PART 1 GENERAL

1.1 Related Sections

.1 Section 04 05 12 - Mortar and Masonry Grout.

.2 Section 04 05 19 - Masonry Anchorage and Reinforcing.

.3 Section 04 05 23 - Masonry Accessories.

.4 Section 04 22 00 - Concrete Unit Masonry.

1.2 References

.1 Canadian Standards Association (CSA International).

.1 CSA-A165 Series, Standards on Concrete Masonry Units.

.2 CSA A179, Mortar and Grout for Unit Masonry.

.3 CSA-A371, Masonry Construction for Buildings.

1.3 Delivery, Storage, and Handling

.1 Deliver materials to job site in dry condition.

.2 Storage and Protection.

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

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

1.4 Waste Management and Disposal

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

1.5 Site Conditions

.1 Site Environmental Requirements.

.1 Cold weather requirements.Supplement Clause 5.15.2 of CSA-A371 with following requirements.

.1 Maintain temperature of mortar between 5 degrees C and 50 degrees C until batch is used or becomes stable.

.2 Maintain ambient temperature between 5 degrees C and 50 degrees C and protect site from windchill.

.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 flashings or other permanent construction.

PART 2 PRODUCTS

2.1 Materials

.1 Masonry materials are specified in Related Sections.

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 CSA-A371 except where specified 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.

3.4 Construction

.1 Exposed masonry.

.1 Remove chipped, cracked, and otherwise damaged units, in accordance with CSA A-165, Clause 82.1, in exposed masonry and replace with undamaged units.

.2 Jointing.

.1 Allow joints to set just enough to remove excess water, then tool with round jointer to provide smooth, joints true to line, compressed, uniformly concave joints where concave joints are indicated.

.2 Allow joints to set just enough to remove excess water, then rake joints uniformly to 6 mm depth and compress with square tool to provide smooth, compressed, raked joints of uniform depth where raked joints are indicated.

.3 Strike flush joints concealed in walls and joints in walls to receive plaster, tile, insulation, or other applied material except paint or similar thin finish coating.

.3 Cutting.

.1 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects.

.2 Make cuts straight, clean, and free from uneven edges.

.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 bricks having an initial rate of absorption exceeding 1 g/minute/1000 mm^2: wet to uniform degree of saturation, 3 to 24 hours 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 where concrete fill is used in lieu of solid units.

.2 Use grout to CSA A179 where grout is used in lieu of solid units.

.3 Install building paper below voids to be filled with concrete or grout; keep paper 25 mm back from faces of units.

.7 Provision for movement.

.1 Leave 3 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.

.8 Loose steel lintels.

.1 Install loose steel lintels. Centre over opening width control joints.

.2 Construct continuous control joints as indicated.

.9 Expansion joints.

.1 Build-in continuous expansion joints as indicated.

.10 Interface with other work.

.1 Cut openings in existing work as indicated.

.2 Make good existing work. Use materials to match existing.

3.5 Site Tolerances

.1 Tolerances in notes to Clause 5.3 of CSA-A371 apply.

3.6 Field Quality Control

.1 Inspection and testing will be carried out by Testing Laboratory designated by the Contract Administrator.

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 Section 04 05 00 - Common Work Results for Masonry.

1.2 References

.1 Canadian Standards Association (CSA International).

.1 CSA A179, Mortar and Grout for Unit Masonry.

1.3 Waste Management and Disposal

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

PART 2 PRODUCTS

2.1 Materials

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

.2 Mortar and grout: CSA A179.

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

.4 Colour:

.1 Ground coloured natural aggregates or metallic oxide pigments.

.2 Exposed mortar to match the split face concrete block (591 Manitoba Stone).

.5 Mortar for exterior masonry above grade:

.1 Loadbearing: type S based on Property specifications.

.2 Non-Loadbearing: type N based on Property specifications.

.3 Parapet walls, chimneys, unprotected walls: type S based on Property specifications.

.6 Mortar for foundation walls, manholes, sewers, pavements, walks, patios and other exterior masonry at or below grade: type M based on Property specifications.

.7 Mortar for interior masonry.

.1 Loadbearing: type S based on Property specifications.

.2 Non-Loadbearing: type N based on Property specifications.

.8 Following applies regardless of mortar types and uses specified above:

.1 Mortar for calcium silicate brick and concrete brick: type O based on Proportion specifications.

.2 Mortar for stonework: type N based on Property specifications.

.3 Mortar for grouted reinforced masonry: type S based on Property specifications.

.4 Mortar for glass block: 1 part Portland cement, 1 part hydrated lime, 4 parts aggregate by volume.

.9 Coloured mortar: use colouring admixture not exceeding 10% of cement content by mass, or integrally coloured masonry cement, to produce coloured mortar to match approved sample.

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

.11 Grout: to CSA A179, Table 3.

.12 Parging mortar: CSA A179.

2.2 Mixes

.1 Colour and admixtures: mix grout to semi-fluid consistency.

.2 Coloured mortars: incorporate colour and admixtures into mixes in accordance with manufacturer's instructions.

.1 Use clean mixer for coloured mortar.

.3 Pointing mortar: prehydrate 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 CSA A179 except where specified otherwise.

.2 Apply parging in uniform coating not less than 10 mm thick, where indicated.

3.3 CLEANING

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

END OF SECTION

PART 1 GENERAL

1.1 Related Sections

.1 Section 04 05 00 - Common Work Results for Masonry.

1.2 References

.1 Canadian Standards Association (CSA International).

.1 CAN/CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test for Concrete.

.2 CSA-A370, Connectors for Masonry.

.3 CSA-A371, Masonry Construction for Buildings.

.4 CSA G30.14, Deformed Steel Wire for Concrete Reinforcement.

.5 CAN/CSA G30.18, Billet-Steel Bars for Concrete Reinforcement.

.6 CSA-S304.1, Masonry Design for Buildings.

.7 CSA W186, Welding of Reinforcing Bars in Reinforced Concrete Construction.

.8 CSA A179, Mortar and Grout for Unit Masonry.

1.3 Submittals

.2 Shop Drawings :

.1 Submit shop drawings to Contract Administrator for approval.

.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.

1.4 Waste Management and Disposal

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

PART 2 PRODUCTS

2.1 Materials

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

.2 Wire reinforcement: to CSA-A371 and CSA G30.14, ladder or truss type.

.3 Connectors: to CSA-A370 and CSA-S304.

.4 Corrosion protection: to CSA-S304, and CSA-A370.

2.2 Fabrication

.1 Fabricate reinforcing in accordance with CAN/CSA-A23.1.

.2 Fabricate connectors in accordance with 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's, weld reinforcement in accordance with CSA W186.

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

2.3 Source Quality Control

.1 Upon request, provide Contract Administrator with certified copy of mill test report of reinforcement steel and connectors, showing physical and chemical analysis.

.2 Upon request inform Contract Administrator of proposed source of material to be supplied.

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 CSA-A370, CSA-A371, CAN/CSA-A23.1 and CSA-S304.1 unless indicated otherwise.

.2 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 CSA-S304, CSA-A371 and as indicated.

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

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, CSA-A371, and CSA-A179.

3.5 Grouting

.1 Grout masonry in accordance with CSA-S304.1, CSA-A371 and 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 which 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.

3.11 Cleaning

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

END OF SECTION

PART 1 GENERAL

1.1 Related Sections

.1 Section 04 05 00 - Common Work Results for Masonry.

.2 Section 04 05 19 - Masonry Anchorage and Reinforcing.

1.2 References

.1 American Society for Testing and Materials International, (ASTM).

.1 ASTM D2240, Standard Test Method for Rubber Property - Durometer Hardness.

.2 Canadian Standards Association (CSA International).

.1 CSA-A371, Masonry Construction for Buildings.

1.3 Waste Management and Disposal

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

PART 2 PRODUCTS

2.1 Materials

.1 Control joint filler: purpose-made elastomer durometer hardness to ASTM D2240 of size and shape indicated.

.2 Lap adhesive: recommended by masonry flashing manufacturer.

.3 Masonry flashing: self-adhesive modified bitumen sheet membrane: minimum 1.0 mm thick. Use primers recommended by manufacturer. Acceptable products: Bakelite Blueskin SA, WR Grace Perm-A-Barrier, Soprema Colphene 1500.

.4 Metal drip edge: brake formed of 0.6 mm galvanized sheet steel commercial quality to ASTM A653 with Z275 designation zinc coating. Prefinished with Stelcolor 8000 Series coil coating. Colour selected by Contract Administrator. Form drip edge to extend 100 mm under base course, with 6 - 9 mm formed drip at front edge.

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 Install continuous control joint fillers in control joints at locations indicated on drawings.

.2 Install weep hole vents in vertical joints immediately over flashings, in exterior wythes of cavity wall and masonry veneer wall construction, at maximum horizontal spacing of 600 mm on centre.

3.3 CONSTRUCTION

.1 Build in flashings in masonry in accordance with CSA-A371.

.1 Install flashings under exterior masonry bearing on foundation walls, slabs, shelf angles, and steel angles over openings. Install flashings under weep hole courses and as indicated.

.2 In cavity walls and veneered walls, carry flashings from front edge of masonry, under outer wythe, then up backing not less than 150 mm, and as follows:

.1 For masonry backing embed flashing 25 mm in joint.

.2 For concrete backing, insert flashing into reglets.

.3 For wood frame backing, staple flashing to walls behind sheathing paper.

.4 For gypsum board backing, bond to wall using manufacturer's recommended adhesive.

.3 Lap joints 150 mm and seal with adhesive.

3.4 CLEANING

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

END OF SECTION

PART 1 GENERAL

1.1 Related Sections

.1 Section 04 05 00 - Common Work Results for Masonry.

.2 Section 04 05 12 - Mortar and Masonry Grout.

.3 Section 04 05 19 - Masonry Anchorage and Reinforcing.

.4 Section 04 05 23 - Masonry Accessories.

1.2 References

.1 Canadian Standards Association (CSA International)

.1 CAN3 A165 SERIES, CSA Standards on Concrete Masonry Units.

1.3 Waste Management and Disposal

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

PART 2 PRODUCTS

2.1 Materials

.1 Standard concrete block units: to CAN3-A165 Series (CAN3-A165.1).

.1 Classification: H/15/A/M

.2 Size: modular.

.3 Special shapes: provide square units for exposed corners. Provide purpose-made shapes for lintels and bond beams. Provide additional special shapes as indicated.

.2 Prefaced concrete block units: to CAN3-A165 Series (CAN3-A165.3).

Approved product: 200 mm full split face architectural concrete masonry by CCI Industries.

.1 Classification of body of unit: H/15/B/M to CAN3-A165.1.

.2 Size: modular.

.3 Special shapes: provide special shapes indicated. Provide purpose made shapes for lintels and bond beams.

.4 Colour: #591 Manitoba Stone.

PART 3 EXECUTION

3.1 Installation

.1 Concrete block units.

.1 Bond: running.

.2 Coursing height: 200 mm for one block and one joint.

.3 Jointing: concave where exposed or where paint or other finish coating is specified.

.2 Prefaced concrete block units.

.1 Bond: running.

.2 Coursing height: 200 mm for one block and one joint.

.3 Jointing: provide concave joints.

.4 Clean block faces using soft cloths before mortar hardens rake to 10 mm depth. After completion of block laying fill joints with pointing mortar then point to provide concave joints. Repeat cleaning of faces.

.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.

3.2 Cleaning

.1 Decorative 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.

END OF SECTION