

## **SECTION 110 - CURB & GUTTER, SIDEWALK, MISCELLANEOUS CONCRETE**

### 110.1 GENERAL

Work included in this Section consists of all new and/or replacement/repair of curb and gutter, curb, sidewalk and other miscellaneous concrete work.

#### 110.1.1 Referenced Specification by Abbreviation:

Virginia Department of Transportation-(VDOT)

#### 110.1.2 All materials and workmanship associated with this Section will be in accordance with VDOT's Road and Bridge Standards and Specifications unless otherwise noted.

### 110.2 PRODUCTS

A. Submit shop drawings of all products as by the City.

B. Provide Certified test results and/or mix designs.

#### 110.2.1 Concrete shall be VDOT A-3 unless otherwise noted.

#### 110.2.3 Base aggregate shall be VDOT 21A unless otherwise noted.

#### 110.2.3 Brick pavers shall be standard 4" x 8" x 2-3/8" Pine Hall Pathway or Lawrenceville I-875.

#### 110.2.4 Concrete pavers shall be 4"x 8" Holland Stone Interlocking Paving Sstem.

### 110.3 EXECUTION

#### 110.3.1 Regular excavation shall include removal and disposal of all existing concrete and asphalt, existing steps as required, as well as earth and all other materials associated with normal excavation to a depth to allow for the installation of the proposed project. All bituminous concrete paved surface immediately adjacent to the excavated areas must be saw cut in a straight line so that when excavation procedures are performed, existing paved surfaces will not be damaged. All concrete surfaces adjacent to the proposed project shall be saw cut in a neat straight line.

All areas beneath the proposed construction shall be excavated and/or graded to a smooth uniform surface and compacted prior to installation procedures. All excavation shall be disposed off the project by the Contractor. All excavation shall be considered incidental to the contract.

Unstable Subgrades and Fill - Concrete shall be placed on the earth subgrade if the said subgrade is stable. In unstable areas, the subgrade shall be undercut and replaced with approved material to provide a sound subbase. All

fill material required on this project shall be VDOT 21-A compacted to 95% modified proctor density.

- 110.3.2 Formwork shall be in accordance with VDOT Road and Bridge Specifications.
- 110.3.3 Protection and Curing shall be in accordance with VDOT Road and Bridge Specifications. Curing compound shall be white.
- 110.3.4 Sidewalks shall be the combination curb and walk type as shown on the detail drawing. Brick veneer sidewalks are to be constructed at locations designated by the Owner.
- 110.3.5 Sidewalks are to be installed so that the back of the walk is on the street right-of-way line, or as directed by the Owner.
- 110.3.6 All sidewalk slabs shall receive a steel trowel float and broom finish and all curbs shall receive a broom finish.
- 110.3.7 All concrete sidewalks shall receive a score line in finished surface every five feet (5'). Depth of the score line shall be a minimum of 5/8".
- 110.3.8 Expansion material shall be installed every 40' in sidewalks and between all existing and proposed concrete surfaces. Along areas where the new walk abuts against an existing uneven retaining wall expansion material shall be installed 4.5' behind and parallel to the face of curb or as directed by the Owner. Concrete shall then be poured behind the expansion material to fill the void area between the face of the walls and expansion. This is done to allow the expansion material to be installed in a smooth straight line. Expansion material shall be of a type equal to the asphalt impregnated fiberboard conforming to ASTM c 175 for exterior work. Expansion material shall extend full depth of slab, less 1/2" at top of slab.
- 110.3.9 After front forms have been removed along the edge of pavement, the contractor shall rub the face of newly installed curb to fill any voids and remove rough spots from the face of curb. In addition, the contractor shall place 21-A Aggregate in the void area between the face of curb and the edge of pavement to an elevation which will match the grade of the existing pavement.
- 110.3.10 All curb and gutter shall be CG-6 or "roll-top" when specified.
- 110.3.11 All curb shall be CG-2.
- 110.3.12 Expansion material shall be installed every 100' in curb and gutter. Expansion material shall be of a type equal to the asphalt impregnated fiberboard conforming to ASTM C 175 for exterior work. Expansion material shall extend full depth of curb and gutter, less 1/2" at top of concrete.
- 110.3.13 All properties which have existing entrance ways shall have new entrances installed at their present location. Entrances will vary in width depending upon field conditions but the standard width shall be 12' at the back. On all existing

concrete driveways, the contractor shall tie the driveway into the back of the new entrance using concrete to provide a smooth ride across the entrance onto the existing driveway. The contractor shall perform all asphalt driveway connections to the back of the new entrance. The contractor will be required to place stone behind the new entrance for all driveway connections, both concrete and asphalt, as a temporary measure to allow for the use of the entrance prior to its final completion. The exact number of entrances may vary from those shown on the proposal. Entrances may be added or deleted from those anticipated thus affecting the quantities for both entrances, sidewalks, and curb and gutter. The contractor shall schedule entrance construction to inconvenience property owners no more than necessary.

- 110.3.14 All existing walks and steps that serve private residences, businesses, etc., shall be tied to the back of the newly installed sidewalk. In performing this portion of the work, the Contractor will encounter a multiple of different situations due to grade problems, height and number of steps, etc. For bidding purposes, the contractor shall base his bid on the following breakdown:
- A. All existing sidewalk connections which are tied flush to the newly installed sidewalk shall be paid as miscellaneous concrete installation. Payment shall be based on field measurements.
  - B. All steps constructed to facilitate a connection to back of the new sidewalk shall be paid for on a per each basis. Steps for this project shall be defined as any step with a minimum rise of 4", a maximum width of 5' and a maximum tread of 2'. A change in elevation from the new sidewalk to an existing walk or step is not considered a step for payment purposes. All steps shall be constructed using the same type material as that of the existing walk. If no walk exists, steps shall be constructed using concrete.
- 110.3.15 All yard areas immediately behind newly installed sidewalks shall be topsoiled and seeded so as to provide a smooth tie in with the existing yard and back of the walk.
- 110.3.16 Brick sidewalks are to be installed per the Standard Drawing. Base stone shall be VDOT 21A.
- The bricks shall be set in a minimum 1/2" mixture of dry 1 part cement and 3 parts sand. Sand shall be swept between the brick joints. Brick pavers shall have a smooth surface that is flush with the curbing.
- 110.3.17 Detectable warning surface shall be constructed at each street intersection and/or as directed by the City. They shall be VDOT standard CG-12.
- 110.3.18 Existing limestone curb is to be adjusted for a straight alignment and raised to provide a 6" curb height. Thoroughly compact 21-A aggregate under all disturbed limestone curb.

- 110.3.19 When an entrance is required across a brick sidewalk, it shall be a haringbone design. The standard concrete entrance shall be modified to leave a depth equal in thickness to the brick paver and mortar bedding with a 4" wide lip on the back. The brick pavers shall tie in flush with the front curb, back lip and adjacent sidewalk.
- 110.3.20 The Contractor shall be responsible for both the adjustment and relocation of water meter boxes. Adjustment means the vertical and/or minimal horizontal adjustment of the meter box only. Relocated water meters will be any meter that will require cutting into the existing service lines. The City will provide the yoke assembly and box for relocations.
- 110.4 MEASUREMENT AND PAYMENT
- 110.4.1 Sidewalk - Measurement shall be the horizontal surface area (including curb on monolithic curb and sidewalk) of sidewalk. Work is to include excavation, backfill, and materials, etc. Payment shall be at the bid price per square yard.
- 110.4.2 Curb and Gutter - Measurement shall be parallel to the curb and gutter excluding entrances. There shall be no separation between straight and radial curb and gutter. Work is to include all excavation, backfill, and materials. Payment shall be at the bid price per linear foot.
- 110.4.3 Curb - Measurement includes entrances. There shall be no separation between straight and radial curb. Work is to include all excavation, backfill, and materials. Payment shall be at the bid price per linear foot.
- 110.4.4 Sidewalk Entrance - Measurement shall be the horizontal area (including curb on monolithic curb and sidewalk) of entrance. Work is to include all excavation, backfill and materials. Payment shall be the bid price per square yard.
- 110.4.5 Curb and Gutter Entrance - Measurement shall be parallel to the curb and gutter entrances. There shall be no separation between straight and radial curb and gutter entrances. Work is to include all excavation, backfill, and materials. Payment shall be at the bid price per linear foot.
- 110.4.6 Brick Sidewalk - Measurement shall be the horizontal surface of brick sidewalk. Work is to include all excavation, backfill and materials. Payment shall be the bid price per square yard.
- 110.4.7 Detectable Warning Surface - Measurement shall be per each in addition to payment for sidewalk. Payment shall be the bid price per each.
- 110.4.8 Steps - Measurement shall be per each 5' in width. Steps created by increasing the height of the sidewalk are not a pay item. Work is to include excavation, backfill, and all associated for concrete steps. Payment shall be per the bid price for each concrete step constructed.

- 110.4.9 Miscellaneous Concrete - Measurement shall be the horizontal surface area of concrete adjacent to the street sidewalk (private, walks, driveways, etc.) Work includes all excavation backfill, work and materials required. Payment shall be the bid price per square yard of miscellaneous concrete installed.
- 110.4.10 Stone Base - Measurement shall be by the ton of base stone placed under sidewalk, curb and gutter, gutter, miscellaneous concrete and street patch. Work is to include all excavation and incidental work. Payment shall be the bid price per ton.
- 110.4.11 Saw Cut - Measurement shall be parallel to the saw cut. Payment is for concrete saw cuts only as directed by the City and when identified as a separate pay item. Payment will be the bid price per linear foot.
- 110.4.12 Stone Curb - Measurement shall be per linear foot measured parallel to the sidewalk. Payment shall be the bid price per linear foot only for those curbs adjusted.
- 110.4.13 Concrete Entrance with Brick veneer - Measurement shall be the horizontal surface of brick veneer entrance. Payment shall be the bid price per square yard and shall include all excavation, backfill, concrete entrance and brick veneer. There shall be separate payment for linear footage of curb across the entrance. There shall be no separate payment for concrete entrance.