

DESIGN SCENE



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Chapter 13 has been replaced with the following....

Chapter 13 – Seed Mix Number

By: Brett Troyer and Ken Graeve

A new number system has been developed to bring together both the MnDOT and BWSR seed mix numbering systems. These are now the standard numbering system for all users. New seed mixes have also been developed and are included for use. These are referred to in the 2014 seeding manual and in the 2014 spec book. The District Turf Establishment Recommendations have also been updated to show these mixes. Links to these documents are provided below. A cross walking table (Table 3) showing the old 3-digit numbers vs the new 5-digit numbers is located in the 2014 Seeding Manual (included below).

More information to aid in planning, design, and maintenance of roadside vegetation:

Information on planning your vegetation design, see the vegetation section of the Highway Project Development Process (HPDP) at:

<http://www.dot.state.mn.us/planning/hpdp/environment.html>

Information on designing and maintaining permanent roadside vegetation can be found here:

<http://www.dot.state.mn.us/roadsides/vegetation/index.html>

Also refer to the MnDOT Seeding Manual (2014 edition):

<http://www.dot.state.mn.us/environment/erosion/pdf/seedingmanual.pdf>

MnDOT Seedmix and turf establishment recommendations (2014 edition):

<http://www.dot.state.mn.us/environment/erosion/seedmixes.html>

For additional help selecting appropriate seed mixes for your project; contact the Erosion Control & Stormwater Management Unit or Roadside Vegetation Management Unit.

<http://www.dot.state.mn.us/environment/contactus.html>

Chapter 13 –Vegetative Cover Requirements

By: Brett Troyer and Ken Graeve

Be aware that the new MPCA NPDES Construction Stormwater General Permit (MN R 100001) has a change from previous versions in the vegetative cover required prior to closing out the permit. The previous permit conditions required 70% vegetative cover to be established, regardless of vegetation types. The new permit now requires 70% of the *expected* cover to be established prior to closeout. This small detail has a large impact on determining suitable permanent seed mix options. MPCA has recognized that some permanent vegetation types, such as grasses that will tolerate sandy soils aren't intended, nor were ever expected, to achieve 70%

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cover. This is also true of many of the native vegetation cover types in Minnesota. Rather than wait 3 or more years until maturity, (or bolster seed amounts as is commonly done now), we can now close out the MPCA permit when we reach 70% of the eventual expected cover at maturity.

Example: A project that utilizes of a permanent mix that is expected to reach 70% cover at maturity can be ‘closed out’ when that mix achieves 50% cover (70% of 70%, which is about 50%). This will reduce the focus on achieving 70% total cover for short term achievements, eliminate bolstering seed mixes to achieve 70%, and re-focus long-term benefits of other vegetation types, such as native vegetation options.

Table 3 from the 2014 seeding manual, with ‘expected final cover’ column added

TYPE	NUMBER	PLS Rate	NAME	REPLACES	Expected final Cover of Target Plant Community *
CoverCrop					
	21-111	100	Oats Cover Crop	MNDOT 110, BWSR UT1	95%
	21-112	100	Winter Wheat Cover Crop	MNDOT 100	95%
	21-113	110	Soil Building Cover Crop	MNDOT 130	95%
Mid-Term Stabilization					
	22-111	30.5	Two-year Stabilization	MNDOT 150	95%
	22-112	40.0	Five-year Stabilization	MNDOT 190	95%
Non-Native Grassland					
	25-121	61.0	Sandy General Roadside	MNDOT 240	90%
	25-131	220	Low Maintenance Turf	MNDOT 260	95%
	25-141	59	Mesic General Roadside	MNDOT 250	95%
	25-142	45	Agricultural Roadside	MNDOT 280	95%
	25-151	120	High Maintenance Turf	MNDOT 270	100%
Mid-term Stabilization Native					
	32-241	38	Native Construction	BWSR U12, BWSR U11	85%

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Stormwater Facilities					
	33-261	35	Stormwater South and West	MNDOT 310 & 328	90%
	33-262	44	Dry Swale / Pond	BWSR W4	85%
	33-361	35	Stormwater Northeast	BWSR W7, MNDOT 310 & 328	90%
Wetland					
	34-171	5.3	Wetland Rehabilitation	BWSR WT3	85%
	34-181	5	Emergent Wetland	BWSR W1	80%
	34-261	31.5	Riparian South & West	BWSR R1	85%
	34-262	14.5	Wet Prairie	BWSR W3, MNDOT 325	90%
	34-271	12	Wet Meadow South & West	BWSR W2	90%
	34-361	31.5	Riparian Northeast	BWSR R1	85%
	34-371	12.5	Wet Meadow Northeast	BWSR W2N	90%
Native Grassland					
	35-221	36.5	Dry Prairie General	MNDOT 330	75%
	35-241	36.5	Mesic Prairie General	MNDOT 350	85%
	35-421	11	Dry Prairie Northwest	BWSR U2	75%
	35-441	11	Mesic Prairie Northwest	BWSR U1	85%
	35-521	12.5	Dry Prairie Southwest	BWSR U4	75%
	35-541	12	Mesic Prairie Southwest	BWSR U3	85%
	35-621	11	Dry Prairie Southeast	BWSR U6	75%
	35-641	12	Mesic Prairie Southeast	BWSR U5	85%
Woodland					
	36-211	34.5	Woodland Edge South & West	BWSR U7	70%
	36-311	33.5	Woodland Edge Northeast	BWSR U13, BWSR U14	70%
	36-411	35.5	Woodland Edge Northwest		70%
	36-711	35.5	Woodland Edge Central		70%

Chapter 13 - Native Mixes

By: Brett Troyer, Ken Graeve, Peter Leete

There are many types of areas that can be identified for inclusion of native species in a project revegetation plan. These can be due to adjacent habitat, ecological significance or geological features in an area, or visual quality/aesthetics. Project design need not be all one type vs another. Projects may include some portions in native mixes, while others can be non-native.

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An example would be to have native mixes on the backslope and ditch bottom, while the inslope and/or median may be a mow-able non-native mix (mixes 25-XXX)

The use of native seed mixes should also be utilized for mitigation due to impacts regulated by other agencies, such as within DNR Public Waters (IE when a project requires a Public Waters Work Permit). In fact, this is a standard condition of the DNR General Permit to MnDOT for repair or bridges and culverts (GP2004-0001). The DNR may also require that native vegetation be utilized when projects run through or adjacent to DNR managed lands such as Wildlife Management Areas, Scientific & Natural Areas, Public Access, State Parks, State Forests, etc. Native vegetation suitable to the local habitat is also recommended when projects run through or adjacent to areas that include rare species, in areas identified as a Site of Biodiversity Significance, or in an Area of Environmental Sensitivity (AES). The DNR is not alone in these requirements. Use of native vegetation can come up in other regulatory compliance measures as well.

Chapter 13 - Sediment Control Standard Plan Sheets

By: Brett Troyer

Temporary Sediment control standard plan sheets are updated to reflect the 2014 Specifications for Construction, division II 2573 specifications. Refer to the [Standard Plans for Drainage and Erosion Control](#). Only use the sheets that pertain to the project and associated pay items.

Chapter 13 - Erosion Control Supervisor

By: Brett Troyer

Erosion Control Supervisor will be required on all MNDOT Projects when there are land disturbing activities or working in public waters. Method of payment for the erosion control supervisor is highlighted in the following table:

EROSION CONTROL SUPERVISOR

Description of Project	Method of Payment
Less than 1 acre land disturbance with minimal to moderate risk of impacts to resource waters. Duration of project 1 construction season. (examples include; projects more than 100 feet from public waters, culvert extensions, ADA, Signalization)	Incidental
1 acre or more of land disturbance with minimal to moderate risk of impacts to resource waters. Duration of project 1 construction season. (Examples include; landscape projects, mill and overlay projects, turn lanes, etc)	Incidental

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Less than 1 acre land disturbance with high risk of Impacts to resource waters. Duration of project 1 to two construction seasons (Examples include culvert replacements in streams, work on river/stream banks and shorelines, bridge work over public waters, etc.	Lump Sum
1 acre or more of land disturbance with high risk of impacts to resource waters. Duration of project 1 or more construction seasons. (Examples include; culvert replacements in streams, work on river/stream banks and shorelines, grading/surfacing, etc.)	Lump Sum
1 acre or more of land disturbance with low risk of impact to resource waters. Duration of project 1 to two construction seasons. (Examples include grading/surfacing in rural areas and no public water crossings)	Incidental/lump sum (Designers Discretion)

When the erosion control supervisor is incidental include in the construction notes the following; Erosion control supervisor is required for this project and will be incidental. Also include a standard boiler plate special provision (Specprov (2573) Erosion Control Supervisor).

Chapter 13 – Erosion Control Blankets

By: Y. Crocker

Erosion control blankets category 2, 3, and 4 have A and B sub categories. When using these items you should tab them as sub categories A and/or B and then have a total for the two sub categories.
