

# VEGETATION



# Overview

- Stabilization
  - Vegetation
    - Seed/Mulch/Tackfier
    - Seed/Rolled Erosion Control Products
    - Hydraulically Applied Seed and Mulch
  - Compost Blanket

# How Does Vegetation Reduce Erosion?

- Shields soil surface from the impact of falling rain
- Slows the velocity of stormwater runoff
- Holds soil particles in place
- Maintains the soils capacity to absorb water
- Removes subsurface water through evapotranspiration

# The Steps For Successful Vegetative Stabilization

- 1) Site Preparation
- 2) Soil Additives
- 3) Seed Application
- 4) Mulching and Mulch Anchoring
- 5) Maintenance



# 1) Ground Preparation and Topsoiling



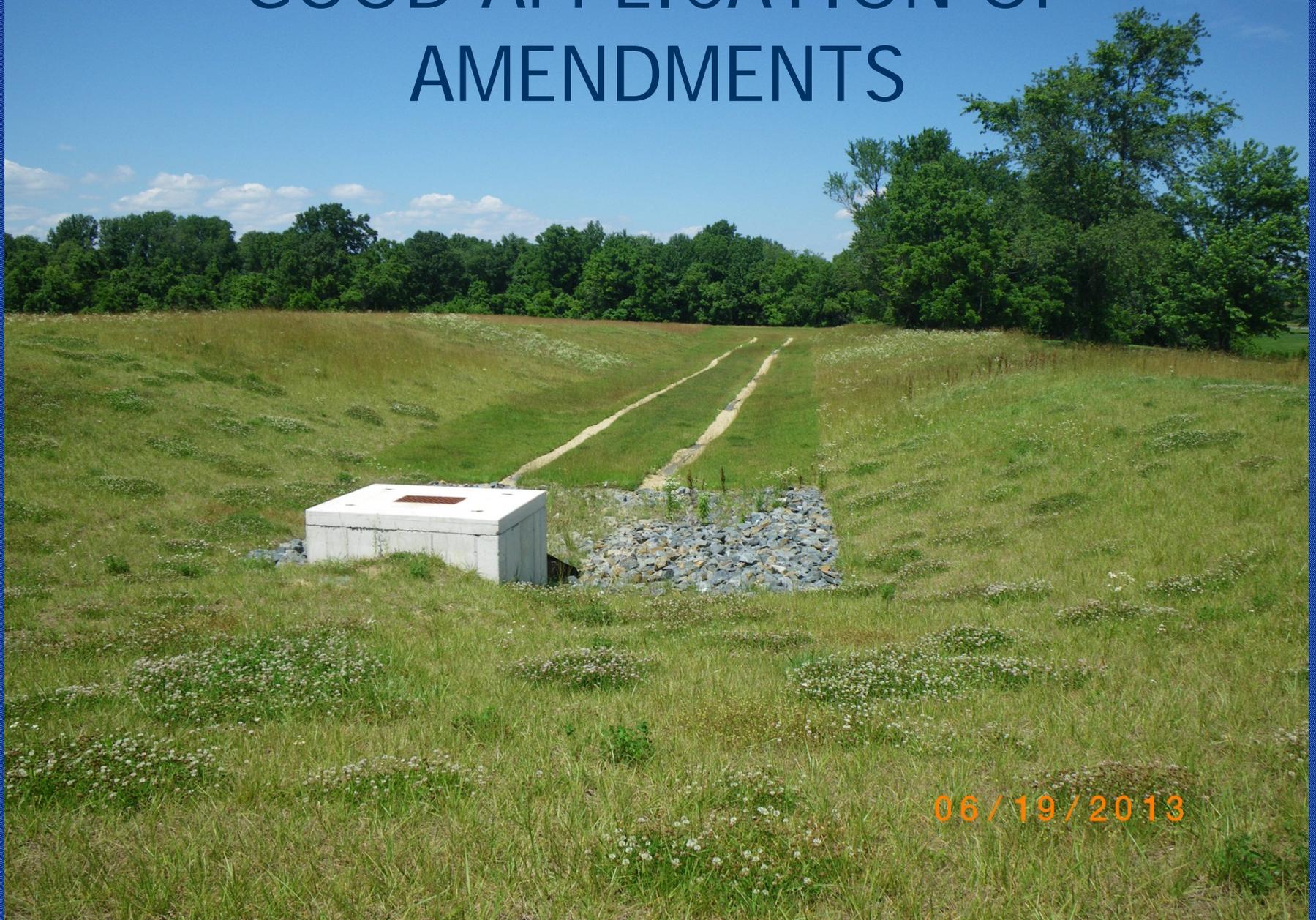
- Key in topsoil to prevent slippage
- Topsoil should be free of weeds, rocks, clods, and debris
- Apply topsoil to a depth of at least 4 inches (Del DOT requires 6 ")

## 2) Soil Testing and Amendments



- Obtain a soil sample
- In lieu of a soil test
  - ✓ 2 tons/acre lime
  - ✓ 1000 lbs/ acre 10-0-0 fertilizer
- Apply only what is necessary
- Incorporate into the soil

# GOOD APPLICATION OF AMENDMENTS



06/19/2013

# POOR APPLICATION OF AMENDMENTS



06 / 19 / 2013

# POOR APPLICATION OF AMENDMENTS



06/19/2013

### 3) Seeding



- Temporary or Permanent
- Temporary seeding requires no site preparation
- Permanent seeding requires all steps

# VEGETATION SPECIFICATIONS

## PERMANENT SEEDING NOTES

### SEEDBED PREPARATION:

LOOSEN UPPER 4 INCHES OF SOIL BY DICING, RAKING, OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

### SOIL AMENDMENTS:

APPLY 1-2 TONS PER ACRE (46-92 LBS/1000 SQ. FT.) OF DOLOMITIC LIMESTONE AND 600 LBS PER ACRE (14 LBS/1000 SQ. FT.) OF 10-10-10 FERTILIZER.

### SEEDING:

FOR PERIODS OF SEPTEMBER 1 THROUGH NOVEMBER 15 AND MARCH 1 THROUGH MAY SEED WITH 210-230 LBS PER ACRE (5 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR PERIODS OF NOVEMBER 15 THROUGH FEBRUARY, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.

### MULCHING:

APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LB/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATIONS USING A SYNTHETIC BINDER SUCH AS ACRYLIC DLR (AGRI-TAC) DCA-70. PETROSET OR TERRA TACK AT RATES RECOMMENDED BY THE MANUFACTURER.

### MAINTENANCE:

INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS, AND RESEEDINGS.

# 3) Seeding Methods



- 3 primary seeding methods
  - ✓ Broadcast
  - ✓ Drill
  - ✓ Hydroseeding

## 4) Mulching and Mulch Anchoring



- Mulch provides protective cover and retains moisture
- Straw is the preferred mulch material (2 tons/acre)
- Mulch must always be anchored
  - ✓ Crimping
  - ✓ Tackifier



## 5) Maintenance



- Takes 1 full year to establish permanent vegetation
- Irrigation
- Fertilization
- Overseeding

# ROLLED EROSION CONTROL PRODUCTS



Synthetic Industries Landlock



Coconut Fiber/Straw Coconut Fiber



Straw Blanket



Synthetic Industries Pyramat



North American Green C-350



Netless Blanket

# Hydraulically Applied Erosion Control Products

Portions of Presentation Courtesy of  
Profile Products  
Superior Ground Cover  
Soil Works

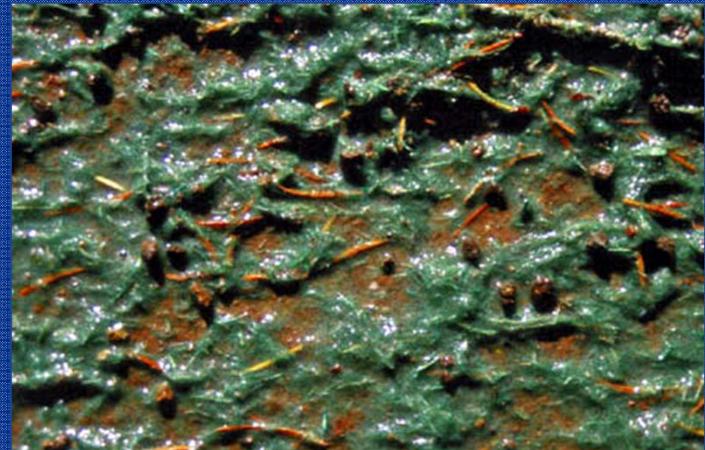
# Hydraulically Applied Mulches



- Organic materials, bonded with **tackfier** to disturbed areas to reduce the effects of erosion and promote vegetative germination.

# What is Tackfier

- A substance that sticks, adheres, or bonds
- Also lubricates the mulch allowing for hydraulic applications to be possible
  - Most mulches on the market are pretreated with tack for ease of mixing
  - However soils and slope differ so tack can be added to the mixture for specific situation



# Types of Hydraulically Applied Mulches

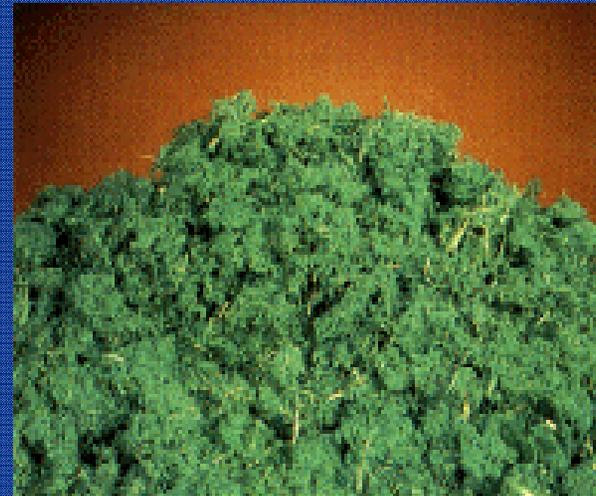
# Paper Mulch / Blended Mulch

- Paper Mulch
- A blend of wood and paper



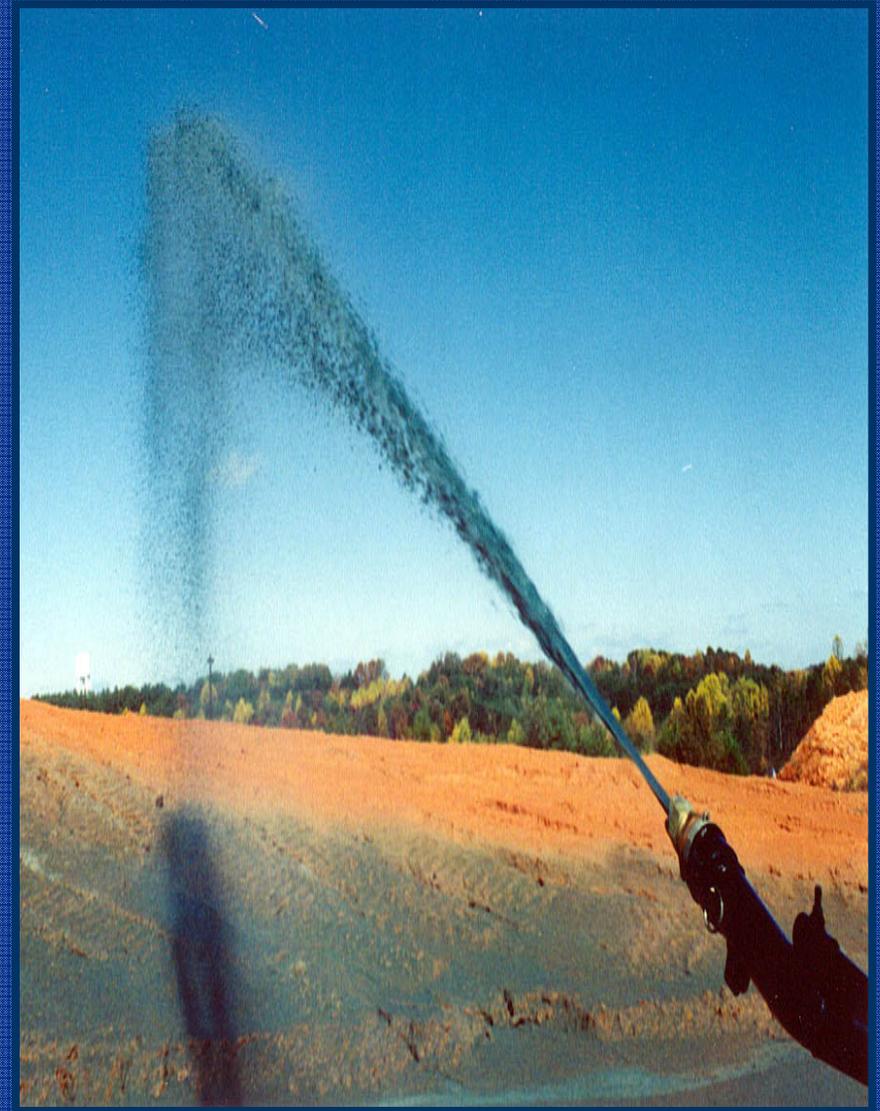
# Wood Fiber Mulch

- 100% wood fiber mulch is a high quality mulch for many projects, particularly those requiring a higher degree of erosion control



# Stabilized Fiber Matrices

- Shorter wood fibers
- Flat pads and moderate slopes
- Tackfier average is 10% per volume
- 3 to 6 month longevity (one season)



# Bonded Fiber Matrix

- Hydrocolloid-based binder
- Elongated soft wood fibers
- Not designed for areas of concentrated water flow
- Functional Longevity -  
6 -12 months

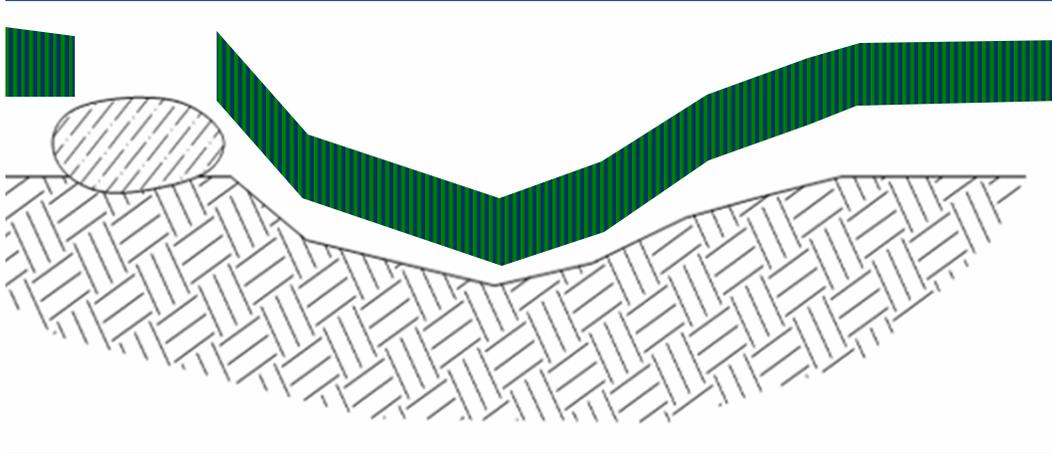


# Flexterra FGM

- Cavities Increase Water Holding Capacity
- Chemical and Mechanical Bonding
- No cure time – effective upon application

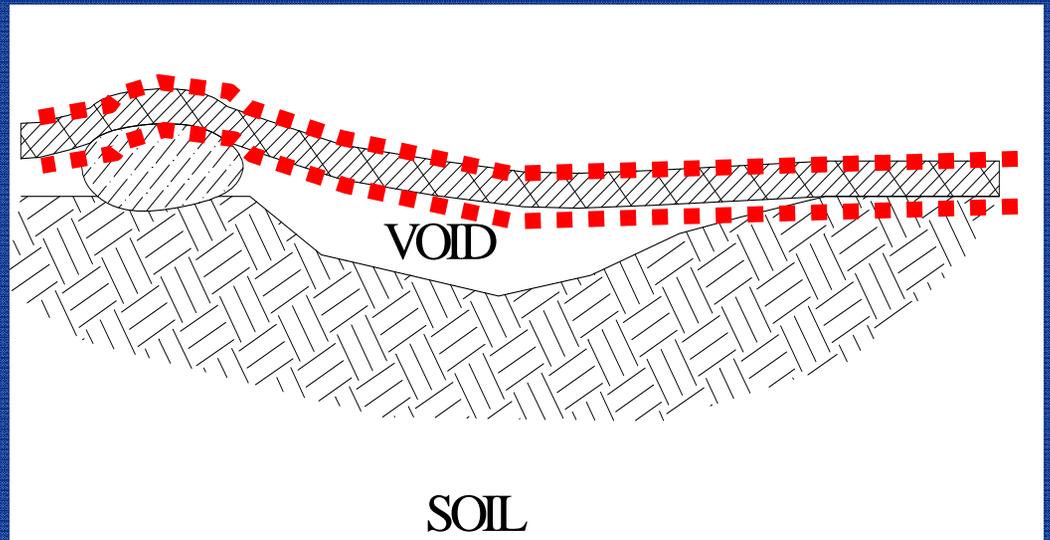


# Why use a hydraulically applied product?



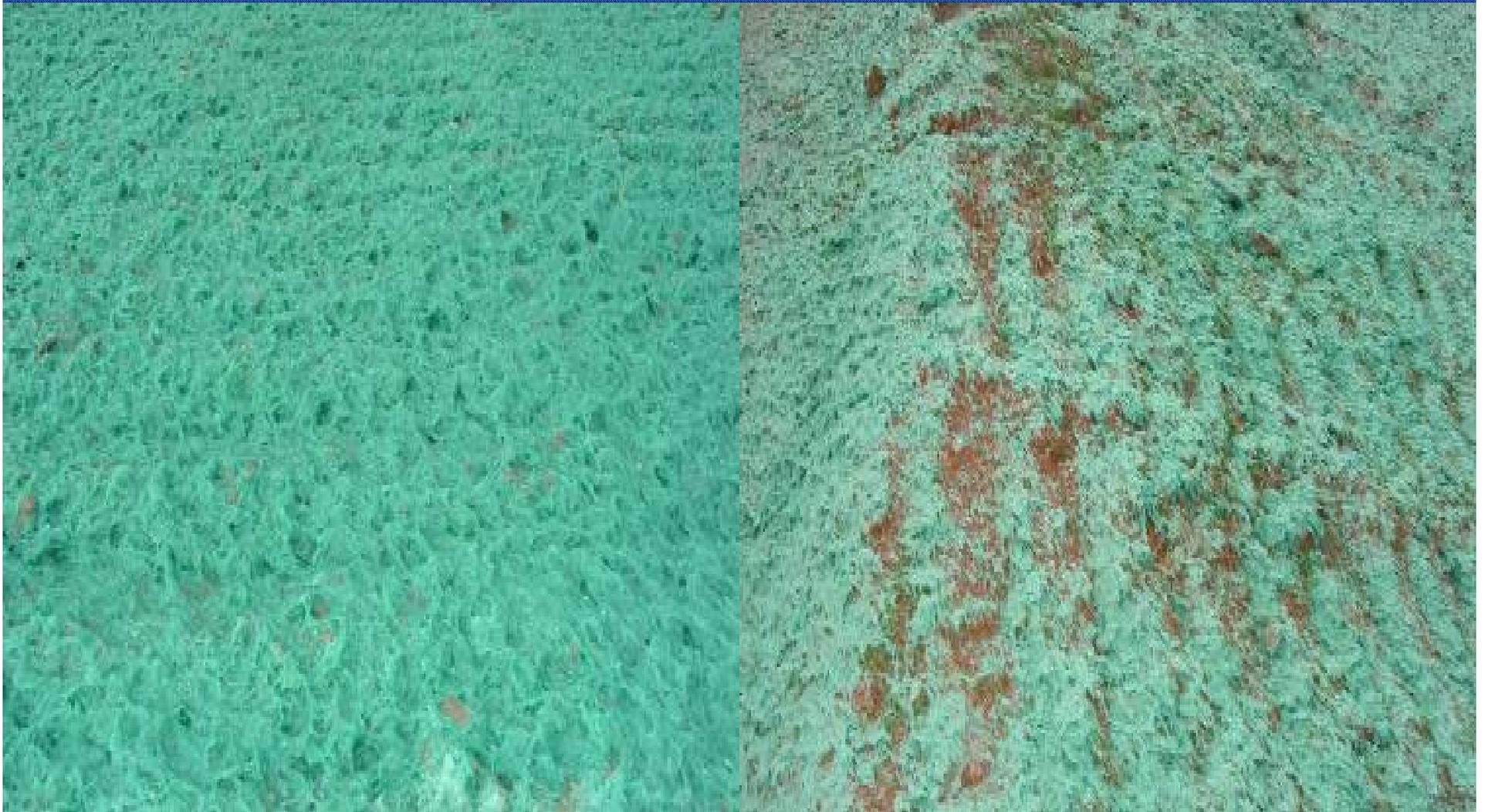
Spray on  
Stabilization

Blankets

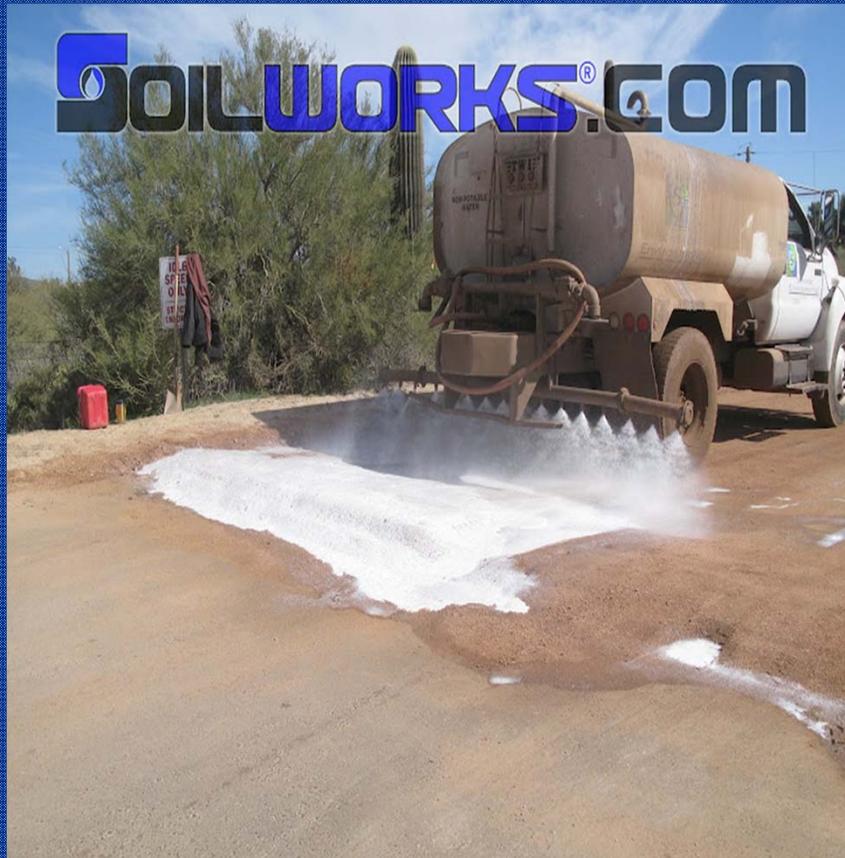


Proper Application

Improper Application



# Soil Tack Erosion & Dust Control



# Compost Blanket

- A layer of loosely applied compost that is placed on the soil in disturbed areas to control erosion and deter sediment runoff
- **New** erosion control practice in the E&S Handbook
- Must comply with the US Composting Council Seal of Testing Assurance

# Compost Blanket



- Compost presents a more permeable surface to the oncoming sheet flow, thus facilitating infiltration
- Fills in small rills and voids to limit channelized flow
- Promotes the establishment of vegetation on the surface

Questions?