



**SPECIAL PROVISIONS  
FOR  
CONCRETE PAVERS AND PAVER BAND**

**Linn County  
NHSN-000-S(778)--2R-57**

**Effective Date  
May 19, 2015**

**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.**

**120305.01 DESCRIPTION.**

This work includes supplying and installing decorative concrete pavers and associated installation materials as described below.

**120305.02 MATERIALS.**

**A. Brick Pavers.**

Pavers shall be manufactured to specifications outlined in ASTM C 936, Standard Specification for Interlocking Concrete Paving Units. This standard requires average paver strengths of 8000 psi, minimum unit paver strengths of 7200 psi, average absorption of 5% and maximum unit absorption of 7%, and resistance to 50 freeze-thaw cycles, with no breakage greater than 1.0% loss in dry weight of any individual unit.

Pavers shall be a nominal 4 inch by 8 inch by 2 3/4 inch paver brick. Pavers shall be installed in a herringbone pattern. Pavers shall be the following manufacturers and colors:

- Pine Hall Brick – English Edge beveled edge pavers. Color: Red
- Unilock – Hollandstone. Color: Rustic Red
- Boral Brick – Heavy Vehicular beveled edge pavers. Color: Burgundy

The Contractor shall submit samples of each manufacturer as listed above for approval. Products of other manufacturers of similar color and finish shall also be considered if submitted as equal.

**B. Concrete Base**

Comply with Section 2301 of the Standard Specifications

**C. Aggregate Base**

The material shall be 21AA gravel, stone or crushed concrete as shown below:

21AA Aggregate shall conform to the following grading and physical requirements

% Passing 1-1/2" Sieve.....	100
% Passing 1" Sieve .....	85-100
% Passing 1/2" Sieve .....	50-75
% Passing No. 8 Sieve .....	20-45
% Loss by Washing .....	3-8*

*\*When the material is produced entirely by crushing rock, boulders, cobbles, slag, or concrete, the maximum limit for loss by washing will be increased to 10%.*

Crushed concrete shall conform to the following grading and physical requirements:

% Passing, 1-1/2" Sieve.....	100
% Passing, 1" Sieve.....	40-75
% Loss by Washing.....	0-10

The crushed concrete shall contain only negligible amounts of steel reinforcing and shall be free of other contaminating material. In addition, bituminous material content shall not exceed 3%.

**D. Jointing Sand**

Jointing sand shall be premium polymeric jointing sand. Jointing sand shall be a mixture of polymer binders and clean natural sand. Natural sands shall conform to the requirements of ASTM C 144, and shall meet the gradation requirements shown in Table SP-120305.02-1.

**TABLE SP-120305.02-1**

	<b>NATURAL SAND</b>	<b>MANUFACTURED SAND</b>
<b>SIEVE SIZE</b>	<b>% PASSING</b>	<b>% PASSING</b>
No. 4	100	100
No. 8	95 - 100	95 - 100
No. 16	70 - 100	70 - 100
No. 30	40 - 75	40 - 75
No. 50	10 - 35	20 - 40
No. 100	2 - 15	10 - 25
No. 200	0	0 - 10

**E. Bedding Sand**

Bedding sand shall be premium mason sand. Sand for brick bedding shall pass the No. 8 sieve, and be uniformly graded from coarse to fine.

**F. Edge Restraints**

Edge restraints are required wherever the paver units do not abut a vertical rigid structure (such as a back of curb or edge of intake). No unrestrained edges will be allowed. Edge restraints shall be commercially available plastic edge restraints or concrete edge restraint designed for paver brick installations under light vehicle traffic loading.

**G. Geotextile Fabric**

Geosynthetic fabrics shall meet the following requirements:

**Minimum Physical Requirements for Geosynthetic Fabrics**

Property	Standard	Test Method
Tensile strength, lb	140	ASTM D 4632
Elongation, percent	5	ASTM D 4632
Puncture strength, lb	70	ASTM D 4833
Burst strength, psi	200	ASTM D 3786
Trapezoid tear, lb	50	ASTM D 4533
Equivalent opening size, sieve no.	70	ASTM D 4751

*Notes:*

1. *California Bearing Ratio (CBR) of the soil subgrade >2%*
2. *Acceptance of geotextile is to be determined according to ASTM 4873. Contracting agency may require a letter from the manufacturer certifying that its fabric meets the required specification. Use test values in weaker principal direction of fabric. All numerical values represent minimum roll values. Stated values are for noncritical, non-severe conditions. Consult fabric manufacturer's recommendations for applications in low bearing strength soils (<2% CBR), or in pavements subject to highway or industrial loads. Fabric lots should be sampled according to ASTM D 4354.*

**120305.03 CONSTRUCTION.****A. Paver Preparation.**

1. The existing grade shall be modified to prepare for proper depth of base and brick. The removed soil shall be properly removed and disposed of properly.
2. The subgrade shall be compacted using a vibratory plate compactor to a minimum of 90% to prepare for the concrete base.
3. Portland Cement Concrete base shall be poured to a minimum depth of 4 inches, if specified.

**B. Paver Installation.**

1. Pavers shall be free of foreign material before installation.
2. Pavers shall be inspected for color distribution and all chipped, damaged or discolored pavers shall be replaced.
3. Color Blending - Paving units shall be installed from a minimum of three bundles simultaneously drawing the paver vertically rather than horizontally. By installing from a minimum of three bundles simultaneously, variation in color is dispersed and blended throughout the project.
4. The pavers shall be laid in a herringbone patterns shown on the drawings. String lines or chalk lines on bedding sand should be used to hold all pattern lines true.
5. Joints between the pavers on average shall 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. Installing pavers too tightly may lead to chipping at the edges.
6. Gaps at the edges of the paved area shall be filled with cut pavers.

7. Units cut no smaller than one-third of a whole paver are recommended along edges subject to vehicular traffic.
8. Pavers to be placed along the edge shall be cut with a double blade paver splitter or masonry saw.
9. The use of infill concrete or discontinuities in patterns will not be permitted except along the outer pavement boundaries, adjacent to drains and manholes.

**C. Completing Paver Installation.**

1. Upon completion of cutting, the area must be swept clean of all debris to facilitate inspection and to ensure pavers are not damaged from installation.
2. After sweeping, the paved area must be inspected by the owner to ensure satisfactory color blending. Pavers can be moved easily at this time to achieve good color distribution.
3. Dry polymeric joint sand shall be swept into the joints until the joints are full. This will require at least two or three passes with the broom.
4. Excess joint sand shall be swept off when the job is complete and removed from the site by the Contractor.
5. Final elevations shall be checked for conformance to the drawings after removal of excess joint sand.
6. All surface and pavement structures shall be true to the lines and levels, grades, thickness and cross sections shown on the drawings. All pavements shall be finished to lines and levels to ensure positive drainage at all drainage outlets and channels. In no case shall the cross-fall of any portion of pavement be less than 2% unless otherwise allowed in the plans. The final surface elevations shall not deviate more than 3/8 inch under a 10 foot long straight edge.
7. The surface elevation of pavers shall be 1/8 to 1/4 inch above adjacent drainage inlets, concrete collars or channels, and curb tops.

**120305.04 METHOD OF MEASUREMENT.**

The Engineer will measure Concrete Pavers in square yards. The Engineer will measure Paver Band, As per plan in square yards.

**120305.05 BASIS OF PAYMENT.**

- A. Contractor will be paid for the finished area of Concrete Pavers installed in place. Payment for Concrete Pavers will be full compensation for supplying and installing the paver units, bedding sand, jointing sand, edge restraints, geotextile fabric, and all labor, equipment and materials necessary to complete the pavers in place, per the plans and specifications.
- B. Contractor will be paid for the finished area of Paver Band, As per plan installed in place. Payment for Paver Band will be full compensation for supplying and installing the paver units, jointing sand, edge restraints, and all labor, equipment and materials necessary to complete the pavers in place, per the plans and specifications.
- C. The concrete base, if specified, and modified subbase under the concrete pavers are paid for under separate bid items.