APPENDIX A-2
REQUIREMENTS FOR ASPHALT MIX COMPLIANCE LABORATORIES
MARSHALL METHODS (TYPE B)

This class of laboratory is involved in the testing of asphalt mixes to check for compliance with specifications such as: gradation, extraction, compaction, bulk relative density of compacted samples, theoretical maximum relative density, stability, flow, air voids and voids in mineral aggregate of laboratory compacted mix samples (often termed Marshall compliance check). The laboratory may be either permanent or mobile. The laboratory must have the necessary general equipment for sampling, transportation, storage and re-heating of samples, if necessary, without adverse affect. The laboratory must have the capability to support the specific testing involved.

Staff

The general testing services of an Asphalt Mix Compliance Laboratory will be under the direction and control of a person charged with engineering-management responsibility. This designated person shall be a Professional Engineer (or equivalent as approved by CPAC) and a full-time employee of the company/organization, and have at least three years experience in the inspection and testing of construction materials.

The direct testing services of an Asphalt Mix Compliance Laboratory will be supervised and reported by a supervisory laboratory technician with at least three years experience performing tests on construction materials. This designated person shall be able to demonstrate the ability to perform all tests required in the manner stipulated under governing procedures. This person shall keep up with developments in asphalt technology and have C.E.T. designation (or equivalent approved by CPAC).

Technicians employed in an Asphalt Mix Compliance Laboratory shall have the necessary experience to complete the required tests under the direct supervision of the supervisory laboratory technician. There shall be at least one laboratory technician who has met the requirements of the CCIL Asphalt Technician Certification Program working in the laboratory while that laboratory is in operation.

Manuals and Reporting Procedures

A Marshall Asphalt Mix Compliance Laboratory must have the necessary equipment, manuals and reporting procedures to perform compliance checks on bituminous mixes in accordance with current Ministry of Transportation of Ontario Laboratory Testing Manual (LS) and the American Society for Testing and Materials (ASTM) Methods .

The following test methods are required:

LS-261/D6926 Preparation of Marshall Specimens, Method of Test for

LS262/D2726	Bulk Specific Gravity of Compacted Asphalt Mixes Using Saturated Surface-Dry Specimens

OR

LS-306/D1188	Bulk Relative Density of Compacted Bituminous Mixtures using Paraffin Coated Specimens

OR

D6752	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Equipment
LS-263/D6927	Resistance to Plastic Flow of Bituminous Mixtures using Marshall Apparatus, Method of Test for
LS-264/D2041	Theoretical Maximum Relative Density of Bituminous Paving Mixtures, Method of Test for
LS-265/D3203	Percent Air Voids in Compacted Dense Bituminous Pavement Mixtures, Determination of
LS-266	V.M.A. in Compacted Bituminous Mixtures, Determination of
LS-281	Percent Compaction of Compacted Bituminous Pavement Mixtures, Determination of

OR

LS-287/D3549	Determination of Percent Compaction of Compacted Bituminous Paving Mixtures, Method of Test for the
LS-282/D2172	Quantitative Extraction of Asphalt Cement and Analysis of Extracted Aggregate from Bituminous Paving Mixtures, Method of Test for and/or Alternative Test Procedure,

OR

LS-292/D6307	Quantitative Determination of Asphalt Cement Content by Ignition and Analysis of the Remaining Aggregate from the Bituminous Paving Mixtures, Method of Test for the
LS-602/C136	Sieve Analysis of Fine and Coarse Aggregates, Method of Test for

In addition to the foregoing tests, an Asphalt Mix Compliance Laboratory must be able to complete, or have documented access to a CCIL certified laboratory able to complete test methods in accordance with current MTO Laboratory Testing Manual Methods (LS):

LS-200/D5	Penetration of Bituminous Materials, Method of Test for
LS-202/D2170	Kinematic Viscosity of Asphalt, Method of Test for
LS-283/D1074	Resistance to Stripping of Asphalt Cement in Bituminous Mixtures by Immersion Marshall, Method of Test for