DIVISION 04

MASONRY

Part 1 General

1.1 RELATED SECTIONS

.1 Division 4 - Masonry: work and materials specified under related sections in Division 4.

.2 Section 03 30 00 - Cast-In-Place Concrete: concrete fill for hollow masonry.

.3 Section 05 50 00 - Metal Fabrications: loose steel lintels.

.4 Section 07 21 13 - Board Insulation: cavity wall insulation.

.5 Section 07 27 13 - Air Barriers: cavity wall air barrier membrane.

.6 Section 07 90 00 - Joint Sealing: sealants and joint fillers.

1.2 REFERENCES

.1 Canadian Standards Association (CSA)
- .1 CAN/CSA-A179, Mortar and Grout for Unit Masonry.
- .2 CAN/CSA-A371, Masonry Construction for Buildings.

1.3 SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product data: manufacturer's printed product literature, specifications and data sheets for materials used on project.

.3 Samples:
- .1 One of each type of masonry unit used as masonry veneer.
- .2 One of each type of masonry accessory specified.
- .3 One of each type of masonry reinforcement, tie and connector.
- .4 Color samples of colored mortar.
- .5 As required for testing purposes.
- .6 Submit samples tested to laboratories employing technicians certified/trained in procedures for testing masonry units.

.4 Manufacturer's instructions: submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

.1 Test Reports
- .1 Certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Submit laboratory test reports in accordance with Section 01 45 00 - Quality Control.
- .3 Submit laboratory test reports certifying compliance of masonry units and mortar ingredients with specification requirements.

.2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver materials to job site in dry condition.

.3 Keep materials dry until use, except where wetting of bricks is specified.

.4 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Comply with Section 02 41 13 – Selective Site Demolition.

1.7 ENVIRONMENTAL REQUIREMENTS

.1 Cold weather requirements:
- .1 Supplement Clause 5.15.2 of CAN/CSA-A371 with following requirements:
  - .1 Maintain temperature of mortar between 5°C and 50°C until batch is used or becomes stable.
  - .2 Maintain ambient temperature between 5ºC and 50º C and protect site from wind chill.
- .2 Maintain dry beds for masonry and use dry masonry units only. Do not wet masonry units in cold weather.
- .3 When air temperature is below -4°C protect and heat masonry to maintain air temperature above 0°C on both sides of walls during operations and for period of 24 hours after.
- .4 When air temperature is above -4°C erect windbreaks to prevent differential freezing of walls.

.2 Hot weather requirements:
- .1 Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.
- .2 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until masonry work is completed and protected by flashing or other permanent construction.

Part 2 Products

2.1 MATERIALS

.1 Masonry materials are specified in related Sections in Division 4 - Masonry of this Project Manual.

.2 Use same brands of materials and source of aggregate for entire project.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 PREPARATION

.1 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.

3.3 INSTALLATION

.1 Do masonry work in accordance with CAN/CSA-A371 except where indicated otherwise.

.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.

.4 Make masonry courses uniform in height with both vertical and horizontal joints of equal and uniform thickness.

.5 Keep air space in cavities and weep holes free of mortar droppings and other debris to allow free air movement and positive moisture drainage to exterior.

.6 Lay masonry units in full mortar bed. Do not shift or tap units after mortar has taken initial set. Where adjustments must be made, remove mortar and replace with fresh supply.

.7 Bed joints evenly and fill solidly with mortar. Rock masonry into place at closures with head joints thrown against adjacent masonry units.

.8 Where new masonry abuts set masonry, clean existing surfaces and dampen if necessary to obtain bond.

3.4 CONSTRUCTION

.1 Exposed masonry:
- .1 Remove chipped, cracked, and otherwise damaged units in exposed masonry and replace with undamaged units.

.2 Jointing:
- .1 Allow joints to set just enough to remove excess water, then tool with jointer to provide smooth, compressed, uniform joints.
- .2 Use round jointer to provide concave joints where concave joints are indicated.
- .3 Rake joints uniformly to 6 mm depth and compress with square tool to raked joints of uniform depth where raked joints are indicated.
- .4 Strike flush all joints concealed in walls and joints in walls to receive plaster, tile, insulation, or other applied material except paint or similar thin finish coating.
- .5 Point or replace defective mortar as required or where directed by Contract Administrator.

.3 Cutting:
- .1 Cut out neatly for electrical switches, outlet boxes, and other recessed or built-in objects.
- .2 Make cuts straight, clean, and free from uneven edges.
- .3 Use masonry saw where necessary.

.4 Building in:
- .1 Build in items required to be built into masonry.
- .2 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.
- .3 Brace door jambs to maintain plumb. Fill spaces between jambs and masonry with mortar.

.5 Wetting of Bricks

.1 Except in cold weather, wet clay bricks having an initial rate of absorption exceeding 1 g/min/1000 mm²: wet to uniform degree of saturation, 3 to 24 h before laying, and do not lay until surface dry.
.2 Wet tops of walls built of bricks qualifying for wetting, when recommencing work on such walls.

.6 Support of loads:
.1 Use 20 MPa concrete to Section 03 30 00 - Cast-In-Place Concrete where concrete fill is used in lieu of solid units.
.2 Install building paper below voids to be filled with concrete; keep paper 25 mm back from faces of units.

.7 Provision for movement:
.1 Leave 9 mm space below shelf angles to allow for movement.
.2 Leave space between top of non-load bearing walls and partitions and structural elements, minimum 25 mm or as indicted on drawings. Do not use wedges.
.3 Built masonry to tie in with stabilizers, with provision for vertical movement.

.8 Loose steel lintels:
.1 Install loose steel lintels. Centre over opening width.

.9 Control joints:
.1 Construct continuous control joints as indicated.
.2 Provide continuous vertical control joints in masonry where indicated, but at no more than 6 m on centre maximum spacing.
.3 Fill control joints with joint fillers and sealants as specified in Section 07 90 00 - Joint Sealing.

.10 Expansion joints:
.1 Construct continuous expansion joints as indicated.
.2 Provide continuous expansion joints at building expansion joints, and elsewhere indicated.
.3 Fill expansion joints with joint fillers and sealants as specified in Section 07 90 00 - Joint Sealing.

.11 Provisions for other trades:
.1 Provide openings in masonry walls where required or indicated. Accurately locate chases and openings and neatly finish to the required sizes.
.2 Where masonry encloses conduit or piping, bring to proper level indicated and as directed.
.3 Do not cover pipe or conduit chases or enclosures until advised that work has been inspected and tested.

3.5 SITE TOLERANCES

.1 Tolerances in notes to Clause 6.2 of CAN/CSA-A371 apply.

3.6 FIELD QUALITY CONTROL

.1 Masonry mortar and grout shall be tested in accordance with CSA A179 by a Testing Laboratory approved by the Contract Administrator.

.2 Costs for Testing Laboratory will be paid by the Contractor.

3.7 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.8 PROTECTION

.1 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Masonry work and materials specified under related sections in Division 4 - Masonry.

1.2 REFERENCES

.1 Canadian Standards Association (CSA)
- .1 CAN/CSA-A179, Mortar and Grout For Unit Masonry.

Part 2 Products

2.1 MATERIALS

.1 Use same brands of materials and source of aggregate for entire project.

.2 Mortar: CAN/CSA-A179.

.3 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.

.4 Colour: ground coloured natural aggregates or metallic oxide pigments. Colour selected by Contract Administrator. Use colouring admixture not exceeding 10% of cement content by mass, or integrally coloured masonry cement, to produce coloured mortar to match approved sample.
- .1 Acceptable material: Northern Pigment Extra Strong Mortar Colour, Interstar.

.5 Non-staining mortar: use non-staining masonry cement for cementitious portion of specified mortar type.

2.2 MORTAR TYPES

.1 Mortar for exterior masonry above grade:
- .1 Loadbearing: Type S based on Proportion specifications.
- .2 Non-loadbearing: Type N based on Proportion specifications.
- .3 Parapet walls, unprotected walls: Type S based on Proportion specifications.

.2 Mortar for interior masonry:
- .1 Loadbearing: Type S based on Proportion specifications.
- .2 Non-loadbearing: Type N based on Proportion specifications.

.3 Following applies regardless of mortar types and uses specified above:
- .1 Mortar for concrete brick: Type O based on Proportion specifications.
- .2 Mortar for stonework: Type N based on Proportion specifications.
- .3 Mortar for grouted reinforced masonry: Type S based on Proportion specifications.

2.3 MIXING

.1 Mix grout to semi-fluid consistency.

.2 Coloured mortar:
- .1 Incorporate colour and admixtures into mixes in accordance with manufacturer's instructions.
- .2 Use clean mechanical mixer. No hand mixing permitted. Wherever possible use separate mixer for coloured mortar.

.3 Accurately and consistently measure all ingredients, including water, to consistently produce batches matching approved samples.

.3 Pointing mortar: pre-hydrate pointing mortar by mixing ingredients dry, then mix again adding just enough water to produce damp unworkable mix that will retain its form when pressed into ball. Allow to stand for not less than 1 hour nor more than 2 hours then remix with sufficient water to produce mortar of proper consistency for pointing.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 CONSTRUCTION

.1 Do masonry mortar and grout work in accordance with CAN/CSA-A179 except where specified otherwise.

3.3 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.4 SCHEDULE

.1 Use coloured mortar for exterior masonry veneer.

.2 Use non-staining mortar for limestone.

.3 Grout following masonry components:

.1 Reinforced lintels
.2 Bond beams
.3 Masonry units as indicated on Structural drawings.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Masonry work and materials specified under related sections in Division 4 - Masonry.

.2 Section 07 21 13 - Board Insulation: cavity wall insulation.

1.2 REFERENCES

.1 Canadian Standards Association (CSA)
- .1 CAN/CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
- .2 CAN/CSA-A179, Mortar and Grout For Unit Masonry.
- .3 CAN/CSA-A370, Connectors for Masonry.
- .4 CAN/CSA-A371, Masonry Construction for Buildings.
- .5 CSA G30.18 Billet-Steel Bars for Concrete Reinforcement.
- .6 CSA-S304.1, Design of Masonry Structures.
- .7 CSA-W186 Welding of Reinforcing Bars in Reinforced Concrete Construction.

1.3 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop drawings consist of bar bending details, lists and placing drawings.

.3 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.

Part 2 Products

2.1 REINFORCEMENT

.1 Bar reinforcement: to CAN/CSA-A371 and CSA G30.18, Grade 400.

.2 Wire reinforcement: to CAN/CSA-A371 and CSA G30.14, truss type. Include prefabricated corners and intersections.

.3 Corrosion protection: to CSA-S304.1, galvanized to CAN/CSA-A370.

2.2 CONNECTORS

.1 Connectors: to CAN/CSA-A370 and CSA-S304.1 and as specified below.

.2 Exterior masonry veneer on concrete block backup walls: connector assembly consisting of galvanized steel connector plate and V-tie and plastic insulation support.
- .1 Acceptable material: Fero Block Shear Connector Assembly.

.3 Exterior masonry veneer on steel stud backup walls: connector assembly consisting of galvanized steel connector plate and V-tie and plastic insulation support.
- .1 Acceptable material: Fero Stud Shear Connector Assembly.

.4 Corrosion protection: to CSA-S304.1 galvanized to CAN/CSA-A370.

.5 Fasteners:
- .1 Steel studs: self tapping, sheet metal screws, length to penetrate 20 mm through stud, corrosion resistant.

.2 Masonry and concrete: wedge type anchors, carbon steel with corrosion resistant finish or stainless steel. Of sufficient length to penetrate minimum 25 mm into solid substrate.

.1 Acceptable material: Gripcon Perma-Grip, Rawl Spike.

2.3 FABRICATION

.1 Fabricate reinforcing in accordance with CAN/CSA-A23.1 and Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Ontario.

.2 Fabricate connectors in accordance with CAN/CSA-A370.

.3 Obtain Contract Administrator's approval for locations of reinforcement splices other than shown on placing drawings.

.4 Upon approval of Contract Administrator, weld reinforcement in accordance with CSA-W186.

.5 Ship reinforcement and connectors, clearly identified in accordance with drawings.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 GENERAL

.1 Supply and install masonry connectors and reinforcement in accordance with CAN/CSA-A370, CAN/CSA-A371, CAN/CSA-A23.1 and CSA-S304.1, except where indicated otherwise.

.2 Prior to placing concrete notify Contract Administrator for review of placement of reinforcement and connectors.

.3 Supply and install additional reinforcement to masonry as indicated.

3.3 BONDING AND TYING

.1 Bond walls of two or more wythes using metal connectors in accordance with NBC, CSA-S304.1, CAN/CSA-A371 and as indicated.

.2 Tie masonry veneer to backing in accordance with NBC, CSA-S304.1, CAN/CSA-A371 and as indicated.

.3 Coordinate spacing of masonry ties with installation of cavity wall insulation to ensure connector plates are centred on horizontal joints of insulation boards.

.4 Ensure fasteners are tight and secure. Remove and replace any stripped or loose fasteners.

.5 Install plastic insulation supports over connector plates to hold insulation tight to backup walls. Provide one insulation support at each connector plate. Ensure tight fit.

3.4 REINFORCED LINTELS AND BOND BEAMS

.1 Reinforce masonry lintels and bond beams as indicated.

.2 Place and grout reinforcement in accordance with CSA-S304.1, CAN/CSA-A371, and CAN/CSA-A179.

3.5 GROUTING

.1 Grout masonry in accordance with CSA-S304.1, CAN/CSA-A371 and CAN/CSA-A179 and as indicated.

3.6 ANCHORS

.1 Supply and install metal anchors as indicated.

3.7 LATERAL SUPPORT AND ANCHORAGE

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

3.8 MOVEMENT JOINTS

.1 Reinforcement will not be continuous across movement joints unless otherwise indicated.

3.9 FIELD BENDING

.1 Do not field bend reinforcement and connectors except where indicated or authorized by Contract Administrator.

.2 When field bending is authorized, bend without heat, applying a slow and steady pressure.

.3 Replace bars and connectors that develop cracks or splits.

3.10 FIELD TOUCH-UP

.1 Touch up damaged and cut ends of epoxy coated or galvanized reinforcement steel and connectors with compatible finish to provide continuous coating.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 07 90 00 - Joint Sealing: sealants and joint fillers.

1.2 REFERENCES

.1 Canadian Standards Association (CSA)
  .1 CAN/CSA-A371, Masonry Construction for Buildings.

.2 Canadian General Standards Board (CGSB)
  .1 CAN/CGSB-51.32, Sheathing, Membrane, Breather Type.

Part 2 Products

2.1 MATERIALS

.1 Control joint fillers and sealants: as specified in Section 07 90 00 - Joint Sealing.

.2 Mortar net: fabricated of recycled polyester or high-density polyethylene, 90 percent open mesh weave. Complete with bottom strip. Provide in thickness to fit masonry cavity.
  .1 Acceptable material: Mortar Net.

.3 Nailing inserts: purpose-made of 0.6 mm thick (24 MSG) galvanized steel inserts for setting in mortar joints.

.4 Masonry flashing: self-adhesive sheet membrane consisting of rubberized asphalt bonded to high-density polyethylene film, nominal 1.0 mm overall thickness. Use primers and mastic sealants of type recommended by membrane manufacturer.
  .1 Acceptable material: Grace Perm-A-Barrier Wall Flashing; Bakor Blueskin TWF; Soprema Sopraseal Stick 1100 T.

.5 Metal drip edge: fabricated of prefinished steel sheet as specified in Section 07 62 00 - Metal Flashing and Trim. Base metal thickness minimum 0.76 mm (22 MSG). Brake formed to profile, with 6 - 9 mm formed drip at front edge, and extending minimum 75 mm under masonry base course.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 MASONRY FLASHING

.1 Building flashings in masonry in accordance with CAN/CSA-A371 and as follows.

.2 Install flashings under exterior masonry bearing on foundation walls, slabs, shelf angles, angle lintels over openings and elsewhere indicated. Install flashings under weep hole courses.

.3 For self-adhesive membranes clean and prime surfaces to manufacturer’s instructions. Place membrane in position without creases, fish mouths, bubbles or wrinkles. Press firmly into place and roll with hand roller to ensure full bond.

.4 Overlap adjacent pieces 50 mm and roll overlap with hand roller.

.5 Form end dams at horizontal flashing terminations to prevent water entry.

.6 Apply a bead of mastic sealant along all laps, seams, top edges, cuts and penetrations and trowel into place.

.7 At inside and outside corners fold and lap seams. Seal top edge and laps with mastic sealant.

.8 In cavity walls carry flashings from front of masonry veneer, under outer wythe, then not less than 150 mm up backup wall and seal stop edge with mastic sealant.

.9 Keep masonry flashing 12 mm back from face of masonry

.10 Protect masonry flashings from damage from other trades or construction materials until covered.

3.3 METAL DRIP EDGE

.1 In addition to masonry flashing provide metal drip edge at base course, angle lintels over openings, shelf angles.

.2 Align drip edge straight and even. Overlap joints minimum 20 mm.

3.4 MORTAR NET

.1 Install mortar net directly on masonry flashings in cavity walls.

.2 Lay the first 1 or 2 courses of brick at flashing level, then install mortar net continuously by placing it against the inside of the openings. No fasteners or adhesives are required. Install continuous starter strip, followed by dovetail sections.

.3 If using multiple thicknesses align the dovetail sections with each other.

.4 Slightly compress mortar net horizontally so it can be forced into cavities slightly smaller than its nominal thickness without affecting Mortar Net or wall performance. Ensure mortar has set sufficiently to resist outward pressure.

.5 Avoid contact with wall ties, conduit, plumbing or other materials that bridge or intrude into cavity. Cut our around objects.

3.5 EXPANSION AND CONTROL JOINTS

.1 Install joint fillers and sealants in expansion and control joints in accordance with Section 07 90 00 - Joint Sealing.

3.6 WEEP HOLES

.1 Build weep holes in accordance with CAN/CSA A371, supplemented as follows.

.2 Build weep holes in exterior cavity walls and veneer wall construction by providing weep holes in head joints of first course immediately above masonry flashings or dampproof courses.

.3 Space weep holes in accordance with CAN/CSA A371 and as follows:
- .1 For 200 mm length masonry units: 600 mm on centre.
- .2 For 300 mm length masonry units: 600 mm on centre.
- .3 For 400 mm length masonry units: 800 mm on centre.

.4 At narrow openings, such as doors and windows, provide at least 2 weeps holes at each opening.

.5 Leave out the bottom 50 mm of mortar from head joints. Ensure all mortar is removed to provide clear passage to cavity.

.6 Keep weep holes free from mortar droppings and debris to allow free air movement and positive drainage of moisture.

3.7 NAILING INSERTS

.1 Install nailing inserts in mortar joints at 400 mm on centre each way, for attachment of wall strapping.

END OF SECTION

Part 1 General

1.1 RELATED WORK

.1 Masonry work and materials specified under related sections in Division 4 - Masonry.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)
- .1 ASTM C126, Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units.

.2 Canadian Standards Association (CSA)
- .1 CAN/CSA-A82, Fired Masonry Brick Made From Clay or Shale.

1.3 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.

.2 Indicate sizes and sections of cut stone, arrangements of joints and bonding, anchoring, doweling and cramping.

.3 Indicate mortar ingredients, mortar mixes and strength for mortar used for setting and pointing limestone work.

1.4 DELIVERY, STORAGE, HANDLING

.1 Deliver stone to site and store where directed, off ground and protected from dirt and damage. Deliver stone in setting sequence.

.2 Handle stone carefully with proper procedures and equipment. Avoid chipping edges, corners, or marring face finishes.

1.5 PROJECT/SITE CONDITIONS

.1 Inspect site conditions and verify that other work affecting stonework is properly installed and ready to receive stonework.

.2 Verify dimensions by taking site measurements and recording such measurements on shop drawings.

Part 2 Products

2.1 MATERIALS

.1 Red veneer masonry:
- .1 Size and Bond: approximately 90 x 90 x 190, Bond to match existing adjacent building.
- .2 Burned clay brick to CSA-A82, Grade EG Type S, or ASTM C216, Grade SW, Type FBX.
- .3 Colour and texture: Smooth Face to match existing adjacent building.
- .4 Provide solid units where cores exposed. Provide units with finished ends where ends exposed.

.2 Asphalt emulsion: to CAN/CGSB-37.2.

.3 Sealants: as specified in Section 07 90 00 - Joint Sealers.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

.1 Face brick - exterior masonry veneer:

.1 Bond Pattern: running bond to match existing adjacent building.

.2 Coursing height: 100 mm for one brick and one joint to match existing adjacent building.

.3 Jointing: concave where exposed to match existing adjacent building.. Strike flush joints in masonry cavities.

.2 Mixing and blending: mix units within each pallet and with other pallets to ensure uniform blend of colour and texture to match existing adjacent building.

.3 Place units in random colour pattern to match existing adjacent building.

.4 Clean unglazed clay masonry as work progresses.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Masonry work and materials specified under related sections in Division 4 - Masonry.

1.2 REFERENCES

.1 Canadian Standards Association (CSA)
- .1 CAN/CSA-A165 Series, CSA Standards on Concrete Masonry Units (Consists of A165.1, A165.2 and A165.3).

1.3 SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Samples: provide two full size (90 x 190 x 390 mm) samples of Architectural Concrete Masonry Unit with bullnose corners by masonry Subcontractor for Contract Administrator's review. Accepted sample shall become standard of acceptance for bullnose corners for project.

Part 2 Products

2.1 MATERIALS

.1 Standard concrete masonry units: to CAN/CSA-A165 Series (A165.1).
- .1 Classification: H/15/A/M.
- .2 Size: modular
- .3 Special shapes:
  - .1 Provide bullnose units for exposed corners of walls (both partial and full height).
  - .2 Provide square units for window and door openings at sills, headers, and jambs.
  - .3 Provide purposed made shapes for lintels and bond beams.
  - .4 Provide additional special shapes as indicated.

.2 Special fire resistant concrete masonry units: to CAN/CSA-A165 Series (A165.1) as modified below.
- .1 Classification: H/15/C/M except as modified by fire resistance requirements specified below.
- .2 Fire resistant characteristics: aggregate used in units and equivalent thickness of units to the National Building Code of Canada for fire-resistance ratings indicated.
- .3 Size: modular.

.3 Decorative concrete masonry units: to CAN/CSA-A165 Series (A165.1).
- .1 Classification: H/15/A/M.
- .2 Size: metric modular, as indicated.
- .3 Special shapes:
  - .1 Provide bullnose units for exposed corners of walls (both partial and full height). Grind square units to provide bullnose corners to match bullnose on standard concrete masonry units.
  - .2 Provide square units for window and door openings at sills, headers, and jambs.

.3 Provide purposed made shapes for lintels and bond beams.
.4 Provide additional special shapes as indicated.

.4 Decorative face finish: burnished to expose aggregate.
.5 Colour: selected by Contract Administrator.
.6 Acceptable material: CCI Industries Terrazzo Block.

2.2 TOLERANCES

.1 Tolerances for standard concrete unit masonry tolerances in accordance with CAN/CSA A165.1, supplemented as follows:
.1 Maximum variation between units within specific job lot not to exceed 2 mm.
.2 No parallel edge length, width or height dimension for individual unit to differ by more than 2 mm.
.3 Out of square tolerance not to exceed 2 mm.

Part 3 Execution

3.1 INSTALLATION

.1 Concrete block units.
.1 Bond: running stretcher 1/2 bond; and special bonding patterns as indicated.
.2 Coursing height: full height units 200 mm for one block and one joint; half-high units 100 mm for one block and one joint.
.3 Jointing: concave where exposed or where paint or other finish coating is specified.

.2 Special Shapes:
.1 Install special units to form corners, returns, offsets, reveals and indents without cut ends being exposed and without losing bond or module.
.2 Install reinforced concrete block lintels over openings in masonry where steel or reinforced concrete lintels are not indicated.
.3 End bearing: not less than 200 mm.

3.2 CLEANING

.1 Standard block: allow mortar droppings on masonry to partially dry then remove by means of trowel, followed by rubbing lightly with small piece of block and finally by brushing.

.2 Decorative block: clean in accordance with manufacturer's instructions using only approved cleaning agents and methods that will not affect or inhibit application of masonry sealer.

3.3 PROTECTION

.1 Brace and protect concrete unit masonry in accordance with Section 04 05 00 - Common Work Results for Masonry.

END OF SECTION