

SECTION 02225

EXCAVATION AND BACKFILL FOR ROADWAYS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Excavation of materials for roadways.
- B. Compaction of roadway subgrade.
- C. Excavation of materials for roadside ditches and swales.
- D. Section 02920 - Topsoil: Topsoil materials and placement.

1.02 UNIT PRICES

- A. No separate payment will be made for excavation of material for roadway under this Section related roadway pavement items. Include payment in the unit price for applicable bid items.
- B. No separate payment will be made for excavation of material for roadside ditches and swales. Regrading of ditches and swales shall be incidental to applicable bid items.

1.03 TESTS

- A. Tests and analysis of soil materials will be performed in accordance with ASTM D4318, ASTM D2216, and ASTM D698 under provisions of Section 01410 - Testing Laboratory Services.

1.04 PROTECTION

- A. Protect trees, shrubs, lawns, existing structures, and other features outside of grading limits.
- B. Protect above and below grade utilities which are to remain.
- C. Repair damage caused by Contractor.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PREPARATION

- A. Identify required lines, levels, and datum. Coordinate with Section 01050 - Field Surveying.
- B. Identify and flag surface and aerial utilities.
- C. Notify utility companies to remove or relocate utilities. Galveston is not a part of Texas One Call. Call 409-797-3630 for Galveston Public Works Department during normal business hours and 409-766-2115 after business hours for emergency situations.
- D. Identify known utilities below grade. Stake and flag locations. Make temporary or permanent removals and replacements of underground pipes, ducts, or utilities where indicated on Drawings
- E. Upon discovery of unknown or badly deteriorated utilities, or concealed conditions, discontinue work. Notify Owner's Representative and obtain instructions before proceeding in such areas.
- F. Obtain approval of topsoil quality before excavating and stockpiling.

3.02 TOPSOIL EXCAVATION

- A. Excavate top 4 inches of topsoil for esplanades and areas to receive grass or landscaping from areas to be further excavated. Stockpile in area designated on site.
- B. Stockpile topsoil to height not exceeding 8 feet. Cover to protect from erosion.

3.03 SOIL EXCAVATION

- A. Excavate to lines and grades shown on drawings.
- B. Remove unsuitable material not meeting specifications. Backfill with embankment materials and compact to requirements of Section 02221 - Embankment.
- C. Maintain proper drainage.
- D. Fill over-excavated areas in accordance with requirements of Section 02221 - Embankment, at no cost to the Owner.
- E. Remove unsuitable material, and excess soil not being reused, from the site in accordance with requirements of Section 01564 - Waste Material Disposal.

3.04 COMPACTION

- A. Maintain optimum moisture content of subgrade to attain required compaction density.

- B. Compact to following minimum densities at a moisture content of optimum to 3 percent above optimum as determined by ASTM D698, unless otherwise indicated on the Drawings:
 - 1. Areas under future paving and shoulders: Minimum density of 95 percent of maximum dry density.
 - 2. Other areas: Minimum density of 90 percent of maximum dry density.

3.05 TOLERANCES

- A. Top of compacted surface: Comply with finished surface and thickness tolerances of Sections 02510- Asphaltic Concrete Pavement and Section- 02521.

3.06 FIELD QUALITY CONTROL

- A. Compaction Testing will be performed in accordance with ASTM D1556 or ASTM D2922 and ASTM 3017 under provisions of Section 01410 - Testing Laboratory Services.
- B. A minimum of three tests will be taken for each 1,000 linear feet per lane of roadway.
- C. If tests indicate work does not meet specified compaction requirements, recondition, recompact, and retest at Contractor's expense.

3.07 PROTECTION

- A. Prevent erosion at all times. Maintain ditches and cut temporary swales to allow natural drainage in order to avoid damage to roadway. Do not allow water to pond.
- B. Protect exposed areas having high moisture content from wheel loads that cause rutting.
- C. Maintain excavation and embankment areas until start of subsequent work. Repair and recompact slides, washouts, settlements, or areas with loss of density at no cost to the Owner.

END OF SECTION