SECTION 31 22 00 – GRADING

Addendum B Revisions shown in red

PART 1 GENERAL

1.1 DESCRIPTION

A. This Section includes regulatory requirements, protection, site grading, excavation, backfilling, compaction, quality control, and restoration.

1.2 MEASUREMENT

A. Site Grading: Paid as a Lump Sum as included in the Bid Schedule Section 004100 including all work as described in Section 011000.

1.3 REFERENCES

A. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.5 Kg) Rammer and 12 inch (300 mm) Drop.

B. ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.

C. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.5 Kg) Rammer and 18 inch (450 mm) Drop.

D. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

E. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

F. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.

1.4 SUBMITTAL REQUIREMENTS

A. In accordance with the requirements of Section 6705 of the Labor Code of the State of California, submit a detailed plan to the Engineer before excavation, showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 5 feet or more in depth.

B. Plan must be submitted and approved by the Engineer prior to start of work.

1.5 DEFINITIONS

A. Utility: Any buried pipe, duct, conduit, or cable.

B. Structure: Foundation, manhole, septic tank, cleanout, catch basin, vault, or culvert.

C. Solid Rock: Large continuous masses of igneous, metamorphic, or sedimentary rock, which in the

opinion of the Engineer cannot be excavated without drilling and blasting. Soil that is capable of being excavated with rippers is not considered solid rock.

D. Loose Rock: Boulders and other detached stones, with a minimum volume of 1 cubic yard.

1.6 FIELD MEASUREMENTS

A. Verify that survey benchmarks, control points, and intended elevations are as shown on drawings.

1.7 PROTECTION

A. Barricade open excavations.

B. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

C. Provide safe conditions for workers and passers-by.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION

3.1 PREPARATION

A. Notify Underground Service Alert (800) 227-2600 in Northern California prior to excavation. Comply with their notice requirements.

B. Identify required lines, levels, contours, and datum locations.

C. Protect plant life, lawns, rock outcropping, and other features remaining as final landscaping.

D. Protect benchmarks, existing structures, fences, and paving from excavating equipment and vehicular traffic.

E. Maintain and protect utilities and structures to remain.

3.2 EXCAVATION

A. Use open cut method on all excavation unless otherwise shown on the drawings, required by permit, or approved in writing by the Engineer.

B. Stockpile excavated material on site. Any material not utilized for construction purposes may be spread onsite or removed from the site as designated by the Engineer.

C. The location for the disposal of all spoils which will not be used for backfilling, compaction, top soil, landscape, or any other foreseeable uses shall be disposed at the following location: **900 Upper Cappell Rd, Weitchpec CA. APN: 531-075-001.**

D. The owner of this referenced property has agreed to take clean spoils and top soil with minimum vegetation, but no vegetation debris. Top soil shall be stockpiled to be hauled for the end or during the final trips.

E. The use of the referenced spoils location shall be coordinated with its specific property owner and the Engineer prior to usage and disposal. Spoils property Owner shall have onsite their own equipment and operators ready to receive the spoils, spread material, and compact it at their discretion. The excavation scope and treatment of spoils shall be only to haul and deliver the material. The disposal site shall not be used prior to this arrangement or afterwards without express authorization and prior coordination.

3.3 CLASSIFICATION OF EXCAVATION

A. All excavation with equipment commonly used in the industry is classified as common excavation (except for drilling and blasting).

3.4 FIELD QUALITY CONTROL

A. The Owner, at its discretion, may acquire the services of a certified soils testing laboratory to perform baseline Modified Proctor density tests in accordance with Cal 216 or latest revision:

1. Tests may be performed at locations approved by the Engineer.
2. Test results from tests prior to construction will be made available to the contractor.
3. Testing is at the Owner’s expense.

B. Compaction testing will be determined at the Engineer's discretion.

C. If work does not meet specified requirements, remove, replace, and retest. All re-testing is at the contractor’s expense. Compaction tests shall be used as the basis for determination of acceptability of work performed under this contract.

3.5 PROTECTION OF FINISHED WORK

A. If vehicular traffic has altered finished work, reshape and re-compact.

END OF SECTION 31 22 00