MAINTENANCE GUIDEBOOK III - PAVEMENT MAINTENANCE

GLOSSARY

ACID-ETCHING AND CEMENT WASH——Method of bonding fresh cement-sand mortar or concrete to existing concrete.

AIR-ENTRAINED PORTLAND CEMENT——A true Portland cement in which certain air-entraining materials are incorporated to produce a concrete resistant to severe frost and adverse effects of salt.

ALLIGATOR CRACKS——Polygon-shaped cracks connected together which are caused by repeated loads on a weak base and/or subbase, or movement of subbase.

BASE——A layer of gravel, crushed rock or stone, concrete or bituminous mixtures over the subbase.

BLEEDING——A black film on the surface on pavement caused by excessive liquid asphalt in the mix or poor gradation of the mix.

BLOCK CRACKS——Rectangular-shaped cracks caused by asphalt shrinkage or hardening.

BULL FLOAT——A large concrete finishing tool which has a rigid frame and handle.

BUMPS——Upward displacement of pavement caused by frost heaves, traffic loads, and concrete slab buckling under a bituminous pavement roadway.

CEMENT SAND MIX FINISH——Combination of Portland cement and graded sand.

CEMENT-SAND MORTAR TOPPING——A stiff, workable mortar just wet enough so all grains of sand are coated with cement paste, without excess water.

CONCRETE——A mixture of any type of Portland Cement, sand, gravel or stone and water.

CRAZING (MAP CRACKING)——The occurrence of numerous fine hairline cracks in the surface of a newly hardened slab due to shrinkage, caused by rapid surface drying, premature floating and troweling and/or overuse of tamper, vibrating screed, darby, or bull float.

`URE——To allow the pavement material to set up and harden.

DARBY——A straight-edged three-to-eight foot hand-tool used to level freshly placed concrete, before supplemental floating and finishing.

DRY MIX——Prepackaged concrete in which cement and gravel are proportioned and premixed at the factory.

EDGE FAILURE——Type of failure which appears along the edges of pavement not protected by a curb, walk or edging strips caused by poor construction, insufficient thickness, excessive loads and lack of shoulder support due to poor foundation.

EDGE CRACKS——Cracks close to the outer edge of the pavement caused by a weak base or subbase or a thin pavement section.

EPOXY-RESIN BONDING AGENTS——Adhesives used to bond fresh concrete or mortar mixes to existing concrete structures which will cure after being covered with wet concrete or cement mix.

EROSION——Deterioration, wearing away, disintegration by action of weathering processes such as wind and rain.

FEATHER IN——To gradually taper a material from a uniform depth to match an existing surface.

FOG——To lightly mist using a spray applicator in order to lightly wet the pavement materials.

FOUNDATION——The subbase and the base together.

HAIRLINE CRACKS——Narrow cracks caused by asphalt shrinkage, hardening, or lack of compaction during construction.

HIGH EARLY-STRENGTH PORTLAND CEMENT——Portland cement mixed with additional accelerating agents.

INORGANIC CONCRETE STAIN——A chemical solution which penetrates into the pores and forms its color through a reaction with the cement particles.

JOINT REFLECTION——Cracks in an overlay at the joints of concrete pavement.

LANE DROPOFF——Difference in elevation of adjacent lane caused by settlement or erosion of shoulder material.

LATEX CONCRETE PATCH MATERIALS——A general-purpose product, formulated primarily for use in area patching of concrete walks, floors, or other slabs and for levelling, consisting of latex (liquid binder) and powder (dry, premixed cement and fine aggregates).

LONGITUDINAL CRACKS——Cracks parallel to the length of the pavement caused by joint reflection, movement of base/subbase, or shrinkage/swelling of subbase.

MAINTENANCE——The work of keeping pavement in a state of good repair.

MORTAR——A mixture of cement or lime with sand and water used to bind two materials together.

PITTING——Small depressions where individual particles of embedded aggregate have popped out, caused by wear-and-tear and inherent faults of the pavement mixture.

PLANT MIX——Concrete purchased ready-mixed and ready to be placed.

PONDING——A saturated subbase or foundation caused by lack of proper drainage revealed by standing water and caused by buildup of soil on shoulders and adjacent grassed areas.

PORTLAND CEMENT——A general purpose cement suitable for all uses except when other types of concrete are required.

POTHOLE——Type of pavement failure which begins with a shallow surface failure which rapidly wears away, exposing the base and subbase, permitting water to gather and traffic to break down the bond. This develops into noles which resemble a pot. Causes of potholes include poor drainage and structural weakness.

PREPACKAGED DRY CEMENT SAND MIX——Prepackaged dry cement mix is one part Portland cement to two parts sand mix.

PREVENTIVE MAINTENANCE——Scheduling regular inspections and performing maintenance to prevent the devleopment of major deficiencies or failures and to extend the life of pavement.

PRIME COAT——The application of a free-flowing liquid bituminous material to the surface to make repairs.

PRIMING——Waterproofing the surface by plugging capillary voids, coating and bonding loose mineral particles, hardening or toughening the surface and promoting adhesion with the superimposed surface course.

RAVELING——Wearing away of the pavement caused by loss of liquid asphalt and fine aggregate in the pavement.

RUTTING——A depression in the wheel paths caused by poor compaction in the subgrade or pavement or a weak mix.

SAGS——Displacement of pavement caused by frost heaves, traffic loads and/or concrete slab buckling under a bituminous pavement roadway.

SCALING——Deficiency which occurs when the surface of a hardened concrete slab breaks away, deteriorates, or disintegrates, usually early in the life of the slab. It can be caused by cycles of freezing and thawing, applications of salts and/or overworking the concrete during the finishing.

SCREED——Using a straight-edged tool to level materials and create a uniform surface.

SET——Used in conjunction with concrete work, set refers to the initial stiffening of concrete, and its final state of rigidity.

SETTLEMENT——Movement downward, sinking.

SHOULDER DROPOFF——Difference in elevation of adjacent lane caused by settlement or erosion of shoulder material.

SHOVING——Permanent longitudinal displacement of the pavement caused by heavy loads and/or heavy vehicles braking or turning.

SLIPPAGE CRACKS——Half-moon cracks pointing away from the direction of traffic caused by loss of bond between pavement lifts and heavy braking or turning vehicles.

SLURRY——A thin, water mixture of a fine insoluble material such as clay, cement, or soil.

SPALLING——The breaking, chipping, or fragmentation of the surface of a concrete slab, usually near joints, caused by defective joint construction or by damage due to infiltration of undesirable and incompressible materials into a joint.

SUBBASE——Undisturbed or compacted local soils graded and shaped.

SURFACE——Wearing course consisting of bituminous concrete, Portland-cement concrete, Portland-cement topping, fine cementitious materials, or a smooth compacted finish given to the low-type pavements such as gravel, crushed rock, or earth.

SWELL——Upward rise in pavement caused by some swelling clayey soil or frost.

TACK——For asphalt, a prime coat applied uniformly to enhance the bond between new and existing bituminous materials.

TAMP——To pack firmly or pound down by a series of blows or taps.

TRANSVERSE CRACKS——Cracks perpendicular to the length of the pavement caused by joint reflection, movement of base/subbase, or shrinkage/swelling of subbase.

WEATHERING——Wearing away of the pavement caused by loss of liquid asphalt and fine aggregate in the pavement.

END OF GLOSSARY