Standard Practice for: **Sampling and Testing of Hot Mixed Bituminous**

1.0 SCOPE

This Standard Practice outlines sampling and testing of hot mixed bituminous paving mixtures.

2.0 REFERENCE STANDARDS

MEB Standards
P042 Hot Mixed Bituminous Mix Design

ASTM Standards
D979 Standard Practice for Sampling Bituminous Paving Mixtures

3.0 GENERAL REQUIREMENTS

Council of Independent Laboratories (CCIL) Type B Certification is required for testing.

Samples should represent an average of the bulk material placed in an area as well as potential variations in characteristics of material placed in different areas in a paving day.

The samples of hot mixed bituminous shall be taken from the roadway behind the paver prior to compaction.

Representative samples of bituminous materials shall be taken in accordance with *ASTM D979 Standard Practice for Sampling Bituminous Paving Mixtures.*

Testing of hot mixed bituminous shall be done in accordance to the appropriate test method listed in *MEB P042 Hot Mixed Bituminous Mix Design*.

4.0 SAMPLING REQUIREMENTS

4.1 Sampling Procedure

Hot mix samples shall be taken behind the paver, prior to compaction. The sample shall be taken from a location which is uniform in thickness, free from deleterious material and appears to be consistent (uniform mix).

Samples shall consist of materials from the full depth bituminous layer being placed prior to compaction. When necessary, a sampling plate may be used to ensure materials from the underlying layer are not mixed in the sample.

Samples shall be taken between 0.5 to 1.0 m from the outside edge of pavement for a standard 3.7 m wide lane. The individual representative sample weight shall be 15 to 20 kg.

If multiple samples are required, collection of bituminous mix from the road shall continue at the same location in the direction of travel (not perpendicularly across the lane).

4.3 Sample Identification

Samples shall be properly labeled and affixed with a sample tag containing all information listed in *Section 6.1.*

4.4 Chain of Custody

Each sample must be recorded on the Chain of Custody form.

5.0 TESTING REQUIREMENTS

Bituminous mix properties listed in *Section 6.2* shall be determined.

6.0 REPORTING REQUIREMENTS

6.1 Project Information

6.1.1 Contract number
6.1.2 Project location
6.1.3 Region
6.1.4 Station
6.1.5 Lane
6.1.6 Offset from the outer edge
6.1.7 Date and time sampled
6.1.8 Lift number
6.1.9 Plant temperature at the time of mixing the sample collected
6.1.10 Laying temperature
6.1.11 Field number
6.1.12 Sample type (loose mix, core)

6.1.13 Mix type
6.1.14 Asphalt type
6.1.15 Contractor's company name
6.1.16 Sampled by
6.1.17 Additional comments

6.2 Bituminous Mix Properties

6.2.1 Maximum theoretical density, kg/m^3
6.2.2 Bulk density at N_{Ini} and N_{Max} as a percent of maximum theoretical density for a minimum of three samples per mix type (Superpave mix only)
6.2.3 Bulk density at N_{Design} (Superpave mix only)
6.2.4 Bulk Density at design blows, kg/m^3 (Marshall mix only)
6.2.5 Air voids content, %
6.2.6 Voids in mineral aggregates (VMA),%
6.2.7 Voids filled with asphalt (VFA), %
6.2.8 Gradation of extracted aggregates, % passing each sieve
6.2.9 Asphalt cement content, % by total weight of bituminous mix
6.2.10 Asphalt absorption, % by total weight of bituminous mix
6.2.11 Effective asphalt content, % by total weight of bituminous mix
6.2.12 Dust to binder ratio, % (Superpave mix only)
6.2.13 Marshall stability for a minimum of three samples per mix type, kN (Marshall mix only)
6.2.14 Marshall flow for a minimum of three samples per mix type, units of 0.25 mm (Marshall mix only)