

SECTION 32 91 19.13 -TOPSOIL

PART 1: GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ripping Subgrade Soil.
2. Cleaning of Topsoil.
3. Placement of Topsoil.

B. Related Sections:

1. Section 31 22 19, Planting Area Finish Grading.
2. Section 32 80 00, Irrigation.
3. Section 32 91 00, Planting Soil Preparation
4. Section 32 92 23, Lawn Sodding.
5. Section 32 93 00, Planting Materials.

1.2 REFERENCES

A. ASTM- ASTM International: D 1557-Test method for Laboratory Compaction Characteristic of Soil Using Modified Effort.

B. EPA: Environmental Protection Agency:

1. Method 8015.
2. Method 8020.

C. USDA: United States Department of Agriculture:

1. Texture Triangle Classification.
2. Handbook No. 60.

1.3 DEFINITIONS

A. Subgrade Soil Surface: The soil surface on which topsoil is placed.

B. Finished Grades: The soil surface grade elevations and contours indicated on the Drawings.

C. Aesthetic Acceptance of Grades: Acceptance by the Owner in writing of the aesthetic correctness of the contours as observed without a survey instrument. Aesthetic acceptance does not address whether an area drains properly, whether the areas are at the correct elevation, or whether it has been compacted properly.

D. Acceptance, Acceptable, or Accepted: Acceptance by the Owner in writing.

E. Excessive Compaction: Topsoil and other planting area soil compaction greater than 75 percent of maximum dry density as determined by ASTM D 1557.

F. Landscape Architect employed by Owner to prepare Landscape Construction Documents for Project.

1.4 SUBMITTALS

A. General Requirements: Refer to Division 1.

- B. Test Reports: Current laboratory soil test report for proposed topsoil indicating specified chemical and physical characteristics with a test date no more than 2 weeks old.

1.5 SITE CONDITIONS

A. Environmental Requirements:

1. Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clod's will not break readily.
2. Do not work soil when muddy or frozen.

B. Existing Conditions:

1. Prior to Work commencement, review and clearly mark in field horizontal and vertical locations of existing public underground utilities and structures with appropriate utility companies.
2. Prior to Work commencement, review and clearly mark in field horizontal and vertical locations of existing private underground utilities and structures with the Owner's Designated Representative.

1.6 SEQUENCING

- A. Topsoil Placement: When possible, avoid placing topsoil in areas subject to frequent construction vehicle and equipment traffic until traffic ceases, in order to help avoid the potential for excessive compaction.

PART 2: PRODUCTS

2.1 ACCEPTABLE SUPPLIERS

- A. Topsoil: AAA Sand & Stone or Owner approved equal.

2.2 MATERIALS

A. Topsoil for Planting Areas:

1. General: Imported Soil free of roots, clods, stones larger than 1" in the greatest dimension, pockets of coarse sand, noxious weeds, sticks, lumber, brush, and other debris.
2. Disease-causing Organisms: Free of infestation of nematodes or other undesirable disease-causing organisms such as insects and plant pathogens.
3. Gradation: Sandy loam as classified by the USDA Soil Texture Triangle classification method.

PART 3: EXECUTION

3.1 EXAMINATION

- A. General: Examine site and verify that conditions are suitable to receive work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.
- B. Verification of Subgrade: Verify that subgrade soil surface has been graded to correct elevations.
- C. Notification: Before proceeding with work, notify the Owner's Designated Representative in writing of unsuitable conditions and conflicts.

3.2 PREPARATION

- A. Protection:

1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, irrigation systems, plant materials and paving on or adjacent to the site of the work.
2. Use every possible precaution to prevent excessive compaction of planting area soil within or adjacent to the areas of work.
3. Provide barricades, fences or other barriers to protect existing conditions to remain from damage and excessive compaction during construction.
4. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
5. Submit written notification of conditions damaged during construction to the Owner's Designated Representative immediately.

B. Ripping Subgrade Soil:

1. Prior to placing topsoil, rip areas to receive topsoil on the same day topsoil is placed.
2. Rip subgrade twice to a depth of 6-8" unless indicated otherwise.
3. Space ripping tines at 6-8" on center.
4. Make second ripping pass in a direction 90° to the direction of the first ripping pass.
5. Do not rip closer than 2' horizontally and vertically to installed and existing utility lines and structures.

C. Cleaning Subgrade Surface: After ripping and prior to placing topsoil, clear subgrade of surface stones larger than 1", debris, roots, branches, sticks, contaminated soil and other extraneous materials.

3.3 CLEANING TOPSOIL

- A. Cleaning Topsoil: Remove stones, tree and shrub roots, clods, sticks, and other deleterious materials larger than 1" diameter from topsoil prior to placement and during placement.

3.4 TOPSOIL INSTALLATION

- A. Location and Depths: As indicated on the Drawings.

B. Topsoil Placement:

1. Place topsoil same day that subgrade soil ripping occurs and prior to vehicle or equipment traffic running over the ripped surface.
2. Place topsoil with equipment of appropriate size for area and in a manner that avoids excessive compaction of the topsoil.
3. Avoid repeatedly driving equipment in same tracks so that topsoil does not become excessively compacted.

- C. Allowances: Place topsoil to elevations that allow for settlement, addition of soil amendment, and finish grading tolerances.

3.5 TOLERANCES

- A. Topsoil Finished Grade: See Section 32 91 19.13.

3.6 PROTECTION OF TOPSOIL

- A. Surface Drainage: Keep topsoil surface sloped so that surface drains.
- B. Compaction and Contamination:
 - 1. In handling materials and operating tools and equipment, protect the topsoil from excessive compaction by laying down planks, plywood, or other accepted protective devices.
 - 2. Do not store or stockpile materials on the topsoil.
 - 3. Do not allow vehicles to park or drive on topsoil, except equipment which is preparing and finish grading the soil.
 - 4. If ruts are formed, blade rutted topsoil smooth.
 - 5. Loosen excessively compacted soil to the full depth of the excessive compaction, rototill, and grade surface smooth.

3.7 REPAIR

- A. Excessively Compacted Topsoil:
 - 1. Mechanically loosen excessively compacted topsoil to its full depth via a method acceptable to the Owner and re-grade surface smooth.
 - 2. Keep topsoil from being excessively compacted until date of Final Acceptance.
- B. Erosion Repair:
 - 1. Repair erosion that occurs between topsoil installation and plant or seed installation.
 - 2. Fill eroded areas with topsoil and finish grade.

END OF SECTION 32 91 00