

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 28 - Health and Safety Requirements.
- .3 Section 01 56 00 - Temporary Barriers and Enclosures.
- .4 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .5 Section 31 23 10 - Excavating, Trenching and Backfilling.
- .6 Section 35 20 23 - Dredging.

1.2 DEFINITION

- .1 Rock: any solid material in excess of 0.25 m³ and which cannot be removed by means of heavy duty mechanical excavating equipment with 0.95 to 1.15 m³ bucket. Frozen material not classified as rock.
- .2 PPV: peak particle velocity.

1.3 SUBMITTALS

- .1 Blasting Operation
 - .1 Submit to Departmental Representative and local authorities having jurisdiction for approval, written proposal of operations for removal of rock by blasting, in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Indicate proposed method of carrying out work, types and quantities of explosives to be used, loading charts and drill hole patterns, type of caps, blasting techniques, blast protection measures for items such as flying rock, vibration, dust and noise control. Include details on protective measures, time of blasting and other pertinent details.
 - .3 Submit records to Departmental Representative at end of each shift. Maintain complete and accurate record of drilling and blasting operations.

1.4 QUALIFICATIONS

- .1 Retain licensed explosives expert to program and supervise blasting work, and to determine precautions, preparation and operations techniques.

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1.4 QUALIFICATIONS
(CONT'D)

- .2 Blasting shall only be performed by experienced powder-man licensed in the Province of Newfoundland and Labrador to use explosives.
- .3 Prevent damage to persons and property by flying rocks, by covering the site of the blasting with blasting mats or other suitable devices. Post guards, sound warnings and display signs when blasting is to take place.
- .4 Carry out trial blasting at the commencement of the blasting work in order to determine the amount of charge required to keep vibrations within safe limits, to the satisfaction of the Departmental Representative. Take seismograph recordings during such trial blasting and at any other time while blasting is continued, as considered necessary by the Contractor for his own protection, or as may be directed by the Departmental Representative. Maximum acceleration during blasting must not exceed 50 mm per sec per sec.
- .5 No increase in charges will be permitted without further trial blasting and seismograph recordings, as described above.
- .6 Repair any damage caused by blasting. Blasting may not be permitted, or may be limited to such an extent as to ensure the safety of structures, if considered necessary the Departmental Representative. For his own protection, the Contractor is advised to engage a qualified inspection company to carry out a pre-blasting survey of buildings in the vicinity of his blasting operation in order to record pre-blasting conditions.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Collect and separate plastic, paper packaging, and corrugated cardboard in accordance with Waste Management Plan.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Ensure emptied containers are sealed and stored safely.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Not used.

PART 3 - EXECUTION

3.1 PROTECTION

- .1 Prevent damage to surroundings and injury to persons in accordance with Section 01 56 00 - Temporary Barriers and Enclosures. Erect fencing, post guards, sound warnings and display signs when blasting to take place.

3.2 ROCK REMOVAL

- .1 Co-ordinate this Section with Section 01 35 28 - Health and Safety Requirements.
- .2 Remove rock to alignments, profiles, and cross sections as indicated.
- .3 Do blasting operations in accordance with local and provincial codes and any requirements of authority having jurisdiction.
- .4 Use rock removal procedures to produce uniform and stable excavation surfaces. Minimize overbreak, and to avoid damage to adjacent structures.
- .5 Excavate trenches to lines and grades to minimum of 150 mm below pipe invert indicated. Provide recesses for bell and spigot pipe to ensure bearing will occur uniformly along barrel of pipe.
- .6 Cut trenches to widths as indicated.
- .7 Remove boulders and fragments which may slide or roll into excavated areas.
- .8 Correct unauthorized rock removal at no extra cost, in accordance with Section 31 23 10 - Excavating, Trenching and Backfilling.

3.3 ROCK DISPOSAL

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