SPECIFICATION FOR FLAGSTONE SLAB SYSTEM

PART 1: GENERAL

1.1 Scope

This Work includes furnishing and installing concrete slab system and base to the lines and grades designated on the construction drawings and as specified herein.

1.2 Reference Standards

AASHTO M288 Geotextile Specifications to Highway Applications
ACI 318 Building Code Requirements for Reinforced Concrete
ASTM C33 Concrete Aggregates
ASTM C39 Compressive Strength of Concrete
ASTM C94 Ready-Mixed Concrete
ASTM C140 Sampling and Testing Concrete Masonry Units and Related Units
ASTM C143 Slump of Concrete
ASTM C144 Aggregate for Masonry Mortar
ASTM C231 Air Content of Concrete
ASTM C685 Concrete Made by Volumetric Batching and Continuous Mixing
ASTM D698 Laboratory Compaction Characteristics of Soil Using Standard Effort
ASTM D1557 Laboratory Compaction Characteristics using Modified Effort

1.3 Delivery, Storage, and Handling

A. Check the materials upon delivery to assure proper material has been received. Unload without damaging product or adjacent materials
B. Prevent excessive mud, wet concrete, and like materials from contacting the slab units.
C. Protect the materials from damage. Damaged material shall not be incorporated in the project.

PART 2: MATERIALS

2.1 Paving Units

A. Paving units shall be Grand, Dimensional, Linear, 24 x 24, Miros, Superior Steppers, or Traverse Flagstone units as produced by a manufacturer licensed and authorized by the Rosetta Hardscapes to produce the units.
B. Slab units shall conform to the applicable specifications and be made from wet-cast concrete in accordance with ASTM C94 or C685, latest revision, and per the following chart:

Freeze-Thaw Exposure Class*	Air Content %	28-Day Compressive Strength *psi (MPa)*	Maximum Water Cement Ratio	Min. Concrete Temp. at Placement *°F (°C)*
Negligible	1½ to 4½	6000 (41.4)	0.40	50 (10)
Moderate	2½ to 5½	6000 (41.4)	0.40	50 (10)
Severe	3½ to 6½	6000 (41.4)	0.40	50 (10)
Very Severe	3½ to 6½	6000 (41.4)	0.40**	50 (10)

All Outcropping products shall use frost-free aggregate.

*Exposure class is as described in ACI 318. "MODERATE" describes concrete that is exposed to freezing and thawing cycles and occasional exposure to moisture. "SEVERE" describes concrete that is exposed to freezing and thawing cycles and in continuous contact with moisture. "VERY SEVERE" describes concrete that is exposed to freezing and thawing cycles and in continuous contact with moisture and exposed to deicing chemicals. Exposure class should be specified by owner/purchaser prior to order placement.

**For Very Severe exposure, flay ash, other pozzolan, and slag shall be limited as described in ACI 318 4.2.3.

Notwithstanding anything stated above, all material used in the wall units must meet applicable ASTM and ACI requirements for exterior concrete.

D. Exterior unit dimensions, as measured in accordance with ASTM C140, shall be uniform and consistent. Maximum dimensional deviations shall be 0.125 inch (3.2 mm) or 2%, whichever is less, excluding the architectural surface.

E. Average absorption (as determined according to ASTM C140) shall be less than 5%. Absorption of single units shall not exceed 7%.

2.2 Jointing Sand

A. Use polymeric or natural jointing sand, as specified, meeting the gradation requirements of ASTM C33, with less than 1% passing the No. 200 (0.075 mm) sieve, or ASTM C144.

B. Provide a joint sand color acceptable to Owner.

2.3 Bedding, Base, and Subbase

A. Internal and external drainage, subgrade conditions, traffic, and pavement structure requirements shall be evaluated by the Professional Engineer who is responsible for the pavement system design.

B. Use bedding sand meeting the requirements of ASTM C33, with less than 1% passing the No. 200 (0.075 mm) sieve, or ASTM C144.

C. Use dense-graded gravel base material meeting the requirements of the local transportation agency. Material should be a mixture of hard, durable fragments of crushed stone. Maximum grain size should not exceed 1½ inch and the portion finer than the No. 200 (0.075 mm) should not exceed 8%.

D. If specified, subbase material shall be a free-draining, natural sand and gravel mixture free of particles greater than 3 inches (75 mm) and no more than 8% passing the No. 200 (0.075 mm) sieve.

2.4 Geotextile

A. Geotextile fabric shall meet the requirements for Class 2 construction survivability in accordance with AASHTO M288.

PART 3: CONSTRUCTION OF PAVER SYSTEM

3.1 Excavation & Grading

A. Contractor shall excavate and/or grade to the lines and grades shown on the construction drawings.

3.2 Subgrade Preparation

A. Verify that the subgrade meets the required alignment and grade.

B. Verify subgrade meets or exceeds assumed design strength and compaction. Unsuitable soils, such as excessively soft of loose soil, soils that yield excessively under load, soils with high organic content, undocumented fill, or frozen soils shall be removed and replaced with acceptable, compacted material, or otherwise improved, to the satisfaction of the engineer. Unless otherwise required by the engineer, compact subgrade compact to at least 95% of standard proctor maximum dry density (ASTM D698) or 90% of modified proctor maximum dry density (ASTM D1557).

C. Protect prepared subgrade from weather and traffic. Remove subgrade that has been degraded and replace with acceptable, compacted material.

3.3 Subbase and Base Placement

A. Place geotextile on smooth, prepared subgrade, avoiding wrinkles. Do not operate wheeled or tracked equipment directly on geotextile.

B. Place subbase, if required, to the required thickness and compact to at least 98% of standard proctor maximum dry density (ASTM D698) or 95% of modified proctor maximum dry density (ASTM D1557).

C. Place gravel base to the required thickness and compact to at least 100% of standard proctor maximum dry density (ASTM D698) or 98% of modified proctor maximum dry density (ASTM D1557).

D. Ensure surface of gravel base is smooth and uniform, without irregular low or high locations.

3.4 Bedding Sand

A. Place bedding sand and screed to a uniform thickness of 1 inch (25 mm). Maintain the sand in a loose, smooth condition. Protect from traffic, precipitation, or other disturbance. Do not place bedding sand further than the area that can be covered with pavers that day.

3.5 Slab Installation

A. To ensure proper color distribution, mix layers from several bundles at one time.

B. Install slabs following the indicated pattern.

C. Push slabs together so the bottom edges butt tight and cut units as needed to finish edges.

D. Replace slabs that become cracked or chipped.

3.6 Jointing Sand

A. Fill all joints with jointing sand. Sweep joint filler sand into the joints between pavers until joints are completely filled.

D.

E. For polymeric jointing sand, follow the manufacturer's installation and wetting instructions.
F. Repeat with additional dry sand in a few days if necessary to completely fill joints.

3.7 Sealing

A. Use a high-quality sealer specifically formulated for wet-cast concrete, following the manufacturer's application instructions.

PART 4: AVAILABILITY

Rosetta products are available from a licensed manufacturer, authorized to produce the units, or an authorized dealer. For a list of approved manufacturers contact:

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