

## SECTION 044200 - LANDSCAPE STONE ASSEMBLIES

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Natural stone assemblies.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section 040511 - Landscape Masonry Mortaring.
  - 3. Section 040514 - Landscape Masonry Grouting.
  - 4. Section 079205 - Landscape Joint Sealants.

#### 1.2 REFERENCES

- A. ASTM International (ASTM):
  - 1. A276/A276M - Standard Specification for Stainless Steel Bars and Shapes.
  - 2. A580/A580M - Standard Specification for Stainless Steel Wire.
- B. The Masonry Society (TMS) 402/602 - Building Code Requirements and Specifications for Masonry Structures.

#### 1.3 SUBMITTALS

- A. Submittals for Review:
  - 1. Shop Drawings: Include location and sizes of pieces, arrangement and size of joints, location of control joints, anchorage details, and other details of installation.
  - 2. Product Data: Provide information on anchors including sizes, profiles, materials, and finishes.
  - 3. Samples: 12 x 12 inch stone samples showing each color and surface texture.

#### 1.4 QUALITY ASSURANCE

- A. Fabricator and Installer Qualifications: Minimum 3 years experience in work of this Section.
- B. Obtain each stone from a single quarry and from the same area within the quarry.
- C. Mockup:
  - 1. Size: 4 feet high x 4 feet wide.
  - 2. Show:
    - a. Stone color and texture ranges.
    - b. Mortar joint size, color, and profile.
    - c. Bond pattern.
    - d. Anchors.
    - e. Weeps.
  - 3. Locate where directed.
  - 4. Approved mockup may remain as part of the Work.
- D. Perform Work in accordance with TMS 402/602.

#### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Store stone off ground; prevent contact with materials that could cause staining or damage.
- B. Protect anchors from corrosion.

## 1.6 PROJECT CONDITIONS

- A. Environmental Requirements:
  - 1. Do not install stone when surrounding air or substrate surface temperature is below 40 degrees F or above 90 degrees F during or 48 hours after completion of the work.
  - 2. Do not install stone when wind velocity exceeds 15 MPH or relative humidity exceeds 70 percent.
  - 3. At end of working day and during rainy weather, cover work exposed to weather with waterproof coverings, securely anchored.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers - Masonry Accessories:
  - 1. Blok-Lok Ltd. ([www.blok-lok.com](http://www.blok-lok.com))
  - 2. Dur-O-Wal. ([www.dur-o-wal.com](http://www.dur-o-wal.com))
  - 3. Heckmann Building Products. ([www.heckmannbuildingprods.com](http://www.heckmannbuildingprods.com))
  - 4. Hohmann and Barnard, Inc. ([www.h-b.com](http://www.h-b.com))
- B. Substitutions: Under provisions of Division 01.

### 2.2 MATERIALS

- A. Stone:
  - 1. Type, size, color, and surface finish: Refer to Materials Legend.
  - 2. Free from defects that could impair its structural integrity or function. Inherent variations characteristic to quarry from which it is obtained are acceptable.

### 2.3 ACCESSORIES

- A. Mortar: Specified in Section 040511.
- B. Grout: Specified in Section 040514.
- C. Veneer Ties: Formed stainless steel wire, ASTM A580/A580M, Type 304, minimum 9 gage, two piece adjustable type, minimum 2 inch embedment into masonry.
- D. Fasteners: Stainless steel or fluoropolymer coated steel, minimum 3/4 inch penetration into substrate.
- E. Anchors: Stainless steel, ASTM A276/A276M, Type 316.
- F. Cleaner: Type recommended by stone supplier.
- G. Joint Sealants: Specified in Section 079205.

### 2.4 FABRICATION

- A. Fabricate stone for uniform coloration between adjacent units and over full area of installation.
- B. Form external stone corners to square butt joint profile. Clean jagged corners from stone in preparation for setting.
- C. Fabricate for 3/8 inch beds and joints.
- D. Cut or saw bed and joint surfaces square for full thickness of unit.
- E. Backs: Sawn.

- F. Slope exposed top surfaces of stone and horizontal sill surfaces for shedding water.
- G. Cut drip slot in stone projecting more than 1 inch. Size slot not less than 1/4 inch wide and deep for full width of projection.
- H. Fabrication Tolerances:
  - 1. Variation in width or height: Plus or minus 1/16 inch.
  - 2. Variation in thickness: Plus or minus 1/8 inch.
  - 3. Variation from true plane: Plus or minus 1/16 inch in 3 feet.

## **PART 3 EXECUTION**

### **3.1 PREPARATION**

- A. Establish lines, levels, and coursing. Protect from disturbance.
- B. Clean stone prior to installation. Do not use wire brushes or implements that can mark or damage exposed surfaces.
- C. Wet absorptive stone in preparation for placement to minimize moisture suction from mortar.

### **3.2 INSTALLATION OF STONE VENEER**

- A. Arrange stone pattern to provide color uniformity and constant 3/8 inch joint sizes throughout.
- B. Set stone plumb and level. Align adjacent pieces in same plane.
- C. Set stone in full mortar setting bed; support stone over full bearing surface.
- D. Set stone to bond pattern indicated.
- E. Completely fill beds and joints, then rake out for pointing.
- F. Fill joints with pointing mortar; tool to concave profile.
- G. Install anchors and place spacers to support stone and to establish joint dimensions.
- H. Veneer Ties:
  - 1. Space ties to provide one tie per 2 square feet at maximum spacing of 16 inches on center horizontally.
  - 2. Locate ties within 3 inches of ends of masonry walls and openings.
- I. Fill void space between stone veneer and concrete backup with grout placed in maximum 8 inch high lifts. Rod or vibrate to consolidate.
- J. Control Joints:
  - 1. Keep joints free from mortar and grout.
  - 2. Install joint backing and joint sealer as specified in Section 079205.
- K. Installation Tolerances; Maximum variation from:
  - 1. Alignment face to face of adjacent units: Plus or minus 1/8 inch.
  - 2. Vertical alignment of head joints: Plus or minus 1/2 inch in 10 feet.
  - 3. True plane of wall: Plus or minus 1/4 inch in 10 feet and 1/2 inch in 20 feet or more.
  - 4. Plumb: Plus or minus 1/4 inch in 10 feet noncumulative; 1/2 inch in 20 feet or more.
  - 5. Level coursing: Plus or minus 1/8 inch in 3 feet; 1/4 inch in 10 feet; 1/2 inch in 30 feet.
  - 6. Joint thickness: Plus or minus 1/8 inch.
  - 7. Cross sectional thickness of walls: Plus or minus 1/4 inch.

### 3.3 INSTALLATION OF STONE

- A. Arrange stone pattern to provide color uniformity and constant 3/8 inch joint sizes.
- B. Set stone plumb and level. Align adjacent pieces in same plane.
- C. Set stone in full mortar setting bed; support stone over full bearing surface.
- D. Completely fill beds and joints, then rake out for pointing.
- E. Install anchors to support stone and to establish joint dimensions.
- F. Fill joints with pointing mortar; tool to concave profile.
- G. Installation Tolerance: Surfaces true to level or indicated slopes with plus or minus 1/4 inch in 10 feet tolerance.

### 3.4 CLEANING

- A. Clean stone with detergent and water applied with fiber brush.
- B. If initial cleaning does not produce acceptable results, apply cleaner in accordance with manufacturer's instructions.
  - 1. Protect adjacent and underlying surfaces and plant materials.
  - 2. Thoroughly rinse surfaces with clean water after completion of cleaning; remove all traces of cleaning solution.

### 3.5 PROTECTION

- A. Protect stone subject to damage by use of nonstaining sheet coverings.

END OF SECTION