

## **SECTION 321313 - LANDSCAPE CONCRETE PAVING**

### **PART 1 GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Landscape concrete paving.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section 033053 - Landscape Cast-in-Place Concrete.
  - 3. Section 079205 - Landscape Joint Sealants.

#### **1.2 REFERENCES**

- A. ASTM International (ASTM) D4819 - Standard Specification for Flexible Cellular Materials Made From Polyolefin Plastics.

#### **1.3 SUBMITTALS**

- A. Submittals for Review:
  - 1. Product Data: Indicate products and accessories proposed for use.

#### **1.4 QUALITY ASSURANCE**

- A. Installer Qualifications: Minimum 3 years experience in work of this Section including specialty finishes of types specified.
- B. Concrete Mix Design: Free from admixtures and additives not specifically approved by coloring admixture manufacturer.
- C. Mockups:
  - 1. Provide mockups of each concrete paving color and finish, minimum 5 x 5 feet.
  - 2. Show:
    - a. Each paving color.
    - b. Each paving finish.
    - c. Control and expansion joints.
  - 3. Locate where directed.
  - 4. Approved mockups may remain as part of the Work.

### **PART 2 PRODUCTS**

#### **2.1 MATERIALS**

- A. Concrete: As specified in Section 033053 except:
  - 1. Formwork:
    - a. Metal forms: Free of deformities, furnished in maximum practical lengths.
    - b. Wood forms: Good grade lumber, sound and free of warp, minimum 2 inch nominal thickness except where extremely short radii of curves require thinner forms.
  - 2. Dowels: Plain round bar dowels, conforming to reinforcing steel requirements.
  - 3. Exposed aggregate: Type, size, and color to match approved mockups.
  - 4. Coloring admixture: Refer to Materials Legend.

#### **2.2 ACCESSORIES**

- A. Joint Filler: ASTM D4819, Type II, closed cell polyethylene, non-staining, chemical resistant, ultraviolet stable, non-absorbent, with removable strip providing recess for joint sealant.
- B. Joint Sealant: Specified in Section 079205.

## 2.3 MIXES

- A. Mix concrete in accordance with Section 033053.

## PART 3 EXECUTION

### 3.1 CONSTRUCTION OF FORMS

- A. Construct formwork in accordance with Section 033053.
- B. Set forms accurately to required grades and alignment.
- C. Brace forms to withstand loads applied during concrete placement.
- D. Install flexible or curved forms of wood or metal for curves with radius of 300 feet or less.
- E. Align straight and curved sections at true tangent points without broken curves.
- F. Form curves uniform and smooth, to radius indicated.
- G. Leave forms in place for minimum 12 hours after completion of finishing operation.
- H. Provide expansion joints where paving abuts other construction, and at maximum 30 feet on center unless otherwise indicated on Drawings.
  - 1. Shape joint filler to concrete cross section and fasten in place.
  - 2. Provide holes for dowel bars maximum 1/8 inch larger than bar diameter.
  - 3. Provide 24 inch long No. 4 reinforcing bars or smooth steel dowels spaced maximum 24 inches on center, centered on expansion joint. Wrap one end of bars or dowels with two layers PVC tape.

### 3.2 PLACING REINFORCING

- A. Install reinforcement in accordance with Section 033053.
- B. Place reinforcing in middle third of flatwork.
- C. Stop alternate bars of reinforcing steel at control joints.
- D. Provide dowels at maximum 18 inches on center at expansion joints. Wrap one end of dowel in building paper or felt. Stop reinforcement on both sides of joint.

### 3.3 PLACING CONCRETE

- A. Place concrete in accordance with Section 033053.
- B. Place concrete continuously between predetermined expansion and control joints. Do not interrupt successive placement such that cold joints occur.
- C. Shape curbs and gutters to cross section indicated on Drawings.
- D. Strike off flatwork with screed, then float to uniform surface.
- E. Tool expansion joint edges and other exposed edges to smooth, dense surface with 1/8 inch radius.
- F. Seal expansion joints as specified in Section 079205.
- G. Provide control joints at maximum 10 feet on center unless otherwise indicated on Drawings. Saw joints within 24 hours after concrete placement, to 1/8 inch width and depth equal to 1/4 of slab depth.

- H. Installation Tolerances: Surfaces true to plane, in longitudinal direction to required grade, within plus or minus 1/4 inch in 10 feet, noncumulative.

### 3.4 FINISHING

- A. Rock Salt Finish:
  - 1. Steel trowel surfaces to uniform surface.
  - 2. While concrete is still plastic, uniformly broadcast rock salt over surface.
  - 3. Allow salt to remain on surface until surface is lightly pitted, then wash off remaining salt.
  - 4. Match approved mockup.
- B. Exposed Aggregate Finish:
  - 1. Float surfaces to required lines and grades.
  - 2. While concrete is still plastic broadcast exposed aggregate uniformly over surface to depth of single stone.
  - 3. Roll surfaces to fully embed aggregate.
  - 4. Wash and brush surfaces to remove overlying cement matrix and expose aggregate. Use chemical retarder if required to extend working time.
  - 5. Match approved mockup.

END OF SECTION