March 23, 2022

MEMORANDUM

TO: Management Representatives
   Certified Aggregate Producers
   Trial Phase Producers
   Coordinated Testing Phase Producers

FROM: Jim Reilman
       State Materials Engineer

SUBJECT: Certified Aggregate Producer Program -- 2022

Included below are several items pertaining to the Certified Aggregate Producer Program and Standard Specifications for 2022.

CAPP DOCUMENT LIST (2/7/2022) (see attachment)

STANDARD SPECIFICATION

211.03.01 Note added to Type 3 Structure Backfill. A type A certification in accordance with 916 shall be provided for the additional structure backfill. The results of pH, organic content, and permeability testing shall be shown on the certification.

501.03 Added a new term to the materials section, concrete coarse aggregate (CCA) and created a new ITM (ITM 226) to provide more details and requirements. Principles of CCA are to optimize particle sizes in the coarse aggregate which when used in concrete will produce a better-quality concrete. This has always been allowed in 501 concrete, now it is required.

502, 506, 702, and specification sections that require concrete that is in accordance with these sections. The use of a CCA is optional in concrete mixes used in these applications. Also, an option was added in lieu of using coarse aggregate No. 8, aggregate meeting an AASHTO No. 57 may also be used as a CCA in these applications.

904.01 and 904.02. References to Approved lists were replaced with QPL (Qualified Products List). Office of Materials Management changed to Division of Materials and Tests. These changes were reflected throughout the Standard Specifications.
917.01. Indiana Inspection and Sampling Procedures manual was replaced by the CAPP Training Manual for Certified Technicians. References to Approved lists were replaced with QPL (Qualified Products List). Office of Materials Management changed to Division of Materials and Tests.

Recurring Special Provision 211-R-730. B borrow consisting of ACBF or GBF shall not be used within 2ft of the free water level.

**TEST METHODS**

The following revisions to the AASHTO and ITM test methods have been made for 2022:

**AASHTO T 85**

1) Section 3.1.1. Added (230° ± 9°F)
2) Section 8.1 and 8.5. Statement added to dry the test sample to constant mass according to AASHTO T 255.

**AASHTO T 112**

1) Section 1.1. Note 1 added to outline the details when this test is performed concurrently with AASHTO T 27.
2) Section 2.1. Referenced Documents Added
   - R 18
   - R 76
   - R 90
   - T 27
   - T 255
3) Section 4.2. Containers. Revised to state size and shape which will permit spreading of the sample on the bottom in a single layer.
4) Section 5. Samples. Substantial changes have been made to this section including sampling, reducing the sample, drying the sample in accordance with T 255 and Table 1 has been added to show Test Sample Minimum Mass by Sieve Size.
5) Section 6. Procedure. Substantial changes made to this section regarding separating and preparing the sample for testing including the weight of the size fractions. Distilled water has been replaced by Potable water.

**ITM 203**

Section 6.1. Verbiage added for New and reactivating sources requesting to provide aggregates to the Department.

**6.1 General.** The minimum frequency for ledge and production quality sampling and testing shall be as outlined within this section.

New and reactivating sources proposing to provide aggregates for Department use shall submit a written request to the appropriate District Testing Engineer. The request shall include the method of sampling and what products they intend to supply.
ITM 210

Section 8.5. Mix Design Parameters. A specification of 1”-3” for the slump test was added.

<table>
<thead>
<tr>
<th>Portland Cement Content</th>
<th>564 lb/yd³</th>
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</thead>
<tbody>
<tr>
<td>Water/Cement Ratio (Weight Basis)</td>
<td>0.43</td>
</tr>
<tr>
<td>Air Content</td>
<td>6.5 ± 1.5%</td>
</tr>
<tr>
<td>Slump</td>
<td>1 in. to 3 in.</td>
</tr>
<tr>
<td>Absolute Volume of Coarse Aggregate (Saturated Surface Dry)</td>
<td>0.40</td>
</tr>
</tbody>
</table>

ITM 211

Section 17.5.1. This section revised to state the Division of Materials and test can place a source on inactive status if the source has not produced or shipped any CAPP material for 3 years.

Section 17.5.3. Information added for seeking active status after being inactive.

ITM 224

Section 2.0 References and Section 5.0 Apparatus. Added ASTM E11 Woven Wire Test Sieve Cloth and Test Sieves.

Section 6.0 Sample Preparation. Two laboratory test specimens instead of one.

Section 7.3 Minimum weight of the reduced testing specimen has changed.

Appendix A. Worksheet was revised to show test specimen #1 and test specimen #2 with additional information added to the calculation to make it easier to understand.

ITM 226

Issued new ITM to establish the material requirements for coarse aggregates used in concrete, called concrete coarse aggregates (CCA). These are aggregates that have also been shown to create optimized concrete mixes.

For 501 specification concrete, any aggregate gradation may be used that meets the table shown in the ITM.

For 502, 506, and 702 specification concrete, the CCA shall either meet an INDOT No. 8 or an AASHTO No. 57 gradation.

INDOT will use a spreadsheet to review submitted CCA gradations. The spreadsheet is available on INDOT’s website.
Appendix A. Table 1 revised for clarity to show numbers 1 and 2, followed by (Y or N) answer spaces for maximum individual openings and maximum permissible average openings.

Figure 1

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
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<td>2</td>
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</tbody>
</table>

Does the X or Y component exceed the maximum individual opening given in Table 1? (Y or N)

Does the X or Y average exceed the permissible average opening given in Table 1? (Y or N)

ITM 910

Appendix A. Line added to the worksheet for Customer Name and Address.

Please e-mail your receipt of this document to cphelps3@indot.in.gov. Please keep us informed of any changes to the designated Management Representative for your source, including current email address and telephone number.

Jim Reilman
State Materials Engineer

Attachment: 2/7/22 CAPP Document List

cc: District Testing Engineers
    C. Phelps
    INMAA: C. Lee, K. Allison, K. Cook,
    File
CERTIFIED AGGREGATE PRODUCER PROGRAM DOCUMENT LIST

1. Standard Specifications
   Current Supplemental Specs. -- Sections 211, 301, 302, 303, 904 and 917

2. ITM 211 -- Indiana Department of Transportation Certified Aggregate Producer Program (05/06/21)

3. Indiana Quality Assurance Certified Aggregate Technician Manual for Producer Technicians (September 2021)


Note: All documents may be maintained electronically or by hard copies.
TEST METHODS

Indiana Test Methods

202-15T Acid Insoluble Content of Fine Aggregates (6/16/15)
203-21P Control Procedures for Classification of Aggregates (05/06/21)
205-17T Acceptance Procedures for Dolomite Aggregates (5/09/17)
206-15T Scratch Hardness of Coarse Aggregate Particles (6/16/15)
207-15T Sampling Stockpiled Aggregates (6/16/15)
209-15T Soundness of Aggregates by Freezing and Thawing in a Brine Solution (6/16/15)
210-21T Class AP Coarse Aggregate for Concrete Pavement and Slab-on-Grade Concrete. (08/23/21)
211-21 Indiana Department of Transportation Certified Aggregate Producer Program (05/06/21)
212-19T Acceptance Procedures of Air Cooled Blast Furnace Slag for Leachate Determination (8/01/19)
219-15T Acceptance Procedures of Steel Furnace Slag for Deleterious Materials (6/16/15)
222-15T Specific Gravity Factor and Absorption of Lightweight Fine Aggregate (11/12/15)
224-21T Flakiness Index of Aggregates (11/12/21)
902-21T Verifying Sieves (12/8/2021)
906-17T Verifying Mechanical Shakers (05/09/17)
910-22T Verifying Balances (01/27/22)

AASHTO and ASTM Test Methods

AASHTO R 76-16 Reducing Field Samples of Aggregate to Testing Size
AASHTO R 90-18 Sampling Aggregate Products
AASHTO T 11-20 Materials Finer Than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing
AASHTO T 27-20 Sieve Analysis of Fine and Coarse Aggregates
AASHTO T 84-13 Specific Gravity and Absorption of Fine Aggregate
AASHTO T 85-21 Specific Gravity and Absorption of Coarse Aggregate
AASHTO T 112-21 Clay Lumps and Friable Particles in Aggregate
AASHTO T 113-18 Standard Method of Test for Lightweight Pieces in Aggregate
ASTM D 4791-19 Flat or Elongated Particles in Coarse Aggregate
ASTM D 5821-13 Determining the Percentage of Fractured Particles in Coarse Aggregate