



**SPECIAL PROVISIONS
FOR
PCC PAVERS IN CROSSWALKS**

**Polk County
NHSX-U-1945(408)--8S-77**

**Effective Date
March 19, 2013**

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

1. GENERAL INFORMATION

1.1 SUMMARY

A. THIS SPECIAL PROVISION INCLUDES

1. All labor, materials, equipment, and supervision required to furnish and to install PCC PAVERS IN CROSSWALKS.
2. This Special Provision includes the requirements for PCC PAVERS IN CROSSWALKS, bituminous setting bed, modified asphalt adhesive, paver joint filler, concrete subbase preparation, concrete subbase priming, installation of bituminous setting bed, paver and joint filler installation.

B. MEASUREMENT AND PAYMENT

1. Basis of Measurement: The Engineer will measure the square foot surface area of the installed PCC PAVERS, CROSSWALKS.
2. Basis of Payment: Payment for PCC PAVERS, CROSSWALKS includes all labor, materials equipment, and supervision required to furnish and install PCC PAVERS, CROSSWALKS.
3. Unit Price for PCC PAVERS, CROSSWALKS shall include subslab preparation and primer, material and installation of pavers, bituminous setting bed, modified asphalt adhesive, and joint filler.

1.2 SUBMITTALS

- A. Paver manufacturer's material test data certifying pavers comply with specification.

1. Testing shall be performed by an independent testing agency retained by the paver manufacturer.
 2. Test results shall indicate project name and pallet numbers corresponding to pavers delivered to the job site.
- B.** Six paver samples representing actual size, shape, and color range. Samples will be retained by the Contracting Authority.
- C.** Supplier's formulation for Neoprene-modified asphalt adhesive.
- D.** Joint filler sand gradation reports.

1.3 SITE DISTURBANCES

- A.** Take precautions to insure equipment and vehicles do not disturb or damage existing site grading, walks, drives, utilities, plants, etc.
- B.** Repair and/or return to original condition any damage caused by Contractor feets negligence at no cost to Contracting Authority.
- C.** Provide temporary barricades and warning lights as required for protection of project work and public safety.

2. PRODUCTS

2.1 CONCRETE PAVERS

- A.** Concrete Paving Units: UNI-Stone as manufactured by a member of UNI-Group U.S.A., or a member of the Interlocking Concrete Paving Institute (ICPI).
- B.** Concrete Paving Units shall comply with ASTM C 936.
- C.** Compressive Strength: Greater than 8000 psi. ASTM C 140.
- D.** Water Absorption: Maximum of 5% per ASTM C 140.
- E.** Freeze-thaw and De-icing Salt Durability per ASTM C 1645 (Saline test).
- F.** Style and Size: Holland stone paver; 4 inches by 8 inches (nominal) by 3 1/8 inches thick.
- G.** Color: Red.

2.2 TACK COAT

Section 2303 of the Standard Specifications; Grade: MC-70

2.3 BITUMINOUS SETTING BED

Section 2303 of the Standard Specifications; 3/8 inch Type A Binder and Surface Course Mixture

2.4 NEOPRENE-MODIFIED ASPHALT ADHESIVE

- A.** Mastic (asphalt adhesive):
1. Solids (base): 75 + 1%.
 2. 8 to 8.5 pounds per gallon.

3. Solvent: Varsol (over 105°F Flash).

B. Base (2% Neoprene, 10% Fibers, 88% Asphalt):

1. Melting point - ASTM D 36: 200°F minimum.
2. Penetration/25°C, 100 load, 5 second (0.1 mm): 23-27.
3. Ductility - ASTM D 113 at 25°C; 50 mm/min.: 1.25 m/min.

2.5 JOINT FILLER SAND

A. Washed, clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, natural or manufactured from crushed rock.

B. Grading Requirements:

Sieve Size	Percent Passing Natural Sand	Percent Passing Manufactured Sand
No. 4	100	100
No. 8	95 to 100	95 to 100
No. 16	70 to 100	70 to 100
No. 30	40 to 75	40 to 100
No. 50	10 to 35	20 to 40
No. 100	2 to 15	10 - 25
No. 200	0 to 1	0 - 10

3. EXECUTION

3.1 PREPARATION OF CONCRETE SUBBASE

- A. Inspect concrete subbase to insure surface is clean and built in conformance with details.
- B. Verify elevation difference between concrete subbase and adjacent finish concrete surface to insure concrete pavers can be installed flush with bordering concrete pavement.

3.2 PRIME CONCRETE SLAB

- A. Clean concrete slab.
- B. Apply tack coat in accordance with Article 2303.03, C, 2, b, of the Standard Specifications (0.02 to 0.05 gallon per square yard).

3.3 PLACING BITUMINOUS SETTING BED

- A. Prior to bituminous setting bed installation, install protective covering over adjacent PCC pavement surfaces to avoid pavement staining and other surface damage.
- B. Install the setting bed over the base surface, place 3/4 inches deep control bars directly over the base.
 1. If grade must be adjusted, set wood chocks under depth control bars to proper grade.
 2. Set two bars parallel to each other, approximately 11 feet apart to serve as guides for striking board (12 feet long by 2 inches by 6 inches board).

3. The depth control bars must be carefully set to bring pavers, when laid, to proper grade.
- C. Place some bituminous bed between parallel depth control bars. Pull this bed with the striking board over bars several times.
 1. After each passage, low porous spots must be showered with fresh bituminous material to produce a smooth, firm, and even setting bed.
 2. As soon as this initial panel is completed, advance the first bar to the next position, in readiness for striking the next panel.
 3. Carefully fill up any depressions that remain after removing the depth control bars and wood chocks.
 - D. The setting bed shall be rolled with a 600 pound walk-behind, power roller to a nominal depth of 3/4 inch while still hot; the thickness shall be adjusted so that when the concrete pavers are placed, the top surface of the pavers will be at the required finished grade.
 - E. After the setting bed has cooled, a coating of 2% neoprene-modified asphalt adhesive shall be applied by mopping or squeegeeing or troweling over the top surface of the bituminous setting bed so as to provide a bond under the pavers; if the adhesive is troweled, the trowel shall be serrated with serrations not to exceed 1/16 of an inch.

3.4 INSTALLATION OF PAVERS

- A. After the modified asphalt adhesive is applied, carefully place the pavers by hand in straight courses with hand tight joints and uniform top surface.
- B. Good alignment must be kept and the pattern shall be that shown on the plans.
- C. Paver spacer bars will provide joints between pavers (joints may be between 1/16 inch and 3/16 inch wide and no more than 5% of the joints shall exceed 1/4 inch wide to achieve straight bond lines)
- D. Paver joint lines shall not deviate more than +/- 1/2 inch over 50 feet from string lines.
- E. Adjust paver pattern at pavement edges such that cutting of edge pavers is minimized.
- F. All cut pavers exposed to vehicular tires shall be no smaller than one-third of a whole paver in length.
- G. Cut pavers edges are to abut pavers only so a spacer bar abuts the cut edge of a paver.
- H. Do not place cut paver edges against concrete.
- I. Keep skid steer and forklift equipment off newly laid pavers that have not received initial compaction and joint sand.

3.5 JOINT TREATMENT

- A. Spread, sweep and compact dry joint sand into joints continuously until full. This will require at least four to six passes with a plate compactor. Do not compact within 6 feet of unrestrained edges of paving units.
- B. All work within 6 feet of the laying face shall be left fully compacted with sand-filled joints at the end of each day or compacted upon acceptance of the work. Cover the laying face or any incomplete

areas with plastic sheets overnight if not closed with cut and compacted pavers with joint sand to prevent exposed bedding sand from becoming saturated from rainfall.

- C. Remove excess sand from surface when installation is complete.
- D. Allow excess sand to remain on surface to protect pavers from damage from other trades. Remove excess sand when area is clear from construction traffic.
- E. Surface shall be broom clean after removal of excess joint sand.
- F. Final joints will be from 0 inch to a maximum of 1/4 inch for PCC pavers.

3.6 FIELD QUALITY CONTROL

- A. The final surface tolerance from grade elevations shall not deviate more than +/- 3/8 inch under a 10 foot straightedge.
- B. Check final surface elevations for conformance to drawings.
- C. The surface elevation of pavers shall be 1/8 inch to 1/4 inch above adjacent drainage inlets, concrete collars, or channels.
- D. Lippage: No greater than 1/8 inch difference in height between adjacent pavers.

3.7 CLEANING

- A. Clean P.C.C. pavers in accordance with the manufacturers written recommendations.
- B. Sweep excess sand from paved surfaces and remove from site.
- C. Remove all excess materials and debris from site.

3.09 PROTECTION

- A. Contractor shall be responsible for protecting adjacent pavements and improvements during installation of PCC Pavers in Crosswalks.
- B. After work in this section is complete, the Contractor shall be responsible for protecting work from damage due to subsequent construction activity on the site.