

State of Illinois
Department of Transportation
Bureau of Materials
Springfield

POLICY MEMORANDUM

Revised: [April 14, 2022](#)

14-08.3

This Policy Memorandum supersedes number 14-08.2 dated June 1, 2018

TO: REGIONAL ENGINEERS AND BUREAU CHIEFS IN THE OFFICE OF
HIGHWAYS PROJECT IMPLEMENTATION

SUBJECT: INSPECTION OF LARGE SIZED AGGREGATE AND RIP RAP USED
FOR EROSION PROTECTION, SEDIMENT CONTROL, ROCKFILL,
AND AGGREGATE SUBGRADE IMPROVEMENT

1.0 PURPOSE

This memorandum establishes an inspection procedure for Large Sized Aggregate used for Erosion Protection, Sediment Control, Rockfill, and Aggregate Subgrade Improvement.

2.0 AUTHORITY

[IDOT Standard Specifications for Road and Bridge Construction, Article 1005.01](#)

3.0 STOCKPILING

Stockpiling and handling procedures of material for Department use shall be [according to](#) the Bureau of Materials Policy Memorandum, "Aggregate Gradation Control System."

4.0 INSPECTION

The materials will be inspected at the source according to Article 106.04.

5.0 QUALITY SAMPLING AND TESTING PROCEDURE

5.1 *For Gradations RR1 & RR2* - Sodium sulfate soundness testing will be conducted on bedding material (Gradations RR1 and RR2) using the manufactured gradation.

5.2 *For Gradations RR3 thru RR7* - Sodium sulfate soundness testing will be conducted on ledges used for erosion control protection and sediment control. Gradations RR1, RR2, CA01, or CA03 shall be sampled for testing of RR3 thru RR7. If the above sizes are not produced, other sizes approved by the Bureau of Materials may be sampled.

5.3 The Department reserves the right to test all riprap or bedding material in the Department's Rapid Freeze-Thaw for final acceptance.

6.0 GRADATION PROCEDURE

6.1 The minimum size of stockpile for inspection shall be 1,000 tons (907 Metric Tons) or the amount needed for the job, whichever is smaller.

6.2 The Producer shall notify the Engineer at least five (5) days in advance of the date when the material will be ready for inspection.

6.3 BEDDING MATERIAL (RR1 & RR2)

6.3.1 Gradation sample sizes shall be taken [according to](#) Illinois Specification 201 (LARGE SIZED AGGREGATE GRADATION TABLE) located in the Manual of Test Procedures for Materials. The gradation shall be performed [according to](#) Illinois [Modified AASHTO T 27](#) located in the Manual of Test Procedures for Materials. Testing shall be performed by the District when material is produced.

6.4 GRADATIONS RR3 THRU RR7

6.4.1 A minimum of one gradation check for each gradation produced will be performed by the District during initial production each year.

6.4.2 Gradations will be performed by visual inspection of the stockpile including a visual inspection for Flat & Elongated pieces. To assist in the visual gradation inspection the producer shall maintain a set of keystones on all standard specification gradations produced per Table 1, herein. These keystones shall be located in a close proximity of the represented stockpile. The keystones shall be selected by the Producer and agreed upon by the District. If at any time the keystones become non-representative of the gradation, a new set of keystones shall be established.

Table 1

Gradation	Keystone #1 (lbs)	Keystone #2 (lbs)	Keystone #3 (lbs)
RR3	50 (± 5)	10 (± 1)	1 (± 0.1)
RR4	150 (± 15)	40 (± 4)	1 (± 0.1)
RR5	400 (± 40)	90 (± 13)	3 (± 0.1)
RR6	600 (± 60)	170 (± 17)	6 (± 0.5)
RR7	1000 (± 100)	300 (± 30)	12 (± 1)

6.4.3 If the gradation test results using the procedure as described in 6.4.2 are disputed, [then the procedure in Section 6.4.4](#) will be conducted.

6.4.4 DISPUTED GRADATION PROCEDURE (Visual)

6.4.4.1 If the producer disputes the results of the visual inspection conducted by the District a second visual inspection will be conducted by the Bureau of Materials.

6.4.4.2 If the visual gradation performed by the Bureau of Materials is disputed by the producer, a gradation test will be conducted by the District using the Dispute Gradation Procedure (Weighed) described in [Section 6.4.5](#)

herein. The Bureau of Materials reserves the right to be present during the weighed gradation dispute procedure. The weighed dispute gradation procedure will be the final method of acceptance for this material.

6.4.5 DISPUTED GRADATION PROCEDURE (Weighed)

6.4.5.1 The District will direct all sampling operations, and the Producer shall provide the equipment and personnel necessary to sample and assist in testing [according to](#) this procedure.

6.4.5.2 A grid of the dimensions indicated in the table below shall be marked on a clean surface (e.g., canvas, conveyor belting, concrete pad, etc.), so that an uncontaminated weight of fines and rock spalls may be obtained. Each grid shall be broken down into 5' increments or blocks (e.g., A grid for RR3 will consist of five (5) blocks that are 2' wide by 5' long, aligned in a row, for a total grid length of 25').

Table 2

Gradation	Grid	Sample Size, (blocks to be tested), Minimum
RR3	2' by 25'	2
RR4	3' by 25'	2
RR5	4' by 25'	3
RR6	5' by 30'	3
RR7	5' by 35'	3

6.4.5.3 Under direction of the District, the producer shall use a front end loader to excavate a representative sample from the working face of the stockpile to be sampled. The front end loader will then spread the sampled material over the grid, by backing and slowly dumping over the length of the grid. The material should be spread to an approximate one (1) rock thickness, in a fairly even distribution over the grid. The minimum sample size for each gradation is indicated Table 2 above, by the number of grid blocks to be tested. The test sample shall consist of all the material contained within the selected blocks, as well as all material on or above the grid lines of the selected blocks.

6.4.5.4 Gradation RR3 thru RR7 - The material excavated shall be weighed piece-by-piece until all pieces above the minimal specified weight have been weighed and recorded. All fines and rock spalls below the minimum specified weight shall then be gathered and weighed separately. Percentages of each size range for the gradation specified shall be calculated.

6.5 GRADATIONS CS01 & CS02

6.5.1 Gradation sample sizes shall be taken [according to](#) the most recent Illinois Specification 201 (LARGE SIZED AGGREGATE GRADATION TABLE) located in the Manual of Test Procedures for Materials. The gradation shall be run according to Illinois [Modified AASHTO T 27](#) located in the Manual of Test Procedures for Materials.

7.0 CLOSING NOTICE

Archive versions of this policy memorandum may be examined by contacting the Bureau of Materials.

The current Bureau Chief of Materials has approved this policy memorandum. Signed documents are on file with the Bureau.