SECTION 31 2316

EXCAVATION

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Perform Project excavating and trenching as described in Contract Documents, except as specified below.
   2. Procedure and quality for excavating and trenching performed on Project under other Sections unless specifically specified otherwise.

B. Related Sections:
   1. Section 31 0501: Common Earthwork Requirements.
   2. Section 31 1100: Clearing and Grubbing.
   3. Performance of excavating inside and outside of building required for electrical and mechanical work is responsibility of respective Section doing work unless arranged differently by Contractor.

1.2 QUALITY ASSURANCE

A. Pre-Installation Conference: Participate in pre-installation conference specified in Section 31 2213.

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

A. Carefully examine site and available information to determine type soil to be encountered. Discuss problems with Architect before proceeding with work.

3.2 PREPARATION

A. Protection of Existing Utilities:
   1. Protect existing utilities identified in Contract Documents during excavation.
   2. If existing utility lines not identified in Contract Documents are encountered, contact Architect before proceeding.

3.3 PERFORMANCE

A. Excavation:
   1. Building Footings And Foundations:
      a. Excavate as necessary for proper placement and forming of footings and foundations.
      b. Bottom of excavations to receive footings shall be undisturbed soil.
      c. Excavation Carried Deeper Than Required:
1) Under Footings: Fill with concrete specified for footings.
2) Under Slabs: Use specified compacted backfill material.

2. Pavement And Miscellaneous Cast-In-Place Concrete:
   a. Excavate as necessary for proper placement and forming of concrete site elements and pavement structure. Remove vegetation and deleterious material and remove from site.
   b. Backfill over-excavated areas with compacted backfill material specified in Section 31 2324.
   c. Remove and replace exposed material that becomes soft or unstable.

3. Utility Trenches:
   a. Unless otherwise indicated, excavation shall be open cut. Short sections of trench may be tunneled if pipe or duct can be safely and properly installed and backfill can be properly tamped in tunnel sections and if approved by Architect.
   b. Excavate to proper alignment, depth, and grade. Excavate to sufficient width to allow adequate space for proper installation and inspection of utility piping.
   c. If trenches are excavated deeper than required, backfill until trench bottom is proper depth with properly compacted native material.
   d. Pipe 4 Inches 100 mm In Diameter Or Larger:
      1) Grade bottom of trenches to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its length.
      2) Except where rock is encountered, take care not to excavate below depths indicated.
         a) Where rock excavations are required, excavate rock with minimum over-depth of 4 inches 100 mm below required trench depths.
         b) Backfill over-depths in rock excavation and unauthorized over-depths with loose, granular, moist earth, thoroughly compacted.
      3) Whenever wet or unstable soil incapable of properly supporting pipe, as determined by Architect, occurs in bottom of trench, remove soil to depth required and backfill trench to proper grade with coarse sand, fine gravel, or other suitable material acceptable to Architect.

4. If unusual excavating conditions are encountered, stop work and notify Architect.

3.4 REPAIR / RESTORATION

A. Repair damage to other portions of the Work resulting from work of this Section at no additional cost to Owner. On new work, arrange for damage to be repaired by original installer.

3.5 CLEANING

A. Debris and material not necessary for Project are property of Contractor and are to be removed before completion of Project. However, if material necessary for Project is hauled away, replace with specified fill / backfill material.

END OF SECTION