

**Appendix E – Entergy’s Seeding, Fertilizing, and Mulching
Construction Specifications**

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**ENERGY TRANSMISSION STANDARDS
ENVIRONMENT AND VEGETATION
CONSTRUCTION**

Title: Seeding, Fertilizing, and Mulching Construction Specification	Standard No.: ES0201, Rev. 00	Effective Date: Dec-04
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1.0 Introduction

1.1 Purpose

The purpose of this specification is to provide contractors with requirements in addition to the Technical Guidelines for Construction Specifications, TO0102. These specifications cannot stand alone without the Technical Guidelines for Construction Specifications. These specifications are intended to provide contractors and company crews with Entergy's minimum technical requirements for the installation of seed, fertilizer and mulch on all transmission lines (69 kV and above) and on all substations. The standard is worded to be used as either instructions for Entergy personnel or as a part of a contract. Where the standard is to become a part of a contract, the other components of the contract shall be prepared in accordance with the **Transmission Line** or **Substation** guidelines for the preparation of construction packages. Where this specification conflicts with drawings, this written specification has superiority. It is recognized that some projects will not need all the specifications described below, more especially those areas on transmission line right of way that already have an established vegetative cover or where residual soils (rocky, for instance) will not be improved. For that reason, where exceptions are required, the project maps and drawing shall be marked clearly to define where all will be applied and where some will be limited.

1.2 Scope

1.2.1 These specifications apply to both **Transmission Line projects** and **Substation projects** for the seeding, fertilizing and mulching, usually as part of site preparation or a part of the Storm Water Pollution Prevention Plan that must be prepared for any soil disturbance greater than one half acre.

1.2.2 The accompanying design drawings and the construction package will indicate where the installation is to be used.

1.2.3 Seeding and fertilizing shall consist of furnishing, hauling and placing seed and soil amendments on surfaces indicated on the plans or designated by Entergy.

1.2.4 Mulching shall consist of furnishing, hauling, placing and securing mulch on surfaces indicated on the plans or designated by Entergy.

2.0 Definitions

Entergy Engineer - Shall represent the Entergy employee who has responsibility for the project construction. The Entergy engineer may delegate some responsibilities to the project inspector, when appropriate.

Entergy – Also known as Owner in some contract documents. Shall represent the appropriate Entergy Operating Company. See the General Services Agreement or Stand-Alone Contract to be signed by a duly authorized representative of Entergy and the Contractor.

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Contractor - Shall represent the General Contractor and all subcontractors contracted for work on the project. See the above mentioned General Services Agreement or Stand-Alone Contract. This term shall also refer to Entergy construction crews when work is being performed in house.

3.0 Reference Standards

3.1 Industry Standards

3.1.1 Seeding

The publications listed below form a part of the specification for Section 3.1 for seeding to the extent referenced. The publications are referred to in the text by basic designation only.

- a) AGRICULTURAL MARKETING SERVICE (AMS).
- b) AMS-01 Federal Seed Act Regulations Part 201.
- c) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
- d) ASTM C 602 Agricultural Liming Materials.

3.1.2 Mulching

The publications listed below form a part of Section 3.2 for mulching to the extent referenced. The publications are referred to in the text by basic designation only.

- a) ASTM D 977 Emulsified Asphalt.
- b) ASTM D 2028 Cutback Asphalt (Rapid Curing Type).

3.2 Transmission Line Standards

Refer to construction specifications numbered in the TO01—series. Construction packages for each project will contain copies and an index of all applicable specifications. TO0102, Technical Guidelines for Construction Specifications should be part of every stand-alone contract or General Services Agreement.

3.3 Substation Standards

Refer to other substation contract documents and drawings in the construction package.

3.4 Drawings

Construction packages for each project will contain copies and an index of all applicable drawings.

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4.0 Safety

Workers shall have a weekly safety briefing to caution them of working around energized facilities, operating equipment on steep slopes and near facilities that might be damaged (guys, anchors, towers, poles, underground utilities, etc.). Workers entering Entergy Substations must notify the Entergy dispatcher when they enter and leave unless other workers have already made notification. Workers must wear personal protective gear while on Entergy right of way and property. If the Contractor does not have a published safety manual, his workers must comply with the Entergy Safety Manual.

5.0 Seeding

5.1 General

5.1.1 Samples

Within 5 days after acceptance of the bid, Entergy shall be notified of sources and quantities of materials available and the Contractor shall furnish Entergy with representative samples of the materials to be used. These samples may be used as standards with the approval of Entergy. Any materials brought on the site which do not meet these standards shall be rejected.

5.1.2 Seeding Time

Seed shall be installed from March 15 to June 15 for spring establishment; from June 16 to August 31 for summer establishment; and from September 1 to March 14 for fall establishment.

5.1.3 Seeding Conditions

Seeding operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the seeding operations, proposed alternative times shall be submitted for approval.

5.1.4 Equipment Calibration

Immediately prior to the commencement of seeding operations, calibration tests shall be conducted on the equipment to be used. These tests shall confirm that the equipment is operating within the manufacturer's specifications and will meet the specified criteria. The equipment shall be calibrated a minimum of once every day during the operation. **A written form describing how the daily calibration is conducted on each piece of equipment and the results of each test will be submitted to Entergy on a weekly basis.**

5.1.5 Certificates

Certificates shall be submitted for seed, pH adjuster, and fertilizer. Prior to the delivery of materials, certificates of compliance attesting that materials meet the specified requirements shall be submitted. Certified copies of the material certificates shall include the following:

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- a) Seed - classification, botanical name, common name, percent pure live seed, minimum percent germination, hard seed, maximum percent weed seed content and date tested.
- b) pH Adjuster - calcium carbonate equivalent and sieve analysis.
- c) Fertilizer - chemical analysis and composition percent.
- d) Organic Material - composition and source.

5.1.6 Quantity Check

For materials provided in bags, the empty bags shall be retained for recording the amount used. For materials provided in bulk, the weight certificates shall be retained as a record of the amount used. The amount of material used shall be compared with the total area covered to determine the rate of application used. Differences between the quantity applied and the quantity specified shall be adjusted as directed.

5.1.7 Maintenance Record

Maintenance work performed, area repaired or reinstalled, diagnosis for unsatisfactory stand of grass plants.

5.1.8 Delivery

A delivery schedule shall be provided at least 10 calendar days prior to the first day of delivery. Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

5.1.9 Inspection

Seed shall be inspected upon arrival at the job site for conformity to species and quality. Seed that is wet, moldy, or bears a test date five months or older, shall be rejected. Other materials shall be inspected for compliance with specified requirements. Open soil amendment containers or wet soil amendments shall be rejected.

5.1.10 Storage

Seed, lime and fertilizer shall be stored in cool, dry locations away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with seeding operation materials.

5.1.11 Handling

Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

5.1.12 Time Limitation

Hydroseeding time limitation for holding seed in the slurry shall be a maximum 24 hours.

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5.2 Seed Quality

5.2.1 Seed Classification

State-certified seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content and inert material. Labels shall be in conformance with AMS-01 and applicable state seed laws.

5.2.2 Permanent Seed Species and Mixtures

Permanent seed species and mixtures for planting from March 15 through June 15 shall be proportioned by weight as follows:

Name	lbs per Acre	Percent Pure Seed	Percent Germination
Bermuda Grass (Common) unhulled	10	98	85
Bermuda Grass (Common) hulled	5	98	85
Lespedeza (Kobe)	35	98	85

Permanent seed species and mixtures for planting from June 16 through August 31 shall be as follows:

Name	lbs per Acre	Percent Pure Seed	Percent Germination
Bermuda Grass (Common) unhulled	10	98	85
Bermuda Grass (Common) hulled	5	98	85
Weeping Love Grass (Eragrostis curvula)	10	98	85

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Permanent seed species and mixtures for planting from September 1 through March 14 shall be as follows:

Name	lbs per Acre	Percent Pure Seed	Percent Germination
Wheat	30	98	85
Crimson Clover (Dixie)	20	98	85
Bermuda Grass (Common) unhulled	20	98	85
Lespedeza (Kobe)	35	98	85

5.2.3 Purity

Weed seed shall be a maximum 1 percent by weight of the total mixture. Combined total of 50 weed seeds shall be the maximum amount allowed per pound of seed with the following exceptions: **Johnson grass seed, wild onion seed, wild garlic seed, field bindweed seed, nutgrass seed, sick pod seed, sesbania seed, indigo seed, morning glory seed and cocklebur seed will not be allowed in any amount. Fescue will not be allowed where farm animals are pastured, where hay is cut for feed, or where prohibited by landowners. Managers of natural areas owned by United States, State Government, or Nature Conservancy should be consulted for any restriction on non-native grasses.**

5.2.4 Seed Mixing

The mixing of seed may be done by the seed supplier prior to delivery, or on site as directed.

5.2.5 Substitutions

Substitutions will not be allowed without written request and approval from Entergy.

5.3 Soil Amendment Quality

Soil amendments shall consist of pH adjuster and fertilizer meeting the following requirements. Vermiculite shall not be used.

5.3.1 pH Adjuster

- a. The pH adjuster shall be an agricultural liming material in accordance with ASTM C 602. These materials shall be ground limestone. The pH adjuster shall be used to create a favorable soil pH for the plant material specified.

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- b. Limestone material shall contain a minimum calcium carbonate equivalent of 80 percent. Gradation: A minimum 95 percent shall pass through a No. 8 sieve and a minimum 55 percent shall pass through a No. 60 sieve. To raise soil pH, ground limestone shall be used.

5.3.2 Fertilizer

The nutrients ratio shall be as recommended by the County Extension Service. Fertilizer shall be controlled release commercial grade, free flowing, uniform in composition and consist of a nitrogen-phosphorus-potassium ratio. The fertilizer shall be derived from sulphur coated urea, urea formaldehyde, plastic or polymer coated pills, or isobutylenediurea (IBDU). Fertilizer shall be balanced with the inclusion of trace minerals and micro-nutrients.

5.3.3 Nitrogen Carrier Fertilizer

It shall be as recommended by the soil test. Nitrogen carrier fertilizer shall be commercial grade, free flowing and uniform in composition. The fertilizer may be a liquid nitrogen solution.

5.4 Water Quality

Water shall be the responsibility of the Contractor, unless otherwise noted. Water shall not contain elements toxic to plant life.

5.5 Soil Amendment Application

5.5.1 Applying pH Adjuster

The application rate shall be as recommended by the County Extension Service. In areas indicated to be tilled or disced, the pH adjuster shall be incorporated into the soil to a maximum 6-inch depth or may be incorporated as part of the tillage operation.

5.5.2 Applying Fertilizer

The application rate for initial application of fertilizer shall be at the rate recommended by the County Extension Service. In areas indicated to be tilled or disced, fertilizer shall be incorporated into the soil to a maximum 6-inch depth or it may be incorporated as part of the tillage or hydroseeding operation.

5.6 Site Preparation

Site preparation requirements that follow will generally apply to all substation site preparation and to new transmission line right of way preparation. Requirements for existing right of way on rebuild line projects will require exceptions where excessive tillage will destroy existing vegetation in excess of benefits derived for the areas to be seeded. The Contractor shall consult with Entergy for approval of any exceptions to the specifications as written. Ideally, these exceptions should be identified and mapped before the project begins.

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5.6.1 Finished Grade and Topsoil

The Contractor shall verify that finished grades are as directed by Entergy and the placing of topsoil, smooth grading and compaction requirements have been completed.

5.6.2 Tillage

Where indicated, soil on slopes up to a maximum 3-horizontal-to-1-vertical shall be tilled to a minimum 4-inch depth. On slopes between 3-horizontal-to-1-vertical and 1-horizontal-to-1-vertical, the soil shall be tilled to a minimum 2-inch depth by scarifying with heavy rakes, or other method. Rototillers shall be used where soil conditions and length of slope permit. On slopes 1-horizontal-to-1-vertical and steeper, no tillage is required. Drainage patterns shall be maintained as indicated on drawings or as directed by Entergy. Areas compacted by construction operations shall be completely pulverized by tillage. The pH adjuster and fertilizer may be applied during this procedure.

- a. The prepared surface shall be a maximum 1 inch below the adjoining grade of any surfaced area. New surfaces shall be blended to existing areas. The prepared surface shall be completed with a light raking to remove debris.
- b. Debris and stones over a minimum 3-inch in any dimension shall be removed from the surface.
- c. Areas with the prepared surface shall be protected from compaction or damage by vehicular or pedestrian traffic and surface erosion.

5.7 Seed Application

Prior to installing seed, any previously prepared surface compacted or damaged shall be reworked to meet the requirements of Section 5.6, Site Preparation. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.

- a. Installing Seed - seeding method may be broadcast seeding, drill seeding, or hydroseeding. Seeding procedure shall ensure even coverage. Unless otherwise approved, gravity feed applicators, which drop seed directly from a hopper onto the prepared soil, shall not be used because of the difficulty in achieving even coverage. Absorbent polymer powder shall be mixed with the dry seed at the rate recommended by the manufacturer.
- b. Broadcast Seeding - seed shall be uniformly broadcast at the rate specified in Section 5.2.2, Permanent Seed Species and Mixture. Half the total rate of seed application shall be broadcast in 1 direction, with the remainder of the seed rate broadcast at 90 degrees from the first direction. In areas where the soil is to be tilled, seed shall be covered a maximum 1/4-inch depth by disk harrow, steel mat drag, cultipacker, or other approved device.

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- c. Drill Seeding - seed shall be uniformly drilled to a maximum 1/2-inch depth and at the rates specified, using equipment having drills a maximum 7 inches distance apart. Row markers shall be used with the drill seeder. In flat areas, half the total rate of seed application shall be drilled in 1 direction, with the remainder of the seed rate drilled at 90 degrees from the first direction. On slopes, rows shall be parallel to contour lines. The drilling equipment shall be maintained with half full seed boxes during the seeding operations. Fertilizer and seed shall not be drilled together and shall not be mixed.
- d. Rolling - for prepared areas, the entire area shall be firmed with a roller not exceeding 90 pounds per foot roller width. Slopes over a maximum 3-horizontal-to-1-vertical shall not be rolled. Areas seeded with seed drills equipped with rollers shall not be rolled.
- e. Hydroseeding/Hydromulching - seed shall be mixed to ensure broadcast at the rate specified. Seed and fertilizer shall be added to water and thoroughly mixed to meet the rates specified. The time period for the seed to be held in the slurry shall be a maximum 24 hours. Wood cellulose fiber mulch and tackifier shall be added at the rates recommended by the manufacturer after the seed, fertilizer and water have been thoroughly mixed to produce a homogeneous slurry. Slurry shall be uniformly applied under pressure over the entire area. The hydroseeded area shall not be rolled.

5.8 Water Application

Watering shall be started immediately after completing the seeding of an area. Water shall be applied to supplement rainfall at a rate sufficient to ensure moist soil conditions to a minimum 1-inch depth. Run-off and puddling shall be prevented. Watering trucks shall not be driven over turf areas, unless otherwise directed. Watering of other adjacent areas or plant material shall be prevented.

5.9 Restoration

Existing turf areas, pavements, and facilities that have been damaged from the seeding operation shall be restored to original condition at Contractor's expense.

5.10 Clean Up

Excess and waste material shall be removed from the seeded areas and shall be disposed offsite. Adjacent paved areas shall be cleaned.

5.11 Protection of Completed Areas

Immediately upon completion of the seeding operation in an area, the area shall be protected against traffic or other use by erecting barricades and providing signage as required, or as directed.

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5.12 Plant Establishment

5.12.1 Commencement

The period of time required to obtain a healthy stand of grass plants shall begin on the first day of work under this contract and shall end 3 months after the last day of the seeding operation. A written statement shall be furnished to designate the proposed calendar time period required for the seed establishment. When there is a need for more than 1 seed establishment period, the boundaries of the seeded area covered for each period shall be described. The seed establishment period shall be modified for inclement weather, shut down periods, or for separate completion dates of areas.

5.12.2 Satisfactory Stand of Grass Plants

Grass plants shall be evaluated for species and health when the grass plants are a minimum 1-inch high.

- a. Field Area - a satisfactory stand of grass plants from the seeding operation for a field area shall be a minimum 20 grass plants per square foot. The total bare spots shall not exceed 2 percent of the total seeded area.
- b. Maintenance During Plant Establishment - maintenance of the seeded areas shall include eradicating weeds, insects and diseases, protecting embankments and ditches from surface erosion, maintaining erosion and sediment control measures and mulch. protecting installed areas from traffic; mowing; watering and post-fertilization.

5.13 Mowing

- a. Lawn Areas shall be mowed to a minimum 3-inch height when the turf is a maximum 4 inches high. Clippings shall be removed when the amount cut prevents sunlight from reaching the ground surface.
- b. Field Areas: Field areas shall be mowed once during the season to a minimum 3-inch height. Clippings shall be removed when the amount cut prevents sunlight from reaching the ground surface.

5.14 Post-Fertilization

The fertilizer shall be applied as recommended by the soil test. The application shall be timed prior to the advent of winter dormancy and shall be made without burning the installed grass plants.

5.15 Repair or Reinstall

Unsatisfactory stand of grass plants and mulch shall be repaired or reinstalled, and eroded areas shall be repaired in accordance with Section 5.6, Site Preparation.

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5.16 Maintenance Record

A record of each site visit shall be furnished, describing the maintenance work performed; areas repaired or reinstalled; and diagnosis for unsatisfactory stand of grass plants.

6.0 Mulching

6.1 Samples

Within 5 days after acceptance of the bid, Entergy shall be notified of sources and quantities of mulch materials available and the Contractor shall furnish Entergy with representative samples of the materials to be used. These samples may be used as standards with the approval of Entergy and any materials brought on the site which do not meet these standards shall be rejected.

6.2 Mulch Material Quality

6.2.1 Acceptable Mulch

Acceptable mulch shall be the materials listed below or any approved locally available material that is similar to those specified. Low grade, musty, spoiled, partially rotted hay, straw or other materials unfit for animal consumption will be acceptable. Mulch materials, which contain matured seed of species which would volunteer and be detrimental to the proposed overseeding, or to surrounding farmland, will not be acceptable. Johnson grass seed, wild onion seed, wild garlic seed, field bindweed seed, nutgrass seed, sick pod seed, sesbania seed, indigo seed, morning glory seed and cocklebur seed will not be allowed. Fescue will not be allowed where farm animals are pastured, where hay is cut for feed, or where prohibited by landowners. Managers of natural areas owned by United States, State Government, or Nature Conservancy should be consulted for any restriction on non-native grasses. Straw or other mulch material which is fresh and/or excessively brittle, or which is in such an advanced stage of decomposition as to smother or retard the planted grass, will not be acceptable. All material will be inspected and approved prior to use.

6.2.2 Hay

Hay shall be obtained from various legumes or grasses, such as lespedeza, clover, vetch, soybeans, bermuda, carpet sedge, bahia, or other legumes or grasses, or a combination thereof.

6.2.3 Straw

Straw shall be the threshed plant residue of oats, wheat, barley, rye, or rice from which grain has been removed. Straw shall be furnished in an air-dry condition and with a consistency for placing with commercial mulch-blowing equipment.

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6.2.4 Manufactured Mulch

Cellulose-fiber or wood pulp mulch shall be products commercially available for use in spray applications. Wood cellulose fiber shall not contain any growth or germination-inhibiting factors and shall be dyed an appropriate color to facilitate placement during application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0.

6.2.5 Asphalt Binder

Asphalt binder material shall conform to the requirements of ASTM D 977, Type SS-1 or RS-1; and cutback asphalt, conforming to ASTM D2028, Designation RC-70.

6.3 Mulch Placement

6.3.1 Preparation

Before spreading mulch, all large clods, stumps, stones, brush, roots, and other foreign material shall be removed from the area to be mulched. Mulch shall be applied immediately after seeding. The spreading of the mulch may be by hand methods, blower, or other mechanical methods, provided a uniform covering is obtained.

6.3.2 Application

Mulch material shall be furnished, hauled, and evenly applied on the area shown on the plans or designated by Entergy. Straw or hay shall be spread over the surface to the uniform thickness at the rate of 2 to 3 tons per acre to provide a loose depth of not less than 1-1/2 inches nor more than 3 inches. Other organic material shall be spread at the rate directed by Entergy. Mulch may be blown on the slopes and the use of cutters in the equipment for this purpose will be permitted to the extent that at least 95% of the mulch in place on the slope shall be 6 inches or more in length. When mulches applied by the blowing method are cut, the loose depth in place shall be not less than 1 inch nor more than 2 inches.

6.4 Mulch Stabilization

6.4.1 Basic Methods

The mulch shall be held by light disking, a very thin covering of topsoil, small brush, pins, stakes, wire mesh, asphalt binder, or other adhesive material approved by the Engineer. Where mulches have been secured by either of the asphalt binder methods, it will not be permissible to walk on the slopes after the binder has been applied. The Contractor is warned that in the application of asphalt binder material he must take every precaution to guard against damaging or disfiguring structures or property on or adjacent to the areas worked and that he will avoid damaging or disfiguring structures or property on or adjacent to the areas worked and that he will be held responsible for any such damage resulting from the Contractor's operations.

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6.4.2 Peg and String Method

If the "peg and string" method is used, the mulch shall be secured by the use of stakes or wire pins driven into the ground on 5-foot centers or less. Binder twine shall be strung between adjacent stakes in straight lines and crisscrossed diagonally over the mulch, after which the stakes shall be firmly driven nearly flush to the ground to draw the twine down tight onto the mulch.

6.4.3 Asphalt Spray Method

If the "asphalt spray" method is used, all mulched surfaces shall be sprayed with asphalt binder material so that the surface has a uniform appearance. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons per 1,000 square feet and a maximum of 10 gallons per 1,000 square feet depending on the type of mulch and the effectiveness of the binder securing it. Bituminous binder material may be sprayed on the mulched area and a spray nozzle shall be used. The nozzle shall be operated at a distance of not less than 4 feet from the surface of the mulch, and uniform distribution of the bituminous material shall be required. A pump or an air compressor of adequate capacity shall be used to insure uniform distribution of the bituminous material.

6.4.4 Asphalt Mix Method

If the "asphalt mix" method is used, the mulch shall be applied by blowing, and the asphalt binder material shall be sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons per 1,000 square feet or as directed by Entergy, with a minimum of 6 gallons and a maximum of 10 gallons per 1,000 square feet depending on the type of mulch and the effectiveness of the binder securing it.

6.5 Care of Mulched Areas

The Contractor shall care for the mulched areas until final acceptance of the project. Such care shall consist of providing protection against traffic or other use by placing warning signs, as approved by the Engineer and erecting any barricades that may be shown on the plans before or immediately after mulching has been completed on the designated areas.

6.6 Repair or Replacement

The Contractor shall be required to repair or replace any mulching that is defective or becomes damaged until the project is finally accepted. When, in the judgment of Entergy, such defects or damages are the result of poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement shall be borne by the Contractor. However, once the Contractor has completed the mulching of any area in accordance with the provisions of the specifications and to the satisfaction of Entergy, no additional work at the Contractor's expense will be required, but subsequent repairs and replacements deemed necessary by Entergy shall be made by the Contractor and will be paid for as additional or extra work.

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6.7 Protection

Immediately upon completion of the mulching operation in an area, the area shall be protected against traffic or other use by erecting barricades or providing signage as required, or as directed by Entergy.

7.0 Not Used

8.0 Not used

9.0 Not used

10.0 Not used

11.0 Responsibilities

11.1 Interpretation

Interpretation of this standard is the responsibility of the author and/or reviewers

11.2 Deviation

The Manager of Transmission Design and the Manager of Transmission Construction are responsible for assuring that transmission line facilities are installed in accordance with this standard. Deviations from this standard may be made with the consent of the Manager of Transmission Design and the Manager of Transmission Construction or an approved agent thereof. Any deviations granted shall be reported to the Manager of Transmission Design and the Manager of Design Services for consideration for inclusion in the standard. No other employee is granted independent authority to grant deviations.

12.0 Acknowledgments

None.

13.0 Attachments

- 1) Checklist for Concerns, Seeding, Fertilizing, and Mulching.
- 2) Inspection Report, Seeding, Fertilizing, and Mulching.

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Attachment 1
Checklist for Concerns - Seeding, Fertilizing and Mulching

Standard ES0201 addresses many requirements that may be omitted for some projects. The following checklists of concerns provide a reminder that the items may be called for and need to be addressed with the contractor for clarification:

Concerns for seeding:

<u>Item</u>	<u>Description</u>	<u>Paragraph in standard</u>	<u>Needed: Yes or No</u>	<u>Date Submitted</u>
1	Map of site showing exceptions	5.0		
2	Seed samples	5.1.1		
3	Fertilizer samples	5.1.1		
4	Certificate for seed	5.1.5		
5	Certificate for pH adjuster	5.1.5		
6	Certificate for fertilizer	5.1.5		
7	Bag count for seed, fertilizer, pH adjuster	5.1.6		
8	Maintenance record	5.1.7		
9	Delivery schedule for seed, pH adjuster, fertilizer	5.1.8		
10	County Extension Service recommendations	5.3.2 5.5.1 5.5.2		
11	Soil test results	5.3.3 5.14		
12	Equipment calibrations for seeders	5.1.4		
13	Topsoil required	5.6.1		
124	Finish grades apply	5.6.1		
15	Fertilizer required	5.5		
16	Tillage required	5.6.2		
17	Surface preparation required	5.6.2		
18	Written calendar time period for establishment	5.12.1		
19	Rolling required	5.7		
20	Watering required	5.8		
21	Barricades required	5.11		
22	Signage required	5.11		
23	Grass stand evaluation	5.12.2		
24	Maintenance during establishment period	5.12.2		
25	Mowing required	5.13		
26	Post-fertilization required	5.14		
27	Repair or reinstall record	5.15		
28	Maintenance record	5.16		

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**Attachment 1
 Checklist for Concerns - Seeding, Fertilizing and Mulching**

Concerns for mulching

<u>Item</u>	<u>Description</u>	<u>Paragraph in standard</u>	<u>Needed: Yes or No</u>	<u>Date Submitted</u>
1	Mulch samples	6.1		
2	Certification of mulch, hay, straw, etc.	6.2.1		
3	Clods, stumps, stones, brush, roots, etc, to be removed	6.3.1		
4	Barricades required	6.5 6.7		
5	Signage required	6.5 6.7		
6	Repair or replacement report	6.6		
7				
8				
9				
10				
11				
12				
13				
14				
15				

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Attachment 2
Inspection Report – Seeding, Fertilizing and Mulching

1. Critical to the success of a SWPPP is the documented procedures of inspecting and maintaining the component parts of seeding, fertilizing, and mulching. At a minimum, the inspection schedule should include:
 - a) Routine, weekly review of all seeding, fertilizing, and mulching.
 - b) Inspection of all seeding, fertilizing, and mulching within 24 hours of a rainfall event of $\frac{1}{2}$ " or more.
 - c) Inspections shall be performed by trained personnel familiar with seeding, fertilizing, and mulching outlined in the SWPPP.
 - d) All seeding, fertilizing, and mulching will be inspected and a log of the inspection will be kept.
 - e) Inspections will continue to be performed until such time that at least 70% of vegetation has been restored and is able to survive under normal conditions.
2. Documentation of all inspection activities will include:
 - a) Name of inspector, date and time of the inspection, and the results of the inspection.
 - b) Recommended actions relative to stormwater pollution control noted.
 - c) Recap of results of previous control practices and their success/failure.
- 3) A copy of the SWPPP should be available on the job site at all times ready to present to the inspector.
- 4) These inspection reports will be maintained as a record document for a period of three years from the date of the last report.
- 5) Maintenance actions include prompt repair of any seeding, fertilizing, and mulching found to be ineffective. This action will be taken prior to the next rain event. Documentation of required maintenance activities will be provided as described above. Sufficient supply of repair equipment and materials will be kept on hand at all times.
- 6) An inspection form is included on the following page.

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**Attachment 2
Inspection Report**

INSPECTION REPORT

Seeding, Fertilizing, and Mulching
(To be submitted every 7 days and within 24
hours of each rainfall event of 1/2" or more.)

Project Name: _____ **CEA #:** _____

Number of days since last rainfall: _____ **Amount of last rainfall:** _____"

Location: (One location per report; Substation Name, Line Structure Number, Stream
Name, Staging Area, Haul Route, Parking Area, etc.)

Condition: (Be specific)

Recommended Maintenance Actions:

Results of Previous Recommended Maintenance Actions:

Copy of this report to be maintained by Entergy for not less than 3 years.

Inspector Signature: _____ **Date:** _____ **Time:** _____

Copy submitted to: _____
Construction Engineer

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