

**ITEM 0102101**

**5" CONCRETE WALK ON NEW FOUNDATION**

**DESCRIPTION**

This item shall include removing and disposing of existing walk, excavation for, furnishing and constructing 12" thick processed traprock foundation, furnishing materials for and constructing new 5" thick concrete walk to line and grade, backfilling along the edges of the walk, and seeding where necessary.

**REFERENCED ITEMS**

Item 0100101, 0100102 and 0102701

**REQUIRED SUBMITTALS**

Material Certificate of Compliance:

Submit 5 copies of material certificate of compliance for concrete and expansion joint material in accordance with the contract general requirements.

**MATERIALS**

All materials and construction methods shall be as specified below:

1. **FOUNDATION**

All foundation material under concrete walk shall be new processed traprock conforming to the following gradation:

Square Mesh Sieves	Percent Passing by Weight
1"	100%
3/4"	90-100%
3/8"	50-90%
#4	35-70%
#10	15-45%
#100	2-12%

2. **CONCRETE**

1. Minimum Strength 4000psi at 28 days
2. Minimum Cement Content 7 bags per cubic yard  
(Cement shall be Type II)

- |    |                            |                            |
|----|----------------------------|----------------------------|
| 3. | Maximum size of Aggregate- | 3/4 inch                   |
| 4. | Maximum water content      | 5.3 gal. per bag of cement |
| 5. | Slump                      | Not more than 3"           |
| 6. | Air entrained              | 6 ±1 percent.              |

Test for air content of fresh concrete shall be made during construction. Because of the effects of mixing and vibration, samples for air content preferably should be taken from concrete after it has been placed by qualified technicians per ASTM C-173.

The concrete producer will be required to show that his plant and equipment meet all requirements as established by ASTM designation C94-04, and shall also be currently approved by the State of Connecticut, Department of Transportation.

All concrete mix used must be accompanied by a certification issued by the concrete producer showing the time of day on the batch slip and the composition of the concrete mix; that is the amount of type of cement; the quantity and gradation of the coarse and fine aggregates, amount of water, kind of air-entraining admixture and the retarder admixture if any; and also a certification that the mix will attain the minimum compressive strength of 4,000psi in 28 days.

Any concrete mix without the time of day stamped on the accompanying batch slip will be rejected immediately. Also the concrete mix must be placed within 1 1/2 hours of the time of day stamped on the batch slip, otherwise it will be rejected.

### 3. **EXPANSION JOINTS**

Expansion joint material shall meet ASTM Specification D-1752-04 Type II.

## **CONSTRUCTION METHODS**

### 1. **EXCAVATION**

Excavation for foundation shall be to a minimum depth of 17" below finished walk grade and to a minimum width of 3" outside the edge of the walk.

The bottom of the excavation shall be graded smooth and thoroughly compacted to a firm, even surface using a roller weighing not less than five tons or a motor driven vibratory compactor. Excavation in the vicinity of tree roots will be performed with extreme care. If ordered by the engineer hand

excavation will be required. If this work is required, it shall be included in the cost of the work and no additional payment will be made.

2. **FOUNDATION**

The processed traprock foundation material shall be placed in 6" layers the full width of the excavation, each course shall be compacted satisfactorily to a uniform surface with at least two passes of a motor driven vibratory compactor. Additional fine material shall be added to the top course to fill any voids that may have developed during compaction and to bring the completed foundation to true line and cross section 5" below and parallel to the finished grade of the walk.

Should the sub-base material become churned up or mixed with the bottom course material at any time, the contractor shall, without additional compensation, remove the mixture, reshape and recompact the sub-base, and replace the material removed with clean, coarse material which shall be compacted to a firm uniform surface.

3. **FINISH**

The walk shall have a troweled and broomed finish. All exposed edges and edges adjacent to expansion joints shall be finished with a 1/4" maximum, radius edger, in good condition.

A broomed texture shall be applied in straight lines, at right angle to direction of traffic. Each pass of the broom shall be contiguous to the previous one. For best results, the broom shall be rinsed in water after each pass and tapped to remove excess water.

4. **EXPANSION JOINTS**

a. Transverse

Dowled transverse 1/2" expansion joints shall be constructed approximately every 15' intervals along the length of the walk to be constructed in accordance with the details. No additional payment will be made for transverse expansion joints.

b. Longitudinal

Where sidewalk is constructed against a granite curb, 1/2" thick expansion material as specified above shall be placed against the curb, except that where the walk is six feet or more wide, the Engineer may order a 1/2" thick longitudinal expansion joint constructed two feet back of the curb line. The longitudinal joint constructed will be paid for under Item 0102701.

c. Against Structures

1/2" expansion material as specified above shall be placed between new sidewalk and all existing walk, manholes, vaults, buildings and other structures.

d. Grade

The concrete at the expansion joints shall not be raised above the general surface of the walk.

e. Trim

All expansion joint material shall be neatly trimmed off flush with the surface of the walk.

5. **TOOLED JOINTS**

All tooled joints shall be at least 1" depth when finished and shall be finished with a grooving tool having fillets of 1/4" maximum radius.

Transverse tooled joints shall be constructed at a longitudinal spacing equal to the width of the walk but not more than six feet apart or to match existing walk.

Longitudinal tooled joints shall be constructed on the center of walks over six feet wide or to match existing walk.

6. **CURING**

All concreted sidewalk shall be cured as follows:

Immediately following the final finishing and as soon as possible without marring the surface, the concrete shall be covered with cotton matting or

waterproof paper for 72 hours. Cotton matting, if used, shall be in good condition, shall be saturated with water prior to placement, shall be suitably fastened down to prevent movement and shall be kept moist for the entire period it is in place. Waterproof paper, if used, shall be lapped at least 12", shall cover the entire surface and shall overlap all edges of the walks. The laps and edges of the paper shall be securely weighted down with continuous planking, or with piles of earth or other material to hold and keep all edges down tight.

Before use, all waterproof paper shall be checked for tears and holes, and all tears and holes shall be repaired. Covers which become unserviceable will be rejected by the Engineer.

Wherever waterproof paper, if used, is found to have blown off or otherwise uncovered the concrete before the end of the 72 hour period, the Contractor will be required to immediately remove the paper and immediately cover the concrete with cotton matting placed and kept moist for an additional 24 hours.

When the concrete is poured during cold weather (night temperature below 35 degrees F) the concrete shall be protected by a layer of hay at least 6" thick and covered with waterproof paper or by other means acceptable to the Engineer. This protection shall be provided in addition to the curing procedure specified above and shall be maintained for at least four days after the day the concrete was poured.

Curing compounds shall not be used under any circumstances.

#### 7. **REPAIR ADJACENT TO WALK**

Upon completion of the walk, the Contractor shall backfill along the edges of walk with loam salvages from the excavation, or with new loam to the top of the new walk, and the surface shall be seeded, all as specified in Item 0100101 or 0100102.

#### **METHOD OF MEASUREMENT**

This work will be measured by the actual number of square feet of completed and accepted concrete walk.

**BASIS OF PAYMENT**

This work will be paid for at the contract unit price per square foot for 5" CONCRETE WALK ON NEW FOUNDATION" complete in place, which price shall include all excavation, hand digging if required, as specified above, backfill, disposal of surplus material, processed traprock base, equipment, tools, materials and labor incidental thereto.

<b><u>PAY ITEM</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAY UNIT</u></b>
0102101	5" Concrete Walk On New Foundation	SF