

**Part 1 General****1.1 RELATED REQUIREMENTS**

- .1 Section 04 05 00 – Common Work Results for Masonry
- .2 Section 04 05 12 – Masonry Mortar and Grout
- .3 Section 04 05 19 – Masonry Anchorage and Reinforcing
- .4 Section 04 05 23 – Masonry Accessories
- .5 Section 07 62 00 – Sheet Metal Flashing and Trim
- .6 Section 07 92 00 – Joint Sealing

**1.2 REFERENCES**

- .1 ASTM International
  - .1 ASTM C73-14, Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)
  - .2 ASTM C216-16, Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)
  - .3 ASTM A123-15 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
  - .4 ASTM A153-16 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
  - .5 ASTM A580-16 – Standard Specification for Stainless Steel Wire
  - .6 ASTM A666-15 – Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
- .2 Brick Industry Association (BIA)
  - .1 Technical Note No. 20-2006, Cleaning Brick Work.
- .3 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-A82-14, Fired masonry brick made from clay or shale
  - .2 CAN/CSA-A165 SERIES-04 (R2014) - CSA Standards on Concrete Masonry Units (Consists of A165.1, A165.2 and A165.3)
  - .3 CAN/CSA A371-14, Masonry Construction for Buildings
- .4 South Coast Air Quality Management District (SCAQMD), California State (SCAQMD)
  - .1 SCAQMD Rule 1168-05, Adhesives and Sealants Applications.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data
  - .1 Provide manufacturer's printed product literature for brick masonry. Specifications and datasheet to include product characteristics, performance criteria, dimensions and limitations.

- .3 Sample
  - .1 Submit one sample of each brick type.

#### **1.4 QUALITY ASSURANCE SUBMITTALS**

- .1 Test Reports: submit certified test reports including sand gradation tests in accordance with CAN/CSA-A179 showing compliance with specified performance characteristics and physical properties, and in accordance with Section 04 05 00 - Common Work Results for Masonry.
- .2 Certificates: provide manufacturer's product certificates certifying materials comply with specifications regarding physical characteristics and performance criteria.
- .3 Mock-ups
  - .1 Construct mock-ups in accordance with Sections 01 45 00 - Quality Control and 04 05 00 - Common Work Results for Masonry.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver, store and handle materials in accordance with requirements of Section 01 61 00 – Common Product Requirements, and manufacturer's written instructions.
- .2 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, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect[specified materials from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

#### **1.6 SITE CONDITIONS**

- .1 Ambient Conditions: assemble and erect components only when temperature is above 5 degrees C.

#### **1.7 ACCEPTABLE MATERIALS OR PRODUCTS**

- .1 When materials or products are prescribed by brand name, consult Bidder Instructions to learn procedure for requesting approval of substitute materials or products.

### **Part 2 Products**

#### **2.1 MANUFACTURED UNITS**

- .1 Facing brick
  - .1 Baked clay bricks, to CAN/CSA-A82.
    - .1 Type: S
    - .2 Category: EG
    - .3 Dimensions: metric modular, 90mm deep x 57mm high x 190mm long
    - .4 Colour: Shaded red colour

- .5 Texture: Perforation of less than 20% of net area, hammered
- .6 Solid / hollow items
- .7 Absorption rate:
  - .1 In cold water: 1.37% after 24 hours
  - .2 In warm water: 1.65% after 5 hours
- .8 Saturation coefficient: 0.80
- .9 Initial absorption rate: 2.4 g/min/194cm<sup>2</sup>
- .10 Compressive strength: 100.26 MPa
- .11 Frost and thaw resistance: No loss after 50 cycles
- .12 Efflorescence: None
- .13 Brick masonry items:
  - .1 Shaw Brick Brunswick Colonial 1064-M
  - .2 Belden Brick Indian Full Range
  - .3 Belden Brick Homestead Blend A
  - .4 Or a replacement product approved by addendum in accordance with instructions to bidders
- .2 Reinforcement:
  - .1 Reinforcement in accordance with Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .3 Connectors:
  - .1 Connectors in accordance with Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .4 Flashings
  - .1 Refer to section 07 62 00 – Sheet Metal Flashing and Trim.
- .5 Mortar Mixes:
  - .1 Mortar and mortar mixes in accordance with Section 04 05 12 - Masonry Mortar and Grout.
- .6 Grout Mixes:
  - .1 Grout and grout mixes in accordance with Section 04 05 12 - Masonry Mortar and Grout.
- .7 Cleaning Compounds:
  - .1 Use low VOC products in compliance with SCAQMD Rule 1168.
  - .2 Compatible with substrate and acceptable to masonry manufacturer for use on products.
  - .3 Cleaning compounds compatible with brick masonry units and in accordance with manufacturer's written recommendations and instructions.

**Part 3 Execution****3.1 INSPECTION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for masonry accessories 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 PREPARATORY WORK**

- .1 Protect adjacent finished structures against damage that may result from execution of masonry work.

**3.3 INSTALLATION**

- .1 Construction to conform to CAN/CSA A371.
- .2 Bond: stretcher.
- .3 Coursing height: as indicated
- .4 Jointing: concave raked where exposed or where paint or similar thin finish coating is specified.
  - .1 Mixing and blending: mix units within each pallet and with other pallets to ensure uniform blend of colour and texture.
  - .2 Clean unglazed clay masonry as work progresses.
  - .3 Reinforcement:
    - .1 Install reinforcing in accordance with Section 04 05 19 - Masonry Anchorage and Reinforcing.
  - .4 Connectors:
    - .1 Install connectors in accordance with Section 04 05 19 - Masonry Anchorage and Reinforcing.
  - .5 Mortar Placement:
    - .1 Place mortar in accordance with Section 04 05 12 - Masonry Mortar and Grout.
  - .6 Repair/Restoration:
    - .1 Upon completion of masonry, fill holes and cracks, remove loose mortar and repair defective work.
  - .7 Field Quality Control:
    - .1 Site Tests, Inspection: in accordance with Section 04 05 00 - Common Work Results for Masonry supplemented as follows:
    - .2 Manufacturer's Field Services: in accordance with Section 04 05 00 - Common Work Results for Masonry.

- .8 Tolerances:
  - .1 To CAN/CSA A371 unless noted below.

### 3.4 CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave area clean at end of each workday.
- .2 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .3 Clean unglazed clay masonry: 10 m2 area of wall designated by Departmental Representative DCC Representative Consultant mock up panel specified in Section 04 05 00 - Common Work Results for Masonry as directed below and leave for one week. If no harmful effects appear and after mortar has set and cured, protect windows, sills, doors, trim and other work, and clean brick masonry as follows.
  - .1 Remove large particles with wood paddles without damaging surface. Saturate masonry with clean water and flush off loose mortar and dirt.
  - .2 Scrub with solution of 25 mL trisodium phosphate and 25 mL household detergent dissolved in 1 L of clean water using stiff fibre brushes, then clean off immediately with clean water using hose. Alternatively, use proprietary compound recommended by brick masonry manufacturer in accordance with manufacturer's directions.
  - .3 Repeat cleaning process as often as necessary to remove mortar and other stains.
  - .4 Use acid solution treatment for difficult to clean masonry as described in Technical Note No.20 by the Brick Industry Association.
- .4 Clean concrete brick masonry as work progresses.
  - .1 Allow mortar droppings on masonry to partially dry then remove by means of trowel, followed by rubbing lightly with small piece of brick and finally by brushing.
- .5 Final cleaning: Remove surplus material as well as garbage, tools and equipment from site in accordance with Section 01 74 11 – Cleaning.

### 3.5 PROTECTION

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

**END OF SECTION**