

SECTION 025610
CONCRETE CURB AND GUTTER

1. DESCRIPTION

This specification shall consist of Portland cement concrete combined concrete curb and gutter or separate concrete curb with or without reinforcing steel as required, constructed on an approved subgrade or foundation material in accordance with these specifications, in conformity with the lines and grades established by the Engineer and with the details shown on the drawings.

New curb and gutter returns at public street intersections shall be designed by a licensed PE and sized to accommodate the type of vehicles anticipated at the intersection in accordance with AASHTO guidelines for vehicular turning movement. In the absence of an AASHTO design by a licensed PE, the minimum back of curb return radius at 90 degree intersections shall meet the following:

15'	Residential-Residential
20'	Collector-Residential
25'	Arterial-Residential
30'	Arterial-Collector or Collector-Collector
35'	Arterial-Arterial

At locations where this is not achievable due to an existing significant obstruction, a recommendation on the maximum achievable radius along with the basis of variance must be submitted to the City Traffic Engineer for approval prior to placing the curb.

2. MATERIALS

Unless otherwise specified on the drawings, materials and proportions for concrete used in construction under this specification shall conform to the requirements as specified for Class 'A' Concrete under City Standard Specification Section 030020 "Portland Cement Concrete". Reinforcing steel shall conform to the requirements as specified in City Standard Specification Section 032020 "Reinforcing Steel". Expansion joint filler shall be redwood material meeting the requirements specified in City Standard Specification Section 038000 "Concrete Structures". Flexible base shall conform to the requirements in the City's Standard Specification Section 025223 "Crushed Limestone Flexible Base".

3. CONSTRUCTION METHODS

The foundation shall be excavated and shaped to line, grade and cross-section, and hand tamped and sprinkled. If dry, the subgrade or foundation material shall be sprinkled lightly with water and compacted to not less than 98% Standard Proctor density, or as required on the drawings. Flexible base shall be compacted to specified density and moisture immediately before concrete is deposited

thereon. Flexible base shall be placed to moisture and compaction requirements to a point at least 1-foot behind the back of the proposed curb in a uniform and monolithic placement with the roadway base.

Outside forms shall be of wood or metal, of a section satisfactory to the OAR, straight, free of warp, and of a depth equal to the depth of the curb and gutter. They shall be securely staked to line and grade and maintained in a true position during the depositing of concrete. Inside forms for the curb shall be approved material, shall be of such design as to provide the curb required, and shall be rigidly attached to the outside forms. For reinforced concrete roadways, all jointing must be reflected through the curb, including redwood expansion joints and construction joints. Align concrete roadway joints with adjacent curb joints when possible. Driveway gutter shall be placed integrally with the driveway as shown on the City Standard Details, aligning adjacent joints when possible.

The reinforcing steel shall be placed in position as shown on the typical details. Care shall be exercised to keep all reinforcing steel in its proper location.

Concrete for curb and gutter shall be mixed in a manner satisfactory to the OAR. The curb and gutter shall be placed in sections of the length indicated on the plans, and each section shall be separated by a premolded insert or board joint of cross-section specified for the curb and gutter, and of the thickness indicated on the drawings.

After the concrete has been struck off and after it has become sufficiently set, the exposed surfaces shall be thoroughly worked with a wooden float. The exposed edges shall be rounded by the use of an edging tool to the radius indicated on the drawings. All exposed surfaces of curb and gutter, or curb, shall be brushed to a smooth and uniform surface.

The completed curb and gutter shall be cured with Type 2, white pigmented curing compound unless shown otherwise on the drawings. Other methods of curing as outlined in City Standard Specification Section 038000 "Concrete Structures" will be acceptable with a required curing period of 72 hours.

The area behind the curb shall be backfilled, compacted, and sloped as directed as soon as possible and no later than 48 hours after the removal of forms and prior to inclement weather. Backfill shall be placed to the full height of the curb, or as otherwise specified. When topsoil and sod, or adjacent structure such as tied sidewalk is to be placed at the back of curb, the initial backfill and compaction behind the back of curb shall be to at least the base of the adjacent feature, and no less than 6" from the top of curb. Do not allow water to collect and stand within the exposed area along the back of curb. Make temporary provisions as necessary to ensure adequate drainage of the area behind the curb until the finished surface is complete.

4. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, concrete curb and gutter or concrete curb will be measured by the linear foot for each type of curb, complete in place. Payment shall be full compensation for furnishing and placing all materials including reinforcing steel and expansion joint material; for furnishing, placing, shaping and tamping backfill; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work.

When the curb and gutter is related to isolated repair or 'remove and replace', the cost of providing and preparing subgrade and base related to the repair (or removal and replacement) shall be subsidiary to the cost of the curb and gutter repair or replacement. The cost of related pavement repair shall be subsidiary to the cost of curb and gutter repair or replacement unless otherwise indicated in the Bid Form.

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