

## SECTION 403 - STONE RIPRAP

### 1. GENERAL

Stone for riprap shall comply with all composition, quality, product control, and handling requirements of the latest version of Section 1114 of the Kansas Department of Transportation (KDOT) Standard Specifications and as amended herein. Riprap shall be dense durable stone that is clean, free from earth, cracks, seams, soapstone, shale or other disintegrated material that would tend to decrease the durability of the material after placement.

### 2. QUALITY

Stone used for riprap shall be subjected to and shall conform to the following tests and test requirements:

- A. Specific gravity shall not be less than 2.30, min. (KT-6, Procedure 1).
- B. Soundness, minimum (KTMR-21) 0.85.
- C. Wear, maximum (KTMR-25) 45 percent.

### 3. SIZE AND WEIGHT

The class requirements are given in Table 403.

Table 403: STONE FOR RIPRAP*											
Class	Percent Heavier Than										
	8 ton	4 ton	2 ton	1 ton	½ ton	¼ ton	250 lb	200 lb	100 lb	75 lb	5 lb
<b>Heavy Series</b>											
8 Ton	50+	95+									
4 Ton	0	50+	95+								
2 Ton		0	50+	95+							
1 Ton			0	50+	95+						
½ Ton				0	50+	95+					
¼ Ton					0	50+				90+	

\*Percent of total sample weight composed of pieces heavier than the indicated weight

### 4. PLACEMENT

Stone for riprap shall be placed in such a manner as to produce a reasonably well-graded mass of rock with the minimum practicable percentage of voids and shall be constructed to the lines and grades shown on the Drawings. Riprap shall be placed to its full course thickness in one operation in such a manner as to minimize segregation and to avoid damaging the graded slope. Placing riprap in layers will not be permitted. The larger stones shall be well distributed both vertically and horizontally in the course and the finished riprap shall be free from objectionable pockets of small stones and clusters of large stones. Hand placing may be required to a limited extent but only to the extent necessary to secure the results specified above. A tolerance of 6 inches above the theoretical slope lines and grades will be allowed in the finished surface of the riprap.

### 5. MEASUREMENT AND PAYMENT

Payment shall be made for the amount of completed and accepted work measured in-place at the contract unit price bid per square yard for "Riprap" of the specified series or type and thickness.