SECTION 617 - PLANTING SOIL

617.01 Description. This section describes furnishing and placing of planting soil.

617.02 Materials.

(A) Selected Material. Planting soil may be removed from designated locations within the right-of-way. The Engineer will consider planting soil to be selected material according to Subsection 203.03(B)(1) - Selected Material. Planting soil shall be stockpiled in area designated by the Engineer. Selected material shall be prepared to meet the requirements of Subsection 617.02(C)(1) - General. Material unsuitable for planting soil shall be disposed of in accordance with Section 203 – Excavation and Embankment.

(B) Imported Planting Soil. Imported planting soil shall be material obtained from sources outside the right-of-way that has been accepted by the Engineer.

(C) Qualities of Imported Planting Soil. Imported planting soil shall comprise the following qualities:

(1) General.

(a) Texture. Texture of imported planting soil shall be as near as practicable to texture of existing subgrade.

(b) Nutrients. Imported planting soil shall contain, or shall be amended to contain, in accordance with the Soil Analysis Report, available nitrogen, phosphorus, potassium, calcium, and magnesium in sufficient quantities to support normal plant growth.

(2) Physical Properties.

(a) Designation. Imported planting soil shall be sandy loam or loamy sand conforming to Table 617.02-1 - USDA Classification for U.S. Department of Agriculture (USDA) classification for passage through sieves.
### TABLE 617.02-1 - USDA CLASSIFICATION

<table>
<thead>
<tr>
<th>Class</th>
<th>Particle Size Range</th>
<th>Maximum Percentage</th>
<th>Minimum Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Sand</td>
<td>0.020 – 0.079 inch</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Silt plus Clay</td>
<td>&lt;0.002 inch</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Gravel</td>
<td>0.079– 0.512 inch</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Rock</td>
<td>1/2 - 1 inch</td>
<td>10 percent by volume</td>
<td>----</td>
</tr>
<tr>
<td>Organic Material</td>
<td>----</td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

(b) Chemistry. Imported planting soil shall comply with USDA No. 60 for the following:

1. **Salinity.** Imported planting soil shall have Saturation Extract Conductivity (ECe) less than 7.6 millimhos per inch at 77 degrees F.

2. **Sodium.** Imported planting soil shall have Sodium Absorption Rate (SAR) less than 1.0 part per million.

3. **Boron.** Imported planting soil shall have Saturation Extraction Concentration less than 1.0 part per million.

4. **Reaction.** Imported planting soil shall have pH of saturated paste of 5.5 to 7.5.

Representative samples of selected material and imported planting soil shall be submitted to University of Hawaii Agricultural Extension Service or laboratory acceptable to the Engineer for analysis of required fertilizer. Test results and fertilization schedule shall be presented to the Engineer for review and acceptance before placing planting soil.
617.03 Construction.

(A) Pre-Construction. Eradicate weeds and remove construction debris, litter, and unwanted vegetation from areas designated for planting before doing any soil preparation or grading work. Remove noxious weeds and grasses by roots wherever found at any stage of work. Dispose of weeds and construction debris in accordance with Section 202 – Removal of Structures and Obstructions.

(B) Soil Preparation.

(1) Subgrade. Do not start soil preparation until the Engineer accepts rough grades and landscape mounds. Allow for thickness of planting soil in determining difference between finished subgrade and finished grade for planting. Verify that subgrade is not compacted. Compacted subgrade shall be corrected by tilling to depth of four inches.

(2) Imported Planting Soil. Notify the Engineer of proposed borrow site for imported planting soil before excavating. If the Engineer accepts material and borrow site, make all arrangements for importing soil and pay all associated costs. Transport imported planting soil directly from source to final location for spreading.

(3) Soil Placement. Provide even four-inch layer (after settlement) of planting soil over area to be planted. Where trees are to remain, maintain existing ground elevation around tree trunks. Put planting soil in pits excavated for trees and shrubs.

(4) Moisture Content. Do not work soil when air is so moist that excessive compaction occurs, or so dry that dust forms and clods do not break up readily. Apply water if necessary to bring soil to optimal moisture content for tilling and planting.

(5) Grading and Drainage. Grade soil to smooth and even finish without abrupt changes or pockets. Verify that surface drainage is adequate. Notify the Engineer of discrepancies, obstructions, and other impediments to proper execution of work.

617.04 Measurement. Imported planting soil will be paid on a lump sum basis. Measurement for payment will not apply.

617.05 Payment. The Engineer will pay for the accepted imported planting soil on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and contract documents.
The Engineer will pay for the following pay item when included in proposal schedule:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imported Planting Soil</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

The Engineer will consider planting soil obtained from within highway right-of-way as selected material. The Engineer will pay this material under Section 203 - Excavation and Embankment.

The Engineer will not consider placing of materials in windrows as stockpiling as specified in Section 203 - Excavation and Embankment.

END OF SECTION 617