



**SPECIAL PROVISIONS
FOR
SALVAGE AND REUSE OF HISTORIC CLAY PAVERS**

**Lee County
STBG-SWAP-2697(628)--SG-56**

**Effective Date
July 16, 2019**

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

155033.01 DESCRIPTION.

- A. This part of the Specifications includes all labor, materials, equipment, and supervision required to remove/salvage, stockpile, and re-install historic clay pavers along 4th Street.
- B. This section includes the specifications for historic clay pavers, asphalt primer, 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.

1.01 QUALIFICATIONS

- A. Every installer shall demonstrate that they have installed pavers for projects of a similar nature, with regard to installation of at least 300,000 square feet.
 - 1. Paver Installer's Qualifications
 - a. Installer shall provide installation history, including references in writing with contact information, demonstrating to the satisfaction of the owner their ability to perform the paver installation and related work indicated in the plans and specifications.
 - b. The installer shall have suitably experienced personnel and a management capability sufficient to execute the work shown on the contract plans and specified herein.
 - c. The installer's foreman shall demonstrate, including references, a minimum of 5 years experience in the installation of unit paver systems similar in size and nature to this project.

1.02 DEFINITIONS

- A. Method Statement: The paver installer's plan for construction and quality control of the pavers.

1.03 SUBMITTALS

- A. Supplier's formulation for Neoprene-modified asphalt adhesive.

- B. Submit Method Statement and Quality Control Plan.

1.04 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's negligence at no cost to Contracting Authority.
- C. Provide temporary barricades and warning lights as required for protection of project work and public safety.

155033.02 MATERIALS.

2.01 HISTORIC CLAY PAVERS

- A. Second-hand masonry units shall not be reused unless they conform to the requirements of new units (ASTM C902). The units shall be of whole, sound materials and free from cracks and other defects that will interfere with proper laying or use. Old mortar and debris shall be cleaned from the unit before reuse.
- B. Contractor shall be responsible for removal, cleaning and stockpiling of existing pavers for re-use on the project.
- C. Contractor shall coordinate directly with Contracting Authority on appropriate location to stockpile salvaged pavers to minimize damage and exposure prior to re-installation.
- D. In the event pavers are damaged during removal or do not meet the quality and performance requirements outlined in Section 2.01 A, Contracting Authority does have an additional stockpile of salvaged pavers from previous projects available for use. Contractor shall coordinate directly with Contracting Authority in the event that they need additional pavers to complete the work.

2.02 ASPHALT PRIMER

Section 2303 of the Standard Specifications.

2.03 BITUMINOUS SETTING BED (Iowa DOT Spec)

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

2.04 TACK COAT

Section 2303 of the Standard Specifications.

2.05 JOINT FILLER

- A. Sand shall be concrete sand or finer.
- B. General fineness requirement: 95% to 100 % passing the No. 8 sieve.
- C. Submit sand gradation analysis for approval

Grading Requirements for Joint Filler Sand:

	ASTM C 144 Natural Sand	ASTM C 144 Manufactured Sand
<i>Sieve Size</i>	<i>Percent Passing</i>	<i>Percent Passing</i>
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 to 25
No. 200	0	0 to 10

155033.03 CONSTRUCTION.

3.01 PREPARATION OF CONCRETE SUBBASE

- A. Prior to construction of concrete base (included in a separate specification), confirm all dimensions of the actual pavers with the design pattern to confirm configuration, patterns, and dimensions of all material. Contractor shall notify the Engineer if there are any conflicts between the material and the design.
- B. Prepare a mock-up showing the quality of work expected for Contracting Authority's review and approval prior to starting the work.
- C. Inspect PCC subslab to insure surface is clean and built in conformance with details.
- D. Verify elevation difference between PCC subslab and adjacent finished PCC pavement/sidewalk surface to confirm Pavers can be installed flush with bordering pavement/sidewalk.

3.02 PRIME CONCRETE SLAB

- A. Clean PCC subslab.
- B. Prime PCC subslab surface with asphalt primer.

3.03 PLACING BITUMINOUS SETTING BED

- A. Prior to bituminous setting bed installation, install protective covering over adjacent PCC sidewalk pavement to avoid pavement staining and other surface damage.
- B. Install the setting bed over the PCC subslab surface, place 1 inch 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 foot long by 2 inch by 6 inch board).
 - 3. The depth control bars must be set carefully 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 board 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/tamped to a nominal depth of 1 inch while still hot; the thickness shall be adjusted so that when the 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 inch.
- F. Limitations: Comply with Article 2303.03, C, 4, c, of the Standard Specifications for placement of the setting bed and application of the modified asphalt adhesive.

3.04 INSTALLATION OF PAVERS

- A. After the modified asphalt adhesive is applied, carefully place the pavers in straight courses with a uniform top surface. Given the pavers historical nature and that they are being salvaged and re-used, they will likely not have the same uniformity as new material. It furthermore appears that they do not have spacing lugs on the side surfaces to assist in laying straight joint lines. As such, string or chalk lines must be used to keep paver joint lines straight and true. Joint lines shall not deviate more than +/- 1/2 inch over 50 feet. Care should be taken to ensure that pavers do not make direct contact with or lip under adjacent pavers.
- B. Surface flatness shall not exceed +/- 3/8 inch over 10 feet. Lippage shall not exceed 1/8" between adjacent pavers.
- C. Good alignment must be kept and the pattern shall be that shown on the plans.
- D. No partial paver shall be installed that has an area less than one-half the original full-size paver.
- E. Bituminous set pavers shall be rolled or compacted to achieve full bond with the setting bed, reduce lippage and improve the overall regularity of the surface. Protect pavers by using a rubber roller or a 4000 to 5000 pound plate tamper with a protective mat attached.

3.05 JOINT TREATMENT

- A. Joints shall be from 1/16 inch to a maximum of 3/16 inches between pavers.
- B. Sweep the dry joint filler sand into paver joints.

3.06 CLEAN-UP

- A. Sweep excess sand from paved surfaces and remove from site.
- B. Remove all excess materials and debris from site.

155033.04 METHOD OF MEASUREMENT.

The Engineer will measure the square feet surface area of the installed pavers.

155033.05 BASIS OF PAYMENT.

- A.** Payment for pavers includes all labor, materials, equipment, and supervision required to remove and install pavers, complete.
- B.** Unit Price for pavers will include existing paver removal, cleaning of paver surfaces, stockpiling, subgrade preparation, primer, material cutting and installation of pavers, HMA setting bed, modified asphalt adhesive and joint filler.