

SECTION 2 EARTHWORK AND GRADING

2-01 GENERAL

This work shall consist of all grading, earthwork, roadway excavation and/or fill, including subgrade preparation. Roadway excavation and grading shall conform to Section 19, "Earthwork," of the Caltrans Specifications, except as modified herein.

2-02 MATERIALS

2-02.01 Site Fill and Backfill

Site fill shall be native material free of deleterious substances, large rocks, garbage, rubbish, wood or organic debris.

2-02.02 Import Material for Fill

Material for fill shall consist of inert, granular soil and rock fragments supplied from previously tested and approved sources, and shall conform to the following specifications and requirements:

All material shall be free of organic materials, trash and debris, expansive clays or any other deleterious materials, and shall be subject to the approval and acceptance of the Engineer.

The Contractor shall designate his proposed import sources in advance and shall provide the source samples of material proposed to be furnished for evaluation.

Minimum "R" value for import material shall be 25 as determined by the procedure set forth in California Test Method No. 301, and the material shall meet the following gradation requirements:

- A. Maximum particle size of 4 inches,
- B. Percent passing 1-1/2" screen 50-100%,
- C. Percent passing No. 4 screen 20-100%,
- D. Percent passing No. 200 screen 10-30%.

Plasticity Index for acceptable import material shall be less than twelve (12) when determined by the procedure set forth in ASTM D424.

Sand Equivalent for acceptable import material shall be not less than twenty-five (25) when determined by the procedure set forth in ASTM Designation D2419.

2-02.03 Structural Fill

Suitable materials for fill beneath or adjacent to roadways and for structural backfill shall be non-organic, native soil. Expansive silt and clay with L.L. greater than 50 is unsuitable fill material and shall not be used.

2-03 CONSTRUCTION

Earthwork shall consist of excavating to the lines and grades called for on the Plans.

Spread fill material in uniform lifts not exceeding eight inches (8") in uncompacted thickness. If suitable compaction can be demonstrated, thickness of fill placement may be increased, subject to written approval of the Engineer.

Any fill that does not meet the specification requirements shall be removed and/or recompacted until the requirements are satisfied.

The Contractor shall exhaust the usable onsite resources prior to importing fill material.

2-03.01 Subgrade Preparation

Unless noted otherwise by the Engineer, the basement material shall be scarified to a depth of six inches (6") below subgrade and recompacted in place. The compacted subgrade material shall have a relative compaction of not less than ninety-five percent (95%). Immediately prior to placing subsequent layers of material thereon, the surface of the grading plane at any point shall not vary more than 0.05 foot above the grade established by the Engineer. No material shall be placed on the subgrade until the subgrade is in a condition satisfactory to the Engineer.

2-04 TESTING

The Contractor is responsible for quality control testing of all materials entering the site. The results of this testing shall be made available to the Engineer, upon request.

The Contractor shall conduct the compaction testing program laid out by the Engineer. It is the responsibility of the Contractor to notify the Engineer when the Contractor is ready for tests. The Engineer shall inspect and approve subgrades before further construction is allowed. Testing shall be conducted by the Contractor on each lift according to Test Method No. California 216. If tests indicate that the required compaction densities have not been obtained, it is the responsibility of the Contractor to provide additional compaction with subsequent testing until the affected subgrade or fill is approved by the Engineer at no additional cost to the City.

The Contractor shall be responsible for protecting the subgrade after it has been graded and compacted. The Contractor will not be allowed any additional compensation for the recompaction or retesting of the subgrade due to the Contractor's failure to provide adequate subgrade protection or failure to place the successive aggregate subbase, aggregate base, asphalt concrete pavement or other materials within a reasonable time period as determined by the Engineer.