

**SECTION 11**  
**CONCRETE CURB, GUTTER, SIDEWALK AND DRIVEWAYS**

**11.01 DESCRIPTION**

Work shall conform with Section 73 and Section 90 of the State Standard Specifications and City Standard Details 201 through 264 with the following additions. All curb, gutter, and sidewalks shall be constructed of minimum four thousand (4,000) pounds per square inch (psi) concrete. Calcium Chloride shall not be added to concrete. All concrete shall be delivered in transit mixers with agitating drums. Non-agitating transport equipment will not be allowed unless specific written approval is granted by the City Engineer.

For repair/placement of non-standard concrete flatwork (i.e., special finishes or color), refer to the project technical specifications, improvement plans, or contact the Construction Management and Facilities Development Division of the Capital Projects Department for specifications and requirements.

**11.02 INSTALLATION**

- A. SUBGRADE PREPARATION - The finished subgrade immediately prior to placement of aggregate base shall be compacted to ninety-five (95) percent relative compaction for a depth of six (6) inches.
- B. BASE - Shall be Class 2 Aggregate Base (3/4-inch maximum aggregate gradation) mechanically compacted to ninety-five (95) percent relative compaction.
- C. EXTRUDED SIDEWALK, CURB AND GUTTER - Use of an extrusion machine is allowed for extruded sidewalk, curb, and gutter. Work shall conform to State Standard Specifications Section 73-1.03D with the exception of the cement content. A test pour may be required by the City Engineer prior to approval.
- D. PLACING AND FINISHING - No concrete shall be placed or finished in the rain or under freezing conditions. It shall be the Contractor's responsibility to schedule their operations such that concrete will not be placed or finished in the rain or under freezing conditions.

At the end of each day's pour, when work is terminated, or when a delay of more than thirty (30) minutes occurs, the joint shall be made vertical and square ended with twelve (12) inch lengths of #4 reinforcement bar embedded at eighteen (18) inch centers.

When a concrete pour terminates at existing concrete, the rebar, as described above, shall be retrofitted by coring or drilling existing concrete (minimum of four (4) inches) installing bars and filling annular voids with epoxy. Existing concrete shall be removed to the nearest deep joint or score mark.

Weakened plane joints shall be constructed according to the Standard Details. Expansion joint material shall not be used.

All concrete surfaces shall be finished with a medium broom finish unless otherwise specified. A heavy broom finish will not be allowed. A concrete finish not conforming to the City Standard Specifications regarding blemishes and alignment tolerances shall be cause for rejection of the work.

Detectible warning (truncated dome) panels shall be placed at the back of curb line, immediately behind the curb and gutter, centered in the opening to the street (regardless of slope), at every curb ramp per City Standard Details 206 through 210, as applicable.

- E. CURING - Cure concrete using the curing compound method with pigmented curing compound in accordance with the State Standard Specifications Section 90. Completely coat the exposed faces of the concrete with curing compound.
- F. JOINTS - Tool joints and score marks shall be placed through the sidewalk, curb, ramp and gutter section as shown on City Standard Details. All tool joints shall be a minimum of one and one-half (1.5) inches. Expansion joint material shall not be used.

The purpose of the tool joint is to separate the aggregate and control cracking. During concrete finishing, after placement of a one and one-half (1.5) inch-deep tool joint, the joint shall be redressed/finished with a three-eighths (3/8) inch joint tool. Weakened plane joints shall be constructed to the City Standard Details. Expansion joint material shall not be used.

- G. REPAIR OF CONCRETE CURB, GUTTER, SIDEWALK AND DRIVEWAYS - After construction and prior to acceptance, if any concrete becomes cracked, gouged, or otherwise damaged, the City Engineer shall require the concrete work be repaired by removing the damaged sections of concrete from the closest existing joint and replacing it to correct grade. Should existing concrete curb, gutter, sidewalk, and/or driveway be cracked, gouged, or otherwise damaged by work completed under City Encroachment Permit, said damaged concrete sections shall be repaired by replacement as described above, prior to City acceptance of encroachment permit work.
- H. TESTING - After construction, gutters shall be checked with flowing water. The City Engineer or City designated representative must be present during the flow test. Any high spots or depressions revealed by the flow test shall be repaired by removing that section of concrete and replacing it to the correct grade.

### **11.03 MEASUREMENT AND PAYMENT**

Concrete sidewalks (excluding curb and gutter, driveways, access ramps, and drop inlets) shall be measured and paid for by the square foot, with the length being measured along the center of the section.

Concrete curb and gutter and barrier curb shall be measured and paid for by the linear foot, measured along the face of the curb, except those portions located within the limits of driveways, access ramps, drop inlets, and all associated transitions.

Concrete driveways, access ramps, and drop inlets shall be measured and paid for per each, or as specified in the contract documents, including the portion within the gutter pan.

Payment for units measured shall include labor, materials, equipment, tools, and incidentals required to construct a finished curb or flat work product, including subgrade, and aggregate base preparation all in accordance with the plans, specifications, and as directed by the City Engineer.