

PART 1 General

1.1 RELATED WORKS

- .1 Section 31 23 10 - Excavating, Trenching and Backfilling

1.2 DEFINITION

- .1 Rock: any solid material in excess of 0.25m<sup>3</sup> and which cannot be removed by means of mechanical excavating equipment having a 0.95 to 1.15 m bucket. Frozen material not classified as rock.

1.3 SCOPE

- .1 Work includes hoe-ramming and/or line drilling to remove rock encountered in the course of the work. Provide all material and equipment required for rock removal.

1.4 PROTECTION

- .1 Rock blasting will not be permitted. Rock shall be removed by hoe-ramming and/or line drilling.
- .2 Prevent damage to surroundings and injury to persons.

1.5 PAYMENT

- .1 Payment at the Contract price per cubic metre of rock removed.

1.6 MEASUREMENT

- .1 Measurement for payment will be based on the rock removed given the theoretical trench width, the existing top of rock elevation (as measured in the field) and the theoretical bottom of trench elevation. No payment will be made for rock removal in excess of the theoretical dimensions listed above.

PART 2 Products

2.1 NOT USED

- .1 Not Used.

PART 3 Execution

3.1 ROCK REMOVAL

- .1 Remove rock to alignments, profiles, and cross sections to facilitate the work.
- .2 Explosive blasting is not permitted.
- .3 Use rock removal procedures to produce uniform and stable excavation surfaces. Minimize overbreak, and to avoid damage to adjacent structures.
- .4 Excavate rock to horizontal surfaces not exceeding slope of 1v:5h, approximately 10 degrees.

- .5 Scale, pressure wash and broom clean rock surfaces which are to bond to concrete.
- .6 Excavate trenches to lines and grades to minimum of 300 mm below pipe invert indicated. Provide recesses for bell and spigot pipe to ensure bearing will occur uniformly along barrel of pipe.
- .7 Cut trenches to widths required for the work.
- .8 Use pre-shearing, cushion or other smooth wall drilling techniques unless specified otherwise or directed by Engineer.
- .9 Remove boulders and fragments which may slide or roll into excavated areas.
- .10 Correct unauthorized rock removal at no extra cost, in accordance with backfilling requirements specified in Section 31 23 10 - Excavating, Trenching and Backfilling.

### 3.2 ROCK DISPOSAL

- .1 Dispose of surplus removed rock off site or as indicated.

END OF SECTION