

# THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

November 1, 2012

## CONSTRUCTION BULLETIN No. 12-02

### SUBJECT: PRODUCTION OF CERTIFIED AGGREGATE FROM RECLAIMED ROADWAYS AND STRUCTURES USING MOBILE CRUSHERS

#### General

This bulletin defines the requirements for furnishing certified aggregate produced with mobile crushers from reclaimed pavements, structures, and runways.

#### **Processing Requirements for Aggregates Produced from Reclaimed Materials**

Notification requirements to Tollway Materials personnel of new production, as well as testing frequency, sampling, documentation, and acceptance of recycled materials, are the same as notifications given to IDOT personnel for the production of virgin aggregates as required through IDOT's Manual for Aggregate Inspection. The Tollway Materials Engineer shall be afforded the opportunity to witness the stockpiling of any unprocessed recycled material.

Processing of reclaimed portland cement concrete (PCC), crushed composite pavement (CCP), and reclaimed asphalt pavement (RAP) shall include a means of eliminating material other than PCC, CCP, or RAP in the finished product. This may be accomplished by pre-screening or other methods acceptable to the Tollway Materials Engineer. Feeds of reclaimed pavement contaminated with soil, aggregate or excessive recycled fines may require processing using a grizzly before the material is fed into a mobile crusher. Stockpiles or windrows of processed aggregate contaminated with reinforcing steel, soil, natural aggregates with rounded particles or other material, can be rejected upon visual inspection by the Engineer. The producer or contractor shall be informed immediately that the processed stockpile has been rejected.

#### **Moving Crusher Recycling Operations**

If multiple moving crushers and screening plants are used, each plant's production must have its own QC plan and have gradation monitored in compliance with IDOT's Manual for Aggregate Inspection. The QC plan for each plant shall be defined in the Contractor's Quality Control Program.

Sampling and testing frequency needs to be in agreement between the Producer and the Tollway through the Contractor's Quality Control Program upon approval.

Sampling locations must be identified using stationing, GPS, or another accurate and reliable method.

Materials must be from a known aggregate source and the quality from that source shall be established prior to incorporation into the processor.

The placement and compaction of processed aggregate cannot begin until the material represented by produced stockpiles or windrows is represented by a complying gradation test result and a permeability test result if specified.

### **Recycled Concrete Aggregate for Concrete Mixtures**

Recycled crushed concrete aggregate for use in concrete mixtures shall be restricted from being processed through mobile crushing operations. Only stationary crushing operations may be used.

### **Porous Granular Embankment (PGE) and Granular Subbase**

These products require that the reclaimed material be identifiable and the following shall apply:

- A. Reclaimed crushed concrete pavement, crushed composite pavement (CCP), and reclaimed asphalt pavement (RAP) can be reclaimed from an interstate or primary roadway pavement or structures under the jurisdiction of the Tollway or IDOT or from runway pavement from any airport under FAA jurisdiction and shall be certified based on gradation and permeability testing if specified.
- B. Reclaimed crushed concrete pavement, crushed composite pavement (CCP), and reclaimed asphalt pavement (RAP) can be reclaimed from local roads or streets if the source of the original aggregates in the concrete are known and the coarse aggregate quality is "C" or better based on current IDOT standard specifications and shall be certified based on gradation and permeability testing if specified. The producer of the recycled aggregate shall be responsible for documentation of the pavement source.
- C. When the source or quality of the material from the local roads or streets pavement is unknown, the material shall be certified based on quality requirements identified in the IDOT standard specifications for crushed stone coarse aggregate for the recycled aggregate being produced and gradation requirements for the aggregate product as specified in contract.
  - 1. If the concrete originated from multiple locations, the crushed material from each location must be stockpiled in separate but homogeneous stockpiles.
  - 2. Prior to certification and furnishing to projects, each stockpile must be readily identifiable, and have compliant results on applicable tests on samples taken from each of these stockpiles.
- D. For aggregate products that allow the blending of RAP with crushed concrete, the crushed concrete shall meet the quality requirements of the specified product before blending with RAP. The reclaimed asphalt from Tollway, IDOT, or other sources shall be processed into RAP, meeting the applicable nominal maximum size for the specified product before blending with other aggregate.

The addition of unprocessed asphalt shall only be allowed if it is generated from a composite pavement.

The blending of RAP shall be accomplished by the use of belt feeders and bins equipped with adjustable gates or drive systems that can be calibrated and controlled. This requirement is applicable to all stationary crushing/recycling operations as well as with mobile crushing operations. For PGE, the amount of reclaimed asphalt shall not exceed 50 percent. RAP containing

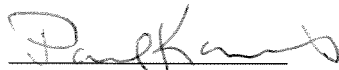
soil or other foreign material other than asphalt shall be considered contaminated and subject to rejection.

### **Capping Stone over PGE**

- A. Reclaimed crushed concrete pavement, crushed composite pavement (CCP), and reclaimed asphalt pavement (RAP) can be reclaimed from an interstate or primary roadway pavement or structures under the jurisdiction of the Tollway or IDOT, from runway pavement from any airport under FAA jurisdiction, and from local roads or streets if the source of the original aggregates in the concrete are known and the coarse aggregate quality is "C" or better based on current IDOT standard specifications and shall be certified based on the CA-6 gradation specified. The producer of the recycled aggregate shall be responsible for documentation of the pavement source.
- B. For recycled aggregates that consist of RAP only, the reclaimed asphalt may be from Tollway, IDOT, or any other sources and shall be screened Reclaimed Asphalt Pavement (RAP) from an approved source. The RAP shall meet the requirements of the Tollway special provision for Reclaimed Asphalt Pavement and have 100% passing the 3 inch (75 mm) sieve and be well graded down through fines.

### **Aggregate Shoulders**

- A. Reclaimed crushed concrete pavement, crushed composite pavement (CCP), and reclaimed asphalt pavement (RAP) can be reclaimed from an interstate or primary roadway pavement or structures under the jurisdiction of the Tollway or IDOT, from runway pavement from any airport under FAA jurisdiction, and from local roads or streets if the source of the original aggregates in the concrete are known and the coarse aggregate quality is "C" or better based on current IDOT standard specifications and shall be certified based on the CA-6 or CA-1 gradation as required for the specified product. The producer of the recycled aggregate shall be responsible for documentation of the pavement source.
- B. For Aggregate Wedge Shoulders, Type B and Aggregate Shoulders, Type B that consist of RAP only, the RAP may be from Tollway, IDOT, or any other sources and shall be screened RAP from an approved source. The RAP shall meet the requirements of the Tollway special provision for Reclaimed Asphalt Pavement and have 100 percent passing the 3 inch sieve and be well graded down through the fines.



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11/09/12

Date