

SECTION 1: ROADWAY

FIBER-REINFORCED PORTLAND CEMENT CONCRETE ROADWAYS

This item covers the furnishing of all materials and installation of PCC roadway pavements for thickness as shown.

Mix for 1 C.Y. of Fiber-Reinforced Concrete – Sidewalks & Driveways

28-day strength	4000 psi
Cement (ASTM C-150, Type I/II)	4.64 sacks (436 lbs.)
Fly Ash (ASTM C-618)	1.16 sacks(109 lbs.)
Gravel (ASTM C-33, Grade A)	1775 lbs.
Sand (ASTM C-33)	1226 lbs.
Water (potable)	30 gallons (250 lbs.)
Type A Water Reducer (ASTM C-494)	16.35 lbs.
Air entrainment specifications	5% by volume, use per manufacturers
Fiber reinforcement	1.5 lbs/ CY microfibers, as specified below

Fiber reinforcement for all concrete pavements shall be Matrix Monofilament Microfiber as manufactured by FRC Industries or approved equal, applied throughout the concrete mixture. Alternate products must be preapproved by the City Engineer in writing. Cellulose (treated or untreated), AR glass, nylon, and polyester fibers are specifically prohibited from use. Fibrillated and self-fibrillating fibers are also specifically prohibited.

Fiber reinforcement shall be applied **at the plant**. The bags must be broken before mixing. Bag size shall be one (1) pound.

Damaged, missing, and/ or new dowel bars (longitudinal/ transverse) and Starlugs shall be replaced, 1-1/8" x 18" painted smooth dowel bars on 12" centers shall be used unless directed otherwise by the City Engineer. The bars shall be drilled and doweled into the existing pavement by drilling 1½" holes to a depth of 9" and filling with an approved epoxy grout before insertion of the dowel bars. Any deformed bars for longitudinal joints or welded wire fabric will be incidental to the bid unit prices under this item. All costs incurred for this task will be

incidental to bid unit prices under concrete paving. Bid prices shall also include adequate curing of the concrete placed and the proper sealing of contraction and expansion joints.

The Contractor is advised that the work along roadways will necessarily be done with a split-paving method. It will be important to have at least one side of the roadway open to traffic when workers are not present.

Bid prices should include all costs for labor, equipment, and materials necessary to provide finished Portland Cement Concrete paving, in place, as described under this item of the proposal. All required jointing materials should be included in price bid under each item. Method of jointing shall be the same as the existing joints in the area of work.

Bid prices under this item shall also include cost of providing engineering/ surveying for alignment, grade, profile, survey stakes, and topography when necessary and as required to improve the roadway alignment, curb and gutter layout, drain line installation, etc. Compensation for this shall be incidental to corresponding bid items in the maintenance contract. There is no other compensation. This includes new road, extension of existing road, and turning lanes, parking lots, bike, and walking trails, etc. All layouts shall be the responsibility of the contractor. The Contractor shall be responsible for disposal of all construction materials.

Concrete pavement shall be cured seven (7) days unless otherwise approved by the City Engineer. If Contractor uses "high early" strength concrete (3-day curing period) at his discretion, without the approval of the City Engineer, payment shall be made under the regular (7-day curing) concrete paving item. Contractor shall be responsible for proper oversight and protection of the pavement during the initial curing time until the concrete is sufficiently set to resist marring or vandalism.

Pay Item

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
1	FIBER REINFORCED 8" THICK OR GREATER, PORTLAND CEMENT CONCRETE PAVING FOR ROADWAYS, IN PLACE	SQ. YD.
2	HIGH EARLY STRENGTH FIBER REINFORCED 8" THICK OR GREATER PORTLAND CEMENT CONCRETE PAVING FOR ROADWAYS, IN PLACE	SQ. YD.