

## SECTION 02250

### SOIL COMPACTION

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Compaction control of native and imported backfill material.

##### 1.02 REFERENCES

- A. AASHTO M 145: Recommended Practice for the Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes.
- B. AASHTO T-99: Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49-kg) Hammer and 12-In. (305-mm) Drop.
- C. AASHTO T-180: Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using a 10-lb (4.54-kg) Hammer and an 18-In. (457-mm) Drop.
- D. AASHTO T-238: Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

##### 1.03 DEFINITIONS

- A. A-1 Soils: AASHTO M 145 describes the nature of these soils.
- B. Modified Proctor: The test method used for moisture-density relationship of soils as determined by the ASTM D 1557 test method.
- C. Percent Compaction or Percent Density: The ratio of the field dry density to the laboratory maximum dry density expressed as a percentage.
- D. Standard Proctor: The test method used for moisture-density relationship of soils as determined by the ASTM D 698 test method.

##### 1.04 WARRANTY

- A. Correct deficient conditions. Replace or repair surfacing materials and damaged facilities.
- B. The method of construction repair shall be proposed in writing by Contractor for approval by Engineer prior to correcting the failed condition.
- C. Failure to detect any defective work or material does not prevent later rejection of the work nor obligate Engineer for final acceptance when such defective work or material is discovered.

#### PART 2 EXECUTION

##### 2.01 COMPACTION REQUIREMENTS

- A. The Developer\Contractor shall be responsible to perform and pay for all testing of earth materials.

- B. Moisten or de-water backfill material to obtain optimum moisture for compaction compliance.
- C. The material shall be deposited in horizontal layers having a compacted thickness of no more than 12 inches for roadway and 6 inches for trenches.
- D. The distribution of materials shall be such that the compacted material will be homogeneous and free from lenses, pockets, or other imperfections.
- E. The material shall have the optimum moisture content required for the purpose of compaction and the moisture content shall be uniform throughout the layer, insofar as practicable.
- F. Backfill shall be compacted by means of sheepsfoot rollers, pneumatic tire rollers, vibrating rollers, or other mechanical tampers of a size and type approved by the City Engineer.
- G. If the required relative density is not attained, test sections will be required to determine any adjustments in compacting equipment, thickness of layers, moisture content and compactive effort necessary to attain the specified minimum relative density.
- H. Approval of equipment, thickness of layers, moisture content and compactive effort shall not be deemed to relieve the Contractor of the responsibility for attaining the specified minimum relative densities.
- I. The Contractor in planning his work shall allow sufficient time to perform the work connected with test sections and to permit the City Engineer to make tests for relative densities.

2.02 FIELD QUALITY CONTROL

- A. Optimum Soil Density: Unless indicated otherwise.
  - 1. In accordance with AASHTO T-180 Method D test (Modified Proctor).

2.03 COMPACTION UNDER ROADWAYS

- A. Fill or embankment material shall be compacted to not less than 95% of maximum dry density as measured by AASHTO T-180.
- B. Compaction shall extend one foot beyond proposed curb line.

2.04 COMPACTION UNDER SIDEWALKS, CURB AND GUTTER, AND DRIVEWAYS

- A. Fill or embankment material shall be compacted to not less than 95% of maximum dry density as measured by AASHTO T-180.
- B. Compaction of material shall extend to at least one foot each side of the edge of the slab.

2.05 COMPACTION OF OTHER FILLS AND EMBANKMENTS

- A. Fill or embankment materials other than those mentioned above shall be compacted to not less than 92% of maximum dry density as measured by AASHTO T-180.

END OF SECTION