

## 7.0 Permeable Pavements

### **7.8 PERMEABLE PAVEMENTS SPECIFICATIONS**

#### **CONSTRUCTION NOTES**

1. The contractor shall verify all information prior to excavation including elevations and locations of existing utilities.
2. The contractor shall notify the engineer immediately if any field conditions differ materially from those represented on these drawings and the specifications or if, in the contractor's opinion, said conditions conflict with the designs shown hereon.
3. The contractor shall have a pre-construction meeting with the engineer prior to any work on site.
4. The contractor shall avoid over compacting the existing materials to avoid poor infiltration.
5. The contractor shall establish all elevations and lines as shown in the site plan for review by the engineer before any construction begins.
6. The contractor shall verify that the subgrade is consistent with line, grade, and elevations as indicated in the site plan. Any areas showing erosion or potential ponding shall be regraded before subbase installation.
7. Immediately after the subgrade is approved by the engineer, the contractor shall begin subbase construction which includes all materials below the pavement and above the existing subgrade.
8. The contractor shall place geotextile fabric in conformance with manufacturer's specifications. All adjacent fabric shall be overlapped by at least 16 inches. The fabric shall be secured at least four feet outside of the excavated base.
9. The filter course aggregate shall be installed in 8-inch maximum lifts and compacted to a maximum of 95% standard proctor (ASTM d698/AASHTO t99).
10. The choker course shall be installed evenly over the filter course; the contractor shall notify the engineer for approval. The choker base shall be at least four inches thick. The choker, gravel, and stone base aggregate shall be installed to a maximum of 95% standard proctor compaction.
11. The infiltration rate shall be at least 5-30 ft/day or 50% of the hydraulic conductivity (D2434).
12. Subbase courses densities shall be approved by the engineer; rolling and shaping shall resume until densities are acceptable. Water shall be poured over subbase course materials during compaction.
13. The contractor shall perform all rolling and shaping from the low side to the high side until each layer conforms to grade as indicated and layers are smooth.
14. After subbase aggregate installation, the geotextile fabric shall be folded back along all bed edges. The fabric shall remain secure until adjacent soils establish vegetation. Any necessary measures shall be taken to prevent sediment from washing into beds.
15. The asphalt and concrete mixing plant, hauling and placing equipment, and installation shall be in conformance with National Asphalt Pavement Association's *Porous Asphalt Pavements for Stormwater Management* (NAPA IS-131) and the NJDOT Standard Specifications for Road and Bridge Construction, 2007 or latest version.

#### **SPECIFICATIONS**

1. The contract shall be performed in conformance with the NJDOT Standard Specifications for Road and Bridge Construction, 2007 or latest version.

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2. Finished pavements shall show no marks from rollers and be free from low lying spots subject to puddle formation. The entire surface shall drain properly. All elevations must be within 0.1 feet.
3. All work must meet the standards of the engineer before payment. Additional work and testing will be necessary if standards are not met.
4. The thickness of No. 57 aggregate is 12 inches under pervious concrete sidewalks.
5. Porous asphalt mix design criteria:

Sieve size (inch/mm)	percent passing (%)
0.75/19	100
0.50/12.5	85-100
0.375/9.5	55-75
No.4/4.75	10-25
No.8/2.36	5-10
No.200/0.075 (#200)	2-4
Binder content (AASHTO t164)	6-6.5%
Binder performance grade	64-22
Fiber content by total mixture mass	0.3%
Cellulose or 0.4% Mineral	
Rubber solids (SBR) content by weight of the bitumen	1.5-3%
Air void content (ASTM d6752/ASSHTO t275)	16.0-22.0%
Draindown (ASTM d6390)* < 0.0%	
Retained tensile strength (AASHTO 283)** > 80%	
Cantabro abrasion test engaged samples (ASTM d7064-04) < 20%	
Cantabro abrasion test on 7 day aged samples < 30%	

6. \*Cellulose or mineral fibers may be used to reduce draindown.
7. \*\*If the RTS (retained tensile strength) values fall below 80% when tested per NAPA IS-131 (with a single freeze thaw cycle rather than 5), then in step 4, the contractor shall employ an antistrip additive, such as hydrated lime (ASTM c977) or a fatty amine, to raise the RTS value above 80%.