

**ITEM 39608.40 M - ASPHALT BLOCK PAVEMENT ON STONE SCREENINGS BASE**

**DESCRIPTION:**

This work shall consist of furnishing and installing asphalt block pavement on stone screenings base in accordance with the contract documents and as directed by the Engineer.

**MATERIALS:**

Stone Screenings: Stone screenings shall be either limestone or traprock and shall consist of hard, durable, sharp-edged fragments, free from dirt or other deleterious matter, graded within the following limits:

<u>Passing Sieve (dry measure)</u>	<u>Percent by weight</u>
12.7 mm	100
No. 20	20-45
No. 200	5-15

**IMPORTANT:** Material substitutions will not be approved under any circumstances. All recycled materials will be rejected.

Bituminous Setting Bed: The setting bed shall consist of asphalt cement meeting the requirements outlined in either Section 702-02 or 702-03 mixed with fine aggregate meeting the requirements of Section 703-01. The asphalt cement shall be 7.0% of the total batch weight. The mix shall be heated to approximately 163°C.

Tack Coat: Tack coat shall conform to Section 608-3 of the Standard Specifications (Metric Edition).

Asphalt Block: Unless otherwise noted on the plans, all pavers shall be hexagonally shaped asphaltic concrete blocks, 203mm between parallel sides and 51mm in thickness, with a permissible plus or minus tolerance of 1.6mm in any dimension.

The blocks shall be as manufactured by:

Hanover Architectural Products  
240 Bender Road  
Hanover, PA 17331  
717-637-0500

Or equal as approved by the engineer. Top exposed surface of blocks shall have a ground finish, exposing a small aggregate. Blocks shall be in the color(s) as noted on the plans, and as approved by the Engineer in coordination with the Regional Landscape Architect.

Where defects in material or installation appear in the completed work, such areas shall be removed to the full depth of the course and the defective material replaced with new for the required thickness of pavement at no expense to the State.

Forms: The forms for this work shall be wood of an approved type, and a minimum length of three (3) meters for tangents and curves, unless otherwise shown on the plans.

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All forms shall be straight, free from bends and warps at all times, and shall be cleaned thoroughly and oiled before pavement is placed against them. This cleansing and oiling shall be repeated daily as the forms are moved ahead. The forms shall rest firmly upon the thoroughly compacted subgrade throughout their entire length, and shall be joined neatly and tightly, and staked securely to line and grade at least sixty-one (61) meters in advance of the point of placement by using at least three (3) bracing pins or stakes to each three (3) meter length of the side form, so that they will resist the pressure of the pavement and the impact of the roller without springing.

Tests: Unless otherwise specifically provided, test of materials shall be made in accordance with the latest specifications of the ASTM.

Transporting: Shipments of material shall be made in tight vehicles previously cleaned of all foreign material and delivered to the work site so that it will not become contaminated in any way.

Submittals: The Contractor shall submit samples of each type and color of paver that is proposed for use, for approval by the Engineer in coordination with the Regional Landscape Architect. The samples shall be clearly labeled with the Contract Number, manufacturer, color and finish. All pavers used on the work shall conform to the approved samples. A 1.4kg bag of stone screenings shall be submitted to the Engineer for approval, with a sieve analysis and the name of the supplier attached.

Sample Pavement: Prior to installing the asphalt block pavement, the Contractor shall construct a 3 meter x 3 meter sample pavement that demonstrates the paving patterns and colors in accordance with the plans and specifications, in order to verify the aesthetic effect and quality of materials. The Contractor shall notify the Landscape Architect and Engineer seven days in advance of the date when the sample pavement is to be constructed. The sample shall be located as directed by the Engineer and may be part of the final work. It shall contain mortar joints and expansion joints as included in the final work. The Contractor shall obtain written approval of the sample prior to commencing with the final work. If the sample is disapproved, it shall be removed and re-installed as directed by the Engineer. The Contractor shall maintain the approved sample pavement in an undisturbed condition as a standard for judging the completed work. After completion and approval of the finished work, the sample pavement shall be demolished and removed by the Contractor, or included as part of the work, as directed by the Engineer.

### **CONSTRUCTION DETAILS:**

The Contractor shall furnish and place stone screenings. Sand shall be used as a base material for tree pit areas only, as shown on the contract plans.

Subgrade Preparation: The subgrade shall be compacted with equipment that will yield the following density:

Cohesive Subgrade - Minimum of 95% of AASHTO 180 Method density.

Cohesive less Subgrade - Minimum of 100% of AASHTO 180 Method D Density

The Contractor shall remove from the subgrade all debris, foreign and other undesirable material that interferes with satisfactory construction. The fine grade shall not be muddy or otherwise unsatisfactory when the base course material is placed upon it. If the fine grade becomes rutted or displaced, due to any

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cause whatsoever, the Contractor shall regrade same without additional payment. The Contractor shall trim subgrade to smooth uniform lines to the satisfaction of the Engineer.

Spreading: The spreading of stone screenings base material shall be accomplished, using suitable equipment, from piles dumped along the proposed site. Base material shall be evenly spread over the compacted subgrade so that the course will have, after rolling, the required thickness. No segregation of large or fine materials will be allowed, but the screenings, as spread, shall be well graded with no pockets of fine material.

Rolling: After the stone screenings base material has been properly spread, it shall be thoroughly compacted by rolling with an approved roller weighing no less than ten (10) metric tons. The stone screenings shall be sprinkled and saturated immediately before material becomes set. If pavement becomes unstable and waves under the roller, the roller shall be taken off and this portion shall be left to dry out before rolling is resumed.

More screenings shall be added where necessary, and the sprinkling and rolling shall continue until the base has been properly compacted. If necessary to secure satisfactory results, in the opinion of the Engineer, the base shall be sprinkled and back rolled on succeeding days. The Contractor shall maintain and repair the stone screening foundation course until the block has been placed.

Bituminous Setting Bed: To install the setting bed over the surface of the base, place 19mm deep control bars directly over the base course. If grades must be adjusted, set wood chocks under depth control bars to proper grade. Set two bars parallel to each other approximately 3.4 meters long (51mm x 152mm board). The depth of control bars must be set carefully to bring the paver, when laid, to the proper grade. Place some bituminous material between the parallel depth control bars. Pull this bed with the striking board over these bars several times. After each passage, low porous spots must be showered with fresh bituminous materials to produce a smooth, firm and even setting bed. As soon as this initial panel is completed, advance the first bar to the next position in readiness for striking the next panel. Carefully fill up any depressions that remain after removing the depth control bars and wood chocks.

The bed shall be spread in a continuous workmanlike manner. Installation of base in spotted, different and isolated areas will not be accepted. Bed depth greater than 29mm will not be acceptable.

After the setting bed has cooled, it shall be rolled by hand with a 45kg roller to eliminate sponginess and to prepare the surface for the installation of the tack coat. The setting bed shall be protected against all pedestrian traffic and construction equipment to insure a level surface for setting pavers.

Tack Coat: The neoprene-modified asphalt adhesive tack coat shall be applied by mopping, squeegeeing or troweling over the top of the bituminous setting bed so as to provide a bond between the bituminous setting bed and the paver.

Setting Pavers: When modified asphalt adhesive is dry to touch, carefully place the pavers by hand, ground finish side up, unless otherwise specified, in straight course, with hand-tight joints and uniform top surfaces, keeping full alignment according to the patterns shown on the plans.

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Pavers may vary slightly in shade and tonality. Installer shall work from at least four (4) pallets at a time in order to create a uniform blend of paver shades.

Joints between blocks shall have a maximum width of 3.2mm. All blocks shall be cleaned when placed on the pavement. In no case shall the bituminous setting bed in front of the pavement be disturbed or walked on during the laying of blocks.

Joint Filler: Upon the completion of the work of laying the blocks in each section to the satisfaction of the Engineer, the surface of the blocks shall be swept clean and the joints filled with fine sand.

All joints shall be filled the same day as the blocks are laid. Filler shall not be applied if the blocks are wet or if the air conditions are such that the filler does not readily enter the joints. Filler shall be well worked into the joints by means of squeegees or other approved devices operating slowly backward and forward. Squeegeeing shall continue until the joints are flush with the top surface. Immediately after the joints are filled, the pavement shall be lightly sprayed and cleaned.

Pattern: The layout pattern and paver design is as indicated on the plans and shall be subject to approval by the Engineer in coordination with the Regional Landscape Architect. All edges, borders and corners of the paved area shall be finished to true and neat lines. Special cutting, soldier courses, color patterns, various shapes, and variations in size and finish are all to be included in the work for this item.

### **METHOD OF MEASUREMENT:**

This work will be measured for payment as the number of square meters of Asphalt Block Pavement on Stone Screenings Base satisfactorily furnished and installed, measured to the nearest square meter.

### **BASIS OF PAYMENT:**

The unit price bid for Asphalt Block Pavement on Stone Screenings Base shall include the cost of furnishing all labor, materials and equipment necessary to satisfactorily complete the work.