

ITEM 0100101

NEW STRAIGHT GRANITE CURB ON NEW FOUNDATION

DESCRIPTION

This item shall include excavating in front and back of existing curb, removing, stockpiling curb to be reset or disposing of the existing curb as determined by the Engineer. This item shall also include saw cutting and excavating for, and furnishing and placing new processed stone foundation, furnishing and setting to line and grade new straight granite curb, furnishing and placing new backfill, caulking curb joints, making all necessary pavement repairs and grading behind the curb where necessary.

REFERENCED ITEMS

Items 0103703 and 0106401

REQUIRED SUBMITTALS

Certified Test Report:

Submit 5 copies of certified test reports for Granite Curbing and Caulking Compound in accordance with the contract general requirements.

Material Samples:

Submit material sample for Granite Curb in accordance with the contract general requirements.

MATERIALS

1. **GRANITE CURB**

All new granite curb supplied for use shall be 6" x 20" and shall conform to the following:

General: Curbstones shall be hard and durable granite of light color and uniform texture neither stratified nor laminated. It shall be free from seams, cracks and evidence of weakening or disintegration and shall be of a good smooth splitting appearance. Granite shall come from a quarry previously approved by the Engineer.

Should the Contractor request use of granite from a quarry not previously approved, he shall submit samples sufficiently in advance of need to allow the Engineer opportunity to judge the stone both as to quality and appearance. All curbstones for a given project shall come from one quarry and be all of one type. Granite when tested shall have a French coefficient of wear of not more than 32. Test sample shall conform to the requirements of ASTM C-615-03.

Dimensions:

- a. Straight curb shall be 6 inches by 20 inches (as ordered by the Engineer) depth shall be nominal depth plus or minus 1 inch, minimum curb length to be 6 feet (except for closures to be not less than 4 feet) minimum width at bottom to be nominal width minus 1 inch for two thirds the length with an absolute minimum of minus 2 inches for the remaining one third.
- b. All curbs to be set on radius 75 feet or less shall be 6 inches by 20 inches cut to arc with radian joints, depth shall be 20 inches plus or minus 1 inch, minimum length to be 4 feet, minimum width at bottom to be 5 inches for two thirds the length with an absolute minimum of 4 inches for the remaining one third.
- c. Straight curb to be set on radius over 75 feet to 500 feet shall be 6 inches with ends trimmed so that face and top joint fit properly, depth to be 20 inches plus or minus 1 inch, minimum length to be 4 feet, maximum length to be 6 feet, minimum length at bottom to be 5 inches for two thirds the length with absolute minimum of 4 inches for the remaining one third.

Finish:

The curbstone shall have a top surface free from wind and drill holes, it shall be sawed to an approximately true 1/8 inch. The front and back arris lines shall be straight and true with no variation from a straight line greater than 1/8 inch. On the back surface there shall be no projection for 3 inches down which would fall outside a batter of 4 inches in 12 inches from the back arris line. The front face shall be at right angles to the plane of the top or battered not more than one inch in twelve inches, and shall be quarry split or sawn, free from drill holes in the exposed face. The front face shall have no projections greater than 3/4 of an inch or depression greater than 1/2 inch

measured from the vertical plane of the face through the top arris line for a distance of 8 inches down from the top.

For the remaining distance there shall be no projections or depressions greater than 1 inch measured in the same manner. The arris lines at the ends shall be pitched with no variation from the plane of the face greater than 1/8 inch. The ends of all stones shall be square with the planes of the top and face, and so finished that when the stones are placed end to end as closely as possible, no space more than 1/4 inch shall show in the joint for the full width of the top and down on the face for 8 inches. On curb stones having a length of 6 feet or more, the remainder of the end may break back not over 6 inches, on shorter curbstones, they shall not break back more than 4 inches. The bottom surface shall be sawn or quarry split to an approximately true plane. Half drill holes will not be permitted in the arris line of the back. Front arris line may be rounded to a radius not over 1/2 inch. If sawn, the curbstone shall be thoroughly cleaned of any iron rust or iron particles.

2. **PROCESS TRAPROCK**

All process traprock material used for curb foundation and backfill shall conform to the material requirements of Item 0103703.

3. **CONCRETE**

All materials for this work shall conform to the requirements of Section M.03 of the State of Connecticut Standard, Department of Transportation, Specifications for Roads, Bridges and Incidental Construction, Form 816, 2004, for Class "C" concrete.

4. **CAULK**

Caulking compound shall be a material which complies with ASTM C-920, Type S, Grade NS, Class 25 sealing compound, polyurethane based elastomeric, single component, moisture cured sealant, capable of 25% joint movement. The color of the compound shall be cement mortar gray.

CONSTRUCTION METHODS

1. **EXCAVATION**

The Contractor shall excavate to a depth of 36" below the top of finished curb grade. The street pavement shall be removed to a width of at least 6" in

front of the curb to facilitate proper setting and backfilling. Bituminous concrete and macadam pavement in front and back of the curb shall be cut to neat straight lines before excavation to minimize pavement damage.

Where there is good sod behind the curb, the sod shall be removed before excavation and saved for re-use.

Where there is a dummy joint 18" to 24" behind the curb, the Engineer may require the Contractor to saw the joint prior to excavating behind the curb. Saw cutting will be included in this item

Where concrete base pavement is encountered excavation shall include removal of all existing concrete or other foundations. Saw cutting the concrete base shall also be included in this item.

Where the distance between the back of the curb and sidewalk is 12" or less, or where trees are encountered immediately behind the curb, the Engineer may order the Contractor to excavate by hand to avoid damage to the walk or trees.

2. **SETTING CURB**

The curb shall be set to line and grade established by the Engineer. Maximum variation from established line and grade shall be 1/4". The finished curb shall present a neat appearance free from irregularities of line and grade.

3. **FOUNDATION AND BACKFILL**

All foundation and backfill shall be placed in layers not over six inches thick and each layer shall be thoroughly compacted using motor driven powered vibratory compactor.

All curb joints shall be set in concrete 6" from either edge and shall not be less than 6" below bottom of the curb.

Backfill shall be placed in back of the curb to six inches below the top of the curb for loam and seeding and concrete walk, and two inches below for bituminous surface. Backfill in front of the curb shall be placed to 5" below gutter grade in streets with flexible base pavement and to 11" below gutter grade in streets with concrete base pavement.

4. **PAVEMENT REPAIR**

The following applies where the entire roadway is not to be resurfaced. The edge of the pavement shall be trimmed to neat straight lines not less than 12" from the face of the curb and shall be painted with hot asphalt cement. The face of the curb below gutter grade shall also be painted with **hot** asphalt cement. Hot asphalt cement shall be graded by viscosity at 140 F and shall conform to the requirements of AASHTO M226-80 except that AC-20 viscosity grade shall be as follows:

| <u>Test</u> | <u>Minimum</u> | <u>Maximum</u> |
|-----------------------------------|----------------|----------------|
| Viscosity, 140 F, poises | 2000 | +400 |
| Viscosity, 275 F, Cs. | 300 | |
| Penetration, 77 F, 100 g, 5 Sec | 60 | |
| Flash Point, COC, F | 50 | |
| Solubility in Trichlorethylene, % | 99.0 | |
| Tests on Residue - Thin Film Oven | | |
| Test Loss on Heating, % | 00 | 0.50 |
| Ductility, 66 F, 2 inches/min, cm | 30 | |
| Ductility, 77 F, 2 inches/min, cm | 50+ | |
| Viscosity, Ratio, ATFO/BTFO | 4 | |

5. **REPAIR BEHIND CURB**

Where there is no walk directly behind the curb, the top 6" of curb trench shall be backfilled with existing usable soil or new topsoil. The new topsoil shall conform to the requirements specified under Item 0106401.

Where sod has been saved and is in good condition, the sod shall be replaced to match the top of curb and existing ground.

Where no sod is available, the topsoil shall be graded to match the top of curb and existing ground. Fertilizer, lime, seed and mulch, conforming to the material requirements of Item 0106401, shall then be applied in accordance with the Construction Methods of Item 0106401.

The cost for loaming and seeding up to a maximum of 12" behind the curbs and for any additional unnecessary damage done by the Contractor shall be included in this item. Loaming and seeding beyond 12" from the curb as ordered by the Engineer will be paid for under Item 0106401.

6. CAULKING CURB JOINTS

All curb joints shall be filled with caulking compound with either pneumatic or ratcheted hand gun or with other equipment as approved by the Engineer. At approximately 50-foot intervals, a 1/2-inch joint shall not be filled with caulking compound but left free for expansion.

METHOD OF MEASUREMENT

This work will be measured for payment along the top arris line of face of curb from end to end of the new curb.

BASIS OF PAYMENT

Payment for this work will be made at the contract unit price per linear foot for "(TYPE) NEW STRAIGHT GRANITE CURB ON NEW FOUNDATION," complete in place, which price shall include all materials, equipment, tools, saw cutting and labor incidental thereto, and all excavation, backfilling and disposal of surplus material. There will be no direct payment for furnishing, placing and compacting processed traprock, repair of disturbed areas in front and back of curb and the 12" maximum grassed area in back of curb, but the cost of these works shall be considered as included in the cost of the curbing.

| <u>PAY ITEM</u> | <u>DESCRIPTION</u> | <u>PAY UNIT</u> |
|------------------------|---|------------------------|
| 0100101 | 6" x 20" New Straight Granite Curb On New Foundation | LF |