

SECTION 02320 - BACKFILL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes site filling and backfilling; fill under slabs-on-grade and paving; fill for over-excavation; consolidation and compaction.
- B. Related Sections:
 - 1. Section 02060 - Aggregate Materials.
 - 2. Section 02200 - Earthwork.
 - 3. Section 02324 - Trenching: Backfilling of utility trenches.
 - 4. Section 03300 - Cast-in-Place Concrete: Concrete materials.
 - 5. Geoseismic/Geotechnical Investigation Report for Rosemead High School – Growth Project, prepared by Baca Associates, Inc. and dated April 27, 2005.

1.2 REFERENCES

- A. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18 inch Drop.

1.3 IMPORT AND EXPORT OF EARTH MATERIALS

- A. Fees: Pay as required by the City of El Monte.
- B. Bonds: Post as required by the City of El Monte.
- C. Hauling Routes and Restrictions: Comply with requirements of the City of El Monte.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

- A. Fill Type S1: As specified in Section 02055 - Soils.
- B. Structural Fill Type A1: As specified in Section 02060 - Aggregate Materials.
- C. Concrete: Structural concrete conforming to Section 03300 - Cast-In-Place Concrete with a compressive strength of 2,500 psi or as indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify subdrainage and waterproofing installation has been inspected to include utility boxes.
- B. Verify structural ability of unsupported walls to support imposed loads by the fill.

3.2 PREPARATION

- A. Compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with fill and compact to density equal to or greater than requirements for subsequent fill material.
- C. Scarify and compact subgrade surface to a depth of not less than 6" inch to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.3 PROTECTION

- A. Protect and guard all excavations against danger to life, limb, and property as required by CAL/OSHA.
- B. Protect adjacent existing improvements against damage by Contractor's operations. Repair or replace damaged items to full satisfaction of the District at expense of Contractor.

3.4 BACKFILLING

- A. Fill or backfill materials shall be placed in horizontal layers of 6". Each layer shall be evenly spread and moistened or aerated as necessary. Unless otherwise approved by the Soils Engineer, each layer of fill material shall cover length and width of area to be filled before next higher layer of material is placed.
- B. Employ a placement method that does not disturb or damage other work.
- C. Maintain optimum moisture content of backfill materials to attain required compaction density.
- D. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise.
- E. Remove surplus backfill materials from site.
- F. Leave fill material stockpile areas free of excess fill materials.

3.5 TOLERANCES

- A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.6 COMPACTING

- A. Each layer of fill material shall be compacted by approved tamping or other mechanical means acceptable to the Inspector of Record/Construction Manager, to such extent as will produce specified relative compaction. At locations where it would be impractical, because of inaccessibility, to use motorized compacting equipment, fill layers shall be compacted to specified requirements by hand-directed compaction equipment.
- B. Each layer of earth fill shall be compacted to a degree of compaction as indicated in the Geoseismic/Geotechnical Investigation Report.

3.7 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Control.
- B. Compaction testing will be performed in accordance with ASTM D1557.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. A Soils Engineer, who will be responsible to and will be paid by the District, will inspect and test excavation of existing fills, reworking of natural soils and compaction of all required fills.
- E. Place all such backfill under the supervision of the Inspector of Record.
- F. Inspector of Record will inspect all subgrades and excavations prior to placing of fill materials.
- G. Inspector of Record will inspect all foundation excavations when they are completed and ready for forms, and again after forms are in place and prior to first pour of concrete.

3.8 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01400 - Quality Control.
- B. Reshape and re-compact fills subjected to vehicular traffic.

3.9 EXCESS MATERIAL DISPOSAL

- A. Remove all excess excavated and imported material not used for fill or backfill and all waste and debris from job-site. Grade site surface to prevent free standing surface water.

3.10 INSPECTION REQUEST

- A. Comply with Division 1 Section "Testing and Inspection."
- B. Submit request for inspection at each separate trenching stage. Do not proceed to the next stage unless the previous stage has been approved.

END OF SECTION 02320