

SECTION III. EARTHWORK

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A. GENERAL DESCRIPTION

Excavation for street pavement and/or curb and gutter shall consist of the removal of all undesirable materials within the lines, grades and slopes shown on the plans, including all earth, stone, loose rock, sand, clay, shale, hardpan, boulders, solid rock, stone blocks, roots, brush, trees, rubbish and all other materials of whatever nature that may be encountered within the lines, grades and slopes above described or that may be required in grading approaches to intersection ways and flumes.

B. DISPOSAL OF EXCESS MATERIAL

All excess or undesirable materials that may be encountered in the work shall be disposed of by the contractor, in a manner approved by the City, but it shall not be placed on other streets or alleys without the City's approval, nor on private property without the approval of the owner, which approval shall be obtained by the contractor in writing.

C. EMBANKMENT

All excavated materials that have been approved for embankment purposes and that are needed for that purpose, shall be used at the points designated in the following manner:

1. Approved Material: The embankment shall be built by depositing approved material, in approximately level uniform layers, not exceeding six inches (6") in thickness after compacting.

2. Plowing: The material in place at both ends of the embankment, where new material is placed against material in place, shall be plowed into the new material as the work progresses and shall be thoroughly scarified and worked into the new material and brought to the proper elevation before rolling of the layer being placed is commenced.

3. Wet Or Dry Material: If the material as found in excavation is too wet, then it shall be permitted to dry out to the extent required, before being used in the embankment; or the material may be placed to the proper thickness on the embankment and worked with

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satisfactory equipment until the quantity of moisture in the material has been reduced to that required for maximum compaction. If the material as found in excavation is too dry, then it shall be moistened to the extent required and worked with harrows or other suitable equipment until the moisture throughout the material is uniform and contains the proper percentage of moisture for proper compaction. The moisture content of all material shall be within plus or minus two percent ($\pm 2\%$)

4. Lines, Grades And Slopes: The embankment shall be built to the lines, grades and slopes shown on the plans.

5. Compaction: All embankments shall be compacted to ninety five percent (95%) of maximum density as determined by ASTM D-1556 method of compaction.

D. EXISTING STRUCTURES; REMOVAL OR BUILDING

Should it be found necessary to remove, build and/or rebuild existing pipelines, flumes, monuments, manholes or other structures, or to reset metal covers and frames, etc., then said work shall be done as shown on the approved plans.

E. PREPARATION OF SUB-GRADE

1. Leaving Sufficient Material: In excavating the required material, the work shall be so handled as to leave in place sufficient material above the finished sub-grade elevation, to provide for compaction in building the sub-grade to the prescribed elevation.

2. Scarifying: After the materials have been excavated, as above described, then the sub-grade shall be scarified, after which the material shall be accurately graded to the required form of the finished sub-grade and rolled with approved rollers to the compaction required. If additional moisture is required, in order to produce the compaction required, then the proper quantity shall be applied uniformly, either before or after scarifying. If necessary, the material shall be scarified after the water is applied, in order to obtain uniform distribution of moisture and bring the material to a suitable condition. All rocks, boulders, or other unsuitable material shall be removed. The quantity of material, and its distribution, before rolling, shall be such that when compacted the required form and elevation will be secured. All sub-grade shall be compacted to ninety five percent (95%) of maximum dry density as determined by ASTM D-1556.

3. Excavation Below Sub-grade:

a. Testing & Soils Reports: Prior to any earthwork construction, the developer shall first submit a certified soils report prepared by a licensed soils engineer to the City Engineer for review.

b. Removal of Material: If soft or otherwise undesirable material is found to

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exist at and below the sub-grade elevation, then such material shall be removed and replaced with acceptable granular material as specified above.

F. COMPLETED SUB-GRADE

The completed sub-grade shall accurately conform to the lines, grades and slopes shown on the plans and shall be maintained in perfect condition by the contractor. No driving or wheeling will be permitted on an unprotected sub-grade without approval.

G. SUB-BASE

The depth of sub-base material shall be determined by soil exploration and load requirements. Such soil analysis shall be in accordance with acceptable engineering practices.