

Attachment 1

WQV Infiltrated Using the Strip and Swale Infiltration Tool, v2.2

This page presents the results of infiltration with and without amendment. It also provides a summary of the inputs for reference.

PROJECT INFORMATION

Project 02-2E350 Enchilada Curves
 Sub-watershed Combined Tmt. Sheetflow from Pavement into two ar
 BMP type Strip

| INPUT | Existing | Proposed Design | Isolated NNI | Units |
|---|----------|-----------------|--------------|-------------------|
| Native or fill (underlying) HSG soil type | B | B | B | |
| Density of water | 1 | 1 | 1 | g/cm ³ |
| Bulk density | 1.6 | 1.6 | 1.6 | g/cm ³ |
| Specific gravity of soil particles | 2.73 | 2.73 | 2.73 | |
| Depth of incorporation, below FG | 0 | 6 | 6 | in |
| Unit basin storage volume from the Basin Sizer, where C = 1.0 | 1.22 | 1.22 | 1.22 | in |
| Drawdown time used in the Basin Sizer | 48 | 48 | 48 | hr |
| Rainfall rate from the Basin Sizer "Caltrans Water Quality Flows" | 0.27 | 0.27 | 0.27 | in/hr |
| Contributing drainage area | 0 | 18880 | 18880 | ft ² |
| Contributing drainage area runoff coefficient | 0.9 | 0.9 | 0.9 | |
| BMP area: strip area or swale invert area with soil amendment | 0 | 10957 | 10957 | ft ² |
| Infiltration rate of native soil or fill | 0.25 | 0.25 | 0.25 | in/hr |
| Pervious area for non-amended infiltration (may be different than BMP area) | 0 | 10957 | 10957 | ft ² |
| Bulk density (of amendment) | 0.50 | 0.50 | 0.50 | g/cm ³ |
| Specific gravity of amendment particles | 0.80 | 0.80 | 0.80 | |
| Depth of placement | 0 | 4 | 4 | in |
| Final bulk density | N/A | 1.25 | 1.25 | g/cm ³ |
| Impervious runoff volume (including WQV) | 0.00 | 1727.52 | 1727.52 | ft ³ |

| RESULT: Native Soil or Fill (rate-based calculation) | Existing | Proposed Design | Isolated NNI |
|--|----------|-----------------|--------------|
| Runoff coefficient for downstream BMP with no amendment | N/A | 0.60 | 0.60 |
| Volume of total runoff infiltrated | 0.00 | 0.00 | 0.00 |
| Portion of WQV from net new impervious that is infiltrated with native soil or fill (use for T-1, 5b) | N/A | 0% | 0% |

| RESULTS: Amended Soil (volume-based calculation) | Existing | Proposed Design | Isolated NNI |
|--|----------|-----------------|--------------|
| Runoff coefficient for downstream BMP after amendment | N/A | 0.00 | 0.00 |
| Volume of total runoff infiltrated | N/A | 1727.52 | 1727.52 |
| Portion of WQV from net new impervious area that is infiltrated with amended soil (use for T-1, 5d) | N/A | 100% | 100% |

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 02 | Tri | 299 | 0.4/0.9 | | |

| | |
|---------------------------|----------|
| <i>Shaun Alexander</i> | 10-18-12 |
| REGISTERED CIVIL ENGINEER | DATE |

| | |
|---------------------|--|
| PLANS APPROVAL DATE | |
|---------------------|--|

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| REGISTERED PROFESSIONAL ENGINEER SHAUN ALEXANDER No. C70833 Exp. 06-30-13 CIVIL STATE OF CALIFORNIA |
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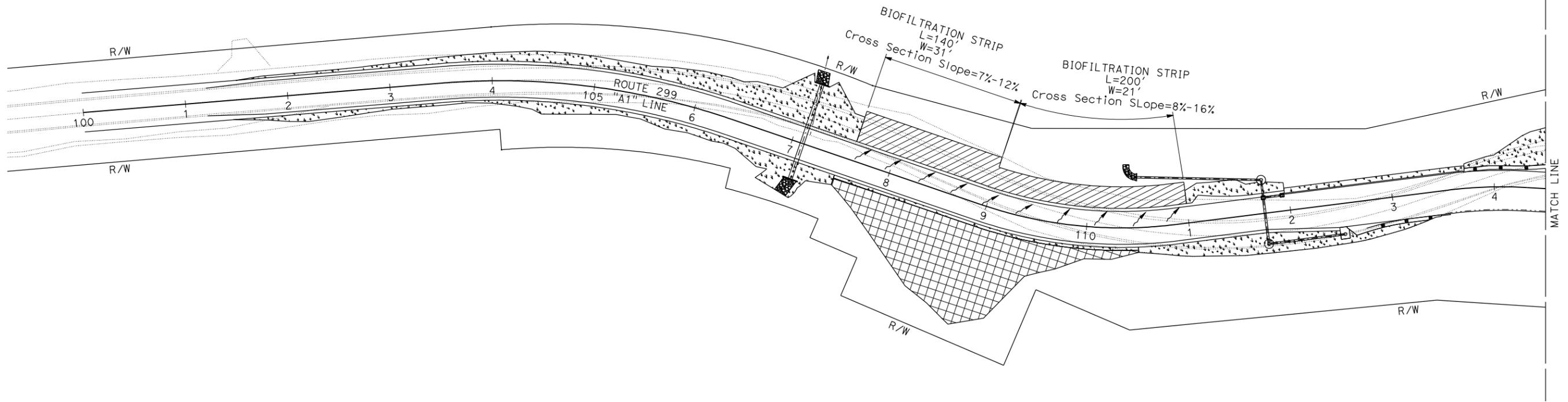
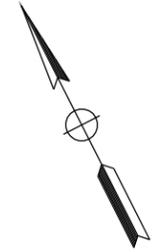
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NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND

-  TYPE 1 EROSION CONTROL (BONDED FIBER MATRIX)
-  TYPE 2 ROLLED EROSION CONTROL PRODUCT (BLANKET)
TYPE 2 EROSION CONTROL (BONDED FIBER MATRIX)
-  TYPE 3 COMPOST (INCORPORATE)
TYPE 3 EROSION CONTROL (BONDED FIBER MATRIX)
-  FLOW DIRECTION



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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
DESIGN
 FUNCTIONAL SUPERVISOR: ALBERT TRUJILLO
 CHECKED BY: [blank]
 DESIGNED BY: [blank]
 JEFF COON
 SHAUN ALEXANDER
 REVISIONS: [blank]
 REVISIONS: [blank]
 REVISIONS: [blank]

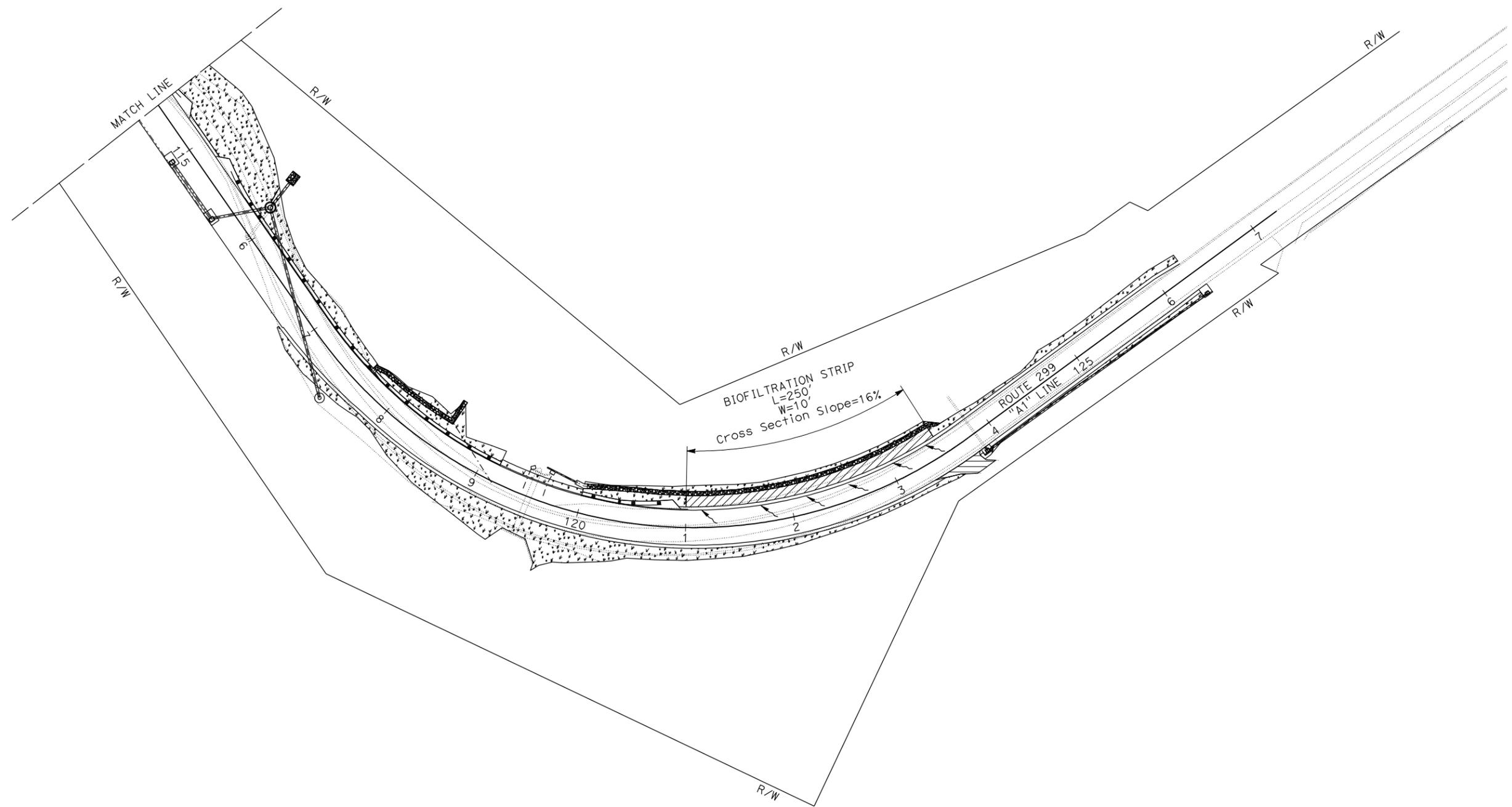
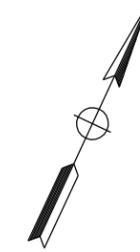
EROSION CONTROL PLAN
 SCALE: 1" = 50'
EC-1

APPROVED FOR EROSION CONTROL WORK ONLY

| | | | | | |
|--|--------|-----------------|-----------------------------|---------------|-----------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 02 | Tri | 299 | 0.4/0.9 | | |
| | | 10-18-12 | | DATE | |
| REGISTERED CIVIL ENGINEER | | SHAUN ALEXANDER | | | |
| | | No. C70833 | | Exp. 06-30-13 | |
| PLANS APPROVAL DATE | | CIVIL | | | |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> | | | | | |

NOTE:

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
DESIGN
 FUNCTIONAL SUPERVISOR: ALBERT TRUJILLO
 CHECKED BY: [blank]
 DESIGNED BY: [blank]
 JEFF COON
 SHAUN ALEXANDER
 REVISOR: [blank]
 DATE REVISED: [blank]

EROSION CONTROL PLAN
 SCALE: 1" = 50'
EC-2

APPROVED FOR EROSION CONTROL WORK ONLY

LAST REVISION: 10-18-12
 DATE PLOTTED => 05-FEB-2013
 TIME PLOTTED => 14:17

10-1. COMPOST (INCORPORATE)

GENERAL

Summary

This work includes removing and disposing of weeds and incorporating compost into the surface of compost (incorporate) areas with a slope of 4:1 (horizontal:vertical) or flatter as shown on the plans.

Comply with Section 20-3, "Erosion Control," of the Standard Specifications and these special provisions.

Apply compost when an area is ready to receive it as determined by the Engineer.

The Engineer will designate the ground location of all compost (incorporate) areas in increments of one acre or smaller by directing the placing of stakes or other suitable markers. Furnish all tools, labor, materials, and transportation required to adequately indicate the various compost (incorporate) locations.

MATERIALS

Compost

The compost producer must be fully permitted as specified under the California Department of Resources Recycling and Recovery, Local Enforcement Agencies, and any other State and Local Agencies that regulate solid waste facilities. If exempt from State permitting requirements, the composting facility must certify that it follows guidelines and procedures for production of compost meeting the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.

The compost producer must be a participant in the United States Composting Council's Seal of Testing Assurance program.

Compost may be derived from any single or mixture of any of the following feedstock materials:

1. Green material consisting of chipped, shredded, or ground vegetation; or clean processed recycled wood products
2. Biosolids
3. Manure
4. Mixed food waste

Compost feedstock materials such that weed seeds, pathogens and deleterious materials are reduced as specified under Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7, Section 17868.3.

Compost must not be derived from mixed municipal solid waste and must be reasonably free of visible contaminants. Compost must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Compost must not possess objectionable odors.

Metal concentrations in compost must not exceed the maximum metal concentrations listed in Title 14, California Code of Regulations, Division 7, Chapter 3.1, Section 17868.2.

Compost must comply with the following:

Physical and Chemical Requirements

| Property | Test Method | Requirement |
|------------------------|--|--|
| pH | TMECC 04.11-A Elastometric pH 1:5 Slurry Method pH Units | 6.0–8.0 |
| Soluble Salts | TMECC 04.10-A Electrical Conductivity 1:5 Slurry Method dS/m (mmhos/cm) | 0–10.0 |
| Moisture Content | TMECC 03.09-A Total Solids & Moisture at 70+/- 5 deg C % Wet Weight Basis | 30–60 |
| Organic Matter Content | TMECC 05.07-A Loss-On-Ignition Organic Matter Method (LOI) % Dry Weight Basis | 30–65 |
| Maturity | TMECC 05.05-A Germination and Vigor Seed Emergence Seedling Vigor % Relative to Positive Control | 80 or Above 80 or Above |
| Stability | TMECC 05.08-B Carbon Dioxide Evolution Rate mg CO ₂ -C/g OM per day | 8 or below |
| Particle Size | TMECC 02.02-B Sample Sieving for Aggregate Size Classification % Dry Weight Basis | Inches % Passing 3 99% 3/8 < 25% Max. Length 4 inches |
| Pathogen | TMECC 07.01-B Fecal Coliform Bacteria < 1000 MPN/gram dry wt. | Pass |
| Pathogen | TMECC 07.01-B Salmonella < 3 MPN/4 grams dry wt. | Pass |
| Physical Contaminants | TMECC 02.02-C Man Made Inert Removal and Classification: Plastic, Glass and Metal % > 4mm fraction | Combined Total: < 1.0 |
| Physical Contaminants | TMECC 02.02-C Man Made Inert Removal and Classification: Sharps (Sewing needles, straight pins and hypodermic needles) % > 4mm fraction | None Detected |

NOTE: TMECC refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC).

Before compost application, submit a copy of the compost producer's compost technical data sheet and a copy of the compost producers Seal of Testing Assurance certification. The compost technical data sheet must include:

1. Laboratory analytical test results
2. List of product ingredients

Before compost application, submit a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

CONSTRUCTION

Site Preparation

Immediately prior to applying compost to compost (incorporate) areas, remove trash, debris and weeds.

Removed weeds must be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Application

Apply and incorporate compost in separate applications in the following sequence:

1. Apply compost to a depth of 6" inches by using specialized equipment such as a pneumatic blower or side discharge spreader.
2. You may incorporate the compost by hand; by using a backhoe, bulldozer, or grading blade to a depth between 12 and 18 inches. Do not incorporate compost to a strip 2 feet wide adjacent to the edge of pavement.
3. Following incorporation, compact the area to a relative compaction between 82 percent and 90 percent except as otherwise specified in Section 19-5, "Compaction," of the Standard Specifications.
4. Apply erosion control (Bonded Fiber Matrix) specified and paid for elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

Compost (incorporate) will be measured by the square yard.

The contract price paid per square yard for compost (incorporate) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in compost (incorporate) complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.