# RIPRAP, SPECIAL

Eff. 11-01-1997 Rev. 01-01-2014

Description. This work shall be in accordance with Section 281 of the Standard Specifications insofar as applicable and the following provisions. This work shall consist of furnishing, transporting and placing a protective coarse stone laid as riprap at locations shown on the plans and as directed by the Engineer. The riprap shall be a minimum of 16 inches (400 mm) thick. Filter Fabric will be required. The finished surface of the stone riprap shall have the tops of the rocks protruding through the grout.

Materials:

Quality. The material used for riprap shall be stone conforming to Quality Designation A of Article 1005.01(b) of the Standard Specifications.

Gradation. The material used for riprap shall conform to Gradation Number 4 of Article 1005.01(c) of the Standard Specifications. The riprap thickness shall be as shown on the plans.

Construction Method. This work shall be performed in accordance with Sections 281 and 282 of the Standard Specifications and as follows. Foundation preparation and placing shall be done in accordance with Article 281.03 and 281.04 of the Standard Specifications. Bedding and filter fabric will be required. Special care shall be taken to ensure that grout is placed in the toe of the riprap.

A cement grout shall be placed (pumped or truck discharged) in such a manner as to form a stable mat between the individual stone riprap pieces to a height of within 4 inches (100 mm) of the top of the riprap. This grout shall consist of a mixture of Portland Cement, sand, 5/8 inch (16 mm) (maximum size) aggregate and water so proportioned and mixed to provide a readily pumpable slurry with a slump of 5 inches (125 mm) to 7 inches (175 mm). The cement content of the grout shall be not less than seven (7) bags per cubic yard (9.2 bags per cubic meter). The estimated quantity of grout is one (1) cubic yard per thirty-seven (37) square yards (one (1) cubic meter per twenty-five (25) square meters) of riprap surface.

Method of Measurement. Stone Riprap will be measured for payment in square yards (square meters) in accordance with the requirements of Article 281.06 of the Standard Specifications. The Filter Fabric will be measured in place in square yards (square meters) in accordance with Article 282.08 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) measured in place for RIPRAP, SPECIAL, which price shall include all materials including excavation, bedding, grout and labor necessary to complete the work. The filter fabric shall be paid for at the contract unit price per square yard (square meter) for FILTER FABRIC.

Any delays or inconvenience caused the Contractor in complying with this Special Provision will be considered included in the contract unit price for RIPRAP, SPECIAL and FILTER FABRIC and no additional compensation will be allowed.