Caltrans Resources

Erosion Control

- 2010 Standard Specifications ★ New!
- 2010 Standard Plans
- Erosion Control Tool Box ★ New!
Available to public at: http://www.dot.ca.gov/hq/esc/oe/standards.php

Water Pollution Control
- Refer to Division II, General Construction, Section 13
- Section 13-5, Temporary Soil Stabilization
- Section 13-6, Temporary Sediment Control
- Section 13-10, Temporary Linear Sediment Barriers

Erosion Control
- Refer to Division III, Grading, Section 21
- Section 21-1.02, Materials
- Section 21-1.03, Construction
2010 Standard Specifications

- Written to offer maximum flexibility and combinations when designing erosion control.

- “Materials” section based on a broad range of materials offered in the industry.
  - Synthetic materials have been eliminated due to environmental concerns.

- “Construction” section describes how each type of material is to be installed.
  - Performance based
# 2010 Standard Specifications

## Material

21-1.02O(4) Erosion Control Blankets

Erosion control blanket must be made of processed natural fibers that are mechanically, structurally, or chemically bound together to form a continuous matrix that is surrounded by 2 natural nets. The erosion control blanket must comply with the requirements shown in the following table:

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Requirements</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification</td>
<td></td>
<td>ECTC Type 2D</td>
<td>--</td>
</tr>
<tr>
<td>Net type</td>
<td>A, B, C</td>
<td>Natural</td>
<td>--</td>
</tr>
<tr>
<td>Number of nets</td>
<td>A, B, C</td>
<td>Double</td>
<td>--</td>
</tr>
<tr>
<td>Minimum roll width</td>
<td>A, B, C</td>
<td>72 inches</td>
<td>--</td>
</tr>
<tr>
<td>Matrix</td>
<td>A</td>
<td>70/30% (straw/coconut fiber)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>100% woven coil (coconut fiber)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Wood excelsior (80 percent of the fiber 6 inches or longer)</td>
<td>--</td>
</tr>
<tr>
<td>Universal soil loss equation (USLE) C-Factor for a 2:1 (H:V) unvegetated slope.</td>
<td>A, B, C</td>
<td>≤ 0.20</td>
<td>--</td>
</tr>
<tr>
<td>Maximum shear stress</td>
<td>A, B, C</td>
<td>1.75 psf</td>
<td>ASTM D 6460</td>
</tr>
<tr>
<td>Minimum tensile strength</td>
<td>A, B, C</td>
<td>75 psf</td>
<td>ASTM D 5035</td>
</tr>
<tr>
<td>Functional longevity</td>
<td>A, B, C</td>
<td>12 months</td>
<td>--</td>
</tr>
</tbody>
</table>

## Construction

21-1.03O Rolled Erosion Control Products

Before placing RECP, ensure the subgrade has been graded smooth and has no depressed voids. The subgrade must be free from obstructions, such as tree roots, projecting stones, or foreign matter greater than 1 inch in diameter.

Fasten RECP to the surface with staples and anchor as shown.

Do not drive vehicles upon RECP following placement.
Standard Plans

- Available to public at: http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/10_plans_disclaim_US.htm
- Temporary Water Pollution Control Details
  - Refer to sheets T51 to T67
- Erosion Control Details
  - Refer to H51 and H52
Erosion Control Tool Box

- Available to public at: http://www.dot.ca.gov/hq/LandArch/ec/index.htm

- “Key Concepts of Sustainable Erosion Control”
  - Technical Guide Booklet
  - Big Picture
  - Decision Making Process

- Erosion Control Material Matrix
Design Oriented Solutions

Conventional Grading
Design Oriented Solutions

Conventional Grading
Design Oriented Solutions

Landform Grading
Design Oriented Solutions

Landform Grading
Design Oriented Solutions
Landform Grading
Design Oriented Solutions

Control Overland Flow

Top of Cut Ditches

Dikes
Design Oriented Solutions

Debris Catchment Areas

Toe of Slope Catchment

2 Ft Slope Benches
(Every 15-30 vertical Feet)
Design Oriented Solutions
Timing and Scheduling

Before

After
Design Oriented Solutions

Preservation of Existing Vegetation

Before

After
Design Oriented Solutions

Water Pollution Control BMPs
Design Oriented Solutions
Permanent Erosion Control - Chipped Material

Clearing

Stockpile
Design Oriented Solutions
Permanent Erosion Control - Compost
EROSION & SEDIMENT CONTROL

Caltrans
District 5
Landscape Architecture Department