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SECTION 1006

AGGREGATE QUALITY CONTROL/QUALITY ASSURANCE

The Aggregate QC/QA Program is designed to give aggregate producers more responsibility for controlling the quality of material they produce and to use the quality control information they provide in the acceptance process by the Department. It requires aggregate producers to perform quality control sampling, testing and record keeping on aggregates they ship for use by the Department. It requires the Department to perform quality assurance sampling, testing and record keeping confirming the performance of the producers' control plan. The program is described in the *Aggregate QC/QA Program Manual*.

Participation in this program does not relieve the producer of the responsibility of complying with all requirements of the Department's *Standard Specifications*.

SECTION 1008

AGGREGATE FOR STABILIZATION

1008-1 AGGREGATE STABILIZATION

(A) General

Aggregates consist of crushed stone, crushed gravel, uncrushed gravel or other similar material having hard, strong, durable particles free of adherent coatings.

Supply aggregates from approved sources participating in the Department's Aggregate QC/QA Program in accordance with Sections 1005 and 1006. Sources will not be approved unless the material has satisfactory soundness and satisfactory resistance to abrasion. Satisfactory soundness will be a loss in weight of not greater than 15% when subject to 5 alternations of the soundness test. Satisfactory resistance to abrasion will be a percentage of wear of not greater than 55%.

(B) Sampling and Acceptance

Sampling and acceptance for the determination of gradation, LL and PI will be performed as described in the *Aggregate QC/QA Program Manual* and the *Aggregate Sampling Manual* using the versions in effect at the time material is shipped.

SECTION 1010

AGGREGATE FOR NON-ASPHALT TYPE BASES

1010-1 AGGREGATE BASE COURSE

(A) General Requirements

Aggregate base course material consists of crushed stone, crushed gravel, uncrushed gravel or other similar material having hard, strong, durable particles free of adherent coatings.

Provide aggregates from approved sources participating in the Department's Aggregate QC/QA Program in accordance with Sections 1005 and 1006. Sources will not be approved unless the material has satisfactory soundness and resistance to abrasion. Satisfactory soundness will be a weighted average loss of not greater than 15% when subjected to 5 alternations of the soundness test. Satisfactory resistance to abrasion will be a percentage of wear of not greater than 55%.

(B) Sampling and Acceptance

Sampling and acceptance for the determination of gradation, LL and PI will be performed as described in the *Aggregate QC/QA Program Manual* and the *Aggregate Sampling Manual* using the versions in effect at the time material is shipped.

Section 1012

1 **1010-2 AGGREGATE FOR PLANT MIXED CEMENT TREATED BASE COURSE**

2 Provide aggregate meeting Article 1010-1, except as modified herein. Sources of aggregate
3 will not be approved unless the material has a percentage of wear of not greater than 65%.

4 **SECTION 1012**
5 **AGGREGATE FOR ASPHALT PAVEMENTS**
6 **AND SURFACE TREATMENTS**

7 **1012-1 AGGREGATE FOR ASPHALT PLANT MIXES**

8 **(A) General**

9 Design the asphalt plant mix with coarse and fine aggregate that meet Section 1005,
10 except as noted herein. Size, uniformly grade and combine the aggregate fractions in
11 such proportions that the resulting mixture meets the grading and physical requirements
12 of these Specifications for the specified mix type. Materials that will not produce
13 a mixture within the design criteria required by these Specifications will be rejected,
14 unless otherwise approved.

15 The consensus property criteria in Table 1012-1 apply to the design aggregate blend.
16 Source property criteria apply to individual aggregate sources.

17 For all dense-graded surface course mixes, that are the top or final layer, limit the amount
18 of coarse aggregate or fine aggregate produced from crystalline limestone, crystalline-
19 dolomitic limestone or marble to no more than 50% of the total amount of coarse
20 aggregate or fine aggregate in the asphalt mixture. For open-graded asphalt friction
21 course and ultra-thin bonded wearing course, do not use aggregates produced from
22 crystalline limestone, crystalline-dolomitic limestone or marble.

23 **(B) Coarse Aggregate**

24 (1) General

25 Use coarse aggregate consisting of crushed stone, crushed gravel, a mixture of
26 uncrushed gravel with either crushed stone or crushed gravel or other inert material
27 having similar characteristics. Provide coarse aggregate composed of clean, tough,
28 durable fragments free from an excess of flat or elongated pieces and free of organic
29 matter and deleterious substances.

30 Use coarse aggregate from sources participating in the Department's Aggregate
31 QC/QA Program as described in Section 1006. A list of sources participating in the
32 Department's Aggregate QC/QA Program in North Carolina and adjoining states is
33 available from the Materials and Tests Unit in Raleigh.

34 (2) Gradation

35 Use standard size coarse aggregate meeting Table 1005-1 and these *Standard*
36 *Specifications* unless otherwise approved.

37 (3) Coarse Aggregate Angularity (Fractured Faces)

38 Use coarse aggregate meeting Table 1012-1 for coarse aggregate angularity
39 (fractured faces) when tested in accordance with ASTM D5821.

40 (4) Flat and Elongated Pieces

41 Use coarse aggregate meeting Table 1012-1 for flat and elongated pieces when tested
42 in accordance with ASTM D4791 on the No. 4 sieve and larger with a 5:1 aspect
43 ratio (maximum to minimum) for all pavement types, except there is no requirement
44 for Types SF9.5A and S9.5B.