



STRUCTURAL SOIL INSTALLATION

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PART 1: GENERAL

STRUCTURAL SOIL

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|------------------------------------|-----|
| A. Utelite 'Coarse' Expanded Shale | 80% |
| B. Clay Loam | 20% |

TREE PIT BACKFILL PLANTING MIX

- | | |
|------------------------|-----|
| A. Structural Soil Mix | 50% |
| B. Quality Topsoil | 50% |

PART 2: COMPONENTS

- A. Utelite Coarse Rotary Kiln Expanded Shale

ASTM C29 Unit Dry Weight Loose (cu. ft.)	48 – 55 lbs
ASTM C127 Specific Gravity	1.35 – 1.60 Dry Bulk

- B. Clay Loam

Texture: 20-40% sand
 20-35% silt
 25-40% clay
 <5% organic

PART 3: MIXING PROCEDURE

1. Mechanically mix sand, clay and loam (if necessary) to meet clay loam specifications.
2. Saturate the Expanded Shale with water.
3. Mechanically mix 1 part of the DRY clay loam to 4 parts of the wetted Expanded Shale until a uniform distribution of the components is achieved and the aggregate particles are completely coated with the clay loam.
4. When stockpiling the finished mix, cover the pile with a tarp to prevent drying out and separation from rain.

PART 4: INSTALLATION

A. General

1. The paving contractor shall obtain necessary approvals before placing each SSM layer.
2. The paving contractor shall use adequate numbers of skilled workmen who are thoroughly trained in the necessary crafts and are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.
3. Adequacy of the final compaction of all elements requiring compaction shall be determined in the field by the engineer to achieve the minimum specified compaction level.

B. Preparing the Sub grade

- a. Remove all organic matter, debris, loose material and large rocks.
- b. Dig out soft and mucky spots and replace with suitable material.
- c. Loosen hard spots and uniformly **compact the subgrade to 95% of its maximum dry density.**

C. Placing Structural Soil

- a. **IMPORTANT:** the trees must be planted after pavement is placed.
- b. Adequacy of final compaction shall be determined in the field by engineer using proof roll.
- c. The structural soil mix shall be placed in approximately uniform lifts over the entire area of project and each lift compacted, including the open tree pit areas. Minimum depth for the large shade trees shall be three feet deep and a minimum depth of two feet deep for small trees. Construction equipment, other than for compaction, shall not operate on the exposed structural soil mix. Over-compaction should be avoided. No foot or equipment traffic should be allowed on the compacted material until the paving is placed.
- d. Use of a portable vibratory plate compaction machine (recommended).
- e. Place structural soil mix in horizontal lifts not exceeding 12 inches of compacted depth. Use a minimum of two passes, of not less than 10 seconds per pass, before moving the vibratory plate to the next adjacent location. Additional passes may be required and should be determined in the field by the engineer to insure stability of the layer. Continue placing and compacting lifts until the specified depth is reached.

D. Pavement Installation

- a. Outlined in different section.

E. Tree Planting

- a. Tree Pit Excavation

- i. After the pavement is placed, excavate the structural soil mix to a depth equal to the height of the root ball of the tree to be planted. Remove the structural soil mix to within one foot of the edge of the paved area.
 - ii. Place the tree in the pit and backfill as soon as possible Tree Pit Backfill Planting Mix. Remove any excess soil on the top of the root ball that was filled above the root collar by the nursery. No tree pit shall remain excavated for more than 2 hours unless forms are used.
- b. Tree Pit Backfill Planting Mix
 - i. Remove any optional wooden forms. Immediately place the tree in the pit as detailed and mix the excavated structural soil 50:50 with the specified topsoil. Backfill the planting mix into the pit around the root ball in one foot lifts and tamp until firm.