

2025 \ Version 10.0



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Introduction

The following trade definitions were developed and refined with the assistance of the appropriate Trade Associations and trade contractors 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 comprehensive list of “Inclusions and Exclusions” pertaining to the work scope being tendered.

These definitions do not add work items nor exclude them from a prime contract, but when 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 and Safety Act**, applicable **Building Codes**, and the requirements of the tendering documents.

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 **December 1st** 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 1st each year.

This document is for use during the tender process and is intended to provide clarity to the tendering process and eliminate potential trade conflicts on the jobsite.

Building Information Modeling (BIM)

SCOPE NARRATIVE

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:

TRADE DEFINITION

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

SCOPE NARRATIVE

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. Costs for all commissioning items as they pertain to each scope including system and equipment start-ups and adjustments, demonstration and training as well as administrative and procedural requires for commissioning facilities and facility systems are to be included in each trade scopes tender.

Commissioning applies to all trade scopes within this document.

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:

TRADE DEFINITION

INCLUDED

1. Administrative and procedural requirements for commissioning facilities and facility systems as specified;
2. Equipment start-up and adjustments of systems and equipment by appropriately trained or manufacturer certified technicians as specified;
3. Verification of equipment, materials and systems to ensure they meet design intent and specifications;
4. Documentation for completed system and equipment commissioning or testing as specified;
5. Completing and submitting commissioning documents as required by the contract documents;
6. Demonstration and training of equipment and systems as specified;

EXCLUDED

1. 3rd party commissioning;
2. Development and supply of commissioning sheets required for 3rd party commissioning.

Concrete Formwork (Concrete Forming and Accessories)

SCOPE NARRATIVE

This scope includes the supply and installation of permanent and temporary forms for structural and architectural cast-in-place concrete for a complete installation including the installation of the concrete provided by others.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

INCLUDED

TRADE DEFINITION

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 when 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 when 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 detailed 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 water stop;
21. Set stair treads and nosing's 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 principal 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;

Concrete Formwork - Continued

30. Cleaning of dirt and debris from forms prior to pouring concrete;
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. Material handling, including unloading and hoisting;
35. Trade specific lighting to perform tasks;
36. Trade cleanup – cleanup for work performed by this trade;
37. Warranty or Guaranty;
38. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
39. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
40. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
41. Protection of other trades' work from damage when performing this trade's scope of work;
42. Building Information Modeling (BIM) as it applies to this trade scope;
43. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.

EXCLUDED

1. Concrete 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 when 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 nosing's;
21. Supply and install caisson and pile dowels;

Concrete Formwork – Continued

22. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
23. Common scaffold or platform when required to perform work by multiple trades;
24. Temporary heat, general lighting, power, sanitation and water for general construction;
25. Hoarding;
26. Final Cleaning before turnover;
27. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
28. Firestopping;
29. Supply and maintenance of garbage and recycling bins for construction waste;
30. Removal of construction waste from job site;
31. General site security.

Reinforcing Steel (Concrete Reinforcing)

SCOPE NARRATIVE

This scope includes the supply and installation of reinforcement utilizing reinforcement steel bars or wire fabric reinforcement to all types of concrete to increase the structural capabilities of the concrete, including supply and delivery to site of all reinforcing steel bars and welded mesh or structural wire fabric required for poured-in-place concrete.

This scope can be submitted as combined or two separate tenders - supply and installation.

A. Reinforcing Steel (Concrete Reinforcing) - Supply

SCOPE NARRATIVE

This scope includes for the supply only and delivery to site of all steel bars or wire fabric reinforcement.

This scope for supply only includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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 or spacer bars as detailed in the Contract Documents;
10. Welded wire mesh or structural wire fabric for concrete encased conduits or duct;
11. Warranty or Guaranty;
12. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. 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 Framing, Included;
5. Accessories, tie wire and epoxy coated tie wire, inserts;
6. Rock or soil anchors or equivalent bars;
7. Post tensioning cables and accessories, see Post Tensioning, Included;
8. Embedded plates with rebar welded to it;
9. Supply of reinforcing bar supports for composite floor decking, see Cold Rolled Metal Framing, Included;
10. Reinforcing steel used in drilled cast-in-place piles, dynamically cast-in-place piles and pipe piles, see Bored and Caisson Piles, Included;
11. Supply of caisson and pile dowels, see Bored and Caisson Piles, Included;
12. Dowel protection;
13. Hoisting equipment and Operators for off-loading;
14. Dowels welded to Pile Plates.

B. Reinforcing Steel (Concrete Reinforcing) - Installation

SCOPE NARRATIVE

This scope includes the installation of concrete reinforcing including 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 scope for the installation only includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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, epoxy coated tie wire, and inserts;
4. Supply all materials required for temporary 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/repairing defects or damage to epoxy coated reinforcing bars;
7. Installation only of composite floor reinforcing bar supports, supplied by others, see Cold Rolled Metal Framing, Included;
8. Material handling, including receiving and unloading of materials;
9. Rigging equipment and labor for unloading and hoisting;
10. Trade specific lighting to perform tasks;
11. Trade cleanup - cleanup for work carried out by this trade;
12. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
13. Warranty or Guaranty;
14. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
15. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Commissioning as it applies to this trade scope;
19. Building Information Modeling (BIM) as it applies to this trade scope.

B. Reinforcing Steel (Concrete Reinforcing) - Installation - Continued

EXCLUDED

1. Caisson and pile dowels;
2. Post tension cables, accessories, supports and anchorage reinforcement, see Post Tensioning, Included;
3. Expansion sleeves, caps, wrapping, greasing and accessories;
4. Field welding;
5. Hoisting;
6. Inserts;
7. Lifting of mesh during pouring of concrete;
8. Chairing of mesh prior to pour;
9. Lines, templates and grades;
10. Placing bars and supply and placing of accessories to masonry or similar type blocks;
11. Reinforcing steel for masonry including dowels;
12. Tying reinforcing steel to water stops;
13. Tying reinforcing into cages for masonry when shown on drawings, see Masonry, Included;
14. Scaffolding which supports concrete formwork;
15. Maintenance of Dowel protection after initial installation;
16. Drilling and grouting of Dowels;
17. Aerial work platform with Operator;
18. Fall protection anchor points;
19. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
20. Common scaffold or platform when required to perform work by multiple trades;
21. Temporary heat, general lighting, power, sanitation and water for general construction;
22. Hoarding;
23. Final Cleaning before turnover;
24. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
25. Supply and maintenance of garbage and recycling bins for construction waste;
26. Removal of construction waste from job site;
27. General site security.

Concrete Finishing (Flatwork)

SCOPE NARRATIVE

This scope includes the supply and installation for the placing and finishing of all concrete flatwork and all components required for a complete installation including concrete finishing, concrete topping and concrete curing.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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. Troweled in concrete slab hardener;
6. Troweled 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 or Guaranty;
17. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
18. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

Concrete Finishing (Flatwork) - Continued

EXCLUDED

1. Concrete supply;
2. Concrete pumping;
3. Hoisting;
4. Place and finish suspended slabs;
5. Formwork, place and finish structural slab on grade when 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
19. Common scaffold or platform when required to perform work by multiple trades;
20. Temporary heat, general lighting, power, sanitation and water for general construction;
21. Hoarding;
22. Final Cleaning before turnover;
23. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
24. Firestopping;
25. Supply and maintenance of garbage and recycling bins for construction waste;
26. Removal of construction waste from job site;
27. General site security.

Post Tensioned Concrete Reinforcing

SCOPE NARRATIVE

This scope includes the supply and installation of all material required for a complete poured-in-place concrete post tension system, including all post-tensioning tendon materials required for cast-in-place concrete complete with stressing tendons and jacking to apply load on tendons.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Preparation of placing drawings and friction/elongation calculations;
2. Layout for locations when tendons penetrate formwork;
3. Tendon anchorages;
4. Anchorage seal caps;
5. Couplers;
6. Local zone burst reinforcing;
7. Sheathing for pre-stressing tendons (bonded or un-bonded);
8. Installation of sheathing (ducting) for bonding tendons;
9. Pre-stressing steel (strand or thread-bars);
10. Installation of pre-stressing steel and anchorages;
11. Cement grout (in the case of bonded tendons);
12. Tendon supports, spacers and applicable accessories as required;
13. Post-tensioning specific installation equipment required to perform task;
14. Stressing equipment required to perform task;
15. Grouting equipment for bonded tendons required to perform task;
16. Stressing tendons and cutting after approval;
17. Grout, seal and cap pockets of un-bonded tendons;
18. Grouting equipment for bonded tendons;
19. Stripping plastic sheath of un-bonded tendon tails after concreting;
20. Trade specific lighting to perform tasks;
21. Trade cleanup – cleanup for work carried out by this trade;
22. Protection of other trades' work from damage when performing this trades scope of work;
23. Warranty or Guaranty;
24. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
25. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
26. Material handling, including unloading and hoisting;
27. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
28. Protection of other trades' work from damage when performing this trade's scope of work;
29. Building Information Modeling (BIM) as it applies to this trade scope

Post Tensioned Concrete Reinforcing - Continued

EXCLUDED

1. Concrete, supplied and installed by Others;
2. Inspection or testing including lock tests;
3. General zone burst reinforcing steel;
4. Pour break couplers, if not shown;
5. Formwork block-outs;
6. Forming and patching of recess pockets;
7. Power for post-tensioning equipment;
8. Potable water for grouting tendons when required for bonded tendons;
9. Testing agency to perform cement grout testing for bonded tendons;
10. Engineering review of stressing results;
11. Lines, templates and grades;
12. Scaffolding which supports concrete formwork;
13. Work platform around perimeter of concrete pour;
14. Aerial work platform with operator when required;
15. Fall protection anchor points;
16. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
17. Scaffolding when required to perform work by multiple trades;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final cleanup before turnover;
21. Security costs. When 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

SCOPE NARRATIVE

This scope includes the supply and installation of all types of masonry systems including stone, clay, concrete, cinder, adobe or glass, or other manufactured masonry units installed as a non-load bearing veneer, or in single and multiple wythe masonry assemblies that are either load or non-load bearing construction, including associated accessories integral to the wall assembly.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Concrete Masonry Units, including blocks and veneer units;
2. Clay Unit Masonry, including brick and adobe veneer, clay flue units and tiles, or structural clay and terra cotta blocks and bricks;
3. Refractory brick when forming part of a masonry heating receptacle or appliance;
4. Glass Unit Masonry, including blocks and bricks;
5. Natural Stone Assemblies, including marble, granite, slate, travertine, and limestone cladding panels and stone veneers, attached to structural substrates utilizing mechanically fastened anchors, or with ties and mortar;
6. Manufactured Unit Masonry, including calcium silicate and cast bricks, blocks or stone and another manufactured unit masonry, not described above;
7. Thin Veneer Assemblies, cement adhered using mesh or lath, and scratch coat installation systems, and including attachment girts and cementitious sheathing panels forming a part of thin veneer assemblies;
8. Building envelope components including weather, air and vapor membranes, and rigid or semi-rigid board insulation integral to masonry wythes, veneers, facings and cladding including:
 - a. Cavity wall flexible sheet or liquid applied weather, air or vapor membranes, behind masonry and when masonry is the last component being installed, including connection to work of the 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 of compatible overlap material beyond the exterior point of the masonry system;
 - b. Cavity wall insulation including adhesives, anchors, and other fastenings and attachments, behind masonry, when masonry is the last component being installed;
 - c. Loose fill or foam insulation forming a part of masonry assemblies.
9. Masonry laid with mortar containing bonding agents regardless of being pre-laid or otherwise:
 - a. Mortar;
 - b. Concrete and grout fill in masonry only.
10. Flashings:
 - a. Built-in metal flashing - supplied by others;
 - b. Non-rigid and fabric flashing when built into masonry.
11. Caulking (other than firestopping):
 - a. Masonry to masonry and;
 - b. Caulking of joints in masonry or masonry to other materials, including caulking when it forms part of the expansion or control joint, when masonry is the last work being installed.
12. Accessories for masonry or similar type blocks, which are integral to the masonry assembly including:
 - a. Anchors and ties;
 - b. Z-girts, rigid or semi-rigid board insulation and cement board integral to thin veneer assemblies;
 - c. Weep holes and venting devices;
 - d. Wire reinforcing to mortar joints up to 9-gauge (3.8 mm) wire ties or similar type ties;
 - e. Reinforcing steel placed only in masonry - supplied by others to the job site, clearly tagged and identified as to end use, See Reinforcing Steel (Concrete Reinforcing) – Supply, Included;
 - f. Tying reinforcing into cages for masonry when shown on drawings as supplied by Reinforcing Steel (Concrete Reinforcing) – Supply Included, see Reinforcing Steel (Concrete Reinforcing) - Installation, Excluded;
 - g. Precast concrete band courses, copings, sills and heads which are an integral part of masonry cladding, including board insulation and weather, air or vapor membranes behind these items;
 - h. Damp proofing membrane in masonry.

Masonry - Continued

13. Installation of miscellaneous metals (supplied by Others) in masonry, see Miscellaneous Steel (Metal Fabrications), Included;
14. Clay flue lining;
15. Clay tiles;
16. Cleaning of masonry;
17. Clear penetrating waterproofing or graffiti resistant coatings applied to exterior masonry only, see Painting, Excluded, see Special Wall Coatings, Included;
18. Cutting required for other trades in new work only;
19. Removal of existing masonry when the materials are being re-used, recovered or retained as specified;
20. Parging of cavity masonry walls only when specified;
21. Samples/mock-up's only when specified in the tender documents;
22. Testing of materials of this trade only when specified in the tender documents;
23. Receiving, unloading and handling of all materials supplied by others for work of this trade;
24. Scaffolding/man lifts when required to perform work by this trade scope;
25. Material handling, including unloading and hoisting;
26. Trade specific lighting to perform tasks;
27. Trade cleanup - cleanup for work carried out by this trade;
28. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
29. Warranty or Guaranty;
30. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
31. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
32. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
33. Protection of other trades' work from damage when performing this trades scope of work;
34. Building Information Modeling (BIM) as it applies to this trade scope.

Masonry - Continued

EXCLUDED

1. Refractory brick forming an integral part of an industrial furnace, boiler, retort or incinerator;
2. Potable water for mixing of mortar;
3. Temporary wind-bracing;
4. Temporary support and shoring for lintels;
5. Temporary heat for mortar shack;
6. Anchor slot;
7. Demolition of masonry assemblies not being re-used or salvaged, see Included;
8. Supply of reinforcing steel for masonry cages, see Reinforcing Steel (Concrete Reinforcing) – Supply, Included;
9. Installation of door and window frames, supplied by others, see Metal Doors and Frames, Included;
10. Installation of preformed metal deck fillers used as part of a listed firestop system and to maintain fire and smoke barriers to walls and partitions as specified, see Firestopping;
11. Steel stud reinforcement due to masonry loading;
12. Exterior plywood, gypsum or other exterior sheathing;
13. Permanent lateral support devices on top of masonry walls;
14. Welding;
15. Firestopping;
16. Waterproof coatings and other coating materials, specified under Painting or Special Wall Coatings Trade Definitions;
17. Inspection;
18. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
19. Common scaffold or platform when required to perform work by multiple trades;
20. Temporary heat, general lighting, power, sanitation and water for general construction;
21. Hoarding;
22. Final Cleaning before turnover;
23. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
24. Supply and maintenance of garbage and recycling bins for construction waste;
25. Removal of construction waste from job site;
26. General site security.

Structural Steel Framing (Structural Steel)

SCOPE NARRATIVE

This definition includes the supply and installation of structural steel elements and structural steel components, fabricated from steel for a partial or complete structurally framed building(s) or structure(s). Components are considered structural when they are attached to the structural frame or form an integral part of the structural frame, and when the components are load sharing or the components transfer loads to the main structural frame. This definition is intended for commercial, institutional, and light industrial buildings and is not intended for use in heavy industrial structures.

This trade definition must be read in conjunction with the Steel Fabrications (Miscellaneous Steel) trade definition.

Miscellaneous steel materials and installation are not included in this section. Non-structural framing members (even if structural shapes) that are not attached to the structural frame of a building structure(s) and other miscellaneous steel framing and support members are covered under Metal Fabrications (Miscellaneous Steel), and this trade definition must be read in conjunction with the Metal Fabrications (Miscellaneous Steel) trade definition.

Structural Aluminum Framing and Structural Stainless-Steel Framing are not considered a part of this Trade Definition. These components are under development and will be similar to the **INCLUDED** and **EXCLUDED** items for Structural Steel Framing and will be bid and performed by trades that specialize in structural aluminum and stainless-steel framing.

Structural steel building elements and components that form a part of and that are directly attached to the building structural frame are considered secondary steel framing, and considered Structural Steel Framing when detailed in the Structural Contract Documents.

Non-structural framing members (even if structural shapes) that do not form a part of, and that are **not** attached to the building structural frame are considered miscellaneous steel framing or isolated support members and are **not** Structural Steel Framing but are considered to be part of the Metal Fabrications (Miscellaneous Steel) trade definition.

This trade definition for the supply and installation of Structural Steel Framing includes and excludes the following items when specified and detailed in the Structural Contract Documents unless specifically noted otherwise:

TRADE DEFINITION

INCLUDED

1. Supply only of anchor bolts for structural steel framing, see Concrete Formwork, Included;
2. Supply only of embedded items in concrete or concrete masonry units for the connection of structural steel framing, see Concrete Formwork, Included;
3. Drilled anchors and inserts in concrete or concrete masonry units for connection of Structural Steel Framing, when embedded anchors are not practical;
4. Base plates and bearings plates, including thermal breaks below baseplates and between steel framing members when indicated and part of the structural steel frame;
5. Columns, including built-up columns and posts, if made from standard or built-up structural shapes and plates;
6. Beams, purlins, and girts, fabricated from standard structural shapes and forming part of the structural steel frame;
7. Design and fabrication of structural frame connections based on the engineering information detailed in the Structural Contract Documents;
8. Open-web steel joists, including anchors, bridging, headers and trimmers, when specified to be included in the Structural Contract Documents;
9. Trusses, if fabricated from standard structural steel shapes or built-up members;
10. Girders, including built-up girders, if fabricated from standard structural steel shapes and built-up plates;
11. Permanent bracing for structural steel framing members, trusses and frames including vertical and horizontal bracing for wind loads, seismic loads, structural stability, and for floor and roof systems and detailed in the Structural Contract Documents;
12. Struts, if part of the structural steel frame;

Structural Steel Framing (Structural Steel) – Continued

13. Site installed bolts, nuts and washers or special fasteners as required to connect structural steel components;
14. Fabricated expansion joint components including low-friction pads and surfaces, clips and plates, and fasteners; and premanufactured expansion joints when connected to and forming a part of the structural steel framing when detailed in the Structural Contract Documents;
15. Fabricated thermal separators/breaks including insulating components, clips and plates, and fasteners; when connected to and forming a part of the structural steel framing when detailed in the Structural Contract Documents;
16. Tie rods, hanger rods and sag rods forming part of the structural steel frame;
17. Hangers, if made from standard structural shapes, plates or rods or framing and framing structural components to other structural components;
18. Steel stairs and walkways including treads and risers, handrails and guards, steel floor plates whether flat or checkered, gratings, including supports and associated framing when stringers are attached to and forming a part of the structural steel frame when detailed in the Structural Contract Documents;
19. Catwalks, ladders and gratings supporting or servicing equipment and forming part of the structural steel frame and detailed in the Structural Contract Documents, see Mechanical Common Items, Included and Excluded, see Metal Fabrications (Miscellaneous Steel), Included;
20. Pedway bridges, enclosed or open skywalk pedestrian bridges either attached or not attached to the structural steel frame and detailed in the Structural Contract Documents;
21. Bearing plates and angles for structural steel members for the support of steel deck;
22. Shop installed shear connectors/studs, except when installed through the sheet metal deck, see Metal Deck, Included;
23. Deck support steel angles at columns and walls, as detailed in the Structural Contract Documents;
24. Structural steel purlins, girts, channels, or bracing required to frame overhead door openings, door and window framed openings, framed louver openings and other large framed openings, when attached to the structural frame and detailed in the Structural Contract Documents;
25. Structural steel framing supporting monorails, crane rails and stops when attached to the structural steel frame and detailed in the Structural Contract Documents;
26. Secondary non-structural members, brackets, channels, angles and girts for support of building cladding components when attached to the structural frame and detailed in the Structural Contract Documents;
27. Suspended supports when fabricated from structural steel shapes and when attached to the structural steel frame and detailed in the Structural Contract Documents; see Metal Fabrications, Included and Excluded;
28. Structural hollow sections whether round, square or rectangular complete with braces or cores for composite columns;
29. Steel lintels, sash angles, brick angles and sills attached to the structural steel frame and detailed in the Structural Contract Documents;
30. Supply only embedded items for connection of structural steel framing to load bearing masonry, see Masonry, Included and Excluded;
31. Canopy and marquee framing if attached to the structural steel frame, and detailed in the Structural Contract Documents;
32. Steel framing to support metal deck around small openings not attached to main structural frame;
33. Steel framing for curtain wall soffits when attached to the structural steel frame and detailed in the Structural Contract Documents, see Metal Fabrications (Miscellaneous Steel), Included and Excluded;
34. Structural steel framing members supporting a wind turbine or telecommunications aerial mast when attached to the structural steel frame and detailed in the Structural Contract Documents;
35. Structural steel framing members supporting mechanical equipment when attached to the structural steel frame and detailed in the Structural Contract Documents;
36. Framing for Mechanical floor and roof openings when attached to the structural frame and detailed in the contract documents, see Mechanical, excluded;
37. Floor plates (checkered or plain) when attached to the structural frame and detailed in the contract documents;
38. Cables for permanent bracing;
39. Structural components used to support architectural screens for mechanical and electrical equipment when detailed in the Structural Contract Documents and attached to the structural steel frame;
40. Temporary steel bracing or cabling required for the erection of and stabilizing the structural steel frame;
41. Structural steel framing members supporting Solar Racking supports when attached to the structural steel frame and detailed in the Structural Contract Documents;

Structural Steel Framing (Structural Steel) – Continued

42. Structural steel framing members supporting the parapets walls (stub walls higher than 200mm that is not part of the roof construction) when attached to the structural steel frame and detailed in the Structural Contract Documents;
43. Secondary Structural steel framing members supporting steel cladding systems when attached to the structural steel frame and detailed in the Structural Contract Documents;
44. Connection materials and all material required for temporary and permanent connections of the component parts of the structural frame;
45. Permanent leveling plates, shims and wedges complete with nuts and washers;
46. Holes in structural steel framing for installation of spray foams and insulations as provided by others, and as detailed in the Structural Contract Documents;
47. Prepare structural steel components to receive special coatings when specified in Structural Contract Documents;
48. Surface preparation including priming when specified in Structural Contract Documents;
49. Surface preparation including shop applied primers plus one top coat for architectural painting systems when specified in Structural Contract Documents, primers to be compatible with final coated paint systems;
50. When erection of the structural framework is **NOT** part of the fabricator's contract, the fabricator will supply sufficient bolts, nuts, washers, and special fasteners of suitable size, quality and quantity for all **steel-to-steel** and **steel-to-concrete** field connections as required, plus an over-allowance of five (5) per cent of each size to cover waste;
51. Shop drawings and models as detailed in the Structural Contract Documents;
52. Material handling, including unloading and hoisting;
53. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
54. Hoarding when required for special welding procedures;
55. Scaffolding/man lifts when required to perform work by this trade scope;
56. Trade specific lighting to perform tasks;
57. Trade cleanup - cleanup for work carried out by this trade;
58. Warranty or Guaranty;
59. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
60. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
61. Protection of other trades' work from damage when performing this trade's scope of work;
62. Commissioning as it applies to this trade scope;
63. Building Information Modeling (BIM) as it applies to this trade scope.

Structural Steel Framing (Structural Steel) - Continued

EXCLUDED

1. Metal fabrications and non-structural steel framing, see Metal Fabrications (Miscellaneous Steel), Included and Excluded;
2. Bolts for wood lagging wood to wood connections and wood to steel connections;
3. Canopy and marquee framing not attached to the structural steel frame, see Metal Fabrications (Miscellaneous Steel) Included;
4. Catch basin frames;
5. Concrete fill for hollow steel sections and circular shaped columns when detailed in Structural Contract Documents; concrete supply and installation, see Concrete Formwork, Included;
6. Conveyor stringers, deck plate and supporting posts, components and frames;
7. Door and corner guards, door frames, overhead door frames and window frames fabricated from structural steel shapes and not forming a part of the structural building frame; see Metal Fabrications (Miscellaneous Steel), Included;
8. Drilling of holes into masonry or concrete, including core drilling of anchor rods for bridging for steel trusses and drilling for deck support angles;
9. Edge forming less than 3.2 mm thick for metal deck;
10. Embedded steel parts in precast concrete;
11. Embedded steel parts not required for structural steel framing or metal deck;
12. Flagpoles and supports;
13. Floor plates, roof plates and grating not connected to Structural Steel frame;
14. Supply and installation of grouting;
15. Connection material for other trades when not attached to the structural frame and detailed in the Structural Contract Documents;
16. Installation of structural steel component parts embedded in concrete or masonry;
17. Lag bolts, machine bolts and shields or inserts for attaching structural component members used to support masonry or concrete units
18. Steel lintels, sash angles and sills not attached to the structural frame;
19. Machine bases, rollers and pulleys;
20. Steel clad doors and frames;
21. Shear connectors installed through sheet metal deck, see Metal Deck, Included;
22. Sheet metal deck, see Metal Deck, Included;
23. Sheet metal flashing;
24. Shoring under composite floors and stub girders;
25. Catwalks, ladders, stairs, landings, walkways, ladders and handrails, and gratings supporting or servicing equipment not attached to structural steel frame, see Common Mechanical Items, Included and Excluded, see Metal Fabrications (Miscellaneous Steel), Included and Excluded;
26. Fabricated and premanufactured expansion joints forming a part of another assembly and not forming a part of the structural steel frame; see Metal Fabrications (Miscellaneous Steel), Included and Excluded;
27. Monorails, Crane rails and stops;
28. Temporary bracing for other trades;
29. Owner's third-party testing to audit this trade's compliance with the quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
30. Common scaffold or platform when required to perform work by multiple trades;
31. Temporary heat, general lighting, power, sanitation and water for general construction;
32. Hoarding;
33. Final Cleaning before turnover;
34. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
35. Firestopping;
36. Supply and maintenance of garbage and recycling bins for construction waste;
37. Removal of construction waste from job site;
38. General site security.

Metal Deck

SCOPE NARRATIVE

This scope includes the supply and installation of metal decking and associated accessories for metal floor and roof deck of fluted, ribbed, and cellular configurations, metal decking used as forms for concrete or lightweight insulating concrete fill, acoustic roof deck (pre-painted or unfinished), and all related fastenings and shop-applied coatings.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Metal roof and floor deck;
2. Acoustic roof deck;
3. Pre-painted roof deck;
4. Metal deck to wall areas;
5. Steel and foam cell deck closures installed between structural support and decking;
6. Supply only, notched metal or foam cell deck closures incorporated into other construction from top or underside of deck;
7. Cutting of openings in deck marked by other trades at the time of deck installations;
8. Stiffening materials and installation of support framing for small openings as required for mechanical and electrical penetrations;
9. Reinforcing of pre-marked openings in roof deck up to 450 mm across the flutes and 300 mm in floor decking;
10. Shear connectors when shown field welded through the metal deck;
11. Touch up top (and bottom side of decking when architecturally exposed), when metallic coating has been burned or marred by welding, see Excluded;
12. Metal cover plates over deck at change of plane or direction;
13. Acoustic insulation strips for acoustic roof deck supply only to the trade requiring;
14. Transition angle or edge forming less than 3.2 mm thick for steel deck;
15. Material handling, including unloading and hoisting;
16. Scaffolding/man lifts when 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 or Guaranty;
21. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
22. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

Metal Deck – Continued

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 when 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 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 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, see Siding and Soffits, Included;
15. Metal roofing, see Sheet Metal Roofing, Included;
16. Caulking;
17. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
18. Common scaffold or platform when required to perform work by multiple trades;
19. Temporary heat, general lighting, power, sanitation and water for general construction;
20. Hoarding;
21. Security costs. When 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. Final cleaning before turnover;
26. General site security.

Panelized Structural Cold Rolled Assemblies

SCOPE NARRATIVE

This scope includes the supply and installation of all load bearing metal framing and exterior gypsum sheathing as required for a complete installation including bracing, fasteners, and related accessories for all light gauge, load-bearing metal elements.

GENERAL NOTE: If Panelized Structural Cold-Formed Steel Assemblies are specified on the project, then all exterior walls, soffits, and parapet assemblies excluding interior finishes and insulations, are included in this trade's scope of work, otherwise it is supplied and installed by the Gypsum Board and Light Gauge Metal Framing contractor.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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 cold-rolled steel stud framing 33 Mil and greater (20 Gauge-Structural, 0.84 mm and greater);
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. Insulation - 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 incorporated into interior or exterior panelized structural stud wall assemblies, as supplied by others, see Metal Doors and Frames, Included;
21. Engineering of all load bearing walls, floor decks and roof systems in this scope if not provided-and as detailed in the Contract Documents;
22. Engineering of connection details and wind-load walls, as detailed in the Contract Documents;
23. Shop drawings for all panelized wall systems and floor deck layout;
24. Material handling, including unloading and hoisting;
25. Trade specific lighting to perform tasks;
26. Trade cleanup – cleanup of work performed by this trade;

Panelized Structural Cold Rolled Assemblies - Continued

27. General cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
28. Warranty or Guaranty;
29. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
30. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
31. Cash allowances or contingency funds when a specific dollar amount is listed in this trade's specification section;
32. Protection of other trades' work from damage when performing this trade scope of work;
33. Building Information Modeling (BIM) as it applies to this trade scope.

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, see Included;
16. Reinforcing or structural framing of openings larger than mentioned, see Included;
17. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
18. Hoarding;
19. Temporary heat, general lighting, power, sanitation and water for general construction;
20. Security costs. When Security is required for trades to complete their work these services and cost 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 the jobsite;
23. General site security.

Cold-Formed Metal Framing

SCOPE NARRATIVE

This scope includes the supply and installation of any light steel framing that is axial loadbearing and requires engineering, which can include Exterior and Interior Load Bearing light steel framing consisting of structural metal framing systems including floor framing, roof framing and mezzanine framing, and loadbearing bulkheads, and that site built (stick-built) and erected (does not include Panelized Cold-Rolled Metal Assemblies).

GENERAL NOTE: If Panelized Structural Cold Rolled Assemblies are specified on the project, then **all** axial and non-axial loaded exterior walls, soffits, and parapet assemblies excluding interior finishes and insulations, are included that trade's scope of work, otherwise it is supplied and installed and included in this Trade Definition.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the Contract Documents, unless specifically noted otherwise in this scope.

INCLUDED

1. All cold-formed steel stud framing assemblies, for exterior walls, interior walls and bulkheads, pony walls, complete with associated fasteners, pins, hangers, screws, wall channels, and cross bracing, excluding the framing assemblies of other sections, see Gypsum Board and Light Gauge Metal Framing included and excluded; see Panelized Cold-Rolled Steel Assemblies included and excluded;
2. Cold-formed light gauge framing manufactured from steel having dimensions of 33 Mil and greater (20 Gauge-Structural, 0.84 mm and greater);
3. Cold-formed steel stud framing for all parapet walls except when panelized structural cold rolled assemblies are specified on the project, see, Panelized Structural Cold Rolled Assemblies, Included;
4. Metal suspensions which are part of a Cold-Formed Metal Framing system for bulkhead framing, floor framing and roof framing that require engineering for loading conditions;
5. Exterior gypsum sheathing applied directly to the exterior surface of Cold-Formed Metal Framing, excluding gypsum sheathing forming a part of other assemblies, see Gypsum Board and Light Gauge Metal Framing, Excluded, see Panelized Structural Cold Rolled Metal Framing Assemblies, Included;
6. Exterior rigid or semi-rigid insulation when used as a sheathing material and applied directly to the exterior surface of cold-formed metal framing assemblies, excluding insulation forming a part of other assemblies, see Gypsum Board and Light Gauge Metal Framing;
7. Engineering costs associated with this trade required for the delegated design of cold-formed metal framing and connections based on loads as specified in the Contract Documents;
8. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents;
9. Material handling, including unloading and hoisting;
10. Scaffolding/man lifts when required to perform work by this trade scope;
11. Trade specific lighting to perform tasks;
12. Trade cleanup – cleanup for work carried out by this trade;
13. Protection of other trades' work from damage when performing this trades scope of work;
14. General cleanup – provide 1 in 10 workers to assist for 4 hours weekly to assist in general jobsite cleanup;
15. Warranty and Submittals and Operation and Maintenance 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;
18. Commissioning as it applies to this trade scope.

Cold-Formed Metal Framing - Continued

EXCLUDED

1. All light steel framing which is included in Gypsum Board and Light Gauge Metal Framing Trade Definition;
2. Panelized Structural Cold Rolled Metal Framing Assemblies, see, Panelized Structural Cold Rolled Assemblies, Included;
3. Steel framing for exterior soffits, including hangers and supports, when part of the Panelized Structural Cold Rolled Assemblies, see, Panelized Structural Cold Rolled Assemblies, Included;
4. Supply and installation of metal and wood backing in framed assemblies;
5. Metal furring for direct attachment of metal siding;
6. Wind loadbearing framing, walls, ceilings and soffits, curb walls, see Gypsum Board and Light Gauge Metal Framing;
7. Gypsum board or exterior gypsum sheathing when applied over a roof deck as part of the roofing system;
8. Interior gypsum board and cavity insulation, see Gypsum Board and Light Gauge Metal Framing, Included;
9. Exterior gypsum sheathing when part of the Panelized Structural Cold Rolled Assemblies or Gypsum Board and Light Gauge Metal framing, see Panelized Structural Cold Rolled Assemblies, Included, see Gypsum Board and Light Gauge Metal Framing, Included and Excluded;
10. Building envelope membranes covering exterior gypsum sheathing surfaces;
11. Building insulation when not forming a part of cold-formed metal framing assembly;
12. Plywood or wood sheathing installed to steel stud framing and or furring systems;
13. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
14. Common scaffold or platform when required to perform work by multiple trades;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. General and final clean up;
18. Final Cleaning before turnover;
19. Security costs. When security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
20. Supply and maintenance of garbage and recycling bins for construction waste;
21. Removal of construction waste from job site;
22. General site security.

Metal Fabrications (Miscellaneous Steel)

SCOPE NARRATIVE

This scope includes the supply and installation of custom fabricated metal items fabricated from metal shapes and plates that are not classified in other locations, including all related connections and fastenings.

Aluminum Fabrications and Stainless-Steel Fabrications are not considered a part of this Trade Definition. These components are under development and will be similar to the **INCLUDED** and **EXCLUDED** items for Metal Fabrications and will be bid and performed by trades that specialize in aluminum and stainless-steel fabrications.

This scope should be read in conjunction with the Structural Steel trade definition.

May also include structural metal components and plates that are load bearing or load sharing but not attached to the main structural frame of the building that support mechanical or electrical equipment or architectural surfaces, finishes or cladding.

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 Metal Fabrications and shall be supplied, fabricated, shipped to site and installed under this section.

The Metal Fabrications installer is to include, all material and fasteners required for temporary or permanent connections of the component parts of the Metal Fabrications. **Trade-name** items are excluded, when specified as premanufactured components using terms that directly references "Name of Manufacturer", "Model Number" and similar descriptions.

A. Metal Fabrications (Miscellaneous Steel) - Supply

This scope for supply includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Metal fabrications regardless of final use or purpose that does not form part of Structural Steel Framing or Mechanical or Electrical equipment and are clearly identified and detailed in the Contract Documents;
2. Fabrications made from gauge material except cold-formed channels and framing;
3. Fabricated items when clearly detailed in the Contract Documents and made from 2.0 mm (14 ga.) and heavier metal, except when it is included in another Trade Definition;
4. Access doors and frames fabricated from metal angles, channels or plates; does not include access doors and frames servicing mechanical and electrical equipment;
5. Angles and channel frames for doors and wall openings – cutting, drilling and tapping for the installation and attachment of hardware, by others;
6. Benches and bench brackets;
7. Bolts, anchors and fasteners - only includes those bolts, anchors and fasteners required for anchoring metal fabrications supplied under this list;
8. Bumper posts and rails;
9. Burglar/security bars;
10. Fabricated corner and edge protection angles;

Metal Fabrications (Miscellaneous Steel) – Supply - Continued

11. Curb angles and plates attached to the structural steel metal frame when detailed in the Structural Contract Documents;
12. Expansion joint angles and plates, custom fabricated;
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. Fire escapes and ladders, service ladders, caged ladders, ships ladders and similar fabricated climbing devices;
15. Poles, complete with guide wires and supports only when custom fabricated, excluding flag hoisting hardware and lightning protection, see Electrical - Lightning Protection Systems, Included;
16. Custom fabricated light standards, structural supports for lighting, light poles, power poles, and illuminated signage when clearly detailed in the Contract Documents;
17. Embedded plates with rebar welded to them and embedded steel parts not required for structural metal framing or steel deck;
18. Tabs, brackets and connections that are welded or bolted to structural building frame, that are not loadbearing or load sharing;
19. Fabricated frames, grating and plate covers for manholes, catch basins, and sumps, except cast iron, frames and covers provided by Mechanical contractors, see Prime Mechanical - Plumbing, Included and Excluded, cast iron, frames and covers required for site services, by Others;
20. Fabricated frames and covers for trenches, hatches, except cast iron, frames and covers, pits, see Prime Mechanical - Plumbing, Included and Excluded;
21. Fabricated gratings and cover plates for poured in place sumps, see Prime Mechanical - Plumbing, Excluded;
22. Fabricated gates, grilles, grillwork and architectural louvers and associated support framing, excluding baked enamel or when **NOT** forming part of mechanical system;
23. Fabricated structural support framing for storefronts, rolling grilles, moveable walls, folding doors, stage curtains and similar installations;
24. Suspended structural supports when not attached to the buildings structural metal frame of structural metal shapes as detailed in the Contract Documents;
25. Floor plates, roof plates and gratings and associated support framing not connected to building's structural metal frame;
26. Catwalks, ladders and gratings supporting or servicing equipment other than forming part of the structural steel framing and integral to mechanical equipment, see Common Mechanical Items, Included and Excluded, see Structural Steel Framing, Included and Excluded;
27. Fabricated handrails, balusters and any metal brackets attached to steel rail, excluding steel handrails forming part of Structural Steel Framing;
28. Lintels, sills, jams and sash angles not attached to the structural metal frame, when detailed in the Contract Documents;
29. Fabricated mat recess frames;
30. Fabricated sleeves when detailed in the Contract Documents, except mechanical and electrical sleeving, see Mechanical, Included and Excluded, see Electrical, Included and Excluded;
31. Steel stairs, walkways, landings and handrails not forming part of Structural Steel Framing, see Structural Steel Framing, Included and Excluded;
32. Steel hangers for the support of stair mid-landings or stringers, when not directly attached to structural metal framing;
33. Fabricated table and counter legs, frames and brackets;
34. Fabricated thresholds and sills;
35. Fabricated vanity and valance brackets;
36. Canopy and marquee framing not attached to Structural Steel Framing;
37. Fabricated door and corner guards when constructed from metal shapes;
38. Overhead door frames not attached to Structural Steel Framing, see Structural Steel Framing, Included;
39. Fabricated door frames as detailed in the Contract Documents;
40. Structural purlins, girts, struts, channels, or cross bracing required to frame door openings or support motorized door operators or structural support of door rails, unless detailed in Structural Contract Documents as a part of the structural building frame, see Structural Steel Framing, Included;
41. Shelf angles, ledger angles and anchor bolts for support of masonry and stone units; see Masonry, Included and Excluded;
42. Trim angles, eave angles or fascia plates not directly attached to the structural steel frame and detailed in the Contract Documents;
43. Structural framing members for supporting a wind turbine to a building or free-standing structure, not attached to the buildings structural frame and when detailed in the Contract Documents, see Structural Steel Framing, Excluded;
44. Structural framing members to support building or roof mounted racking systems for Hydronic and Photovoltaic (Solar) systems, when detailed in the Structural Contract Documents;

Metal Fabrications (Miscellaneous Steel) – Supply – Continued

45. Separators, angles, tees, brackets, clips and other detail fittings not forming a part of the structural metal frame;
46. Framing and structural supports for elevators, escalators and moving walkways not attached to the Structural Steel Framing when detailed in the Contract Documents;
47. Structural components used to support architectural screens for mechanical and electrical equipment when detailed in the Contract Documents and that are not attached to the structural metal frame;
48. Shop drawings and erection diagrams;
49. Surface preparation including priming when specified in Contract Documents;
50. Prepare metal fabrications to receive special coatings when specified in the Contract Documents;
51. Surface preparation including shop applied primers plus one top coat for architectural painting systems when specified and detailed in the Contract Documents, primers to be compatible with final coated paint systems;
52. Structural framing members to support building or roof mounted racking systems for Hydronic and Photovoltaic (Solar) systems, when detailed in the Structural Contract Documents;
53. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
54. Warranty or Guaranty;
55. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
56. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
57. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Prefabricated trade named products;
2. Bases and supports for mechanical and electrical equipment where detailed on mechanical or electrical drawings;
3. Bolts other than for anchoring items of metal fabrications (miscellaneous steel);
4. Cast iron frames and covers for manhole and catch basins, see Mechanical B. Prime Mechanical, Included and Excluded;
5. Glulam connections and anchorages, see Heavy Timber Construction, Mass Timber Construction, Included;
6. Metal cladding and covering, see Architectural Metal Panels, Siding and Soffits, Included;
7. Precast concrete connections and anchorages in building structure;
8. Reinforcing steel or mesh, see Reinforcing Steel, Included;
9. Sheet metal items, steel decking and steel deck closures, see Steel Deck, Included;
10. Shoring;
11. Steel reinforcement for architectural metal storefronts, curtain walls and windows, see Entrances, Storefronts and Windows, Included, see Curtain Wall and Glazed Assemblies, Included;
12. Stud shear connectors when used with steel deck, see Steel Deck;
13. Stone anchors, see Masonry, Included;
14. Thimbles and breeching, also mechanical fire dampers, see Mechanical, Included;
15. Drilling and tapping for angles and channel frames for doors and wall openings;
16. Door frame supports attached to the structural steel frame;
17. Material handling, including unloading and hoisting;
18. Owner's third-party testing to audit this trade's compliance with the quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;

B. Metal Fabrications (Miscellaneous Steel) – Installation

This scope for installation only includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Coordinate with other trades, and confirm final installation conditions, dimensions and locations of fabricated products;
2. Installation of stairs, handrails, wall rails which require field welding for installation and other steel items which require field welding for installation;
3. Field welding and bolted connections with fasteners for fabricated metal items when attached to steel framing or embedded plates;
4. Supply of all materials and equipment required for temporary or permanent connection of the component parts of the miscellaneous fabrications;
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. Material handling, including unloading and hoisting;
7. Scaffolding/man lifts when 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 or Guaranty;
12. Protection of other trades' work from damage when performing this trade's scope of work;
13. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
14. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
15. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section.

EXCLUDED

1. Coring and grouting;
2. Placing of embedded items;
3. Bolted field connections with fasteners to masonry, concrete, wood and other dis-similar materials;
4. Common scaffold or platform when required to perform work by multiple trades;
5. Temporary heat, general lighting, power, sanitation and water for general construction;
6. Hoarding;
7. Final Cleaning before turnover;
8. Security costs. When 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. Owner's third-party testing to audit this trade's compliance with the quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
13. General site security.

Heavy Timber Construction

SCOPE NARRATIVE

This scope includes for the supply and installation of pre-milled and pre-machined Heavy Timber components made of solid sawn timber of a minimum cross-sectional dimension of 125mm in cross section, including the connecting hardware for timber to timber members.

This scope can be submitted as combined or two separate tenders - supply and installation.

A. Heavy Timber Construction - Supply

This scope includes the supply only and delivery to site of pre-milled and pre-machined heavy timber components, including the connections of timber-to-timber members and specialty engineering limited to the complete heavy timber design scope within the project.

This scope for supply includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Timber grade compliance certification;
2. Drying certification if specified;
3. Pressure treatment, fire retardant pre-treatments if specified, with certification of compliance;
4. Staining, oiling, painting and other finishes, specified as part of the shop fabrication;
5. Timber columns, beams, rafters, purlins, knee braces, wind braces or other types of timber bracing forming parts of the structural or architectural design;
6. Timber ledgers supporting deck or deck members;
7. Connecting hardware, fasteners and pins as specified in shop drawings for;
 - a. Timber to timber connections;
 - b. Timber to concrete connection if the connection is drilled and epoxied or drilled and wedge anchored;
 - c. Timber to steel if the connector is a wood lag screw;
 - d. Fastening devices for connecting heavy timber and mass timber to structural steel columns and beams;
Provide sufficient bolts, nuts washers, and special fasteners, of suitable size, quality and quantity for all field connections of timber to timber, timber to concrete and timber to steel as required, plus an over-allowance of five (5) per cent of each size to cover waste;
8. Connecting metal plates as specified in shop drawings for;
 - a. Timber to timber connections
 - b. Timber to concrete connection if the connection is drilled and epoxied or drilled and wedge anchored;
9. Shop drawings for supplied timber components;
10. Specialty engineering for timber components and connections;
11. Warranty or Guaranty;
12. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
13. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Commissioning as it applies to this trade scope;
17. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Staining, painting or other finishes or other treatments if site applied;
2. Timber to Steel connections if the connection is welded to the steel member;
3. Round log members or log components;
4. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;

B. Heavy Timber Construction - Installation

This scope includes the installation of pre-milled and pre-machined heavy timber components including all directly associated connection hardware to provide a complete structural system.

This scope for installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Layout, drilling, setting of anchor bolts which are not cast in place by others;
2. Offloading of timber package at job site;
3. Provision of a raising plan including temporary bracing provisions prior to handling heavy timber package;
4. All necessary rigging;
5. All necessary powered equipment for hoisting heavy timber;
6. All necessary man lifts or scaffolding to perform work by this trade scope;
7. Rigging and hoisting of heavy timber components into final position;
8. Supply, installation and removal of temporary bracing materials including miscellaneous incidentals required to perform the work;
9. All connection hardware;
10. Assist in the coordination of the layout and setting of anchor bolts applicable to this scope;
11. Material handling, including unloading and hoisting;
12. Scaffolding/man lifts when required to perform work by this trade scope;
13. Trade specific lighting to perform tasks;
14. Trade cleanup - cleanup of work performed by this trade;
15. General Clean up – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
16. Warranty or Guaranty;
17. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
18. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Commissioning as it applies to this trade scope;
22. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Cast in place bolt anchors or other embedded items;
2. Supply and installation of grouting;
3. Welding of any connections;
4. End bearing conditions if not heavy timber;
5. Staining, painting, or other finishes;
6. Round log installation;
7. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
8. Scaffolding when required to perform work by multiple trades;
9. Temporary heat, general lighting, power, sanitation and water for general construction;
10. Hoarding;
11. Final Cleaning before turnover;
12. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
13. Firestopping;
14. Supply and maintenance of garbage and recycling bins for construction waste;
15. Removal of waste from job site;
16. General site security.

Mass Timber Construction

SCOPE NARRATIVE

This scope includes for the supply and installation of all mass timber products made of solid wood which is either glued or mechanically fastened together into columns, beams or panels, including:

- a. Glue-laminated Beams and Columns;
- b. Nail laminated panels;
- c. Glue-laminated Panels;
- d. Cross Laminated Panels.

This scope can be submitted as combined or two separate tenders - supply and installation.

A. Mass Timber Construction - Supply

TRADE DEFINITION

This scope includes the supply and delivery to site of shop fabricated mass timber framing components. Shop fabrication is to include all machining required to all members, sized to final field dimensions, cut to final length and shape, pre-drilled, slotted, dapped and prepared for all connection hardware. Mass timber package is to include the connections of members and specialty engineering limited to the mass timber design scope within the project. Non-machined or "billet" packages will require specific instructions in bidding documents on scope division and trade responsibilities for site machining and connection fabrication.

INCLUDED

1. Glulam grade compliance certification;
2. Drying certification if specified;
3. Pressure treatment and fire-retardant pre-treatments if specified with certifications of compliance;
4. Staining, oiling, painting and other finishes, specified as part of the shop fabrication;
5. Glulam columns, beams, rafters, purlins, knee braces, wind braces or other types of Glulam bracing forming parts of the structural or architectural design;
6. Glulam ledgers supporting deck or deck members;
7. Cross Laminated Timber Panels;
8. Glulam Timber Panels;
9. Nail Laminated Panels;
10. Connecting hardware, fasteners and pins as specified in shop drawings for;
 - a. Glulam to Glulam connections;
 - b. Glulam to concrete connection if the connection is drilled and epoxied or drilled and wedged;
 - c. Glulam to steel if the connector is a wood lag screw;
 - d. Fastening devices for connecting mass timber to structural steel columns and beams;

Provide sufficient bolts, nuts washers, and special fasteners, of suitable size, quality and quantity for all field connections of timber to timber, timber to concrete and timber to steel as required, plus an over-allowance of five (5) per cent of each size to cover waste;

11. Connecting metal plates as specified in shop drawings for;
 - a. Glulam to Glulam connections
 - b. Glulam to concrete connection
12. Shop drawings for supplied timber components;
13. Specialty engineering for timber components and connections;
14. Warranty or Guaranty;
15. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
16. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

Mass Timber Construction - Continued

EXCLUDED

1. Staining, painting or other finishes or other treatments if site applied;
2. Mass Timber to steel connections if the connection is welded to the steel member.

B. Mass Timber Construction - Installation

This scope includes the installation of Mass Timber components to provide a complete structural system including the installation of all associated connection hardware.

TRADE DEFINITION

INCLUDED

1. Layout, drilling, setting of anchor bolts which are not cast in place by others;
2. Offloading of timber package at job site;
3. Provision of a raising plan including temporary bracing provisions prior to handling mass timber package;
4. All necessary rigging;
5. All necessary powered equipment for hoisting mass timber;
6. All necessary man lifts or scaffolding to perform work by this trade scope;
7. Rigging and hoisting of mass timber components into final position;
8. Supply, installation and removal of temporary bracing materials including miscellaneous incidentals required to perform the work;
9. All connection hardware;
10. Assist in the coordination of the layout and setting of anchor bolts applicable to this scope;
11. Material handling, including unloading and hoisting;
12. Scaffolding/man lifts when required to perform work by this trade scope;
13. Trade specific lighting to perform tasks;
14. Trade cleanup - cleanup of work performed by this trade;
15. General Clean up – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
16. Warranty or Guaranty;
17. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
18. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Commissioning as it applies to this trade scope;
22. Building Information Modeling (BIM) as it applies to this trade scope.

B. Mass Timber Construction – Installation-Continued

EXCLUDED

1. Cast in place bolt anchors or other embedded items;
2. Supply of anchor bolts of any kind;
3. Supply and installation of grouting;
4. Drilling of steel beams, steel hangers or any steel member required to receive lag screws or bolts specific to the mass timber component attachment;
5. Supply of structural lags associated with Mass Timber components;
6. Welding of any connections;
7. End bearing conditions if not mass timber;
8. Staining, painting, or other finishes;
9. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents; Temporary heat, general lighting, power, sanitation and water for general construction;
10. Scaffolding when required to perform work by multiple trades;
11. Temporary heat, general lighting, power, sanitation and water for general construction
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. When 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 waste from job site;
18. General site security.

Interior Architectural Woodwork

NOTE:

All references to Exterior Woodwork items have been deleted from this trade definition and will be addressed in a separate trade definition at a future date.

Some Exterior Woodwork items are also included in the Landscaping trade definition.

Interior Architectural Woodwork

SCOPE NARRATIVE

This scope includes the supply and installation of custom fabricated architectural woodwork, in a finished state, delivered to site, built-up or knocked-down depending on job conditions. Includes all custom fabricated woodwork including trims, doors, tables, cabinets and other custom woodwork including accessories including associated glass/glazing if attached or integral to work associated with this trade scope. This definition is to be inclusive with the with the following Architectural Woodwork Installation division for Supply and Installation and separately when tenders are requested for Supply Only.

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 when 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 trade definition is split into two parts, the first being "Supply" and the second part being "Installation". Bidders shall provide quotations for a complete supply and installation quotation. In certain circumstances and situations tender may require just a supply only price based on the definition below for "Supply".

This scope for supply only includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

Interior Architectural Woodwork - Supply

INCLUDED (Supply)

1. Site measurements for cabinets, countertops and other architectural woodwork;
2. Custom Fabricated architectural woodwork constructed of solid or veneered wood complete with all integral hardware and accessories including countertops and back splashes of plastic laminate, solid surface products whether of natural stone or engineered surfaces, and shop applied finishes as detailed on the tendering documents;
3. 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;
4. Wood lockers;
5. Computer keyboard trays and Central Processing Unit (CPU) holders when factory fabricated or Name-Brand and integral to cabinets or casework, as in accordance with the Contract Documents;
6. Mirrors when installed in wood frames;
7. Plastic laminate and fiberboard base and kick plates to architectural woodwork. (Supplied only, no screws or material for attaching);
8. Wood boards, interior siding, battens and moldings when exposed to view for decorative and display purposes;
9. Hardwood plywood, (unfinished, if specified) for all wall or ceiling paneling (no backing material);
10. 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);
11. Wood or wood composite moldings, rails, random lengths unless otherwise specified (no end trimming or factory assembling);
12. Pressure treated fireproofing of architectural woodwork items when specified. Does not include sanding after treatment;
13. Wood shelves for metal standards or metal frames as detailed (no metal framing, standards, or brackets);
14. Wood or wood composite trim for notice or bulletin boards;

Interior Architectural Woodwork – Continued

15. Glass and plastic glazing and fiberboard supplied and installed when it is completely surrounded by architectural woodwork and in wood doors, including sealed units or removable glazing panels;
16. Interior wood trim to metal or trade name windows as, and if, detailed on drawings;
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. Plastic laminate wall rails and window stools when applied to wood substrate. Plastic laminate coverings to walls and ceilings (strapping, backing, glue, and installations not included). Plastic laminate paneling complete with wood substrate when specifically called for "factory fabricated";
20. All custom fabricated wood doors and wood frames including, slab doors, bi-fold doors, plastic laminate covered wood doors, overlay plywood or fibreboard faced, mineral core, sound rated doors complete with sound seals, lead lined doors and wood cores. Bevelling, fitting or machining of all wood doors and wood frames to receive hardware, included;
21. Custom machining and coring of wood doors and frames to accommodate electronic and security hardware as provided by others;
22. Bi-fold door hardware included when provided by Name-Brand door manufacturer;
23. Preparation of both wood doors and wood frames to accept windows, grilles and approved hardware;
24. Metal astragal when attached to fire rated labeled wood doors;
25. Interior wood frames and wood sidelight light frames;
26. Wood and plastic faced cabinets and casework, complete with wood bases and splash-back, tables, benches (items constructed from dimensional lumber regardless of location - not included), pews, seats, desks, shelving, convactor covers of wood and plastic laminate attached to architectural woodwork;
27. All hardware and miscellaneous accessories **integral** to custom fabricated cabinets and casework only, including installation and machining for same;
28. Reconstruction of existing cabinets and casework scheduled to be patched and repaired, extended or upgraded including the storage and refinishing thereof and when specified and detailed on the tender documents. Removal of existing cabinets and casework not included, see Architectural Woodwork – Installation, Included;
29. Wood ironing boards in wood cabinets (including workable hardware);
30. Wood, plastic, or wood-and-metal tote drawers or trays in architectural woodwork cabinets including metal or wood slides;
31. Custom fabricated solid surface counter tops consisting of:
 - a. Solid polymer materials of homogeneous polyester/acrylic blend, not coated, laminated or of composite fabrication thickness of 13mm (20mm and 30mm countertops with double edge);
 - b. Quartz or engineered stone;
 - c. Granite or marble (natural stone);complete with integral sink or basin, including counter tops, splash-backs and fascia when fabricated from ~~of~~ the same material connected thereto, see Prime Mechanical B. Plumbing, Excluded;
32. Cutting of holes for metal grilles, grommets, sinks, specialty items, or electrical and mechanical fittings into solid surface countertops. Templates and locations to be provided by others prior to fabrication;
33. Installation of undermount sinks of dissimilar materials to countertops provided by this trade. Templates and supply of sinks by Mechanical, see Prime Mechanical Included;
34. Wood, plastic laminate, fiberboard, 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);
35. Wood stairs (knocked-down with stringers long), wood balustrades and handrails (not cut to length), wood plugs included;
36. 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;
37. Shop drawings;
38. Provide sizes and locations of all backing required for millwork installation in walls or ceilings, on millwork shop drawings, backing to be supplied and installed by others;
39. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
40. Warranty or Guaranty;
41. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
42. Building Information Modeling (BIM) as it applies to this trade scope

Interior Architectural Woodwork – Continued

EXCLUDED (Supply)

1. All exterior woodwork items, see also Landscaping, Included and Excluded;
2. Structural framing material, rough bucks, cant strips, furring strips, blocking or backing;
3. Electrical fixtures, plumbing fixtures, and Heating, Ventilating and Air Conditioning fixtures attached to architectural woodwork;
4. Caulking or door weather-stripping;
5. Chalkboard, whiteboard, tackboard or corkboard of any kind;
6. Cleaning of glass or plastic (other than confined areas);
7. Cloth, burlap, or vinyl fabric of any kind;
8. Coat rods or coat hooks or supports for coat rods/hooks of any material except wood, unless within a cabinet or attached to wood shelf;
9. Cutting of holes for metal grilles, grommets, sinks, specialty items, or electrical and mechanical fittings into architectural woodwork fixtures, except as noted for solid surface countertops, see Included;
10. Glass blocks;
11. Glue or adhesive for jobsite installation;
12. Items or materials not constructed entirely of wood or composite materials containing wood fiber other than those listed as included;
13. Jobsite assembly, installation and fitting of architectural woodwork;
14. Linoleum, carpet, tile or any other floor covering material for covering of wood fixtures, cabinets or stairs, or metal trim for same;
15. Materials for floor covering of any kind;
16. Metal covering of doors, frames, windows, counter tops, and splash backs;
17. Metal feet, metal legs, decorative legs and leveling feet and brackets made of non-wood products, or pipe hanging rods;
18. Mirrors in metal frames, or attached with rosettes or clips;
19. Re-supply of glass, plastic, or plastic laminate, broken or damaged on the job after delivery in good order;
20. Sanding of standing and running trim other than drum sanding of flats;
21. Upholstery work;
22. Wood, fiberboard or plastic letters;
23. Wood or plastic laminated rails when they are an integral part of Entrances, Storefronts and Windows or Curtainwall;
24. Wall protection of plastic or non-wood materials;
25. Decking or sheathing to walls, ceilings, floors;
26. Materials for interior coverings to walls, beams, ceilings and posts (except siding solid wood boards and battens and hardwood plywood and plastic laminate panels);
27. Plastic skylights or domes;
28. Name-Brand pre-manufactured toilet and shower partitions;
29. Name-Brand pre-manufactured wall and ceiling tile and panels, linear wood panels, wood egg-crate louvers;
30. Wall mounted shelf standards, or clips and brackets to same;
31. Counter balanced hardware to interior pass-through doors;
32. Door cores, frames, or trim for metal cladding;
33. Metal cladding to wood doors, frames, panels, or glazing of same;
34. Supply of door hardware;
35. Supply and installation of electronic and security hardware;
36. Metal astragal (unless forming an integral part of a fire labeled wood doors);

Interior Architectural Woodwork – Continued

37. 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;
38. Metal louvres, grilles, kick-plates or thresholds;
39. Metal sash, frames, doors, corner posts, glass or glazing, or panels of any kind for same;
40. Metal screens, shades, blinds, or guards, except fly screens to sash;
41. Overhead garage-type doors, or glass and hardware for same (wood frames and trim supplied knocked-down when detailed and specified as clear material);
42. Specialty folding or sliding doors of fabric covered wood or metal;
43. Trade-name cooler or freezer doors;
44. Wood frames, outside trim to same, for vinyl, plastic and metal covered windows, except when combined in mullion, or transom frames with custom wood windows or glazing in wood;
45. Metal fixtures and counter-tops or wood bases to same;
46. Mechanically fastened under-mounted sinks to solid surface countertops by Mechanical, see Prime Mechanical – Plumbing Systems, Included;
47. Trade-name furniture, cabinet work, or counter tops and wood bases to same;
48. Ceramic tile and concrete countertops field applied to cabinets and casework;
49. Removal of existing cabinets and casework not included, see Architectural Woodwork – Installation, Included;
50. Stair landings of any kind, structural or support material for same;
51. Painting, priming, acid-proofing, staining, oiling, preservative treatment, (unless shop applied) or fireproofing other than pressure treating;
52. Providing space for painting contractor or others for any painting or priming of interior architectural woodwork.

Interior Architectural Woodwork - Continued

This scope includes the installation of all Interior Architectural Woodwork 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. This definition is to be inclusive with the with the preceding Architectural Woodwork Supply division for Supply and Installation and separately when tenders are requested for Supply Only, and installation is being done by others.

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 scope for installation only includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

Interior Architectural Woodwork - Installation

TRADE DEFINITION

INCLUDED (Installation)

1. Complete installation of all supplied interior architectural woodwork components;
2. Supply of nails, screws, glue, caulking and fasteners required to install Architectural Woodwork;
3. Caulking of millwork to millwork;
4. Cabinets and casework including countertops as supplied by Architectural Woodwork;
5. Cut outs for grommets, electrical and mechanical fixtures incorporated in Architectural Woodwork;
6. Closet rods and coat hooks when attached to Architectural Woodwork (closet rods and coat hooks supplied by others);
7. Metal grilles to Architectural Woodwork, see Mechanical C. Ventilation and Sheet Metal Ductwork, Included;
8. Wall mounted standards and brackets (supply by others);
9. Wood siding and paneling to interior walls and ceilings;
10. Installation of wood doors complete with all non-electronic hardware. Door hardware to be supplied by others;
11. Wood ceilings (except those which are part of component ceiling system or a proprietary systems) and wood light boxes;
12. Wood stops to glazed screens finish nailed on one side, other side tacked only;
13. All architectural millwork supplied with a factory finish shall have the fastening holes filled and touched up by the installer;
14. Removal of existing cabinets and casework 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);
15. Temperature and humidity testing when specifically required by the specifications;
16. Receiving, unloading, distribution and hoisting of all millwork items required for the project;
17. Scaffolding/man lifts when 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 the general jobsite cleanup;
21. Warranty or Guaranty;
22. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
23. Protection of other trades work from damage when performing this trades scope of work;
24. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
25. Commissioning as it applies to this trade scope.

Interior Architectural Woodwork – Continued

EXCLUDED (Installation)

1. Site measuring for cabinets, countertops and other architectural woodwork;
2. Architectural Woodwork excluded under supply scope, unless otherwise noted under Included in this scope;
3. Exterior Architectural Woodwork of any kind;
4. Metal doors and metal door frames;
5. Beveling, fitting or machining of wood doors to suit all metal or wood door frames;
6. Rough bucks and nailing strips, blocking wood or metal brackets concealed behind gypsum board;
7. Caulking and filling of nail holes on site finished woodwork, see Painting, Included;
8. Prefinished wood ceiling tiles and panels, linear wood ceilings that are brand named, See Component Ceiling Systems, Included;
9. Suspension systems and backing support for wood ceilings;
10. Installation of counter tops not supplied by the Architectural Woodwork trade;
11. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
12. Final cleaning before turnover;
13. Firestopping;
14. Hoarding;
15. Temporary heat, light, power and sanitation and water;
16. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
17. Supply and maintenance of garbage and recycling bins for construction waste;
18. Removal of construction waste from job site;
19. General site security.

Architectural Metal Panels - Interior and Exterior

SCOPE NARRATIVE

This scope includes the supply and installation of wall panels, and roof panels with or without integral interior panels or insulation. Custom fabricated panel assemblies including framing, sheathing, insulation, substrates, interior finish, and exterior finish. The surface can be flat faced or custom curved. The metal panels may 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 scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

This tender shall be for the supply and installation of Architectural Metal Panels for interior and exterior locations.

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 (for example 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 the 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. 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 contractor's shop, see Excluded;
11. Material handling, including unloading and hoisting;
12. Scaffolding/man lifts when 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 or Guaranty;
17. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
18. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Commissioning as it applies to this trade scope;
22. Building Information Modeling (BIM) as it applies to this trade scope.

Architectural Metal Panels - Continued

EXCLUDED

1. Fabrication and installation of any flashing material not incorporated into Architectural Metal Panel System (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, and other framing;
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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
11. Common scaffold or platform when required to perform work by multiple trades;
12. Temporary heat, general lighting, power, sanitation and water for general construction;
13. Hoarding;
14. Final Cleaning before turnover;
15. Security costs. When 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.

Siding and Soffits

SCOPE NARRATIVE

This scope includes the supply and installation of the following to provide a complete system of exterior siding and soffits including boards or panels used as exterior surface of a wall or soffit, including associated flashing, trim and associated accessories.

A. Preformed Metal Wall Cladding and Soffits

This scope includes the supply and installation of preformed metal wall cladding and soffits.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

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 forming part of a preformed metal wall 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 metal louvers of matching cladding/siding 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 the preceding trade, 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. 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 contractor's shop, **NOTE** - the supply of flashing material does not apply to this trade if duplicated under the Metal Sheet Roofing scope;
12. Installation of flexible membranes around or onto window framing or openings;
13. Flashings for equipment openings as they pertain to wall penetrations;
14. Material handling, including unloading and 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. Manufacturer's warranty only beyond the normal one-year maintenance warranty;
20. Warranty or Guaranty;
21. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
22. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Testing where specifically required by the specifications;
26. Building Information Modeling (BIM) as it applies to this trade scope.

A. Preformed Metal Wall Cladding and Soffits – Continued

EXCLUDED

1. Metal deck;
2. Fabrication and installation of any prefinished flashing material not incorporated into metal cladding system, see Metal Sheet Roofing, and Roofing and Related Sheet Metal, Included;
3. Wood or metal components of the wall (unless incorporated in the preformed metal wall system) used to construct parapets, pony walls, structural frames and other framing;
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 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. Mechanical louvers and matching non-functioning metal louvers, See Mechanical C – Ventilation and Sheet Metal Ductwork, Included;
16. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
17. Common scaffold or platform when required to perform work by multiple trades;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final Cleaning before turnover;
21. Security costs. When 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.

Siding and Soffits - Continued

B. Vinyl Siding, Metal Siding and Metal Soffits

This scope includes the supply and installation of vinyl and metal siding.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

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 forming part of a preformed metal wall and 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 metal louvers of matching cladding/siding 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 the 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 contractor's shop, **NOTE** - the supply of flashing material does not apply to this trade if duplicated under the Metal Sheet 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. Material handling, including unloading and hoisting;
14. Scaffolding/man lifts when 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 or Guaranty;
20. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
21. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Testing when specifically required by the specifications;
25. Building Information Modeling (BIM) as it applies to this trade scope.

B. Vinyl Siding, Metal Siding and Metal Soffits - Continued

EXCLUDED

1. Metal deck;
2. Fabrication and installation of any prefinished flashing material not incorporated into metal cladding system, see Metal Sheet Roofing, and Roofing and Related Sheet Metal, Included;
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 and other framing;
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 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. Mechanical louvres and matching non-functioning metal louvres, See Mechanical C – Ventilation and Sheet Metal Ductwork, Included;
16. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
17. Common scaffold or platform when required to perform work by multiple trades;
18. Temporary heat, general lighting, power, sanitation and water for general construction;
19. Hoarding;
20. Final Cleaning before turnover;
21. Security costs. When 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.

Exterior Insulated Finish System (EIFS)

SCOPE NARRATIVE

This scope includes the supply and installation of Exterior Insulated Finish Systems including water resistive barrier, air/vapour membranes, rigid insulation, and textured finish to provide a finished wall or soffit surface

This scope for supply and installation, includes and excludes the following items, regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Inspect substrate for damage, and confirm that it is straight, true, level, and plumb, in readiness for installation of the Exterior Insulated Finish System;
2. Install specified transition membranes, sealants and backer rods for expansion joints, deflection joints, sheathing to foundation joints, transition between dissimilar materials, wall to balcony floor slab or ceiling;
3. Water resistive barriers and air/vapour membranes installed as a part of Exterior Insulated Finish System, including transition membranes to connect and overlap air/vapour membranes installed by preceding trades. If connection is required by any trade following the exterior insulated finish system installation, then this trade provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the exterior insulated finish system;
4. Drainage mat to establish 10 mm drainage plain or rainscreen design as detailed in the Contract Documents;
5. Rigid Insulation, components, attachments, and accessories as detailed in the Contract Documents;
6. Flashings at heads of windows, doors, sills, penetrations, bottom of walls and as detailed in the Contract Documents ensuring a positive lap with water resistive barrier or air vapor barrier;
7. Casing bead at locations to separate Exterior Insulated Finish System from dissimilar materials, penetrating elements, load bearing members and to avoid transfer of structural loads to non-load bearing components;
8. Acrylic textured finish;
9. Caulking or joint sealant (other than firestopping) to penetrations in exterior insulated finish system;
10. Caulking or joint sealant (other than firestopping) when it forms part of the expansion joint or control joint within the perimeter of the exterior insulated finish system installed and between the Exterior Insulated Finishing System and abutting materials;
11. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
12. Material handling, including unloading and hoisting;
13. Scaffolding / man lifts when 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 or Guaranty;
18. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

Exterior Insulated Finish System (EIFS) – Continued

EXCLUDED

1. Existing Substrates and surfaces constructed by previous trades shall be true, level and plumb, square, and free from gaps greater than 13 mm, and free from surface contaminants that affect installation of Exterior Insulated Finish Systems;
2. Sealing between exterior insulated finishing system and abutting material, dissimilar materials, or penetrations performed by others after installation of exterior insulated finish system;
3. Air/vapor membranes and transitions under finishes other than Exterior Insulated Finish System;
4. Corner guards or expansion joint covers;
5. Exterior gypsum sheathing and metal framing or suspension for same, see Panelized Structural Cold-Rolled Assemblies, Included, see Cold-Formed Metal Framing, Included, see Gypsum Board and Light Gauge Metal Framing, Included;
6. Lathing systems and mortar beds for ceramic, mosaic tile, see Tile, Terrazzo, Marble, Granite and Stone, Included;
7. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
8. Common scaffold or platform when required to perform work by multiple trades;
9. Temporary heat, general lighting, power, sanitation, and water for general construction;
10. Hoarding and temporary heating as required for application of the material;
11. Final cleaning before turnover;
12. Security costs; when security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
13. Firestopping;
14. Supply and maintenance of garbage and recycling bins for construction waste;
15. Removal of construction waste from job site;
16. General site security.

Metal Sheet Roofing

SCOPE NARRATIVE

This scope includes the supply and installation of metal sheet roofing for a complete system which includes custom fabricated or field formed roofing composed of single layer of metal sheets installed over structural substrate. Aluminum, copper, steel, stainless steel, sheet metal roofing.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Related closures, caulking, flashings and fasteners incorporated into the system;
2. Internal sub-girts, thermal spacers, and clip systems;
3. Rigid and semi rigid insulation when forming part of a metal roofing assembly, see Excluded;
4. Ice and water shield membranes forming part of the metal roof assembly;
5. Liner panel of materials forming part of the preformed metal roofing assembly;
6. Gypsum board when applied over a roof deck as part of the roofing system;
7. Auxiliary boards, plywood or wood strapping when applied over a roof deck as part of the metal roofing system;
8. Related insulation, adhesives, vapor barriers and air barriers;
9. 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;
10. Gutter and downspouts that form an integral part of the preformed metal roofing system;
11. Installation only of acoustical insulation strips for acoustic steel deck which is supplied by others in a preformed custom fitted condition;
12. Metal soffits and wall cladding if profile, gauge and color is to match metal roofing including related insulation, vapor barrier and sub-girts;
13. 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;
14. When any prefinished metal flashing is required by other trades that specifically match in color and gauge that is specified for the metal roofing, then the prefinished flat sheets are to be supplied by this trade freight included to the contractor's shop, see Siding and Soffits, Roofing and Related Sheet Metal, Included and Excluded;
15. Installation of flashings for drains and plumbing vents supplied by others;
16. Sealing of Mechanical and Electrical penetrations through metal sheet roofing;
17. Material handling, including unloading and hoisting;
18. Scaffolding/man lifts when required to perform work by this trade scope;
19. Trade specific lighting to perform tasks;
20. Trade cleanup - cleanup for work carried out by this trade;
21. Warranty or Guaranty;
22. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
23. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Commissioning as it applies to this trade scope;
27. Building Information Modeling (BIM) as it applies to this trade scope.

Metal Sheet Roofing – Continued

EXCLUDED

1. Fabrication and installation of any prefinished flashing material not incorporated into metal roof system, see Siding and Soffits, Included and Excluded;
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 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 and other openings;
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 and connected rainwater leaders attached ~~connected~~ to an internal drainage 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. Blown-in insulation, batt insulations or any attic insulations within a truss system;
15. Metal transition angle from roof deck to exterior wall;
16. Cutting metal deck or coring of concrete deck for mechanical and electrical penetrations;
17. Vapour barrier level expansion joints when occurring inside a curb, parapet, or wall assembly;
18. Supply of custom colour matching material for metal flashings to components of other trades. (See siding and soffits, included);
19. Protection of installed components from damage by others;
20. Heat trace for gutters or downspouts, see Electrical, Included;
21. Inspection and testing;
22. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
23. Common scaffold or platform when required to perform work by multiple trades;
24. Temporary heat, general lighting, power, sanitation and water for general construction;
25. Hoarding;
26. Final Cleaning before turnover;
27. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
28. Firestopping;
29. Supply and maintenance of garbage and recycling bins for construction waste;
30. Removal of construction waste from job site;
31. General site security.

Applied Fireproofing

SCOPE NARRATIVE

This scope includes the supply and installation of spray applied fireproofing including all components necessary for a complete installation including mineral fiber, fire-retardant and cementitious coverings to provide fire resistance to building components.

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 scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Fibrous fireproofing, cementitious fireproofing, surface sealers, primers and paints as recommended by the manufacturer;
2. Fire-retardant, mineral fiber and cementitious coverings;
3. Materials performing a dual function of providing spray fireproofing and spray insulation when specified under spray applied fireproofing;
4. Special ventilation when required during application;
5. Surface treatment;
6. Scaffolding/man lifts when required to perform work by this trade scope;
7. Material handling, including unloading and hoisting;
8. Inspection;
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 or Guaranty;
13. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
14. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Firestopping;
2. Gypsum board fireproofing;
3. Plaster and stucco fireproofing;
4. Ductwork or piping fire wrap, see Mechanical F. Insulation, Included;
5. Sprayed soundproofing and sprayed air seal including spray applied fire retardant to same;
6. Vermiculite, vermiculite concrete;
7. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
8. Common scaffold or platform when required to perform work by multiple trades;
9. Temporary heat, general lighting, power, sanitation and water for general construction;
10. Hoarding;
11. Final Cleaning before turnover;
12. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
13. Supply and maintenance of garbage and recycling bins for construction waste;
14. Removal of construction waste from job site;
15. General site security.

Firestopping

SCOPE NARRATIVE

This scope includes the supply and installation of materials and components, including incidental items required for the sealing of cavities, around penetrations, and openings in floors, walls, partitions, and other building components to prevent spread of fire and smoke including firestopping for mechanical, electrical, communications and structural penetrations with fire-resistant rated assemblies.

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.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

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. Installation of preformed metal deck fillers used as part of a listed firestop system and to maintain fire and smoke barriers to walls and partitions as specified, see Gypsum and Metal Framing, Excluded, Masonry, Excluded;
6. Scaffolding/man lifts when 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 or Guaranty;
11. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
12. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

Firestopping - Continued

EXCLUDED

1. Applied fireproofing;
2. Backing, supports and finishes for other trades;
3. Caulking (other than firestopping);
4. Centering or alignment of pipes, conduit or devices passing through a penetration;
5. Fire rating to recessed fixtures in gypsum board and metal framing systems, see Gypsum Board and Light Gauge Metal Framing, Included;
6. Fire rating to recessed fixtures in component ceiling systems, see Component Ceiling Systems, Included;
7. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
8. Common scaffold or platform when required to perform work by multiple trades;
9. Temporary heat, general lighting, power, sanitation and water for general construction;
10. Hoarding;
11. Final Cleaning before turnover;
12. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
13. Supply and maintenance of garbage and recycling bins for construction waste;
14. Removal of construction waste from job site;
15. General site security.

Architectural (Finishing) Hardware - Supply Only

SCOPE NARRATIVE

This scope includes the supply only of door hardware for doors and windows not supplied as part of the Curtain Wall and Entrances, Store Fronts and Windows scopes. The Architectural hardware supplied is to be included as required for all wood doors, custom fabricated, hollow metal doors installed in wood or metal frames, demountable partitions frames and for detention doors.

This scope for supply only includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Provide architectural hardware to all:
 - a. Wood doors and frames;
 - b. Hollow metal doors and frames;
 - c. Doors and frames in demountable partitions;
 - d. Detention doors and frames;
2. Butts, pivots, hinges, floor hinges, spring hinges (double and single acting);
3. Locksets, latch sets, privacy sets and exit devices complete with standard or electric strikes, deadlocks and padlocks. cylinders for all master keyed items;
4. Door lock cylinders and keying for Overhead Doors;
5. Electrified locksets, throw bolts, hinges, exit devices, and magnetic locks;
6. Push and pull plates, push and pull bars;
7. Kick plates, armor, mop and stretcher except hardboard, see Excluded;
8. Closing devices, including surface, concealed, overhead and floor type, complete with all required brackets to ensure proper and complete installation;
9. Stops, holders and bumpers, including the following types: overhead, surfaces and concealed, wall and floor mounted, crash chain stops;
10. Handrail brackets (name brand only);
11. 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;
12. 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;
13. Door silencers – rubber mutes;
14. Door bolts – manual and automatic, including flush, surface, cane, cremone, barrel, chain and slide;
15. Coordinators;
16. Mullion – removable type (name brand only);
17. Door viewers;
18. Letter box plates;
19. Keys, key blanks and key control cabinets;
20. Chain door guards;
21. Exit alarms - battery operated;
22. Pocket door hardware, including frame, track and hangers;
23. Electrically assisted or operated closers;
24. All hardware for doors in demountable partitions;
25. Card readers, proximity readers, door position switches including all components required for a complete and working access control system;
26. Push button access controls;
27. Key switches relating to electrified door hardware;
28. Security bars (name brand only);
29. Uninterrupted power supply – battery backup only for hardware supplied in the Hardware trade definition;
30. Warranty or Guaranty;
31. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;

Architectural (Finishing) Hardware - Supply Only - Continued

32. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
33. Hardware templates;
34. Building Information Modeling (BIM) as it applies to this trade scope;
35. Commissioning as it applies to this trade scope.

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, Poly Vinyl Chloride (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;
26. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents.

Roofing and Related Sheet Metal

SCOPE NARRATIVE

This scope includes the supply and installation of weatherproof 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 weatherproof 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 scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Demolition of the existing roofing system when it is to be immediately followed with the installation of a new roofing system;
2. Primary roof membrane 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 and auxiliary levelling surfaces when applied over a roof deck as part of the roofing system;
 - c. ~~Auxiliary leveling surfaces~~, Strapping and Z-bars if occurring within the membrane roof system;
 - 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 membrane or concrete paver walkways;
 - l. Gum cups/pots/boxes;
 - m. Sealing of roof penetrations;
 - n. Caulking, sealants, sealing compounds, gaskets, backing rod and packing;
 - o. Coatings;
 - p. Reinforcing fabric and membranes;
 - q. Mechanical roof fasteners;
 - r. Protection mats, filter fabrics and separator sheets;
 - s. ~~Steep-slope roofing materials, underlayment's and flashings~~;
 - t. Installation of drain collars that tie into primary roof membrane, as supplied by mechanical trade, see Mechanical, Included;
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 installed 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. Sealing the roof membrane to premanufactured roof specialties including mechanical roof drains, vent flashings, spun aluminum flashings, fall arrest anchors and roof jacks, as supplied and installed by others, see Mechanical, Included, see Electrical, Included;
9. Pre-manufactured pipe boots at mechanical and electrical stub-through penetrations, sealed to primary single-ply roof membrane systems, to a maximum of 150 mm diameter rigid (non-flex, non-covered) cold pipe or conduit;

Roofing and Related Sheet Metal - Continued

10. Sheet Metal Flashing of all metal types forming part of the roofing system including:
 - a. Eave troughs, downspouts and metal splash pans;
 - b. Gum cups/pots/boxes;
 - c. ~~Parapet, curb and control joint flashing;~~ Vertical parapet base flashings, parapet cap flashings, vertical curb base flashings, vertical control joint base flashings, and control joint cap flashings;
 - 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);
 - f. Installation only of prefinished metal flashings matching colour of cladding systems, curtain wall systems as supplied by the respective trades;
11. ~~Installation of flashings for drains and plumbing vents—as supplied by others;~~
12. Installation of vertical metal base flashings (counter flashings) for mechanical roof penetration curbs ~~vents, ducts and chimneys;~~
13. Roof membrane flashing all roof curbs and sleepers if required (seal into roof membrane);
14. Rigid or semi-rigid insulation, Z-bars, thermal isolation clips, and removable metal flashings at vertical curbs and roof to wall junctions, only when installed over primary roof membrane (inverted curbs) to a maximum height of 610 mm above the finished roof;
15. One-hour fire watch regarding hot-work;
16. ~~Shop drawings for sloped insulation systems and roof accessories;~~
17. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
18. Submittals and shop drawings for sloped insulation, standard details, system securement, and test reports for wind uplift performance;
19. Protection of other trades work from damage when performing this trade's scope of work;
20. Material handling, including unloading and hoisting;
21. Scaffolding/man lifts when required to perform work by this trade scope;
22. Trade specific lighting to perform tasks;
23. Trade cleanup - cleanup for work carried out by this trade;
24. Warranty or Guaranty;
25. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
26. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
27. Protection of other trades' work from damage when performing this trade's scope of work;
28. Commissioning as it applies to this trade scope;
29. Building Information Modeling (BIM) as it applies to this trade scope.

Roofing and Related Sheet Metal - Continued

EXCLUDED

1. Waterproofing at or below grade and related assemblies;
2. Pitched (steep slope) asphalt shingle or metal roofing assemblies;
3. Supply and installation of premanufactured roof specialties including mechanical roof drains, vent flashings, spun aluminum flashings, gas line supports, fall arrest anchors and roof jacks, see Mechanical, Included, see Electrical, Included;
4. Metal sleeves for through deck openings, vents and other penetrations;
5. Preformed or field cut reglets;
6. Separate wood or metal curbs/wall supports for skylights, hatches and roof mounted mechanical equipment;
7. Wood, composite or concrete pavers required to support piping and equipment, installed over primary membrane;
8. Insulating of roof curbs;
9. Structural decking or deck infill, including any reinforcement or other component below the decking; see Metal Deck, Included and Excluded, see Structural Steel, Included;
10. Cutting of metal deck or coring of concrete for mechanical and electrical penetrations;
11. Metal transition angle from roof deck to exterior wall by Others, see Metal Deck, Included;
12. Through wall flashing;
13. Wood or metal ~~roofing system~~ components used to construct parapets, perimeter and curb blocking, curbs, control joints and sleeper supports;
14. Any membrane, vapour barrier, thermal isolation clips, z-bars, or insulation to be covered by material not installed by the roofing contractor;
15. Poured-in-place, light, medium or heavy concrete fill and paving blocks exceeding 45 kg each in mass;
16. Inspection and-testing;
17. Metal roofing and related flashings;
18. Wood and metal walkways, stairs, and ladders;
19. Wood and composite decking and supports for roof top patios;
20. Through wall flashings, transition membranes, blocking, insulation and similar components that may form a part of a detail that does not directly form a part of the roofing system;
21. ~~Installation of metal cap flashings, vents, ducts and chimneys is by others, see Mechanical, A. Common Mechanical Items, Included, and C. Ventilation and Sheet Metal Ductwork, Included;~~
22. Metal cap flashings for mechanical roof penetration curbs is by others including vents, ducts, chimneys, pipe and multi-pipe covers, hoods, square to round flashings, conduit covers, and storm collars, see Mechanical, A. Common Mechanical Items, Included, and C. Ventilation and Sheet Metal Ductwork, Included;
23. Supply and install of sacrificial membrane slip sheets compatible with primary roof membrane under ballasted solar arrays, see Electrical, A. Common Electrical Items, Included;
24. Vapour barrier level expansion joints when occurring inside a curb or parapet assembly;
25. Supply of custom colour matching material for metal flashings to components of other trades. (See siding and soffits, included);
26. Engineering, modelling or design of roofing system to meet energy code, building code, or wind uplift performance;
27. Protection of installed roofing components from other trades and people/equipment accessing the roof;
28. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
29. Common scaffold or platform when required to perform work by multiple trades;
30. Temporary heat, general lighting, power, sanitation and water for general construction;
31. Hoarding;
32. Final Cleaning before turnover;
33. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
34. Firestopping;
35. Supply and maintenance of garbage and recycling bins for construction waste;
36. Removal of construction waste from job site;
37. General site security.

Natural Roof Coverings (Green Roofing)

SCOPE NARRATIVE

This scope includes the supply and installation of natural roof coverings. A natural roof covering 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.

Natural roof covering systems are also termed as vegetated roofs, 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 (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.

Natural Roof Coverings 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 scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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) 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 when 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. Material handling, including unloading and hoisting;
12. Trade specific lighting to perform tasks;
13. Trade cleanup - cleanup for work carried out by this trade (including cleaning all debris from roof drains);
14. Warranty or Guaranty;
15. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
16. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
17. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;

Natural Roof Covering (Green Roofing) – Continued

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.

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 and other special structures;
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 including 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
13. Common scaffold or platform when required to perform work by multiple trades;
14. Installation of counter flashings for mechanical vents, ducts and chimneys is by others;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. Final Cleaning before turnover;
18. Security costs. When 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.

Metal Doors and Frames (Hollow Metal Doors and Pressed Steel Frames) - Supply

SCOPE NARRATIVE

This scope includes the supply only of metal doors including hinged or pivoting doors, fixed panels within frames, and frames either roll formed or of pressed metal for doors, sidelights, transoms, borrowed lights, and other openings.

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

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

This scope for **supply only** includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. All Hollow Metal Doors and Pressed Steel Frames (except access doors for Mechanical and Electrical equipment), see Mechanical, Included, see Electrical, Included;
2. Preparation of both Doors and Frames to accept windows, grilles and 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 when 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 or Guaranty;
12. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
13. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
14. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
15. 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.

Overhead Doors

SCOPE NARRATIVE

This trade scope includes for the supply and installation of overhead doors including panelized sectional doors, single panel doors, multi-leaf vertical lift doors or telescoping vertical lift doors, flexible traffic doors, roll-up coiling doors, roll-up coiling grilles, high speed doors and shutters, including all associated hardware and accessories.

The 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.

DEFINITION

INCLUDED

1. Overhead door assemblies and counter balance mechanisms:
 - a. Panelized sectional doors;
 - b. Single panel doors;
 - c. Multi-leaf vertical lift doors;
 - d. Telescoping vertical lift doors;
 - e. Flexible traffic doors;
 - f. Roll-up coiling doors and grilles;
 - g. High speed doors;
 - h. Roll-up shutters.
2. Hardware including:
 - a. Tracks, guides and hinges;
 - b. Push/pull handles/step plates;
 - c. Chain keepers/locks;
 - d. Weather seals;
 - e. Pusher or bumper springs;
 - f. Hangers and support rods.
3. Accessories including:
 - a. Windows / View lites;
 - b. Pass doors;
 - c. Break-away panels;
 - d. Manual operating devices;
 - e. Lift safety, obstruction detection and person protection devices.
4. Electrical operators including supply and installation of the following including:
 - a. Obstruction detection and personal protection devices;
 - b. Reduction mechanisms;
 - c. Safety interlocks when door is power operated;
 - d. Motors;
 - e. Hoist mechanism including sprocket, pulley and chain;
 - f. Emergency operators;
 - g. Electrical enclosures appropriate for installation conditions;
 - h. Limit switches and motor controls.

NOTE: All electrical line voltage wiring and connections by Electrical, see Prime Electrical, Included;
5. Control accessories including supply and installation of the following:
 - a. Detector loops;
 - b. Presence sensors;
 - c. Light curtains;
 - d. High-capacity receivers;
 - e. Dry contacts for connection to parking control equipment, air curtains and other third-party accessories;
 - f. Supply only of low voltage control stations, connection by Electrical, see Prime Electrical, Included.

Overhead Doors – Continued

NOTE: All interconnections to Building Management System or Facility Management Systems, see Mechanical D. Building Management Systems, Included and Excluded, see Integrated Automation (Facility Management Systems), Included and Excluded, see Electrical, O. Access Control Systems, Included and Excluded;

6. Structural wind load calculations and operational cycle determination based on operational requirements for door type and location;
7. Anchoring devices, tracks, track reinforcements required for complete installation;
8. Minor preparation of substrates including shimming and leveling devices;
9. Coordination with concrete placement when automatic door operation detector loops are required for the project;
10. Coordination with metal fabrications metal for supply and installation of steel support brackets, and steel jambs required for installation of overhead doors;
11. Removal of existing overhead door installations when materials are being re-used or retained (salvaged);
12. Start-up and adjustment services, and demonstration of overhead door operating and maintenance requirements;
13. Material handling, including unloading and hoisting;
14. Scaffolding/man-lifts when required to perform work by this trade;
15. Commissioning as it applies to this trade scope;
16. Trade specific lighting to perform tasks;
17. Trade cleanup – cleanup of work performed by this trade;
18. General cleanup by General Contractor;
19. Warranty or Guaranty;
20. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
21. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
22. Cash allowances or contingency funds when a specific dollar amount is listed in the General Conditions or in this trade's specification section;
23. Protection of other trades' work from damage when performing this trade scope of work;
24. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Placement of concrete;
2. Coring, cutting and grouting of concrete;
3. Placing of embedded items not otherwise supplied and installed by this trade definition;
4. Fabrication of metal fabrications required for complete installation, jamb extensions, spring pads and operator pads;
5. Structural purlins, girts, channels, or cross bracing required to frame door openings or support motorized door operators or structural support of door rails, see Structural Steel Framing, Included and Excluded, see Metal Fabrications (Miscellaneous Steel), Included and Excluded;
6. Air curtains, see Mechanical B: Prime Mechanical – Hydronic Systems, Included and Excluded; see also Mechanical C: Ventilation and Sheet Metal Ductwork, Included and Excluded, see Electrical, Included and Excluded;
7. Electrical services and connections including power disconnect switch (by power operator) for powered operators and accessories, see Electrical, Included and Excluded;
8. Low voltage wiring /conduit for control and safety accessories;
9. Door lock cylinders and keying;
10. Site applied painting and coatings;
11. Parking control equipment for management of vehicular access and security (must be compatible to operator);
12. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
13. Hoarding in opening;
14. Removal of construction waste from the jobsite;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Security costs, when security is required for trades to complete their work these services and cost for same will be provided by the General Contractor;
17. Supply and maintenance of garbage and recycling bins for construction waste;
18. General site security.

Entrances, Storefronts and Windows

SCOPE NARRATIVE

~~This scope includes 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.~~

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

Fenestration means within a floor span.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Aluminum framing;
2. ~~Single glazing, multiple glazing and sealed units, plastic, fiberglass and similar materials;~~
3. Glass, glazing and glazing materials;
4. Entrances and storefronts (interior or exterior);
5. ~~Spandrel and infill panels, including of extruded aluminum wall cladding, cement, porcelain and including insulation where it forms an integral part of a panel;~~
6. Spandrel and infill panels including aluminum cladding, aluminum laminated panels, aluminum formed sheet panels, porcelain panels, cement panels and other panel materials that are integral part of the aluminum framing system;
7. Installation of spandrel and infill panels when specified to match wall cladding installed by others, matching material to be provided by wall cladding contractor in sizes required to facilitate installation by this trade;
8. ~~Stiffeners and/or steel reinforcement where required and where it is enclosed by the architectural metal section, see Excluded;~~
9. Stiffeners or steel reinforcement as required and where it is to be enclosed within storefront framing;
10. Infill panels, including insulation where it forms an integral part of a panel;
11. Anchoring devices:
 - a. Anchors which are part of the framing;
 - b. Supply only of anchors or inserts which are part of the structure;
12. Supply only of anchors or inserts to be embedded in concrete;
13. Stationary metal louvres, metal sills, flashing and trims forming part of entrances, storefronts and windows and other metal sills, flashing and trims of matching materials, see Excluded;
14. Factory pre-assembled translucent panels when integral to storefront and window system;
15. Caulking (other than firestopping), joint backing and perimeter sealing; except where sealing to substrates and adjacent materials installed after glass and glazing work is complete;
16. 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 the 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;
17. Venetian blinds between glass supplied under this scope;
18. Fly screens to venting windows;
19. Glazing and architectural metal framing that is sloped more than 15 degrees beyond vertical, or curved which is connected to and forming part of this scope;
20. Guard rails including architectural metal ~~and wood and plastic laminate~~ where they are an integral part of, and built into ~~aluminum metal~~ entrances and storefronts and special windows (installation only of rails other than metal attached to special windows);
21. Insulation within the fenestration;

Entrances, Storefronts and Windows – Continued

22. 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;
23. All components for complete installation of automatic doors including any interconnecting wiring, when they form an integral part and are within the fenestration of this scope, commissioning NOT included, see Electrical, Included;
24. Architectural metal patio or balcony doors, complete with hardware;
25. Electrical security and monitoring devices, mounted on doors and door frames within this scope, including locks, door monitors, switches, strike release, panic devices, and magnets. Line voltage wiring connections by electrical, See Prime 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, see Prime Electrical, Included;
26. Supply and installation of operating hardware;
27. Preparation of framing for hardware supplied by others for doors not covered under Included;
28. Removal of existing installations when the materials are to be re-used or retained as specified;
29. Surface applied glazing film to trade supplied glazing;
30. Initial cleaning between removable/non-removable multiple glazing;
31. ~~Architectural metal framing;~~
32. ~~Interior architectural metal glazed partitions;~~
33. ~~Extruded aluminum wall cladding;~~
34. Manufacturer's testing data as detailed in the Contract Documents;
35. Shop drawings and engineering of entrances, storefronts and windows to the specified design criteria;
36. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
37. Material handling, including unloading and hoisting;
38. Scaffolding/man lifts where required to perform work by this trade scope;
39. Trade specific lighting to perform tasks;
40. Trade cleanup - cleanup for work carried out by this trade;
41. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
42. Manufacturer's warranty only beyond the normal one-year maintenance warranty;
43. Warranty or Guaranty;
44. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
45. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
46. Protection of other trades' work from damage when performing this trade's scope of work;
47. Commissioning as it applies to this trade scope.

Entrances, Storefronts and Windows - Continued

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. Extruded aluminum wall cladding, see Architectural Metal Panels, Included, or see Siding and Soffits, Included;
5. Interior architectural metal glazed partitions, see Demountable Partitions, Included and Excluded;
6. Installation of membranes or flashing, included under this scope, which cannot be installed or fastened during entrances, storefronts and windows installation;
7. Insulation, support or furring members, within entrance and storefront systems and windows, that are normally supplied and erected by others;
8. Interior wood sills or surrounds;
9. Insulation within framing supplied and erected by others;
10. Pressed steel frames;
11. Moveable, demountable partitions;
12. Shower doors;
13. Structural steel, see Included;
14. Sun control devices not between glass (blinds, shades, drapes, sunshades, louvres) unless connected to the aluminum window frame system;
15. Sun screens, bird screens, guard screens;
16. Supply of flashing, sills or trim prefinished to match any materials not included in this scope, see Included;
17. 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;
18. Mechanical louvres and matching non-functioning metal louvres, See Mechanical C – Ventilation and Sheet Metal Ductwork, Included;
19. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
20. Common scaffold or platform when required to perform work by multiple trades;
21. Temporary heat, general lighting, power, sanitation and water for general construction;
22. Hoarding;
23. Final Cleaning before turnover;
24. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
25. Firestopping;
26. Supply and maintenance of garbage and recycling bins for construction waste;
27. Removal of construction waste from job site;
28. General site security.

Curtain Wall and Glazed Assemblies

SCOPE NARRATIVE

This scope includes the supply and installation of components within the fenestration, connected to, and forming an integral part of this scope. This includes single and multi-story cladding fabricated from glass and other materials for interior and exterior applications including framing members, sash, glazing, and sealants for a complete enclosure including insulated and non-insulated spandrel and infill panels, architectural louvers and fixed sun screens integral to the curtain wall.

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

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Curtain wall framing, may consist of aluminum, fiberglass, composite or other framing material;
2. Glass, glazing and glazing materials;
3. ~~Spandrel and infill panels, including of extruded aluminum wall cladding, cement, porcelain and including insulation where it forms an integral part of a panel;~~
4. Spandrel and infill panels including aluminum cladding, aluminum laminated panels, aluminum formed sheet panels, porcelain panels, cement panels and other panel materials that are integral part of the aluminum curtain wall framing system;
5. Installation of spandrel and infill panels when specified to match wall cladding installed by others, matching material to be provided by wall cladding contractor in sizes required to facilitate installation by this trade;
6. Anchoring devices:
 - a. Anchors which are part of the grid;
 - b. Supply only of anchors or inserts which are part of the structure;
7. Supply only of anchors or inserts to be embedded in concrete;
8. ~~Stiffeners and/or steel reinforcement where required and where it is enclosed by the architectural metal section; ———~~
9. Stiffeners or steel reinforcement as required and where it is to be enclosed within curtain wall framing system;
10. Stationary metal louvers, metal sills, flashing and trims forming part of the curtain wall and other metal sills, flashing and trims of matching materials/finish, see Excluded;
11. Stationary metal louvers that are integral to curtain wall framing, except all mechanical louvers and non-functioning metal louvers when specified to match mechanical louvers, see Mechanical C. Ventilation and Sheet Metal Ductwork, Excluded;
12. Factory pre-assembled translucent panels when integral to curtain wall system;
13. Glazing and architectural metal framing that is sloped in excess of 15 degrees beyond vertical, or curved, within the curtain wall;
14. 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;
15. Insulation within the curtain wall;
16. Blinds and shades, between glass supplied under this scope;
17. Support brackets for architectural metal screens mounted to curtain wall framing; architectural metal screens to be provided and installed by Others;
18. Caulking (other than firestopping), joint backing and perimeter sealing; except where sealing to substrates and adjacent materials installed after glass and glazing work is complete;
19. 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 the 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;
20. Fly screens to venting windows;
21. 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);

Curtain Wall and Glazed Assemblies – Continued

22. 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, when they form an integral part and are within the fenestration of this scope, see Electrical, Included;
23. Electrical security and monitoring devices, mounted on doors and door frames within this scope, including locks, door monitors, switches, strike release, panic devices, and magnets. Line voltage wiring connections by electrical, see Prime Electrical, Included;
24. 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;
25. Preparation of framing for hardware supplied by others where doors are not part of this trade;
26. Removal of existing installations when the materials are to be re-used or retained as specified;
27. Initial cleaning between removable/non-removable multiple glazing;
28. Surface applied glazing film to trade supplied glazing;
29. Manufacturer's testing data as detailed in the Contract Documents;
30. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
31. Shop drawings and engineering of curtain wall system to the specified design criteria;
32. Scaffolding/man lifts where required to perform work by this trade scope;
33. Material handling, including unloading and hoisting;
34. Trade specific lighting to perform tasks;
35. Trade cleanup - cleanup for work carried out by this trade;
36. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
37. Manufacturer's warranty only beyond the normal one-year maintenance warranty;
38. Warranty or Guaranty;
39. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
40. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
41. Protection of other trades' work from damage when performing this trade's scope of work;
42. Building Information Modeling (BIM) as it applies to this trade scope;
43. Commissioning as it applies to this trade scope.

Curtain Wall and Glazed Assemblies – Continued

EXCLUDED

1. Concrete work;
2. Doors, door frames and curtain wall frames of steel, wood, metal clad wood, plastic laminate, or 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 (blinds, shades and drapery);
11. Sun screens, bird screens, guard screens, sunshades and louvres attached to the frame unless connected to the aluminum window frame system;
12. Mechanical louvres and matching non-functioning metal louvres, see Mechanical C – Ventilation and Sheet Metal Ductwork, Included;
13. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
14. Common scaffold or platform when required to perform work by multiple trades;
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.

Glass and Glazing

SCOPE NARRATIVE

This scope includes the supply and installation of glass and plastic glazing for doors, sidelights, transoms, borrowed lights, windows, skylights, and glazed structures.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. ~~Handcrafted leaded stained glass, glass, plastics, x-ray and infill panel to:~~
2. Glass, plastics, x-ray, ceramic fire-rated glazing and infill panels to:
 - a. Balustrades (other than escalators) including architectural hardware needed to support glazing when self supported or including architectural hardware to support infill panels, and capping to protect the edge of exposed glass;
 - b. Hollow metal framing;
 - c. Metal display cases, when constructed on site;
 - d. Metal frames other than those falling under: curtain wall scope, entrances, storefronts and windows scope;
 - e. 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);
 - f. ~~Metal-clad wood doors;~~
3. 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);
4. Glass doors (except in architectural woodwork) and sliding hardware, including locks, for site fabricated display cases;
5. Frameless mirrors, including complete with J-molds and clips, unless specified to be part of architectural woodwork, see Architectural Woodwork, Included;
6. Glass shelving (except in architectural woodwork) including shelf standards, clips and brackets, when constructed on site, See Architectural Woodwork, Included;
7. Caulking (other than firestopping), joint backing and perimeter sealing to glass and glazing; except where sealing to substrates and adjacent materials installed after glass and glazing work is complete;
8. Surface applied film to trade supplied glazing;
9. Removal of existing installations when the materials are to be re-used or retained as specified;
10. Manufacturer's testing data as detailed in the Contract Documents;
11. Shop drawings and engineering of glass and glazing to the specified design criteria;
12. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
13. Material handling, including unloading and 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 for 4 hours weekly to assist in general jobsite cleanup;
18. Manufacturer's warranty only beyond the normal one-year maintenance warranty;
19. Warranty or Guaranty;
20. Quality assurance and quality control testing of materials and procedures as detailed in the Contract 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.

Glass and Glazing – Continued

EXCLUDED

1. Glass to architectural woodwork;
2. Glass to overhead doors;
3. Glass to curtain wall and entrances, storefronts and windows;
4. Mirrors, glass, polycarbonate and acrylic when installed in wood frames or standard manufactured cabinets, display cases, furniture, fixtures, casework, countertops and tabletops;
5. Railing, ~~capping~~ and supports to balustrades and wall rails;
6. Recreational arena and court glass and glazing;
7. Shower doors;
8. Common scaffold or platform when required to perform work by multiple trades;
9. Glass and glazing to prefinished demountable partitions, See Prefinished Demountable Partitions, Included;
10. Glass and glazing to factory-built prefabricated panelized wall systems not constructed of metal stud framing and gypsum board systems;
11. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
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.

Cement Stucco

SCOPE NARRATIVE

This scope includes the supply and installation of cement-based stucco including metal laths, trim and accessories to provide a finished wall or soffit surface.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Inspect substrate for damage, and confirm it is straight, true, level, and plumb, in readiness for installation of cement stucco finish;
2. Install specified transition membranes for expansion joints, deflection joints, sheathing to foundation, transition between dissimilar materials, wall to balcony floor slab or ceiling;
3. Water resistive barriers and air/vapour membranes installed as a part of cement stucco system, including transition membranes to connect and overlap air/vapour membranes installed by preceding trades.
4. If connection is required by any trade following the cement stucco installation, then this trade provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the cement stucco system;
5. Strapping or drainage mat to establish 10 mm drainage plain or rainscreen design as detailed in the Contract Documents;
6. Rigid insulation when used as a cement stucco base, lathing, fasteners, lathing accessories, furring, and furring accessories as detailed in the Contract Documents;
7. Weep screeds and flashings at heads of windows, doors, sills, through wall penetrations and openings, bottoms of walls to establish a positive lap to specified water resistive barriers or air/vapour barriers as detailed in the Contract Documents.
8. Casing bead at locations to separate cement stucco from dissimilar materials, penetrating elements, load bearing members and to avoid transfer of structural loads to non-load bearing components;
9. Supply and apply cement stucco material as detailed in the Contract Documents;
10. Cement parging as detailed in the Contract Documents;
11. Aggregate for dash finishes;
12. Aesthetic coatings as detailed in the Contract Documents;
13. Caulking or sealant (other than firestopping) to penetrations expansion joints, control joints within perimeter of cement stucco installation and when cement stucco abuts dissimilar surfaces, only;
14. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents;
15. Material handling, including unloading and hoisting;
16. Scaffolding / man lifts when 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 or Guaranty;
21. Submittals and Operation and Maintenance 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. Building information Modeling (BIM) as it applies to this trade scope.

Cement Stucco – Continued

EXCLUDED

1. Existing substrates and surfaces constructed by previous trades true, level, plumb, square, and free from gaps greater than 13 mm (½ inch), by Others;
2. Making Substrates and surfaces constructed by previous trades shall be clean and free of abnormalities and surface contaminants that affect installation of cement stucco;
3. Membranes and transitions under finishes other than cement stucco;
4. Corner guards or expansion joint covers;
5. Lathing systems and mortar beds for ceramic, mosaic tile, see Tile, Terrazzo, Marble, Granite and Stone, included;
6. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents;
7. Common scaffold or platform when required to perform work by multiple trades;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding and temporary heating as required for application of the material;
10. Final cleaning before turnover;
11. Security costs; when 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.

Gypsum Board and Light Gauge Metal Framing

SCOPE NARRATIVE

This scope includes the supply and installation of unfinished and pre-finished gypsum board on metal or wood framing including trim, accessories, joint taping and substrate finishing ready for the application of finish coatings or coverings, provided and installed by others. Light gauge steel framing consisting of wind loadbearing and non-structural metal framing systems, ceiling suspension systems, and furring systems for gypsum board and other applications for on-site installations.

GENERAL NOTE: If Panelized Structural Cold-Rolled Assemblies or Cold-Formed Metal Framing are specified on the project, then all exterior walls, soffits, and parapet assemblies excluding interior finishes and insulations, are included in that trade's scope of work, otherwise it is supplied and installed by this trade division.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. All light gauge metal framing assemblies, for exterior walls, interior walls, stairwells and elevator or mechanical shafts or plenums, bulkheads, pony walls including lateral loadbearing studs for exterior wind-load bearing walls, complete with all associated fasteners, pins, hangers, screws, wall channels, and cross bracing, excluding the framing assemblies of other sections, see Gypsum Board and Light Gauge Metal Framing, Excluded, see Panelized Structural Cold Rolled Assemblies, Included; see, Cold-Formed Metal Framing, Included, see Demountable Partitions, Included and Excluded;
2. Light gauge steel stud framing assemblies whether or not covered by gypsum board, or when gypsum is applied one side or both sides;
3. Light gauge, non-loadbearing, steel framing consisting of 33 Mil and less (20 Gauge-Drywall, 0.75 mm and less) for interior non-loadbearing construction, and 33 Mil and greater (20 Gauge-Structural, 0.84 mm and greater) for wind loadbearing construction;
4. Specialized shaft wall framing assemblies or systems;
5. Light gauge steel stud framing for all parapet and curb walls except when Panelized Structural Cold Rolled Assemblies or Cold-Formed Metal Framing is specified on the project, see, Panelized Structural Cold Rolled Assemblies, Included, see, Cold-Formed Metal Framing, Included;
6. Metal furring channels and resilient channels complete with appropriate bracing and fastening devices;
7. Seismic bracing and attachments when specified in Contract Documents;
8. Metal suspension systems complete with hanger rods, carrying channels and metal furring capable of supporting all appurtenances supported by ceiling for suspended gypsum board or spray-textured ceilings, or as a suspended substrate for plywood sheathing or other materials, applied by Others;
9. Metal suspension systems for exterior soffits complete with hanger rods, carrying channels, cross bracing and metal furring capable of supporting all appurtenances supported by this framing or as a suspended substrate for plywood sheathing or other materials, installed by others;
10. Flexible sheet membrane which forms part of the building air barrier directly behind a gypsum board system including connection to work of the preceding trade where required. If connection is required by any trade following the gypsum board installation, then the Gypsum Board and Light Gauge Metal Framing contractor provides a minimum of 200 mm, unless otherwise specified, of overlap material beyond the exterior point of the gypsum board system;
11. Vapour barrier directly behind gypsum board with all joints, overlaps and vapour hats sealed with caulking or approved vapor barrier tape;
12. Installation of flexible sheet membrane; placed under roof curb framing, exterior walls 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. Thermal insulation for steel or wood stud framing assemblies, (fibrous batt, mineral wool, rigid or loose fill attic insulation) directly behind gypsum board, including when walls are strapped (not to include cavity wall insulation);
14. Sound insulation for metal or wood stud framing only (mineral wool, ceramic, fibrous batt, fiber board), including application of noise stop board, resilient sound bars, and gaskets;

Gypsum Board and Light Gauge Metal Framing – Continued

15. 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;
16. Sound baffles and barriers above ceilings as a continuation of sound rated partition assemblies made of materials described in this scope, including lead sound barriers;
17. Acoustical caulking and sound seal gaskets behind gypsum board and steel framing to meet sound transmission rating requirements when concealed or in an unfinished area;
18. Premanufactured firestop components that form a part of the fire rated assembly (not including firestopping sealants);
19. Finished caulking in exposed areas (other than firestopping) to structural, mechanical or electrical penetrations in gypsum board surfaces when this trade is the final installed material;
20. Gypsum board to steel or wood wall and ceiling framing assemblies, including joint treatment where applicable;
21. Cementitious wall board or Magnesium oxide board except when used as backing for Tile, Terrazzo, Marble and Granite, see Tile, Terrazzo, Marble, Granite and Stone, Included;
22. Exterior gypsum sheathing and rigid or semi-rigid insulation when used as a sheathing material and applied directly to the exterior surface of light gauge steel studs only, excluding gypsum sheathing forming a part of other assemblies, see Gypsum Board and Light Gauge Metal Framing, Excluded, see Panelized Structural Cold Rolled Metal Framing, Included, see Cold Rolled Metal Framing, Included;
23. Factory laminated vinyl gypsum board complete with prefinished metal or plastic trims and accessories when installed to a single side of light gauge metal framing or penetrates the ceiling, and when there are no prefinished demountable partitions on the project to be tendered;
24. Gypsum board backing and metal suspension system when ceiling is partially or wholly covered with acoustic tile or wood or other material. Joint treatment on exposed or unexposed to be included, as detailed in the Contract Documents;
25. Fire protection boxes to recessed fixtures in gypsum board systems where required for fire rated assemblies;
26. Gypsum board metal trim accessories, including corner bead, casing bead, metal trims and reveals;
27. Sprayed texture to gypsum board ceilings and to concrete surfaces including the primer paint for same, see Painting, Excluded;
28. Inserts, hangers, trim and support moldings capable of supporting light fixtures (electrical light fixtures exceeding 610 mm x 1220 mm or exceeding 22.5 kg per square metre in weight shall be independently supported by others);
29. Inserts, hangers, trim and support moldings capable of supporting mechanical grilles (panels and grilles exceeding 610 mm x 1220 mm or exceeding 22.5 kg per square metre in weight shall be independently supported by others);
30. Installation of access doors and lightweight steel framing as required and incorporated into wall and ceiling assemblies as provided and located by others, see Mechanical A. Common Mechanical Items, Prime Electrical A. Common Electrical Items;
31. Supply and installation of security mesh or panels up to 3.8 mm (9 gauge) incorporated into or behind gypsum board or ceiling assemblies;
32. Installation only of gypsum board trims (frames) to gypsum board surfaces for lighting fixtures (excluding lighting fixture components);
33. Supply and installation preformed metal deck filler strips when covered with gypsum board and when required to maintain sound transmission ratings;
34. Supply and installation of preformed firestop and smoke seal systems installed concurrently with steel framing, when they form part of a fire rated assembly, see Firestopping, Included and Excluded;
35. Installation only, of welded pressed steel door and window frames incorporated into interior steel stud wall assemblies, as supplied by others, see Metal Doors and Frames, Included;
36. Supply and installation of light gauge metal backing in steel stud partitions not exceeding 2.0 mm in thickness;
37. Installation only of access panels, supplied by Others, including framing as detailed in the Contract Documents;
38. Engineering costs associated with this trade required for the design of light gauge metal framing systems and connection details to suit a specific project, as detailed in the Contract Documents;
39. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents;
40. Material handling, including unloading and hoisting;
41. Scaffolding/man lifts when required to perform work by this trade scope;
42. Trade specific lighting to perform tasks;
43. Trade cleanup – cleanup for work carried out by this trade;

Gypsum Board and Light Gauge Metal Framing – Continued

44. General cleanup – provide 1 in 10 workers to assist for 4 hours weekly to assist in general jobsite cleanup;
45. Warranty and Submittals and Operation and Maintenance documentation as specified in the tender documents;
46. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
47. Protection of other trades' work from damage when performing this trades scope of work;
48. Building Information Modeling (BIM) as it applies to this trade scope;
49. Commissioning as it applies to this trade scope.

EXCLUDED

1. Light gauge steel framing systems, prefinished gypsum board, wood veneer panels, composite panels and related trims for prefinished demountable partitions or unitized modular component wall systems;
2. Cold-formed metal framing assemblies when part of the Panelized Structural Cold-Formed Steel Assemblies, see Panelized Structural Cold-Formed Steel Assemblies, Included, or structural cold-formed metal framing, see Structural Cold-Formed Metal Framing, Included;
3. Steel framing for exterior soffits, including hangers and supports, when part of the Panelized Structural Cold-Formed Steel Assemblies, see Panelized Structural Cold-Formed Steel Assemblies, Included, or structural cold-rolled metal framing, see Structural Cold-Rolled Metal Framing, Included and Excluded;
4. Wood backing in steel stud partitions;
5. Preformed metal deck fillers used as part of a listed firestop system and to maintain fire and smoke barriers to walls and partitions as specified when preformed firestop and smoke seal system does not form a part of the partition installation, see Firestopping;
6. Site applied firestopping and smoke seal caulking, and premanufactured firestopping inserts required by other trades, see Firestopping, Included and Excluded;
7. Poly vapour hats, see Electrical, Included;
8. Supports for light fixtures and radiant panels exceeding 610 mm x 1220 mm or exceeding 22.5 kg per square metre in weight;
9. Metal furring for direct attachment of metal siding;
10. Gypsum board or exterior gypsum sheathing when applied over a roof deck as part of the roofing system;
11. Cementitious wall board or magnesium oxide board when used as a backing for tile, terrazzo, marble, granite and stone, see Tile, Terrazzo, Marble, Granite and Stone, Included;
12. Exterior gypsum sheathing when part of the Panelized Structural Cold-Rolled Assemblies, see Panelized Structural Cold-Formed Steel Assemblies, Included or Structural Cold-Formed Metal Framing, see Structural Cold-Formed Metal Framing, Included;
13. 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, see Component Ceiling Systems, Included;
14. Building paper, weather barriers, air and vapour resistant sheets and membranes or other building envelope membranes covering the exterior gypsum board surfaces;
15. Plywood or wood sheathing installed to steel stud framing and or furring systems;
16. Lead shielding for x-ray protection and medical imaging;
17. Corner guards or expansion joint covers which are pre-manufactured and surface mounted;
18. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents;
19. Temporary heat, light, power, sanitation and water;
20. Common scaffold or platform when required to perform work by multiple trades;
21. Temporary heat, general lighting, power, sanitation and potable water for general construction;
22. Hoarding;
23. General and final clean up;
24. Final Cleaning before turnover;
25. Security costs. When security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
26. Supply and maintenance of garbage and recycling bins for construction waste;
27. Removal of construction waste from job site;
28. General site security.

Prefinished Demountable Partitions

SCOPE NARRATIVE

This scope includes the supply and installation of prefinished demountable partition systems which are site constructed complete with all components and accessories integral and part of the finished wall system. Prefinished Demountable Partitions consist of clipped or screwed applied gypsum panels attached to lightweight steel partition framing and are designed to be easily relocated or modified without damaging the permanent surrounding surfaces. Prefinished Demountable Partitions do not include premanufactured modular partition systems forming a part of furniture and fittings.

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

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

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Light gauge steel stud framing assemblies, for prefinished demountable partitions and other prefinished vinyl coated wall surfaces complete with all associated fasteners, pins, hangers, screws, wall channels, and cross bracing, except where gypsum board is installed on one side and excluding the framing assemblies of other sections, see Gypsum Board and Metal Framing, Included and Excluded;
2. Sound Insulations and internal linings for prefinished demountable partitions;
3. Factory applied vinyl covered board, (except when 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. Unfinished gypsum board installed above the ceiling line or behind vinyl wall surfaces required to be part of a fire-rated partition;
5. Aluminum door and window frames for use in demountable partitions;
6. Installation only of hollow metal door and window frames in demountable partitions;
7. All prefinished components and accessories for prefinished demountable partitions including aluminum, plastic and pre-finished metal frames, battens, bases, ceiling trim, which are part of the demountable manufacturer's system;
8. Matching perimeter prefinished panels and/or trims as specified;
9. Supply and installation of glass and glazing complete with glass stops and glazing bead, see Glass and Glazing, Excluded;
10. Chalkboards, tack-boards and display boards which are incorporated and an integral part in the prefinished demountable partition system;
11. Prefinished surfaces which form part of the prefinished demountable system;
12. Scaffolding/man lifts where required to perform work by this trade scope;
13. Material handling, including unloading and hoisting;
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 or Guaranty;
18. Submittals and Operation and Maintenance 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.

Prefinished Demountable Partitions – Continued

EXCLUDED

1. Factory-built prefabricated panelized wall systems not utilizing standard metal stud framing and gypsum board systems;
2. Supply and installation of backing in steel stud partitions – by others;
3. All gypsum board application requiring taping and filling on the jobsite;
4. Vinyl coated gypsum lay in panels, see Component Ceiling Systems, Included;
5. Folding partitions, operable walls and moveable acoustical screens;
6. Supply and installation of wood frames, doors, hardware etc.;
7. Supply and installation of all doors and hardware;
8. Surface mounted chalkboards, tack-boards, display cabinets, chair rails, handrails and any prefinished millwork items;
9. Staining, varnishing or painting of doors and metal frames;
10. Supply of hollow metal frames or lights and the sorting and loading of hollow pressed steel door and/or window frames;
11. Supply of preformed metal deck fillers used to maintain fire and smoke barriers to walls and partitions as specified, see Firestopping;
12. Backing and preparation of aluminum frames to receive hardware;
13. Rubber base;
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.

Component Ceiling Systems and Manufactured Acoustical Units

SCOPE NARRATIVE

This scope includes the supply and installation of the following including accessories to provide a complete system:

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

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Component ceiling systems consisting of one or more of the following:
 - a. Wood fibre, mineral or glass fiber acoustical tile;
 - b. Wood fibre, mineral or glass fiber acoustical ceiling lay-in-panels;
 - c. Gypsum ceiling lay-in panels;
 - d. Perforated or un-perforated metal pan ceiling panels;
 - e. Vinyl or plastic ceiling panels;
 - f. Wood veneer ceiling panels;
 - g. Linear metal or wood linear ceiling or soffit system;
 - h. All luminous ceiling, decorative lenses or valance lay in panels, leaf-type reflectors, egg crate louvres, or light diffusers whether 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, other fasteners for attachment of ceiling systems components 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 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 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. Removal of existing installations when the materials are to be re-used or retained as specified;
4. Fire protective boxes or blankets for electrical fixtures and mechanical diffusers as required in Underwriters Laboratories Canada designs for floor/roof – ceiling assemblies;
5. Insulating blankets laid directly on top of ceiling suspension system installed by this trade;
6. Luminous light lenses, decorative lenses or louvres, including metal or plastic support molding when installed in architectural valances not constructed by this trade, see Electrical, Excluded;

Component Ceiling Systems and Manufactured Acoustical Units - Continued

7. Manufactured acoustical units consisting of:
 - a. Sound absorbing wall panels;
 - b. Sound absorbers;
 - c. Suspended sound baffles;
8. Preformed architectural light coves, valances, curtain pockets, constructed of light gauge prefinished metal (not exceeding 2.0 mm thick or 14-gauge material) where ever they may occur, except when part of an electrical luminaire assembly, see Prime Electrical, Included;
9. Preformed metal break-shapes constructed of light gauge prefinished metal (not exceeding 2.0 mm thick or 14-gauge material) when used as a direct support of or forming an integral part of a ceiling system installed by this trade;
10. Manufacturers standard wall molding and suspension system or custom extruded aluminum wall moldings and suspension system (when specified and detailed in the Contract Documents) for trimming areas to receive Radiant heat panels, where ever they may occur. Radiant panels to be supplied and installed by others, see B. Prime Mechanical, Included;
11. Material handling, including unloading and hoisting;
12. Scaffolding/man lifts when 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 or Guaranty;
17. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
18. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 and Manufactured Acoustical Units – Continued

EXCLUDED

1. Acoustical plaster ceiling finishes and suspension systems;
2. Acoustical wall treatment when constructed of materials that are not a manufactured acoustical material and not recognized as an acoustically rated unit including carpet, underlay, sprayed wall coatings and other fibrous wall coverings;
3. Caulking;
4. Gypsum board, plaster or wood fabricated valance pockets, curtain pockets, architectural light coves and valances;
5. Gypsum board or plaster ceiling finishes and suspension systems;
6. Inserts and hanger supports for Electrical and Mechanical fixtures exceeding 610 mm x 1220 mm;
7. Installation and independent support of Radiant panels exceeding 610 mm x 1220 mm, see B. Prime Mechanical, Included
8. Gypsum board backing including suspension systems;
9. Job fabricated enclosures for acoustical batt 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 lenses, decorative lenses, including metal 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, un-perforated metal 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. Demolition of existing materials except as provided in Included;
19. Sound absorption panels or sound dampening systems used for mechanical and equipment;
20. Sound attenuation barriers when used in plenum space above partitions connected and 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 additional support of electrical, and mechanical fixtures;
24. Wood blocking, furring, strapping, trims and casings for materials other than those used by this trade;
25. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
26. Common scaffold or platform when required to perform work by multiple trades;
27. Temporary heat, general lighting, power, sanitation and water for general construction;
28. Hoarding;
29. Final Cleaning before turnover;
30. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
31. Firestopping;
32. Supply and maintenance of garbage and recycling bins for construction waste;
33. Removal of construction waste from job site;
34. General site security.

Tile, Terrazzo, Marble, Granite, and Stone

SCOPE NARRATIVE

This scope includes for the supply and installation of tile units not exceeding 50 mm in thickness and consisting of baked clay or other materials including stone, glass and metal to provide a finished floor surface, stair treads, stair risers, stair base and stringer, promenade roofs, walks, walls, ceilings, swimming pools and all places when tile is used to form a finished interior or exterior surface for practical use, sanitary finish or decorative purposes.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Tile is the following products provided they do not exceed 50 mm in thickness, as follows:
 - a. Burned clay products (including pavers) unglazed porcelain pavers or natural clay tile, as used in the tile industry;
 - b. Ceramic tile, porcelain mosaic tile, glazed wall tile, monocottura tile, bicottura tile and quarry tile;
 - c. Glass mosaic tile, plastic and metal tile;
 - d. Stone (natural or artificial), marble, concrete, brick tiling, granite, precast terrazzo or cultured marble, when used as a floor or wall finish;
 - e. Stone (Natural and Artificial) marble, granite, slate, travertine, limestone, precast terrazzo or cultured marble when used as an interior or exterior floor or wall finish;
 - f. Conductive Tiles – installation of electrically conductive tiles which are static conductive to prevent spark discharge;
 - g. Chemical resistant tile, tiling with chemical-resistant tile, mortar and grout;
 - h. Masonry flooring – fired clay unit masonry and natural, simulated and cast stone flooring;
 - i. Stone facing – dimension stone facing for interior walls.
 - j. Terrazzo flooring – cast in place, sand cushion bed, monolithic, bonded and adhesively- bonded Portland cement terrazzo, poured in place epoxy, polyester, and conductive plastic matrix terrazzo, and precast terrazzo;
2. Terrazzo when used as a finish for walls, floors, bases, curbs, stair treads, stair risers, stair bases and stair stringers which are poured in place, containing graded colored chips of marble, granite or other composition chips of various sizes, which is to be ground. Includes rustic terrazzo, either ground or not;
3. Cementitious and coated glass mat backer wallboard when used as a backing for this trade;
4. Application of surface preparation materials, primers and setting material including cement mortar, epoxy mortars, furan resins, prepared to proper tolerance to receive tile on floors, walls and ceilings, setting of tiles by the adhesive method with organic or inorganic thin bed bonding materials where such bonding material is applied to the backing surface and the backs of the tile units' sheets of tile;
5. Setting of tiles by the adhesive method with organic and /or inorganic thin bed bonding materials where such bonding material is applied to the backing surface and the backing of tile units or sheets of tile;
6. Mortar bed for tile work, dry set mortar bed including welded wire or fabric reinforcing, when specified;
7. Lathing systems for ceramic, mosaic tile;
8. Installation of a cast in place, sand and cement base for terrazzo flooring;
9. Embedded metal divider and expansion joint strips for terrazzo flooring as specified;
10. Caulking/grouting (other than firestopping) between the individual tiles, marble, granite, slate, or precast terrazzo panels;
11. Laying, cutting, setting and sealing of all tile when used on floors, bases, walls, ceilings, walks, promenade roofs, exterior veneers, stair treads, stair risers, facings, hearth, fireplaces and decorative inserts, together with any marble plinths, thresholds or window stools used in connection with any tile work;
12. Scratch and leveling coats for tile work;
13. Rubber or neoprene pans for shower floors and steam rooms;
14. Exposed metal trims to baseboard and edge of wall tiles;
15. Crack isolation, uncoupling, sound reduction and water proofing membranes;
16. Electric in floor heating mats and cables installed under tiles installed by this trade. Electrical connections by electrician, see Electrical, Included;
17. Cleaning of installed products (acid wash);
18. Waterproofing material or coating when part of the backing system for installation of materials used by this trade;

Tile, Terrazzo, Marble, Granite, and Stone - Continued

19. Testing when specifically required by the specifications;
20. Supply of non-slip tile nosing for poured concrete stairs;
21. Material handling, including unloading and hoisting;
22. Scaffolding/ man lifts when 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 or Guaranty;
27. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
28. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 trade's work from damage when performing this trades scope of work;
31. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Resilient floor tile coverings, acoustic or ceiling tile;
2. Cementitious backing board for installations other than provided by this trade.
3. Caulking between materials in this scope and other trades materials (metal, glass, brick and other finish materials ~~etc.~~);
4. Continuous metal supporting angles, metal slots, boxes or anchorages which are built into a structural wall;
5. Expansion joints except in terrazzo floors;
6. Exterior flashing at doors and windows;
7. Lead pans;
8. Metal lath;
9. Miscellaneous iron work and manufactured specialty items (mat sinkage frames);
10. Testing of pools and showers;
11. Waterproof membranes when not used in conjunction with materials used by this trade;
12. Wood grounds;
13. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
14. Common scaffold or platform when required to perform work by multiple trades;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. Final Cleaning before turnover;
18. Security costs. When 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.

Finished Flooring

SCOPE NARRATIVE

This scope includes the supply and installation of finished flooring as per the definitions below including all accessories to provide a complete finished floor surface:

- A. Hardwood Flooring** - includes flooring composed of wood with various types of backing including athletic, gymnasium, sports hardwood flooring;
- B. Laminated Wood Flooring** - includes all laminated wood flooring;
- C. Specialty Flooring** - includes bamboo, cork, leather, acoustic, acid-resistant, athletic flooring other than hardwood and other types of flooring not listed in other sections;

The Finished Flooring scopes can be tendered separately or can be submitted as one combined tender.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

A. Hardwood Flooring

SCOPE NARRATIVE

This scope includes the supply and installation of hardwood flooring with various types of backing wood includes sleepers and subfloor installation and adhesives and all accessories to provide a finished floor surface. This flooring is used as an aesthetic finish and athletic, gymnasium and sports wood 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:

TRADE DEFINITION

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 including wood treads, risers, nosing's, and stringers and excluding metal nosing's 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;

A. Hardwood Flooring - Continued

9. All fasteners required for installation including nails, staples, screws;
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. Material handling, including unloading and hoisting;
15. Scaffolding/man lifts when 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 or Guaranty;
20. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
21. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

EXCLUDED

1. Substrate testing including moisture (vapor emission) and alkalinity tests;
Note: that this work may be included in the work when flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
2. 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;
3. 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;
4. Repairs to damage by others during and after completion of work;
5. Barricades;
6. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
7. Common scaffold or platform when required to perform work by multiple trades;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. When 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.

B. Laminated Wood Flooring

SCOPE NARRATIVE

This scope includes the supply and installation of laminated flooring, adhesives and accessories to provide a finished flooring surface.

Laminated Flooring is a multi-layer synthetic flooring product fused together with a lamination process. Laminate flooring simulates wood (or sometimes stone) with a photographic applique layer under a clear protective layer. The inner core layer is usually composed of melamine resin and fiber board materials.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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. Material handling, including unloading and hoisting;
14. Scaffolding/man lifts when 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 or Guaranty;
19. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
20. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Laminated Wood Flooring – Continued

EXCLUDED

1. Substrate testing including moisture (vapor emission) and alkalinity tests;
Note: that this work may be included in the work when flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
2. 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;
3. Final cleaning and vacuuming;
4. 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;
5. Repairs to damage by others during and after completion of work;
6. Barricades;
7. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. When 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.

C. Other Flooring (Specialty Flooring)

SCOPE NARRATIVE

This scope the supply and installation of the associated flooring, adhesives and accessories to provide a finished flooring surface.

Other Flooring - includes bamboo, cork, leather, chemical-resistant, athletic flooring other than hardwood and other types of flooring not listed in other sections;

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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. Athletic flooring other than hardwood floors;
 - d. 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. Caulking to own work when required;
15. Material handling, including unloading and hoisting;
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 or Guaranty;
20. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
21. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 (Specialty Flooring) – Continued

EXCLUDED

1. Substrate testing including moisture (vapor emission) and alkalinity tests;
Note: that this work may be included in the work when flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
2. 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;
3. Athletic and gymnasium flooring composed of hardwood;
4. Troweled 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
12. Temporary heat, general lighting, power, sanitation and water for general construction;
13. Hoarding;
14. Final Cleaning before turnover;
15. Security costs. When 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.

Resilient Floor Coverings

SCOPE NARRATIVE

This scope includes the supply and installation of resilient floor tile and sheet floor coverings including resilient baseboards, stair treads and risers, stair nosing's, edging, and transitions to other flooring materials and all the accessories required to provide a finished floor surface.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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. Specialty resilient flooring including safety flooring, athletic and gym flooring;
 - e. 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, nosing's, 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. Nosing's, including metal;
11. Adhesives with application;
12. Custom installation requirements when specified including heat welding, flash coving, provision of special drains, water jet cutting for inlay work;
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. Caulking to own work when required;
17. Material handling, including unloading and hoisting;
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 or Guaranty;
22. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
23. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 - Continued

EXCLUDED

1. Athletic and gymnasium flooring composed of hardwood, see Finished Flooring - Hardwood, Included;
2. Substrate testing including moisture (vapor emission) and alkalinity tests;
Note: This work may be included when 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. Troweled 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Hoarding;
17. Final Cleaning before turnover;
18. Security costs. When 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

Carpeting

SCOPE NARRATIVE

This scope includes the supply and installation of carpet to floors and walls, underlay (carpet cushions) and all adhesives and accessories required to provide a complete finished floor surface.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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 installations as detailed in the Contract Documents;
 - 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. Nosing's (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. Material handling, including unloading and hoisting;
16. Scaffolding/man lifts when 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 or Guaranty;
21. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
22. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 – Continued

EXCLUDED

1. Substrate testing including moisture (vapor emission) and alkalinity tests;
Note: that this work may be included in the work when flooring is the only contract (as in the installation of hardwood flooring in existing rooms or areas) subject to prior agreement with the Owner;
2. 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;
3. Troweled-on latex underlayment except when specified in conjunction with specific installation systems;
4. Base to demountable partitions, unless specified;
5. Loose laid carpet mats and runners;
6. Carpet as an integral part of access flooring systems, unless otherwise specified;
7. Carpet bulletin and tack boards on walls;
8. 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;
9. Repairs to damage by others during and after completion of work;
10. Barricades;
11. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
12. Common scaffold or platform when required to perform work by multiple trades;
13. Temporary heat, general lighting, power, sanitation and water for general construction;
14. Hoarding;
15. Final Cleaning before turnover;
16. Security costs. When 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.

Seamless (Fluid-Applied) Flooring

SCOPE NARRATIVE

This scope includes the supply and installation of fluid-applied, seamless flooring applied to floors and other horizontal surfaces, to provide an aesthetic, slip resistant or wear resistant surface. Fluid-applied floors are resinous or liquid-applied, durable systems generally comprised of multiple layer application of epoxy, polyester, polyurethane, polyaspartic, methyl-methacrylate, polyurea or other similar high-build coating material.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Fluid-applied flooring material when it is applied to:
 - a. Bases;
 - b. Curbs and gutters;
 - c. Floors;
 - d. Treads, risers, stair base and stringers;
 - e. Walls and coves, when forming a continuation of the flooring application;
2. Fluid-applied flooring components incorporating the use of natural or synthetic fillers, aggregates or binders including the following to provide an aesthetic, chemical resistant, slip resistant (improved traction), wear resistant or thermal shock resistant surface:
 - a. Flake or granular, natural, rubber and synthetic fillers;
 - b. Natural aggregates and compositions when used with polyurethane, epoxy, poly-acrylate, polyurea, polyaspartic, methyl-methacrylate, or urethane;
 - c. Natural or synthetic binders;
 - d. Anti-microbial additives;And producing a dry film thickness of 250 µm (0.250 mm) (10 mil.) or greater, not including primers and filler coats;
3. Manufactured accessories, including metallic termination strips, transition strips, metal nosing's and other components specified as forming part of the seamless fluid-applied flooring system only;
4. Examination of surfaces and testing to confirm compatibility and acceptable surface conditions between substrates and fluid-applied coatings;
5. Mechanical profiling of sub surface to receive fluid-applied flooring;
6. Preparation of surfaces required for installation of fluid-applied flooring including substrate preparation, and supply and installation of self-leveling cementitious underlayment and poured latex toppings specified as forming a part of the fluid-applied flooring system only;
7. Waterproof membranes, sloping and leveling coats when used as part of fluid-applied flooring system;
8. Installation of sealants and caulking between the floor and base termination when specified as forming a part of the fluid-applied floor system only;
9. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
10. Shop drawings, sample installations or mock-ups when specified;
11. Trade specific temporary ventilation, if required during the application of the fluid-applied flooring system to control air quality arising from off-gassing, curing and noxious odors associated with installation of materials of this trade;
12. Material handling, including unloading and hoisting;
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 or Guaranty;

Seamless (Fluid-Applied) Flooring - Continued

17. Quality assurance and quality control testing of materials and procedures as detailed in the Contract 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.

EXCLUDED

1. Paint products described as forming a part of the Painting Trade Definition;
2. Temporary protection of finished fluid-applied flooring;
3. The soundness or composition of sub surface;
4. Caulking at floor and base terminations when not forming a part of the specific work of fluid-applied flooring;
5. Other resinous flooring systems similar to epoxy matrix terrazzo, that have a greater proportion of aggregate to liquid-content, and which requires abrasive grinding and polishing as a component of installation;
6. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
7. Temporary heat, general lighting, power, sanitation and water for general construction;
8. Hoarding;
9. Final Cleaning before turnover;
10. Security costs. When 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.

Raised Access Flooring

SCOPE NARRATIVE

This scope includes the supply and installation of pre-manufactured, pre-finished free-standing raised access floor systems and related accessories to provide a complete free-standing elevated floor system including ramps, stairs, air outlets and inlets integral with floor panels and forming an under-floor cavity that may be used for utility services.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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 covers;
 - e. Stringers;
3. Accessories (pre-manufactured only):
 - a. Electrical service centers (packaged equipment) when incorporated into floor panels, when specified;
 - 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 access floor panels with or without dampers when specified;
 - k. Ramps complete with rubber mats and runners;
 - l. Steps complete with floor finish;
 - m. Under floor baffles 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. Material handling, including unloading and hoisting;
7. Maintenance material;
8. Metal or wood shims;
9. Protection of finished surfaces;
10. Testing when specifically required by the specifications;
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 or Guaranty;
16. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;

Raised Access Flooring - Continued

17. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

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, including carpet or floor 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
12. Temporary heat, general lighting, power, sanitation and water for general construction;
13. Hoarding;
14. Final Cleaning before turnover;
15. Security costs. When 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.

Painting

SCOPE NARRATIVE

This scope includes the supply and application of interior and exterior painting and wall coverings and required accessories to provide a decorative finish to walls, ceilings and exposed surfaces. Including priming, sealing, finish painting and decorative finishes including vinyl-coated fabrics, cork, wall paper and textile wall covers.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Temporary ventilation if required during application of coatings;
2. Application ~~or removal~~ of protective or decorative coatings, except those covered under Special High-Performance/~~Special~~ Coatings, see Special High-Performance Wall Coatings, Included and Excluded;
3. Removal of existing protective or decorative coatings when new coatings are not compatible with existing surfaces;
4. Application of Coatings of:
 - a. Bitumen's applied as paints;
 - b. Emulsions;
 - c. Fibreglass;
 - d. Hypalon;
 - e. Lacquers;
 - f. Primers;
 - g. Mastic;
 - h. Paints;
 - i. Plastics;
 - j. Stains;
 - k. Varnishes
 - l. Sealers and fillers
 - m. ~~Anti-Graffiti~~.
5. Application, using pastes or adhesives, of:
 - a. Burlap;
 - b. Cambric-backed wood veneers;
 - c. Cottons;
 - d. Damasks;
 - e. Grass cloth;
 - f. Cork;
 - g. Muslin;
 - h. Paper;
 - i. Paper backed metal foils;
 - j. ~~Rubber sheeting for tank linings;~~
 - k. Vinyl wall fabrics;
6. Miscellaneous applications of:
 - a. Gold leaf;
 - b. Metalizing;
 - c. Silver leaf;
7. Inspection of surfaces to receive final finish coatings;
8. Filling of nail holes, on-site only (see Architectural Woodwork, Included and Excluded);
9. Caulking of painted-to-painted surfaces, and where wall coverings meet existing surfaces.
10. Fire-retardant paint and clear coating to architectural woodwork and wood paneling, excluding pressure treated items;
11. On-site mechanical and electrical painting, including primary color coding of all pipes, ducts and equipment when quantified in Contract Documents (see Excluded). Mechanical or electrical contractor to identify where required, see Electrical, Included, Mechanical A. Common Mechanical Items, Included;
12. Protecting sprinkler heads from painting processes, see Mechanical G. Sprinklers and Fire Protection, Excluded;
13. ~~Painting of recreational lines and markings on resilient floor coverings;~~
14. Pressure washing of existing exterior surfaces required to be repainted;
15. Material handling, including unloading and hoisting;
16. Scaffolding/man lifts when 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 including daily removal of oily rags, hazardous waste and other combustible materials;

Painting – Continued

19. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
20. Warranty or Guaranty;
21. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
22. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

EXCLUDED

1. Clear finishes or hardeners to concrete floors;
2. Clear finishes to exterior masonry, see Masonry, Included;
3. Fluid applied high-build coating material when thicker than 250um (0.250mm) (10mil) or greater, see Special-High Performance ~~Special~~ Wall Coatings, Included;
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 or canvass, colored tape 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 Light Gauge Metal Framing, Included;
9. Priming to miscellaneous metals and structural steel as defined in Metal Fabrications (Miscellaneous Steel), Structural Steel Framing and Mechanical scopes, see Metal Fabrications (Miscellaneous Steel), Included, see Structural Steel, Included, see Mechanical, Included;
10. Shop applied finishes to interior architectural woodwork, see Interior Architectural Woodwork, Included;
11. Application of paint coatings or fabric coverings to exterior woodwork, see Landscaping, Included and Excluded;
12. Removal and re-installation of hardware, surface fittings and fixtures, and trims (receptacle and switch plates);
13. Removal of contaminants (dirt, grease, rust) from substrates that could impair the bonding of paints, coatings or stains being applied to surfaces, piping, ductwork, conduit or equipment (surfaces should be ready for paint);
14. Repairs to cracks, holes and joints in substrates that are larger than 3 mm (1/8") in width/diameter or greater than 25 mm (1") in length;
15. Repairs to substrates as a result of latent defects to become apparent after application of primer and prior to application of final coat;
16. Repairs to furnishings, equipment and other prefinished components that have not been scheduled for coatings;
17. Repairs to substrates as a result of damage caused by other trades;
18. Repair of paints, coatings and stains as a result of damage caused by other trades;
19. Caulking and joint sealants unless specifically stated for which surfaces are included;
20. Filling of metal door frame anchors and joints;
21. Unquantifiable work, such as surfaces that are not detailed or shown in Contract Documents for length, location or size, or that differentiates surfaces that require painting (inside of components vs outside of components);
22. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
23. Common scaffold or platform when required to perform work by multiple trades;
24. Temporary heat, general lighting, power, sanitation and water for general construction;
25. Hoarding;
26. Final Cleaning before turnover;
27. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
28. Firestopping;
29. Supply and maintenance of garbage and recycling bins for construction waste;
30. Removal of construction waste from job site;
31. General site security.

Special High-Performance Wall Coatings

SCOPE NARRATIVE

This scope includes the supply and installation of high-performance coating systems applied to walls and other vertical substrates, and overhead surfaces. High performance wall coatings are resinous or liquid-applied, durable systems generally comprised of multiple layer application of epoxy, polyester, polyurethane, polyaspartic, methyl-methacrylate, polyurea or other similar high-build coating material producing a dry film thickness of 250 μm (0.250 mm) (10 mil.) or greater, not including primers and filler coats.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. High-performance coating systems that produce a dry film thickness of 250 μm (0.250 mm) (10 mil.) or greater, not including primers and filler coats, incorporating the use of natural or synthetic fillers, aggregates or binders including the following to provide an aesthetic wear resistant surface on interior or exterior surfaces:
 - a. Decorative components when required by the specification including rock aggregates, marble chips, colored ceramic granules, rubber, vinyl acrylics, sound attenuating particles or textures;
 - b. Reinforcing components when required by high-performance coating system including fiberglass or other fabric scrim materials;
 - c. Organic or synthetic coating materials and binders including epoxy, polyurethane, polyurea, methyl-methacrylate, polyaspartic, urethane, or neoprene - hypalon;
 - d. Membranes and other accessories forming a part of the specified system;
2. Coatings inclusive of primers, under coatings and finish coatings, filler coatings, and other cementitious, rubber or vinyl particles forming the composite requirements for specified high-performance, high-build coating systems;
3. Examination of surfaces to confirm compatibility and acceptable surface conditions between substrates and high-performance coatings;
4. Surface preparation including the removal of any temporary protection and subsequent restoration of wall plates, machined surfaces, including cleaning, abrading and remediating surfaces of substances that could impair bond between substrates and coating materials;
5. Protection of work adjacent to application areas from activities associated with application of high-performance coatings described in this scope and similar items that may have been installed prior to work of this trade and that do not require coatings;
6. Sample installations or mock-ups when specified;
7. Trade specific temporary ventilation, if required during the application of the special high-performance wall coatings;
8. Material handling, including unloading and hoisting;
9. Scaffolding/man lifts when required to perform work by this trade scope;
10. Trade specific lighting to perform tasks;
11. Trade cleanup - cleanup for work carried out by this trade;
12. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup.
13. Warranty or Guaranty;
14. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
15. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
16. Cash allowances or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section;
17. Protection of other trades' work from damage when performing this trades scope of work;
18. Building Information Modeling (BIM) as it applies to this trade scope;

Special High-Performance Wall Coatings - Continued

EXCLUDED

1. Paint products described as forming part of the Painting Trade Definition;
2. Protection of finished High Performance Wall Coatings;
3. Caulking at High Performance Wall Coatings terminations;
4. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
5. Common scaffold or platform when required to perform work by multiple trades;
6. Temporary heat, general lighting, power, sanitation and water for general construction;
7. Hoarding;
8. Final Cleaning before turnover;
9. Security costs. When 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.

Food Service Equipment

SCOPE NARRATIVE

This scope includes the supply, placement, start up and testing of all equipment used for food storage, preparation, delivery, serving, cooking, dispensing and cleanup in commercial and institutional kitchens, bars and restaurants, including fabricated refrigerated cases, coolers, walk-in coolers and freezers and other custom fabricated stainless-steel equipment.

This scope for supply, placement, start up and testing includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Provide all commercial kitchen equipment excluding final electrical and mechanical connections as in accordance with the Contract Documents, see Electrical and Mechanical, Included;
2. Supply only flexible connectors (gas lines/braided waterlines), fixture drains and any other specialty accessories for connection to Food Service equipment beyond piping isolation valves and sanitary drain connections, see Prime Mechanical – Plumbing, Excluded;
3. Walk-in coolers and freezers and associated remote refrigeration equipment, refrigeration requirements and above ground condensate drains with heat tape, when required, piped to floor drain provided by Others as in accordance with the Contract Documents, See Mechanical E. Refrigeration, Excluded;
4. Refrigerators and freezers with remote condensing units;
5. Refrigeration requirements for all coolers and freezers with remote condensing units;
6. Equipment as in accordance with the Contract Documents:
 - a. Ice machines;
 - b. Service line equipment;
 - c. Commercial grade, dishwashing equipment (for machine washed dishes, glasses, pots and flatware);
 - d. Food disposers (including garburators, pulpers, digesters);
 - e. Kitchen hoods, (cooking and dishwashing) complete with associated fire dampers and fire suppression systems when specified in the Food Service Equipment specifications;
 - f. Stainless steel equipment and components, including shelving, preparation tables;
 - g. Faucets, nozzles, drains & hose reels;
 - h. Water filters;
 - i. Beverage equipment excluding associated CO2 system;
 - j. Cook line equipment;
 - k. Food transport & shelving equipment;
7. Fire suppression systems for Food Service equipment as in accordance with the contract documents, See Food Service Fire Suppression Systems, Included and Excluded;
8. Delivery, uncrate, placement, and assembly of all supplied equipment;
9. Operator training of supplied equipment;
10. Startup and testing as in accordance with the Contract Documents;
11. Material handling, including unloading and placement in final location
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. Warranty or Guaranty;
16. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
17. Submittals and Operation and Maintenance 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.

Food Service Equipment - Continued

EXCLUDED

1. Final connection and interconnections to electrical and mechanical services, see Electrical, Included, Mechanical A. Mechanical Common Items, Included;
2. Kitchen hoods, associated fire dampers and fire suppression systems when not indicated in the Contract Documents;
3. Kitchen hood makeup air units and exhaust fans including associated curbs, supports and ducting, regardless of where it is indicated in the contract documents, see C. Ventilation, Included;
4. Soda Fountain equipment;
5. CO2 systems;
6. Hoisting;
7. Plumbing fixtures noted on the mechanical drawings as supplied by the mechanical contractor;
8. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
9. Common scaffold or platform when required to perform work by multiple trades;
10. Temporary heat, general lighting, power, sanitation and water for general construction;
11. Hoarding;
12. Final cleaning and peeling of protective coating 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.

Food Service Fire Suppression Systems

SCOPE NARRATIVE

This scope includes the supply and installation of fire suppression systems for commercial kitchen equipment installations.

Work under this sub-section starts at the emergency shut-off solenoid gas valve (valve supplied by this Contractor and installed by the Prime Mechanical contractor).

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Fire Suppression System starts at the emergency shut-off solenoid gas valve supplied by this contractor and installed by the Prime Mechanical Contractor, see Mechanical B. Prime Mechanical, Included;
2. Fire Suppression System shall be designed, constructed and installed by this contractor in accordance with local codes;
3. Approved wet chemical system includes cylinder, piping network, hangers and supports, heads (nozzles) mechanical detection including fusible links, control head c/w fuel shut-off device with manual re-set and micro-switch for fire alarm panel monitoring, including remote activation device;
4. Supply of micro-switch, see Mechanical G. Sprinkler and Fire Protection, Excluded;
5. Dry contacts for kitchen fire suppression system;
6. Supply of the emergency shut-off solenoid gas valve, see Mechanical B. Prime Mechanical, Excluded;
7. Provide portable fire extinguishers as required by the Authority having Jurisdiction;
8. Material handling, including unloading and hoisting;
9. Scaffolding/man lifts when required to perform work by this trade scope;
10. Trade specific lighting to perform tasks;
11. Trade cleanup - cleanup for work carried out by this trade;
12. Warranty or Guaranty;
13. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
14. Submittals and Operation and Maintenance documentation as detailed in the Contract 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. Building Information Modeling (BIM) as it applies to this trade scope;
18. Commissioning as it applies to this trade scope.

EXCLUDED

1. Accessible exhaust/ductwork, filters, fans and hood;
2. Installation of the emergency shut-off solenoid gas valve, see Mechanical 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
5. Common scaffold or platform when required to perform work by multiple trades;
6. Temporary heat, general lighting, power, sanitation and water for general construction;
7. Hoarding;
8. Final Cleaning before turnover;
9. Security costs. When 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.

Elevators, Lifts and Dumbwaiters

SCOPE NARRATIVE

This scope includes the supply and installation of elevators and all components necessary for a complete installation. Including passenger, freight, residential, and service elevators of all types and covering all components including car cabs, entrances, controls, safety equipment, hoist way equipment, and elevator machinery.

Elevators, lifts and dumbwaiters are used to convey passengers and materials vertically from one elevation to another.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Electric traction passenger, service and freight elevators systems;
2. Hydraulic passenger, service and freight elevators systems;
3. Limited Use Light Application lifts (LULA) systems;
4. Wheelchair lift systems;
5. Procurement of dumbwaiter equipment from third party supplier as per specifications, including coordination of shop drawing process;
6. Electrical wiring and conduit from all controllers to signals and operating circuits;
7. Elevator controllers;
8. Elevator machines and governors;
9. Hydraulic tanks and pumping units;
10. Elevator platforms;
11. Elevator cab frame and safeties;
12. Counterweight for traction elevators;
13. Counterweight safeties when there is occupied space below a traction elevator;
14. Hoist way sills and cab thresholds;
15. Door operating equipment;
16. Door protection devices;
17. Buffers;
18. Guide rails and attachments;
19. Positioning system;
20. Emergency stop switch in pit;
21. Terminal stopping switches;
22. Means of suspension;
23. Fascia as required;
24. Elevator entrances (except freight elevator entrance frames), including Underwriters Laboratory of Canada rated frames and doors, entrance jamb braille plates and sight guards;
25. Cab fixtures as specified;
26. Cab finishes or allowance for custom interiors as specified;
27. Emergency cab lighting;
28. Cab fan;
29. Car operating panel as specified;
30. Hall fixtures as specified;
31. Hoist way access switches;
32. Travelling cable, including card reader or security camera wiring provisions as required;
33. Battery lowering devices as specified;
34. Adjustment and fine tuning;
35. Parking garage hoists;
36. Piping incidental to hydraulic elevators;
37. Maintenance services during warranty period as specified;

Elevators, Lifts and Dumbwaiters - Continued

38. Supply and installation of temporary hoisting beams as required for elevator installation only;
39. Scaffolding/man lifts when required to perform work by this trade scope;
40. Inspection;
41. Licenses and permits for construction;
42. Material handling, including unloading and hoisting;
43. Trade specific lighting to perform tasks;
44. Trade cleanup - cleanup for work carried out by this trade;
45. Warranty or Guaranty;
46. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
47. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
48. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
49. Protection of other trades' work from damage when performing this trade's scope of work;
50. Building Information Modeling (BIM) as it applies to this trade scope;
51. Commissioning as it applies to this trade scope;

EXCLUDED

1. Barricades and hoardings as required;
2. Permanent hoist and divider beams, see Structural Steel Framing, Included;
3. Pit ladders (one per elevator);
4. Support for entrances and rails;
5. Freight elevators entrance frames;
6. Auto parking elevators or platforms;
7. Excavation for cylinder well casing for hydraulic elevators;
8. Waterproofing of elevator pit;
9. Pit drains and sump pumps as required, including oil separators/detectors for hydraulic elevators;
10. Providing feeder wires to controllers;
11. Providing the hoist way structure including supports for both guide rails and machine beams;
12. Separation of multi-car hoist ways during phased construction (one elevator running next to an elevator being installed);
13. Counterweight guarding in multi-car hoist ways when the counterweight is located in between elevators;
14. Providing the pit and machine room;
15. Providing ventilation of pit, hoist way and machine room;
16. Mainline disconnects for each elevator as required;
17. Disconnecting device to elevator equipment prior to activation of sprinkler system;
18. Installation of dedicated GFCI receptacles in the pit and overhead;
19. Lighting in controller area, machine area and pit;
20. Wiring for telephone service to controller;
21. Emergency generator for elevator operation;
22. Fire and smoke detectors and interconnecting devices;
23. Fire alarm signal lines to contacts in the machine area; Building-in and grouting hoist way door frames;
24. Building-in around hall fixtures;
25. Grouting thresholds;
26. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
27. Common scaffold or platform when required to perform work by multiple trades;
28. Temporary heat, general lighting, power, sanitation and water for general construction;
29. Final Cleaning before turnover;
30. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
31. Firestopping;
32. Supply and maintenance of garbage and recycling bins for construction waste;
33. Removal of construction waste from job site;
34. General site security;

Escalators and Moving Walks

SCOPE NARRATIVE

This scope includes the supply and installation of moving walks, escalators and ramps and all components necessary for a complete installation. Including passenger conveying systems composed of moving belts or treads installed in horizontal or inclined position, including associated components, hardware, controls, safety equipment, and related items.

Escalators, moving walks and ramps are used to convey passengers from one elevation to another or horizontally by mechanical means. They play a critical role in moving large numbers of people and maintaining traffic patterns in public spaces.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Moving walks and ramps;
2. Escalators;
3. Passenger conveying systems composed of moving belts or treads installed in horizontal or inclined position, including associated components, hardware, controls, safety equipment, and related items;
4. Electrical wiring and conduit from all controllers;
5. Balustrades as specified;
6. Steps/belts as specified;
7. Drive machine and brake;
8. Step chain and drive;
9. Motor and controller;
10. Operating device;
11. Handrails;
12. Escalator truss frames;
13. Steps and risers;
14. Skirt panels;
15. Combs;
16. Floor plates;
17. Controller;
18. Protective devices;
19. Lubrication system;
20. Adjustment and fine tuning;
21. Maintenance services during warranty period as specified;
22. Inspection;
23. Licenses and permits for construction;
24. Material handling, including unloading and hoisting;
25. Scaffolding/man lifts when required to perform work by this trade scope;
26. Trade specific lighting to perform tasks;
27. Trade cleanup - cleanup for work carried out by this trade;
28. Warranty or Guaranty;
29. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
30. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
31. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
32. Protection of other trades' work from damage when performing this trade's scope of work;
33. Building Information Modeling (BIM) as it applies to this trade scope;
34. Commissioning as it applies to this trade scope;

Escalators and Moving Walks - Continued

EXCLUDED

1. Protection of floors for movement of equipment into place;
2. Reinforcement of floors and building structures for movement of equipment into place;
3. Structural concrete work and setting of sleeves, inserts and anchoring devices;
4. Structural steel supports, see Structural Steel Framing, Included, see Metal Fabrications, Included;
5. Intermediate steel supports as required for higher rises;
6. Miscellaneous metal supports as required;
7. Providing conduit, power supply, electrical feeders and grounding conductors to terminal block in junction box in escalator machine space, see Electrical, Included;
8. Duplex electrical outlets with ground fault circuit interrupt protection at lower landing and machine space;
9. Drywall or stainless-steel cladding of truss and soffit;
10. Flooring finishes adjacent to landing plates;
11. Ventilation of escalator machine space;
12. Barricades and hoardings as required;
13. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
14. Common scaffold or platform when required to perform work by multiple trades;
15. Temporary heat, general lighting, power, sanitation and water for general construction;
16. Final Cleaning before turnover;
17. Security costs. When 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.

Mechanical

SCOPE NARRATIVE

The mechanical trades provide the building environmental systems and controls as well as some life safety systems, sprinklers and fire protection, including heating, cooling and humidification systems to condition the building interior environment.

The Mechanical Division includes the following trades for the supply and installation of all mechanically related systems including plumbing, heating and cooling, ventilation, refrigeration, fire protection, building management and mechanical thermal insulation systems.

Unless otherwise stipulated in the tender documents the Prime Mechanical contractor carries all mechanical trade scopes in their tender submittal.

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 building management system connections if specified.

The Mechanical Division consists of the following individual trade definitions:

- A. **Common Mechanical Items common to ALL sections of the Mechanical Division:**
- B. **Prime Mechanical;**
 - Plumbing Systems;
 - Hydronic Systems – Heating and Cooling;
- C. **Ventilation and Sheet Metal Ductwork;**
- D. **Building Management System;**
- E. **Refrigeration;**
- F. **Insulation;**
- G. **Sprinklers and Fire Protection.**

A. Common Mechanical Items

EACH MECHANICAL TRADE SHALL INCLUDE AND EXCLUDE ALL COMMON MECHANICAL ITEMS AS IT APPLIES TO THEIR INDIVIDUAL TRADE, AS WELL AS THE ITEMS IN THEIR INDIVIDUAL TRADE DEFINITION

Items to be included and excluded by all mechanical trades.

The following items and requirements are common to all trade divisions in the Mechanical Division and, wherever applicable, each trades scope in this section shall include-or exclude these items in their submitted tender, unless specifically noted otherwise in that individual trade definition.

All mechanical trade scopes include and exclude the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in their scope:

INCLUDED

1. Access panels and doors, supply only, to provide access for servicing mechanical systems/components supplied under this section, including marking out of same;
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 or servicing equipment, when shown on mechanical drawings only, see Metal Fabrications (Miscellaneous Steel), Included, see Structural Steel Framing, Included;
5. Interior excavation (up to 1 m outside of the building) including shoring, pumping, bedding and first 300 mm of protective cover, see Mechanical A., Excluded;

A. Common Mechanical Items – Continued

6. Identification and labeling, including plastic decals for arrow flow, plastic or canvas, colored tape or secondary color banding and stencils (including the painting of stencils) but excluding painting of piping or other portions of mechanical systems, see Painting, Included, Mechanical B. Prime Mechanical, Excluded;
7. Manufacturer's warranty only beyond the normal one-year warranty period;
8. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
- 9.
10. Submittals, including record drawings, and operation and maintenance documentation to be provided by each trade scope as-as in accordance with the Contract Documents;
11. Sub-trade contractors are responsible to provide such items specific to their work, of such quality and quantity as may be specified including transfer drafting and final as-built as per contract documents, to the Prime Mechanical contractor who shall be responsible for tabulating, binding, coordinating and final submission of such documentation;
12. Permits, licenses and inspections as required for work under this scope;
13. Priming to catwalks, ladders, gratings, steel supports, hangers and other miscellaneous support steel supplied under this scope, see Painting, Excluded;
14. Roughing-in and connecting only for specialty items, cabinets or equipment that is supplied and installed by others, as shown on the tender documents;
15. Final mechanical connections for all commercial kitchen equipment that is supplied and installed by others;
16. Sleeving as specified for mechanical systems, round sleeves only. Rectangular sleeves/buck outs shall be provided by Others. Locating and marking of sleeves to be provided by the trade requiring sleeves;
17. Supply of trims or moldings for radiant panels when specified to be supplied with the radiant panel. Installation by others;
18. 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;
19. 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 Building Management System air compressors;
20. 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, connection by Electrical contractor, see Electrical, Included and Excluded;
21. Firestopping for mechanical installations;
22. Removal of existing installations when the materials are to be re-used or retained as specified;
23. Mark out backing in walls as required for all equipment provided by this scope;
24. Metal cap flashing, to mechanical roof penetrations, see also Roofing and Related Sheet Metal, Included and Excluded;
25. Material handling, including unloading and hoisting; to perform work by this trade scope;
26. Trade specific lighting to perform tasks;
27. Trade cleanup - cleanup for work carried out by this trade;
28. General Cleanup – provide 1 in 10 workers for 4 hours weekly to assist in general jobsite cleanup;
29. Warranty or Guaranty;
30. Cash allowances 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 or contingency funds for mechanical sub-trade contractors;
31. Scaffolding and /or man lifts when required
32. Protection of other trades' work from damage when performing this trade's scope of work;
33. Building Information Modeling (BIM) as it applies to this trade scope;
34. Commissioning as per the contract documents as it applies to this trade scope;

A. Common Mechanical Items – Continued

EXCLUDED

1. Building permits;
2. Temporary heat, general lighting, power, ventilation, sanitation and water for general construction;
3. Temporary filtration for ventilation systems when utilized for temporary heating during construction;
4. Alterations of services, as detailed in the Contract Documents, required for specialty items, cabinets or equipment not supplied under this subcontract;
5. Site services to within 1 meter of the building exterior envelope:
 - a. Gas services to building;
 - b. Water service to within 1m of the building envelope;
 - c. Storm and sanitary services to within 1m of the building envelope;
6. Backfill, and compaction of mechanical excavations is by Others;
7. Removal and disposal of surplus excavated material from mechanical excavations by Others;
8. Cutting, coring and patching - when pertaining to renovations, alterations or additions;
9. Backing and backing materials, supply and installation;
10. Rectangular sleeves/rough bucks shall be provided by the Others;
11. Metal base flashings (counter flashing) for mechanical roof penetrations, see also Roofing and Related Sheet Metal, Included and Excluded;
12. Catwalks, ladders, gratings and supports when detailed on architectural or structural drawings, see Mechanical A. Common Mechanical Items, Included;
13. Electrical: All electrical wiring is supplied and installed by the electrical contractor, See Prime Electrical, Included and Excluded;
 - 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);
 - c. Wiring of electronic plumbing fixture taps and flush valves whether line or low voltage;
14. Fire extinguishers required for commercial kitchen equipment, See Food Service Equipment, included;
15. Frost boxes for mechanical installations;
16. On-site painting, See Painting, Included;
17. Poured-in-place concrete for concrete curbs, housekeeping, equipment, piping and ductwork pads;
18. Supply and installation of concrete for equipment metal frames/inertia bases;
19. Structural framing members for supporting mechanical equipment, see Structural Steel Framing, Included and Excluded;
20. Variable speed drives which are electrically initiated or operated unless specified to be part of packaged equipment;
21. Supply of fuel for the emergency generator system. Including fuel for generator testing and final fill for turnover to the Owner;
22. Transformers, voltage regulators, controls and any wire connections associated with heat tracing, see Electrical, Included;
23. Waterproofing or sound proofing to wall, floor and ceiling penetrations;
24. Swimming pool equipment, controls systems, piping and associated accessories. This work to be completed by Others unless specifically noted otherwise in the contract documents;
25. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
26. Common scaffold or platform when required to perform work by multiple trades;
27. Hoarding;
28. Final Cleaning before turnover;
29. General site security;
30. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
31. Supply and maintenance of garbage and recycling bins for construction waste;
32. Removal of construction waste from job site;

B. Prime Mechanical

SCOPE NARRATIVE

The Prime Mechanical contractor is responsible for all trade scopes in the Mechanical Division including the content and coordination of individual mechanical trade scopes, including ensuring that all items are included and excluded as required in the entire Mechanical Division. The Prime Mechanical directly includes the supply and installation of all plumbing, hydronic heating and cooling systems.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

Prime Mechanical – Items Common to all Prime Mechanical Sections

INCLUDED

1. Coordination of all mechanical trades;
2. Sleeving as specified for this trade (Round sleeves only. Rectangular sleeves/buck outs shall be provided by the General Contractor);
3. Vibration Isolation and Seismic Controls;
4. Air washers;
5. Coil supports and hangers;
6. Dry mop, wet mop and vacuum systems;
7. Fume cabinets;
8. Fire Extinguishers – when there is no Sprinkler and Fire Protection contractor on the project, the Prime Mechanical Contractor shall carry the costs for the fire extinguishers shown on mechanical drawings and as in accordance with the Contract Documents, see G. Sprinkler and Fire Protection, Included, and B. Prime Mechanical, Excluded;
9. Gas fired unit heaters and furnaces not requiring duct connections;
10. Gas vent grilles;
11. Gas, water, sanitary and storm sewage connections to Utility services;
12. Gauges indicating air flow, pressure and thermometers for packaged air handling Units supplied by the Prime Mechanical Contractor;
13. Steam grid humidifiers;
14. Vitrified pipe except when used in conjunction with air collection systems;
15. Scrubbers, odor and gas absorber units. (Dry type requiring only drain connections);
16. Liquid level controls for sumps, condensate pumps, cooling towers, and fuel storage tanks;
17. Safety high and low limit controls;
18. Self-Contained control valves:
 - a. Differential pressure;
 - b. Domestic hot water;
 - c. Pressure;
 - d. Temperature (including radiator valves);
19. Self-contained filter gauges;
20. Thermometers and pressure gauges for the heating and cooling system;
21. Thermostats not directly involving the Building Management System;
22. Cash allowances 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;
23. 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,

B. Prime Mechanical - Continued

Plumbing Systems

SCOPE NARRATIVE

The scope includes the supply and installation of domestic water and other water distribution systems, storm and sanitary waste systems and venting systems including piping, equipment, and valves, specialties associated with domestic water distribution as well as plumbing fixtures, floor drains, interceptors, separators, and other components within and under structures to within 1m of the exterior of the structure.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

A. Under Ground plumbing systems- Sanitary & Storm, Water & Gas, Specialty systems

1. Interior excavation of underground plumbing systems up to 1m outside of building envelope including Sanitary, storm and domestic water. (General Contractor to have grade inside the building within 100mm of final grade before Mechanical contractor proceeds):
2. Including shoring, pumping, bedding and first 300 mm of protective cover, see Mechanical B. Prime Mechanical, Excluded;
3. Underground sanitary sewage and storm piping systems including pipe bedding and the first 300 mm of protective cover;
4. Piping for radon exhaust systems, methane extraction and soil gas extraction systems, see Building Management Systems - Building Life Safety Control and Equipment Safety Control, Included, and Electrical, Included;
5. Compressed air piping systems and associated equipment if specified;
6. Underground tanks - when installed on a structural or concrete base. General contractor to excavate and install structural or concrete base and Mechanical contractor is to install tanks and provide protective backfill around tanks. Final backfill to grade is by the General Contractor, see Mechanical B. Prime Mechanical i: Plumbing, Excluded;
7. Underground tanks - when **NOT** installed on a structural or concrete base. Mechanical contractor is responsible for excavation, installation and backfill around the tanks. Final backfill to grade is by the General Contractor;
8. Dry well pits;
9. Natural gas piping systems;
10. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
11. Piping from weeping tile sumps to edge of building for weeping tile pipe connection. Final connection to weeping tile system, by Others;
13. Weeping Tile and Sanitary Sumps and Sump Pumps:
 - a. Sump frames and covers (cast iron only) not covered in Metal Fabrications (Miscellaneous Steel), see Metal Fabrications (Miscellaneous Steel), Included;
 - b. Sump pumps, floats, control panels and associated piping and equipment (supplied by Prime Mechanical), pulling and terminating of sump float wiring by Building Management Systems contractor, all other wiring above 24V by the Electrical contractor, see Electrical included, see Mechanical D. Building Management Systems, Included;
 - c. Sump pump floats and panels, see Electrical, Excluded;
 - d. Sanitary, storm and weeping tile sumps within the building envelope;
14. Fabricated trench drains, gratings and sumps, see Excluded;
15. Cast iron, frames and covers for manholes, catch basins, sumps, trenches, hatches, pits, within building envelope only, see Metal Fabrication (Miscellaneous Steel), Included and Excluded;

B. Prime Mechanical – Plumbing Systems – Included - Continued

B. Above Ground Plumbing systems- Sanitary & Storm, Water & Gas, specialty systems

1. Above ground sanitary sewage, grey water, storm piping systems and associated equipment;
2. Supply and installation of supports from structure for all above ground plumbing systems
3. Potable water systems and associated equipment including pressure booster systems;
4. Compressed air piping systems and associated equipment if specified;
5. Balancing of domestic water recirculation system (if applicable);
6. Water softeners and treatment systems;
7. Disinfection of the domestic water piping system;
8. Medical gas systems, piping and equipment;
9. Natural gas piping systems;
10. Gas regulator vent piping;
11. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
12. Hospital and hydro-therapy equipment that is connected to water or sanitary waste system,
13. Shower cabinets and associated plumbing only, (manufactured receptors, doors or curtains and rods provided by Others);
14. Natural gas regulators for piping systems and equipment;
15. Connections to gas fired equipment;
16. Foodservice Equipment services:
 - a. Equipment piping and isolation valve provided to equipment as indicated in Foodservices drawings;
 - b. Connection to gas fired appliances and plumbing fixtures and equipment. Foodservice Equipment supplier to provide flexible connectors, fixture drains and any other specialty accessories for connection to this equipment;
 - c. Installation of the emergency shut-off solenoid gas valve supplied by Foodservice Fire Suppression contractor, see Foodservice Fire Suppression System, Included and Excluded;
17. Air compressors, vacuum pumps, piping, regulators and accessories as applicable to mechanical systems, see Building Management System, Included;
18. Oxygen and acetylene systems and accessories;
19. Dry mop, wet mop and vacuum systems, see Electrical, Included;
20. Fuel Oil Piping Systems to Emergency generators provided by the Electrical contractor, including the following items Note: Review installation requirement changes to the Flammable or Combustible Liquid section in the National Fire Code - Alberta Edition:
 - a. Day/fuel tanks (not integral to the generator), complete with piping, equipment and accessories to connect the tanks to emergency generators as noted on the mechanical drawings, see Electrical, Included;
 - b. Fuel fill panels and associated piping as noted on the mechanical drawings. Wiring by Electrical, see Electrical;
 - c. Remote radiators only (supplied by Electrical), piping and associated equipment including valves, pumps, expansion tanks and coolant as noted on the mechanical drawings;
21. Standalone humidification systems including grids;
22. Piping and connections to automotive hoists (hoists supplied and installed by others);
23. Steam cleaners or pressure washers that are permanently connected to water or waste;
24. Steel chimneys or breeching heavier than 3.5 mm (10 gauge) when not refractory lined;
25. Water service piping for external irrigation systems, 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;
26. Piping and connections to pool and fountain plumbing systems as noted on the plumbing drawings. Supply and installation of equipment by Others;
27. Selective demolition - unless otherwise noted this contractor will remove and store plumbing equipment that is to be reused on the project;
28. Drain piping for drip trays or pans as indicated on drawings for all mechanical equipment or assemblies;
29. Supply of roof flashings for drains and plumbing vents. Installation by others, see Roofing and Related Sheet Metal, Included;

B. Prime Mechanical – Plumbing Systems – Included - Continued

30. Incinerator's complete with burners and draft inducers. Breeching, stack and refractory lined chimneys complete with counter flashing, storm collars, wall brackets and supports;
31. Self-contained control valves not-part of Building Management Systems:
 - a. Differential pressure;
 - b. Domestic hot water;
 - c. Pressure;
 - d. Temperature;
33. Meters and gauges not part of the Building Management System associated with plumbing systems;
34. Gas and water meters (revenue meters) as indicated on the drawings and specification; other than main utility meters provided by utility services, see Excluded;

C. Plumbing Fixtures

1. All plumbing fixtures to be included as defined in the mechanical schedule and as in accordance with the Contract Documents. See Excluded
2. Laboratory sinks, faucets, gas outlets and factory-built fume hoods or cabinets, complete with all components, except when an integral part of casework;
3. Install only, Owner supplied fixtures;
4. Caulking of plumbing fixtures;
5. Medical vacuum, medical gas fixtures;
6. Connection only of hospital & hydrotherapy equipment, as provided by Others, in accordance with the Contract Documents;
7. Mechanically fastened under-mounted sinks to solid surface countertops by this trade, see Architectural Woodwork, Excluded;
8. Templates and supply of sinks by this trade, installation of undermounted sinks of dissimilar materials to countertops be done by others. See Architectural Woodwork Included;
9. Templates and locations to be provided by this trade prior to fabrication for cutting of holes for metal grilles, grommets, sinks, specialty items, and mechanical fittings into solid surface countertops.; See Plumbing Fixtures, Excluded.

Plumbing Systems

EXCLUDED

A. Under Ground Plumbing Systems- Sanitary & Storm, Water & Gas, Specialty systems

1. Fuel Oil Systems for Service Stations or Fuel Depots are not included in the Mechanical scope of work. If required on a project, this work is performed by a certified installer to perform this work as per the Building Code;
2. Lubrication equipment, fuel and oil storage tanks complete with dispensing units and piping. If required on a project, this work is performed by a certified installer to perform this work as per the Building Code;
3. Sewage Disposal:
 - a. Prefabricated septic tanks complete with all associated fittings and piping;
 - b. Associated fittings and piping for poured- in-place septic tanks as installed by Others;
 - c. Leaching lines for sewage disposal systems including backfill of gravel, straw and loam to provide a complete installation for field to finish grade;
4. All site services to building from 1 meter outside the building to property line as pertains to utility services servicing the building from the public utility;
5. Backfill and compaction, after the first 300mm of cover, for mechanical excavations by Others;
6. Removal and disposal of surplus excavated material from mechanical excavations by Others;
7. Excavating and backfilling for underground tanks or dry well pits when installed on a structural or concrete base. General contractor to excavate and install structural or concrete base and Mechanical contractor is to install tanks or pits and provide protective backfill around tanks remainder of back fill by Others, see Mechanical B. Plumbing, Included;

B. Prime Mechanical - Plumbing Systems – Excluded -Continued

8. Poured in place sumps;
9. Gratings and cover plate for poured in place manholes, catch basins, sumps, trenches, hatches, pits, see Metal Fabrications (Miscellaneous Steel), Included;
10. Frames, grating and plate covers for manholes, catch basins, sumps, trenches, hatches and pits, except cast iron, frames and covers;
11. Clean-outs or clean-out access for building weeping tile systems;

B. Above Ground Plumbing systems- Sanitary & Storm, Water & Gas, specialty systems

1. Services and service charges for gas, water and sewer as levied by municipality or utility company;
2. Public Utility meters and connections to the Utility service feeds;
3. Non-metallic combustion air and flue venting for condensing boilers and water heaters, see Mechanical C. Ventilation and Air Distribution Systems, Included;
4. Underground sprinkler or irrigation systems, see Exterior Landscaping, Included;
5. Vapor barrier and insulation not applied to Mechanical system;
6. Medical gas bottles or initial medical gas system charging;
7. Medical gas system certification costs;
8. Pneumatic tube systems and related controls;
9. Emergency generators, see Electrical Included;
10. Supply of the emergency shut-off solenoid gas valve, see Included; see Food Service Fire Suppression, Included;
11. Supply of fuel for the emergency generator system. Including fuel for generator testing and final fill for turnover to the Owner;
12. Drip pans under mechanical equipment and piping assemblies, see C. Ventilation and Sheet Metal Ductwork, Included.
13. Fuel oil permits.

C. Plumbing Fixtures

1. Flexible connectors, fixture drains and any other specialty accessories for connection to Foodservice equipment beyond piping isolation valves and sanitary drain connections, see Foodservices, Included;
2. Custom fabricated solid surface counter tops with integral sink or basin, including counter-tops, splash-backs and fascia of the same material connected thereto, see Architectural Woodwork, Included;
3. Supply and installation of hydrotherapy equipment;
4. Soap and chemical dispensing systems for housekeeping complete with piping and tanks, by Others;
5. Supply and installation of automotive hoists;
6. Washroom accessories;
7. Manufactured receptors, doors or curtains and rods for showers and shower cabinets;
8. Cutting of holes for metal grilles, grommets, sinks, specialty items, or electrical and mechanical fittings into solid surface countertops. Templates and final locations to be provided by this trade prior to fabrication; See Plumbing Fixtures, Included;
9. Custom fabricated solid surface counter tops consisting of:
 - a. Solid polymer materials of homogeneous polyester/acrylic blend, not coated, laminated or of composite fabrication thickness of 13mm (20mm and 30mm countertops with double edge);
 - b. Quartz or engineered stone;
 - c. Granite or marble (natural stone);complete with integral sink or basin, including counter tops, splash backs and fascia when fabricated from the same material connected thereto. See Architectural Woodwork, Included.

B. Prime Mechanical – Continued

Hydronic Systems – Heating and Cooling

SCOPE DESCRIPTION,

This scope includes the supply and installation of heating, cooling and humidification systems utilizing water, glycol and steam as a medium including piping, equipment, and valves, specialties associated with these systems.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
2. Heating systems using water, steam or glycol as a medium including all piping and associated equipment;
3. Cooling systems using water or glycol as a medium including all piping and associated equipment;
4. Steam heating and humidification systems (low and high pressure) including all piping and associated equipment;
5. District Energy Systems - Supply and installation of equipment and piping systems from the isolation valves brought into the building by the District Energy Service provider connecting to the heating and cooling systems in the facility ONLY if detailed accordingly on the drawings and the associated specification requirements are provided outlining the District Energy Systems material and installation requirements. See Hydronic Systems – Heating and Cooling Excluded;
6. Air handling equipment with fans utilizing water, steam or glycol as a medium including fan coil units, unit heaters, heat pumps, cabinet unit heaters;
7. Solar water or liquid (hydronic) heating systems, see Electrical, Excluded;
8. Air handling and makeup air units utilizing water, steam, and glycol as a medium;
9. Gauges as specified and shown on the mechanical drawings indicating air flow, pressure and thermometers for packaged air handling units when not supplied by the manufacturer is to be supplied by the Prime Mechanical Contractor;
10. Gas fired unit heaters with no duct connection;
11. Air curtains that are hydronic, gas or oil-fired units, where no duct connections are required, see Mechanical C. Ventilation and Sheet Metal Ductwork, Included and Excluded;
12. Induction units;
13. Electric boilers;
14. Packaged self-contained air-cooled water chillers including start-up when no field installed inter-connecting refrigeration piping required for these chillers;
15. Radiant water or liquid heating panels and chilled beams;
16. Chemical treatment systems for heating, cooling and steam systems;
17. Glycol for systems utilizing glycol as a medium;
18. Balancing of hydronic systems;
19. Self-contained control valves not part of the Building Management System:
 - a. Differential pressure;
 - b. Pressure;
 - c. Temperature (including radiator valves);
20. Supply and installation of supports from structure for radiant panels exceeding 610 mm x 1220 mm
21. 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);
22. Thermostats not directly involving building management systems;
23. Thermometers and pressure gauges not connected to the building management systems in accordance with the Contract Documents;
24. Vibration isolation for Building Management Systems air compressors;
25. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents.

B. Prime Mechanical - Continued

Hydronic Systems – Heating and Cooling – Continued

EXCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Excluded;
2. Instrumentation when not related to Building Management Systems controls;
3. Trims or moldings for radiant panels, except when supplied with the radiant panel;
4. Vapor barrier and insulation not applied to mechanical system;
5. District Energy Systems – piping and isolation valves for the District Energy System being brought into the building are provided by the District Energy System provider and NOT part of the Mechanical scope, See Hydronic Systems – Heating and Cooling Included;
6. Heating and cooling systems utilizing refrigerants as a medium, see Mechanical E. Refrigeration, Included;
7. Electric Heating:
 - a. Electrical base board, in-floor and in-slab heating;
 - b. Electric heat not fan powered or ducted;
 - c. Heating cables, heating tape except when supplied by the mechanical scope, see Prime Electrical, Included;
 - d. Radiant electrical heating panels;
 - e. Controls for above items unless forming part of Building Management Systems, controls under mechanical scope, see Prime Electrical, Included;
 - f. Line voltage electrical wiring and connection for heat tracing, supplied by others, see Prime Electrical, Included;
9. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents.

C. Ventilation and Sheet Metal Ductwork

SCOPE NARRATIVE

This scope includes the supply and installation of sheet metal ducting and equipment for air systems that provide heating, cooling, exhaust air, supply and return air for the building environment and specialty systems including dust collection, exhaust systems for vehicle repair facilities and paint booths including all components and accessories for a complete functional system.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
2. Forced air ducted furnaces;
3. Air curtains except equipment utilizing an external source of water or glycol as a medium;
4. Gas fired unit heaters and furnaces requiring duct connections;
5. Indirect fired self-contained heating or cooling units, including de-humidifiers, except when no duct connections are required;
6. Self-contained duct-mounted heat reclaiming units except equipment utilizing an external source of water or glycol as a medium;
7. Self-contained gas-fired classroom heating and ventilating units complete with all shelving, counters and accessories;
8. Direct-fired make-up air units except when no duct connections are required;
9. Electric heating that is fan powered and electric duct mounted heating coils (all other electric heat is by electrical contractor), see Prime Electrical - Mechanical Systems, Included;
10. Sheet metal and non-metallic air handling ductwork including hangers and supports for:
 - a. Supply air;
 - b. Return air;
 - c. Exhaust/Relief air;
 - d. Outside air;
 - e. Combustion air;
 - f. Welded sheet metal kitchen exhaust air including the supply and installation of associated metal liner to protect combustible materials. (High temperature insulation is supplied and installed by the insulation contractor, see Mechanical F: Insulation, Included);
 - g. Duct work and connection to fume, exhaust and kitchen exhaust hoods. Hoods provided by others;
 - h. Fume exhaust air;
 - i. Welding fume extraction systems complete with central blower/turbine dust collection unit complete with ducting to process equipment and related accessories;
 - j. Dust or material collector systems complete with associated equipment and accessories;
 - k. Carbon monoxide exhaust systems complete with associated equipment and accessories, excluding monitors;
 - l. Plenums and casings;
 - m. Flexible type air ducts;
 - n. Ventilation and exhaust ducting for emergency generators;except concrete, masonry and gypsum board construction duct, plenums, shafts or tunnels in which case only internal metal liner and internal insulation, if specified, will be provided;
12. Breeching or chimneys, sealed or otherwise, 3.5 mm (10 gauge) or lighter, Types A, B and C, not refractory lined;
13. Metallic and non-metallic combustion air and flue venting for all gas fired appliances inclusive of condensing boilers, water heaters and furnaces;
14. Canopies and hoods, domestic range hoods (ducted and non-ducted), except when called for under kitchen equipment;
15. Kitchen hood direct-fired makeup air units and exhaust fans including associated curbs, supports and ducting regardless where indicated in the Contract Documents, see also Food Service Equipment, Excluded;
16. Metal cap flashing (counter flashing), to mechanical roof penetrations provided by this trade, see also Roofing and Related Sheet Metal, Included and Excluded;
17. Metal cap flashing, (Counter flashing) for all exterior refrigeration units and related piping penetrations;
18. Drain pans for equipment under the mechanical scope (not packaged units);
19. Drip trays as indicated on Mechanical drawings for all mechanical equipment or assemblies, drain piping by Prime Mechanical;
20. Internal acoustic insulation in ductwork and plenums;

C. Ventilation and Sheet Metal Ductwork - Continued

21. Dampers:
 - a. Manual balancing dampers;
 - b. Back-draft dampers, self-acting, and barometric dampers and motorized;
 - c. Motorized dampers - dampers provided by the ventilation contractor. Actuators are provided by the Building Management Systems, see Mechanical D. Building Management Systems, Included and Excluded;
 - d. Fire dampers and fire stop flaps;
 - e. Manual smoke dampers;
 - f. Motorized smoke dampers – dampers provided by the ventilation contractor. Actuators are provided by the Building Management Systems, see Mechanical D. Building Management Systems, Included and Excluded;
 - g. Combination fire/smoke Dampers and associated electric, electronic or pneumatic actuators and end switches for these dampers, see Mechanical D. Building Management System, Excluded;
22. 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, when fan is not separated by ductwork or flexible connection;
 - g. Induced draft fans, except when in conjunction with incinerators or an integral part of a heating boiler;
23. Humidifiers when used in conjunction with furnaces;
24. Air duct silencers;
25. Air mixing baffles and air blenders;
26. Airflow measuring devices (self-contained) when used for measuring only and not interfaced with any other system or device;
27. Thermometers (self-contained) which indicate system air temperatures, and do not interface with controls system;
28. Gauges (self-contained) which indicate system air flow or pressure and do not interface with controls system;
29. Spray eliminators in built-up plenums;
30. 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;
31. Air terminal boxes complete with pneumatic actuators, controllers and integral fan section, electric or water coils;
32. Attenuator boxes, tabulators and pressure reducing valves for air supply;
33. Variable Air Volume box operators, controllers pneumatic;
34. Registers, grilles, diffusers and supply only of door grilles;
35. 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;
36. Air troffer boots;
37. Gravity relief vents and intakes;
38. Mechanical louvers and matching non-functioning metal louvers located in sheet metal or non-metallic air handling ductwork (inclusive of those mechanical and matching non-functioning metal louvers located in concrete, masonry and gypsum board construction ducts, plenums, shafts or tunnels) complete with bird screen, related insulated sheet metal blank-off panels and filler pieces, except louvers constructed of cladding or siding material, see, Curtain Wall and Glazed Assemblies, Included, Siding and Soffits, Included, Entrances, Storefronts and Glazing, Included;
39. Garbage and linen chutes of metal construction;

C. Ventilation and Sheet Metal Ductwork – Continued

40. Paint spray booths;
41. Factory built solid fuel burning fireplaces and associated metal flues;
42. Balancing of air system including sound measurement pertaining to air systems;
43. Interior duct cleaning, when specified;
44. Disinfectant to interior of duct systems, when specified;
45. Startup and Operational tests of all equipment provided by this trade;
46. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents.

EXCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Excluded;
2. Concrete, masonry and drywall shafts, tunnels or plenums;
3. External insulation of concrete, masonry and drywall shafts, tunnels or plenums;
4. Mud grilles and foot grilles, including those used in conjunction with ventilation systems;
5. Indirect fired, self-contained heating or cooling units, including dehumidifiers, except when duct connections are required;
6. Actuators for motorized dampers – dampers provided by the ventilation contractor. Actuators are provided by the Building Management systems contractor, see Mechanical D. Building Management Systems, Included and Excluded;
7. Electric/electronic motors, controllers and sensors required to meet a Variable Air Volume (VAV) box Direct Digital Control specification forming part of the Building Management System, see Mechanical D. Building Management System, Included;
8. Ventilation grilles, caps or louvers for:
 - a. Attic;
 - b. Soffit;
 - c. Crawl spaces;
 - d. Raised access flooring when part of the integrated floor system, see Raised Access Flooring, Included;
9. Architectural louvers, see Curtain Wall and Glazed Assemblies, Included;
10. Electric heat that is not fan powered or ducted;
11. Air curtains - hydronic, gas or oil-fired units, when no duct connections are required;
12. Kitchen hoods (cooking and dishwash) and associated fire dampers and fire suppression systems, when specified in the Food Service Equipment/Kitchen specifications, see Food Service Equipment, Included;
13. High temperature insulation for kitchen exhaust duct, see Mechanical F. Insulation, Included;
14. Cutting of wood and metal doors to accommodate grilles;
15. Air washers;
16. Coil supports and hangers;
17. Dry mop, wet mop and vacuum systems;
18. Fume cabinets;
19. Gas fired unit heaters and furnaces not requiring duct connections;
20. Gas vent grilles;
21. Gas, water and rain connections;
22. Gauges indicating air flow, pressure and thermometers for packaged air handling units supplied by the Prime Mechanical Contractor;
23. Cash allowances 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;
24. Spray eliminator units in packaged air handling units supplied by the Prime Mechanical Contractor;
25. Steam grid humidifiers;
26. Vitrified pipe except when used in conjunction with air collection systems;
27. Scrubbers, odor or gas absorber units. (Dry type requiring only drain connections);
28. Metal base flashings for all mechanical roof penetrations, see also Roofing and Related Sheet Metal, Included and Excluded;
29. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents.

D. Building Management System (BMS)

SCOPE NARRATIVE

This scope is for the supply and installation of a computer-based control system installed in buildings that controls and monitors the building's heating ventilation and air conditioning equipment, including digital control systems, control devices, piping, tubing, wiring, control panels, thermostats, aqua stats, timers, recording and alarm devices that monitor and adjust the heating ventilation and air conditioning equipment.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
2. Building Information Modeling (BIM) as it applies to this trade scope;
3. Commissioning as it applies to this trade scope;
4. Instrumentation and control devices for Heating, Ventilation Air Conditioning (HVAC) including piping, tubing, wiring, control panels, thermostats, aqua-stats, timers, recording and alarm devices, related to Heating, Ventilation Air Conditioning equipment.

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 standalone low voltage control devices, including conduit and wiring, for heating, cooling and ventilation systems not part of a building management system, see Prime Electrical, Excluded;
8. Supply and installation of operators for motorized dampers (dampers supplied and installed by Ventilation contractor);
9. Refrigeration controls (manual and automatic) and inter-locking wiring between the chiller control panel and remote chiller starters;
10. Remote reading gauges, transmitters and recorders for Building Management Systems (BMS) controls;
11. 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;
12. Ventilation and air flow controls (manual and automatic);
13. 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;
 - b. All network wiring and programming (including addressing and trend logs);
 - c. Qualified factory trained representative for programming and networking;
 - d. Commissioning of systems.

Building Management System:

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 when identified as part of the Building Management System (all items provided by other trades and controlled from the Building Management System shall be complete with electrical contacts), see Building Management Systems - 3rd Party Controls Integration.

D. Building Management Systems (BMS) - Continued

Building Life Safety Control and Equipment Safety Control:

1. High temperature warning thermostats (fire-stats);
2. Low temperature warning thermostats (freeze protection thermostats);
3. Shut-down safety devices forming part of Heating, Ventilation Air Conditioning controls;
4. Supply and installation of all gas detection and control devices inter-faced with Heating, Ventilation Air Conditioning equipment or Building Management System.

General Items:

1. Heating, Ventilation Air Conditioning control, raceways, wiring and air piping required for all Building Management System and Heating, Ventilation Air Conditioning controls supplied under this trade scope;
2. Electrical control wiring, additional:
 - a. Boiler feed water and water treatment control wiring;
 - b. Control wiring for gas detection and control devices interfaced with Heating, Ventilation Air Conditioning equipment or the Building Management System;
 - c. Building Management System, including interconnection of- Magnetic starter coils and relay coils supplied under the electrical scope and intended for controls or locking between starters, contactors or relays;
 - d. Remote thermostats and remote pre-wired auxiliary control panels for packaged Heating, Ventilation Air Conditioning equipment;
 - e. Control wiring for stand-alone Make Up Air complete with exhausts systems;
 - f. Water treatment and water softening equipment for mechanical systems.
3. Electrical or wireless thermostats and time clocks including guards for same, used only for equipment under mechanical scope intended for Heating, Ventilation Air Conditioning controls;
4. Actuators for motorized dampers – dampers provided by the ventilation contractor. Actuators are provided by the Building Management systems contractor, see Mechanical C. Ventilation and Sheet Metal Ductwork, Included and Excluded;
5. Supply and installation of pneumatic tubing to static pressure operated Heating, Ventilation Air Conditioning controls, Building Management System;
6. Low Voltage wiring for radon exhaust systems, methane extraction and soil gas extraction systems, see Prime Mechanical Plumbing included, Electrical Included;
7. Scaffolding/man lifts when 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 or Guaranty;
12. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
13. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
14. Protection of other trades' work from damage when performing this trade's scope of work;
15. Sleeving as specified for this trade;
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;

D. Building Management Systems (BMS) - Continued

3rd Party Heating, Ventilation Air Conditioning 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, addressing, 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 Building Management System 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. Low voltage wiring of thermostats, sensors, zone controller and valves for zone control devices supplied by the equipment supplier;
6. Wiring of the communication network between packaged zone controllers and the Building Management System interface device;
7. Programming and Building Management System graphics to display the required data from the package equipment control.

EXCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Excluded;
2. Control power supply outlets as outlined in Electrical Included;
3. Installation of standalone line voltage control devices supplied by the mechanical trades for heating, cooling and ventilation systems not controlled by a building management system, see Prime Electrical, Included;
4. Control wiring for liquid level controls for sumps, condensate pumps, fuel storage tanks and control wiring for fire pumps, and booster pumps, see Electrical included;
5. Fire alarm fan shut-down and start-up relays and wiring, see Electrical included;
6. Heating, Ventilation Air Conditioning controls - when specified as integral part of packaged equipment, see Included;
7. Power/demand meters and associated contacts required for monitoring through a Building Management System;
8. 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;
9. Wiring for plumbing fixtures, see Electrical, Included;
10. Wiring of pool system controls, see Electrical included;
11. Wiring of integrated systems other than network connections to the Building Management System other than items noted in 3rd Party Heating, Ventilation Air Conditioning Controls Integration;
12. Wiring of medical systems and equipment;
13. Wiring of stand-alone shop exhausts systems, unless wiring requirements are clearly defined in the Building Management System scope;
14. Air terminal boxes complete with pneumatic actuators, controllers and integral fan section, electric or water coils;
15. Dampers;
16. Motorized dampers - when specified as integral part of packaged equipment, see Included;
17. Motorized dampers - dampers provided by the ventilation contractor. Actuators are provided by the Building Management systems contractor, see Mechanical C. Ventilation and Sheet Metal Ductwork, Included;
18. Motorized smoke dampers - dampers provided by the ventilation contractor. Actuators are provided by the Building Management Systems, see D. Building Management Systems, Included;
19. Fire/Smoke Dampers and associated electric, electronic or pneumatic actuators and end switches for these dampers, see Mechanical C. Ventilation and Sheet Metal Ductwork, Included;
20. 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.

D. Building Management Systems (BMS) - Continued

21. Liquid level controls for sumps, condensate pumps, cooling towers, and fuel storage tanks;
22. Cash allowances 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;
23. Safety high and low limit controls;
24. Self-Contained control valves:
 - a. Differential pressure;
 - b. Domestic hot water;
 - c. Pressure;
 - d. Temperature (including radiator valves);
25. Self-contained filter gauges;
26. Thermometers and pressure gauges for the heating and cooling system;
27. Thermostats not directly involving the Building Management System;
28. Fire stopping;
29. Coring;
30. Instrumentation & Process Controls and wiring, see Electrical included;
31. Network cabling between Facility management System and other lower-level building systems:
 - a. Lighting;
 - b. Fire alarm;
 - c. Power Metering;
 - d. Access Control;
 - e. Building Management;
32. Networking components required by other building systems for own standalone operation.

E. Refrigeration

SCOPE NARRATIVE

This scope shall include the supply and installation of the refrigeration/air conditioning systems and all components and accessories necessary for a complete installation relative to cooling the buildings environment, not including commercial kitchen equipment components and chiller plants for ice rinks.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
2. Air-cooled condensers complete with field installed inter-connecting refrigeration piping;
3. Drip pans under refrigeration piping;
4. Evaporative condensers complete with field installed inter-connecting refrigeration piping;
5. Isolation of equipment;
6. Packaged refrigeration self-contained air-cooled cooling only units, including dehumidifiers, without ductwork;
7. Packaged self-contained integral direct expansion (DX) fan coil compressor section for use with remote condensing section with or without ductwork;
8. Packaged refrigeration self-contained water-cooled cooling only units without ductwork;
9. Prefabricated coolers, freezers and associated refrigeration equipment (when not part of Foodservices tender document);
10. Refrigerated dew-point controlled units (environment chambers);
11. Refrigerated room (window or wall type) air conditioners without ductwork;
12. Refrigeration chillers, liquid and air condensers complete with interconnecting refrigeration piping;
13. 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;
14. Refrigeration controls, cooling only (excluding wiring) (when not specified under Building Management System tender document);
15. 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;
16. Water-cooled condensers complete with field-installed inter-connecting refrigeration piping;
17. Refrigeration piping insulation, see Mechanical F. Insulation, Excluded;
18. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents.

E. Refrigeration - Continued

EXCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Excluded;
2. Absorption and centrifugal chiller units;
3. 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;
4. Metal base flashings (counter flashing) and cap flashings for all mechanical roof penetrations, see also Roofing and Related Sheet Metal, Included and Mechanical, C. Ventilation and Sheet Metal Ductwork, Included;
5. Gas, water, drainage, condensate drains and connection of the same;
6. Insulation of refrigeration piping and equipment;
7. Matching distribution circuit to direct expansion (DX) coils not supplied by this subcontractor;
8. Cash allowances 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;
9. Prefabricated coolers and freezers and associated refrigeration equipment when there is a Foodservice Equipment scope of work on the project;
10. Refrigerated cooling coils when integral part of a steam or hot water "fan coil" packaged unit;
11. Spray coil humidifier and dehumidifier section;
12. Vapor barrier, insulation, heat grid for recessed floor slabs under refrigerated fixtures and area;
13. Firestopping;
14. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents.

F. Insulation

SCOPE NARRATIVE

This scope includes the supply and installation of insulation and all components necessary for insulating mechanical systems and equipment as detailed in the Contract Documents including thermal insulation of plumbing piping and equipment, heating ventilation, and air conditioning ducting and piping and equipment but excluding insulation on refrigeration piping.

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:

TRADE DEFINITION

INCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
2. 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. Ductwork or piping fire wrap, see Applied Fireproofing, Excluded;
4. High temperature insulation for kitchen exhaust duct, see Mechanical C. Ventilation and Sheet Metal Ductwork, Excluded;
5. Underground insulation conduits;
6. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents.

EXCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Excluded;
2. Asbestos removal;
3. Factory insulated equipment;
4. Refrigeration piping insulation, see Mechanical E. Refrigeration;
5. Insulation of concrete, masonry and gypsum board construction shafts, tunnels or plenums (see Mechanical C. Ventilation and Sheet Metal Ductwork, Included);
6. Cash allowances 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;
7. Pipe covering protection saddles, shields and supports;
8. Refractory linings;
9. Sleeves and packing for same;
10. Vibration and sound absorption pads and isolators;
11. Internal acoustic insulation in ductwork;
12. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents.

G. Sprinklers and Fire Protection

SCOPE NARRATIVE

This scope includes the supply and installation of sprinklers and fire protection and all components necessary for a complete operational sprinkler and fire protection system but does not include foodservice fire suppression systems.

This is a delegated design and the contractor must provide engineered drawings and hydraulic calculations.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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

INCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Included;
2. Automatic wet sprinkler systems with associated piping, fittings, hangers, tamper switches and fire alarm flow switches, excluding wiring and connection, see Electrical Included;
3. Dry Pipe Sprinkler system with associated pipe, fittings, hangers, valves, tamper switches, pressure switches, and air compressor, excluding wiring and connection, see Electrical Included.
4. Pre-action Sprinkler system with all associated pipe, fittings, hangers, valves, tamper switches, and fire alarm flow switches. Excluding electrical detection devices in protected space, wiring and connections, see Electrical Included;
5. Fire pump, control panel, motors, engines and fuel systems when pumps supply sprinkler system only, excluding wiring and connections;
6. Foam system, including tanks, pumps, piping, outlets and associated detectors and control panels excluding wiring and connection;
7. 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;
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; ~~see Mechanical B. Prime Mechanical, Excluded;~~
 - 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; ~~see Mechanical B. Prime Mechanical, Excluded;~~
9. 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;
10. Fire suppression clean agent/gas system excluding control panel, detection and alarm device and wiring, see Electrical, Included;
11. Room integrity testing for clean agent/gas systems;
12. Industrial dry electrical systems;
13. Fire extinguishers;
14. Air sampling systems;
15. Pipe and system identification and tagging;
16. Fire sprinkler drawings and hydraulic calculations, as required, approved by an engineer practicing in the province where construction is to take place;
17. Sleeving as specified for this trade;
18. Quality assurance and quality control testing of materials and procedures as specified in the Contract Documents.

G. Sprinklers and Fire Protection – Continued

EXCLUDED

1. Work/materials/equipment listed in Mechanical A. Common Mechanical Items, Excluded;
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. Control panel, detection and alarm device and wiring for fire suppression clean agent/gas systems provided by the sprinkler system contractor, see Electrical, Included;
6. Painting of pipe;
7. Protecting sprinkler heads from painting processes, see Painting, Included;
8. Commercial Kitchen Fire Suppression systems;
9. Drip pans under sprinkler piping, see C. Ventilation and Sheet Metal Ductwork, Included;
10. Cash allowances 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;
11. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as specified in the Contract Documents.

Integrated Automation (Facility Management Systems)

SCOPE NARRATIVE

This scope includes the supply and installation of a computer-based control system installed in buildings that controls and monitors the building's mechanical and electrical equipment including ventilation, lighting, power systems, fire systems, and security systems. Multiple building systems including Building Management Systems and electrically controlled systems are integrated into a single building system via open protocols. This includes lighting, video, sound, security and mechanical systems

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

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 3rd 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 when 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 or Guaranty;
12. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
13. Submittals and Operation and Maintenance documentation as detailed in the Contract 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;
17. Commissioning as it applies to this trade scope.

Integrated Automation (Facility Management Systems) - Continued

EXCLUDED

1. Network cabling between Facility Management Systems and other lower-level building systems including, 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
7. Common scaffold or platform when required to perform work by multiple trades;
8. Temporary heat, general lighting, power, sanitation and water for general construction;
9. Hoarding;
10. Final Cleaning before turnover;
11. Security costs. When 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.

Electrical

SCOPE NARRATIVE

This scope includes the supply, installation and connection of all electrical components and services to provide a complete and fully functioning integrated system which incorporates power, lighting, life safety, and all other electrical divisions.

The Electrical Division includes the following subdivisions for the supply and installation as listed below:

- A. Common Electrical - Items common to all sections of the Electrical Division;
- B. Prime Electrical:
 - I. Prime Electrical – Common items;
 - II. Site Services;
 - III. Grounding Systems;
 - IV. Building and Interior Power Infrastructure;
 - V. Raceway Systems;
 - VI. Floor Box Systems;
 - VII. Lighting Systems and Control;
 - VIII. Life Safety Emergency and Exit Lighting Systems;
 - IX. Life Safety Fire Alarm and Evacuation Systems;
 - X. Life Safety Emergency Power Generators;
 - XI. Mechanical Systems;
 - XII. Equipment and Other Systems;
- C. Alternate and Uninterruptable Power Sources;
- D. Photo-Voltaic (Solar) Systems;
- E. Wind Turbine Power Generation System;
- F. Lightning Protection Systems;
- G. Nurse Call and Patient Wandering Systems;
- H. Intercommunication Systems;
- I. Paging and Audio Systems;
- J. Centralized Sound Masking Systems;
- K. Video Surveillance and Television Systems;
- L. Building Security and Intrusion Systems;
- M. Structured Cabling Systems (Voice, Data, Cable);
- N. Access Control Systems;
- O. Supervisory Control and Data Acquisition Systems;

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

The Electrical and Subdivisions (A) to (O) listed above, are to include the supply and installation of all equipment, power panels, transformers, control panels, termination cabinets, racks, devices, raceway systems, back boxes, pull boxes, cables, conductors, supports, programming, commissioning, training when they are required for exclusive use of the system being installed and shall provide a fully functioning system, unless items or trade definitions are otherwise excluded.

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 and Heating Ventilation Air Conditioning controls refers to the controls for equipment that affects temperature, air quality and humidity within a building, and if the controls **do not** directly switch the power lines to the heating, cooling, ventilation, humidification and related motors, dampers and equipment to provide a complete operating system in which case the line voltage wiring of such controls shall be the responsibility of the electrical contractor.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

Electrical - continued

TRADE DEFINITION

A. Common Electrical Items

Items to be included and excluded by all Electrical trades

EACH ELECTRICAL SUBDIVISION SHALL INCLUDE AND EXCLUDE ALL COMMON ELECTRICAL ITEMS AS IT APPLIES TO THEIR INDIVIDUAL TRADE, AS WELL AS THE ITEMS IN THEIR INDIVIDUAL TRADE DEFINITION

The following items and requirements are common to all Electrical Divisions for each separate scope in this section and shall include or exclude these items in their submitted tender, unless specifically noted otherwise in that individual trade definition.

INCLUDED

1. Removal and storage of electrical and related equipment scheduled to be salvaged for reuse, disconnection of line voltage by Prime Electrical contractor;
2. Access panels for walls, ceilings and floors, where required for items under Electrical or Mechanical trade definitions - to be supplied to respective trade for installation, see Gypsum Board and Light Gauge Metal Framing, Included;
3. Batteries - for systems under the electrical and subdivision scope;
4. Wiring devices and plates - for systems under the electrical scope;
5. Fastenings - (screws, bolts, hangers, straps, and other fastening devices) as required for installation of all electrical equipment and systems;
6. Identification and labeling, other than painted, including plastic decals for arrow flow, plastic or canvas, colored tape or secondary color banding, see Electrical Included and Excluded, Painting, Included;
7. Submittals, record drawings and operation and maintenance documentation as in accordance with the Contract Documents to be provided by each trade scope. Sub-trade contractors are responsible to provide such items specific to their work, of such quality and quantity as may be specified including transfer drafting and final as-built as in accordance with the Contract Documents, to the Prime Electrical contractor who shall be responsible for tabulating, binding, coordinating and final submission of such documentation;
8. Arrange for inspections with the authority having jurisdiction;
9. Instrument panels - for systems under Electrical trade definitions
10. Electronic systems - for items in the Electrical trade definitions;
11. Mark out backing in walls as required for all equipment provided by this scope;
12. Trade specific fire-stopping, see Prime Electrical, Included;
13. Protection of other trades' work from damage when performing this trade's scope of work;
14. Material handling, including unloading and hoisting;
15. Scaffolding/man lifts when 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. Commissioning as in accordance with the Contract Documents and as it applies to this trade scope;
20. Permits, inspections and licensing as it applies to different jurisdictions;
21. Warranty or Guaranty;
22. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
23. Manufacturer's warranty only, other than the normal one-year maintenance warranty;
24. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
25. Building Information Modeling (BIM) as it applies to this trade scope.

A. Common Electrical Items - continued

EXCLUDED

1. All excavating and back filling to facilitate the installation of Subtrade work, see Prime Electrical, Included;
2. All underground, recessed or surface conduits for all electrical systems, see Prime Electrical, Included;
3. All empty raceway system, including underfloor and overhead distribution system, fish wire, terminal cabinets, outlet boxes, floor boxes, pull boxes, sleeves and caps, cable trays, service poles, miscellaneous and positioning material for all electrical systems see Prime Electrical, Included;
4. Line voltage power requirements to energize all systems including receptacles or hard-wired connections, see Prime Electrical, Included;
5. Alterations of services, as detailed in the Contract Documents, required for specialty items, cabinets or equipment not supplied under this subcontract, see Prime Electrical, Included;
6. Sleeves, through poured-in-place concrete and masonry where required for electrical conduit, wire or equipment see Prime Electrical, Included;
7. Core drilling - for electrical, except if provided for under pre-cast and post-tensioned slabs specifications;
8. Holes to be cut into under floor duct systems, see Prime Electrical – Floor Box Systems, Included;
9. Backing and backing materials, supply and installation;
10. Supports when detailed on architectural or structural drawings, see Included;
11. Cutting, including core drilling and patching - when pertaining to renovations, alterations or additions;
12. Waterproofing in wall, floor and ceiling penetrations;
13. Development and building permits;
14. Temporary power service and connections for construction use, including hoisting equipment and devices, unless specified to be included in the Contract Documents;
15. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
16. Common scaffold or platform when required to perform work by multiple trades;
17. Temporary heat, general lighting, power, sanitation and water for general construction;
18. Hoarding;
19. Final Cleaning before turnover;
20. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
21. Cash allowances or contingency funds when a specific dollar amount is listed in the General Conditions or this trades specification section. Prime Electrical contractor to include Cash Allowance or contingency funds for electrical sub- trade contractors;
22. Supply and maintenance of garbage and recycling bins for construction waste;
23. Removal of construction waste from job site;
24. General site security.

B. Prime Electrical

SCOPE NARRATIVE

This scope includes the supply and installation of all line voltage electrical components, systems and their connection to electrical services to provide a complete fully functioning system including power, lighting, life safety and communication systems.

TRADE DEFINITION

INCLUDED

I. PRIME ELECTRICAL – COMMON ITEMS

1. Coordination of all electrical trade subdivisions;
2. Disconnection of power of existing electrical installations when the materials are to be demolished, abandoned, re-used or salvaged, as specified;
3. Removal and storage of electrical and related equipment scheduled to be salvaged for reuse;
4. All underground, recessed or surface Conduits for all electrical systems;
5. All empty raceways for all Electrical Subdivisions, including underfloor and overhead distribution system, fish wire, terminal cabinets, outlet boxes, floor boxes, pull boxes, sleeves and caps, cable trays, service poles, miscellaneous and positioning material for all electrical systems;
6. Line voltage power requirements to energize all systems including receptacles or hard-wired connections for all electrical subdivisions;
7. Alterations of services, as in accordance with the Contract Documents, required for specialty items, cabinets or equipment not supplied under this Contract;
8. Hard wired electric connections to all equipment supplied by others, unless specified to be supplied and installed in the tender documents;
9. Grounding and bonding systems;
10. Poly vapor hats;
11. Relays for systems under the electrical scope;
12. Roughing-in and connecting, only as shown on the tender documents, specialty items, cabinets or equipment supplied and installed by others;
13. Supports when detailed on electrical drawings only;
14. Coordination of box outs or sleeves, installed in poured-in-place concrete and masonry when required for electrical conduit, wire or equipment, see Exclusions;
15. Core drilling - for electrical, except if provided for under pre-cast and post-tensioned slabs specifications;
16. Cash allowances or contingency funds when a specific dollar amount is listed in the General Conditions for all electrical subdivisions to be carried by the Prime Electrical contractor.

B. Prime Electrical Included – continued

II. PRIME ELECTRICAL - SITE SERVICES

1. Precast primary and secondary transformer vaults, switching cubicles vaults, pull pits complete with extension rings to final elevation and covers for Main Site Utilities (primary power, telephone/cable, fiber optics) and installation as per the requirements of the local Utilities governing the installation, including: (see also Excluded):
 - a. Excavation, backfill and compaction of native (non-frozen) fill of the required excavation (see also Excluded)
 - b. The governing authority approved conduit types, treated planking, cables, conductors and compaction tests;
 - c. Complete grounding system including approved brass clamps, copper conductors and ground rods/plates;
 - d. Underground conduit, insulated conductors, cables and connections;
 - e. Drainage pits and conduit perforations;
 - f. Compaction testing as required;
 - g. Installation only of concrete, sand beds, gravel and non-frost fill, supplied by others.
2. Services, aerial (other than utility owned), including all required poles and guy wires;
3. Electrical substations including equipment, conduits, high, medium and low voltage cables, wiring and connections;
4. Excavation, conduit, cables, insulated conductors and connections for secondary power from alternate power sources to the building main distribution for Generators, Wind Turbines, Photo-Voltaic systems and Central Heating Plants supplied by others. All concrete pads, concrete piles, screw piles, bases, fencing, by others;
5. Excavation, conduit, cables, insulated conductors and connections for vehicle power pedestals, vehicle charging stations, exterior mounted electrical power and control cabinets, site lighting (pole or pedestal) and landscape power outlets. All concrete pads, concrete piles, screw piles, bases, fencing, by others;
6. Excavation, conduit, cables, conductors, connections and power for gates and lot signage, (All equipment to be supplied and installed by others);
7. Rough backfill (non-frost native fill) of trenches for system when trench is excavated by reciprocal chain mount trenching operation and is less than 200 mm (8 inches) wide;

III. PRIME ELECTRICAL – GROUNDING SYSTEMS

8. Supply and installation of ground rods and wires as per contract documents;
9. Installation of counterpoise grounding arrangements provided by local Utility;
10. Supply of Ground Enhancing Material for mixing and installation by others;
11. Exothermic welding when included in electrical specification and design;
12. Compression connections to building structure;
13. Mechanical connections to building gas and water services;
14. Equipotential grounding & testing of same when required by specification;
15. Connection to cathodic protection (system design and installation by others);

B. Prime Electrical Included – continued

IV. PRIME ELECTRICAL - BUILDING AND INTERIOR POWER INFRASTRUCTURE

16. Main distribution panels, service panels, central distribution panel, switchboards and service centers and related electrical equipment including capacitor banks, voltage surge suppression, in board metering, arc flash, coordination and short circuit studies, ground testing as in accordance with the Contract Documents;
17. Wiring and equipment for interior transformer and substation vaults including the supply and installation of related electrical equipment, conduits, cables, insulated conductors, wiring and connections of high, medium and low voltage cables;
18. Motor control centers, magnetic starters, and motor starters – see Excluded;
19. Secondary and sub-distribution centers, transformers, capacitor banks, and related electrical equipment;
20. Secondary Electrical distribution system including relays, panels, breakers, conduits, supports and conductors;
21. Cathodic protection;
22. Cabling and insulated conductors for branch circuits, feeders - for all systems under this electrical scope;
23. Protection devices, disconnects breakers and equipment;
24. Circuit breakers and manual disconnect switches both non-fused and fused complete with fuses except when part of packaged mechanical equipment, (see also Excluded);
25. Meters - for systems under the electrical scope and power meters requiring connection to the Building Management Systems, including:
 - a. Conduit and cabling wire from power meter interface module to Facility Management Systems;
 - b. All network cabling, wiring and programming (including addressing & trend logs);
 - c. Qualified personnel for programming and networking;
 - d. Commissioning of systems;See Mechanical D. Building Management Systems, Excluded.

II. PRIME ELECTRICAL - RACEWAY SYSTEMS

26. Electrical flexible and surface raceways system;
27. Racking suspension and supports to support all raceway types;
28. Buss duct systems including all busways, splitters, gutters, supports, hangers, transitions and disconnecting means for main and sub feeders;
29. Cable trays, including all supports, hangers and transitions;

VI. PRIME ELECTRICAL – FLOOR BOX SYSTEMS

30. In floor electrical and communications duct or wireway systems including all supports, hangers and transitions;
31. Floor boxes in grade slab
32. Rated poke through floor boxes and associated firestop for boxes placed in suspended slabs
33. Surface mount floor boxes;
34. Holes to be cut into floor duct systems;
35. Temporary packing and protection for slab mounted boxes to prevent the ingress of moisture or debris
36. All boxes complete with trim and tile or carpet rings as required for a complete finished solution;
37. Trench or floor duct raceway systems complete with service rings and junction boxes with brass locating screws;

B. Prime Electrical Included - continued

III. PRIME ELECTRICAL - LIGHTING SYSTEMS AND CONTROL

38. All interior and exterior luminaires for the illumination within the building and the surrounding areas;
39. Connection only of operating room lights, hangers and supports to be provided by others;
40. 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, see Component Ceilings Systems, Included For lighting fixtures, see Included;
41. Luminaires and fixtures including those which are surface, recessed, pendant or remote to drivers and ballasts;
42. Luminaires for site poles, exterior accent, security, walkway and line voltage landscape lighting complete with controls;
43. Obstruction lighting for tall buildings and structures near the operation of aircraft;
44. Luminaires for systems which require indications or warning signals;
45. Marine lighting - to mechanical systems other than packaged equipment;
46. Valance and cove lighting: including electrical lighting luminaires, fixtures and raceways only but excluding leaf-type reflectors, egg crate reflectors, plastic or glass lenses and diffusers and all supports for same, see Component Ceiling Systems, Included. For lighting luminaires and fixtures, see Included;
47. Lighting control and dimmer systems, including line and low voltage switching, control cabinets, programmable dimming systems and equipment, integration with the building maintenance system and wireless lighting control systems;
48. Wireless switching and wireless lighting control systems;
49. Digital addressable lighting interface for building lighting control systems and integration with structured cabling;
50. Occupancy, vacancy and daylight harvesting sensors including local control and integration into a low voltage lighting system controller;
51. Line voltage wiring to electrified glazing light curtain, privacy glass and control complete with building system integration;
52. Line voltage wiring to electrified window blinds and control complete with building system integration;
53. Lighting luminaires and fixtures (complete manufactured units): All luminous elements consisting of a light source (and ballasts or drivers 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 ballasts, drivers 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. Trims and mouldings supplied with the light fixtures;

B. Prime Electrical Included - continued

IV. PRIME ELECTRICAL - LIFE SAFETY: EMERGENCY AND EXIT LIGHTING SYSTEMS

- 55. Emergency life safety, lighting power and exit lighting systems including:
 - a. Emergency battery packs complete with remote direct current heads;
 - b. Remote direct current emergency lighting heads;
 - c. Exit lighting both powered and self-luminated;
 - d. Light fixtures with integral emergency power ballasts;
 - e. Conduit, cabling and wiring from lighting interface module to Facility Management Systems;
 - f. All network cabling, wiring and programming (including addressing & trend logs);
 - g. Personnel for programming and networking;
 - h. Commissioning, testing and training of installed systems;
- 56. Fire alarm and evacuation infrastructure network and systems – including:
 - a. Fire phone communication;
 - b. Public address evacuation system;
 - c. Fire alarm fan shut down, start-up, interlock and interposing relays and wiring;
 - d. Wiring connections, monitoring for fire protection;
 - e. Smoke or smoke and fire damper activation and monitoring;
 - f. Conduit and wire from fire alarm interface module to Facility Management Systems;
 - g. All network wiring and programming (including addressing & trend logs);
 - h. Provide qualified personnel for programming and networking;
 - i. Commissioning, testing and training of the installed systems.

See Mechanical B. Prime Mechanical, included; Mechanical D. Building Management Systems, Included, Mechanical G. Sprinklers and Fire Protection, Included, see Building Management System, Excluded;

V. PRIME ELECTRICAL - LIFE SAFETY: FIRE ALARM AND EVACUATION SYSTEMS

- 57. Control panels, detection, alarm devices including the connection wiring required to control the fire suppression clean agent/gas piping systems provided by the sprinkler system contractor, see Mechanical G. Sprinklers and Fire Protection, Included and Excluded;
- 58. Wiring and connection of automatic sprinkler systems with associated detection, control panel and alarm devices, see Mechanical G. Sprinklers and Fire Protection, Included;
- 59. Fire alarm fan shut-down and start-up relays and wiring, see Building Management system excluded;
- 60. Wiring of pool system controls and life guard alarm systems, see Building Management system excluded;
- 61. All electrical connections for the Foodservice Fire Suppression Systems. Dry contacts to be provided by the Foodservice Fire Suppression contractor. Electrical contractor to tie-in the kitchen suppression system into base building Fire Alarm System as per code requirements, see Foodservice Fire Suppression Systems, Excluded;
- 62. Wiring and connections to disconnect electrical the power outlets during an emergency event;
- 63. Addressing of lower-level building system;
- 64. Battery chargers - for systems under the electrical scope;
- 65. Medical gas alarm and special fire protection systems - supply and install conduit, wire and connections only;
- 66. Heat and smoke detectors and interconnecting devices;
- 67. Signaling systems – for items under the electrical scope;
- 68. Alarm and detection systems, Soil gases detection systems - for systems under the electrical scope;
- 69. Stand alone line voltage smoke detectors and carbon dioxide detectors(CO2);
- 70. Audible and visual alerting devices for systems under the electrical scope;

B. Prime Electrical Included – continued

IX. PRIME ELECTRICAL - LIFE SAFETY: FIRE ALARM AND EVACUATION SYSTEMS - Continued

- 71. Detectors - for systems under the electrical scope;
- 72. Sprinkler enunciator systems, electrical;
- 73. Public address systems used for building evacuations;
- 74. Network cabling between Facility Management Systems and other lower-level building systems including:
 - a. Lighting;
 - b. Fire alarm;
 - c. Power Metering;
 - d. Access Control;
 - e. Building Management.
- 75. Networking components required by other building systems for own standalone operation;

VI. PRIME ELECTRICAL – LIFE SAFETY EMERGENCY POWER GENERATORS

- 76. Electrical Generators (diesel/gas) and Co-generation units complete with the means to interrupt or synchronization of the Utility power source and transfer by either manual and automatic transfer switches and the monitoring thereof– electrical, see Mechanical Plumbing, Excluded;
- 77. 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, see Excluded, see Mechanical B. Prime Mechanical, Included;
- 78. Supply of fuel for the emergency generator system. Including fuel for generator testing and final fill for turnover to the Owner, see Mechanical A. Common Mechanical Items, Excluded;
- 79. 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;

B. Prime Electrical Included – continued

VII. PRIME ELECTRICAL - MECHANICAL SYSTEMS

80. Switches - all types of electrical switches including manual and automatic disconnects, for systems under the electrical scope except when part of packaged equipment supplied by others;
81. Line voltage connections to all packaged equipment including roof top units, chillers, air handling units, unit heaters, infrared heaters, boiler units, low voltage control wiring is by mechanical, See Electrical excluded, see Mechanical included;
82. Line voltage wiring of control devices supplied by the mechanical, see Building Management Systems excluded;
83. Line voltage connections, splitters, fusible disconnects and variable speed rated cables for packaged units when they are not integral to the packaged unit;
84. Motor starters - all motor starters and overload protection without exception other than that equipment which forms an integral part of packaged equipment requiring a power connection only;
85. Multi-speed controller switches excluding variable speed drives, see Excluded;
86. Line voltage to variable speed drives, see excluded;
87. Electric Heating:
 - a. Electrical base board, in-floor and in-slab heating;
 - b. Electric heat not fan powered or ducted;
 - c. Heating cables, heating tape except when supplied by the mechanical scope, see Mechanical A. Common Mechanical Items, Included;
 - d. Radiant electrical heating panels;
 - e. Controls for above items unless forming part of Building Management Systems, controls under mechanical scope, see Mechanical D. Building Management Systems, Included;
 - f. Line voltage electrical wiring and connection for heat tracing, supplied by others, see Mechanical Included.
88. Transformers, voltage regulators, controls and any wire connections associated with heat tracing, see Mechanical B. Prime Mechanical, Excluded;
89. Line voltage electrical wiring and connections to electric in floor heating mats and cables installed by tile contractor, see Tile Terrazzo, Marble, Granite and Stone, Included;
90. All line and low voltage wiring for fire pumps, booster pumps, condensate pumps, sump pumps and associated floats and controls panels. Sump pump floats and panels are supplied by the mechanical contractor, see Mechanical A. Common Mechanical Items, Excluded;
91. Line voltage electrical wiring and connection for Control panels or consoles - except for Building Management Systems and pre-wired factory-packaged equipment;
92. Line voltage electrical wiring and connection for Control devices - for equipment under mechanical scope which constitute protective control or disconnecting as required by the Canadian Electrical Code;
93. Line voltage electrical wiring and connection for 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 D. Building Management Systems, Excluded;
94. Control wiring - for motors, solenoids, relays and duct heaters under the mechanical scope, except pre-wired packaged equipment and controls that do not directly switch the power lines to the motors and duct heaters;
95. Temperature control system and devices for electric heating supplied by the electrical trade;
96. Thermocouple wiring and thermocouple sensor wiring except for Building Management Systems controls;
97. Line voltage and low voltage electrical wiring and connection of electrically operated plumbing fixtures, control transformer, placement and installation by others, See Excluded;

B. Prime Electrical – Continued

XI. PRIME ELECTRICAL - MECHANICAL SYSTEMS, INCLUDED – continued

- 99. Solar powered heating systems (electrical), see Mechanical B. Prime Mechanical, Included and Excluded;
- 100. Electrical load Balancing - for systems under the electrical scope;
- 101. Cables, electrical and heating;
- 102. Contactors, motor control centers, and magnetic starters including those required for Building Management System for control and monitoring;
- 103. Installation only, of line voltage wiring and control devices. Control devices are supplied by the Mechanical trades for heating, cooling and ventilation systems (not controlled by a building management system), see Mechanical - D. Building Management System, Included and Excluded;
- 104. Line voltage electrical wiring and connection only for automatic underground sprinkler or irrigation systems, control wiring is by others, see Exterior Landscaping, Included;
- 105. Line voltage electrical wiring and connection for gas detection systems, Radon exhaust systems, Methane extraction systems, Soil gases extraction systems, supply installation and low voltage wiring by Mechanical, see Mechanical Included;
- 106.** Line voltage electrical wiring and connection for fire pumps, jockey pumps, circulation pumps, heat pumps and other related mechanical pumps and equipment required for a complete mechanical operated system, see Mechanical, Included;
- 107. Line voltage electrical wiring and connection for circulation fans, exhaust fans, intake fans and other related mechanical ventilation and equipment required for a complete mechanical operated system, see Mechanical, Included;

VIII. PRIME ELECTRICAL - EQUIPMENT AND OTHER SYSTEMS

- 108. Line and low voltage electrical wiring, disconnects, control and connections for overhead doors and automatic doors including interconnecting wiring, conduit and boxes. Supply, placement and installation at location for control, safety devices and electrically activated holding devices by others; see Overhead Doors, Included and Excluded;
- 109. Line voltage electrical wiring and connection for door wiring for electric locking mechanisms including interconnecting wiring;
- 99. Line voltage electrical wiring and connection, disconnects and connections for automatic and handicap doors, including empty conduit and boxes for control devices and electrically activated holding devices by others, supply and installation of automatic and handicap doors by others;
- 100. Line voltage electrical wiring and connection for all washroom accessories as supplied by others unless listed in the electrical specifications to supply and install;
- 101. Line voltage electrical wiring and connection only of medical, dental, and digital imaging equipment and other healthcare related equipment, Hangers and supports to be provided by others;
- 102. Line and low voltage electrical wiring, control and connection for Clocks and clock systems;
- 103. Line and low voltage electrical wiring, control and connection for time recording system;
- 104. Line and low voltage electrical wiring, control and connection for timers and time clocks - for systems under the electrical scope;
- 105. Line voltage electrical wiring and connection for watchman's clocking equipment - for systems under the electrical scope
- 106. Line voltage electrical wiring and connection for send/receiving devices - for systems under the electrical scope;
- 107. Line voltage electrical wiring and connection for telautograph devices;
- 108. Line voltage electrical wiring and connection for telephone systems, private automatic, supplied by others;
- 109. Line voltage electrical wiring and connection for appliances and furniture requiring a permanent electrical connection only;
- 110. Line voltage electrical wiring and connection for laboratory equipment-except those items included in a factory assembled casework product;
- 111. Wall panels connections for systems under the electrical scope;

B. Prime Electrical Included – Continued

XII. PRIME ELECTRICAL - EQUIPMENT AND OTHER SYSTEMS - continued

112. Elevator, parking garage hoists, dumbwaiters, conveyors, moving walkways, speed ramps and Escalator line voltage and related life safety work including:
 - a. Line voltage electrical wiring and connection;
 - b. Mainline disconnects for each elevator as required;
 - c. Disconnecting device to elevator equipment prior to activation of sprinkler system;
 - d. Installation of dedicated ground fault Ground Fault Circuit Interrupter receptacles in the elevator pit and overhead;
 - e. Lighting in controller area, elevator machine area and pit;
 - f. Wiring for elevator telephone service to controller;
 - g. Emergency generator for elevator operation;
 - h. Fire alarm detectors, relays and signal lines to contacts in the elevator machine area including requirements for elevator homing.
113. Line voltage electrical wiring and connection to movable dividers/work stations either base fed or with service and Pak-pole connections. Power whips and Service and Pak-poles as provided by others - for systems under the electrical scope, see Excluded;
114. Transformers - for systems under the electrical scope;
115. Electric meters (revenue meters) as indicated on the drawings and specifications, other than main Utility metering;
116. Line voltage electrical wiring and connection for equipment under the General Mechanical and Foodservice Equipment scopes, shall include, 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; Mechanical D. Building Management Systems, Excluded;
117. Line voltage electrical wiring and connection for direct wired equipment and machinery including supply of loose magnetic starters;
118. Line voltage electrical wiring and connection only for direct wired Food Service Equipment;
119. Supply and installation of an electrical panel for Food Service Equipment if there is more than five (5) pieces of equipment requiring an electrical junction box or panel;
120. Emergency shutdown contactor for food service equipment adjacent gas sources; Excluding supply of gas solenoid;
121. Power wiring for vacuum systems installed by the mechanical contractor, see Mechanical B. Prime Mechanical, Included; Line voltage electrical wiring and connection only for food services refrigerated rooms, freezers and coolers including compressors, condensers, chillers, evaporators, lighting, controls, time clocks, thermostats, solenoids, door heat tracing and all other associated refrigerated equipment that requires line voltage connections;
122. Resistors and capacitor banks - for systems under the electrical scope;
123. Line voltage electrical wiring and connection only for wet and dry sauna;
124. Line voltage electrical wiring and connection only for signs;
125. Snow melting cables, including related control devices;
126. Vehicle charging stations.

B. Prime Electrical – Continued

XII. PRIME ELECTRICAL - EQUIPMENT AND OTHER SYSTEMS - continued

EXCLUDED

1. Supply and placement of control and protection devices for refrigerated rooms and coolers;
2. Supply and placement of control and protection devices for overhead and automatic doors, wiring for overhead doors;
3. Control wiring for equipment under mechanical scope intended for Building Management Systems or Heating, Ventilating and Air Conditioning controls, including solenoids, valves and dampers;
4. Supply of low voltage transformer for variable air volume devices and electrically operated plumbing fixtures;
5. Door access card readers and electrified exit hardware, hinges, hold open devices or other controller's and devices which are part of the hardware specified scope to include, or part of the door and door frame mounted except when part of systems furnished by one supplier, see Included; wiring for same regardless of supplier is by electrical contractor;
6. Door holding devices forming part of door hardware system;
7. Food service and laundry equipment unless specified in the electrical specifications;
8. Fuel tanks, vent ducting, piping for fuel, coolants and exhaust for power plant equipment, (that are remote from prepackaged unit);
9. For remote radiators only, piping and associated equipment including valves, pumps, expansion tanks and coolant will be provided under the mechanical scope, see Mechanical B. Prime Mechanical, Included;
10. Installation of plaster trims (frames) for lighting fixtures;
11. Preformed architectural light coves and valances of prefinished light gauge metal when used as a direct support or forming an integral part of a suspended ceiling system and not part of a luminaire assembly, see Component Ceiling Systems, Included;
12. Instrumentation for pre-packaged mechanical units;
13. Supply and installation of utility transformers, power poles and metering;
14. Supply and installation of movable screens/work stations including the integral power outlets, service and Pak-poles power whips/junction box and base feed whips;
15. Laboratory equipment which is part of factory assembled casework product;
16. Supply and mounting of operating room light fixtures and installation of track assembly support system;
17. Luminous light lenses, decorative lenses or louvers, including metal or plastic support moldings when installed in architectural valances, see Component Ceiling Systems, Included, see Architectural Woodwork, Included, Included, see Gypsum Board and Light Gauge Metal Framing, Included;
18. Portable appliances and portable furniture, and electrical fixtures, devices and cords affixed thereto;
19. Thermostats and guards for equipment under mechanical scope;
20. Trims or moldings for lighting fixtures other than manufactured plaster trims and those supplied with the fixture;
21. Valances and coves for lighting fixtures, see Component Ceiling Systems, Included;
22. Multi-speed controller switches including variable speed controllers that are mechanically or hydraulically initiated and operated or part of packaged equipment so specified under the mechanical scopes, see Prime Mechanical included;
23. Electric forced air unit heaters, except for electrical connections;
24. Electric duct heaters, except for electrical connections;
25. Electric duct mounted coils and heating that is fan powered, see Prime Electrical, Included, Mechanical - C. Ventilation and Sheet Metal Ductwork, Excluded;
26. Air curtains, except for electrical connections;
27. Supply and installation of low voltage wiring and control devices for heating, cooling and ventilation systems not controlled by a building management system, see Mechanical D. Building Management System, Included and Excluded;
28. Electrical disconnects or switches as part of packaged equipment and specified under the mechanical equipment;
29. Electrical wiring and conduit from all controllers to signals and operating circuits for electric elevators, hydraulic elevators, parking garage hoists, escalators, dumbwaiters, conveyors, moving walkways, speed ramps;
30. Supply and installation of heat trace to mechanical piping either internally or externally, see Mechanical B. Prime Mechanical, Included;
31. Sump pump floats and panels, see Mechanical A. Common Mechanical Items, Included;
32. Services and service charges for electrical, telephone and television as levied by the municipality or utility company;
33. Telephone systems, private automatic;
34. Elevator and hoisting equipment, including travelling cables for power, communications, or access control, see Elevators, Lifts and Dumbwaiters, Included;

B. Prime Electrical – Continued

XII. PRIME ELECTRICAL - EQUIPMENT AND OTHER SYSTEMS – Excluded - Continued

35. Backfill and compaction of electrical excavations completed by this trade except in definitions when the backfill and compaction is indicated as included, and when the rough back fill (but not compaction) is indicated as included;
36. Supply of fill (if native soil is frozen), gravel, concrete, sand and required materials to obtain complete compaction or protect electrical installations as indicated on the drawings, specifications and Utility requirements;
37. Removal of surplus excavation materials;
38. Poured-in-place concrete for concrete curbs, housekeeping, inertia bases and equipment;
39. Cutting or coring for placement of electrical boxes
40. Cutting of raised access floor system panels
41. Patching and repair of finished floor coverings
42. Supply and installation of support bases and piles (of concrete, precast or screw pile type) for pole lighting, landscape lighting, landscape power, Car plug pedestals and other similar auxiliary electrical supports;
43. Painting (on site), see Painting Included;
44. Soundproofing in wall, floor and ceiling penetrations;
45. Connections and control cables for the Building Management System to integrate and monitor all Mechanical and Electrical building systems.
46. Empty raceway systems for low voltage Building Management Systems, systems;
47. Commissioning of variable speed drives, see Mechanical - Ventilation, Included.

C. Alternate and Uninterruptable Power Systems

SCOPE NARRATIVE

This scope includes the supply and installation of Alternate and Uninterruptible Power Supply (UPS) system that provides temporary or emergency power in the event of a power outage. This system allows power to be supplied to portions of a building infrastructure or equipment which maintains power for a period of time when the primary power source is lost. The uninterruptable power supply maintains a constant voltage and also provides protection from power surges.

INCLUDED

1. Uninterruptible Power Supply complete with internal static bypass circuit for power diversion;
2. Rectifier for the conversion of power for battery charging capabilities and convert incoming power;
3. Manual or automatic power interruption switches for this scope;
4. Battery back-up assemblies and interconnecting cables and connectors;
5. Inverter complete with voltage regulation, frequency control, harmonic distortion control and overload controls;
6. Transient volt surge suppression, external maintenance by-pass controls and remote monitoring.

D. Photo-Voltaic (Solar) Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for Photo-Voltaic Solar system including solar modules, string inverters, micro inverters, central inverters, optimizers, arc fault protection, rodent protection, bonding systems, support systems, cabling, connections and other Solar and electrical accessories to provide a complete functioning system.

INCLUDED

1. Photo-Voltaic (solar) racking systems complete with integrated roof supports, wall supports and ballasting/anchoring systems;
2. Power optimizers, string inverters, central inverters, micro inverters and communication connections;
3. Disconnecting means and system labelling;
4. Underground and above ground electrical conduit, flex and conductors for all AC and DC cabling and connections;
5. Modification to main power distribution and breakers if adding to an existing power distribution;
6. Photo-Voltaic modules and all related hardware;
7. Battery and electrical energy storage systems and charging controllers;
8. Ballast weights for roof and ground mount systems;
9. Ground mount racking systems fixed and multi-axis trackers mounted to structural framing members as provided by Others, see Structural Steel Framing, Included and Excluded, see Metal Fabrications, Included, see Piles, Included;
10. Arc fault protection;
11. Photo-Voltaic (PV) communication connection to client server;
12. Photo-Voltaic rodent protection for insulated conductors and cabling;
13. All work related to Photo-Voltaic racking system grounding and bonding individually or as part of the assembly;
14. Electrical engineering fees;
15. Submission of micro-generation application to the local Utility and metering;
16. Safety Control zones and rooftop safety devices as required by authorities having jurisdiction;
17. Rapid shutdown control and initiating devices including those tied to life safety systems;
18. Controls and systems relating to utility requirements for inverter output control and safety.

D. Photo-Voltaic (Solar) Systems – continued

EXCLUDED

1. Supply or removal of fill for earthworks or vegetation prevention, adequate site drainage, final landscaping;
2. Modification to existing communications beyond single point connection to client server;
3. Modification to existing structural members if required by Structural Engineer;
4. Structural framing members to support building or roof mounted racking systems, as detailed in the Structural Contract Documents, see Structural Steel Framing, Included and Excluded, see Metal Fabrications, Included.

E. Wind Turbine Power Generation Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for wind turbine systems that converts the wind's kinetic energy into electrical energy and is the process by which the wind is used to generate electricity to provide a fully functioning system.

INCLUDED

1. Horizontal-axis and the vertical-axis turbines;
2. Drive train including a gearbox and generator;
3. Tower and structure which supports the rotor and drive train;
4. Controls, cable twist counter, electrical cables, connections, ground support equipment, and interconnection equipment;
5. Rotor blades, hub, low and speed shafts and gearbox mechanical brake;
6. Electrical generator, yaw mechanism, electronic controller, hydraulics system, cooling unit, tower, anemometer and wind vane;
7. Transformers, inverters and battery storage units.

EXCLUDED

1. Piling -Bored and Caisson for the support of the wind turbine; see Piles-Bored and Caisson, Included;
2. Piling and screw piles for the support of the wind turbine; see Piles-Steel Screw Piles, Included;
3. Structural supports required for supporting the wind turbine to a structure; see Structural Steel Framing, Included.

F. Lightning Protection Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Lightning Protection System (LPS) designed to protect a structure or building and contents from damage caused by the intensely high voltage currents of a lightning strike. A lightning protection system offers a lightning strike a low resistance path to ground where the enormous energy is then safely dispersed to protect buildings, property and persons to provide a fully functioning system.

INCLUDED

1. Air terminal system includes lightning rods, metal conductors and ground electrodes;
2. Horizontal or vertical conductors providing protection for the mesh method;
3. Interconnecting all isolated conducting parts of the installation including cables, conductors and surge protective devices;
4. Earth-termination system and lightning equipotential bonding system including ground rods, buried wires, foundation earthing, cables and conductors;
5. Lightning current arrestor and related components;

Device for protecting electrical/electronic equipment from transient voltage, power surges and over voltage damage.

G. Nurse Call and Real Time Locating Patient Wandering Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Nurse Call Systems and Real Time Locating Systems that act as a means of communication between the nursing staff, responders and patients within a healthcare type facilities either through wired or wireless call buttons or devices which can be activated in case of emergency or requests by patients or staff who wish to receive attention from nurses which provides a fully functioning system which also includes the supply and installation of all equipment for a Real Time Locating Systems which tracks patients, staff, infants, environmental monitors, and assets within set borders to guarantee their protection within hospitals, nursing homes and senior living homes to provide a fully functioning system.

INCLUDED

1. Nurse main and desktop control console and controller complete with power supply;
2. Interface with paging, telephone systems, staff communication systems, Building Management Systems, fire alarms and smoke detection systems;
3. Monitoring and computer software;
4. Networked nurse stations for centralized paging, alarm logging and event reporting;
5. Room controllers, Console receivers, staff room displays and door modules;
6. Wall mount call point, pull cords, washroom call units, plates and devices;
7. Bed indicators and bed/pillow speaker and call cords;
8. Zone and dome lights for multiple code condition alarm indication;
9. Relays for interconnection to patient entertainment systems, blind control, and headwall lighting controls;
10. Wall mount and table top nurse calling point and secondary stations;
11. Asset tracking management system, tags, environmental sensors and control panels;
12. Patient/Asset protection, door controllers, bracelets, bypass keypads, and guard system;
13. Global positioning systems and radio/ultrasonic frequency receivers and devices;
14. Infant Protection controller and exciter complete with pendants, bypass keypads, and tags;
15. Roam alert controller and exciter complete with pendants and tags;
16. Provide wiring diagrams and schematics complete zone drawings to integrate design requirements;
17. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.
18. Infant protection Mother/Babe matching software and hardware as required;
19. Interface with strobe, siren, and PA annunciation devices;
20. Interface with signboards, graphical displays, and Marquee's as required;
21. Interface with duress and code response systems as required;
22. Compliance with local Authority having jurisdiction and code requirements for installation environments;
23. Compliance with industry standards and protocols for installation environments.

H. Intercommunication Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Voice Communication and Intercom system used in one or more buildings to allow for communication across physical spaces by audio and/or video transmission which has the capability to make announcements to the entire system and also has the capability to integrate with other systems to provide a fully functioning system.

INCLUDED

1. Intercoms system complete with a self-contained phone system;
2. Master or base station of an intercom system;
3. Sub-station intercom panels and components;
4. Exterior door station intercom panels and components;
5. Exterior and Interior door station intercom panels and components;
6. Push-and-talk functioning microphone or a hand-held phone set;
7. Portable closed-circuit intercom system, complete with headsets, handsets and intercom station belt mount with an earpiece;
8. Closed-circuit intercom messaging system that controls incoming intercom correspondence;
9. System interface with intercom panel with or without connection to an outside phone system;
10. Interface with closed circuit television, telephone paging equipment, radio systems, and video equipment;
11. Remote door release functions as in accordance with the Contract Documents;
12. Provide wiring diagrams and schematics complete zone drawings to integrate design requirements;
13. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.

I. Paging and Audio Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Public-Address System (PA system) comprising of microphones, amplifiers, loudspeakers, and related equipment complete with speakers and stations throughout a building. The system allows administrators to provide announcements, music and signaling to occupants to provide a fully functioning system.

INCLUDED

1. Public address loudspeaker system to incorporate ability for voice paging;
2. Provisions to broadcast programs from radio tuner, media player or streaming service;
3. Voice paging from telephone set or microphone(s) complete with overrides over broadcast or recorded music reproductions;
4. Provide selective area page to areas, emergency page to all areas;
5. Integrate Music from external or internal sources;
6. Ability to perform speaker selection through a multiplexed assembly;
7. Rack, to accommodate system components with mounting rails, wire and cable entrances;
8. Components including, monitor panel, tuner, compact disc (CD) player, relay assembly's, page/music selection panel;
9. Programmable timer system with battery backup;
10. Components including patch panels, pre-amplifier mixer, power amplifiers, power boosters and power supplies;
11. Tone signal generator for time and alarm signals;
12. Interface with closed circuit television, telephone paging equipment and video equipment;
13. Interface to use speaker system as listening devices to actuate relays to sound alarms and notifications;
14. Provide wiring diagrams and schematics complete zone drawings to integrate design requirements;
15. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.

J. Centralized Sound Masking Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Sound Masking System which provides digitally generated sound to reduce distractions or provide confidentiality within a space to provide a fully functioning system.

INCLUDED

1. Network control panels, primary hubs, accessory/secondary hubs, and required racking;
2. Digital Signal Processing and programming;
3. Sound masking generation, equalizers, paging and integration;
4. Speaker assemblies, loud speakers and complete cabling;
5. Programmable keypads and infrared remote-control receivers;
6. Paging infrastructure, microphones;
7. Cable assemblies and couplers;
8. Power supplies and battery backup for fail safe;
9. Cabling, clips, chains, suspension and supports;
10. Provide wiring diagrams and schematics complete zone drawings to integrate design requirements;
11. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.

K. Video Surveillance and Television Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Video Surveillance System which provides monitoring and recording with cameras of the building exterior and key locations throughout the building including stairwells, entrance and exit points to allow for remote surveillance to a monitoring station and also the supply and installation of all equipment for a Television System which incorporates and accepts radio television broadcasting bandwidths and satellite signals with in local area and distribute the signal to locations though out the building to televisions and monitor screens.

INCLUDED

1. Closed circuit camera hardware and terminations of equipment connections;
2. Termination clocks and patch panels;
3. Communication horizontal cabling;
4. Servers for surveillance systems, control, recordings and monitor screens for the system;
5. Radio equipment for television radio frequency;
6. Radio frequency termination blocks and patch panels;
7. Faceplates, cabling connectors;
8. Remote monitoring station or software;
9. Interface with card access, real-time locating system, intercom and intrusion system;
10. Interface with structured cabling;
11. Provide wiring diagrams and schematics complete zone drawings to integrate design requirements;
12. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.

L. Building Security and Intrusion and Panic Alarm Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Building Intrusion and Panic Alarm Systems which allows controlled access for entry and exit for a building and alarming when that controlled access is breached. The system is including keypads, motion, pressure, glass breaks, panic buttons, sirens, strobes and related detection devices which allow for remote monitoring of the building including arming and disarming of the system for a fully functioning system.

INCLUDED

1. Key pads and scanners;
2. Integration with door hardware to monitors the exit of the building;
3. Termination blocks and patch panels;
4. Intrusion and security control panels, main and auxiliary;
5. Recessed and surface door position switches and related magnets;
6. Glass break detection, infrared motion detection and beam detection devices and interconnection;
7. Audio, sonic, smoke, water and heat detection devices and interconnection;
8. Integration with Card Access Systems with network interface, see Access Control Systems, Included and Excluded;
9. Interface with Video Surveillance system, Nurse Call, Real-time locating systems;
10. Provide wiring diagrams and schematics complete zone drawings to integrate design requirements;
11. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.

M. Structured Cabling Systems (Voice, Data and Cable)

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment for a Structured Cabling System of cabling and associated hardware which provides a comprehensive telecommunications infrastructure. This infrastructure contains the cabling integration with the voice, data, video, and various management and network systems of a building for a fully functioning system.

INCLUDED

1. Cabinets, racks, frames and enclosures;
2. Termination blocks and patch panels;
3. Cable management, cable terminations, labelling and cross connects;
4. Power strips, uninterruptable power supply for this equipment and rack mounted power distribution units;
5. Communication copper backbone for interconnection between buildings, telecommunication closets, equipment rooms, point of demarcations and the cabling system structure;
6. Fibre backbone consisting of single mode, multimode and optical fiber cables;
7. Anti-static electricity devices and cable connections;
8. Faceplates, cabling connectors and patch cords;
9. Communication horizontal cabling;
10. Interface with Video surveillance;
11. Interface with lighting controls;
12. Cables for data and voice communications including optical fiber, twisted-pair copper, coaxial cable;
13. Installation of all system plenum or non-plenum rated cables and interconnections of all system components.

EXCLUDED

1. Telephone systems and equipment, private or automatic, unless specified to be included by the Electrical trade;

N. Access Control Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all required software and hardware for electronic access and egress systems, including management devices, integrated control credentials, card readers, control and monitoring equipment and systems for controlling access to a facility. A complete system includes operating systems, mobile applications and software interfaces, access control hardware devices and system integration and interconnection.

Access control systems for doors and frames shall be included as they relate to:

1. Interior Architectural Woodwork for wood doors and frames;
2. Metal Doors and Frames for hollow metal doors and frames;
3. Entrances, Storefronts and Windows for aluminum doors and frames;
4. Curtain Wall and Glazed Assemblies for aluminum doors and frames;
5. Prefinished Demountable Partitions for aluminum frames and wood doors.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

INCLUDED

1. Keypads and key switches;
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 (including identification cards, fobs);
10. Software licensing and firmware updates within the term of the service agreement;
11. Electric strikes unless otherwise directed in the Contract Documents;
12. Programmers and update devices;
13. Setup of system;
14. Training of end user;
15. Interface access control, as in accordance the Contract Documents, with:
 - a. Video surveillance system; either stand alone system, or integrated system;
 - b. Nurse call and Real-time locating systems;
 - c. Intercom systems;
 - d. Fire alarm system;
16. Servers unless otherwise directed in the tender documents;
17. Relays for interconnection of low voltage components to interfacing systems (including fire alarm, door operators, remote lock releases);
18. Door security and monitoring systems including remote devices, card access readers, annunciators, central processing unit, and similar devices as required by the system including wiring. Components of a trade name door security and monitoring system which is specified to be supplied by one supplier and which must be door and door frame mounted shall be supplied by the electrical contractor for installation by the door and frame supplier, otherwise, all door and door frame mounted components shall be supplied and installed by others; wiring for these components shall be by the electrical contractor in either case.

N. Access Control Systems-continued

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, see Electrical Prime Included;
6. Architectural Hardware (unless directed otherwise in the tender documents);
7. Supply and installation of hardware devices integrated with the card access system and locking mechanisms, see Architectural (Finishing) Hardware –Supply Only, included;
8. Mounting of Power Supplies and other devices requiring line voltage;
9. Common scaffold or platform when required to perform work by multiple trades;
10. Temporary heat, general lighting, power, sanitation and water for general construction;
11. Door wiring for overhead and automatic doors - electrical supply hook up, interconnecting wiring, conduit and boxes. Control devices by others (see Electrical, Included).

O. Supervisory Control and Data Acquisition Systems

SCOPE NARRATIVE

This scope includes the supply and installation of all equipment, software and programming for a complete Supervisory Control and Data Acquisition system. These systems are commonly used for control of water, chlorination, wastewater, industrial process plants and breaker functions in a large distribution system.

INCLUDED

1. Local control panels supply and installation;
2. Relay control panels supply and installation;
3. Cabling from control panels and power panels to field devices;
4. Instrument stands for remote field devices;
5. Instrumentation tray for routing cable to appropriate devices;
6. Sensor and level elements (liquid sensing devices to be supplied to mechanical for installation);
7. Instrument panels;
8. Software;
9. Commissioning checks for cable continuity and device function.

EXCLUDED

1. Programming of system;
2. Devices forming part of skid mounted equipment.

Piles - Driven Piles (Timber, Pipe, Steel, Sheet and Precast Concrete)

SCOPE NARRATIVE

This scope includes the supply and installation of driven deep pile foundations of various materials for support of structures including timber, pipe, steel, precast concrete and all components necessary for a complete installation.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

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. When a pile foundation is designed by a piling contractor, he shall be responsible for the adequacy of the surrounding services and 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 or Guaranty;
14. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
15. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 trades scope of work;
18. Building Information Modeling (BIM) as it applies to this trade scope.

Piles - Driven - Continued

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 for 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
17. Temporary heat, general lighting, power, sanitation and water for general construction;
18. Hoarding;
19. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
20. Supply and maintenance of garbage and recycling bins for construction waste;
21. Removal of construction waste from job site;
22. General site security.

Piles - Steel Screw Piles

SCOPE NARRATIVE

This scope includes the supply and installation of steel screw pile foundations and all components necessary for a complete installation.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope.

TRADE DEFINITION

INCLUDED

1. Steel screw piles or helical piles as specified;
2. Final trimming or cutting of pile tops and top treatment of piles, when specified as part of this work;
3. Field connections as detailed on drawings and specified to be provided by this trade;
4. Equipment necessary to install the piles;
5. Load testing of piles, when specified in the tender documents;
6. Engineered drawings;
7. When a pile foundation is designed by a piling contractor, he shall be responsible for the adequacy of the surrounding services and structures to withstand the vibrations or other effects of the piling installation proposed by the piling contractor;
8. Provision and maintenance of all lines and levels as required;
9. Provision and maintenance of stakes indicating pile locations;
10. Concrete infill to pile bores when specified as part of this work;
11. Trade specific lighting to perform tasks;
12. Trade cleanup - cleanup for work carried out by this trade;
13. Warranty or Guaranty;
14. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
15. Submittals and Operation and Maintenance documentation as detailed in the Contract 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 trades scope of work;
18. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Building permits;
2. Hand trimming or cutting of tops and top treatment of piles when specified to be done by Others;
3. Inspection services;
4. Pile caps;
5. Piles for site work not detailed on structural drawings for light standards, fence posts, planters and sign bases;
6. Removal of natural or man-made obstructions either below ground or overhead which interfere with the piling contractor's work;
7. Removal of tailings and pre-bore material;
8. 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;
9. Shoring and protection of any banks, structures, services and utilities as well as continued maintenance and protection of same;
10. Supply and maintain complete access, egress and working surface suitable for the free movement of piling rigs and ancillary equipment;
11. Removal of excess tailings – by General Contractor;
12. Concrete to locations other than the pile bore;
13. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
14. Temporary heat, general lighting, power, sanitation and water for general construction;
15. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
16. Supply and maintenance of garbage and recycling bins for construction waste;
17. Removal of construction waste from job site;
18. General site security.

Piles - Bored and Caisson (Drilled Cast-In-Place, and Expanded Base Piles)

SCOPE NARRATIVE

This scope includes the supply and installation of the following including reinforcing, concrete and all components necessary for a complete installation:

1. Bored piles (drilled cast-in-place) – bored, deep augured pile and drilled shaft construction for support of structures.
2. Caisson piles (expanded base) - drilled load-bearing shafts for foundations and substructure construction, and part of permanent structure including casing and reinforcement.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Concrete;
2. Equipment necessary to install the piles;
3. Facilities and equipment for inspections;
4. Load testing of piles when specified in the tender documents;
5. Protection of concrete in piles from freezing;
6. Supply only of dowels; Set by the General Contractor;
7. When a pile foundation is designed by a piling contractor, he shall be responsible for the adequacy of surrounding services and structures to withstand the vibrations or other effects of the piling installation proposed by the piling contractor;
8. Straightening, and cutting rebar to specified elevations and removal of all concrete residue (laitance) from rebar;
9. Provision and maintenance of all lines and levels as required;
10. Provision and maintenance of stakes indicating pile locations;
11. Temporary heat for protection of work in this scope;
12. Provide an estimated quantity of tailings to be removed;
13. Trade specific lighting to perform tasks;
14. Trade cleanup - cleanup for work carried out by this trade;
15. Warranty or Guaranty;
16. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
17. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

Piles - Bored and Caisson - Continued

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 for 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. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
17. Temporary heat, general lighting, power, sanitation and water for general construction;
18. Hoarding;
19. Supply and maintenance of garbage and recycling bins for construction waste;
20. Removal of construction waste from job site.

Modular Block and Mechanically Stabilized Earth (Retaining) Walls

SCOPE NARRATIVE

This scope includes the supply and installation of Mechanically Stabilized Earth and Modular block retaining walls and all components necessary for a complete installation. Mechanically Stabilized Earth is a structural system used for earth retention and load support and are utilized to meet a variety of infrastructure needs, including highway retaining walls, bridge abutments, ramps, and overpasses as well as structures for railroads, mass transit, airports, and commercial and industrial facilities.

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Mechanically Stabilize Earth panels, mattresses or modular blocks as shown on engineered drawings;
2. Precast coping or capping units for modular block walls only;
3. Compaction of granular base;
4. Geometric grid reinforcing membranes, woven wire mesh, wire fabric boxes and mattresses or woven geotextile materials;
5. Metal straps related to Mechanically Stabilized Earth walls reinforcement;
6. Weeping tile;
7. Drainage ports;
8. Drainage material directly behind wall;
9. Fence post anchoring systems, if required and detailed for modular block walls only;
10. Temporary guardrails, fall protection system, stairs, ladders, walkways and barricades to facilitate the work of this trade;
11. Coordination with other trades for openings required to accommodate work of others;
12. Assist and cooperate with the engineer performing testing and inspections on site;
13. Layout included from control points as provided by the General Contractor;
14. Geotechnical engineered drawings, if modular block walls exceed 1.0 metres in height;
15. Scaffolding/man lifts when required to perform work by this trade scope;
16. Material handling, including unloading and hoisting;
17. Rigging equipment, hoisting and reinforcing methods necessary to complete the work of this trade;
18. Trade specific lighting to perform tasks;
19. Trade cleanup - cleanup for work carried out by this trade;
20. Warranty or Guaranty;
21. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
22. Submittals and Operation and Maintenance documentation as detailed in the Contract 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.

EXCLUDED

1. Excavation;
2. Material behind the reinforcing zone;
3. Final grading;
4. Sealer or anti-graffiti treatment;
5. Concrete levelling pads;
6. Concrete coping units for Mechanically Stabilized Earth walls;
7. Drainage swales;
8. Backfilling in front of Mechanically Stabilized Earth wall;
9. Landscaping (topsoil, seed/sod, plant material and bark mulch);
10. Fencing (chain link, wood, post or cable);
11. Testing of materials;
12. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
13. Surveying, except as required to ensure alignment during construction;
14. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor.

Landscaping

SCOPE NARRATIVE

The scope includes the supply and installation of all **interior and exterior** landscaping including pavements, walkways, and surfacing for walks, and athletic and recreational playing surfaces, fences and gates and retaining walls, site furnishings, fabricated bridges for foot traffic, wetlands, retainage ponds, irrigation systems, planting and transplanting of trees, plants, shrubs and vines, and planting support structures in accordance with the Contract Documents

This scope for supply and installation includes and excludes the following items regardless of where they may appear in the tender documents unless specifically noted otherwise in this scope:

TRADE DEFINITION

INCLUDED

1. Interior and exterior landscaping as described below in accordance with the Contract Documents;
2. Vegetation demolition and removal; including trees, shrubs, grasses, and other plant material when described in the Contract Documents;
3. Rough grading, excavation, and compaction removal in landscape areas;
4. Erosion control systems associated with landscaping as described below;
5. Soil structuring systems for tree planting in hard-surface applications;
6. Natural or prefabricated water features and support systems;
7. Installation of low-impact development (LID) features including bioswales, riparian restoration, and wetlands;
8. Excavation of shrub beds and tree pits
9. Trenching for exterior irrigation and landscape low voltage lighting systems;
10. Exterior irrigation systems including sleeves and drain boxes, and delegated design of flow rates and spray areas in accordance with the Contract Documents;
11. Low voltage lighting and associated support systems;
12. Placing and spreading of topsoil obtained onsite or off-site, and provide soil mixes and soil screening
13. Fine grading and preparation of topsoil for seed and sod beds;
14. Seeding or sodding;
15. Fertilizer and soil amendments as specified;
16. Trees and shrubs identified to be moved and stored, or moved to another location;
17. Installation of and maintenance of installed trees, shrubs and plants materials during construction;
18. Playground structures and site furnishings, flag poles, and exterior signage both prefabricated and custom built;
19. Natural and artificial rock features or accent boulders including related support systems;
20. Tree grates, frames and tree guards, precast concrete tree boxes, wooden and precast concrete planters, and soil cells;
21. Wood edger's, wood retaining walls, screening, wood free-standing or attached pagodas, pergolas and gazebos;
22. Wood or composite patio decks, screens or shutters, sun baffles and shades, wood seats, benches, and planters;
23. Wood or composite stairs and steps, handrails, railings, and balustrades;
24. Fencing including stone, wood, vinyl, composite, and metal products; either prefabricated or custom built;
25. Painting, staining and clear coating of wood fabrications described above, in accordance with the Contract Documents;
26. Maintenance of new landscape construction and plants; including existing plants when specified, upon completion in accordance with the Contract Documents;
27. Integrated pest and vegetation management in accordance the Contract Documents;
28. Pedestrian aggregate walkways, paths, and trails;
29. Asphalt or asphalt alternatives for pavements and walkways including integral edging in accordance with the Contract Documents;
30. Concrete pavements and walkways, except for precast concrete items specifically noted under Excluded;
31. Interlocking pavers, paving stones, turf-stones or grass-paver systems and sidewalk block pavements and walkways;
32. Modular block retaining walls, except for engineered systems for civil work, See Modular Block and Mechanically Stabilized Earth (Retaining Walls), Included; Gabion structures including related systems in accordance with the Contract Documents, except for engineered systems for civil work, See Modular Block and Mechanically Stabilized Earth (Retaining Walls), Included;
33. Landscape over structures, including root repellent systems, drainage systems, waterproof membranes, and other support systems;

Landscaping - Continued

34. Trade specific heating to perform tasks;
35. Material handling, including unloading and hoisting;
36. Scaffolding/man lifts when required to perform work by this trade scope;
37. Trade specific lighting to perform tasks;
38. Trade cleanup - cleanup for work carried out by this trade;
39. Warranty or Guaranty;
40. Quality assurance and quality control testing of materials and procedures as detailed in the Contract Documents;
41. Submittals and Operation and Maintenance documentation as detailed in the Contract Documents;
42. Cash allowances that apply to this trade scope when a specific dollar amount is listed in this trade's specification section;
43. Protection of other trades' work from damage when performing this trade's scope of work;
44. Building Information Modeling (BIM) as it applies to this trade scope.

EXCLUDED

1. Accessible water service point for connection of irrigation systems when described in the Contract Documents, See Prime Mechanical, Plumbing Systems, Included;
2. Accessible line voltage points for connection of low voltage lighting and irrigation control systems when described in the Contract Documents, See Prime Electrical, Equipment and Other Systems, Included;
3. Engineered retaining structures, See Modular Block and Mechanically Stabilized Earth (Retaining Walls), Included;
4. Painting and staining of non-landscape related exterior building components, See Painting, Included;
5. Precast concrete accessories required to match the building precast features;
6. Removal or disposal of excess topsoil or subsoil from on-site stockpiles including contaminated soils;
7. Repair of landscape areas not specifically identified;
8. Primary waterproofing or insulation of planters, parking structures or roof top landscaping;
9. Owners third party testing to audit this trade's compliance with the quality assurance and control testing of materials and procedures as detailed in the Contract Documents;
10. Common scaffold or platform when required to perform work by multiple trades;
11. Temporary heat, general lighting, power, sanitation, and water for general construction;
12. Hoarding;
13. Final Cleaning before turnover;
14. Security costs. When Security is required for trades to complete their work these services and costs for same will be provided by the General Contractor;
15. Supply and maintenance of garbage and recycling bins for construction waste;
16. Removal of construction waste from job site;
17. General site security.

