



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

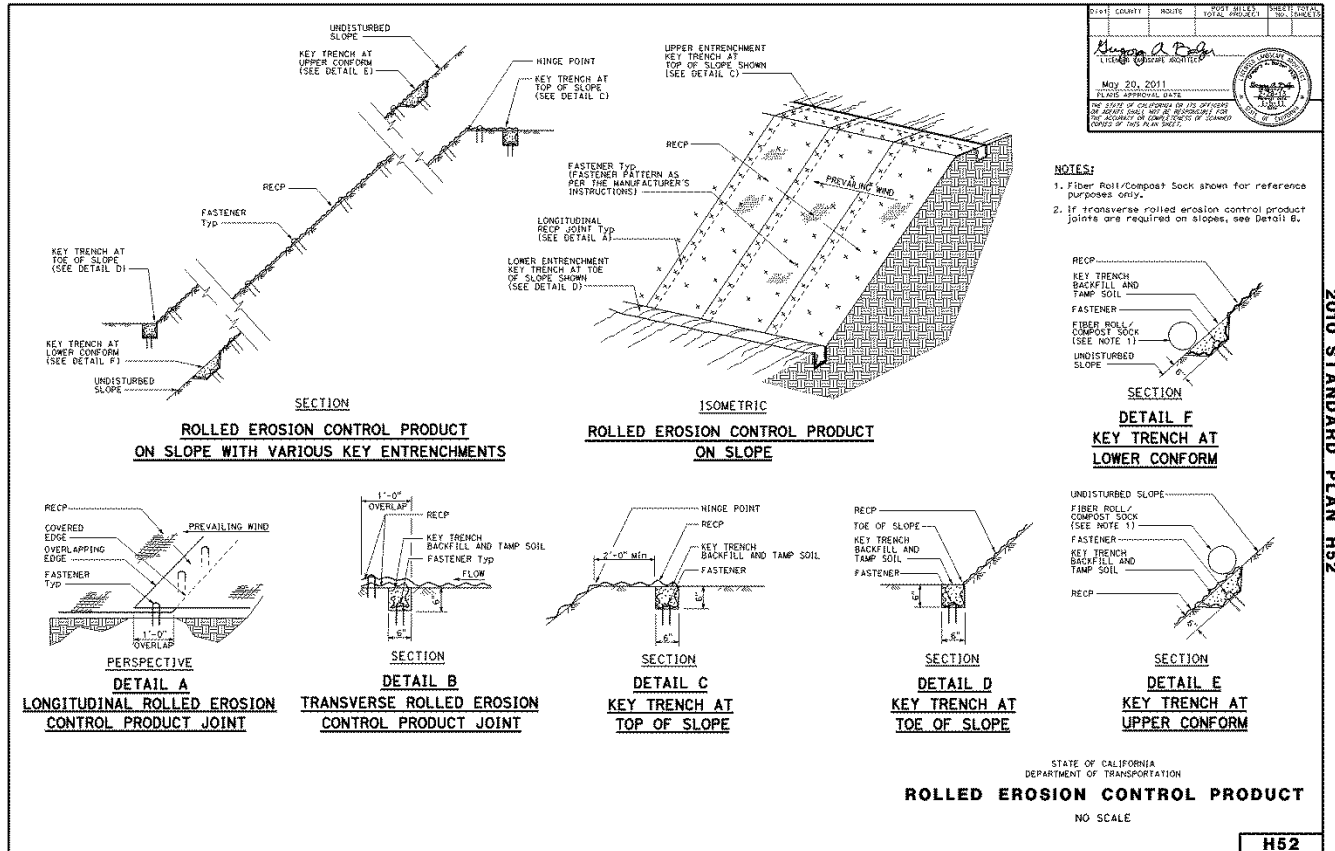
Before placing RECP, ensure the subgrade has been graded smooth and has no depressed voids. The subgrade must be free from obstructions, such as tree roots, projecting stones, or foreign matter greater than 1 inch in diameter.

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

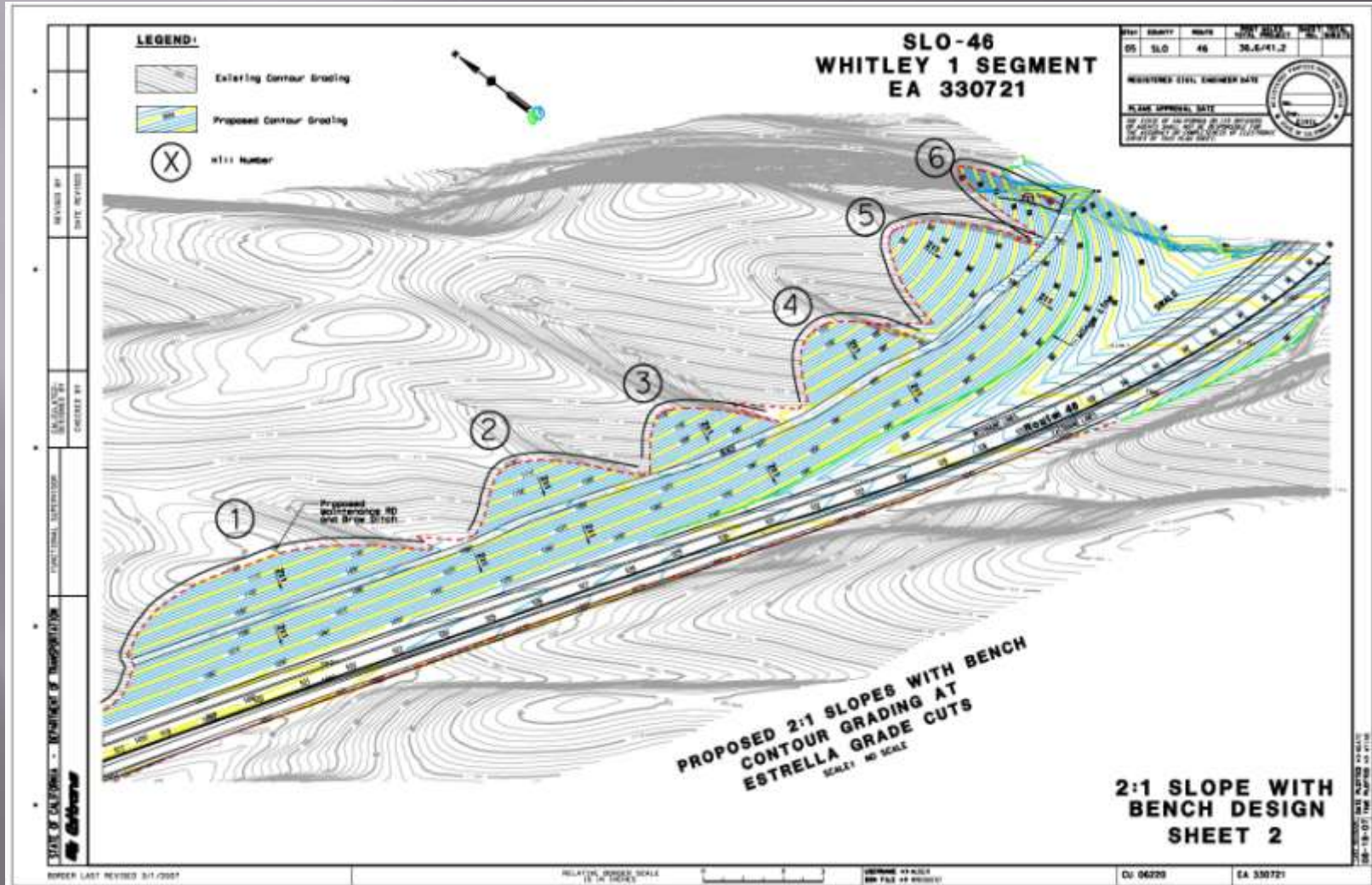
- Available to public at:
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/10_plans_disclaim_US.htm
- Temporary Water Pollution Control Details
 - Refer to sheets T51 to T67
- Erosion Control Details
 - Refer to H51 and H52

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

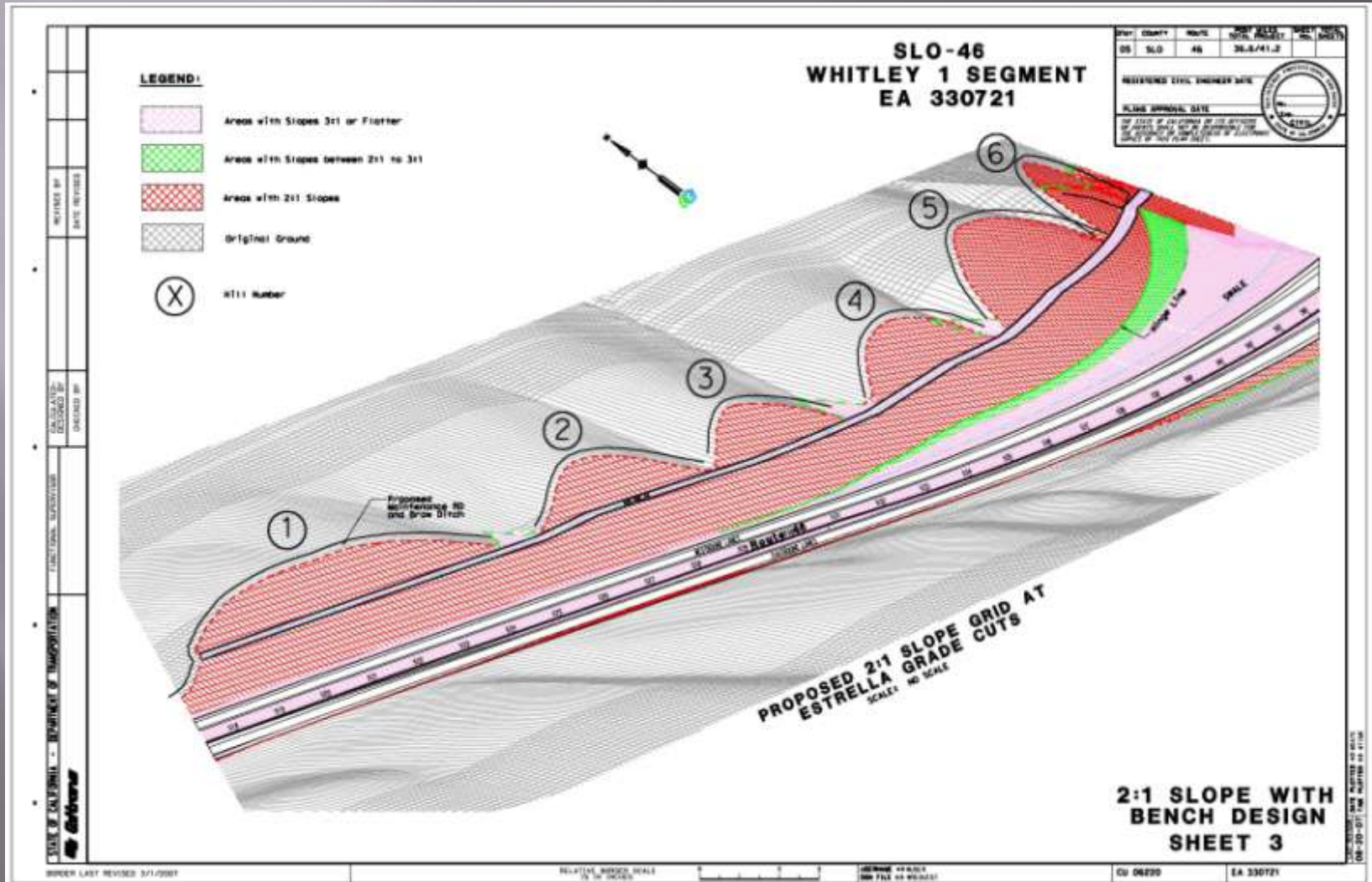
Design Oriented Solutions

Conventional Grading



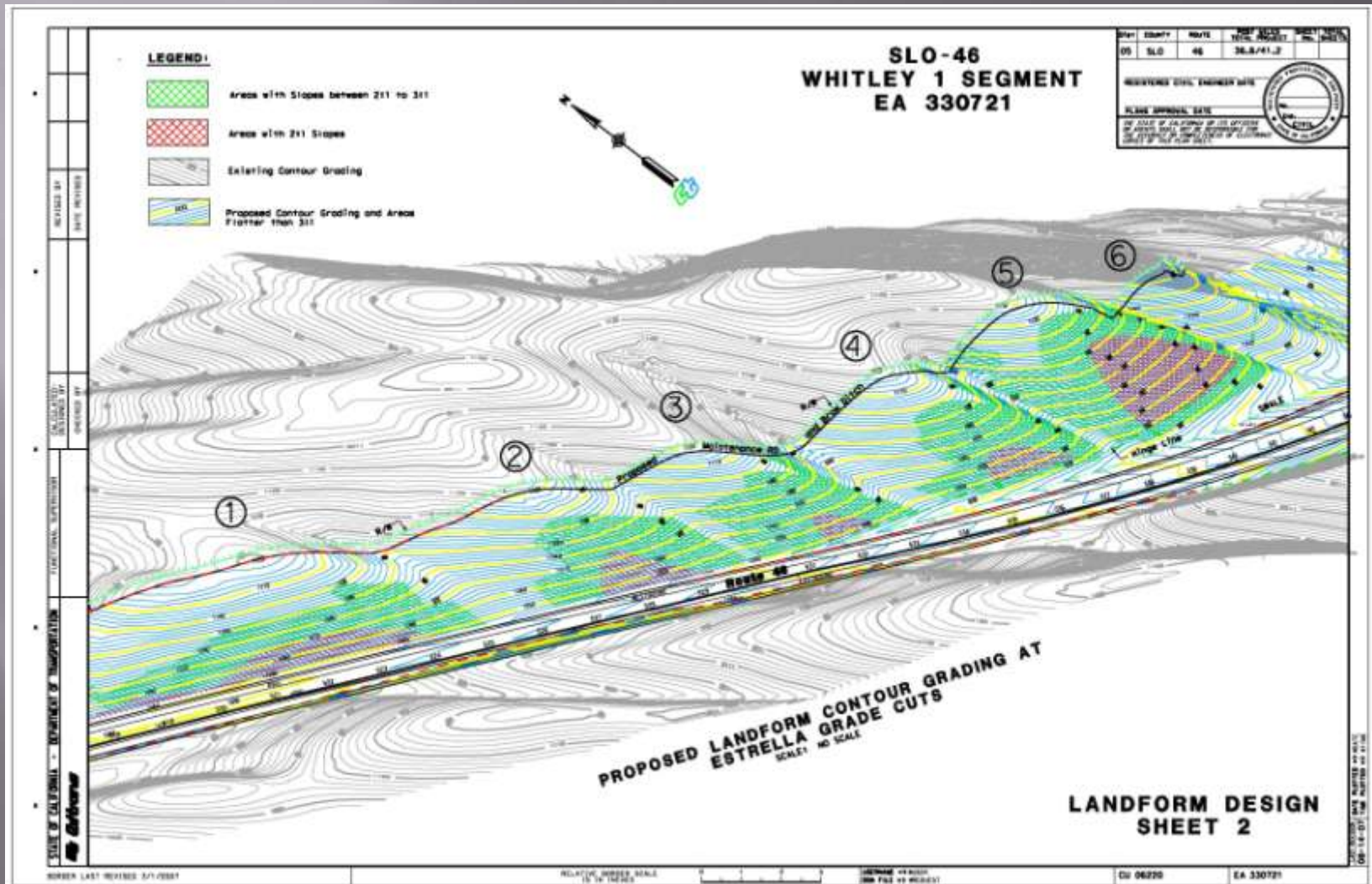
Design Oriented Solutions

Conventional Grading



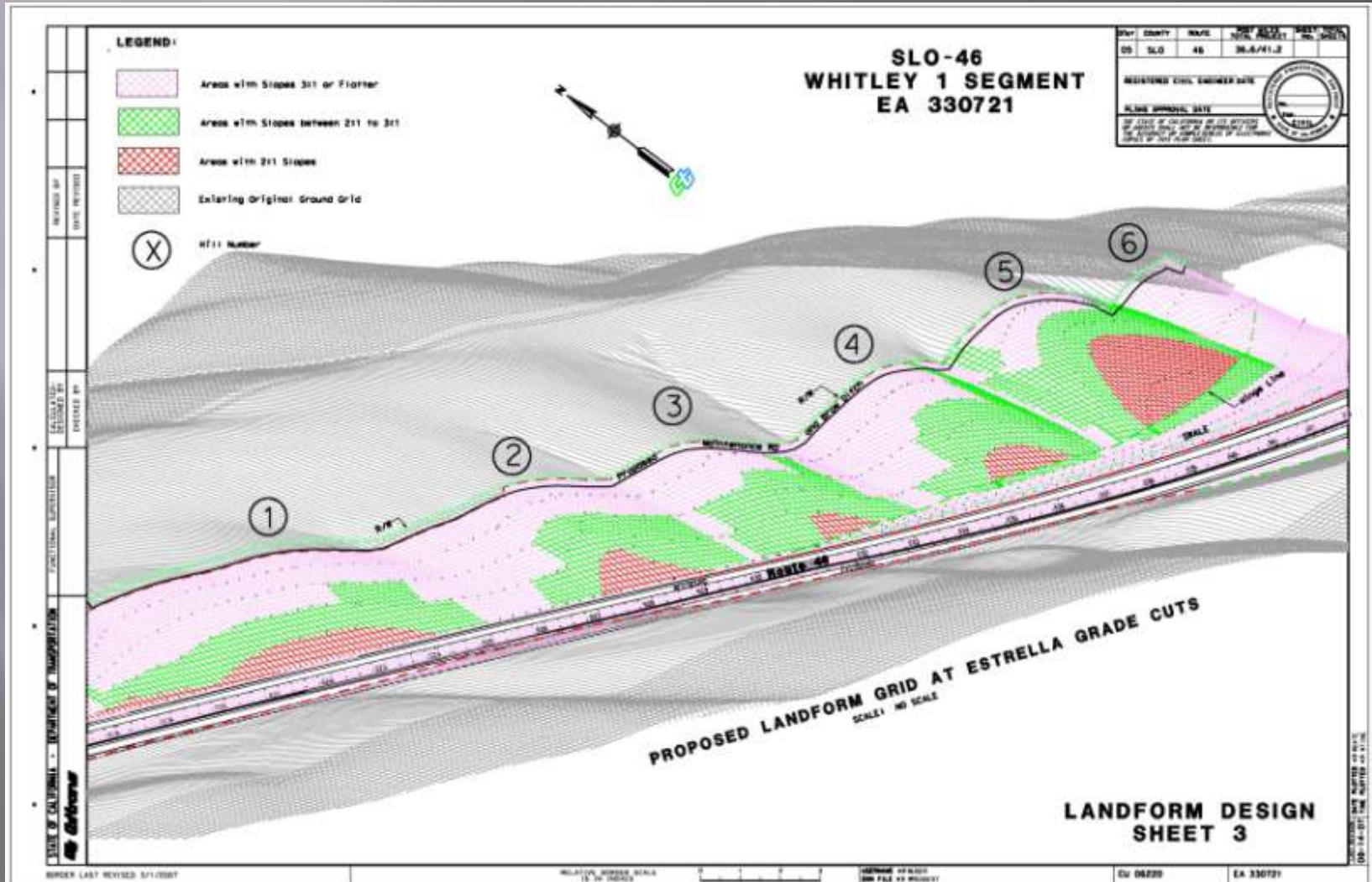
Design Oriented Solutions

Landform Grading



Design Oriented Solutions

Landform Grading



Design Oriented Solutions

Landform Grading

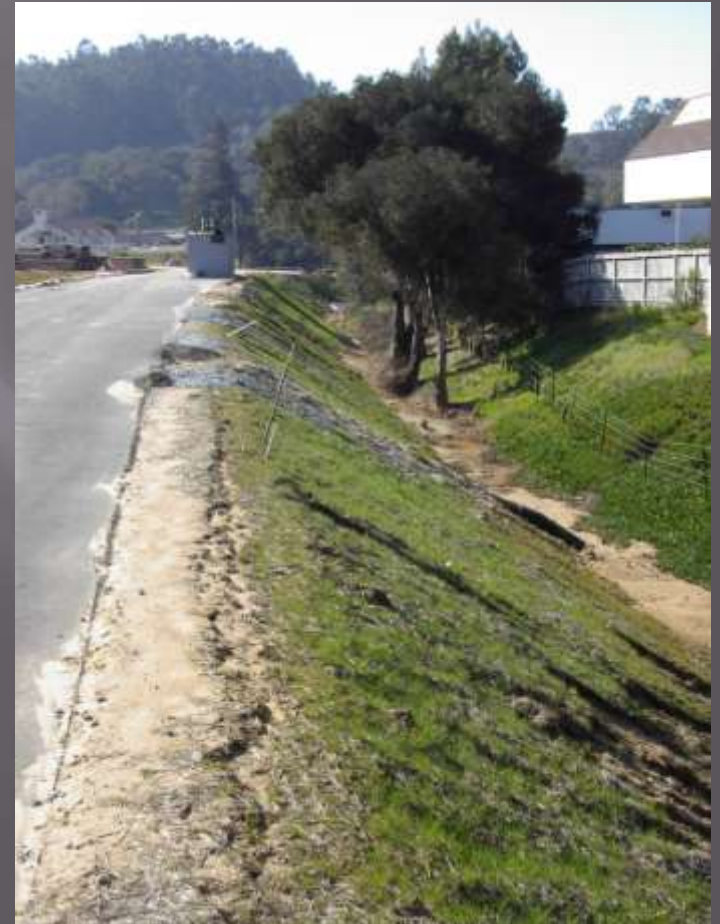


Design Oriented Solutions

Control Overland Flow



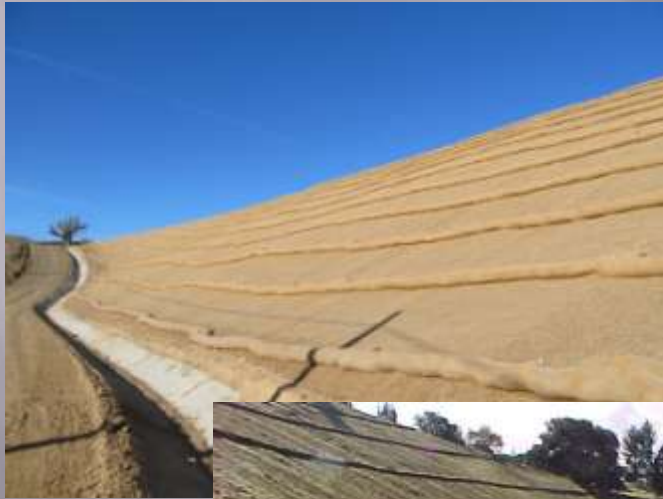
Top of Cut Ditches



Dikes

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Debris Catchment Areas



Toe of Slope Catchment



2 Ft Slope Benches
(Every 15-30 vertical Feet)

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Timing and Scheduling



Before



After

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Preservation of Existing Vegetation



Before



After

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Water Pollution Control BMPs



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Permanent Erosion Control - Chipped Material



Clearing



Stockpile

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Permanent Erosion Control - Compost



Existing



Today



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