SP-156215
(New)

SPECIAL PROVISIONS
FOR
DECORATIVE PAVERS WITH PCC BASE

Linn County
STBG-SWAP-1187(804)--SG-57

Effective Date
March 15, 2022

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

Installation of decorative pavers with PCC Base.

1.02 SUBMITTALS

A. **Sample Pavers:** Representative of the type and color proposed for the project.

B. **Installation Instructions:** Manufacturer's published installation instructions.

C. **Material Certification:** Submit certification letter from paver manufacturer indicating compliance with ASTM specifications and contract documents.

1.03 MEASUREMENT AND PAYMENT

A. **Decorative Pavers with PCC Base**
   1. **Measurement:** Measurement will be per square yard for the area of decorative pavers with PCC base installed. Area of manholes, intakes or other fixtures in the pavement will not be deducted from the measured area.
   2. **Payment:** Payment will be at the unit price per square yard for area of decorative pavers with PCC base.
   3. **Includes:** Unit price includes, but is not limited to, subgrade preparation and subbase, when required by the contract documents, furnishing and placing setting bed, neoprene asphalt adhesive for asphalt setting bed, setting the pavers, installing weep holes and associated materials when required by the contract documents, and sand/cement joint filler.

PART 2 – PRODUCTS

2.01 PAVERS

A. Clay Bricks: Supply as specified in the contract documents.

B. Concrete Pavers: Supply as specified in the contract documents.

2.02 SETTING BED FOR PAVERS

A. HMA:

1. **Mixture:** Proportion mix using 5.8% asphalt binder and 93% fine aggregate. Apportion each ton in the approximate ratio of 145 pounds asphalt binder to 1855 pounds sand.
2. **Asphalt Binder:** Use asphalt binder complying with Section 4137 of the Standard Specifications with a performance grade of PG 58-28 or 64-22.
3. **Fine Aggregate:** Use clean, hard sand with durable particles free from adherent coating, lumps of clay, alkali salts, and organic matter. Use sand that is uniformly graded from coarse to fine with all passing the No. 4 sieve and meeting AASHTO T 27.

B. Sand: Use clean, hand sand free from deleterious materials. Use sand meeting ASTM C 33 that is uniformly graded with all passing the No. 4 sieve and 3% or less passing the No. 200 sieve.

2.03 NEOPRENE MODIFIED ASPHALT ADHESIVE FOR PAVERS

A. Mastic (Asphalt Adhesive):

- **Solids (Base):** 74% to 76%
- **Pounds per Gallon:** 8 to 8 1/2 pounds
- **Solvent:** Mineral spirits with a flash point above 100°F

B. Base (2% Neoprene, 10% Asbestos-free Fiber, 88% Asphalt):

- **Melting Point:** 200°F minimum according to ASTM D 36
- **Penetration:** 23 to 27 according to ASTM D 5
- **Ductility:** 1250 mm minimum according to ASTM D 113 @ 25°C, and a rate of 50 mm/minute

2.04 PAVER JOINT FILLER

Dry sand-cement mixture consisting of one part masonry cement complying with ASTM C 91 and three parts sand complying with ASTM C 144 and passing the No. 16 sieve. Provide colored cement as specified in the contract documents.

2.05 PORTLAND CEMENT CONCRETE

Class B or C concrete with materials complying with Section 2301 of the Standard Specifications. Use coarse aggregate of Class 2 durability or better.

PART 3 – EXECUTION

3.01 DECORATIVE PAVERS

A. General:

1. Comply with details in the Plans.
2. Use a cross-section and patterns as specified in the contract documents or approved by the Engineer.
3. Do not use broken pavers or materials with stained faces in the paving areas.
4. Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen setting beds. Remove and replace pavers damaged by frost or

freezing.
5. Protect subbase from getting wet during paver installation.
6. Do not install pavers or bituminous setting bed over ponding water.
7. Do not install saturated joint sand.

B. Setting Bed:

1. General:

a. Place 1 1/2 inch depth control bars on the base to serve as guides for the striking board. Shim depth control bars as necessary to adjust bedding thickness and to ensure the top surface of pavers will be at the required finished grade.
b. Place bedding material between the parallel depth control bars. Pull striking board over bars several times.
c. After each pass, spread fresh bedding material over low or porous spots to produce a smooth and even setting bed.
d. After placing and smoothing each section, advance depth control bars to next section.
e. After removal of depth control bars and shims, carefully fill any depressions that remain.

2. HMA:

a. Install HMA setting bed only when ambient temperature is above 40°F and when base is dry.
b. Spread mix at a minimum temperature of 250°F.
c. Strike setting bed smooth, firm, even, and to a nominal 1 1/2 inch thickness.
d. Roll the HMA setting bed with a power roller or for small areas, tamp firmly with a plate compactor. Complete rolling/compaction before mix temperature cools to 185°F.
e. Apply neoprene modified asphalt adhesive only when ambient temperature is above 50°F and when temperature has not been below 35°F for 12 hours immediately before application. Do not apply when setting bed is wet or contains excess moisture.
f. Apply neoprene modified asphalt adhesive over the top surface of the cooled asphalt setting bed with notched trowel with serration not exceeding 1/16 inch. Proceed with setting of pavers only after adhesive is tacky and surface is dry to touch.

3. Sand:

a. Spread the bedding sand evenly over the base course and screed to a nominal 1 1/2 inch thickness.
b. Sand shall be lightly screeded in a loose condition to the predetermined depth only slightly ahead of the paving units.
c. The spread sand shall be protected against incidental compaction, both prior to and following screeding, including compaction by rain.
d. Any screeded sand which is incidentally compacted sand shall be removed and brought back to profile in a loose condition before further paving units are placed.

C. Weep Holes:

Install as shown in the contract documents.

D. Pavers:

1. Clean pavers of stains and foreign material prior to usage. Do not use chipped, damaged or discolored pavers.
2. Install pavers from a minimum of three bundles simultaneously to assure dispersion and blending of color variations.
3. Place pavers according to patterns specified in the contract documents.
4. Place chalk or string lines on bedding course to maintain straight joint lines.

5. Place the pavers by hand in straight courses with hand tight joints and uniform top surface.
6. Joints between the pavers on average should be between 1/16 inch and 1/8 inch wide. In order to maintain the desired pattern, joint spacing must be consistent. This spacing must also be provided for the first row abutting the edge restraint.
7. Layout the pavers in order to prevent long runs of sliver pieces to the extent possible. Saw cutting on each limit line should be included in the bid.
8. Use trimmed or cut pavers only along outer pavement boundaries or adjacent to manholes or other features within the pavement area.
9. Cut pavers with a double blade paver splitter or masonry saw.
10. Clean debris from pavement prior to compaction and inspection. Inspection will be made to identify damaged pavers, inadequate color blending, and irregular joint lines. Contractor will remove and replace pavers as required.
11. Compact pavers with a low amplitude, high frequency vibratory plate. The compactor shall transmit an effective force not less than 1600 pounds per square foot. or plate area. The frequency of vibration shall be within the range of 75 to 100 hertz.
12. Use urethane plate compactor pad to minimize any scuffing of the paver surface.
13. Compact pavement surface with a minimum of three passes prior to application of joint filler.
14. Re-inspect pavers, and remove and replace all damaged or misaligned units.
15. Sweep dry joint filler into joints until the joints are completely filled. Re-compact and repeat until joints remain full after compaction. Sweep and remove excess joint filler.

E. Protection: Protect newly laid bricks/pavers at all times using panels of plywood. Panels can be advanced as work progresses; however, keep the plywood protection in areas that will be subjected to movement of materials, workers, and equipment. Take precautions in order to avoid depressions and protect brick/paver alignment until cured and ready for pedestrian or vehicle traffic.

F. Quality Control

1. Final elevations shall be checked for conformance to the drawings after removal of excess joint sand.
2. Ensure final surface is within 3/8 inch deviation when tested with a 10 foot straightedge.
3. Ensure all surfaces have positive drainage.
4. Ensure surface elevation of pavers is 1/8 to 1/4 inch above adjacent drainage inlets, channels and curb tops.
5. Ensure adjacent pavers elevation deviate no more than 1/8 inch.

3.02 PCC PAVER BASE

A. Concrete Pavement Placement:

1. Maintain moist subgrade in front of paving operation
2. Deposit concrete on the subgrade as required to minimize re-handling to prevent segregation.
3. Hand spread with shovels, not rakes.
4. Place concrete as required to slightly overfill the space between the forms.
5. For thicknesses less than 5 inches, consolidate by knifing with hand tools. When thickness is 5 inches or greater, consolidate with hand or mechanical vibrators meeting Article 2301.03, A, 3, a, 6, a of the Standard Specifications. Smooth by use of a straightedge.
6. Do not contaminate freshly mixed concrete with earth or other foreign materials.

B. Finishing:

1. Use a wood float to depress the large aggregate and create a dense surface.
2. Allow concrete to set until all shine has disappeared from the surface.
3. Smooth with a metal trowel until surface is free from defects and blemishes.
4. Construct joints by sawing or by using a jointer or grooving tool.
5. Brush with a soft broom at right angles to the side forms to provide a non-skid surface.

C. Jointing:

1. Construction Joints:

a. Locate construction joints to provide uniform joint spacing.
b. Place a construction joint at the close of each day's work or when depositing of concrete is stopped for 45 minutes or more.
c. Form construction joint by using a header board. Set perpendicular to the surface and at right angles to the centerline.

2. Transverse Contraction Joints:

a. Space contraction joints equal to the width of the base.
b. Form transverse contraction joints to a depth of 1 1/4 inches with a pointed trowel or jointing tool.