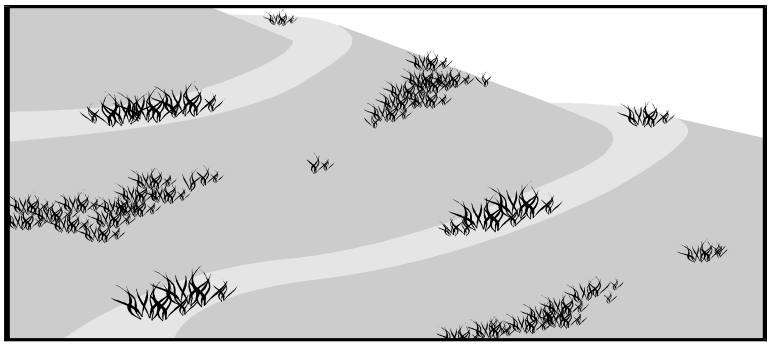
ACTIVITY: Temporary Seeding

TCP - 05



Targeted Constituents				
● Significant Benefit	◗ Partial Benefit	○ Low or Unknown Benefit		
● Sediment	○ Heavy Metals	○ Floatable Materials	○ Oxygen Demanding Substances	
◗ Nutrients	◗ Toxic Materials	○ Oil & Grease	○ Bacteria & Viruses	○ Construction Wastes

Implementation Requirements				
● High	◗ Medium	○ Low		
◗ Capital Costs	◗ O & M Costs	◗ Maintenance	◗ Suitability for Slopes >5%	◗ Training

Description

Temporary stabilization of soil with rapidly growing annual plants used to prevent erosion on disturbed areas before final grading or in a season not suitable for permanent seeding. This management practice is likely to create a significant reduction in sediment and a partial reduction in nutrients and toxic materials.

Suitable Applications

- Apply where final grading of exposed surfaces are to be completed within 15 days to a year.
- Apply to denuded areas, soil stockpiles, dikes, dams, sides of sediment basins and temporary diversions.

Approach

- To prevent seed wash-out, the area should be protected with such methods as surface roughening diversions and terraces.
- Soil should be analyzed for fertilizer and lime requirements.
- Apply fertilizer and lime per soil requirements or supply fertilizer at a rate of 5 pounds per 1,000 square feet with commercial grade 10-10-10.
- Apply selected seed at a rate of 1 pound per 1,000 square feet. Seed should be sown uniformly as soon as preparation of the seedbed has been completed by means of a rotary seed spreader, hydraulic equipment, or other satisfactory means.
- Straw mulch or chemical stabilization should be applied especially to seedlings in the fall for winter cover or slopes that exceed 3:1 (H:V).
- No seeding shall be done during windy weather or when the ground surface is frozen, wet or otherwise nontillable.

- No seeding shall be performed during December and January unless otherwise permitted.

- Mulching – When the mulching material is hay or straw, it shall be spread evenly over the seeded area at an approximate rate of 100 pounds per 1,000 square feet for straw and 150 pounds per 1,000 square feet for hay immediately following the seeding operations. This rate may be varied by the Engineer depending on the texture and condition of the mulch material and the characteristics of the area seeded.

- Sod shall be Kentucky 31 Fescue, Bluegrass, or Bermuda grass.

- Sod shall be set or reset only when the soil is moist and favorable to growth. Setting will be as follows unless permission is granted by the Engineer.

  Kentucky 31 Fescue – Anytime weather permits
  Bermuda grass – April 15 through August 14
  Bluegrass – March 1 through April 30; September 1 through October 31

- On steep slopes and channels sod shall be fastened to the ground with wire staples or wood pegs. Where surface water cannot be diverted from flowing over the face of slopes, install a strip of heavy jute or plastic netting and fasten tight along the crown or top of the slope for extra protection against lifting and undercutting of sod.

- The Contractor shall not allow any equipment or material placed on any planted area, and shall erect suitable barricades and guards to prevent his equipment, labor or the public from traveling on or over any area planted with sod.

Maintenance

- Inspect frequently within the first six weeks of planting to see if stands are uniform and dense and to assure that appropriate moisture levels are maintained.

- Make provisions to water as needed to penetrate to a depth of 6 inches (15.2 cm).

- Check for damage caused by equipment or heavy rains.

- Damaged areas should be repaired, fertilized, seeded, and mulched. Tack or tie down mulch as necessary.

Recommended Seed Blends for Tennessee

Blend	*Percent of Blend*
January 1 – May 1	
• Italian Rye	• 33.33%
• Korean Lespedeza	• 33.33%
• Summer Oats	• 33.33%

May 1 – July 15

- Sudan – Sorghum Crosses — 100%

or

- Starr Millet — 100%

July 15 – January 1

- Balboa Rye — 66.66%
- Italian Rye — 33.33%

Limitations

- Annual rye grass reseeds itself and may make it difficult to establish a good cover of permanent vegetation.
- Uneven seed broadcasting or low application can lead to patchy growth and erosion.
- Misapplication of fertilizer or lime could lead to pollutant runoff.

Additional Information

Sheet erosion, caused by the impact of rain on bare soil, is the source of most fine particles in sediment. To reduce this sediment load in runoff, the soil surface itself should be protected. The most efficient and economical means of controlling sheet and rill erosion is to establish vegetative cover. Annual plants which sprout rapidly and survive for only one growing season are suitable for establishing temporary vegetative cover.

Temporary seeding may prevent costly maintenance operations on other erosion control systems. For example, sediment basin clean-outs will be reduced if the drainage area of the basin is seeded where grading and construction are not taking place. Perimeter dikes will be more effective if not choked with sediment.

Temporary seeding is essential to preserve the integrity of earthen structures used to control sediment, such as dikes, diversions, and the banks and dams of sediment basins.

Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.

Primary References

Caltrans Storm Water Quality Handbooks, CDM et.al. for the California Department of Transportation, 1997.

Soil Erosion Prevention and Sediment Control – Reducing Nonpoint Source Water Pollution on Construction Sites, University of Tennessee, Knoxville, Department of Civil and Environmental Engineering, August 1998.

Tennessee Erosion and Sediment Control Handbook, Tennessee Department of Environment and Conservation, July 1992.