maintenance instructions for Owner's Maintenance Manual;
16. Scaffolding/man lifts where required to perform work by this trade scope;
17. Trade specific lighting to perform tasks;
18. Trade cleanup - cleanup for work carried out by this trade;
19. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
20. Warranty and/or Guaranty;
21. Submittals and O&M documentation as specified in the tender documents;
22. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
23. Protection of other trades' work from damage when performing this trade's scope of work;
24. Supply of the appropriate personnel for assisting in the coordination of system installations;
25. Building Information Modeling (BIM) as it applies to this trade scope.

## A) Hardwood Flooring, cont'd.

### EXCLUDED

1. Secure, heated, on-site storage;
2. Substrate testing including moisture (vapor emission) and alkalinity tests;  
**Note:** that this work may be included in the work where flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
3. All other preparation of surfaces required for installation of resilient flooring including substrate preparation, and supply and installation of self-leveling cementitious underlayment and poured latex toppings;
4. Maintenance and protection of installed hardwood flooring prior to Substantial Performance. Such protection shall be provided by others using materials and methods acceptable to the hardwood flooring manufacturer;
5. Repairs to damage by others during and after completion of work;
6. Barricades;
7. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
12. Firestopping;
13. Supply and maintenance of garbage and recycling bins for construction waste;
14. Removal of construction waste from job site;
15. General site security.

## Finished Flooring, cont'd.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### B) Laminate Flooring

#### INCLUDED

1. Verification of moisture and alkalinity testing that was not done by others. This may mean conducting moisture indicator testing (not moisture testing);
2. Minor preparation of substrate surfaces including filler and primer, sub-floors to be made level and true by others (General Contractor);
3. Acclimatization of all materials;
4. Approved panel underlayment when specified prior to the installation of laminate flooring;
5. Approved moisture barrier or sheathing membrane when specified;
6. Approved resilient / acoustical underlayment when specified;
7. All laminate flooring;
8. Laminate flooring accessories; including:
  - a. Moldings and trims;
  - b. Reducing / transition strips;
  - c. Thresholds;
9. Layout / pattern plans when so specified;
10. Site touch-up of factory applied finishes after installation as required;
11. Removal of packaging material and remnants specifically pertaining to this trade;
12. Provision and packaging of maintenance materials and excess stock as specified;
13. Provision of care and maintenance instructions for Owner's Maintenance Manual;
14. Hoisting;
15. Scaffolding/man lifts where required to perform work by this trade scope;
16. Trade specific lighting to perform tasks;
17. Trade cleanup - cleanup for work carried out by this trade;
18. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
19. Warranty and/or Guaranty;
20. Submittals and O&M documentation as specified in the tender documents;
21. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
22. Protection of other trades' work from damage when performing this trade's scope of work;
23. Commissioning as it applies to this trade scope;
24. Building Information Modeling (BIM) as it applies to this trade scope.

## B) Laminate Flooring, cont'd.

### EXCLUDED

1. Secure, heated, on-site storage;
2. Substrate testing including moisture (vapor emission) and alkalinity tests;  
**Note:** that this work may be included in the work where flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
3. All other preparation of surfaces required for installation of resilient flooring including substrate preparation, and supply and installation of self-leveling cementitious underlayment and poured latex toppings;
4. Final cleaning and vacuuming;
5. Maintenance and protection of installed laminate flooring prior to Substantial Performance. Such protection shall be provided by others using materials and methods acceptable to the laminate floor covering manufacturer;
6. Repairs to damage by others during and after completion of work;
7. Barricades;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
12. Firestopping;
13. Supply and maintenance of garbage and recycling bins for construction waste;
14. Removal of construction waste from job site;
15. General site security.

## Finished Flooring, cont'd.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### C) Other Flooring

#### INCLUDED

1. Verification of moisture and alkalinity testing that was not done by others;
2. Minor preparation of substrate surfaces including filler and primer, sub-floors to be made level and true by others (General Contractor);
3. Approved panel underlayment when specified prior to the installation of flooring;
4. Approved moisture barrier or sheathing membrane when specified;
5. Acclimatization of all materials;
6. Approved resilient / acoustical underlayment when specified;
7. Following types of flooring:
  - a. Bamboo flooring;
  - b. Cork flooring;
  - c. Other flooring types not listed in other sections;
8. Vinyl and rubber base;
9. Flooring accessories, including:
  - a. Moldings and trims;
  - b. Reducing / transition strips;
  - c. Thresholds;
  - d. Expansion fillers;
10. Adhesives with application;
11. All site-applied surface sealers, stains, and finishes including site touch-up of factory applied finishes or pre-finished flooring;
12. Removal of packaging material and remnants specifically pertaining to this trade;
13. Provision and packaging of maintenance materials and excess stock as specified;
14. Provision of care and maintenance instructions for Owner's Maintenance Manual;
15. Caulking to own work where required;
16. Hoisting;
17. Trade specific lighting to perform tasks;
18. Trade cleanup – cleanup for work carried out by this trade;
19. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
20. Warranty and/or Guaranty;
21. Submittals and O&M documentation as specified in the tender documents;
22. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
23. Protection of other trades' work from damage when performing this trade's scope of work;
24. Commissioning as it applies to this trade scope;
25. Building Information Modeling (BIM) as it applies to this trade scope.

## C) Other Flooring, cont'd.

### EXCLUDED

1. Secure, heated on-site storage;
2. Substrate testing including moisture (vapor emission) and alkalinity tests;  
**Note:** that this work may be included in the work where flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
3. All other preparation of surfaces required for installation of resilient flooring including substrate preparation, and supply and installation of self-leveling cementitious underlayment and poured latex toppings;
4. Trowelled-on latex underlayment except when specified in conjunction with specific installation systems;
5. Maintenance and protection of installed flooring prior to Substantial Performance. Such protection shall be provided by others using materials and methods acceptable to the floor covering manufacturer;
6. Repairs to damage by others during and after completion and acceptance of the work;
7. Cleaning and sealing or the application of any other type of protective coatings, unless specified;
8. Final cleaning;
9. Base to demountable partitions, unless specified;
10. Barricades;
11. Temporary heat, general lighting, power, sanitation and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Firestopping;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Removal of construction waste from job site;
18. General site security.

# Seamless Flooring

## DEFINITION

This tender shall be for the supply and installation of flake, granular, rubber and synthetic fillers, natural aggregates and compositions when used with polyurethane, epoxy, poly-acrylate, natural or synthetic binders or other products approved as equal or alternate by the architect. The finished surface to remain un-ground.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Seamless flooring material when it is applied to:
  - a. Bases;
  - b. Curbs and gutters;
  - c. Floors;
  - d. Treads, risers, stair base and stringers;
  - e. Walls;
2. Manufactured accessories, i.e. rubber, vinyl, wood, stair treads, metal nosing, stringers and risers, as required for seamless flooring application only;
3. Shop drawings;
4. Temporary ventilation during application;
5. Testing;
6. Waterproof membranes and leveling coats when used as part of seamless flooring system;
7. Scaffolding/man lifts where required to perform work by this trade scope;
8. Hoisting;
9. Trade specific lighting to perform tasks;
10. Trade cleanup - cleanup for work carried out by this trade;
11. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
12. Warranty and/or Guaranty;
13. Submittals and O&M documentation as specified in the tender documents;
14. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
15. Protection of other trades' work from damage when performing this trade's scope of work;
16. Building Information Modeling (BIM) as it applies to this trade scope.

## EXCLUDED

1. Preparation of sub surfaces to receive seamless flooring;
2. Seamless flooring to prefinished raised access flooring panels;
3. Temporary heat, light, power, sanitation and water;
4. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
5. Temporary heat, general lighting, power, sanitation and water for general construction;
6. Hoarding;
7. Final Cleaning before turnover;
8. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
9. Firestopping;
10. Supply and maintenance of garbage and recycling bins for construction waste;
11. Removal of construction waste from job site;
12. General site security.

# Special Wall Coatings

## DEFINITION

This tender shall be for the supply and installation of Permanent Type Coating Systems having the following distinguishing characteristics:

1. Applied only by trained applicators;
2. Multi-coat system producing a finished dry film thickness of not less than 250 µm (0.250 mm) with or without obtaining special decorative features by incorporating rock aggregate, marble chips, colored ceramic granules, sound absorbing particles, reinforcing fiberglass, etc.;
3. Test results have been published in reference to the following: incombustibility, chemical resistance, exceptional durability eliminating deterioration due to oxidation, moisture, and ultra violet exposure, abrasion resistance, elasticity, etc.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Coatings:
  - a. Clear, natural and pigmented sealants - where supplied only by franchise manufacturers;
  - b. Cementitious coatings where supplied only by franchise manufacturers;
  - c. Epoxies - 2 components, catalyst cured, minimum of 250 µm (0.250 mm) dry film thickness exclusive of filler coats;
  - d. Exposed aggregate coatings;
  - e. Neoprene - hypalon;
  - f. Textured coatings - using polyurethane, rubber vinyl acoustical particles;
  - g. Vinyl acrylics - interior, exterior, textured;
  - h. Vinyl;
2. Hoisting;
3. Inspection;
4. Temporary ventilation during application of product;
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
9. Warranty and/or Guaranty;
10. Submittals and O&M documentation as specified in the tender documents;
11. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
12. Protection of other trades' work from damage when performing this trade's scope of work;
13. Building Information Modeling (BIM) as it applies to this trade scope.

## EXCLUDED

1. Paint products generally sold over the counter and applied by the purchaser;
2. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
3. Temporary heat, general lighting, power, sanitation and water for general construction;
4. Hoarding;
5. Final Cleaning before turnover;
6. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
7. Firestopping;
8. Supply and maintenance of garbage and recycling bins for construction waste;
9. Removal of construction waste from job site;
10. General site security.

# Spray Applied Fireproofing

## DEFINITIONS

This tender shall be for the supply and installation of spray applied fireproofing including all components necessary for a complete installation.

Spray applied fireproofing may comprise various products performing the function of providing a fire resistant surface as an integral part of an overall construction assembly. The governing factor and criteria are the Classification of Assemblies based on Fire Resistance Tests performed by Underwriters Laboratories Canada and Underwriters Laboratories Inc.

Spray fireproofing is normally applied by a franchised applicator appointed by the manufacturer.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Fibrous fireproofing, cementitious fireproofing, surface sealers, primers and paints as recommended by the manufacturer;
2. Hoisting;
3. Inspection;
4. Materials performing a dual function of providing spray fireproofing and spray insulation when specified under spray applied fireproofing;
5. Special ventilation when required during application;
6. Surface treatment;
7. Scaffolding/man lifts where required to perform work by this trade scope;
8. Trade specific lighting to perform tasks;
9. Trade cleanup - cleanup for work carried out by this trade;
10. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
11. Warranty and/or Guaranty;
12. Submittals and O&M documentation as specified in the tender documents;
13. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
14. Protection of other trades' work from damage when performing this trade's scope of work;
15. Building Information Modeling (BIM) as it applies to this trade scope.

## EXCLUDED

1. Gypsum board fireproofing;
2. Plaster and stucco fireproofing;
3. Sprayed soundproofing and sprayed air seal including spray applied fire retardant to same;
4. Vermiculite, vermiculite concrete;
5. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
6. Temporary heat, general lighting, power, sanitation and water for general construction;
7. Hoarding;
8. Final Cleaning before turnover;
9. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
10. Firestopping;
11. Supply and maintenance of garbage and recycling bins for construction waste;
12. Removal of construction waste from job site;
13. General site security.

# Firestopping

## DEFINITIONS

This tender shall be for the supply and installation of materials and components, including incidental items required for a complete installation, for the sealing, with firestopping materials, of penetrations through, and junctions between, fire-rated walls, floors, ceilings and roof structure.

Firestopping materials shall be those that will remain in place and prevent the passage of flame or hot gasses when subject to the standard fire exposure as required to meet the applicable building codes for a period of time equal to the fire protection rating required for the specified grade of fire separation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Trade specific Firestopping. The Firestopping contractor will submit separate prices to the following trade scopes:
  - a. Prime Mechanical – the prime mechanical contractor will carry the Firestopping costs for ALL trades in the mechanical scope;
  - b. Electrical – will carry the Firestopping costs for ALL Electrical;
  - c. General Contractor – will carry the Firestopping costs for ALL trade scopes other than Mechanical and Electrical;
2. Forms or damming;
3. Primers;
4. Testing when specified to be part of this subcontract;
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
9. Warranty and/or Guaranty;
10. Submittals and O&M documentation as specified in the tender documents;
11. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
12. Protection of other trades' work from damage when performing this trade's scope of work;
13. Building Information Modeling (BIM) as it applies to this trade scope.

## EXCLUDED

1. Backing, supports and finishes for other trades;
2. Caulking (other than firestopping);
3. Centering or alignment of pipes, conduit or devices passing through a penetration;
4. Fire rating to recessed fixtures in gypsum board systems (see Gypsum Board and Metal Framing, Included);
5. Fire rating to recessed fixtures in lath, plaster and stucco systems (see Lath, Plaster and Stucco, Included);
6. Fire rating to recessed fixtures in component ceiling systems (see Component Ceiling Systems, Included);
7. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
12. Supply and maintenance of garbage and recycling bins for construction waste;
13. Removal of construction waste from job site;
14. General site security.

# Painting

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Application and/or removal of protective and/or decorative coatings except those covered under special wall coatings;
2. Application of Coatings of:
  - a. Bitumen's applied as paints;
  - b. Emulsions;
  - c. Fibreglass;
  - d. Hypalon;
  - e. Lacquers;
  - f. Mastic;
  - g. Paints;
  - h. Plastics;
  - i. Stains;
  - j. Varnishes;
3. Application, using pastes or adhesives, of:
  - a. Burlap;
  - b. Cambric-backed wood veneers;
  - c. Cottons;
  - d. Damasks;
  - e. Grass cloth;
  - f. Muslin;
  - g. Paper;
  - h. Paper backed metal foils;
  - i. Rubber sheeting for tank linings;
  - j. Vinyl wall fabrics;
4. Filling of nail holes, on-site only (see Architectural Woodwork, Included & Excluded);
5. Fire-retardant paint and clear coating to architectural woodwork and wood paneling, excluding pressure treated items;
6. Hoisting;
7. Inspection;
8. Miscellaneous Applications of:
  - a. Gold leaf;
  - b. Metalizing;
  - c. Silver leaf;
9. On-site mechanical and electrical painting, including primary color coding of all pipes, ducts and equipment. Mechanical or electrical contractor to identify where required;
10. Painting of recreational lines and markings on resilient floor coverings;
11. Scaffolding/man lifts where required to perform work by this trade scope;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade;
14. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
15. Warranty and/or Guaranty;
16. Submittals and O&M documentation as specified in the tender documents;
17. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
18. Protection of other trades' work from damage when performing this trade's scope of work;
19. Building Information Modeling (BIM) as it applies to this trade scope.

## Painting, cont'd.

### EXCLUDED

1. Clear finishes or hardeners to concrete floors;
2. Clear finishes to exterior masonry (see Masonry, Included);
3. Coatings specified under special wall coatings;
4. Filling of nail holes in Architectural Woodwork specified to be shop applied finished;
5. Mechanical and electrical stenciling, plastic decals for flow arrows, identification, plastic and/or canvass, colored tape and/or secondary banding;
6. Painting of recreational lines and markings and finishes on hardwood floors;
7. Painting to temporary hoardings or dust walls;
8. Primer paint and priming for sprayed gypsum board texture to gypsum board ceilings and concrete surfaces (see Gypsum Board and Metal Framing, Included);
9. Priming to miscellaneous metals and structural steel as defined in miscellaneous steel, structural steel and mechanical scopes;
10. Shop applied finishes to architectural woodwork (see Architectural Woodwork, Included);
11. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
12. Temporary heat, general lighting, power, sanitation and water for general construction;
13. Hoarding;
14. Final Cleaning before turnover;
15. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
16. Firestopping;
17. Supply and maintenance of garbage and recycling bins for construction waste;
18. Removal of construction waste from job site;
19. General site security.

# Prefinished Demountable Partitions

## DEFINITIONS

Prefinished – means exposed components that do not require jobsite finishing.

Demountable – readily dismantled and re-erected using prefinished component parts.

This contractor shall include the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Chalkboards, tackboards and display boards which are incorporated and an integral part in the prefinished demountable partition system;
2. All prefinished components and accessories for prefinished demountable partitions including aluminum, plastic and prefinished metal frames, battens, bases, ceiling trim, etc. which are part of the demountable manufacturer's system;
3. Factory applied vinyl covered board, (except where used as lay in panels for component ceiling systems):
  - a. Be supplied and installed by the prefinished demountable partition contractor when prefinished demountable partitions are specified on the project;
  - b. Be supplied and installed by the Gypsum Board and Metal Framing contractor when prefinished demountable partitions are not specified on the project;
4. Aluminum door and window frames for use in demountable partitions;
5. Installation only of hollow metal door and window frames in demountable partitions;
6. Matching perimeter prefinished panels and/or trims as specified;
7. Supply of glass stops and or glazing beads for installation by the Glass and Glazing contractor;
8. Hoisting;
9. Prefinished surfaces which form part of the prefinished demountable system;
10. Sound Insulations and internal linings for prefinished demountable partitions;
11. Steel studding, steel furring, etc. for prefinished demountable partitions, except where gypsum board is installed on one side (see Gypsum Board and Metal Framing, Included);
12. Scaffolding/man lifts where required to perform work by this trade scope;
13. Trade specific lighting to perform tasks;
14. Trade cleanup - cleanup for work carried out by this trade;
15. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
16. Warranty and/or Guaranty;
17. Submittals and O&M documentation as specified in the tender documents;
18. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
19. Protection of other trades' work from damage when performing this trade's scope of work;
20. Building Information Modeling (BIM) as it applies to this trade scope.

## Prefinished Demountable Partitions, cont'd.

### EXCLUDED

1. Supply and installation of backing in steel stud partitions – by others;
2. Folding partitions, operable walls and moveable acoustical screens;
3. All gypsum board application requiring taping and filling on the jobsite;
4. Supply and installation of glass and glazing;
5. Supply and installation of wood frames, doors, hardware etc.;
6. Supply and installation of all doors and hardware;
7. Surface mounted chalkboards, tackboards, display cabinets, chair rails, handrails and any prefinished millwork items;
8. Staining, varnishing or painting of doors and metal frames;
9. Surface mounted chalkboards, tackboards, display cabinets, chair-rails, handrails, and any prefinished millwork items;
10. Supply of hollow metal frames or lights and the sorting and loading of hollow pressed steel door and/or window frames;
11. Backing and preparation of aluminum frames to receive hardware;
12. Rubber base;
13. Vinyl coated gypsum lay in panels (see Component Ceiling Systems, Included);
14. Temporary heat, general lighting, power, sanitation and water for general construction;
15. Hoarding;
16. Final Cleaning before turnover;
17. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
18. Firestopping;
19. Supply and maintenance of garbage and recycling bins for construction waste;
20. Removal of construction waste from job site;
21. General site security.

# Raised Access Flooring

## DEFINITION

This tender is for the supply and installation of manufactured raised access floor systems and related accessories.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Access floor panels prefinished or unfinished, constructed of one or more of the following:
  - a. Light weight concrete;
  - b. Steel clad wood core;
  - c. Welded metal/aluminum;
  - d. Prefinished floor finishes when incorporated as integral part of the access floor panel:
    - i. Carpet;
    - ii. High pressure plastic laminate;
    - iii. Resilient floor coverings;
    - iv. Other;
2. Access floor substructure consisting of:
  - a. Adhesives, screws, bolts and anchors;
  - b. Pedestal base plates;
  - c. Pedestal heads;
  - d. Sound deadening pads and/or covers;
  - e. Stringers;
3. Accessories (pre-manufactured only):
  - a. Electrical service centers (packaged equipment) when incorporated into floor panels;
  - b. Fascia trims;
  - c. Gaskets;
  - d. Grilles that are part of the integrated floor system;
  - e. Grommets;
  - f. Handrails;
  - g. Metal and rubber nosing;
  - h. Panel lifting devices;
  - i. Panel trims and moldings;
  - j. Perforated damped or undamped access floor panels when specified;
  - k. Ramps complete with rubber mats and runners;
  - l. Steps complete with floor finish;
  - m. Under floor baffles and/or plenum dividers;
4. Cleaning and final preparation of prefinished panels as specified;
5. Cutting of panels for electrical and mechanical services and equipment when indicated on drawings;
6. Hoisting and material handling;
7. Maintenance material;
8. Metal and/or wood shims;
9. Protection of finished surfaces;
10. Testing;
11. Under-floor cross bridging when specified;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade;
14. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
15. Warranty and/or Guaranty;
16. Submittals and O&M documentation as specified in the tender documents;
17. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
18. Protection of other trades' work from damage when performing this trade's scope of work;
19. Building Information Modeling (BIM) as it applies to this trade scope.

## Raised Access Flooring, cont'd.

### EXCLUDED

1. Baseboards:
  - a. Carpet base and moldings (unless material finish of access floor) (see Carpeting);
  - b. Prefinished extruded vinyl plastic (see Prefinished Demountable Partitioning);
  - c. Rubber and vinyl baseboard (see Resilient Floor Coverings);
2. Caulking;
3. Connection of building ground (see Electrical, Included);
4. Electrical connection of service centers;
5. Floor finishes when jobsite applied over access floor panels, e.g. carpet, tile;
6. Ledger angles and anchors set into concrete;
7. Mechanical grilles which are not a part of the integrated floor system;
8. Preparation of access floor panels to receive jobsite applied floor coverings;
9. Under-floor subfloor preparation;
10. Wood blocking, trims and casings for materials other than those used by this trade.
11. Temporary heat, general lighting, power, sanitation and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Firestopping;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Removal of construction waste from job site;
18. General site security.

# Dumbwaiters

## DEFINITION

This tender shall be for supply and installation of dumbwaiters and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Electrical wiring and conduit from all controllers to signals and operating circuits;
2. Hoisting;
3. Inspection;
4. Licenses;
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. Warranty and/or Guaranty;
9. Submittals and O&M documentation as specified in the tender documents;
10. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
11. Protection of other trades' work from damage when performing this trade's scope of work;
12. Building Information Modeling (BIM) as it applies to this trade scope;
13. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Providing feeder wires to controllers;
2. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
3. Temporary heat, general lighting, power, sanitation and water for general construction;
4. Hoarding;
5. Final Cleaning before turnover;
6. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
7. Firestopping;
8. Supply and maintenance of garbage and recycling bins for construction waste;
9. Removal of construction waste from job site;
10. General site security.

# Elevators

## DEFINITION

This tender shall be for supply and installation of elevators and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Door operating equipment;
2. Drilling and casing plunger hole for hydraulic elevators;
3. Electric elevators;
4. Electrical wiring and conduit from all controllers to signals and operating circuits;
5. Elevator doors and sills;
6. Elevator entrances (except freight elevator entrance frames);
7. Hydraulic elevators;
8. Inspection;
9. Licenses;
10. Parking garage hoists;
11. Piping incidental to hydraulic elevators;
12. Speed-ramps;
13. Supply and installation of temporary hoisting beams required for use of elevator installer only;
14. Scaffolding/man lifts where required to perform work by this trade scope;
15. Hoisting;
16. Trade specific lighting to perform tasks;
17. Trade cleanup - cleanup for work carried out by this trade;
18. Warranty and/or Guaranty;
19. Submittals and O&M documentation as specified in the tender documents;
20. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
21. Protection of other trades' work from damage when performing this trade's scope of work;
22. Building Information Modeling (BIM) as it applies to this trade scope;
23. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Hoisting and divider beams;
2. Providing feeder wires to controllers;
3. Providing the hoist way structure including supports for both guide rails and machine beams;
4. Providing the pit and machine room;
5. Providing ventilation of pit, hoist way and machine room;
6. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
7. Temporary heat, general lighting, power, sanitation and water for general construction;
8. Hoarding;
9. Final Cleaning before turnover;
10. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
11. Firestopping;
12. Supply and maintenance of garbage and recycling bins for construction waste;
13. Removal of construction waste from job site;
14. General site security.

# Moving Walkways

## DEFINITION

This tender shall be for supply and installation of moving walkways and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Electrical wiring and conduit from all controllers;
2. Hoisting;
3. Inspection;
4. Licenses;
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. Warranty and/or Guaranty;
9. Submittals and O&M documentation as specified in the tender documents;
10. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
11. Protection of other trades' work from damage when performing this trade's scope of work;
12. Building Information Modeling (BIM) as it applies to this trade scope;
13. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Providing feeder wires to controllers;
2. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
3. Temporary heat, general lighting, power, sanitation and water for general construction;
4. Hoarding;
5. Final Cleaning before turnover;
6. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
7. Firestopping;
8. Supply and maintenance of garbage and recycling bins for construction waste;
9. Removal of construction waste from job site;
10. General site security.

# Escalators

## DEFINITION

This tender shall be for supply and installation of escalators and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Electrical wiring and conduit from all controllers to signals and operating circuits;
2. Hoisting;
3. Inspection;
4. Licenses;
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. Warranty and/or Guaranty;
9. Submittals and O&M documentation as specified in the tender documents;
10. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
11. Protection of other trades' work from damage when performing this trade's scope of work;
12. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Providing feeder wires to controllers;
2. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
3. Temporary heat, general lighting, power, sanitation and water for general construction;
4. Hoarding;
5. Final Cleaning before turnover;
6. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
7. Firestopping;
8. Supply and maintenance of garbage and recycling bins for construction waste;
9. Removal of construction waste from job site;
10. General site security.

## General Mechanical

The format under this Trade Definition is based on the premise that the mechanical tender normally includes the basic categories of plumbing, heating, ventilation and sheet metal, refrigeration, HVAC controls, sprinklers, insulation and incinerators and all items commonly associated with the above categories which are normally laid out in the drawings and specifications. The purpose of this definition is to identify, which of the subcontractors in the mechanical division are responsible for each sub-division of the work and it does not limit or restrict the work as defined within the specifications.

### DEFINITIONS

This Trade Definition consists of seven sections, as follows:

<b>Sub-Section - A:</b>	General Mechanical Items -Items common to more than one section of the Mechanical Division;
<b>Sub-Section -B:</b>	Prime Mechanical;
<b>Sub-Section -C:</b>	Ventilation and Sheet Metal Ductwork;
<b>Sub-Section -D:</b>	Building Management System;
<b>Sub-Section -E:</b>	Refrigeration;
<b>Sub-Section -F:</b>	Insulation;
<b>Sub-Section -G:</b>	Sprinklers and Fire Protection;

**EACH TENDER IN THIS CATEGORY SHALL INCLUDE AND EXCLUDE APPLICABLE ITEMS, UNLESS OTHERWISE NOTED WITHIN THE DEFINITION, FROM SECTION 1 PLUS ALL OTHER ITEMS FROM THE SPECIFIC SECTION FOR WHICH THE SUB-BID OR SUB-SUB BID APPLIES.**

**Packaged equipment**, so specified under the mechanical scopes, shall mean pre-wired equipment supplied in a completely electrically operable state after one final connection of power wiring, and remote control connections if specified.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### **Sub-Section A: General Mechanical Items (Items to be included and excluded by all mechanical trades)**

The following items and requirements are common to more than one section of the Mechanical Division and, wherever applicable, shall be included or excluded, unless specifically noted in this trade definition, by the Prime Mechanical subcontractor and each of the sub-trade contractors submitting bids to the Prime Mechanical subcontractor:

#### **INCLUDED**

1. Access panels, supply only, to provide access for servicing mechanical systems/components supplied under this section;
2. Alignment and grouting for mechanical equipment;
3. Anchor bolts, bases and supports made of steel for mechanical equipment;
4. Catwalks, ladders and gratings supporting and/or servicing equipment, where shown on mechanical drawings only;
5. Demolition of existing installations when the materials are to be re-used or retained as specified;
6. Excavation:
  - a. Exterior excavation including cutting of existing surface materials as required, shoring, pumping, bedding and the first 300 mm of protective cover. Backfill, tamping and disposal of surplus excavated material by others (see General Mechanical Sub-Section B Prime Mechanical, Excluded);
  - b. Interior excavation including shoring, pumping, bedding and first 300 mm of protective cover. Backfill, tamping and disposal of surplus excavated material by others (see General Mechanical Sub-Section B Prime Mechanical, Excluded);

## Sub-Section A: General Mechanical Items, cont'd.

7. Hoisting;
8. Identification and labeling, other than painted, including plastic decals for arrow flow, plastic and/or canvas, colored tape and/or secondary color banding (see General Mechanical Sub-Section A Prime Mechanical, Excluded);
9. Manufacturer's warranty only beyond the normal one year warranty period;
10. Operation and maintenance manuals and as-built and/or record drawings. Sub-trade contractors are responsible to provide such items specific to their work, of such quality and quantity as may be specified, to the Prime Mechanical contractor who shall be responsible for tabulating, binding, coordinating and final submission of such documentation, including transfer drafting and final as-built as specified;
11. Permits, licenses and inspections as required for work under this scope;
12. Priming to catwalks, ladders, gratings, steel supports, hangers and other miscellaneous support steel supplied under this scope (see Painting, Excluded);
13. Roughing-in and connecting only, as shown on the tender documents, for specialty items, cabinets or equipment that is supplied and installed by others;
14. Final mechanical connections for all commercial kitchen equipment that is supplied and installed by others;
15. Sleeving as specified for mechanical systems, except under General Mechanical Sub-Section F Insulation;
16. Supply of trims and/or moldings for radiant panels when specified to be supplied with the radiant panel. Installation by others;
17. Variable speed controllers including those which are mechanically or hydraulically initiated and operated and those which are electrical when specified as part of packaged equipment;
18. Vibration isolation for equipment supplied under this scope including steel and metal frames/inertia bases for equipment bases. Prime Mechanical contractor shall include isolation for HVAC/BMS Controls air compressors;
19. Supply and installation of heat trace to mechanical piping either internally or externally. Each Mechanical Sub-Trade is required to provide heat tracing as it applies to their work as shown in the tender documents (see Electrical, Excluded);
20. Firestopping for mechanical installations;
21. Mark out backing in walls as required for all equipment provided by this scope.
22. Scaffolding/man lifts where required to perform work by this trade scope;
23. Trade specific lighting to perform tasks;
24. Trade cleanup - cleanup for work carried out by this trade;
25. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
26. Warranty and/or Guaranty;
27. Submittals and O&M documentation as per the tender documents. To be provided by each trade scope;
28. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section. Prime Mechanical contractor to include Cash Allowance and/or contingency funds for mechanical sub-trade contractors;
29. Protection of other trades' work from damage when performing this trade's scope of work;
30. Building Information Modeling (BIM) as it applies to this trade scope;
31. Commissioning as it applies to this trade scope;

## Sub-Section A: General Mechanical Items, cont'd.

### EXCLUDED

1. Alterations of services, as specified in the tender documents, required for specialty items, cabinets or equipment not supplied under this subcontract;
2. Backing and backing materials, supply and installation;
3. Back-plastering for fire protection;
4. Building permits;
5. Catwalks, ladders, gratings and supports where detailed on architectural or structural drawings, see Included;
6. Cutting, coring and patching - when pertaining to renovations, alterations or additions;
7. Electrical: All 120V wiring is supplied and installed by the electrical contractor;
  - a. Motor starters, multi-speed and protection switches, including variable speed drives which are electrically initiated or operated, without exception other than that equipment which forms an integral part of packaged equipment requiring one power connection only;
  - b. Electrical wiring for controls which directly switch the power line to motors and duct heaters ("directly" means not through the magnetic coil (see Electrical, Included));
8. Frost boxes;
9. Painting (on-site) (see Painting, Included);
10. Poured-in-place concrete for concrete curbs, housekeeping, equipment, piping and ductwork pads;
11. Supply and installation of concrete for equipment metal frames/inertia bases;
12. Variable speed drives which are electrically initiated or operated unless specified to be part of packaged equipment;
13. Supply of fuel for the emergency generator system. Including fuel for generator testing and final fill for turnover to the Owner;
14. Transformers, voltage regulators, controls and any wire connections associated with heat tracing (see Electrical, Included);
15. Waterproofing and/or sound proofing to wall, floor and ceiling penetrations;
16. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
17. Temporary heat, general lighting, power, ventilation, sanitation and water for general construction;
18. Hoarding;
19. Final Cleaning before turnover;
20. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
21. Supply and maintenance of garbage and recycling bins for construction waste;
22. Removal of construction waste from job site;
23. General site security.

## Sub-Section B: Prime Mechanical

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Air compressors (except as noted in glass trades scopes for automatic doors, HVAC/BMS Controls and Instrumentation Included), vacuum pumps, piping, regulators and accessories. Also oxygen and acetylene systems and accessories;
2. Counter tops with integral sink or basin, including counter-tops, splash-backs and fascia of the same material connected thereto (see Architectural Woodwork, Excluded);
3. Distribution and installation of thermo-wells, control valves, remotely controlled sluice gates, orifice plates and primary measuring elements as related to instrumentation (see Instrumentation, Excluded);
4. Drip pans under mechanical piping;
5. Dry mop, wet mop and vacuum systems (see Electrical, Included);
6. Electric boilers;
7. Emergency Generators:
  - a. Piping for fuel, coolants and exhaust for generator prime movers. Flex connections, radiator, and muffler to be supplied with units (see Electrical, Included);
  - b. Fuel tanks for power plant equipment complete with dispensing units and piping (see Electrical, Included);
  - c. For remote radiators only, piping and associated equipment including valves, pumps, expansion tanks and coolant;
8. Fire Standpipe System: Stand-alone type when not connected to a combination sprinkler/standpipe system fire pump, and including:
  - a. Fire pumps, control panels, motors, engine and fuel system, fire hose cabinets, fire extinguishers and fire extinguisher cabinets, excluding wiring and connections (see Electrical, Included);
  - b. Carbon dioxide, dry chemical and halon systems including piping, outlets, associated detectors and control panels, including integrated kitchen equipment fire protection systems, excluding wiring and connections (see Electrical, Included);
9. Supply of flashing for drains and plumbing vents. Installation by others;
10. Frames and covers made of cast iron for catch basins and/or manholes. Trade name gratings, regardless of material. Sump frames and covers and/or non-ferrous items not covered in miscellaneous steel (see Miscellaneous Steel, Included);
11. Gas vent grilles;
12. Grilles for top outlet and bottom inlet for wall fin radiation, induction units and cabinet heaters when installed in architectural cabinets including extension collars (architectural cabinets supplied and installed by others);
13. Hospital and hydro-therapy equipment that is connected to water and/or waste;
14. Humidifiers except in furnace;
15. Incinerators c/w burners and draft inducers. Breeching, stack and refractory lined chimneys c/w counter flashing, storm collars, wall brackets and supports;
16. Induction units;
17. Laboratory sinks, faucets, gas outlets and factory-built fume hoods and/or cabinets, complete with all components, except when an integral part of casework;
18. Lubrication equipment, fuel and oil storage tanks complete with dispensing units and piping;
19. Medical gas systems, piping and equipment;
20. Operational gas tests;
21. Packaged self-contained air cooled water chillers including start-up when no field installed inter-connecting refrigeration piping required for these chillers;
22. Piping and connections to automotive hoists (hoists supplied and installed by others);
23. Pneumatic tube systems and related controls;
24. Radiant water or liquid heating panels;
25. Self-contained control valves:
  - a. Differential pressure;
  - b. Domestic hot water;
  - c. Pressure;
  - d. Temperature (including radiator valves);

## Sub-Section B: Prime Mechanical, cont'd.

26. Sewage Disposal:
  - a. Prefabricated septic tanks and supply and install fittings and piping for that poured- in-place;
  - b. Leeching lines for sewage disposal systems (including backfill of gravel, straw and loam to provide a complete installation for field to finish grade);
27. Shower cabinets, complete with manufactured receptors, doors or curtains and rods;
28. Site services including: sanitary and storm sewers (except culverts for yard drainage), precast and masonry catch basins and manholes, water services and fire hydrants;
29. Soap dispensing systems complete with piping and tanks;
30. Solar water or liquid heating systems (see Electrical, Included);
31. Steam cleaners/steam jenny permanently connected to water or waste;
32. Steel chimneys or breeching heavier than 3.5 mm (10 gauge) when not refractory lined;
33. Supply and installation of companion flanges for orifice plates (see Instrumentation, Excluded);
34. Supply and installation of supports for radiant panels exceeding 610 mm x 1220 mm;
35. Swimming pool mechanical equipment, including supply and drain piping, except when packaged pool is specified;
36. Thermostats not directly involving HVAC control systems;
37. Water service for external irrigation systems, suitably sized, to exterior of building including such back-flow prevention devices, meters or other equipment as necessary to comply with all government codes and regulations (see Exterior Landscaping, Included);
38. Weeping tile for sewage disposal systems only;
39. Work/materials/equipment included under General Mechanical Sub-Section A General Mechanical Items;
40. Excavation an first 300 mm of pipe cover for interior underground services;
41. Gauges indicating air flow and/or pressure and thermometers for packaged air handling Units; supplied by the Prime Mechanical Contractor;
42. Installation of the Emergency Shut-off Solenoid Gas Valve (see Commercial Kitchen Fire Suppression System, Excluded; General Mechanical Sub-Section B Prime Mechanical, Excluded);
43. Sump pump floats and panels (see Electrical, Excluded);
44. Vibration isolation for HVAC/BMS Controls air compressors;
45. Sleeving as specified for this trade;
46. Trade specific Firestopping. The Firestopping contractor will submit separate prices to the following trade scopes:
  - a. Prime Mechanical – the prime mechanical contractor will carry the Firestopping costs for ALL trades in the mechanical scope;
  - b. Electrical – will carry the Firestopping costs for all Electrical;
  - c. General Contractor – will carry the Firestopping costs for ALL trade scopes other than Mechanical and Electrical;
47. Scaffolding/man lifts where required to perform work by this trade scope;
48. Trade specific lighting to perform tasks;
49. Trade cleanup - cleanup for work carried out by this trade;
50. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
51. Warranty and/or Guaranty;
52. Submittals and O&M documentation as specified in the tender documents;
53. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trade's specification section (Prime Mechanical contractor to include Cash Allowance and/or contingency funds for mechanical sub-trade contractors);
54. Protection of other trades' work from damage when performing this trade's scope of work;
55. Commissioning as it applies to this trade scope;
56. Building Information Modeling (BIM) as it applies to this trade scope.

## Sub-Section B: Prime Mechanical, cont'd.

### EXCLUDED

1. Clean-outs or clean-out access for building weeping tile systems;
2. Cutting in and installation of door grilles;
3. Excavating and backfilling for underground tanks or dry well pits (see General Mechanical Sub Section A General Mechanical Items, Included);
4. Instrumentation where not related to HVAC/BMS controls;
5. Supply and installation of automotive hoists;
6. Trims or moldings for radiant panels, except when supplied with the radiant panel;
7. Underground sprinkler and/or irrigation systems (see Exterior Landscaping, Included);
8. Vapor barrier and insulation not applied to Mechanical system;
9. Washroom accessories;
10. Work/materials/equipment excluded under General Mechanical Sub Section A General Mechanical Items;
11. Services and service charges for gas, water and sewer as levied by municipality or utility company;
12. Medical gas bottles or initial medical gas system charging;
13. Medical gas system certification costs;
14. Supply of the Emergency Shut-off Solenoid Gas Valve, see Included (see Commercial Equipment Fire Suppression, Included);
15. Backfill and compaction of interior underground services after first 300 mm of cover;
16. Supply of fuel for the emergency generator system. Including fuel for generator testing and final fill for turnover to the Owner;
17. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final Cleaning before turnover;
21. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
22. Supply and maintenance of garbage and recycling bins for construction waste;
23. Removal of construction waste from job site;
24. General site security.

## Sub-Section C: Ventilation and Sheet Metal Ductwork

### DEFINITION

This tender shall be for supply and installation of ventilation and sheet metal ducting and all components necessary for a complete installation.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Air curtains except gas or oil fired units, where no duct connections are required;
2. Air duct silencers;
3. Air filters: Except for packaged air handling units that include filter sections
  - a. Charcoal and odor filters;
  - b. Particulate filters;
  - c. Electronic/electrostatic filters;
  - d. Filter gauges;
  - e. Flat permanent type;
  - f. Grease filters (when canopy supplied by this contractor);
  - g. Roll type filters;
  - h. Throw-away type;
4. Air mixing baffles and air blenders;
5. Air terminal boxes complete with electric, electronic or pneumatic actuators, controllers and integral fan section, electric or water coils;
6. Air troffer boots;
7. Airflow measuring devices (self-contained) when used for measuring only and not interfaced with any other system or device;
8. Attenuator boxes, tabulators and pressure reducing valves for air supply;
9. Back-draft and barometric dampers, self-acting;
10. Balancing of air system including sound measurement pertaining to air systems;
11. Breeching and/or chimneys, sealed or otherwise, 3.5 mm (10 gauge) or lighter, Types A, B and C, not refractory lined;  
Breeching & Chimneys: Revised Breeching and/or chimneys, 3.5 mm (10 gauge) or lighter, Types A, B, and C, not factory lined;  
to Breeching and/or chimneys, sealed or otherwise, 3.5 mm (10 gauge) or lighter, Types A, B, and C, not factory lined;
12. Canopies and hoods, domestic range hoods, ducted and non-ducted, except where called for under kitchen equipment;
13. Carbon monoxide exhaust systems complete with associated equipment and accessories, excluding monitors;
14. Combination fire/smoke dampers; including electric, electronic or pneumatic actuators and end switches;
15. Counter flashing for all exterior refrigeration units;
16. Counter flashing as it pertains to this scope;
17. Direct-fired make-up air units except where no duct connections are required;
18. Drain pans for equipment under the mechanical scope (not packaged units);
19. Duct cleaning;
20. Duct furnaces;
21. Internal acoustic insulation in ductwork;
22. Dust or material collector systems complete with associated equipment and accessories, when air handling;
23. Electric duct mounted coils and electric heaters requiring duct connections;
24. Electric motor operated back draft dampers only when specified as part of an exhaust fan and/or roof hood;
25. Factory built solid fuel burning fireplaces and associated metal flues;

## Sub-Section C: Ventilation and Sheet Metal Ductwork, cont'd.

26. Fans:
  - a. Booster fans;
  - b. Exhaust air fans;
  - c. Exhaust fans which are remote from factory built fume hoods or fume cabinets;
  - d. Return air fans;
  - e. Stratification elimination fans;
  - f. Supply air fans except for packaged units with integral water, steam or glycol coils, where fan is not separated by ductwork or flexible connection;
27. Fire dampers and fire stop flaps;
28. Flexible type air ducts;
29. Garbage and linen chutes of metal construction;
30. Gas fired unit heaters and furnaces requiring duct connections;
31. Gauges (self-contained) which indicate system air flow and/or pressure and do not interface with controls system;
32. Gravity relief vents and intakes;
33. Humidifiers when used in conjunction with furnaces;
34. Indirect fired self-contained heating and/or cooling units, including de-humidifiers, except where no duct connections are required;
35. Induced draft fans, except when in conjunction with incinerators and/or except when an integral part of a heating boiler;
36. Isolation for ventilation equipment;
37. Integrated ceiling system components as follows:
  - a. Linear air boots when installed into but not forming an integral part of the ceiling system;
  - b. Supply, installation and connection of flexible duct;
38. Manual smoke dampers;
39. Fire/Smoke Dampers and associated electric, electronic or pneumatic actuators and end switches for these dampers (see Building Management System, Excluded);
40. Manually operated balancing dampers;
41. Installation of counter flashings for mechanical vents, ducts and chimneys is by others;
42. Paint spray booths;
43. Plenums and casings except concrete, masonry and gypsum board wall construction shafts or tunnels in which case only an internal metal liner and/or internal insulation, if specified, will be provided;
44. PVC/plastic combustion air and flue venting;
45. Registers, grilles, diffusers and supply only of door grilles;
46. Self-contained duct-mounted heat reclaiming units requiring no other connections;
47. Self-contained gas-fired classroom heating and ventilating units complete with all shelving, counters and accessories;
48. Sheet metal and non-metallic air handling ductwork including hangers and supports except concrete, masonry and gypsum board construction shafts or tunnels in which case only an internal metal liner and/or internal insulation, if specified, will be provided;
49. Spray eliminators in built-up plenums;
50. Thermometers (self-contained) which indicate system air temperatures, and do not interface with controls system;
51. Variable Air Volume (VAV) box operators, controllers pneumatic;
52. Ventilation and exhaust ducting for emergency generators;
53. Weather louvres (mechanical and matching architectural) complete with bird screen, related sheet metal blank-off panels and filler pieces, except for louvres of cladding materials having the same finish as the wall cladding system, and forming an integral part thereof;
54. Welded sheet metal kitchen exhaust duct including the supply and installation of associated high temperature insulation and metal liner to protect combustible materials;
55. Welding fume extraction systems complete with central blower/turbine dust collection unit c/w PVC ducting and related accessories;
56. Work/materials/equipment included under General Mechanical Sub Section A General Mechanical Items;
57. Electric Heating that is fan powered and/or ducted (all other electric heat is by the Electrical Contractor);
58. Scaffolding/man lifts where required to perform work by this trade scope;
59. Trade specific lighting to perform tasks;
60. Trade cleanup - cleanup for work carried out by this trade;
61. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;

## Sub-Section C: Ventilation and Sheet Metal Ductwork, cont'd.

62. Warranty and/or Guaranty;
63. Submittals and O&M documentation as specified in the tender documents;
64. Protection of other trades' work from damage when performing this trade's scope of work;
65. Sleeving as specified for this trade;
66. Supply and installation of motorized dampers (operators supplied and installed by the Building Management System contractor);
67. Building Information Modeling (BIM) as it applies to this trade scope;
68. Commissioning as it applies to this trade scope.

### EXCLUDED

1. External insulation of concrete, masonry and drywall shafts, tunnels or plenums;
2. Mud grilles, foot grilles, pedigril grilles including those used in conjunction with ventilation systems;
3. Indirect fired, self-contained heating and/or cooling units, including dehumidifiers, except where duct connections are required;
4. Ventilation grilles, caps and/or louvres for:
  - a. Attic;
  - b. Soffit;
  - c. Crawl spaces;See Included
5. Work/materials/equipment excluded under General Mechanical Sub-Section A General Mechanical Items;
6. Electric Heating, except where duct connections are required;
7. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
12. Supply and maintenance of garbage and recycling bins for construction waste;
13. Removal of construction waste from job site;
14. General site security.

The following items **Excluded** from this sub-trade tender will be **Included** by the Prime Mechanical contractor:

15. Air washers,
16. Coil supports and hangers;
17. Drip pans under mechanical piping;
18. Dry mop, wet mop and vacuum systems;
19. Fume cabinets;
20. Gas fired unit heaters and furnaces not requiring duct connections;
21. Gas vent grilles;
22. Gas, water and rain connections;
23. Gauges indicating air flow and/or pressure and thermometers for packaged air handling Units supplied by the Prime Mechanical Contractor;
24. Operational gas tests;
25. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section, carried by the Prime Mechanical Contractor;
26. Spray eliminator units in packaged units only;
27. Steam grid humidifiers;
28. Vitrified pipe except when used in conjunction with air collection systems;
29. Electric heat not fan powered or ducted;
30. Scrubbers and odor and/or gas absorber units. (Dry type requiring only drain connections);
31. Firestopping.

## Sub-Section D: Building Management Systems

### DEFINITION

Building Management System (BMS) is a computer-based control system installed in buildings that controls and monitors the building's mechanical and electrical equipment including but not limited to ventilation, lighting, power systems, fire systems, and security systems.

HVAC - Heating Ventilation Air Conditioning

BMS - Building Management System

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Building Information Modeling (BIM) as it applies to this trade scope;
2. Commissioning as it applies to this trade scope;

#### D1 Environmental Control:

1. Air conditioning controls (manual and automatic);
2. Boiler controls (not specified as part of pre-wired package boilers);
3. Control compressor c/w accessories;
4. Cooling controls (manual and automatic);
5. Heating controls (manual and automatic);
6. Humidification controls (manual and automatic);
7. Supply and installation of operators for motorized dampers (dampers supplied and installed by Ventilation contractor);
8. Refrigeration controls (manual and automatic) and inter-locking wiring between the chiller control panel and remote chiller starters;
9. Remote reading gauges, transmitters and recorders for HVAC/BMS controls;
10. Supply and installation of all electric/electronic motors, controllers and sensors required to meet a Variable Air Volume (VAV) box Direct Digital Control Specification which forms part of the Building Management System;
11. Ventilation and air flow controls (manual and automatic);
12. Domestic hot water controls (not specified as part of a packaged hot water system);
  - a. Conduit and wire from lighting interface module to Facility Management System (FMS);
  - b. All network wiring and programming (including addressing & trend logs);
  - c. Qualified factory trained representative for programming and networking;
  - d. Commissioning of systems.

#### D2 Building Management System (BMS):

1. Centralization of air conditioning, heating, ventilation, humidification and refrigeration equipment operation;
2. Centralized temperature, humidity, pressure and flow indication and recorders;
3. Centralized control and monitoring of equipment and devices provided by other trades where identified as part of the BMS (all items provided by other trades and controlled from the BMS shall be complete with electrical contractors) Refer to Sub-Section D Section D5 - 3rd Party Controls Integration.

#### D3 Building Life Safety Control and Equipment Safety Control:

1. High temperature warning thermostats (fire-stats);
2. Low temperature warning thermostats (freeze protection thermostats);
3. Motorized smoke dampers - supplied to mechanical contractor on jobsite for unloading, distribution and installation by others;
4. Shut-down safety devices forming part of HVAC controls;
5. Supply and installation of all gas detection and control devices inter-faced with HVAC equipment or BMS.

## Sub-Section D: Building Management Systems, cont'd.

### D4 General Items:

1. HVAC control wiring and/or air piping required for all Building Management System and HVAC controls supplied under this trade scope;
2. Electrical wiring, additional:
  - a. Boiler feed water and water treatment control wiring;
  - b. Control wiring for gas detection and control devices interfaced with HVAC equipment or the Building Management System;
  - c. Building Management System, including inter- Magnetic starter coils and relay coils supplied under the electrical scope and intended for HVAC controls or locking between starters, contactors and/or relays;
  - d. Remote thermostats and remote pre-wired auxiliary control panels for packaged HVAC equipment;
  - e. Water treatment and water softening equipment for mechanical systems;
3. Electrical thermostats and time clocks including guards for same, used only for equipment under mechanical scope intended for HVAC controls. (Adapter plates for electrical contractor);
4. Supply and installation of pneumatic tubing to static pressure operated HVAC controls, BMS;
5. Work/materials/equipment included under General Mechanical – Sub-Section A General Mechanical Items;
6. Scaffolding/man lifts where required to perform work by this trade scope;
7. Trade specific lighting to perform tasks;
8. Trade cleanup - cleanup for work carried out by this trade;
9. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
10. Warranty and/or Guaranty;
11. Submittals and O&M documentation as specified in the tender documents;
12. Protection of other trades' work from damage when performing this trade's scope of work;
13. Sleeving as specified for this trade;
14. Network cabling between FMS and other lower level building systems such as, but not limited to:
  - a. Lighting
  - b. Fire alarm
  - c. Power Metering
  - d. Access Control
  - e. Building Management
15. Networking components required by other building systems for own standalone operation;
16. Addressing of lower level building systems;
17. Trend logs and alarms of lower level building systems;
18. Commissioning of lower level building systems;
19. Any wiring connecting to the Building Management System for the generator or associated equipment (see Electrical, Excluded);

### D5 3rd Party HVAC Controls Integration:

If package equipment controls are supplied by others and are required to interface the Building Management System via open protocols.

The supplier of the package equipment control shall provide personnel responsible for:

1. Programming, start-up and commissioning of the package equipment controls;
2. Installation and setup of any required software;
3. Addressing of equipment controls to match the BMS standard defined by the Building Management System Sub-Contractor;
4. Wiring of any "loose" or auxiliary controls devices required to make this supplied equipment operable;

The Building Management System Sub-trade Contractor is responsible for:

5. Wiring of thermostats and valves for zone control devices supplied by the equipment supplier;
6. Wiring of the communication network between packaged zone controllers and the BMS interface device;
7. Programming and BMS graphics to display the required data from the package equipment control.

## Sub-Section D: Building Management Systems, cont'd.

### EXCLUDED

1. Control power supply outlets as outlined in Electrical Included;
2. Control wiring for liquid level controls for sumps, condensate pumps, fuel storage tanks and control wiring for fire pumps, and booster pumps;
3. Fire alarm fan shut-down and start-up relays and wiring;
4. HVAC controls - when specified as integral part of packaged equipment, see Included;
5. Motorized dampers - when specified as integral part of packaged equipment, see Included;
6. Power/demand meters and associated contacts required for monitoring through a Building Management System;
7. Wiring of smoke or smoke/fire motorized dampers, end switches, electric damper operators and solenoid valves required for the activation of pneumatic smoke or smoke/fire damper operators (see Electrical, Included);
8. Work/materials/equipment excluded under General Mechanical Sub Section A General Mechanical Items;
9. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
10. Temporary heat, general lighting, power, sanitation and water for general construction;
11. Hoarding;
12. Final Cleaning before turnover;
13. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
14. Supply and maintenance of garbage and recycling bins for construction waste;
15. Removal of construction waste from job site;
16. General site security;
17. Controls and/or instrumentation piping related to the Instrumentation scope (see Instrumentation, Included);
18. Wiring for plumbing fixtures (see Electrical, Included);
19. Wiring of pool system controls;
20. Wiring of integrated systems other than network connections to the Building Management System other than items noted in Section D5 - 3<sup>rd</sup> Party HVAC Controls Integration;
21. Wiring of medical systems and equipment;
22. Wiring of package shop exhausts systems, unless wiring requirements are clearly defined in the Building Management System scope;
23. Motorized dampers (see Ventilation and Sheet Metal Ductwork);
24. Fire/Smoke Dampers and associated electric, electronic or pneumatic actuators and end switches for these dampers (see Mechanical Sub Section C Ventilation and Sheet Metal Ductwork, Included);
25. Dampers;
26. Electrical wiring from generator fuel fill panel to generator day tank, float wiring and any wiring required from the day tank to generator to be completed by the Electrical contractor (see Electrical, Included).

### The following items Excluded from this sub-trade tender will be included by the Prime Mechanical contractor:

27. Liquid level controls for sumps, condensate pumps, cooling towers, and fuel storage tanks;
28. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trade's specification section, carried by the Prime Mechanical Contractor;
29. Safety high and low limit controls;
30. Self-Contained control valves:
  - a. Differential pressure;
  - b. Domestic hot water;
  - c. Pressure;
  - d. Temperature (including radiator valves);
31. Self-contained filter gauges;
32. Thermometers and pressure gauges for the heating and cooling system;
33. Thermostats not directly involving the Building Management System;
34. Firestopping.

## Sub-Section E: Refrigeration

### DEFINITION

This tender shall be for supply and installation of the refrigeration/air conditioning systems and all components necessary for a complete installation. Not including commercial kitchen equipment components.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Air-cooled condensers complete with field installed inter-connecting refrigeration piping;
2. Drip pans under refrigeration piping;
3. Evaporative condensers complete with field installed inter-connecting refrigeration piping;
4. Isolation of equipment;
5. Packaged refrigeration self-contained air-cooled cooling only units, including dehumidifiers, without ductwork;
6. Packaged self-contained integral direct expansion (DX) fan coil compressor section for use with remote condensing section with or without ductwork;
7. Packaged refrigeration self-contained water-cooled cooling only units without ductwork;
8. Prefabricated coolers and freezers and/or associated refrigeration equipment (when not part of food services tender document);
9. Refrigerated dew-point controlled units (environment chambers);
10. Refrigerated room (window or wall type) air conditioners without ductwork;
11. Refrigeration chillers, liquid and air condensers complete with interconnecting refrigeration piping;
12. Refrigeration compressors, liquid receivers, thermal expansion valves, refrigeration piping, related refrigeration controls, direct expansion (DX) refrigeration coils in built-up or add-on systems, direct expansion (DX) fan coil units without ductwork;
13. Refrigeration controls, cooling only (excluding wiring) (when not specified under Building Management System tender document);
14. Supply and installation of evaporate cooling towers, condenser water pumps, tanks and piping when part of an ammonia brine refrigeration system for an ice arena or ice making plant;
15. Water-cooled condensers complete with field-installed inter-connecting refrigeration piping;
16. Work/materials/equipment included under General Mechanical Sub Section A General Mechanical Items.
17. Scaffolding/man lifts where required to perform work by this trade scope;
18. Trade specific lighting to perform tasks;
19. Trade cleanup - cleanup for work carried out by this trade;
20. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
21. Warranty and/or Guaranty;
22. Submittals and O&M documentation as specified in the tender documents;
23. Protection of other trades' work from damage when performing this trade's scope of work;
24. Sleeving as specified for this trade;
25. Building Information Modeling (BIM) as it applies to this trade scope;
26. Commissioning as it applies to this trade scope.

## Sub-Section E: Refrigeration, cont'd.

### EXCLUDED

1. Absorption and centrifugal chiller units;
2. Chilled condensing, water piping, pumps, cooling towers, and installation of same except in the supply and installation of condenser water pumps, tanks and piping when part of an ammonia brine refrigeration system for an ice arena or ice making plant;
3. Flashing and counter flashing for exterior units, gum pots, roof curbs and related water proofing;
4. Gas, water, drainage, condensate drains and connection of the same;
5. Insulation of refrigeration piping and equipment;
6. Matching distribution circuit to direct expansion (DX) coils not supplied by this subcontractor;
7. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section, carried by the Prime Mechanical Contractor;
8. Prefabricated coolers and freezers and associated refrigeration equipment when there is a food service scope of work on the project;
9. Refrigerated cooling coils when integral part of a steam or hot water "fan coil" packaged unit;
10. Spray coil humidifier and dehumidifier section;
11. Vapor barrier, insulation, heat grid for recessed floor slabs under refrigerated fixtures and area;
12. Work/materials/equipment excluded under General Mechanical Sub Section A General Mechanical Items;
13. Firestopping;
14. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. Final Cleaning before turnover;
18. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
19. Supply and maintenance of garbage and recycling bins for construction waste;
20. Removal of construction waste from job site;
21. General site security.

## Sub-Section F: Insulation

### DEFINITION

This tender shall be for supply and installation of insulation and all components necessary for insulating mechanical systems as specified in the tender documents.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Insulation for:
  - a. Breeching, stacks and furnace flues;
  - b. Cooling piping, vessels and equipment;
  - c. Emergency generator exhausts;
  - d. External duct insulation and equipment insulation (sound and thermal) complete with cladding and covering;
  - e. External insulation for incinerator breeching or stacks;
  - f. Heating piping, vessels and equipment;
  - g. Plumbing piping, vessels and equipment;
2. Insulation finishes and weatherproofing;
3. Underground insulation conduits;
4. Work/materials/equipment included under General Mechanical Sub Section A General Mechanical Items.
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
9. Warranty and/or Guaranty;
10. Submittals and O&M documentation as specified in the tender documents;
11. Protection of other trades' work from damage when performing this trade's scope of work.

### EXCLUDED

1. Asbestos removal;
2. Factory insulated equipment;
3. Insulation of concrete, masonry and gypsum board construction shafts, tunnels or plenums (see General Mechanical Sub Section C Ventilation and Sheet Metal Ductwork, Included);
4. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section, carried by the Prime Mechanical Contractor;
5. Pipe covering protection saddles, shields and supports;
6. Refractory linings;
7. Sleeves and packing for same;
8. Vibration and sound absorption pads and isolators;
9. Work, materials and equipment excluded under General Mechanical Sub Section A General Mechanical Items;
10. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
11. Temporary heat, general lighting, power, sanitation and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Firestopping;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Internal acoustic insulation in ductwork;
18. Removal of construction waste from job site;
19. General site security.

## Sub-Section G: Sprinklers and Fire Protection

### DEFINITION

This tender shall be for supply and installation of sprinklers and fire protection and all components necessary for a complete installation. Not including commercial kitchen fire suppression systems.

Work under this sub-subcontract starts at either a flanged connection at the water meter location or point of entry of water service into the building.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Automatic sprinkler systems with associated detection, control panel and alarm devices, excluding wiring and connection, see Electrical Included;
2. Fire pump, control panel, motors, engines and fuel systems when pumps supply sprinkler system only, excluding wiring and connections;
3. Foam system, including tanks, pumps, piping, outlets and associated detectors and control panels excluding wiring and connection;
4. Fire standpipe system when connected to a combination sprinkler/standpipe system with or without fire pump and including:
  - a. Fire pump, controller, hose cabinets and extinguisher located in fire hose cabinets, excluding wiring and connection (see Electrical, Included);
5. Fire pump, control panels, motors, engine and fuel systems when pumps supply sprinkler system or combination sprinkler/standpipe system excluding wiring and connection (see Electrical, Included);
6. Fire suppression gas system including control panel, detection and alarm device excluding wiring;
7. Room integrity testing for gas systems;
8. Industrial dry electrical systems;
9. Fire extinguishers;
10. Air sampling systems;
11. Standalone standpipe system;
12. Pipe and system identification and tagging;
13. Drip pans under sprinkler piping;
14. Scaffolding/man lifts where required to perform work by this trade scope;
15. Trade specific lighting to perform tasks;
16. Trade cleanup - cleanup for work carried out by this trade;
17. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
18. Warranty and/or Guaranty;
19. Submittals and O&M documentation as specified in the tender documents;
20. Protection of other trades' work from damage when performing this trade's scope of work;
21. Sleeving as specified for this trade;
22. Work/materials/equipment excluded under General Mechanical – Sub Section A – General Mechanical Items;
23. Building Information Modeling (BIM) as it applies to this trade scope;
24. Commissioning as it applies to this trade scope.

## **Sub-Section G: Sprinklers and Fire Protection, cont'd.**

### **EXCLUDED**

1. Cash allowances and/or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section, carried by the Prime Mechanical Contractor;
2. Water service from source to meter location (mechanical contractor to supply flanged connection);
3. Wet and dry pipe standpipe c/w Siamese connection and all connected hand hose cabinets and equipment;
4. Master control valve at point of water entry of water service into building if required;
5. Painting of pipe;
6. Commercial Kitchen Fire Suppression systems;
7. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
12. Firestopping;
13. Supply and maintenance of garbage and recycling bins for construction waste;
14. Removal of construction waste from job site;
15. General site security.

# Commercial Kitchen Fire Suppression Systems

## DEFINITION

Work under this sub-section starts at the emergency shut-off solenoid gas valve (valve supplied by this Contractor and installed by others). This section covers all fire suppression systems for commercial kitchen equipment installations.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Fire Suppression System shall be designed, constructed and installed by this contractor in accordance with local codes;
2. Approved wet chemical system includes cylinder, piping network, hangers & supports, heads (nozzles) mechanical detection i.e. fusible links, control head c/w fuel shut-off device with manual re-set and micro-switch for fire alarm panel monitoring;
3. Supply of micro-switch (see Sprinkler and Fire Protection, Excluded);
4. Dry contacts for kitchen fire suppression system;
5. Supply of the emergency shut-off solenoid gas valve, see Excluded (see General Mechanical Sub-Section B Prime Mechanical, Excluded);
6. Scaffolding/man lifts where required to perform work by this trade scope;
7. Trade specific lighting to perform tasks;
8. Trade cleanup - cleanup for work carried out by this trade;
9. Warranty and/or Guaranty;
10. Submittals and O&M documentation as specified in the tender documents;
11. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
12. Protection of other trades' work from damage when performing this trade's scope of work;
13. Building Information Modeling (BIM) as it applies to this trade scope;
14. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Accessible exhaust/ductwork, filters, fans & hood;
2. Installation of the emergency shut-off solenoid gas valve (see General Mechanical Sub-Section B Prime Mechanical, Included);
3. All electrical connections for the micro-switch, dry contacts to be provided by this sub-trade. Electrical contractor to tie-in the kitchen suppression system into base building Fire Alarm System as per code requirements (see Electrical, Included);
4. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
5. Temporary heat, general lighting, power, sanitation and water for general construction;
6. Hoarding;
7. Final Cleaning before turnover;
8. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
9. Firestopping;
10. Supply and maintenance of garbage and recycling bins for construction waste;
11. Removal of construction waste from job site;
12. General site security.

## Commercial Kitchen Equipment

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

### INCLUDED

1. Supply and installation of all commercial kitchen equipment excluding final electrical and mechanical connections (see Electrical and General Mechanical, Included) (excluding plumbing fixtures noted on the mechanical drawings as supplied by the mechanical contractor);
2. Delivery, uncrate and place all appliances and equipment;
3. Pre-wire of commercial kitchen equipment to a single point of hook-up;
  - a. If there is more than five (5) pieces of equipment requiring an electrical junction box or panel – panel to be supplied by the Electrical contractor;
  - b. Connection of equipment to panel is by the Commercial Kitchen Equipment supplier;
4. Refrigeration requirements for all coolers and freezers;
5. Scaffolding/man lifts where required to perform work by this trade scope;
6. Trade specific lighting to perform tasks;
7. Trade cleanup - cleanup for work carried out by this trade;
8. Warranty and/or Guaranty;
9. Submittals and O&M documentation as specified in the tender documents;
10. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
11. Protection of other trades' work from damage when performing this trade's scope of work;
12. Building Information Modeling (BIM) as it applies to this trade scope;
13. Commissioning as it applies to this trade scope.

### EXCLUDED

1. Final connection to electrical and mechanical services (see Electrical and General Mechanical, Included);
2. Drain line from coolers;
3. Exhaust fan ducting;
4. Fire suppression;
5. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
6. Temporary heat, general lighting, power, sanitation and water for general construction;
7. Hoarding;
8. Final Cleaning before turnover;
9. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
10. Firestopping;
11. Supply and maintenance of garbage and recycling bins for construction waste;
12. Removal of construction waste from job site;
13. General site security.

# Instrumentation

## DEFINITION

This tender shall be for supply and installation, unless noted otherwise in this definition, of wiring, control lines, controls and instruments necessary to monitor process equipment and manufacturing machinery and shall also include the controlling of the processes for same.

A **control valve** means a valve which is remotely controlled through pneumatic, electric or hydraulic means.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Air compressors, dryers, after-coolers and air distribution piping used for Instrumentation only;
2. Check out, calibrating and commissioning of instrumentation and associated control systems upon completion of installation;
3. Control panels and consoles associated with instrumentation;
4. Core drilling, sleeves and supports;
5. Devices for monitoring and controlling the processes including, but not limited to, air sets, bubble tubes, recorders, computers, telemetry, counters, controllers, push buttons, lockout devices, thermo-sensors, gauges, speed controls, integrators, totalizers, probes, transducers, transmitters, control valves and remotely controlled sluice gates;
6. Electrical wiring associated with instrumentation including raceways, wire ways and cable trays except where raceways, wire ways and cable trays are common to electrical and instrumentation systems in which case they shall be supplied and installed under the electrical scope (see Electrical, Included);
7. Excavation:
  - a. In the case of conduit and electrical lines the instrumentation contractor shall be responsible for all excavating to facilitate the installation of his work. All backfill by others except bedding and planking where specified for the protection of the electrical installation;
  - b. In the case of pneumatic or hydraulic piping the instrumentation contractor shall be responsible for all excavation to facilitate the installation of his work including shoring, pumping, bedding and the first 300 mm of protective cover over piping. Remaining backfill, tamping and disposal of surplus material by others;
8. Hoisting;
9. Inspections;
10. Mounting of all instrumentation devices, other than those noted under exclusions;
11. Permits;
12. Pneumatic & hydraulic piping associated with instrumentation;
13. Power supplies which are primarily intended for instrumentation, which shall include battery banks and battery chargers;
14. Primary measuring elements including orifice plates, venturis, dahl tubes, parshall flumes (other than structural), magnetic flow meters and turbine flow meters;
15. Scaffolding/man lifts where required to perform work by this trade scope;
16. Trade specific lighting to perform tasks;
17. Trade cleanup - cleanup for work carried out by this trade;
18. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
19. Warranty and/or Guaranty;
20. Submittals and O&M documentation as specified in the tender documents;
21. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
22. Protection of other trades' work from damage when performing this trade's scope of work;
23. Building Information Modeling (BIM) as it applies to this trade scope;
24. Commissioning as it applies to this trade scope.

## Instrumentation, cont'd.

### EXCLUDED

1. Backfill and removal of excess material except as required under Included;
2. Concrete;
3. Control power supply outlets as outlined in Electrical Included,
4. Cutting, including core drilling and patching when pertaining to renovations, alterations or additions;
5. Distribution and installation of motorized dampers;
6. Distribution and installation of thermos-wells, control valves, remotely controlled sluice gates, orifice plates and primary measuring elements as related to instrumentation (see Mechanical Sub Section B, Included);
7. Instrumentation components specified as part of packaged equipment which is supplied by others;
8. Painting on-site;
9. Pressure tapping including block valves. (The instrumentation contractor to be responsible for locating pressure tapping);
10. Push-buttons, selector switches and indicating lights which come supplied with motor starters;
11. Supply and installation of companion flanges for orifice plates (see Mechanical Sub Section B, Included);
12. Supply and installation of meter body process lines;
13. Supply and installation of sampling lines;
14. Supports where detailed on architectural or structural drawings;
15. Waterproofing, fire-stopping and/or soundproofing in wall, floor and ceiling penetrations;
16. Weirs and weir plates;
17. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final Cleaning before turnover;
21. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
22. Firestopping;
23. Supply and maintenance of garbage and recycling bins for construction waste;
24. Removal of construction waste from job site;
25. General site security.

# Electrical

## DEFINITION

The format under this Trade Definition is based on the premise that the electrical tender normally includes the basic categories of:

### Basic Categories (Electrical Sub-Trades):

- a. Audio visual systems - complete;
- b. Audio visual nurse call systems (incorporating voice transmission/patient wander) - complete;
- c. Intercommunication system (internal, standalone) - complete;
- d. Integrated school sound / intercommunication systems - complete;
- e. Sound distribution / Paging systems (including sound masking speech privacy system) - complete;
- f. RF television system - complete;
- g. CCTV system - complete;
- h. Telephone system - complete;

And all items commonly associated with the above categories which are normally laid out in the drawings and specifications.

Complete for basic categories (a) to (h) listed above means supply and installation of all equipment and wire, including time clocks where they are for exclusive use of the system being installed. All device and equipment boxes and terminal cabinets are to be supplied to the electrical contractor for installation. Electrical contractor is to supply and install raceway system including pull boxes.

**Packaged equipment**, so specified under the mechanical scopes, shall mean pre-wired equipment supplied in a completely electrically operable state after one final connection of power wiring, and remote control connections if specified.

Building Management System (BMS) and Heating Ventilation Air Conditioning (HVAC) controls refers to the controls for equipment that affects temperature and humidity within a building provided that the controls do not directly switch the power lines to the motors and duct heaters, in which case the wiring of such controls shall be the responsibility of the electrical contractor.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. Access panels for walls, ceilings and floors, where required for items under electrical scope - to be supplied to respective trade for installation, e.g. to Gypsum Board and Metal Framing contractor, etc.
2. Alarm and detection systems - for systems under the electrical scope;
3. Appliances and furniture, electrical - requiring a permanent electrical connection only;
4. Balancing - for systems under the electrical scope;
5. Batteries - for systems under the electrical scope;
6. Battery chargers - for systems under the electrical scope;
7. Burglar alarm systems;
8. Buss duct;
9. Cables, electrical and heating;
10. Cable trays;
11. Car heater posts (requiring CSA approval);
12. Circuit breakers - for systems under the electrical scope;
13. Clocks and Clock systems;
14. Contactors including those required for BMS control and monitoring;
15. Control consoles - except for HVAC controls and pre-wired factory-packaged equipment;
16. Control panels - except for HVAC controls and pre-wired factory-packaged equipment;
17. Control devices - for equipment under mechanical Scope which constitute protective control required by the Canadian Electrical Code;

## Electrical, cont'd.

18. Control power supply outlets - provided at locations shown on the electrical drawings and terminated in terminal cabinets or outlet boxes. Alternatively, if no control power supply outlets are shown on the electrical drawings, the electrical contractor shall provide such outlets adjacent to the source where the power circuit originates. The wiring beyond control power supply shall fall under the scope of control wiring (see Mechanical Sub-Section D Building Management Systems, Instrumentation, Excluded);
19. Control wiring - for motors, solenoids, relays and duct heaters under the mechanical scope, except pre-wired packaged equipment and HVAC/BMS controls that do not directly switch the power lines to the motors and duct heaters. Control wiring shall include all necessary wiring materials and connections, and the installations of controls that do not require mechanical connections;
20. Core drilling - for electrical, except if provided for under pre-cast and post-tensioned slabs specifications;
21. Holes to be cut into floor duct systems;
22. Detectors - for systems under the electrical scope;
23. Dimmer systems;
24. Distribution equipment, electrical;
25. Door wiring for electric locking mechanisms including interconnecting wiring;
26. Door wiring for overhead and automatic doors - electrical supply hook up, interconnecting wiring, conduit and boxes. Control devices and electrically activated holding devices by others;
27. Drainage connections for conduit systems (excluding drain lines);
28. Electrical thermostats - except for equipment supplied under mechanical scope. (Thermostats supplied under mechanical scope, if to be installed by electrical contractor, must be complete with adapter plates);
29. Electrical wiring for automatic underground sprinkler and/or irrigation systems (see Exterior Landscaping, Included);
30. Electronic systems - for items in the electrical scope;
31. Emergency power and lighting systems – electrical Including:
  - a. Conduit and wire from lighting interface module to Facility Management Systems;
  - b. All network wiring and programming (including addressing & trend logs);
  - c. Personnel for programming and networking;
  - d. Commissioning of systems;
32. Excavation - the electrical contractor shall be responsible for all excavating to facilitate the installation of his work. All backfill by others except sand and planking where specified for the protection of the electrical installation;
33. Fastenings - (screws, bolts, hangers, straps, etc.) for electrical equipment and systems;
34. Fire alarm systems - including fire phone systems, and fire alarm fan-shut-down and start-up relays and wiring. Also including wiring and connections only for fire protection systems and smoke or smoke/fire damper activation and monitoring including:
  - a. Conduit and wire from Fire Alarm interface module to Facility Management Systems;
  - b. All network wiring and programming (including addressing & trend logs);
  - c. Qualified personnel for programming and networking;
  - d. Commissioning of systems;See General Mechanical Sub Section B Prime Mechanical Included, Sub Section D Building Management System Included and Sub Section G Sprinklers and Fire Protection, Included;
35. Wiring and connection of automatic sprinkler systems with associated detection, control panel and alarm devices, (see Sprinklers and Fire Protection, Included);
36. All electrical connections for the Commercial Kitchen Fire Suppression Systems (dry contacts to be provided by the Commercial Kitchen Fire Suppression contractor). Electrical contractor to tie-in the kitchen suppression system into base building Fire Alarm System as per code requirements (see Commercial Kitchen Fire Suppression Systems, Excluded);
37. Floor duct systems, electrical;
38. Gas detection systems, electrical (when causing an alarm only);
39. Generators - electrical;
40. Grounding systems;
41. Hand and hair dryers, electric;
42. Heat pumps - requiring only electrical connections;

## Electrical, cont'd.

43. Heating:
  - a. Electrical base board heating;
  - b. Heater (a self-contained, forced air electric heater with enclosure requiring only electrical connections with no ductwork connections);
  - c. Electric unit heaters;
  - d. Duct Heaters;
  - e. Heating cables, heating tape except when supplied by the mechanical scope, see Excluded (see also General Mechanical Sub-Section A General Mechanical Items, Included);
  - f. Radiant electrical heating panels;
  - g. Controls for above items unless forming part of HVAC/BMS controls under mechanical scope (see General Mechanical Sub-Section D Building Management System, Included);
44. Hoisting;
45. Demolition of existing electrical installations when the materials are to be re-used or retained as specified;
46. Horns and sirens - for systems under the electrical scope;
47. Identification and labeling, other than painted, including plastic decals for arrow flow, plastic and/or canvas, colored tape and/or secondary color banding (see Excluded and Painting, Included);
48. Inspection as per the authority having jurisdiction;
49. Instrument panels - for systems under electrical scope;
50. Interrupter switches - for systems under electrical scope;
51. Laboratory equipment, electrical - except those items included in a factory assembled casework product;
52. Licenses;
53. Lighting fixtures (complete manufactured units): All luminous elements consisting of a light source (and ballasts if required) mounted separately or as components of an overall ceiling system including fixtures for coffered ceilings, air troffers and indoor or outdoor flood lighting, to include lamps for same, lenses, globes, guards and all types of diffusers (also supports if detailed on electrical drawings only, except for fluorescent fixtures larger than 610 mm x 1220 mm);
54. Lightning protection systems;
55. Luminous ceilings: including electrical lighting fixtures and raceways only but excluding leaf- type reflectors, egg-crate reflectors, plastic or glass lenses and diffusers and all supports for same. (For lighting fixtures, see Included);
56. Manufacturer's warranty only, other than the normal one year maintenance warranty;
57. Marine lighting - to mechanical systems other than packaged equipment;
58. Medical gas alarm and special fire protection systems - supply and install conduit, wire and connections only;
59. Meters - for systems under the electrical scope and power meters requiring connection to the HVAC/BMS; including:
  - a. Conduit and wire from power meter interface module to Facility Management Systems;
  - b. All network wiring and programming (including addressing & trend logs);
  - c. Qualified personnel for programming and networking;
  - d. Commissioning of systems;See General Mechanical Sub Section D Building Management System, Excluded;
60. Motor control centers;
61. Motor starters - all motor starters and protection switches without exception other than that equipment which forms an integral part of packaged equipment requiring a power connection only (where applicable, see Definitions);
62. Multi-speed switches including variable speed drives which are electrically initiated and operated;
63. Nurses call systems and equipment, visual (audio-visual types under sound sub-bid);
64. Operating room lights;
65. Panels, electrical;
66. Permits - as required for electrical work only;
67. Poly vapor hats;
68. Power plant equipment, (excluding fuel tanks, vent ducting and piping for fuel, coolants and exhaust) complete with prime mover, flex connections, radiator and muffler when the major function is to drive electric generators:
  - a. For remote radiators only, piping and associated equipment including valves, pumps, expansion tanks and coolant will be provided under the mechanical scope (see General Mechanical Sub Section B Prime Mechanical, Included);
69. Power supplies - for systems under the electrical scope;

## Electrical, cont'd.

70. Power wiring - for equipment under the General Mechanical and Commercial Kitchen Equipment scopes, shall include, without limiting the scope, all necessary wiring materials and connections for motors requiring protective control by the Canadian Electrical Code, heaters, lamps, electro static filters, and controls that directly switch the power lines to such equipment. Wiring to solenoids shall fall in the category of control wiring (see Electrical Included and General Mechanical Sub Section D Building Management System, Excluded);
71. Power wiring for vacuum systems installed by the mechanical contractor (see General Mechanical Sub Section B Prime Mechanical, Included);
72. Commercial Kitchen Equipment – Supply and installation of an electrical panel for commercial kitchen equipment if there is more than five (5) pieces of equipment requiring an electrical junction box or panel;
73. Primary distribution centers;
74. Protection devices and equipment;
75. Raceways - for systems under the electrical scope;
76. Rectifiers - for systems under the electrical scope;
77. Refrigerated rooms and coolers - electrical supply hook up only;
78. Regulators - for systems under the electrical scope;
79. Relays - for systems under the electrical scope;
80. Resistors - for systems under the electrical scope;
81. Roughing-in and connecting, only as shown on the tender documents, specialty items, cabinets or equipment supplied and installed by others;
82. Sauna, electrical;
83. Secondary distribution system;
84. Send/receiving devices - for systems under the electrical scope;
85. Service, electrical;
86. Services, aerial (other than utility);
87. Mark out backing in walls as required for all equipment provided by this scope;
88. Signaling systems - for items under the electrical scope;
89. Signs, electrical;
90. Sirens for systems under the electrical scope;
91. Site facilities, electrical;
92. Sleeves, through poured-in-place concrete and masonry where required for electrical conduit, wire or equipment;
93. Smoke detection systems, electrical;
94. Snow melting cables;
95. Solar power and heating systems (electrical) (see General Mechanical Sub Section B Prime Mechanical, Included);
96. Sprinkler enunciator systems, electrical;
97. Substations (electrical portion);
98. Supports - where detailed on electrical drawings only (see Electrical Included and Excluded);
99. Surveillance systems (see Basic Categories Electrical Sub-Trades);
100. Switch boards;
101. Switches - all types of electrical switches for systems under the electrical scope except where part of packaged equipment supplied by others;
102. Tele autograph devices;
103. Telephone systems, private automatic, see Basic Categories (Electrical Sub-Trades);
104. Temperature control system and devices for electric heating supplied by the electrical trade;
105. Thermocouple wiring and thermocouple sensor wiring except for HVAC/BMS controls;
106. Time recording system;
107. Timers and time clocks - for systems under the electrical scope;
108. Transformers - for systems under the electrical scope;
109. Valance and cove lighting: including electrical lighting fixtures and raceways only but excluding leaf-type reflectors, egg crate reflectors, plastic or glass lenses and diffusers and all supports for same. (For lighting fixtures, see Included);
110. Wall panels - for systems under the electrical scope;
111. Watchman's clocking equipment - for systems under the electrical scope;
112. Wiring devices and plates - for systems under the electrical scope;

## Electrical, cont'd.

113. Wiring and equipment for transformer vaults;
114. Wire for branch circuits, feeders - for systems under the electrical scope;
115. Wiring - line voltage (field) wiring of food services refrigeration systems including the wiring of line voltage time clocks, thermostats and solenoids;
116. X-ray viewers;
117. Network cabling between Facility Management Systems and other lower level building systems such as, but not limited to:
  - a. Lighting
  - b. Fire alarm
  - c. Power Metering
  - d. Access Control
  - e. Building Management
118. Networking components required by other building systems for own standalone operation;
119. Addressing of lower level building systems;
120. Trend logs and alarms of lower level building systems;
121. Commissioning of lower level building systems;
122. Firestopping for electrical installations;
123. Trade specific Firestopping. The Firestopping contractor will submit separate prices to the following trade scopes:
  - a. Prime Mechanical – the prime mechanical contractor will carry the Firestopping costs for ALL trades in the mechanical scope;
  - b. Electrical - will carry the Firestopping costs for all Electrical;
  - c. General Contractor – will carry the Firestopping costs for ALL trade scopes other than Mechanical and Electrical;
124. Supply of fuel for the emergency generator system. Including fuel for generator testing and final fill for turnover to the Owner (see Mechanical Sub-section A General Mechanical, Excluded);
125. Electrical wiring from fuel fill panel to generator day tank, float wiring and any wiring required from the day tank to generator to be completed by the Electrical contractor, see Excluded;
126. Transformers, voltage regulators, controls and any wire connections associated with heat tracing (see Mechanical Sub-section B Prime Mechanical, Excluded);
127. All wiring for sump pumps and associated floats and controls panels. Sump pump floats and panels are supplied by the mechanical contractor and all wiring is done by the electrical contractor whether line or low voltage (see Mechanical Sub-Section A: General Mechanical, Excluded);
128. Wiring of plumbing fixtures – including low voltage;
129. Scaffolding/man lifts where required to perform work by this trade scope;
130. Trade specific lighting to perform tasks;
131. Trade cleanup - cleanup for work carried out by this trade;
132. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
133. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
134. Warranty and/or Guaranty;
135. Submittals and O&M documentation as specified in the tender documents;
136. Protection of other trades' work from damage when performing this trade's scope of work;
137. Building Information Modeling (BIM) as it applies to this trade scope;
138. Commissioning as it applies to this trade scope.

## Electrical, cont'd.

### EXCLUDED

1. Alterations of services, as specified in the tender documents, required for specialty items, cabinets or equipment not supplied under this subcontract;
2. Backfill and removal of surplus material;
3. Backing and backing materials, supply and installation;
4. Concrete;
5. Control and protection devices for refrigerated rooms and coolers;
6. Control and protection devices for overhead and automatic doors, wiring for overhead doors;
7. Control wiring for equipment under mechanical scope intended for BMS/HVAC controls, including solenoids, valves and dampers;
8. Cutting, including core drilling and patching - when pertaining to renovations, alterations or additions;
9. Door access card readers or other devices which are door and/or door frame mounted except when part of systems furnished by one supplier (see Included); wiring for same regardless of supplier is by electrical contractor;
10. Door holding devices forming part of door hardware system;
11. Drain lines,
12. Food service and laundry equipment unless specified in the electrical specifications;
13. Fuel tanks, vent ducting, piping for fuel, coolants and exhaust for power plant equipment;
14. Installation of plaster trims (frames) for lighting fixtures;
15. Instrumentation;
16. Laboratory equipment which is part of factory assembled casework product;
17. Luminous light lenses and/or decorative lenses and/or louvres, including metal and/or plastic support moldings when installed in architectural valences (see Component Ceiling Systems, Architectural Woodwork and Lath, Plaster & Stucco and Gypsum Board and Metal Framing, Included);
18. Manhole covers and frames;
19. Painting (on site), see Included;
20. Portable appliances and portable furniture, and electrical fixtures, devices and cords affixed thereto;
21. Shop equipment or tools;
22. Soundproofing in wall, floor and ceiling penetrations;
23. Supports where detailed on architectural or structural drawings, see Included;
24. Thermostats and guards for equipment under mechanical scope;
25. Trims or moldings for lighting fixtures other than manufactured plaster trims and those supplied with the fixture;
26. Valances and coves for lighting fixtures (see Component Ceiling Systems, Included);
27. Variable speed controllers that are mechanically or hydraulically initiated and operated or part of packaged equipment so specified under the mechanical scopes;
28. Waterproofing in wall, floor and ceiling penetrations;
29. Wiring for electric elevators, hydraulic elevators, parking garage hoists, escalators, dumbwaiters, conveyors, moving walkways, speed ramps, except as noted under Elevators and Escalators scopes;
30. Any wiring connecting to the Building Management System for the generator or associated equipment, see included.
31. Supply and installation of heat trace to mechanical piping either internally or externally (see Mechanical Sub-section B Prime Mechanical, Included);
32. Sump pump floats and panels (see Mechanical Sub-Section A: General Mechanical, Included);
33. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
34. Temporary heat, general lighting, power, sanitation and water for general construction;
35. Hoarding;
36. Final Cleaning before turnover;
37. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
38. Supply and maintenance of garbage and recycling bins for construction waste;
39. Removal of construction waste from job site;
40. General site security;
41. Services and service charges for electrical, telephone and television as levied by the municipality or utility company.

# Facility Management Systems

## DEFINITION

Multiple building systems including but not limited to HVAC/BMS and electrically controlled systems are integrated into a single building system via open protocols.

This contractor shall include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

## INCLUDED

1. All programming required to integrate all building systems being combined;
2. Installation and setup of any hardware or software required to allow connection to lower level building systems being integrated;
3. All networking components to successfully connect to the building systems;
4. Provide network addressing to other vendors prior to the 3<sup>rd</sup> party building system work being started;
5. A single interface with full color graphics for controlling and monitoring all connected building systems;
6. Any required energy or other dashboards;
7. Protection from damages of existing building systems while performing this scope;
8. Scaffolding/man lifts where required to perform work by this trade scope;
9. Trade specific lighting to perform tasks;
10. Trade cleanup - cleanup for work carried out by this trade;
11. Warranty and/or Guaranty;
12. Submittals and O&M documentation as specified in the tender documents;
13. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
14. Protection of other trades' work from damage when performing this trade's scope of work;
15. Building Information Modeling (BIM) as it applies to this trade scope;
16. Commissioning as it applies to this trade scope.

## EXCLUDED

1. Network cabling between FMS and other lower level building systems such as, but not limited to:
  - a. Lighting;
  - b. Fire alarm;
  - c. Power Metering;
  - d. Access Control;
  - e. Building Management;
2. Networking components required by other building systems for own standalone operation;
3. Addressing of lower level building systems;
4. Trend logs and alarms of lower level building systems;
5. Commissioning of lower level building systems;
6. Scaffolding when required to perform work by multiple trades, i.e. Common scaffold/platform;
7. Temporary heat, general lighting, power, sanitation and water for general construction;
8. Hoarding;
9. Final Cleaning before turnover;
10. Security costs. Where Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
11. Firestopping;
12. Supply and maintenance of garbage and recycling bins for construction waste;
13. Removal of construction waste from job site;
14. General site security.

