



Illinois Department of Transportation

Memorandum

To: Quality Control Managers
From: Michael F. Wilhelm
Subject: Bituminous Mix Designs
Date: January 15, 2006

The Illinois Division of Aeronautics has established the following summary procedure for contractor mix designs, based on Illinois Division of Aeronautics Policy Memorandum 96-2.

1. Sampling

- Aggregate stockpiles shall be sampled in accordance with Department of Transportation Quality Control procedures.
- An endloader shall be used to make 3 or 4 aggregate pads, approximately 1 foot in depth.
- Material shall be removed from 5 locations in each pad in the form of an "X".
- The contractor shall obtain the following amounts of each material:

CA-07:	4 bags (approx. 100-150 pounds)
CA-13/16:	3 bags (approx. 100-150 pounds)
FA-01/02:	2 bags (approx. 75-100 pounds)
FA-20/21:	2 bags (approx. 75-100 pounds)
Mineral filler	1 can (approx. 10-15 pounds)
Asphalt Cement	1 gallon

2. Gradations

- The aggregates in each bag shall be well mixed and split to the proper test weight & the remaining aggregate shall then be placed back into it's bag for future use (DO NOT DISPOSE OF THE AGGREGATE)
- Washed gradations shall be performed and the results compared to the quarry's target percentages. This procedure shall be used for all aggregates that will be used in the mixture(s).

- Upon completion of all gradations, the results of the test shall be recorded in the appropriate section of the attached Bituminous Worksheet. The completed sheet shall be faxed along with the Bulk Specific Gravities and Absorptions to:

Illinois Division of Aeronautics
Attn.: Michael Wilhelm
(217) 558-1328

3. Blending and Testing

- Upon receipt of the gradations and gravities, the Division of Aeronautics, or its representative, shall give approval for the Contractor to blend each of the ingredient materials to be used.
- The contractor shall perform all physical tests of the mix design, to determine the following:
 - Marshall Stability and Flow
 - Bulk Specific Gravity "d"
 - Maximum Specific Gravity "D"
 - AC % Mix, VMA, Voids (Total Mix), Voids Filled

4. Job Mix Formula

- The testing information shall be used by the Contractor for determination of the Job Mix Formula (JMF), which will then be sent to the Division of Aeronautics for approval. Submittal(s) to the Division shall include all items set forth in Policy Memo 96-2, including the required graphs. The Division of Aeronautics Construction and Materials Engineer will then send out the final approved JMF. No mix shall be made until this approval is received. Any source changes to the mix shall require a new JMF.

If you have any questions, contact Mike Wilhelm at (217) 785-4282.