

**Section 02770****CURB, CURB & GUTTER, AND HEADERS****1.0 GENERAL****1.01 SECTION INCLUDES**

- A Reinforced concrete curb, reinforced monolithic concrete curb and gutter, and mountable curb.
- B Paving headers and railroad headers poured monolithically with concrete base or pavement.
- C References to Technical Specifications:
  - 1. Section 01200 – Measurement and Payment Procedures
  - 2. Section 01350 – Submittals
  - 3. Section 02751 – Concrete Pavement
  - 4. Section 02335 – Subgrade
  - 5. Section 02710 – Base Course for Pavement

**1.02 MEASUREMENT AND PAYMENT**

- A Measurement for curbs and for curbs and gutter is on linear foot basis measured along face of curb.
- B Measurement for headers is on linear foot basis measured between lips of gutters adjacent to concrete base and measured between backs of curbs adjacent to concrete pavement.
- C No separate payment will be made for curbs poured monolithically with concrete pavement.
- D Refer to Section 01200 – Measurement and Payment Procedures.

**1.03 SUBMITTALS**

- A Make Submittals required by this Section under the provisions of Section 01350 – Submittals.
- B Submit details of proposed formwork for approval.
- C Submit proposed mix design and test data for each type and strength of concrete in Work. Include proportions and actual flexural strength obtained from design mixes at required test ages.
- D Submit manufacturer's certifications giving properties of reinforcing steel. Provide specimens for testing when required by the Engineer.

**2.0 PRODUCTS****2.01 MATERIALS**

- A Concrete: Conform to material and proportion requirements for concrete of Section 02751 – Concrete Pavement.
- B Reinforcing Steel: Conform to material requirements for reinforcing steel of Section 02751 – Concrete Pavement.
- C Grout: Nonmetallic, nonshrink grout containing no chloride producing agents conforming to the following requirements.

Compressive strength at 7 days	3,500 psi
Compressive strength at 28 days	8,000 psi
Initial set time	45 minutes
Final set time	1.5 hours

- D Preformed Expansion Joint Material: Conform to material requirements for preformed expansion joint material of Section 02751 – Concrete Pavement.
- E Joint Sealing Compound: Conform to material requirements of Section 02751 – Concrete Pavement.
- F Mortar: Mortar finish composed of one part Portland cement and 1½ parts of fine aggregate. Use only when approved by the Engineer.

**3.0 EXECUTION****3.01 PREPARATION**

- A Prepare subgrade or base in accordance with applicable portions of Section 02335 – Subgrade or Section 02710 – Base Course for Pavement.

**3.02 PLACEMENT**

- A Guideline: Set to follow top line of curb. Attach indicator to provide constant comparison between top of curb and guideline. Insure flow lines for monolithic curb and gutters conform to slopes indicated on Plans.
- B Forms: Brace sufficiently to maintain position during pour. Use metal templates cut to section shown on Plans.
- C Reinforcement: Secure in proper position so that steel will remain in place throughout placement.

- D Joints: Place in accordance with Section 02751 – Concrete Pavement. Place dummy groove joints at 6-foot centers at right angles to curb lines. Cut dummy grooves 1/4 inch deep using an approved edging tool.
- E Place concrete in forms to required depth. Consolidate thoroughly. Do not permit rock pockets in form. Entirely cover top surfaces with mortar.

### 3.03 MANUAL FINISHING

- A After concrete is in place, remove front curb forms. Form exposed portions of curb, and of curb and gutter, using mule which conforms to curb shape, as shown on Plans.
- B Thin coat of mortar may be worked into exposed face of curb using mule and two-handed wooden darby at least 3 feet long.
- C Before applying final finish move 10 foot straightedge across gutter and up curb to back form of curb. Repeat until curb and gutter are true to grade and section. Lap straightedge every 5 feet.
- D Steel trowel finish surfaces to smooth, even finish. Make face of finished curb true and straight.
- E Edge outer edge of gutter with 1/4-inch edger. Finish edges with tool having 1/4 inch radius.
- F Finish visible surfaces and edges of finished curb and gutter free from blemishes, form marks and tool marks. Finished curb or curb and gutter shall have uniform color, shape and appearance.

### 3.04 MECHANICAL FINISHING

- A Mechanical curb forming and finishing machines may be used instead of, or in conjunction with, previously described methods, if approved by the Engineer. Use of mechanical methods shall provide specified curb design and finish.

### 3.05 CURING

- A Immediately after finishing operations, cure exposed surfaces of curbs and gutters in accordance with Section 02751 – Concrete Pavement.

### 3.06 TOLERANCES

- A Top surfaces of curb and gutter shall have uniform width and shall be free from humps, sags or other irregularities. Surfaces of curb top, curb face and gutter shall not vary more than 1/8 inch from edge of a 10-foot long straightedge laid along them, except at grade changes.

### 3.07 PROTECTION OF THE WORK

- A Maintain curbs and gutters in good condition until completion of Work.

- B      Replace damaged curbs and gutters to comply with this Section.

END OF SECTION