

## SECTION 02771

# CURBS, GUTTERS, DRIVEWAYS, PEDESTRIAN ACCESS RAMPS, AND PLOWABLE END SECTIONS

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Materials and procedures for constructing curbs, gutter transitions, driveways, pedestrian access ramps, and plowable end sections.

#### 1.2 RELATED SECTIONS

- A. Section 02061: Select Aggregate.
- B. Section 02324: Compaction.
- C. Section 02330: Embankment.
- D. Section 02721: Untreated Base Course.
- E. Section 02776: Concrete Sidewalk, Median Filler, and Flatwork.
- F. Section 03055: Portland Cement Concrete.
- G. Section 03152: Concrete Joint Control.
- H. Section 03211: Reinforcing Steel and Welded Wire.
- I. Section 03310: Structural Concrete.
- J. Section 03390: Concrete Curing.

#### 1.3 REFERENCES

- A. AASHTO M 31M: Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- B. AASHTO M 111: Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

- C. AASHTO M 183: Structural Steel.

## **PART 2 PRODUCTS**

### **2.1 PORTLAND CEMENT CONCRETE**

- A. Class AA(AE). Refer to Section 03055.

### **2.2 EXPANSION JOINT FILLER**

- A. Preformed material. Refer to Section 03152, Part 2, article: "Preformed Elastomeric Joint Sealants."

### **2.3 UNTREATED BASE COURSE**

- A. Refer to Section 02061.

### **2.4 STEEL**

- A. Reinforcing: Refer to Section 03211, Part 2, article, "Reinforcing Steel." Deformed billet-steel reinforcing bars as specified.
- B. Structural: Refer to Section 05120. As specified or as indicated on the plans

## **PART 3 EXECUTION**

### **3.1 PREPARATION**

- A. Construct subgrade to plan elevations following Section 02330.
- B. Place and compact fill material and untreated base course. Follow Section 02324.
- C. May use a slip form curb and gutter machine.
- D. Dampen the untreated base course before placing concrete.
- E. Curbs and Gutters: Refer to Standard Drawing GW 2 and GW 3.
- F. Pedestrian Access Ramp: Refer to Standard Drawing GW 5.
- G. Plowable End Section: Refer to Standard Drawing GW 1.

H. Forms: Refer to Section 02776, Part 3, article, "Preparation - Forms."

### **3.2 PLACING CONCRETE**

- A. Furnish materials and construct structural concrete following Section 03310, Part 3, article, "Placing Concrete."
1. Do not use mechanical vibrators.
  2. Hand tamp forms to eliminate honeycomb.
  3. Deposit concrete continuously when using a slip form machine.
  4. Use dowels as shown on the plans when placing curb on existing pavement.

### **3.3 FINISHING CONCRETE**

- A. Round edges to a ½ inch radius.
- B. Use a float to finish the top and front face of the curb and the top of the gutter.
- C. Finish the traveled portion of the driveway with a broom finish.
- D. Remove form marks or irregularities from finish surfaces.
- E. Texture concrete on pedestrian access ramps as shown.

### **3.4 JOINTS**

- A. Place joints perpendicular to the subgrade and as shown.
- B. Contraction joints:
1. 1/8 in to 3/16 thick steel plates.
  2. Space the joints every 10 ft.
  3. Remove the templates as soon as the concrete takes an initial set.
  4. Cut joint 1-1/2 inches deep when using slip form method to place the concrete.
- C. Expansion Joints:
1. Place expansion joint every 30 ft.
  2. Expansion joint not required when using slip form method to place concrete, except at adjacent pavement, curb radius, sidewalk, or structures.
  3. 1/2 inch thick premolded expansion joint filler.
  4. Place joint filler between the curb and gutter and sidewalk, or structures.

### **3.5 CONCRETE CURING AND PROTECTION**

- A. Cure the surface. Refer to Section 03390.
- B. After curing, seal the surface. Refer to Section 03390.

END OF SECTION