Part 1 General

1.1 SECTION INCLUDES

1. Common work results for reinforced unit masonry construction.

1.2 RELATED REQUIREMENTS

1. Section 04 01 00 - Masonry Restoration And Cleaning.
2. Section 04 05 10 - Mortar and Masonry Grout: Mortar and grout.
3. Section 04 05 19 - Masonry Anchorage and Reinforcement: Connectors and reinforcing.
4. Section 04 20 00 - Masonry Units: Unit masonry materials.
5. Section 05 50 00 - Metal Fabrications.
6. Section 07 90 00 - Joint Sealants.

1.3 REFERENCE STANDARDS

1. CSA A370:14 Connectors for masonry
2. CAN/CSA A371-14 Masonry construction for buildings

1.4 ADMINISTRATIVE REQUIREMENTS

1. Coordination:
    1. Coordinate with other work having a direct bearing on work of this section.
2. Pre-installation Meetings: Convene one (1) week before starting work of this section.

1.5 ACTION SUBMITTALS

1. Section 01 33 00: Submission procedures.
2. Shop Drawings: Indicate bars sizes, spacings, locations, reinforcement quantities, bending and cutting schedules, supporting and spacing devices for reinforcement and accessories.

1.6 INFORMATIONAL SUBMITTALS

1. Section 01 33 00: Submission procedures.
2. Design Data: Indicate required mortar strength, masonry unit assembly strength in all planes, supportive test data.

1.7 CLOSEOUT SUBMITTALS

1. Section 01 77 00: Project Close-out.

1.8 QUALITY ASSURANCE

1. Perform Work to CAN/CSA-A371.
2. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum five (5) years documented experience.

3. Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience and approved by the manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

1. Package and protect masonry units to arrive undamaged at the job site.
2. Store masonry under waterproof cover on pallets or plank platforms held off ground.

1.10 SITE CONDITIONS

1. Maintain materials and surrounding air temperature to minimum 5 degrees C prior to, during, and forty-eight (48) hours after completion of masonry work.
2. Cold and Hot Weather Requirements: CAN/CSA-A371.

Part 2 Products

2.1 CONCRETE BLOCK MASONRY UNITS

1. Concrete Block Units (CMU): Specified in Section 04 20 00.

2.2 REINFORCEMENT AND ANCHORAGE

1. Joint Reinforcement: As Specified in Section 04 05 19.
2. Bar Reinforcing Steel: As Specified in Section 04 05 19.
3. Steel Angles: Specified in Section 05 50 00.

2.3 MORTAR AND GROUT

1. Mortar and Grout: Type as specified in Section 04 05 10.

Part 3 Execution

3.1 EXAMINATION

1. Verify that field conditions are acceptable and are ready to receive work.
2. Verify items provided by other sections of work are properly sized and located.
3. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

1. Direct and coordinate placement of metal anchors supplied to other Sections.
2. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.
3. Verify that items built-in under other sections are properly located and sized.

3.3 COURSING

1. Build masonry plumb, level, and true to line, with vertical joints in alignment.
2. Establish lines, levels, and coursing indicated. Protect from displacement.
3. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

4. Concrete Masonry Units:
    1. Bond: Running.
    2. Coursing: One (1) unit and one (1) mortar joint to equal 200 mm.

3.4 PLACING AND BONDING

1. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
2. Lay hollow masonry units with face shell bedding on head and bed joints.
3. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
4. Remove excess mortar as work progresses.
5. Interlock intersections and external corners.
6. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
7. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
8. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.

3.5 PROVISION FOR MOVEMENT

1. Leave 25 mm space between top of non-loadbearing wall and structural elements. Do not use wedges.

3.6 REINFORCEMENT AND ANCHORAGE

1. Install masonry connectors and reinforcement to CAN/CSA-A370, CAN/CSA-A371 and CSA-S304.1.
2. Place joint reinforcement spaced as follows:
    1. To CAN/CSA-A371.
    2. At 600 mm.
3. Lap joint reinforcement ends minimum 150 mm.
4. Reinforce and grout masonry units and bond beams to CAN/CSA-A371.
5. Install vertical reinforcing steel with a minimum clearance of 13 mm from the masonry and not less than one bar diameter between bars.
6. Secure reinforcing steel in place. Inspect steel connections before grouting.
7. Provide cleanout openings at bottom of cores containing reinforcement.
8. Fill cells containing reinforcement and anchor bolts solidly with grout.

3.7 LINTELS

1. Install loose steel lintels, centred over openings.
2. Maintain minimum 200 mm bearing on each side of opening.

3.8 LATERAL SUPPORT AND ANCHORAGE

1. Install lateral support and anchorage as indicated.

2. Space supports and anchors attached to structural steel members to CAN/CSA-A371.

3.9 MOVEMENT JOINTS

1. Provide continuous control joints as indicated.
2. Do not continue horizontal joint reinforcement through expansion joints.
3. Install preformed control joint device in continuous lengths. Seal butt and corner joints to manufacturer's written instructions.
4. Size control joint as specified in Section 07 90 00 for sealant performance.
5. Form expansion joint as detailed.

3.10 BUILT-IN WORK

1. As work progresses, install built-in metal door frames and other items to be built-in the work and furnished by other sections.
2. Install built-in items plumb and level.
3. Bed anchors of metal door frames in adjacent mortar joints. Fill frame voids solid with grout. Fill adjacent masonry cores with grout minimum 300 mm from framed openings.
4. Do not build in organic materials subject to deterioration.

3.11 ERECTION TOLERANCES

1. Tolerances for unit masonry as recommended in CAN/CSA-A371.

3.12 CUTTING AND FITTING

1. Cut neatly for electrical switches, outlet boxes and other recessed or built-in objects. Coordinate with other sections of work to provide correct size, shape, and location.
2. Make cuts straight, clean and free of uneven edges.
3. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.13 FIELD QUALITY CONTROL

1. Inspection and Testing:
    1. Section 04 05 10: Masonry Mortar and Grout.
    2. Inspect all engineered masonry work.

3.14 CLEANING

1. Remove excess mortar and mortar smears as work progresses.
2. Replace defective mortar. Match adjacent work.
3. Clean soiled surfaces with cleaning solution.
4. Use non-metallic tools in cleaning operations.

End of Section