



Section 32 91 13.23 INSTALLATION GUIDELINES – ESCS EVENT LAWN MEDIA WITH ENHANCED INFILTRATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections apply to work of this section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Specification for event lawns with enhanced infiltration using soil media amended with lightweight aggregates.
- B. Related Sections:
 - 1. Section 312000 "Earth Moving" for excavation, filling and backfilling, and rough grading.
 - 2. Section 319100 "Planting Soils" for plants.
 - 3. Section 329300 "Plants" for border edge restraints.
 - 4. Section 334600 "Subdrainage" for subsurface drainage.

1.3 DEFINITIONS

- A. Event Lawn Media: Designed to reduce soil compaction from pedestrian use and light vehicular traffic such as golf carts, standard delivery vans and maintenance equipment. The customized blend of lightweight aggregates and sandy loam serves applications for amphitheaters, wedding and gathering venues, and athletic or recreational turf while creating an air-entrained environment for root development and enhanced infiltration.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Subgrade: Surface or elevation of subsoil remaining after excavation. It can also be the top elevation of a fill or backfill.
- D. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.
- E. Surface Soil: Soil that is present at the top layer of the existing soil profile at the project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.
- F. ESCS: Lightweight Aggregates manufactured by the Rotary Kiln method using select components of shale, clay or slate.

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1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. ESCS Event Lawn Media with Enhanced Infiltration: Include manufacturer's installation instructions specific to project.

1.5 INFORMATIONAL SUBMITTALS - (Subject to regional event lawn soil components and blending differences).

- A. Qualification Data: For qualified Installer.
 - 1. Product Certificates: For soil amendments and fertilizers from the manufacturer.
 - 2. Material Test Reports: For imported or manufactured topsoil.
- B. Submit manufacturer's technical product data and certified laboratory test results for the following:
 - 1. ASTM C330 Expanded Shale, Clay and Slate (ESCS) Lightweight Aggregate
 - 2. Root Zone Soil
 - 3. Compost (if specified by manufacturer)
 - 4. Geotechnical grid or approved equal (if deemed necessary by engineer)
- C. Sample: Provide one (1) gallon of "Event Lawn Media" in a heavy-duty clear, resealable plastic freezer storage bag labeled "Event Lawn Media." Include the project name and contact information.

1.6 QUALITY ASSURANCE

- A. Provide "Event Lawn Media" prepared by a firm that is regularly engaged in the production of this item.
- B. Pre-installation Conference: Conduct at the project site.

1.7 DELIVERY, STORAGE AND HANDLING:

- A. When stockpiling event lawn media, cover with plastic tarps to prevent moisture loss.
- B. Install structural soil media within 48 hours of delivery.
- C. Do not deliver or place soil in frozen, wet, or muddy conditions.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Rotary Kiln Expanded Lightweight Aggregate (ESCS)
 - 1. ASTM C330: ASTM Gradation as supplied by Lightweight Manufacturer.

2. Test for degradation loss using Los Angeles Abrasion testing per ASTM C-131 modified test method 1-T096 ASTM C-131. No more than 40% of the weight of the aggregate must be lost to degradation.

PART 2 – PRODUCTS

2.1 GENERAL PRODUCT REQUIREMENTS

- A. Provide an Event Lawn Media using the components below, options are given for regional blending differences.
 1. The Event Lawn Media shall be a pre-mixed blend of 50-70% graded Expanded Shale, Clay or Slate (ESCS) Lightweight Aggregate and 30%-50% approved sandy loam and compost.

ASTM C330 Graded ESCS	50% -70%
Root Zone Sand Blend	30%-50%
Certified Compost*	0%-15%

Note 2.1 A.2

* Percentages may vary by region to meet testing requirements, gradations and blending procedures. The ESCS lightweight aggregate gradation shall be selected to allow the void space between aggregate particles (by volume) to be filled with the sand/compost medium. Contact local ESCS supplier for additional information on specific ESCS gradations.

- B. Soil - USGA or Sandy Loam Soil classification
- C. Compost
 1. Compost must be certified and derived from a non-sewage sludge feedstock source. The addition of yard waste to the composting process must also meet certification requirements.
 2. Finished compost must be screened to minus 3/8", protected, and free from any outside contaminants during and after screening and curing.
 3. Metals and contaminants must meet or exceed US EPA Standard 40.
- D. Geotechnical Grid
 1. If required by soil tests, an approved geotechnical grid may be installed.

PART 3 – EXECUTION

3.1 MIXING PROCEDURES

- A. Event Lawn Media
 1. Mechanically mix the sandy loam and compost thoroughly.

2. Saturate the ESCS with water and mechanically mix all components by the prescribed ratios until the ESCS particles are completely coated.

3.2 PREPARATION

A. GENERAL

1. The contractor shall have the proper machinery and manpower necessary to perform the job within the contract time. The workmen shall be trained in the necessary crafts and be familiar with the specified requirements and methods needed for proper performance of the work in this section.
2. The contractor shall obtain necessary approvals before placing each Event Lawn Media layer.
3. The contractor must provide access for and cooperate with the testing laboratory.
4. Locate and confirm the location of all underground utility lines and structures prior to the start of any excavation. The cost of all repairs shall be at the contractor's expense.
5. Consult the final construction documents for the staking, dimensions and final elevations of the SSM installation.
6. Contractor shall limit offsite drainage entering SSM where possible to avoid washouts.

B. PREPARING SUBGRADE

1. The subgrade shall be prepared according to these procedures:
 - a. Remove all organic matter, debris, loose material and large rocks.
 - b. Dig out soft and mucky spots then replace with approved material.
2. The subgrade shall match the proposed final grade with respect to slope.

C. PERFORATED UNDERDRAIN SYSTEM (if used)

1. The underdrain system shall be installed, included with sock or soil separator fabric, according to drawing and specifications, and connected to the storm drain.

3.3 PLACING THE EVENT LAWN MEDIA

A. GENERAL

1. Place the geotechnical grid and base course where specified.
2. The Event Lawn Media shall be placed and compacted to provide a finished depth of no less than 6", or up to (8-12") for cool season turf. Construction equipment, other than for compaction, shall not operate on the exposed

structural soil mix. Over-compaction should be avoided.

3. Irrigation systems are to be installed and tested prior to final course installation to avoid disturbing the compaction of the mix.

B. COMPACTING

1. Use of portable vibratory plate compacting machine.
 - a. Place Event Lawn Media in horizontal lifts not exceeding 12 inches. Use a minimum of two passes, of not less than 2 seconds per pass, before moving the vibratory plate to the next adjacent location.
2. Use of vibratory steel roller for large areas.
 - a. For large spaces, a vibratory steel roller approved by the engineer can be used. Horizontal lifts should not exceed 12" compacted.
 - b. No vehicles or heavy equipment are permitted on the root zone layer course until the turf is completely established.

PART 4 – NATURAL GRASS SOD INSTALLATION

4.1 PRODUCTS

- A. Sod grown in a sand or sandy loam base soil is preferred for this application.

4.2 EXECUTION

- A. Place sod directly on the Event Lawn Media as specified by the Landscape Architect.
 1. There shall be a uniform transition from the adjacent paved and/or turf areas onto the sodded SSM areas. The finish grade of the SSM shall allow for the thickness of the sod relative to the adjoining areas.
 2. The Event Lawn Media may, in the opinion of the landscape architect, need to be charged with water prior to the placement of sod.
 3. Sod shall be rolled and irrigated as needed immediately after placement.
 4. Prior to final approval, all irregularities, depressions, soft spots, and other deficiencies found by the engineer shall be corrected to meet the requirements of these specifications without additional compensation.
 5. Do not allow use of the event lawn until the sod's roots have been established.

END OF SECTION