



# EROSION & SEDIMENT CONTROL

Caltrans

District 5

Landscape Architecture Department

# Caltrans Resources

## Erosion Control

- 2010 Standard Specifications ★ New!
- 2010 Standard Plans
- Erosion Control Tool Box ★ New!

# 2010 Standard Specifications

- 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

### 21-1.020(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:

**Erosion Control Blanket**

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

## Construction

### 21-1.030 Rolled Erosion Control Products

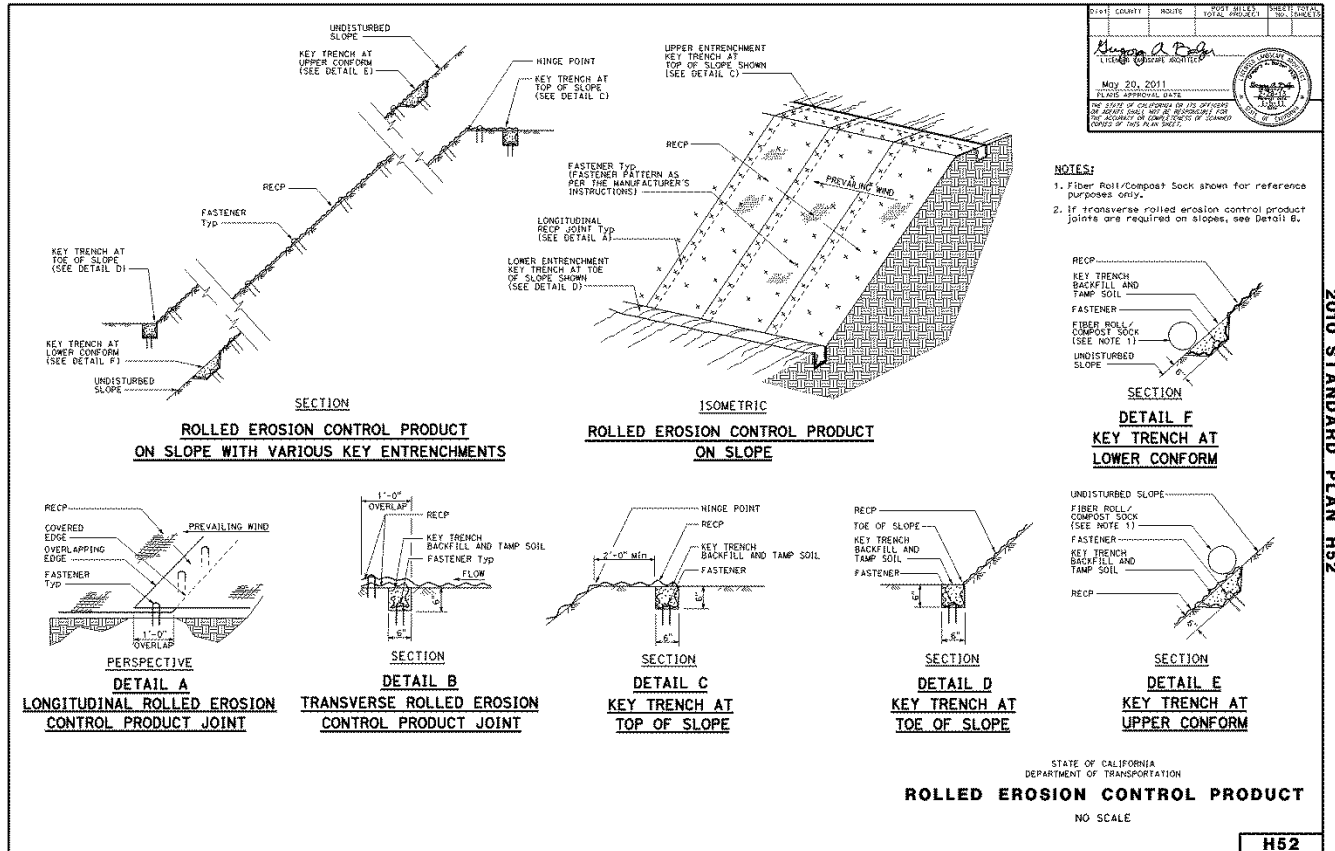
Before placing RECP, ensure the subgrade has been graded smooth and has no depressed voids. The subgrade must be free from obstructions, such as tree roots, projecting stones, or foreign matter greater than 1 inch in diameter.

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

Do not drive vehicles upon RECP following placement.

# Standard Plans

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2010 STANDARD PLAN H52

# Standard Plans

- Available to public at:  
[http://www.dot.ca.gov/hq/esc/oe/project\\_plans/HTM/10\\_plans\\_disclaim\\_US.htm](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

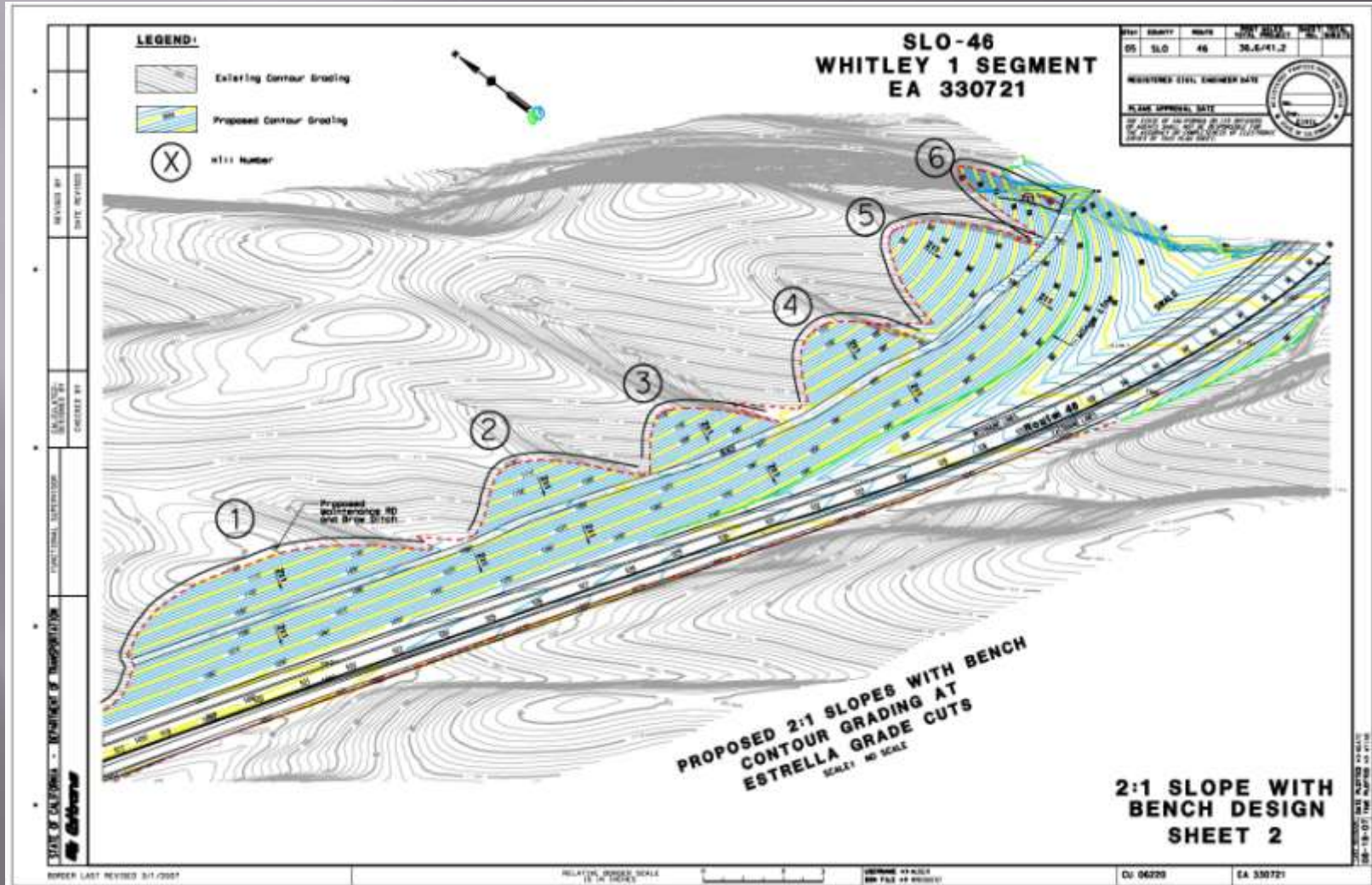
# Erosion Control Tool Box

- 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



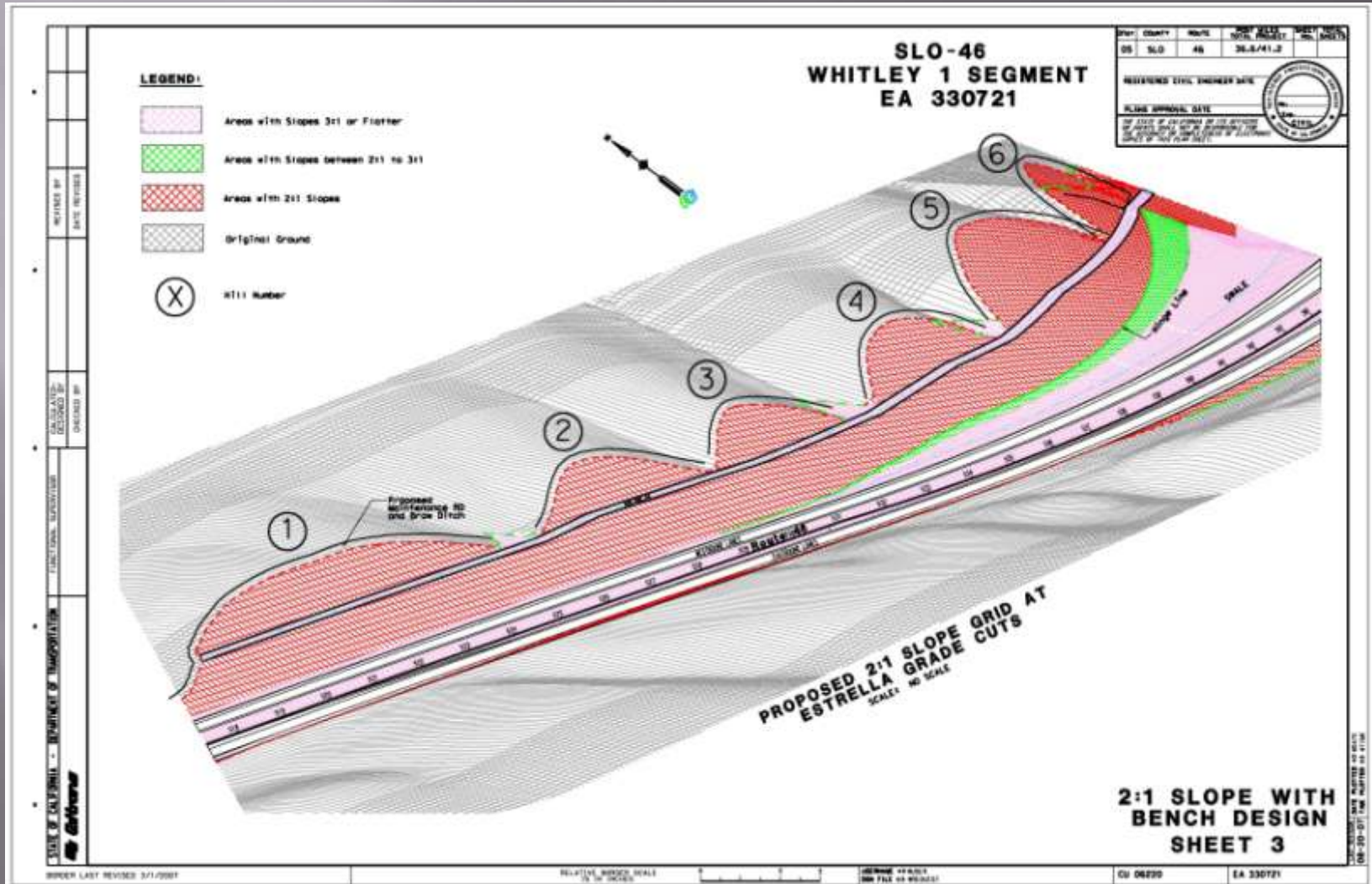
# Design Oriented Solutions

## Conventional Grading



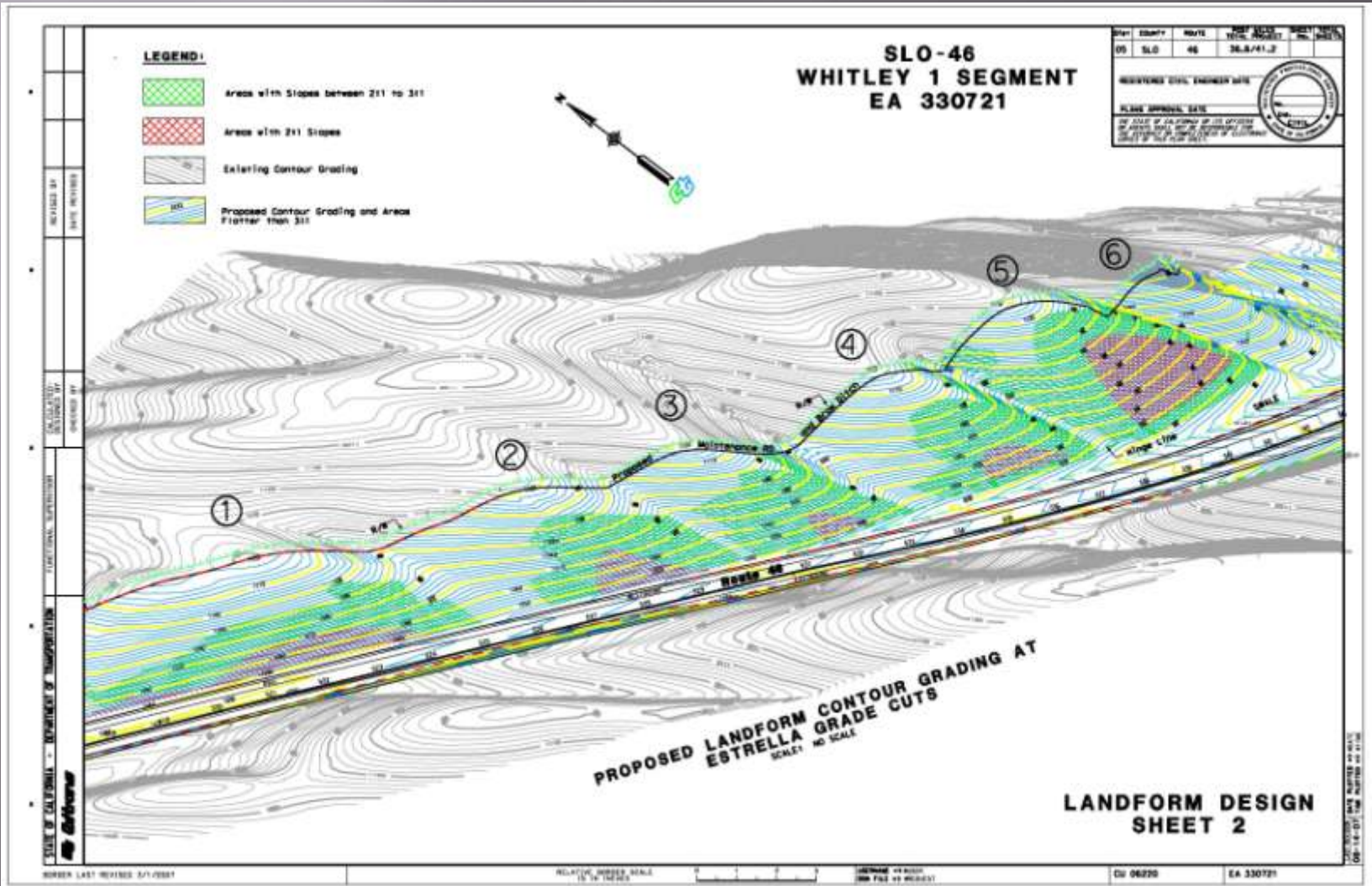
# Design Oriented Solutions

## Conventional Grading



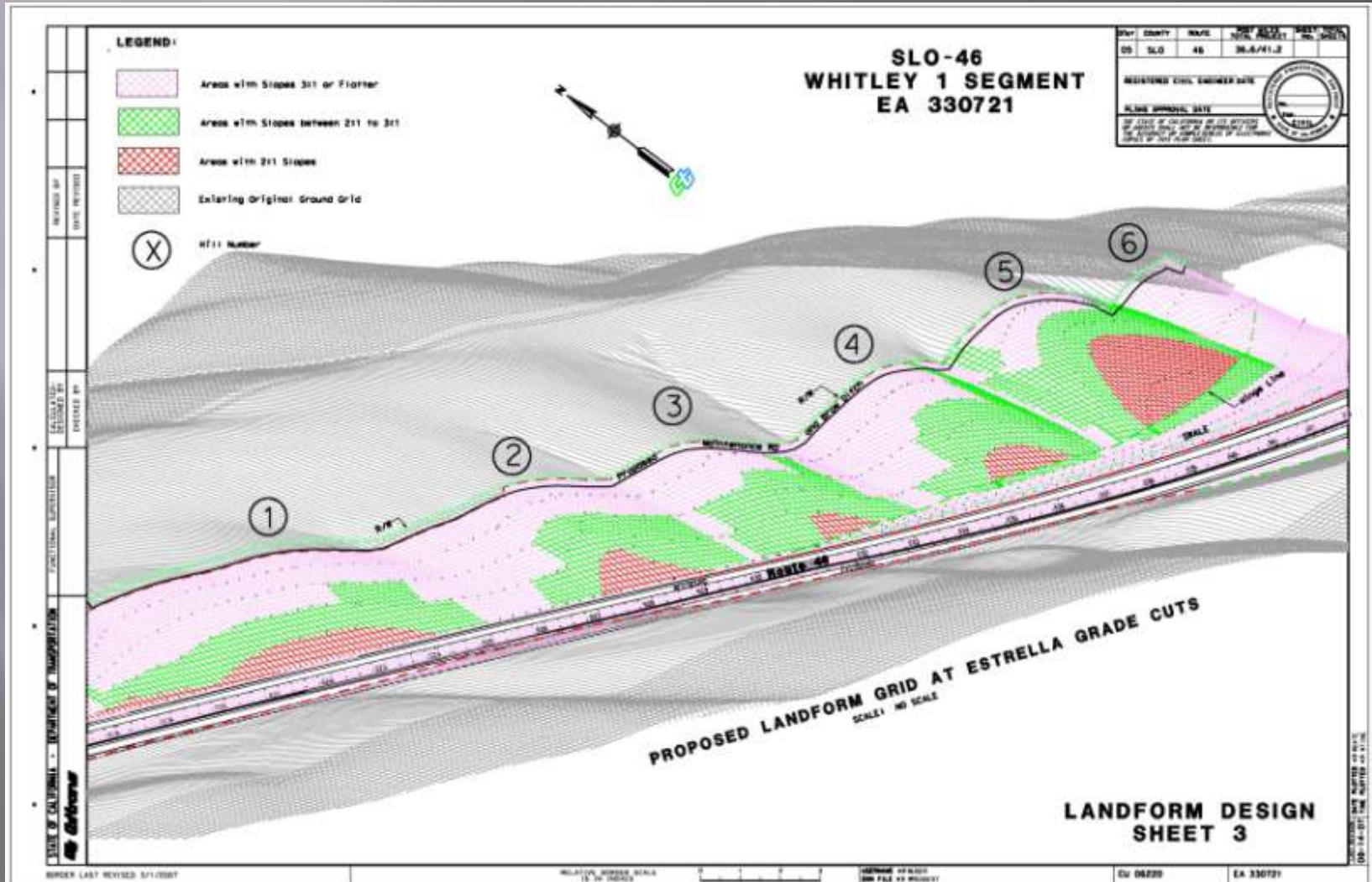
# Design Oriented Solutions

## Landform Grading



# Design Oriented Solutions

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# Design Oriented Solutions

## Landform Grading

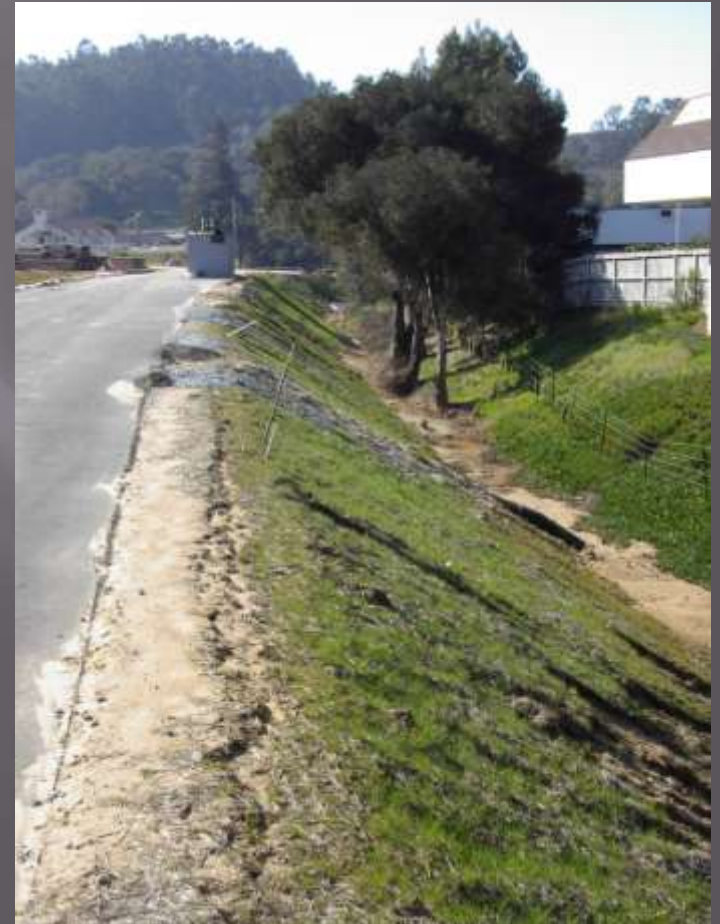


# Design Oriented Solutions

## Control Overland Flow



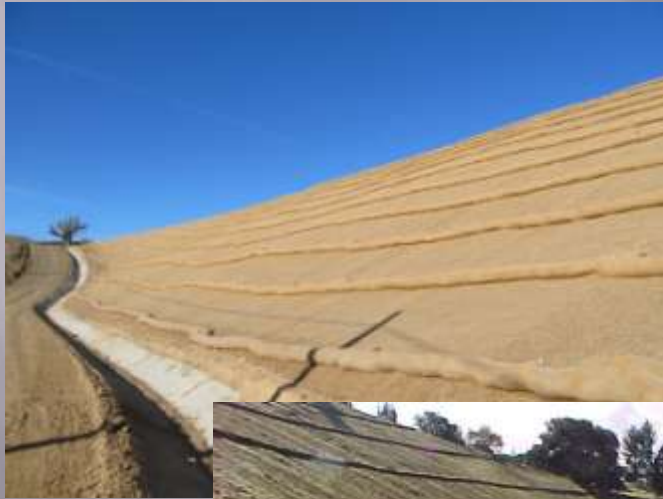
Top of Cut Ditches



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

03/15/2012

# Design Oriented Solutions

## Permanent Erosion Control - Compost



Existing



Today



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