

***SLOPE REINFORCEMENT
AND
RETAINING WALLS***

Slope Reinforcement & Retaining Walls

SECTION 251 - RIPRAP (See individual item for labor reduction)

- Hand-Placed Riprap (Labor 45 percent)
- Dumped Riprap (Labor 30 percent)
- Machine-Placed Riprap (Labor 20 percent)
- Sacked Soil Cement (Labor 60 percent)
- Sacked Concrete (Labor 60 percent)
- Wire-Enclosed Riprap (Labor 75 percent)

Riprap must be estimated on an individual basis due to such a variety in size, shape, and difficulty of installations. Unit costs are to include furnishing, placing, and haul of riprap. Also includes cost of woven wire, lacing or tie wires, stakes, and labor to place and enclose riprap.

Calculate haul cost using prices listed in the haul section of this cost guide.

Development of the pit or source if required should be calculated using time and equipment.

Royalty charge in private pits obtained from pit owner - see Section 301 or 641.

Drilling and blasting cost of quarries (if required) - see Section 301 or 641.

Access road development, if required - use time, and equipment.

Geotextile, if used - estimate material prices and pay under Section 207.

Where applicable, make a subsidiary allowance to this pay item for contractor quality control.

SECTION 253 – GABIONS AND REVET MATTRESSES (No reduction in material costs)

This installation cost must be estimated on an individual basis. The variety of sizes available and design needed can change costs. Equipment needed and cost of rock must be considered. Use time, material, and equipment to determine cost and % labor for this item.

When applicable, make a subsidiary allowance to this pay item for contractor quality control.

SECTION 255 – MECHANICALLY-STABILIZED EARTH WALLS (Labor 40 percent)

Each project is unique and must be estimated on material, labor, and equipment basis.

When applicable, make a subsidiary allowance to this pay item for contractor quality control.

SECTION 257 – ALTERNATE RETAINING WALLS (No reduction in material costs)

This item must be estimated on an individual basis. The variety of types and the site conditions can affect the unit costs. Use time, material, and equipment to determine cost and % labor for this item. When applicable, make a subsidiary allowance to this pay item for contractor quality control.

Types available include:

- Steel Bin Retaining Wall
- Culvert Retaining Wall
- Chain Link
- Gabion
- Treated Timber Bins
- Treated Timber-Faced Wall
- CRIBLOCK (Concrete bins)
- Fabric Wall
- Reinforced Concrete (tie-back/ cantilever)
- Treated Timber Lag Wall
- HILFIKER (Welded Wire)

End of Slope Reinforcement & Retaining Walls