ALDOT-239
METHOD OF SAMPLING AND TESTING RIPRAP STONE (CLASSES 1- 5) AND BUTTRESS MATERIAL

1. Scope

1.1. This procedure provides a test method to determine the particle size distribution by weight of riprap stone or buttress material.

2. Referenced Documents

2.1. ALDOT Standard Specifications for Highway Construction

109 Measurement and Payment
219 Landslide Corrections
814 RipRap Materials

2.2. ALDOT Procedures

210 Selecting Samples by the Random Numbers Method

2.3. BMT Forms

16 General Test Report (Non-Specific)

3. Equipment

3.1. Dump truck - Capacity may vary with the grade of the material.

3.2. Front-end loader or other equipment as needed to lift material.

3.3. State approved truck scales capable of weighing the truck being used loaded to capacity. Truck scales shall meet the requirements of Article 109.01(h) of the ALDOT specifications.

3.4. Portable platform scales of adequate capacity to determine the individual weight of the sorted material shall have an accuracy of 5% of the indicated weight. Portable platform scales shall be serviced and calibrated every 12 months.

4. Sampling

4.1. A representative sample as shown in Table I.

TABLE 1

MATERIAL	SAMPLE SIZE	SORTED BY PILES
CLASS 1 RIP RAP	• 1 TRI-AXLE DUMP TRUCK (25-28 TONS)	• PIECES WEIGHING ≤ 10 LBS. • PIECES WEIGHING > 10 LBS, BUT ≤ 50 LBS. • PIECES WEIGHING > 50 LBS, BUT ≤100 LBS. • PIECES WEIGHING > 100 LBS.

CLASS 2 RIP RAP	• 2 TRI-AXLE DUMP TRUCKS (50-56 TONS)	• PIECES WEIGHING ≤10 LBS. • PIECES WEIGHING > 10 LBS, BUT ≤ 80 LBS. • PIECES WEIGHING > 80 LBS, BUT ≤ 200 LBS. • PIECES WEIGHING > 200 LBS.
CLASS 3 RIP RAP	• 2 TRI-AXLE DUMP TRUCKS (50-56 TONS)	• PIECES WEIGHING ≤ 25 LBS. • PIECES WEIGHING > 25 LBS, BUT ≤ 200 LBS. • PIECES WEIGHING > 200 LBS, BUT ≤ 500 LBS. • PIECES WEIGHING > 500 LBS.
CLASS 4 RIP RAP	• 2 TRI-AXLE DUMP TRUCKS (50-56 TONS)	• PIECES WEIGHING ≤50 LBS. • PIECES WEIGHING > 50 LBS, BUT ≤ 500 LBS. • PIECES WEIGHING > 500 LBS, BUT ≤ 1000 LBS. • PIECES WEIGHING > 1000 LBS.
CLASS 5 RIP RAP	• 2 TRI-AXLE DUMP TRUCKS (50-56 TONS)	• PIECES WEIGHING ≤200 LBS. • PIECES WEIGHING > 200 LBS, BUT ≤ 1000 LBS. • PIECES WEIGHING > 1000 LBS, BUT ≤ 2000 LBS. • PIECES WEIGHING > 2000 LBS.
BUTTRESS MATERIAL	• 2 TRI-AXLE DUMP TRUCKS (50-56 TONS)	• PIECES WEIGHING ≤10 LBS. • PIECES WEIGHING > 10 LBS, BUT ≤ 80 LBS. • PIECES WEIGHING > 80 LBS, BUT ≤ 500 LBS. • PIECES WEIGHING > 500 LBS.

5. Procedure

5.1. Select a truckload of material as per ALDOT-210.

5.2. Weigh the loaded truck and record the weight (Weight “C”).

5.3. Dump the truckload of material onto a clean, level area. Weigh the unloaded truck and record the weight (Tare Weight “B”).

5.4. Spread the sample and separate the pieces into piles of various sizes. Weigh the smallest and largest piece in each pile and adjust the piles to contain the specified weights in Table I without overlapping.

5.5. Weigh each pile and record the weight (Weight “A”). The weighing of individual piles can be accomplished by placing all the material in a pile in the bed of the truck and weighing the truck and the material; then substract the tare weight “B” of the truck to determine the weight of the pile.

6. Calculations

6.1. Calculate the percent of each specified size as follows:

$$\%\ of\ Specified\ Size\ = \left(\frac{A}{C-B}\right)100$$

Where:

"A" = Weight of each individual pile (by size).

"B" = Tare weight of the truck.
"C" = Initial weight of truck loaded.

7. Reporting

7.1. Report the test results on form BMT-16.