

Grow Green Landscaping

Mulch and Compost Use
for
Storm Water Management

The Four Laws of Ecology

- Everything must go somewhere.
- Everything is connected to everything else.
- There's no such thing as a free lunch.
- Nature knows best.

Waste

- In the environment = pollution
- In your business = lost profit
- For your customers = lower quality of landscape / life

**WE HAVE MET
THE ENEMY
AND HE IS US.**



“The Vicious Cycle”

- **Strip the topsoil**
- **Import grass**
- **Water**
- **Apply synthetic fertilizer**
- **Apply pesticide / herbicide**
- **Mow**
- **Bag**

The Vicious Cycle

Liabilities

- **Cost (money & resources)**
- **Effort**
- **Non-point source pollution**
- **Water waste**
- **Solid waste disposal**
- **Instability**

“The Natural Cycle”



YardWise Elements:

- **Xeriscaping (native/adapted plants)**
- **“Don’t Bag It” (grass-cycling)**
- **Efficient Watering**
- **Mulching**
- **Composting**
- **Integrated Pest Management**

“Don’t Bag It”

- ▶ **Mow at proper height**
- ▶ **Mow 1/3 of leaf height, max.**
- ▶ **Clippings create mulch**
- ▶ **Mow over leaves**
- ▶ **Water only as needed**
- ▶ **Slow-release fertilizers**



2/3 grass blade removed & bagged

1/3 grass blade removed, mulched in

“Don’t Bag It”

Benefits:

- **Less cost**
- **Less work**
- **Less waste**
- **Greener grass, more resistant to disease & pests**
- **Helps prevent thatch**

Mulching

- **Mulch all areas not in grass or thick ground cover.**
- **Mulch trees & shrubs to dripline**
- **Coarse mulch 3''+ for weed control**
- **Water before & after mulching**



Keep mulch
away from trunk

Spread mulch
to a diameter of
at least 3 feet

Maximum depth of 3 to 4 inches

Mulching Benefits

- **Prevents soil compaction / erosion**
- **Suppresses weeds**
- **Retains moisture**
- **Insulates plant crowns & roots**
- **Slowly adds nutrients to soil**
- **Promotes microbial activity**

**Stormwater Best
Management Practices
Using Erosion Control
Compost, Compost/Mulch
Filter Berms and Filter
Tubes**

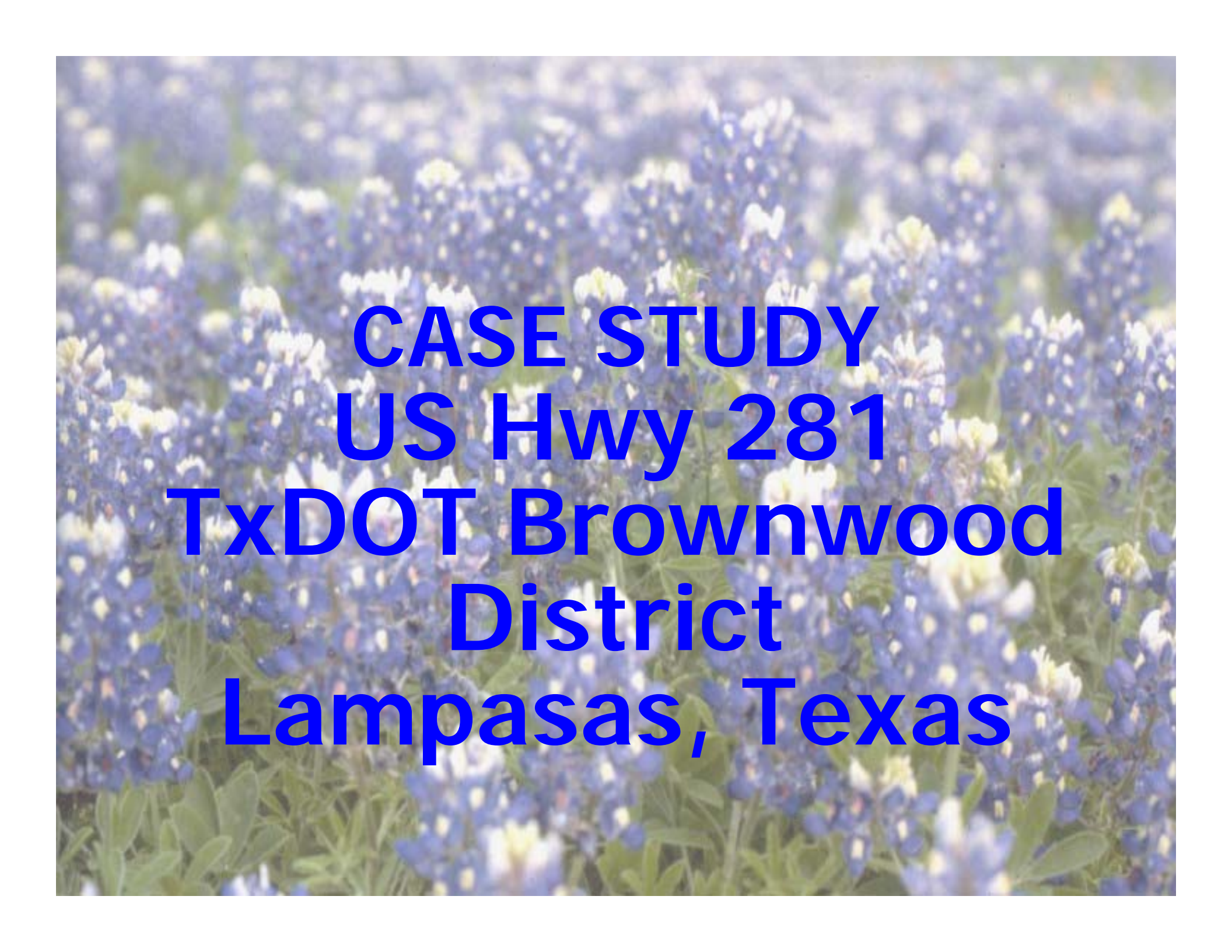






Organic Filter Berms & Tubes for Erosion and Sediment Control

- Effective Performance
 - Removes 95+% of Total Suspended Solids (TSS)
 - Conforms to Land Contour
 - No Trenching
- Competitively Priced
- Potentially Reusable



**CASE STUDY
US Hwy 281
TxDOT Brownwood
District
Lampasas, Texas**

State Specification 161: "Compost/Mulch Filter Berm"

- **Compost Filter Berm**
(50% compost & 50% wood chips)
- **Mulch Filter Berm**
(100% wood chips)





Two and a half weeks later,
following a 3" rainfall.

Drill seeded, no compost

Compost Filter Berm

Seeded Erosion control compost



Grass established with Erosion Control Compost

Drill seeded, no compost



Berm continues to work after being driven over







Traditional job site sediment controls . . .

11 2:30 PM



... and problems.

11 2:37 PM



Is there an alternative?



Berms installed (2.5'w X 1'h)



OCT 15 2003



Berm survives truck traffic

Moved from loose berm to tubes.

12" perimeter mulch filter tube

OCT 15 2003

Flexible enough to use as a gate or . . .



JAN 2

... as a fence.

24"

16"

JAN 21 2004







OCT 16 2003



OCT 16 2003

Compost Benefits

Nutrients

- **Contains complete spectrum of plant nutrients**
- **Retains nutrients**
- **Optimum pH for nutrient availability**
- **Slow, steady nutrient release**

Compost Benefits

Soil Structure

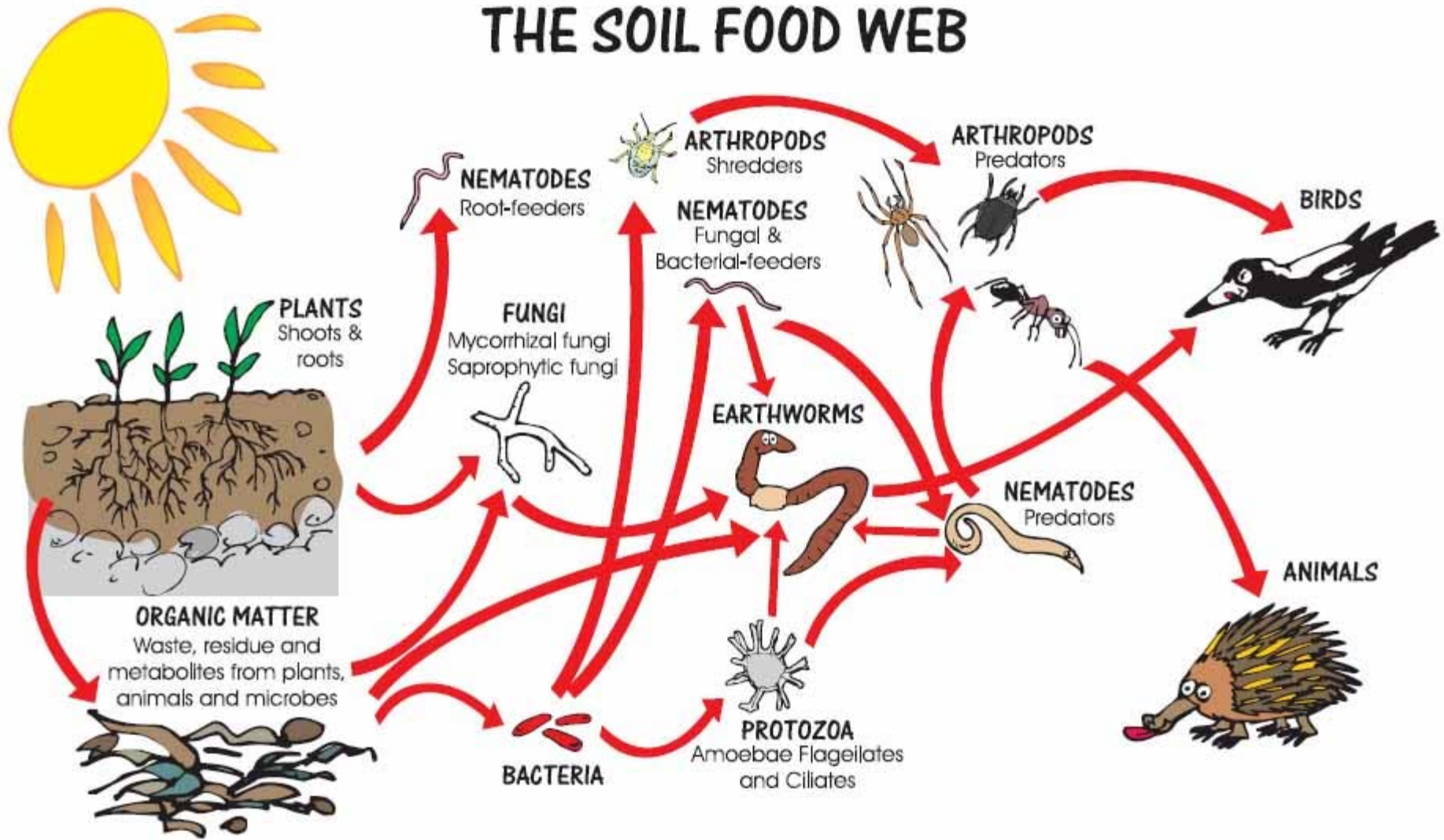
- **Helps sandy soil retain moisture**
- **Breaks up clay soils**
- **Protects against wind and water erosion**
- **Improves soil tilth**

Compost Benefits

Beneficial Soil Life

- **Promotes diverse beneficials:**
 - Bacteria, fungi, actinomycetes
 - Insects
 - Worms
- **Breaks down organics into plant nutrients**
- **Suppresses diseases & pests**

THE SOIL FOOD WEB



FIRST TROPHIC LEVEL:
Photosynthesizers

SECOND TROPHIC LEVEL:
Decomposers Mutualists
Pathogens, Parasites,
Root-feeders

THIRD TROPHIC LEVEL:
Shredders
Predators
Grazers

FORTH TROPHIC LEVEL:
Higher level predators

FIFTH & HIGHER TROPHIC LEVELS:
Higher level predators

Soil Biology Principle

Number of Soil Organisms
+ Diversity of Soil Organisms
= Improved Soil Structure &
Chemistry,
= Improved Soil Functions
(Fertility, Disease Suppression,
Water Retention)

Compost Benefits

Water Quality / Conservation

- **Prevents runoff**
 - improves water retention in sand & clay
 - Promotes healthy root systems to hold soil in place
- **Reduces need for pesticides & herbicides**

Compost for Slope Stabilization



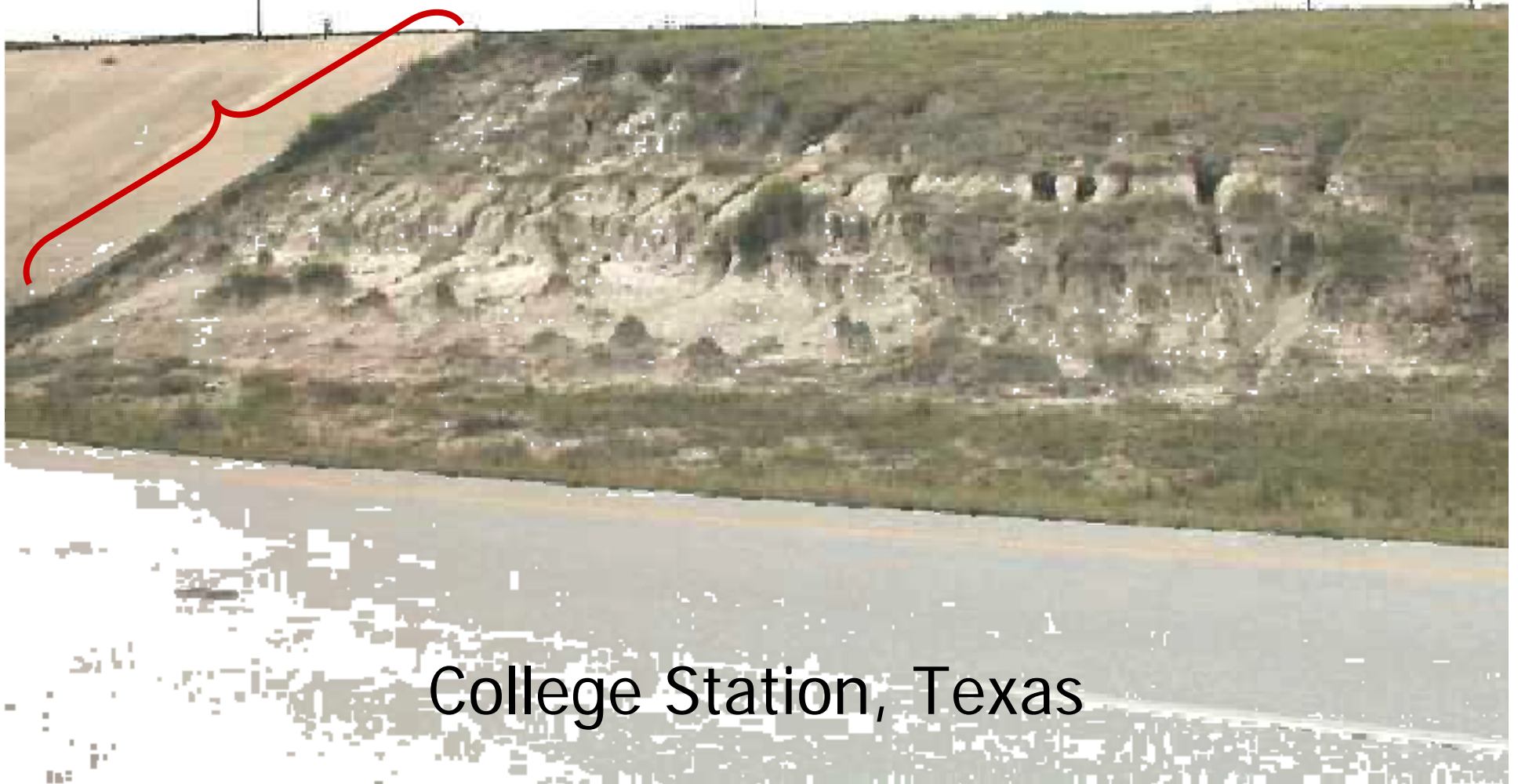
Filter tube slows flow

Hydro mulch

Erosion control compost

NOV 11 2003

Three Foot Deep Erosion
Extends Under 'Rip-Rap' at Overpass



College Station, Texas



Site prepared for compost/mulch/seed mix





Two weeks Grass Coverage
College Station, Texas



Six Months
College Station, Texas



BARTON CREEK DEVELOPMENT
AUSTIN, TX

APR 30 2002



1:1 ROCK SLOPE

Barton Creek Development – Austin, TX

APR 30 2002



Application to 1:1 ROCK SLOPE
2" compost mulch w/native seed mix
Barton Creek Development – Austin, TX
AUGUST 17, 2002



FIVE MONTHS

Barton Creek Development – Austin, TX

JAN 10 2003



ONE YEAR

Barton Creek Development - Austin, TX

SEP 4 2003



2007 5 30



VERTICAL SLOPE/ROCK FACE
Barton Creek Development – Austin, TX

APR 17 2003

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