

SECTION 612 - GABION RETAINING WALL

612.01, DESCRIPTION. This work shall consist of furnishing and installing wire mesh gabion baskets and furnishing and placing interior fill material, all in accordance with these Specifications, and in reasonably close conformity with the lines, grades and dimensions shown on the Plans and Standard Drawing.

612.02, MATERIALS. Materials shall meet the requirements of the following subsections of Division 700 - Materials:

Stone for Gabion	704.15
Gabion Baskets	713.08

612.03, GENERAL. The foundation shall be accurately prepared to accept the gabions as shown on the Plans, and shall be approved before any gabions are placed.

Individual gabion baskets shall be assembled by placing flat on the ground, flattening any kinks or bends, and then erecting the sides, ends and diaphragms. All creases shall be in the correct position and the tops of all sides level. The four corners of the gabion shall be laced together with alternating single and double loops at 125mm intervals, with both ends of the lacing wire secured by looping and twisting. Internal diaphragms shall be installed, and laced in a similar way. Individual assembled baskets shall be placed in their proper location and all adjoining gabions connected. This connection shall be accomplished using individual tie wires looped and twisted at approximately 75mm intervals along the entire perimeter of their contact surfaces.

Each course of gabions shall be stretched to proper alignment by partially filling the first gabion in line for anchorage, and stretching the connected gabions using a come-along or other means of at least 9kN capacity. Gabions shall be kept in tension while being filled. Gabion joints shall be controlled to avoid any unraveling. Gabions shall be carefully filled in 300mm layers, in a manner that will minimize voids. Two connecting wires shall be placed in each direction between each layer in all cells by looping lacing wire around two (2) mesh openings in the front and back face, and in the ends and diaphragms. The ends of the connecting wires shall be securely twisted to prevent their loosening under tension. Cells in each course of gabions shall be filled in stages, i.e. at no time shall any cell be filled to a depth exceeding 300mm more than the adjoining cell. The last layer of stone shall be leveled with the top of the gabion to allow proper closing of the lid and provide an even surface for the next course. Lids shall be stretched tight over the stone fill using crowbars or similar methods, until the lid meets the edges of the front and ends. The lid shall be tightly tied along the edges, ends and diaphragms in the same manner as required for connecting adjoining gabions. Succeeding courses or tiers shall be placed and connected as specified for the first course. Baskets for succeeding courses shall be placed so vertical joints are offset at least 450mm from course to course, unless otherwise shown on the plans or standard drawings. Gabions shall be placed as headers or stretchers in accordance with the standard drawings. Each course of gabions shall be tied to the lower course after stretching but before filling, by use of individual tie wires looped and twisted at approximately 75mm spacing along all edges and diaphragms. Vertical edges at each end of the wall that are not connected to an adjoining gabion shall be reinforced by looping and twisting individual tie wires at approximately 75mm

spacing the full length of such edges.

Care shall be exercised during all gabion wall construction to ensure the stone fill is firmly in place, bulging or distortion of the filled baskets is minimal, and all lacing and tying is thoroughly wound, looped and twisted to preclude loosening in service.

612.04, METHOD OF MEASUREMENT. The quantity to be measured for payment of Gabion Retaining Walls will be measured in cubic meters complete in place. The volume will be calculated using limits specified on the Plans or as ordered by the Engineer.

Excavation, will be measured in cubic meters for the volume actually excavated from within the limits bounded by vertical planes 500mm outside the neat lines of the base of the gabion retaining walls at the ends and front face, and a plane 500mm outside and parallel to the back face of the lowest gabion. Measurement will be made, within the designated limits, between the original ground and bottom of the excavated pit, except in cut sections where the finished cross-section will govern.

612.05, BASIS OF PAYMENT. The accepted quantity of Gabion Retaining Wall will be paid for at the Contract unit price per cubic meter, which price shall be full compensation for furnishing, transporting, handling and placing the material specified and the furnishing of all labor, materials, tools, equipment and incidentals necessary to complete the work.

Excavation required for the placing of units of a Gabion Retaining Wall and the filter blanket or bedding material will be paid for at the Contract price per cubic meter for Structure Excavation, Section 204, unless another excavation pay item is indicated on the Plans.

The filter blanket, filter fabric, and/or bedding materials will be paid for at the Contract unit prices for the items indicated on the Plans.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
612.10 Gabion Retaining Wall	Cubic Meter