

PART 1 - GENERAL**1.1 RELATED REQUIREMENTS**

- .1 Section 01 74 19 – Waste Management and Disposal.
- .2 Section 07 92 00 – Joint Sealants.

1.2 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM A 1064/A 1064M-17 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - .2 ASTM C 73-14 Standard Specification for Calcium Silicate Face Brick (Sand-Lime Brick).
- .2 CSA Group (CSA)
 - .1 CAN/CSA-A82-14, Fired Masonry Brick Made From Clay or Shale.
 - .2 CAN/CSA-A165 SERIES-14(R2014), CSA Standards on Concrete Masonry Units (Consists of A165.1-04 Concrete Block Masonry Units, A165.2 Concrete Brick Masonry Units, A165.3 Prefaced Concrete Masonry Units).
 - .3 CAN/CSA-A179-14(R2014), Mortar and Grout for Unit Masonry.
 - .4 CAN/CSA-A370-14, Connectors for Masonry.
 - .5 CAN/CSA A371-14(R2014), Masonry Construction for Buildings.
 - .6 CSA G30.18-09 (R2014), Carbon Steel Bars for Concrete Reinforcement.
 - .7 CSA S304-14 - Design of masonry structures.
- .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2013, Architectural Coatings.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for unit masonry products, mortar and grout, connectors, anchorage and reinforcing, and accessories. Include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit (2) copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
 - .3 Provide manufacturer's certificates of compliance that attest to compression resistance, water absorption, density, ULC-certified and other.
- .3 Samples:
 - .1 As requested by Departmental Representative, submit duplicate samples of each unit exposed in final construction for review and acceptance.
 - .2 Samples will be returned for inclusion into work.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, indoors and in dry location, and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect masonry products from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Waste Management and Disposal:
 - .1 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.
 - .2 Package Waste Management: recover packaging waste for reuse and manufacturer reuse of packaging materials such as pallets, crates, boards and other packaging material, in accordance with Section 01 74 19 – WASTE MANAGEMENT AND DISPOSAL.

1.5 COLD WEATHER REQUIREMENTS

- .1 Supplement requirements of CAN3-A371 as follows:
 - .1 Maintain temperature of mortar between -5oC and 50oC until used.

1.6 HOT WEATHER REQUIREMENTS

- .1 Supplement requirements of CAN3-A371 as follows:
 - .1 Protect freshly laid masonry from drying too rapidly by means of waterproof, non-staining coverings.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

- .1 Special fire resistant concrete block units: to CAN/CSA-A165.1 as modified below.
 - .1 Classification: H/15/C/O, except as modified by 1hr fire resistance requirements specified below.
 - .2 Fire resistant characteristics: aggregate used in units and equivalent thickness of units to National Building Code of Canada (NBC) 2015, for fire-resistance ratings indicated.
 - .3 Size: modular metric.
 - .4 Dimensions: 190 mm in Height x 390 mm in Length x Width as indicated in drawings.
 - .5 Solid Percentage %: as per fire resistance required and thickness of block units varying from 56 % or 53 %.
 - .6 Special shapes: Provide purpose-made shapes for lintels and bond beams [and provide additional shapes as indicated.

2.2 REINFORCEMENT AND CONNECTORS

- .1 Bar reinforcement: to CAN/CSA-A371 and CSA G30.18, Grade 400.
 - .2 Wire reinforcement: knurled wire to CAN/CSA-A371 and ASTM A 1064/A 1064M.
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- .3 Connectors: to CAN/CSA-A370.
 - .1 Corrosion resistance: to CAN/CSA-A370
 - .1 Interior: Level I.
 - .2 Ties:
 - .1 Conventional dovetail, corrugated strip tie.

2.3 MORTAR AND GROUT

- .1 Materials:
 - .1 Materials and aggregates provided from the same manufacturer for the entirety of the Work, to maintain colour uniformity and other mixing characteristics.
 - .2 Aggregates: to CAN/CSA-A179-14.
 - .3 Water: to CAN/CSA-A179, clean and exempt of ice, oils, acids, alkalis, organic matter or all other harmful matter.
 - .4 Portland Cement GU (once known as type 10): to CSA A3000-13.
 - .5 Hydrate Lime type S: to ASTM C207-06 (2011).
 - .6 Colour: metallic oxide pigments to ASTM C979-16.
 - .1 The use of mortar or grout consisting exclusively of masonry cement as a binder is prohibited.
 - .2 Adjuvants should not be added to mortar or grout. Antifreeze, calcium chloride, calcium chloride antifreeze, salts or other similar materials should not be added to mortar or grout to lower freezing point or speed up curing time. The use of calcium chloride is prohibited.
 - .3 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.
 - .4 Grout cannot be replaced with concrete or mortar.
- .2 Mortar type for interior loadbearing or non-loadbearing walls: Type S, as specified based on CAN/CSA-A179-14 properties, factory pre-mixed, and standard colour grey.
- .3 Water: to CAN/CSA-A179, clean and exempt of ice, oils, acids, alkalis, organic matter or all other harmful matter.
- .4 Parging mortar for concrete blocks, type suitable for application, and factory pre-mixed.

2.4 ACCESSORIES

- .1 Cavity screening: three dimensional random weave plastic mesh, thickness to match cavity, minimum height 3 brick masonry courses.
- .2 Loose steel lintels: in accordance with National Building Code of Canada (NBC) 2015.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied [and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLATION

- .1 Do masonry work in accordance with CAN/CSA-A371 except where specified otherwise.
 - .1 Bond: running stretcher bond with vertical joints in perpendicular alignment and centered on adjacent stretchers above and below.
 - .2 Coursing height: 200 mm for one block and one joint.
 - .3 Jointing: as per existing, tool where exposed or where paint or other finish coating is specified.
- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

3.3 CONSTRUCTION

- .1 Exposed masonry:
 - .1 Remove chipped, cracked, and otherwise damaged units, in exposed masonry and replace with undamaged units.
 - .2 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects. Make cuts straight, clean, and free from uneven edges.
- .2 Building-in:
 - .1 Install masonry connectors and reinforcement where indicated on drawings.
 - .2 Build in items required to be built into masonry.
 - .3 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.
 - .4 Brace door jambs to maintain plumb. Fill spaces between jambs and masonry with mortar.
 - .5 Install loose steel lintels centered over openings where indicated, with minimum 200 end bearing.
- .3 Concrete block lintels:
 - .1 Install reinforced concrete block lintels over openings in masonry where steel or reinforced concrete lintels are not indicated.
 - .2 End bearing: not less than 200 mm as indicated on drawings.
- .4 Support of loads:
 - .1 Use concrete to Section 03 30 00 - Cast-in-Place Concrete, where concrete fill is used in lieu of solid units.
 - .2 Use grout to CAN/CSA-A179 where grout is used in lieu of solid units.
 - .3 Install building paper below voids to be filled with concrete; keep paper 25 mm back from faces of units.
- .5 Provision for movement:
 - .1 Leave 6 mm space below shelf angles.
 - .2 Leave 6 mm space between top of non-load bearing walls and partitions and structural elements. Do not use wedges.
 - .3 Built masonry to tie in with stabilizers, with provision for vertical movement.
 - .4 Build expansion and control joints where and as indicated.
- .6 Interface with other work:
 - .1 Cut openings in existing work as indicated.
 - .2 Openings in walls: approved DCC Representative.
 - .3 Make good existing work. Use materials to match existing.

3.4 REINFORCING AND CONNECTING

- .1 Install masonry connectors and reinforcement in accordance with CAN/CSA-A370, CAN/CSA-A371 and CSA S304.1 unless indicated otherwise.
- .2 Prior to placing mortar, obtain Departmental Representative's approval of placement of reinforcement and connectors.

3.5 BONDING AND TYING

- .1 Bond walls of two or more wythes using metal connectors in accordance with CAN/CSA-A371, and as indicated.
- .2 Tie masonry veneer to backing in accordance with National Building Code of Canada (NBC) 2015, CAN/CSA-A371, CSA S304.1 and as indicated.

3.6 MODIFICATIONS TO EXISTING MASONRY

- .1 Match existing bond and coursing height of adjacent masonry to remain.
- .2 Tooth new masonry into existing masonry in run of wall and at intersections with existing partitions.
- .3 At new openings in masonry walls, remove units, clean and re-install rotated to conceal cut and expose finish surface.
- .4 Clean bond areas of adjacent masonry to remain, remove loose material and prepare masonry to receive new masonry toothed in.
- .5 Install reinforcement as necessary to provide continuity of reinforcing and stability between existing and new masonry work.
- .6 Provide repair anchors as necessary to stabilize existing masonry adjacent to and affected by the Work.

3.7 REINFORCED LINTELS AND BOND BEAMS

- .1 Reinforce masonry lintels and bond beams as indicated.
- .2 Place and grout reinforcement in accordance with CAN/CSA-A179, CAN/CSA-A371.

3.8 GROUTING

- .1 Grout masonry in accordance with CAN/CSA-A179, CAN/CSA-A371 and as indicated.

3.9 ANCHORS

- .1 Supply and install metal anchors as indicated.

3.10 LATERAL SUPPORT AND ANCHORAGE

- .1 Supply and install lateral support and anchorage in accordance with CSA S304.1 and as indicated.

3.11 SITE TOLERANCES

- .1 Tolerances of CAN/CSA-A371 apply.
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3.12 FIELD QUALITY CONTROL

- .1 Inspection and testing will be carried out by Testing Laboratory designated by Departmental Representative.

3.13 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.
- .3 Waste Management:
 - .1 Separate waste materials for recycling.

3.14 PROTECTION

- .1 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect from wind-driven rain until masonry work is completed and protected by flashings or other permanent construction.
- .2 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.
- .3 Repair damage to adjacent materials caused by masonry products installation.

END OF SECTION
