

Natural Resources Advisory Group
7.10.2024 Minutes
3:15 pm. City Hall Conference Room

Present:

I Approval of Minutes from 5/23/2024

II. Old Business

- A . Frank J. Kistler Memorial Park pollinator gardens and other plantings - status
- B. Blue Lake Canoe/Kayak Project - concrete is scheduled for June.
- C. Review of the Conservation Partners Legacy Grant project -update (City Council)
 - 1. Public outreach Stoney Point forestry mowing project
- D. Status of Trail Maintenance Guidelines. A draft of trail maintenance guidelines and considerations was reviewed to follow up with one of the outcomes from the April 3, 2023 trail maintenance meeting.
- E. Dog park status

III. New Business

- A. Prairie restoration sign installs and seeding
- B. Trail sign installs Eagles Bluff Park - Lions Project
- C. SHIP grant park entrance signs
- D. Native prairie vegetation establishment and enhancement guidelines
- E. other

V. Next Meeting

Natural Resources Advisory Group
5.23.2024 Minutes
3:15 pm. City Hall Conference Room

Present: Tyler Benish, Betsy Knowles, Marge Loch-Wouters, Jason Ludwigson, Ruth Nissen, Randy Urich

Guest: Steve Hoff

- I. Minutes from 4/25/2024 - approved.

- II. Old Business
 - A. Dog Park Update - currently waiting on final approvals from zoning to proceed.
 - B. Wagon Wheel Sign - completion is on hold until later in the year.
 - C. Garlic Mustard Pulling Efforts. Volunteers pulled garlic mustard on 5 different days for a total of 30 hours. The last day was April 29, at which point it was approaching seeding.
 - D. Frank J. Kistler Memorial Park pollinator gardens - The electric lines in the veteran planting in the park need to be marked. The dead vegetation has been removed and approximately $\frac{2}{3}$ of the plantings have been weeded. When that is complete, mulch needs to be spread.
 - E. Wagon Wheel Trail Usage - reviewed the counts provided by the counters in the ground for bikes, and on the post for pedestrians. This information will be made available on the city web page.
 - F. Blue Lake Canoe/Kayak Project - The dock is in and concrete is scheduled for June.
 - G. Migratory Bird Day - The date proposed by the banding team did not give us sufficient time to plan, so they used the date for an event at Goose Island instead. The hope is to schedule for next year.

- III. New Business
 - A. Review of the Conservation Partners Legacy Grant project - Discussed the forest mowing project on the Stoney Point property. The grant was reviewed at the recent Park and Rec meeting, and will be addressed at their next meeting. City Council will address the grant at a future meeting. Discussed if DNR Forester will be available to answer questions at meetings. The approximate timeline is to mow in November 2024, return in March/April, 2025 and 2026 for foliar spraying, and tree

planting in 2026 or 2027. Discussed ways to inform the public about the project - including the use of signs on location with a QR code linking to information on the city web page. As part of this grant, Horse Track Meadows will be inter-seeded.

- B. Trail Maintenance Guidelines. A draft of trail maintenance guidelines and considerations was reviewed to follow up with one of the outcomes from the April 3, 2023 trail maintenance meeting.

IV. Additional discussion

- A. Pine Creek Prairie Bluebird boxes - will be installed and maintained.
- B. LaCrescent will be a recipient of a MN GreenCorps Program member - This individual will work in La Crescent from September 2024 - August 2025. Their focus will be forestry, invasive species, and storm water drainage work.

V. Next Meeting July 10, 3:15 pm - City Hall Conference Room

Respectfully submitted, Betsy Knowles

#111 c.



LOGO 8-12



48"

Approved Approved with Changes (specify) Submit New Proof

Signature _____ Date _____

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REP GS DATE 2-12-24 VERSION : 1 DESIGN: JS

ITEM CAS #1 EasyCare ArmorSign Rinowood Black Forest Other

Frame Logo Laser Engraved Decal Poured color(s):

Panel TEXT Laser Engraved CNC (no pour) Poured color(s):

Logo Artwork Needed Shape/Symbol Artwork Needed



DRAWING 1394
CUSTOM SD24-585



Estimate

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 W184 S8425 Challenger Dr, Muskego, WI 53150
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 www.rinowood.com

Drawing #	DATE	ESTIMATE #
1394	2/28/2024	20626

Prepared For:
City of La Crescent Jason Ludwigson Sustainability Coordinator and SRTS Coord 507-313-9633

Ship To
City of La Crescent Jason Ludwigson Sustainability Coordinator and SRTS Coord 507-313-9633

DUE DATE	P.O. NO.:	TERMS	Custom #	REP
3/29/2024		50% Down - Balance Due Net 30	SD24-585	GS

QTY	ITEM	DESCRIPTION	OIL	COST	TOTAL:
1	CAS	Custom Armor Sign Color: White/Green/White .75" Armor Material Engraved Text: No resin pour "JOHN S. HARRIS PARK" 31.5" H x 48" W (+) Inlaid Decal logo 1" SQ. TUBING ON BACKSIDE QTY.2		682.00	682.00T
	Decal 8-12P	Vinyl Decal 8-12" placed on plastic		58.00	58.00T
	Shipping & Ha...	Shipping & Handling **TBD** *CHARGES BILLED ONCE FREIGHT IS WEIGHED & MEASURED* - Charges may vary based on actual weight / dimensions, fuel surcharges, and line haul rates - Lift Gate Service and Limited Access are additional fees if needed			

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	(0.0%)	\$0.00
	TOTAL:	\$740.00



Growing from River to Ridge

Native Prairie Vegetation Establishment and Enhancement Guidelines City of La Crescent

Project Site Preparation, Planting and Maintenance

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DRAFT



Site Preparation Methods

Herbicide Application or Solarization

Effective site preparation is essential to getting a conservation practice or restoration project off to a good start as well as for long term success. Primary goals of site preparation are to control weed species and to provide ideal growing conditions for the seed or plants to be installed. Site preparation methods vary depending on past uses of the site and the weed species that are present. Protecting microorganism populations and native seedbanks, preventing soil erosion, and managing weed establishment are all considerations during the site preparation process. In most cases, non-herbicide methods are preferred over herbicide intensive methods to protect aquatic organisms and soil microfauna, but herbicides may be the most efficient method of controlling large areas of some invasive perennial species.



Field prepared for broadcast seeding

Several chemicals being used for weed control, along with Glyphosate in Glyphosate-resistant crops, act as pre-emergent or post-emergent (designed to inhibit germination) and can inhibit native vegetation establishment from seed. Temporary cover crops (oats is most common) planted for one or two seasons can allow these chemicals to break down in the soil if they have been used.

If a site is in perennial weeds such as smooth brome, quack grass or bluegrass herbicide application is recommended, as tilling alone may re-suspend the rhizomes, allowing them to continue growing. For species such as reed canary grass and giant reed grass, combinations of mowing, herbicide application,

prescribed burning, and tilling (or possibly additional herbicide application) may be needed. The [Minnesota Wetland Restoration Guide](#) provides detailed management recommendations for a wide range of species.

For stormwater projects perennial weeds can often be dug with shovels or garden forks, making sure to remove all the rhizomes. Heavy mulches or clear plastic (solarization) have also been used as part of site preparation for small areas. When removing sod for raingardens, sod kickers, sod cutters or other mechanical equipment can be used to remove roots and weed seeds.

Seedbed Preparation

Methods that are used to prepare a seedbed can vary depending on the type of seeding equipment to be used. If a traditional native seed drill will be used, a smooth, firm seedbed is required. Some practitioners have found that broadcast seeding on a smooth



Harrowing to prepare for seeding

surface (not tilled or disked) leads to the establishment of higher diversity. It is important that the soil surface is not too hard packed, so cultipacking or light harrowing of fields before broadcast seeding may be needed. Seed can be lost on smooth surfaces, so it is recommended to seed into temporary cover crops or to roll sites after seeding.

For sites where containerized plants will be installed, a firm, weed-free surface is desirable to aid planting efforts and to ensure that soil will not bury seedlings after rainfall. For raingardens, shredded hardwood mulch is often applied before planting containerized plants to prevent compaction of the soil during planting.



Raingarden where mulch has been applied before planting to prevent compaction
Photo: Metro Blooms

Herbicide Application or Solarization

Planting Considerations

Seed Mixes

Seed mixes for projects can include seed collected from the project site, or nearby natural areas, State seed mixes, private vendor mixes, or custom mixes developed for site conditions. State seed mixes have been developed for a variety of project types including wetlands, prairies, forest edges, roadsides, riparian areas, and stormwater treatment systems. These mixes have been designed to increase diversity, create competition for invasive species, and promote plant community resiliency. Single-species cover crops are not recommended in addition to permanent state seed mixes, as they already contain oats or winter wheat (depending on the season of planting).

Native seed vendors in Minnesota are listed on the following DNR website:
<https://www.dnr.state.mn.us/gardens/nativeplants/suppliers.html>



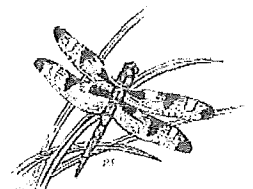
Wetland grass, forb, sedge and rush seeds

Temporary Cover Crops and Mulch

The use of short-lived temporary cover crops helps stabilize project sites and minimize the need for additional mulch when preparing to plant native seed mixes. They can also provide time to observe weed problems and to allow for proper weed control before fall seeding. If cover crops are seeded at the same time as the native species, they can act as a germination indicator, since they grow faster than the native species and show that the seeding was successful. Perennial species are discouraged as temporary cover crops, as they require herbicide application before conducting seedbed preparation and seeding.

Planting Dates

Spring seeding is generally favored for native grass establishment, while fall seeding is often favored for planting forb, sedge, and rush seed to allow winter conditions to naturally break seed coats. Fall dormant seeding should be conducted **after November 1st in the southern half of the state**, and before the soil freezes. Dormant seeding or frost seeding (seeding into a few inches of snow) can also aid the establishment of forbs and sedges in uplands where grasses can become more dominant with spring plantings. Dormant seeding is also beneficial for pollinator projects with a high



percentage of forbs if hydrology will be restored in the fall, as it may be difficult to access the site after spring snowmelt. It is common to conduct dormant seeding shortly before snowfall to ensure that seed is not lost to wind, birds or rodents.

Containerized plants, vegetated mats, and bare root plants are most often planted in the spring when there is adequate rainfall and soil moisture, but fall plantings can also be successful. Containerized trees and shrubs can also be planted in late fall, before the ground freezes, but frost heave is sometimes a problem in high moisture areas.

The table below summarizes preferred seeding and planting dates for different types of seed and plants.

Planting Date Guidance for Restoration & BMP Projects

Table 3-1. Seeding - Recommended Dates/Vegetation Type

Seed Type	Spring/Early Summer	Mid-Summer	Early Fall	Mid-Fall	Late Fall (Dormant Seeding)	Frost Seeding
	May 15 - Jun 30	Jun 30 - Aug 1	Aug 1 - Sep 10	Sep 10 - Oct 15	Nov 1 - Frozen Soil (see note about soil temp.)	Feb 15 - April 7
Warm-season Prairie Grasses and Forbs	High Success	Low Success	Low Success	Low Success	Medium Success	Medium Success
Prairie Sedges and Forbs	Medium Success	Low Success	Low Success	Low Success	High Success	High Success
Oats Temp. Cover	High Success	Low Success	Low Success	Low Success	Low Success	Low Success

Table 3-2. Plant Installation - Recommended Dates/Vegetation Type

Plant Type	Early Spring	Late Spring	Mid-Summer	Early Fall	Mid-Fall	Late Fall (Dormant Planting)
	Green-up- May 15	May 15 - June 30	Jun 30 - Aug 1	Aug 1 - Sep 10	Sep 10 - Oct 15	Nov 1 - Frozen Soil (see note about soil temp.)
Containerized Prairie	Medium Success	High Success	Low Success	Low Success	Medium Success	Not Recommended

Expected Success Rates:

High Success
Medium Success
Not Recommended
Low Success

Note: Late fall dormant planting can be conducted earlier if National Weather Service soil temperature data is showing a consistent soil temperature below 40 degrees F for cool-season grasses and legumes or below 50 degrees F for native warm season grasses, forbs and legumes.

Seeding Considerations

Spring/Summer Seeding: Spring and summer tends to be the best season for grass establishment. Forbs such as rose milkweed, anise hyssop, lanceleaf coreopsis, wild bergamont, golden alexanders, yellow coneflower, and butterfly weed do well with spring seedings. Forbs and sedges that require a winter for stratification tend to do better with fall planting but when planted in the spring can sit dormant for a season until they are ready to germinate.

Fall Dormant Seeding: In southeast MN dormant seeding should take place after November 1st. It is important that conditions will be cold enough to prevent germination right before winter. It is also

common to wait until shortly before snowfall to prevent the loss of seed from wind, birds and rodents. Fall dormant seeding is commonly done when forbs, cool-season grasses and sedges are a primary goal for a project. Fall dormant seeding and winter seeding typically should not be conducted in areas where there will be flowing or standing water in the spring as seed may be lost.

Snow Seeding: Snow seeding is conducted during early or late winter when there is less than a foot of snow, and on sunny days when seed can move to the soil surface. This technique has been successful for a wide variety of species types.

Cover/Companion Crop Use: Cover crop species should be planted with native seed mixes. Oats (*Avena sativa*) should be used in spring or summer, and winter wheat (*Triticum aestivum*) in fall. If a project is focused on stabilization and slopes are between 5-10%, cover species should be increased by 35 pounds per acre. If slopes are more than 10%, cover species should be increased to 56 pounds per acre.

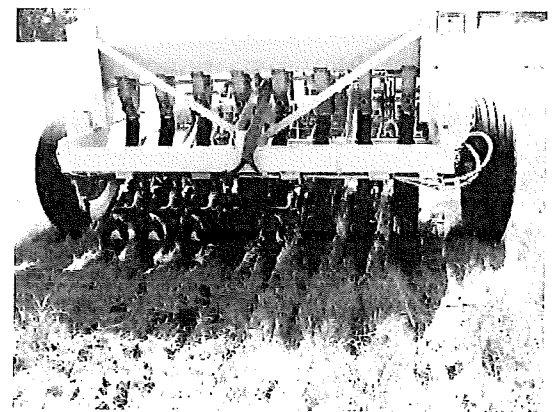
Plant Installation Considerations

Plant Condition: It is important to ensure that containerized plants are fully rooted into containers prior to planting, that pre-vegetated mats delivered for projects have well established and diverse vegetation, and that herbaceous, and woody bare root plants (and cuttings) are stored in optimal conditions prior to planting. It is also important that **seed is stored in climate-controlled conditions prior to use.**

Weather Conditions: Weather conditions during a season can influence the ideal planting dates for vegetation. Planting dates may need to be adjusted based on drought conditions or extreme rainfall that can cause water levels to fluctuate or cause flooding.

Prairie, Savanna and Woodland Edge Seeding

Upland prairies, savannas and woodland edges are most often restored through the installation of seed. A variety of seeding equipment is used for upland seeding including broadcast seeders, traditional native seed drills, no-till drills, Brillion seeders and Trillion seeders. Specialized no-till grass drills are designed to handle a wide variety of seed (fluffy, smooth, large and small) and low seeding rates. Since no-till drilling can plant directly into a light stubble layer, this method reduces erosion on the newly seeded site. **Conventional grain drills are not capable of handling diverse seed sizes and are unlikely to provide satisfactory results.** While no-till native seed drills can plant through light stubble, success is still likely to be greatest when most excess residue is removed.



Native seed drill

Seed mixes should be chosen that will be suited to the soils and hydrology of the site. Seed mixes are available from native seed vendors and site-specific seed mixes can also be developed. It is important to consider project goals when selecting species for projects, and determining the percentage of individual

species in a mix. It can be helpful to overlap upland and wetland mixes a few feet to ensure successful establishment in areas where hydrology levels are unpredictable.

Upland Plant Installation

Similar to aquatic plants, prairie plants can be installed from containers. Containers are typically used for species that do not establish well, or quickly, from seed (liatris, lilies, butterfly milkweed, etc.), and for species where little seed is available. The number of containerized plants used for projects often depends on project budget. For raingardens, biofiltration areas and many other conservation practices it is common to use containerized plants instead of seed to ensure rapid establishment and a predictable spacing and distribution of species, adding to an ordered appearance. Containerized plants are commonly planted in late spring after plugs have a chance to mature. Some plantings are also conducted in the fall. It is important that plants will not have too much weed competition and are well-watered. In the summer months during the first year, new plantings require 1 inch of water per week, either by rainfall or by supplemental watering. If drought conditions occur during the second year, supplemental watering may also be required. Flags may be needed for large areas to mark the location of plants and aid watering efforts.

Inter-seeding

Inter-seeding is most effective in stands where grass is not overly dominant. Forbs and grass species can be inter-seeded. Forbs are generally broadcast seeded while grasses are commonly drilled. Individual species and seeding rates should be selected based on existing vegetation, site needs and project goals.



Site preparation generally involves the removal of thatch through burning or haying to provide light for seedlings. Alternative methods are to cultivate nodes or use solarization with plastic within larger areas for seeding. A year or longer may be needed for site preparation if perennial weeds are dominant.

Inter-seeding into non-native grasslands: Converting non-native grasslands may require combinations of tilling and herbicide application to prepare for seeding. In some cases, inter-seeding can be successful without tilling, particularly when existing vegetation is not vigorous due to sandy soils or other factors. Several herbicide applications, or combinations of herbicide and tilling may be conducted before seeding occurs. **Repeated mowing at six to eight inches during the first two years can be important to aid seedling establishment; prescribed burning in future years can aid establishment of native vegetation.**

Inter-seeding into reconstructed native prairie: In reconstructed prairie (fields converted to prairie) inter-seeding is most often conducted after a prescribed burn. Forbs are commonly broadcast in the fall or late winter to increase diversity. Species with larger seed such as grasses can be drilled with a no-till drill. **Repeated mowing at six to eight inches is recommended during the first year to allow light for seedlings. Mowing into the second season may also be beneficial.**

Timing: Inter-seeding should be timed to correspond to site-preparation methods. The installation of forb seed is commonly conducted in late fall or late winter. Seeding during these times of year provides time for forb seeds to be stratified (break dormancy). Inter-seeding can be conducted in spring or early summer, but some type of packing or dragging is beneficial. A potential strategy is to broadcast forb seed followed by seeding grasses with a seed drill that is equipped with a roller that can enhance establishment by promoting seed to soil contact.

During the first two years after inter-seeding, burning should be avoided to prevent damage to seedlings. Mowing is an important method to promote seedling establishment and growth after inter-seeding. **Frequent mowing (bi-weekly if possible) to a plant height of 6-8 inches is recommended for two seasons in non-native grasslands and restored/reconstructed native prairie.**

Monitoring the success of inter-seeding efforts is important to better understand the effectiveness of restoration methods and to guide future efforts.

Seeding Forb Diverse Mixes for Pollinator Habitat

Pollinator seed mixes typically include greater than 30% forbs by seed count for large areas and over 50% for smaller pollinator plots/zones of a few acres in size. It is important **to thoroughly control weeds before seeding through methods that will decrease the weed seedbank.** It is a best practice to broadcast seeding or seeding with a native seed drill should be conducted followed by rolling to improve seed to soil contact and prevent erosion.



Native bee on wild bergamot

Project Maintenance

Proper site maintenance is essential to ensure the success of a restoration project, particularly during the establishment period. A schedule summarizing planned maintenance activities each month is helpful to guide project managers. It is also helpful to have information in vegetation management plans about problematic weed species that may establish at a site, as well as details about how they will be controlled. Some species may respond better to certain management methods, so using IPM, or “all the tools in the toolbox,” will be most effective over time. In general, mechanical or bio-control options should be considered before herbicide methods to limit damage to aquatic organisms and pollinators that may be using the restoration project. However, there are cases where herbicide application will be the most efficient method of removing some perennial invasive species.

Mowing/Cutting

Mowing is an important step in the establishment of upland prairie restoration sites. **Mowing at least twice the first season and at least once the second season with a flail mower or stalk chopper (to prevent smothering plants) is needed to decrease competition and to provide sufficient sunlight for seedlings. Weeds should be mowed to between five and eight inches before seed is allowed to set (usually as weeds reach 12-14 inches).** Mow the site whenever growth reaches 10 to 14 inches. Mowing height should be raised as native plants establish. The timing and frequency of mowing should be planned to allow sufficient light to reach native plant seedlings and preventing weed seed production. **Sites with low weed competition due to sandy soils or other factors may not need mowing.**



ATV used to mow Canada thistle before flowering

Hand Weeding

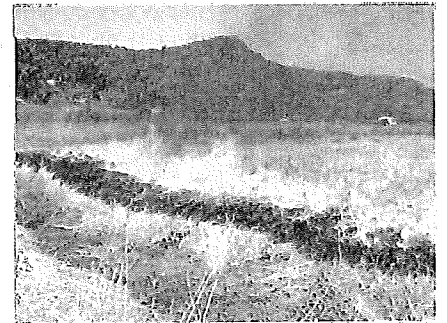
Hand weeding can be an effective method of controlling small populations of weeds, or for weed management for conservation projects. For rain gardens and biofiltration areas hand weeding may be more effective (and more desirable in some cases) than using herbicides. Hand weeding should be done when soils are moist and care should be taken to avoid disturbing the root systems of desirable plants. Soil pulled up with the weed should be knocked off and placed back on the ground, covering the hole left by the pulled weed to prevent

the introduction of additional weeds. It is also important that proper pulling technique is used to avoid injury. If weeds are not producing seeds, they can sometimes be left in place to act as mulch.

Burning

Prescribed burning is beneficial to remove thatch, control invading woody and invasive plants in wetlands, prairies, and savannas, fertilize the soil with ashes, stimulate seed germination and new plant growth, and increase diversity in plantings. Some practitioners feel that burning may increase reed canary grass in wet meadow plantings where the species is a threat, likely due to added nutrients and light levels promoting germination (fall burning may have less benefit for invasive species). Other rhizomatous species may also be stimulated by burning, so other management methods (e.g., herbicide application, grazing or mowing) may be needed after burning. **Burning is typically initiated after the third or fourth years of establishment, after native vegetation is reaching maturity.**

Uplands benefit from burning every three to five years. **Fall and spring burns should be alternated periodically to simulate natural variation.** Burn plans are needed to define the details of how the burn will be conducted, who will be involved and for contingency planning.



Prescribed burning to control woody plants in a wetland restoration

Spot Treatment of Weeds

Problematic perennial weeds that cannot be managed effectively with other methods may require spot treatment with herbicide for sufficient control. Examples include reed canary grass, smooth brome, quack grass, purple loosestrife, Canada thistle, Kentucky bluegrass, crown vetch, and birds-foot trefoil. In some cases, site-level herbicide treatment is avoided during the first or second year of establishment to avoid impacts to seedlings but spot treatments can be used to control some weeds before they have a chance to spread. A common practice for Canada thistle control involves clipping seed heads while they are in the bud stage



Spot herbicide treatment of reed canary grass

(usually early June) and applying a broad-leaf specific herbicide in the fall (mid to late October). This timing limits the application of herbicide while pollinators are active.

When using broad-spectrum herbicides and surfactants it is important that aquatic safe forms are used near open water. **Herbicide labels must be followed and certified applicators must conduct the treatment.**

Woody Tree Control

Tree and woody brush control is often needed in restoration of prairie and open wetland plant communities. Tree control in the prairie region of Minnesota is a common practice to improve habitat for ground nesting grassland birds. **Methods of control include prescribed burning; mowing/cutting; mowing/cutting followed by stem herbicide treatment or basal herbicide treatment; foliar herbicide treatment; and hand-weeding.** The method that will be most effective in a certain situation will depend on site conditions, size of woody plants, density and timing. Prescribed burning in the fall and mowing with a flail type mower (leaving the cut surface rough vs. a clean cut) in late summer are generally the most cost-effective methods for smaller trees and shrubs.



Cottonwood treated with herbicide

Establishment Tables

Spring Establishment

Establishment	Herbicide Application or Solarization	Till or Disk	Broadcast Seeding (include cover crop Oats)	No-Till Grass Drill Seeding
	April 15 th – June 1 st	Minimum 1 week after herbicide application	May 15 th – June 30 th	May 15 th – June 30 th
Year 1	Mowing		Spot Treatment of Weeds	Hand Weeding
	2 times at highest possible height (June and August)		As needed – site by site basis	As needed – site by site basis
Year 2	Mowing		Spot Treatment of Weeds	Hand Weeding
	1 time at highest possible height (June)		As needed – site by site basis	As needed – site by site basis
Year 3	Mowing or Prescribed Burn		Spot Treatment of Weeds	Hand Weeding
	From time snow melts to May 1 st			
Beyond Year 3	Mowing or burn		Spot Treatment of Weeds	Hand Weeding
	Spring or fall		As needed	As needed

Fall Dormant Seeding

Establishment	Herbicide Application or Solarization	Till or Disk	Broadcast Seeding (include cover crop Oats)	No-Till Grass Drill Seeding
	April September 1 st – September 31 st	Minimum 1 week after herbicide application	After November 1 st	After November 1 st
Year 1	Mowing		Spot Treatment of Weeds	Hand Weeding
	2 times at highest possible height (June and August)		As needed – site by site basis	As needed – site by site basis
Year 2	Mowing		Spot Treatment of Weeds	Hand Weeding
	1 time at highest possible height (June)		As needed – site by site basis	As needed – site by site basis
Year 3	Mowing or Prescribed Burn		Spot Treatment of Weeds	Hand Weeding
	From time snow melts to May 1 st			
Beyond Year 3	Mowing or burn		Spot Treatment of Weeds	Hand Weeding
	Spring or fall		As needed	As needed