

Amend **Section 609 - Curb and/or Gutter** to read as follows:

"SECTION 609 - CURB AND/OR GUTTER

609.01 Description. This work includes constructing curb and/or gutter according to the contract.

The contract designates Type 2 as cast-in-place concrete gutter, and Type 6 as bituminous curb.

Unless otherwise indicated in this Section and in the plans, Type 2 cast-in-place concrete gutter shall refer to the concrete apron for the new Grated Drop Inlet, Type 61614, at the intersection of Halewili Road and Kaumualii Highway.

609.02 Materials. Materials shall conform to following:

Emulsified Asphalt	702.04
Bed Course Material for Sidewalks & Curbing	703.16(A)
Joint Fillers	705.01
Joint Mortar	705.02
Reinforcing Steel	709.01

Concrete for gutter shall conform to Section 601 - Structural Concrete and shall be Class A.

Bituminous material for curb shall conform to Section 401 - Asphalt Concrete Pavement and shall be Type V.

Weed killer shall be a nonemergent and nonselective type, EPA approved for highway application, and suitable for use under the designed thickness of pavements. The materials shall be free of solvents or other substances deleterious to the pavement. Application rates shall be at the highest recommended dosage stated on the label. The Contractor shall submit a sampler label containing the pertinent data for acceptance by the Engineer before use.

Concrete, bituminous mixes and manufactured gutter materials will be subject to inspection and tests at the plants for compliance with the quality requirements.

The condition of materials will be subject to inspection for acceptance before or during incorporation of materials into the work.

609.03 Construction Requirements.

(A) Cast-in-Place Concrete Gutter.

(1) Excavation. Excavate to the required depth and compact the base to a firm, even surface. Remove and replace soft and unsuitable material with suitable material so that the Contractor can compact thoroughly.

(2) Forms. Forms shall be of wood or metal, straight, free from warp and of construction that there shall be no interference with the inspection of grade or alignment.

Forms shall extend for the entire depth of the gutter. Brace and secure the forms sufficiently so that no deflection from alignment or grade shall occur during the placing of the concrete.

(3) Placing of Concrete. Place the concrete according to Section 503 - Concrete Structures. Moisten the subgrade and forms thoroughly ahead of placing concrete.

Work the surfaces of concrete gutters with proper floats and round the exposed edges with an edging tool. Before the concrete has fully set, remove and finish the face form of the curb with a float and steel trowel to a uniform finish. Broom finish other exposed surfaces longitudinally. The Contractor may require special trowels to shape gutters.

To match adjacent concrete finishes, the Engineer may permit other methods of finishing. The Engineer will not permit plastering.

(4) Sections. Construct gutter in sections having a uniform length of 15 feet. Separate the sections by weakened plane joints approximately one-eighth inch wide and cut to a depth of one-fourth the gutter thickness. When gutter abut portland cement concrete pavement, install weakened plane joints in the gutter continuously with the weakened plane joints in the abutting pavement.

(5) Expansion Joints. Form the expansion joints at the intervals shown in the contract using a preformed expansion joint filler having a thickness of 0.5 inch. When constructing curb and/or gutter next to or on concrete pavement, locate the expansion joints opposite to or at expansion joints in the pavement.

Construct expansion joints in gutter at structure abutments and at the ends of returns. Do not construct expansion joints within 20 feet of a traffic island nose.

Shape expansion joints filler to the cross section of the gutter.

(6) Curing. Immediately upon completion of the finishing, the Contractor shall:

- (a) moisten and keep the gutter moist for three days or
- (b) cure the gutter by using membrane forming material.

The method and details of curing will be subject to acceptance.

(7) Backfilling. After the concrete has set sufficiently, refill the spaces in front and back of the gutter to the required elevation with suitable material. Tamp the material thoroughly in layers of not more than 6 inches.

(8) Curb Machine. With the acceptance of the Engineer, the Contractor may construct the gutter by using a gutter forming machine.

(9) Construction Joints. Build construction joints in cast-in-place gutters:

- (a) when the delays are greater than 45 minutes between two consecutive batches in concrete operations,
- (b) at the end of each day of pouring, or
- (c) when specified by the Engineer.

Build the construction joints according to the details shown in the contract and shall coincide with the spacing of weakened plane joints. Coat the dowels for the joints uniformly with a thin film of heavy lubricating oil immediately before placement of concrete at the joint. Support the dowels firmly during concrete placement. The forms shall remain in place until the Contractor resumes concrete operations on the other side of the joint.

(B) Bituminous Curb.

(1) Preparation of Bed. When constructing bituminous curb on a fresh laid bituminous surface, the Contractor may lay the curb only after cleaning the surface.

When constructing the curb on a cured or aged portland cement concrete base, bituminous pavement or bituminous treated base, sweep and clean the bed thoroughly by compressed air. Dry the surface thoroughly. Immediately before placing the bituminous mixture, place tack coat of bituminous material of the type and grade accepted. The rate of application of the tack coat material shall be between 0.05 to 0.15 gallon per square yard of surface. In the application of this tack coat, prevent the spread of the tack coat to areas outside of the area of the curb.

(2) Placing. Construct bituminous curb by use of self-propelled automatic curber or curb machine or a paver with curbing attachments.

The automatic curber or machine shall conform to following and accepted before its use:

(a) The weight of the machine shall be such that the Contractor gets the required compaction without the machine riding above the bed.

(b) The machine shall form curb that is uniform in texture, shape, and density.

(c) The Engineer may permit the construction of curb other than the automatic curb machine, when the contract requires short sections or sections with short radii or as warranted. The resulting curb shall conform to the curb produced by using the machine.

(3) Painting and Sealing. If the contract requires painting or sealing, paint or seal only on a curb that is clean and dry and reaches the ambient temperature.

609.04 Method of Measurement. The Engineer will measure curb per linear foot. The Engineer will measure along the front face of the curb at the finished grade elevation.

The Engineer will not measure concrete gutter for payment.

609.05 Basis of Payment. The Engineer will pay for the accepted bituminous curb at the contract unit price per linear foot.

The price includes full compensation for removing and disposing the existing curb; excavating; backfilling; installing reinforcing steel; furnishing and installing the asphalt concrete material; furnishing, placing and compacting the bed course material; installing expansion joint material and weakened plane joint; and furnishing labor, materials, equipment, tools, and incidentals necessary to complete the work.

The Engineer will make payment under:

Pay Item	Pay Unit
Bituminous Curb, Type 6	Linear Foot

The Engineer will not pay for the accepted concrete gutter separately. The Engineer will consider the cost for the accepted concrete gutter as included in the bid price of contract Item No. 604.5300 – Grated Drop Inlet, Type 61614.

The price includes full compensation for removing and disposing the existing gutter; excavating; backfilling; installing reinforcing steel; furnishing and installing the concrete material; furnishing, placing and compacting the bed course material; installing expansion joint material and weakened plane joint; and furnishing labor, materials, equipment, tools, and incidentals necessary to complete the work."

END OF SECTION