Seeding Program Changes
Carol Wienhold (The Grass Whisperer)

Retired March 4th
Seed Approval Process (LSS Project)

• Why Evaluate?
  • Process has not been evaluated/changed in 20+ years.
  • Stormwater Permit compliance
    • Can the work be completed in 14 days?
Seed Approval Process

Current Process

• All projects have individually prepared seed mixtures
  • Approximately 300+ seed mixtures per year
  • Every project considered individual & unique
  • Seed can be transferred from project to project with permission

• Challenges of individual seed mixtures
  • High level of State/Contractor/Vendor communication
  • Contractor hesitant to order without measurements
  • Challenges with late additions
Seed Approval Process

- How long does it take to get seed in the ground? Goal = 14 days for Construction Stormwater Permit compliance.
  - Identify and measure – 7 days
  - RDCU Approval – 1 day if in the office
  - Vendor Preparation – 3 to 5 days +
  - Installation – 3 to 5 days
Seed Approval Process

Solutions

• Utilize cc with emails for the seeding subcontractor
• Eliminate Project Seeding Record (DR61 form)
• Move to Regional seed mixtures
• Find solution to the July seeding moratorium
Nebraska Department of Transportation
Seeding Regions

CENTRAL AND EASTERN
Panhandle
Sandhills
Southwest

DATE CREATED: 12/27/2021
**SEEDING**

Subsection 801.02 in the Standard Specifications is amended to include the following:

<table>
<thead>
<tr>
<th>Type &quot;B&quot; (Southwest Region)</th>
<th>Minimum Purity (%)</th>
<th>Broadcast Application Rate in lb. of Pure Live Seed/Acre</th>
<th>Approved Mech. Drill Application Rate in lb. of Pure Live Seed/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perennial ryegrass — Linn, Norfolk, Amazon</td>
<td>85</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Western wheatgrass — Arriba, Barton</td>
<td>85</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Slender wheatgrass</td>
<td>85</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Kentucky fescue</td>
<td>85</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Red fescue (Festuca rubra)</td>
<td>85</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Inland saltgrass (Distichlis spicata)</td>
<td>70</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Buffalograss</strong> — Bison, Cody, Sundancer, Texoka</td>
<td>80</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Sideoats grama</strong> — Butte, El Reno, Trailway</td>
<td>75</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sand lovegrass — Nebraska-27, Band native</td>
<td>90</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Sand dropseed (Sporobolus cryptandrus)</td>
<td>90</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Oats/wheat (Wheat in the fall)</td>
<td>90</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

All seed shall be of origin Nebraska, adjoining states, or as specified. A Contractor proposing to use a substitute variety, or origin shall submit for the Engineer's consideration a seed tag representing the seed which shows the variety, origin, and analysis of the seed.
# Seed Mixture Types

## Regional Mixtures
- **Type A** – Foreslopes, backslopes & ditches
- **Type B** – Edge of pavement to 16’
- **Type C** – Industrial (aka Salt Slayer)
- **Type Urban** – Urban lawns
- **Erosion Control** – Use with ECBs
- **Slope Protection** - Sandhills

## Project Specific Mixtures
- **Type D** – Environmental commitments and specialty seeding including trails
- **Buffer**
- **Wetland**
- **Wetland Low**
- **Wetland High**
Seed Approval Process

Benefits

• Dependable species lists for vendors
• Contractor can order in bulk for projects in the same region
• Seeding Specialist workload is more focused
• Minimizes need to negotiate species for individual projects
• Makes seed more available for our contractors
Regional Seed Mixtures

Key Specification Requirements

• The Contractor shall obtain from the seed vendor and furnish to the Engineer, a laboratory analysis of each type and lot of seed.
  • The analysis shall contain complete information pertaining to the seed as required by State and Federal law.

• The Engineer will approve use of the seed if the information on the analysis is satisfactory and if the seed is not expired for use.
  • Seed shall be considered expired, 1 (one) year after the mixing date, as shown on the seed tag.

• The seed mixtures shall be delivered to the project with seed tags attached to the bags. The Engineer will collect the tags from the bags immediately prior to use.
Seeding Dates

Factors impacting seed survivability

- Soil Temperature
- Moisture Levels
- Air Temperature
- Soil Conditions
Seeding Dates

Two Year Study on Summer Seeding

• Is there a difference in planting in July vs. other times of the year?
• DCE discussion – More concern with late fall seeding than summer seeding
• Retroactive for projects currently let or under construction
• Study will determine if a Specification update is warranted
Seeding Dates

• Submit form to my office for seeding that occurs July 1 – August 15.
  • Seed Type
  • Mulch Type
  • Site Conditions
  • Weather
  • Location
  • Equipment
  • Contractor
Project Inspections
Why is EPA inspecting our projects?

• Responding to complaint

• Evaluating compliance with the Nebraska State Construction Stormwater General Permit and Project SWPPP
  • Are required inspections being conducted?
    • Are corrective actions being managed in a timely manner?
  • Is the SWPPP being updated?
  • Are BMPs installed throughout the project to manage sediment and other pollutants?
    • Sediment Controls (Temporary BMPs)
    • Erosion Controls (Temporary and Permanent)
    • Are areas where grading has been completed or temporarily stopped, being stabilized? (14 Day Rule)
    • Good Housekeeping Controls (Trash, Spill Prevention, Track-Out, Concrete Washout, etc.)
The Lucky Projects.....

**West Point North and South, 275-6(1056)**
- District 3
- Approx. 5.8 Miles
- 2 Lane Hwy to 4 Lane Expressway
- Borrow/Temporary Sites Permitted with Project
- October 2021 Start Date

**Scribner North, 275-6(1054)**
- District 2
- Approx. 4.79 Miles
- 2 Lane Hwy to 4 Lane Expressway
- Borrow/Temporary Sites Permitted with Project
- July 2021 Start Date
The Good News

• No evidence of sediment discharges into waters
• Inspector considered the day of her inspection Day 0, which gave us 14 days to resolve any issues found.
• Corrective work was documented in her report
General EPA Findings

1. Maintenance or installation of BMPs was needed on both projects, including borrow and temporary sites. *NPDES permit Part III.F.*

2. BMPs were found to be inadequate and in need of more effective alternatives. *NPDES permit Part III.F.7.*

3. The sediment basin at borrow site (Hwy 9) was not installed per the SWPPP. *NPDES permit Part III.A.4.*

4. Waste disposal practices were not implemented according to the SWPPP or NPDES permit on at areas surrounding Elkhorn River.

5. Stabilization was needed on stockpile berms and in areas where activities had ceased temporarily or permanently. *NPDES permit Part III.F*

6. Inspections were not conducted on the Scribner project during September 2021 per the NPDES permit requirements. *NPDES permit Part III.J.*

7. The SWPPPs do not clearly describe the planned controls and the general sequence during the construction process in which the measures will be implemented. *NPDES permit Part III.B.2. and Part III.C.*

8. All support activities, such as borrow sites, were not included in the SWPPPs. *NPDES permit Part III.B.1. and Part III.B.2.*
Maintenance or installation of BMPs was needed on both projects, including borrow and temporary sites. *NPDES permit Part III.F.*

- Graders installing Covercrop
  - Recognize Time of Year – Mulch may be needed if seed won’t grow
- Protect waterways when building structures
  - Silt fences, silt checks and temporary seeding may be needed
BMPs were found to be inadequate and in need of more effective alternatives. *NPDES permit Part III.F.7.*

- **Three strikes concept**
  - If a BMP is not working, find an alternative

- **Multiple BMPs may need to work together to protect an area**
  - Temporary Seeding may be needed along with Silt fences or silt checks.

- **High Porosity Silt Fence is a velocity control device, not a perimeter control**
The sediment basin at borrow site (Hwy 9) was not installed per the SWPPP. *NPDES permit Part III.A.4.*

- Update the Temporary Erosion Control Plan when BMP locations change
- Amend the SWPPP to include alternative installation details if deviating from the plans.
  - Manufacturer’s recommendations
Waste disposal practices were not implemented according to the SWPPP or NPDES permit on areas surrounding the Elkhorn River.

• Pick up trash and construction debris
• Maintain Concrete Washout Areas
• Manage track out onto public roads
Stabilization was needed on stockpile berms and in areas where activities had ceased temporarily or permanently. *NPDES permit Part III.F*

- Stabilize, stabilize, stabilize
- 18 acres clear & grub, 18 acres grading

<table>
<thead>
<tr>
<th>Technique</th>
<th>Longevity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope Tracking</td>
<td>From 1 Day To 30 Days</td>
</tr>
<tr>
<td>Temporary Mulch</td>
<td>1Day</td>
</tr>
<tr>
<td>Temporary Erosion Control Blanket</td>
<td>1 Day</td>
</tr>
<tr>
<td>Cover Crop</td>
<td>3 Weeks</td>
</tr>
<tr>
<td>Temporary Seeding (Hydromulch)</td>
<td>1Day</td>
</tr>
<tr>
<td>Permanent Seeding/Mulch</td>
<td>1 Day</td>
</tr>
<tr>
<td>Erosion Control</td>
<td>1 Day</td>
</tr>
</tbody>
</table>
Inspections were not conducted on the Scribner project during September 2021 per the NPDES permit requirements. NPDES permit Part III.J.

• Construction Stormwater Permit requires site inspections
  • Every 14 days and after 0.25” rain events
  • Increased frequency with new permit
  • Monthly during winter and establishment
• Have a backup plan
The SWPPPs do not clearly describe the planned controls and the general sequence during the construction process in which the measures will be implemented. NPDES permit Part III.B.2. and Part III.C.

- Construction Schedule
  - Include erosion and sediment control
- Pre-con Meetings
  - Discuss how temporary erosion control will be accomplished
- Partnering Meetings
  - What activities are coming up and how will we protect resources?
All support activities, such as borrow sites, were not included in the SWPPPs. *NPDES permit Part III.B.1. and Part III.B.2.*

- Amend the SWPPP and update the Temporary Erosion Control Plan as conditions change on the project.
- Inspect all staging and work areas within the ROW
- Inspect associated projects for BMP needs (Tree Topping contracts)
So what now?

- EPA Inspection Report was received January 6th.
- Learn from findings and continue implementing controls as required.
- Reach out to environmental for assistance.

The EPA is presently reviewing the findings of the report to determine your facility’s compliance with the applicable statutes, permits, or regulations. If it is determined that violations exist, the EPA reserves all rights it may have to take appropriate enforcement action.
Contact Info

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