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**Part 1            General**

**1.1            RELATED REQUIREMENTS**

- .1        The list of work sections in this division is indicative and non-exhaustive. It does not exclude the works described in the other specification sections, shown in the drawings or necessary for the execution of the works in keeping with overall intent of the plans.

**1.2            REFERENCES**

- .1        Definitions :
  - .1        Rock : Any solid material in excess of 1 m<sup>3</sup> that cannot be removed by means of heavy duty mechanical excavating equipment. Frozen material not classified as rock.
  - .2        PPV : Peak Particle Velocity.
- .2        References :
  - .1        Ministère des Transports du Québec
    - .1        Cahier des charges et devis généraux (CCDG) - latest edition.
  - .2        All applicable CSST standards.

**1.3            INFORMATIONAL/ACTION SUBMITTALS**

- .1        Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Sustainable Standards Certification :
  - .1        Construction Waste Management: Submit copy of Waste Management Plan for project, specifying recycling and salvage requirements.
  - .2        Erosion and Sedimentation Control: Submit copy of Erosion and Sedimentation Control Plan for project, specifying implementation measures.

**1.4            DELIVERY, STORAGE, AND HANDLING**

- .1        Deliver, store and handle materials in accordance with Section 01 61 00 – Common Product Requirements and with manufacturer's written instructions.
- .2        Packaging waste management: Remove for reuse and return by manufacturer of pallets, crates and packaging materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

**1.5            QUALITY ASSURANCE**

- .1        Vibration Control :
  - .1        Dynamiting is prohibited for all parts of this project.
  - .2        Reduce ground vibrations to avoid damage to structures or remaining rock mass.

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**Part 2            Products**

**2.1                MATERIALS**

- .1        Not Used.

**Part 3            Execution**

**3.1                ROCK EXCAVATION**

- .1        Co-ordinate the requirements of this Section with Section 01 35 29.06 - Health and Safety.
- .2        Remove rock to alignments, profiles, and cross-sections as indicated.
- .3        Use rock removal procedures to produce uniform and stable excavation surfaces. Minimize overbreak and avoid damage to adjacent structures.
- .4        Prepare rock surfaces to be bonded to concrete by scaling, pressure washing and broom-cleaning surfaces.
- .5        Excavate trenches to lines and grades to minimum of 300 mm below pipe invert indicated.
  - .1        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 that may slide or roll into excavated areas.
- .8        Correct unauthorized rock removal at no extra cost, in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.

**3.2                CLEAN UP**

- .1        Clean in accordance with Section 01 74 11 - Cleaning.
- .2        Rock Disposal :
  - .1        Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  - .2        Do not dispose of removed rock into landfill. Send material to appropriate location as approved by Departmental Representative.
- .3        Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

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### **3.3 Rock Drilling**

- .1 The interventions that require rock drilling includes, but are not limited to :
  - .1 Anchoring and embedding piles to the roc.
  - .2 Installing prestressed bars.
  - .3 Installing reinforced bars.
- .2 Rock drilling must be done using light equipment and machinery producing very light or no vibrations, the Contractor will be responsible if the building, and/or its foundation and/or its structural integrity (brickwork) is damaged or compromised. The Ministry Representative can ask for the presence of a specialist at the Contractor's expense to monitor the rock drilling operations and record the vibration levels and evaluate its impact on the building.
- .3 The Contractor must provide a list of equipments and machinery to the Ministry representative seven (7) days prior to the planned drilling operations.

### **3.4 PROTECTION**

- .1 Prevent damage to surroundings and injury to persons in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

**END OF SECTION**