

PART 1 - GENERAL

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| <u>1.1 DESCRIPTION</u> | .1 | This section specifies requirements for supply and placing stone rip-rap for erosion protection at locations and to dimensions indicated. |
| <u>1.2 RELATED SECTIONS</u> | .1 | Section 31 23 26 - Rock Fill and Class "A". |
| <u>1.3 MEASUREMENT FOR PAYMENT</u> | .1 | <u>Rip-Rap</u> : Supply and placement of stone rip-rap, including the cost of all plant, labour, equipment, and materials required to complete the work as specified, will be measured by the cubic metre, (CMPM). The volume of material will be determined in place from measurements taken prior to and at completion of the work. |
| | .2 | <u>Perimeter Stone</u> : Supply and placement of perimeter stone, including the cost of all plant, labour, equipment, and materials required to complete the work as specified, will be measured by the each. |

PART 2 - PRODUCTS

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| <u>2.1 RIP-RAP</u> | .1 | Hard, dense with relative density (formally specific gravity) not less than 2.65, durable quarry stone, free from seams, cracks or other structural defects, to meet following size distribution for use intended. |
| | .2 | Rip-rap stone to be well graded with maximum sizes not exceeding 700 mm |

on any side and minimum size of not less than 500 mm on any side.

- .3 Supply rock spalls to fill open joints.
- .4 Field stones of appropriate sizes are acceptable for hand placed rip-rap.

2.2 PERIMETER STONE

- .1 Hard, dense with relative density (formally specific gravity) not less than 2.65, durable quarry stone, free from seams, cracks or other structural defects, to meet following size distribution for use intended.
- .2 Perimeter stone to be single stone with minimum size on any side of 900mm.

PART 3 - EXECUTION

3.1 PLACING

- .1 Place rip-rap as directed to thickness and details indicated or as designated by Departmental Representative.
- .2 Where rip-rap is to be placed on slopes, excavate trench at toe of slope to dimensions as indicated.
- .3 All side slopes to be 1 vertical to one and 1.5 horizontal.
- .4 Fine grade area to be rip-rapped to uniform, even surface. Fill depressions with suitable material and compact to provide firm bed.
- .5 Place stones in manner approved by Departmental Representative to

secure surface and create a stable mass. Place larger stones at bottom of slopes.

- .6 Hand placing:
 - .1 Use larger stones for lower courses and as headers for subsequent courses.
 - .2 Stagger vertical joints and fill voids with rock spalls or cobbles.
 - .3 Finish surface evenly, free of large openings and neat in appearance.
- .7 Place perimeter stone as directed at 1500mm centre-on-centre around perimeter of laydown area as indicated.