Appendix C

Vegetation Management Plan

PRELIMINARY VEGETATION MANAGEMENT PLAN

Snowshoe Energy Storage Project

Olmsted County, Minnesota

OCTOBER 3, 2024

PREPARED FOR:
Snowshoe BESS, LLC

spearmint energy

PREPARED BY:

Westwood

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Preliminary Vegetation Management Plan

Snowshoe Energy Storage Project

Olmsted County, Minnesota

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1.0 Introduction

Snowshoe BESS, LLC (Snowshoe BESS or Applicant), a wholly owned indirect subsidiary of Spearmint Renewable Development Company, LLC (Spearmint Energy), proposes to construct and operate the Snowshoe Energy Storage Project (Project), a battery energy storage system (BESS) with a nominal power rating of up to 150 megawatt (MW) alternating current (AC) with approximately 600 megawatt-hours (MWh) of energy capacity in Kalmar Township, Olmsted County, Minnesota (Figure 1). In addition to battery energy storage enclosures, the Project will consist of inverters and transformers, electrical feeder lines, a tap line, a substation, a potential operations and maintenance (O&M) facility, storage and parking areas, access roads, fencing, and other minor equipment and subcomponents as are typical of a BESS project.

Snowshoe BESS has prepared this Preliminary Vegetation Management Plan in support of the Site Permit Application (Application) to the Minnesota Public Utilities Commission (Commission or MPUC) for a Site Permit for an Energy Storage System (ESS) pursuant to the Minnesota Power Plant Siting Act (Minnesota Statutes [Minn. Stat.] Chapter 216E) and Minnesota Administrative Rules (Minn. R.) Chapter 7850. This Preliminary Vegetation Management Plan (Plan) is provided as part of the Site Plan Application for MPUC review to address revegetation following construction for the Project site for granting of the Site Permit, which is the only land use approval needed for construction of the Project (Minn. Stat. § 216E.10, subd. 1).

Snowshoe BESS, LLC has contracted Westwood Professional Services, Inc., (Westwood) to develop this Preliminary Vegetation Management Plan (VMP or Plan) to guide site preparation, installation of prescribed seed mixes, management of invasive species, and erosion and sediment control.

2.0 Project Description

The Project is located in Kalmar Township, Olmsted County, Minnesota. The Project is generally located 3 miles east of the Town of Byron and 6 miles west of the city of Rochester and is immediately adjacent to the north of U.S. Highway 14, though there is no access from U.S. Highway 14 into the Project Area and a significant existing vegetative buffer exists between the Highway and the Project Area. The Project Area is located on slightly rolling fields conducive to BESS facility development and immediately east of Northern States Power Company's (doing business as Xcel Energy) existing Tap 139572 to the Maple Leaf 69 kilovolt (kV) transmission line (Figure 2).

Based on the preliminary site plan, the Project is expected to occupy 22.9 acres (Preliminary Development Area) of the Project Area and includes the gravel pad containing permanent Project infrastructure in addition to the stormwater management ponds, proposed grading areas, access road connection to the existing Southern Minnesota Municipal Power Agency road, and parking and storage areas external to the fence line. As further described herein, references to the Preliminary Development Area applies to the area hosting battery energy storage facilities and associated systems located within the overall Project Area, as well as the access point extending beyond the Project fence line to the existing SMMPA access road. Project facilities and systems will include a Project substation, BESS pad (housing batteries, inverters, and skid-mounted medium voltage transformers),

an overhead 161 kV tap line connecting the facility to the existing SMMPA-Maple Leaf Substation (Project Tap Line), a potential O&M facility, access roads, storage and parking areas, a temporary construction laydown yard, and fencing. Figure 2 depicts both the alternative access corridor proposed for the Project, and the preferred access to the Project using the existing SMMPA access road.

The Project will interconnect to the existing SMMPA-Maple Leaf Substation via a bi-directional 161 kV tap line. The Project substation and associated infrastructure will be permitted, constructed, and owned by Snowshoe BESS

3.0 Plan Goals

Snowshoe BESS is committed to implementing the Plan during construction and operation of the Project within the entire Project Area. Areas not disturbed by Project construction and operation within the Project Area will be managed as needed by Snowshoe BESS. The overall goal of this Plan is to establish a sustainable, diverse, perennial ground cover throughout the Project Area. The purpose of this Plan is to lay out a clear strategy for site preparation, seeding, planting methods, and the process and timeline for successful vegetation establishment. The Plan also outlines the long-term maintenance and monitoring necessary to contribute to the long-term success for the Project.

Specific goals of this Plan include:

- Maintain compliance with permit requirements regarding revegetation after construction of the Project Area.
- Improve and maintain soil health so that Project lands may be returned to productive agricultural land use, or other uses as determined by the landowner, after Project decommissioning.
- Develop and install perennial seed mixes that support the following objectives:
    - Increase biodiversity with the selection of native species.
    - Select species adapted to site specific environmental parameters including soils, drainage, and local climate, and compatible with function and operation of energy production equipment and facilities.
    - Improve water quality through reduced run-off and increased infiltration on site.
    - Increase carbon sequestration.
- Create a long-term monitoring and maintenance plan so desired vegetation is maintained across the Project site for entirety of its operational lifespan.
- Be compatible and compliant with Minnesota Pollution Control Agency (MPCA) Construction Stormwater General Permit the Project Stormwater Pollution Prevention Plan (SWPPP) and associated storm water management permit requirements during construction and operation of the Project. This Plan supplements, and does not replace, guidance provided in the SWPPP.

4.0 Existing Conditions

4.1 Existing Land Use Land Cover

According to the Natural Resources Conservation Service (NRCS) Land Resource Region and Major Land Resource Area (MLRA), the Project Area is located within the northern part of the Central Feed Grains and Livestock Region. This MLRA is in the northern part of the Upper Mississippi River bedrock-controlled uplands and valleys and is characterized by native tallgrass prairies, deciduous forests, and river floodplains.[1] The Central Feed Grains MLRA is generally level, agricultural land with wooded areas.

The Rochester Plateau Subsection is located in the southeastern corner of Minnesota and consists of an old plateau covered by windblown silt (loess) along the eastern border and pre-Wisconsin age glacial till in the central and western parts. The western portion is a gently rolling glacial till plain that is covered by loess in places. Fire was the most common natural disturbance before settlement and was important to the wellbeing of upland prairie and oak savannah communities. Causes of recent disturbances include tornadoes and ice storms. Pre-settlement vegetation was primarily tallgrass prairie and bur oak savanna. Currently, the predominant land use in this subsection is agriculture; there are few remnants of pre-settlement vegetation remaining.[2]

Land use in the area is dominated by agricultural fields (predominately corn, pasture, and soybeans planted in row crops) with scattered rural residences. There are no wetlands, waterbodies, or flowlines mapped within the Project Area. A total of four land cover types were identified and mapped within the Project Area (Figure 3). The predominant land cover in the Project Area is cultivated herbaceous vegetation (26.70 acres), followed by deciduous shrubland (0.35 acre), medium-tall grassland (0.05 acre), and partial imperious cover with perennial grasses (0.07 acre) (Table 1).[3]

Table 1: Minnesota Land Cover Classification within the Project Area

Land Cover Type[1]	Area (Acres)	Percent of Total
Cultivated Herbaceous Vegetation (Agriculture)	26.7	98.25
Deciduous Shrubland	0.35	1.30
26%-50% Impervious Cover with Perennial Grasses	0.07	0.26

[1] United States Department of Agriculture (USDA) NRCS. 2022. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin (available at https://www.nrcs.usda.gov/sites/default/files/2022-10/AgHandbook296_text_low-res.pdf)

[2] MNDNR. n.d.-a Rochester Plateau Subsection (available at https://www.dnr.state.mn.us/ecs/222Lf/index.html#:~:text=The%20west%20boundary%20consists%20of,%2Dblown%20silts%20(loess)) Accessed July 2024.

[3] MNDNR. 2004. MLCCS (available at https://www.dnr.state.mn.us/mlccs/index.html#:~:text=The%20Minnesota%20Land%20Cover%20Classification,cover%20rather%20than%20land%20use) Accessed July 2024.

Medium – Tall Grassland	0.05	0.18
Totals	27.17	100.0

4.2 Soils

The Soil Survey of Olmsted County indicates that the soils of Olmsted County are primarily deep dark colored soils formed in silty glacial lacustrine sediments and loamy glacial till.[4]

The soils within the Project Area are typically silt loam soils with a small amount of silty clay soils that are suited for the existing agricultural production when drained, as indicated in (Table 2). The Project Area has rolling topography, which is consistent with the current row-crop agricultural production. A small area of predominantly hydric soil is present in the northeast corner of the Project Area (Figure 4). Depth to the water table within the Project Area ranges from 0–50 feet, with an average depth of 20–30 feet to the water table.[5]

Table 2: Soils within Project Area

Map Unit Symbol	Map unit name	Farmland Classification	Hydric Rating[1]	Acres
285C	Port Byron silt loam, 6%–12% slopes, moderately eroded	Farmland of statewide importance	Non-Hydric	11.8
401B	Mt. Carroll silt loam, 2%–6% slopes, moderately eroded	All areas are prime farmland	Non-Hydric	5.0
203	Joy silt loam, 1%–4% slopes	All areas prime farmland	Predominantly Non-Hydric	3.3
N518B	Lindstrom silt loam, 2%–6% slopes	All areas are prime farmland	Non-Hydric	3.2
322C2	Timula silt loam, 6%–12% slopes, moderately eroded	Farmland of statewide importance	Non-Hydric	1.9
176	Garwin silty clay loam	Prime farmland if drained	Predominantly Hydric	1.8
TOTAL				27.0

[1] The Hydric Rating is based on the composition of hydric components of a soil unit. The five classes are Hydric (100% hydric components), Predominantly Hydric (66%–99% hydric components), Partially Hydric (33%–65% hydric components), Predominantly Nonhydric (1%–32% hydric components), and Nonhydric (less than 1% hydric components).

Most of the soil types are classified as non-hydric (22.1 acres). The remaining soils are classified as predominantly non-hydric (3.3 acres) and predominantly hydric (1.8 acres).

[4] Soil Survey Staff, USDA NRCS. 2019. Web Soil Survey, Olmsted County, Minnesota (available at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

[5] Natural Resources Research Institute. 2024. Minnesota Natural Resources Atlas, Water Table – Depth (available at https://mnatlas.org/gis-tool/?id=k_0279) Accessed July 2024.

4.3 Hydrology

With the rolling hills of the Project Area, runoff from storm events will run off site. No mapped rivers, streams, lakes, or Minnesota Department of Natural Resources (MnDNR) Public Waters are within the Project Area (Figure 5). The nearest Public Waters Inventory (PWI) waterbodies include: Cascade Creek located approximately 1.6 miles south of the Project Area; and an unnamed tributary of Cascade Creek (M-034-071-002-001) located approximately 0.6 mile northeast of the Project Area. The Project is located in the Zumbro River (HUC 07040004) watershed.

The wetland delineation identified no wetlands, ephemeral streams, intermittent streams, or perennial streams within the Project Area (see Figure 6).

4.4 Topography

The Project Area is located in a rural, rolling, agricultural setting. The topography of the Project Area is generally level to gently rolling topography with elevations ranging from 1,139 to 1,205 feet above sea level (Figure 6). The western portion is a gently rolling glacial till plain that is covered by loess in places. Depth of drift over bedrock in this subsection varies from 100 to 200 feet in the west to 10 to 100 feet in the east, and soils are made up of predominantly loess soils with thicknesses varying from one foot up to 30 feet.

5.0 Vegetation Establishment and Management During Construction

The following sections describe vegetation activities conducted during construction.

5.1 Site Clearing, Grading, and Vegetation Removal

Preparation for construction of the Project will require some amount of vegetation removal and grading and will occur in accordance with the Best Management Practices (BMPs) in the SWPPP. Approximately 26.7 acres of planted or cultivated vegetation currently exist within the Project Area. The entirety of the Preliminary Development Area, 22.9 acres, will be converted from existing agricultural use to energy storage use for the life of the Project. Preliminary design of the Project avoids any tree clearing; therefore, the Project will not impact forested land.

Grading impacts will primarily be from construction of foundations for the Project substation, BESS, O&M facility, laydown yard, stormwater basin areas, and access roads.

Based on the final Project design/engineering/construction plans and in accordance with the SWPPP, the limits of disturbance will be surveyed and marked in the field if needed.

Erosion and sediment control devices will be installed in advance of grading activities and will be maintained throughout grading and stabilization according to the SWPPP, storm water management permit, and associated BMPs developed for the Project.

As discussed above, the current topography is conducive for the placement of BESS and associated equipment and electrical facilities, but some grading earthwork for site preparation or improvements is required. Where grading is necessary, it will occur after installation of principal erosion and sediment control devices as required by the SWPPP. The contractor will avoid mixing or contaminating topsoil with subsoils. Topsoil will be stripped, portions needed for revegetation will be stockpiled, and properly maintained by BMPs separately from subsoils and reapplied during final grading for vegetation establishment. The balance of the topsoil, with the permission of the landowner, will be spread in appropriate locations in adjacent agricultural lands. Stockpiled soils will be temporarily stabilized with an acceptable means for such stabilization; acceptable means will be described in the SWPPP.

Drainage patterns from the Project Area will remain similar to pre-developed conditions, with a majority of the site draining via sheet flow to existing drainage ditches or swales bisecting large contiguous portions of the Project Area. According to the current landowner, none of the agricultural fields within the Project Area are known to contain field drain tiles. In the event drain tiles are discovered and damaged during construction, they will be repaired to the extent necessary to maintain drainage on adjacent non-participating property.

Portions of the Project Area outside the fenced BESS areas and surrounding other Project facilities that will not be graded will remain vegetated where applicable. Snowshoe BESS will evaluate the currently well vegetated area not planned to be utilized for Project facilities or impacted during construction to determine whether a different vegetation mix may be beneficial for the Project. Most of the Project Area is cleared of vegetation due to a history of agricultural uses on the property. The Project Areas are mainly situated on cleared agricultural land (Exhibit 2).

5.2 Invasive Species Management

Invasive and weed species management will be conducted as needed to reduce the spread of invasive species from existing populations into adjacent agricultural lands, improve establishment and success of the permanent seed mixes, and reduce vegetation impacts to the BESS facility and infrastructure.

State and federal law define noxious weeds as non-native plants that displace or out-compete native plants for soil moisture and degrade natural habitat. The MnDNR divides noxious weeds onto three (3) separate lists.[6] Included in this report is both List A and B (Figure 8):

- List A – prohibited eradication
- List B – prohibited control and management
- List C – restricted

[6] Minnesota Noxious Weeds. January 2023. Minnesota Department of Transportation (available at https://files.dnr.state.mn.us/eco/invasives/noxious-weeds.pdf) Accessed September 2024.

The overall goal for the site is the prevention and management of noxious weed populations from growing/recurring onsite. Throughout this Plan there will be several terms used to describe the different management methods. Eradication means to eliminate entirely from a site. Control means extensively managing an in a way that prevents spread of these species by seed or vegetative means. Suppression means reducing a noxious weed-infested area as well as curtailing the noxious weed's ability to spread to surrounding areas.

Properly controlling and reducing noxious weed species onsite will be done utilizing BMPs, which may include the following:

- Minimizing traffic into and out of areas onsite with invasive and noxious weeds.
- Supervising the Property to identify weeds prior to becoming a substantial problem onsite.
- Cleaning vehicles and equipment after moving through known noxious weed areas.
- Allowing native plant populations to grow and infill to help reduce noxious weed growth.

The site should be monitored throughout construction for noxious weeds. Materials and equipment being brought onsite need to be inspected preceding application to ensure that they are noxious weed-free. Revegetation activities are to be implemented in a timely manner to reduce the opportunity for noxious weeds to reestablish.

5.3 Herbicides

Depending on the site conditions, a non-selective herbicide such as a Glyphosate may be used to prepare the seedbed. Broadleaf or grass-selective herbicide may be used depending on need. Application method will be reviewed to determine whether low volume/spot application or broadcast applications are appropriate. Some additional considerations include target species, vegetation density or composition, and site evaluation including sensitive surrounding areas, projected precipitation, or winds.

Herbicide treatments will be performed by individuals with a current Commercial Pesticide Applicator certification and license issued through the Minnesota Department of Agriculture, and in accordance with all applicable laws, regulations, and herbicide label instructions.

5.4 Temporary (Annual) Seeding

Temporary seeding shall be applied for all areas of disturbance intended to remain pervious and in accordance with the SWPPP. Additional areas where temporary seeding may be applied include topsoil stockpiles and non-structural soil material. Multiple applications will be necessary during the construction process to meet the requirements of temporary stabilization.

6.0 Vegetation Installation

The main goal of site preparation is to provide or create favorable growing conditions for seed to be installed. It will be essential to control invasive species after planting, along with erosion and sediment control, and preserving areas not meant to be disturbed.

The following section describes site preparation tasks that may be conducted prior to the installation of the permanent seed mixes. All site preparation activities shall maintain compliance with the SWPPP and Project storm water management permit.

The permanent seed mixes have been customized to be compatible with the Project Area and adapted to the site environmental conditions. The proposed seeding plan for areas within the Project Area is provided in (Figure 10).

6.1 Seed Bed Preparation

Prior to application of the seed mixes to the Project Area, the seed bed will be prepared to encourage successful propagation and survival of the desired plants in the Project Area. To prepare the site for effective seeding, any invasive species (Section 5.2) located within the area to be seeded should be treated with an approved herbicide (Section 7.1).

An adequate seed bed will be prepared using a disc, field cultivator, or chisel plow (or equivalent). Seedbed preparation will be based on seeding methods and species planted. Tillage and equipment operations related to seeding and mulching will be performed in a manner to minimize soil erosion.

As part of seed bed preparation, some soil decompaction measures may be needed, based on final site plans and construction sequencing. If decompaction is needed it can be performed with chisel plows, rippers, or tillers depending on the depth and severity of the compaction. When necessary, decompaction should be followed by disking to prepare a smooth, moist, and evenly textured soil surface.

Prior to seeding, topsoil testing should be performed to determine if there is a need for soil amendments or fertilizer and to determine seeding application rates. Soil samples should be collected that are representative of the site. Soil testing can be performed through a private contractor, or the University of Minnesota provides this service through their Soil Testing and research Analytical Laboratory. Based on the soil testing results, soil amendments and fertilizers can be applied during the seed bed preparation, ensuring they are adequately tilled into the soil to avoid runoff and making them more readily available for absorption through the new roots as the plants growth.

6.2 Installation Methods

Seed will be applied uniformly at specified rates by drilling, broadcasting, or hydroseeding. Seed will be sown to the appropriate depths based on method, species, soil type and available moisture. Seeding activities will be suspended if conditions are such that equipment will cause significant rutting of the surface in the designated seeding areas. Other seeding processes, such as air seeding, will be evaluated during development of the final Vegetation Management Plan.

Drill Seeding – seeding equipment will be capable of uniformly distributing the seed and sowing it at the required depth. Drills will be equipped with a feeding mechanism that will provide a uniform flow of seed at the desired application rate. Double-disc furrow openers equipped with depth bands and packer wheels to firm the soil over the seed will be used where appropriate. Other types of drill seeder maybe used based on availability and soil conditions.

Broadcast Seeding – broadcast seeding rate will be double the drill-seeding rate. Seed will be uniformly distributed by mechanical or hand-operated seeder. Following seeding, a cultipacker, harrow, or hand rake will be used to cover the seeds and firm the seedbed as is appropriate for the area.

Hydroseeding – hydroseeding rate will be double the drill seeding rate, or the same as broadcast seeding rate. Seed will be applied alone or in a seed, fertilizer and/or hydromulch slurry. If seeding is applied alone, the amount of hydromulch material will be adjusted to the seed slurry to show where seeding has taken place, providing a means to identify uniform cover. Hydroseeders must provide continuous agitation and be capable of supplying a continuous, non-fluctuating flow of slurry. Hydroseed slurry will not be held in the tank more than 1 hour before use.

6.3 Permanent (Perennial) Seeding

Upon completion of construction, all disturbed areas that need to be revegetated will be seeded with a perennial seed mix that complies with MPCA Construction Stormwater General Permit the Project Stormwater Pollution Prevention Plan.

Westwood selected seed mixes from the MNDOT Seeding Manual[7], to develop a diverse and appropriate seed mix for the Project based upon the existing site conditions and meeting Project goals (Figure 9). The Snowshoe BESS seed mixes are provided in Tables 3 - 4. These seed mixes are subject to availability at the time of purchase and substitution may occur if necessary. New species substituted into the mix will meet the same general criteria as those removed – low-growing, local-origin, and if applicable, native and pollinator friendly.

The proposed mixes are composed of various fast-establish, deep rooted grass and native grasses and forb species. The species selected may provide habitat or food for life-stages of pollinators. Once established and mowing is occurring on an annual or biennial basis, the

[7] MnDOT Seeding Manual. June 2024. Minnesota Department of Transportation, (available at https://www.dot.state.mn.us/environment/erosion/vegetation.html) Accessed September 2024.

proposed mixes will also provide nesting and foraging habitat for birds. Additionally, these native plant species will grow deep and prolific root systems leading to restructured agricultural soils for enhanced infiltration and increased organic matter. The species have been selected on their growth size, composition, and ability to thrive under a wide array of site conditions. Final seed mixes and seeding rates may be modified based on factors such as site conditions and seed availability at the time of final design and construction and may result in the addition or removal of species, or adjustment of species component percentages.

6.3.1 BESS Open Space Mix (Table 3)

This mesic prairie seed mix (BESS Open Space Mix) is composed primarily of low growing grass and perennial species to provide permanent low maintenance and low stature vegetation that can thrive a variety of soil and environmental conditions. This mix is designed to be cost-effective as it covers portions of the Project Area where the proposed BESS and other gravel covered equipment yards are not located. Where slopes have been graded, the see mixes provide deep-rooted species to aid in soil stabilization. This mix is specially designed to remain at a lower height (12 to 36 inches) and reduces the maintenance needed around the BESS yards.

Table 3: BESS Open Space Seed Mix – MNDOT Mesic Inslope Mix

Scientific Name	Common Name	% of Mix	PLS	Seeds / SF
Grasses				
Bouteloua curtipendula	Side-oats Grama	7.70	1.24	11.03
Bromus bierbesteinii	Meadow Brome	10.77	0.90	8.03
Elymus trachycaulus	Slender Wheat Grass	7.69	1.43	12.67
Elymus virginicus	Virginia Wild Rye	7.69	0.87	7.71
Festuca ovina	Sheep Fescue	12.31	10.95	97.34
Lolium perenne	Perennial Ryegrass	18.46	6.72	59.78
Phleum pratense	Timothy	3.08	6.35	56.47
Poa palustris	Fowl Bluegrass	7.69	26.86	238.75
Poa pratensis	Kentucky Bluegrass	16.92	39.48	350.97
	Total Grasses	92.31	94.81	842.76
Forbs				
Dalea candida	White Prairie Clover	115	0.59	5.23
Dalea purpurea	Purple Prairie Clover	1.15	0.46	4.13
Heterotheca villosa	Hairy Golden Aster	0.31	0.58	5.14
Medicago sativa	Alfalfa	3.08	1.17	10.41
Trifolium repens	White Clover	2.00	2.39	21.24
	Total Forbes	7.69	5.19	46.17
	MIX TOTAL	100		

The BESS Open Space Mix will be drill or broadcast seeded based on site conditions and timing of seeding to uniformly distribute the mix. If a seed drill is used, seed will be sown at a depth of no more than 0.25 inch. The BESS Open Space Mix will be sown with oats or winter wheat as a cover crop to limit erosion, suppress weed growth, and provide a micro-climate for the plants as they establish themselves.

The species in this mix will act as a permanent BMP and allow for runoff, sediment, and other pollutants to be infiltrated or captured by the vegetation to further aid in the site's soil stability, especially on slopes.

6.3.2 Storm Water Basin Mix (Table 4)

This native seed mix contains a wide variety of grasses, sedges, rushes, and forbs (Storm Water Basin Mix). The mix is intended to promote pollinator species diversity, with flowering species over each of the three blooming periods (spring, summer, and fall) that provide habitat to pollinators and other wildlife. The seed mix is composed of taller species (24 to 60 inches) and is intended for areas of higher moisture and occasional inundation, such as the permanent stormwater basin.

Table 4: Storm Water Basin Mix – MNDOT Wet Ditch Mix

Scientific Name	Common Name	% of Mix	PLS	Seeds / SF
Grasses				
Andropogon gerardii	Big Bluestem	5.00	1.10	3.67
Bromus ciliatus	Fringed Brome	7.50	1.81	6.06
Calamagrostis canadensis	Bluejoint Grass	0.25	1.54	5.14
Elymus canadensis	Nodding Wild Rye	10.00	1.14	3.82
Elymus virginicus	Virginia Wild Rye	20.00	1.85	6.17
Glyceria grandis	Tall Manna Grass	0.75	1.15	3.86
Leersia oryzoides	Rice Cutgrass	1.50	1.12	3.75
Lolium perenne	Perennial Ryegrass	30.00	8.94	29.89
Panicum virgatum	Switchgrass	2.50	0.77	2.57
Poa palustris	Fowl Bluegrass	5.00	14.28	47.75
	Total Grasses	82.50	33.70	112.68
Sedges & Rushes				
Carex hystericina	Porcupine Sedge	0.50	0.33	1.10
Carex stipata	Awl-fruited Sedge	0.25	0.19	0.62
Carex vulpinoidea	Fox Sedge	0.50	1.10	3.67
Juncus dudleyi	Dudley's Rush	0.25	17.58	58.77
Scirpus atrovirens	Dark Green Bulrush	0.50	5.05	16.90
Scirpus cyperinus	Woolgrass	0.50	18.68	62.44
	Total Sedges	2.50	42.92	143.51
Forbs				
Anemone canadensis	Canada Anemone	0.25	0.04	0.15
Asclepias incarnata	Swamp Milkweed	1.25	0.13	0.44
Asclepias syriaca	Common Milkweed	1.00	0.09	0.29
Astragalus canadensis	Canada Milkvetch	2.50	0.93	3.12
Bidens cernua	Nodding Bur Marigold	0.50	0.23	0.77
Desmodium canadense	Canada Tick-trefoil	2.50	0.30	1.01
Doellingeria umbellata	Flat-topped Aster	0.25	0.37	1.23
Eupatorium perfoliatum	Common Boneset	0.25	0.88	2.94
Euthamia graminifolia	Grass-leaved Goldenrod	0.15	1.15	3.86
Eutrochium maculatum	Spotted Joe Pye Weed	0.30	0.63	2.09
Helenium autumnale	Autumn Sneezeweed	0.50	1.43	4.78

Scientific Name	Common Name	% of Mix	PLS	Seeds / SF
Helianthus grosseserratus	Sawtooth Sunflower	0.30	0.10	0.33
Liatris pycnostachya	Prairie Blazing Star	0.85	0.21	0.69
Lobelia siphilitica	Great Lobelia	0.25	2.75	9.18
Mimulus ringens	Blue Monkey Flower	0.15	7.58	25.34
Physostegia virginiana	Obedient Plant	0.30	0.07	0.24
Rudbeckia laciniata	Cut-leaf Coneflower	0.50	0.15	0.51
Solidago rigida	Stiff Goldenrod	0.50	0.45	1.51
Symphyotrichum lanceolatum	Eastern Panicled Aster	0.25	0.86	2.87
Symphyotrichum puniceum	Red-stemmed Aster	0.25	0.44	1.47
Thalictrum dasycarpum	Tall Meadow Rue	0.50	0.22	0.73
Verbena hastata	Blue Vervain	0.75	1.53	5.12
Veronicastrum virginicum	Culver's Root	0.15	2.64	8.82
Zizia aurea	Golden Alexanders	0.80	0.19	0.65
	Total Forbs	15.00	23.37	78.14
	MIX TOTAL	100.00		

Hydroseeding will be used as necessary at locations where standard broadcast or drilling will not be sufficient.

6.4 Timing

Native seeding will be performed either in the spring or fall. Spring seeding season would occur mid-March through June and the fall seeding season would occur from mid-October until first frost. A cover crop will be installed at the same time as perennial seeding.

Temporary cover crop (annual) seed and permanent (perennial) seed should be installed simultaneously but separately at approximately 90- degree angles to minimize competition and promote better establishment.

Mulch material or other erosion control materials will be applied per manufacture recommendations. The MPCA Construction Stormwater General Permit and the Project SWPPP may require application of a straw mulch or other approved compost cover over newly seeded areas to meet stabilization requirements.

6.5 Standards for Seeds and Seed Mixes

Seed and seed mixes will be native to the southeast region of Minnesota and regionally sourced and purchased on a Pure Live Seed (PLS) basis. Associated seed tags will identify purity, germination, date tested, total weight and PLS weight, weed seed content and supplier's information. Seeding rates will be based on the PLS rate and number of pure live seeds per square foot. Seed tags will be retained for record keeping such as dates and locations of application.

The contractor will keep record of which seed is used along with application rate and dates of application. The contractor will document seed tags for reference.

7.0 Monitoring and Maintenance

Follow-up monitoring and maintenance are critical tasks for achieving successful establishment of seeded vegetation. Native plant species typically take longer to mature than non-native species. For full establishment of native vegetation, the process usually takes two to three years for plants to reach maturity.

In the first year, most native species are developing their deep fibrous root system. The second year brings more developed foliage and blooms. During these first two years, it is essential to offer routine maintenance to prevent more rapidly growing non-native and invasive weed species from establishing. The following three years should show a reduction in need for maintenance as the native vegetation establishes.

The Project will be monitored through the construction process to verify temporary and permanent seeding is being completed. All vegetated areas should meet a targeted 70% of vegetated cover. The Project will be monitored annually during the five-year establishment period. Monitoring will influence maintenance and vegetation management needs across the Project Area. Construction contractors and SWPPP inspectors can monitor the vegetation establishment progress through construction in addition to the selected professional vegetation management contractor.

Vegetation monitoring and reporting will be completed in accordance with permit conditions. Based on site visits and annual reporting, an adaptive management approach can be developed in order to meet the long-term management goals of the project. Some methods to this approach could include adjusting mowing frequency or substituting and reseeding poorly performing species. Additionally, new best practices can be implemented as new technologies become available over the course of the Project lifespan.

7.1 Mowing

Mowing is an essential tool in the establishment of native vegetation proposed for revegetating the Site. Mowing keeps undesirable vegetation and weed species at a reduced height and prevents them from blooming and setting seed. Mowing also allows sunlight to reach the ground to facilitate growth of desirable species and prevents shading.

Mowing will take place approximately 4-6 weeks after permanent seeding of all seed mixes and then repeated as needed to keep undesired weed species from shading or going to seed. A minimum of two mowing events per year should occur during the first two years. When weeds reach a height of around 12 to 18 inches, they will be mowed. The mower deck should be set at 5 to 8 inches and raised as perennial plantings mature. Weed whipping will be needed in areas near equipment, to prevent damage.

In years 3-5, the perennial vegetation has established and there is less risk of weed growth. For all seed mixes except for Wet Ditch Seed Mix for the basins, mowing will continue to occur at

least one per year, or spot mowing to target only specific areas of weed growth. Once vegetation is fully established past year five, mowing can occur every other year or as needed based on monitoring. An alternative to mowing is grazing as numerous projects have started using sheep to replicate the same process. An alternative seed mix would be studied and proposed concurrent with the evaluation of grazing.

If needed in years 3-5, the BESS Open Space Seed Mix areas should be monitored and mowed two times or more annually if needed or if desired to keep vegetation lower around electrical equipment yards. Once vegetation is past year five, mowing can occur every other year or as needed based on monitoring.

7.2 Spot-Herbicide Treatments

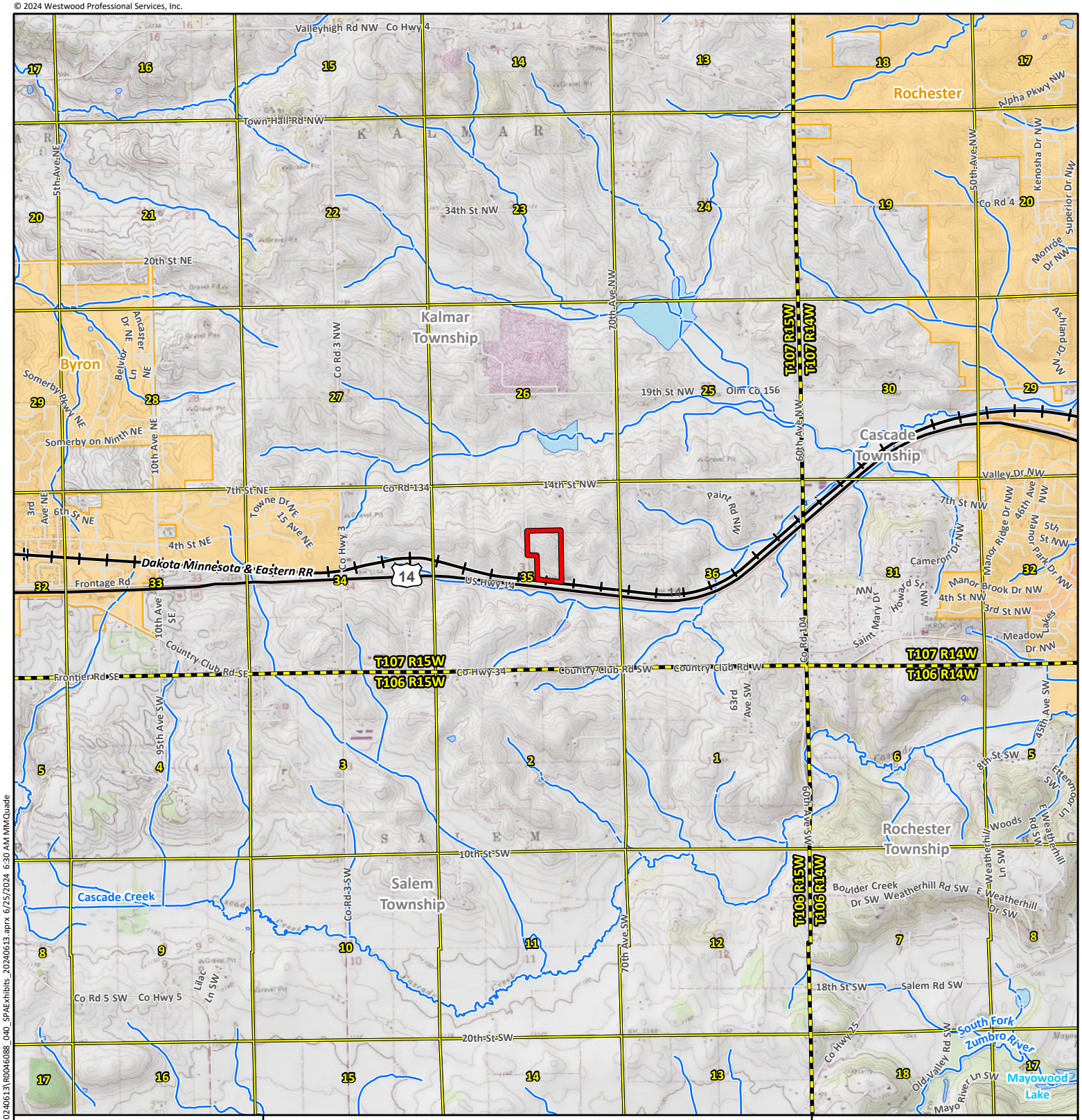
Herbicides are another essential tool to ensure planting success. Spot spraying can be utilized to target problematic perennial weeds or woody plants that need to be managed. To the extent possible, herbicide use will be limited to spot spraying to minimize potential impacts on preferred vegetation trying to establish. An appropriate herbicide will be selected depending on site specific conditions, including target species, vegetation density or composition, sensitive surrounding areas, and forecasted precipitation and wind.

In the post-construction condition, invasive species removal will be completed prior to establishing new vegetation. Herbicide treatments are recommended for management of perennial invasive species, as mowing alone is not typically sufficient for adequate control. Herbicide treatments will be performed by individuals with a current Commercial Pesticide Applicator certification and license issued through Minnesota Department of Agriculture, and in accordance with all applicable laws, regulations, and herbicide label instructions. Herbicide application in or immediately adjacent to wetlands with standing water will be avoided when possible.

Figures

Snowshoe Energy Storage Project
Olmsted County, Minnesota

Figure 1: Project Location



Data Source(s): Westwood (2024); ESRI WMS USA Topo & World Streets Basemaps (Accessed 2024); PLSS (2022); U.S. Census Bureau (2021 & 2023); MNDOT (2024) NHD (2024).

N

0 3,800 Feet

Snowshoe Energy Storage Project

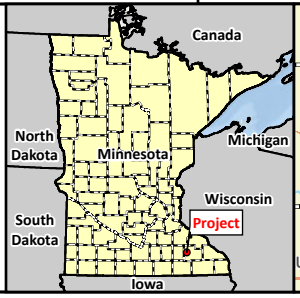
Kalmar Township, Olmsted County, Minnesota

Project Location & USGS Topography

Figure 1 (June, 2024)

Legend

- Project Area
- State Boundary
- County Boundary
- PLSS Township Boundary
- PLSS Section Boundary
- Civil Township Boundary
- Municipal Boundary
- NHD Waterbody
- NHD Flowline
- Major Road
- Road
- Railroad



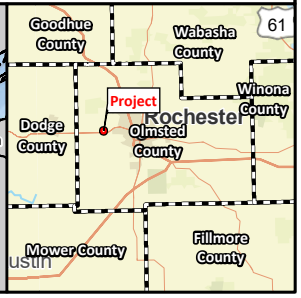


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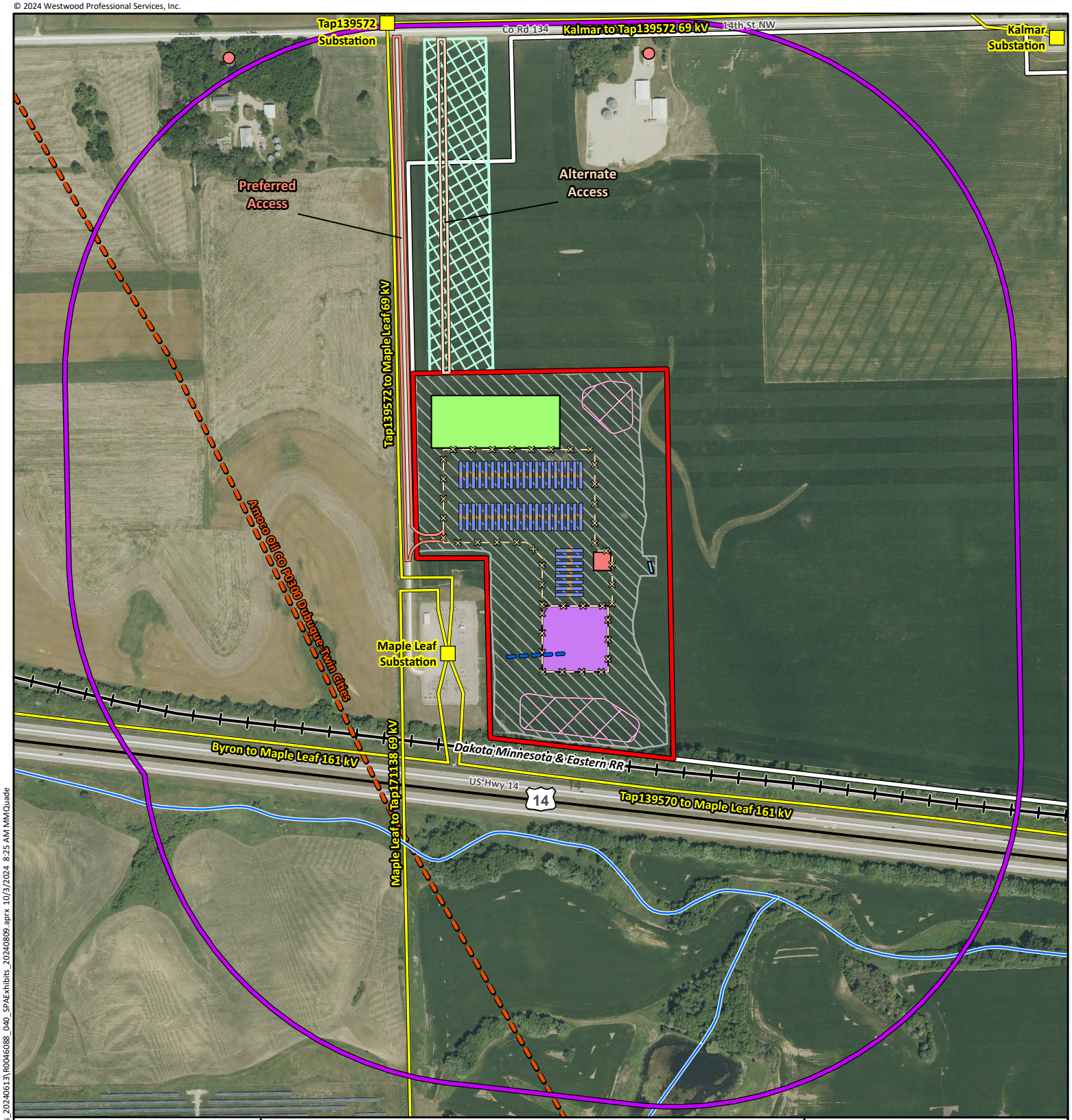
Figure 2: Project Area



Data Source(s): Westwood (2024); NAIP (2023); U.S. Census Bureau (2021 & 2023) HIFLD (2022 & 2024); NPMS (Accessed 2024); NHD (2024).

N

0 500 Feet

Snowshoe Energy Storage Project

Kalmar Township, Olmsted County, Minnesota

Project Area & Facilities

Figure 2 (October, 2024)

Legend

- Project Area
- Project Area Quarter-Mile Buffer
- Project Parcel
- Preliminary Development Area
- NHD Flowline
- Existing Hazardous Liquid Pipeline
- Existing Transmission Line
- Existing Substation
- Receptor
- Major Road
- Road
- Railroad

Proposed Site Features

- Proposed Project Substation
- Proposed O&M Facility
- Proposed Auxiliary Transformer
- Proposed BESS Unit
- Proposed Laydown Yard
- Proposed Leach Field
- Proposed Basin Area
- Site Access Easement
- Proposed Fence Line
- Proposed Tap Line
- Proposed Access Road
- Proposed Alternate Access Road

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Map Document: N:\0046088.00_GIS_ArcPro\R0046088_040_SPAExhibits_20240613\R0046088_040_SPAExhibits_20240809.aprx 10/3/2024 8:25 AM MMQuade

Figure 3: Land Use

Data Source(s): Westwood (2024); NAIP (2023); U.S. Census Bureau (2021 & 2023); MLCCS (2022).

N

0 500 Feet

Snowshoe Energy Storage Project

Kalmar Township, Olmsted County, Minnesota

Land Cover

Figure 3 (August, 2024)

Legend

- Project Area
- Major Road
- Road
- Railroad

Minnesota Land Cover Classification (Acreage & Percent of Project Area)

- 26% to 50% impervious cover with perennial grasses: 0.07, 0.26%
- Cultivated herbaceous vegetation: 26.7, 98.25%
- Deciduous shrubland: 0.35, 1.3%
- Medium-tall grassland: 0.05, 0.18%

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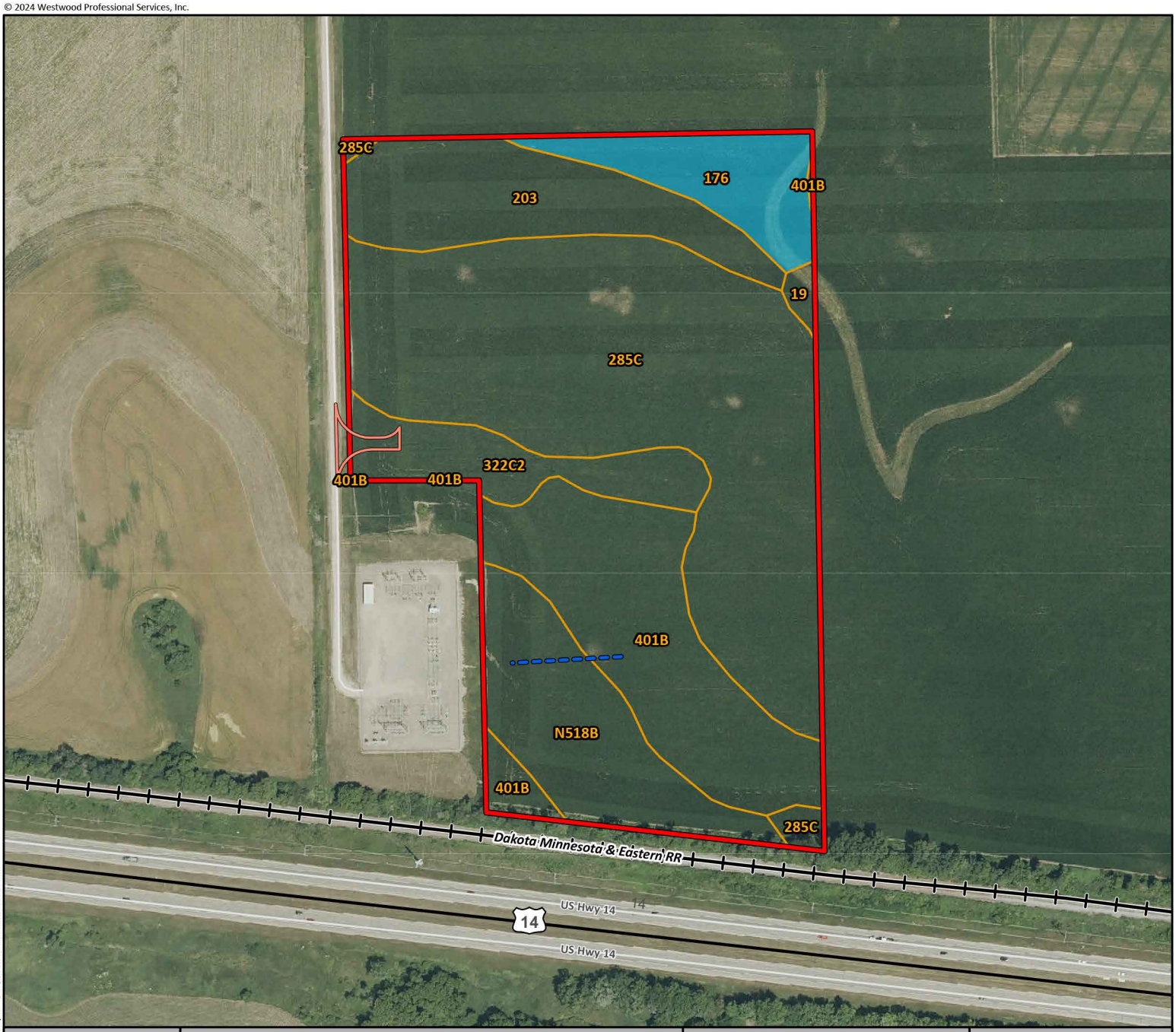
Map Document: N:\0046088.00_GIS_ArcPro\R0046088_040_SPAExhibits_20240613\R0046088_040_SPAExhibits_20240809.aprx 8/13/2024 10:47 AM MMQuade

Figure 4: Soils



Map Unit Symbol	Map Unit Name	Percent Hydric Classification	Hydric Classification
19	Chaseburg silt loam, moderately well drained, 0 to 2 percent slopes	0	Non-Hydric
285C	Port Byron silt loam, 6 to 12 percent slopes, moderately eroded	0	Non-Hydric
322C2	Timula silt loam, 6 to 12 percent slopes, moderately eroded	0	Non-Hydric
401B	Mt. Carroll silt loam, 2 to 6 percent slopes, moderately eroded	0	Non-Hydric
N518B	Lindstrom silt loam, 2 to 6 percent slopes	0	Non-Hydric
203	Joy silt loam, 1 to 4 percent slopes	5	Predominantly Non-Hydric
176	Garwin silty clay loam	95	Predominantly Hydric

Data Source(s): Westwood (2024); NAIP (2023); U.S. Census Bureau (2021 & 2023) NCRS (Accessed 2024).

N

0 300 Feet

Snowshoe Energy Storage Project

Kalmar Township, Olmsted County, Minnesota

Soils - Hydric Classification

Figure 4 (August, 2024)

Legend

- Project Area
- Soil Unit Boundary
- Major Road
- Road
- Railroad

Hydric Classification

- Predominantly Hydric

Proposed Site Features

- Proposed Tap Line
- Proposed Access Road

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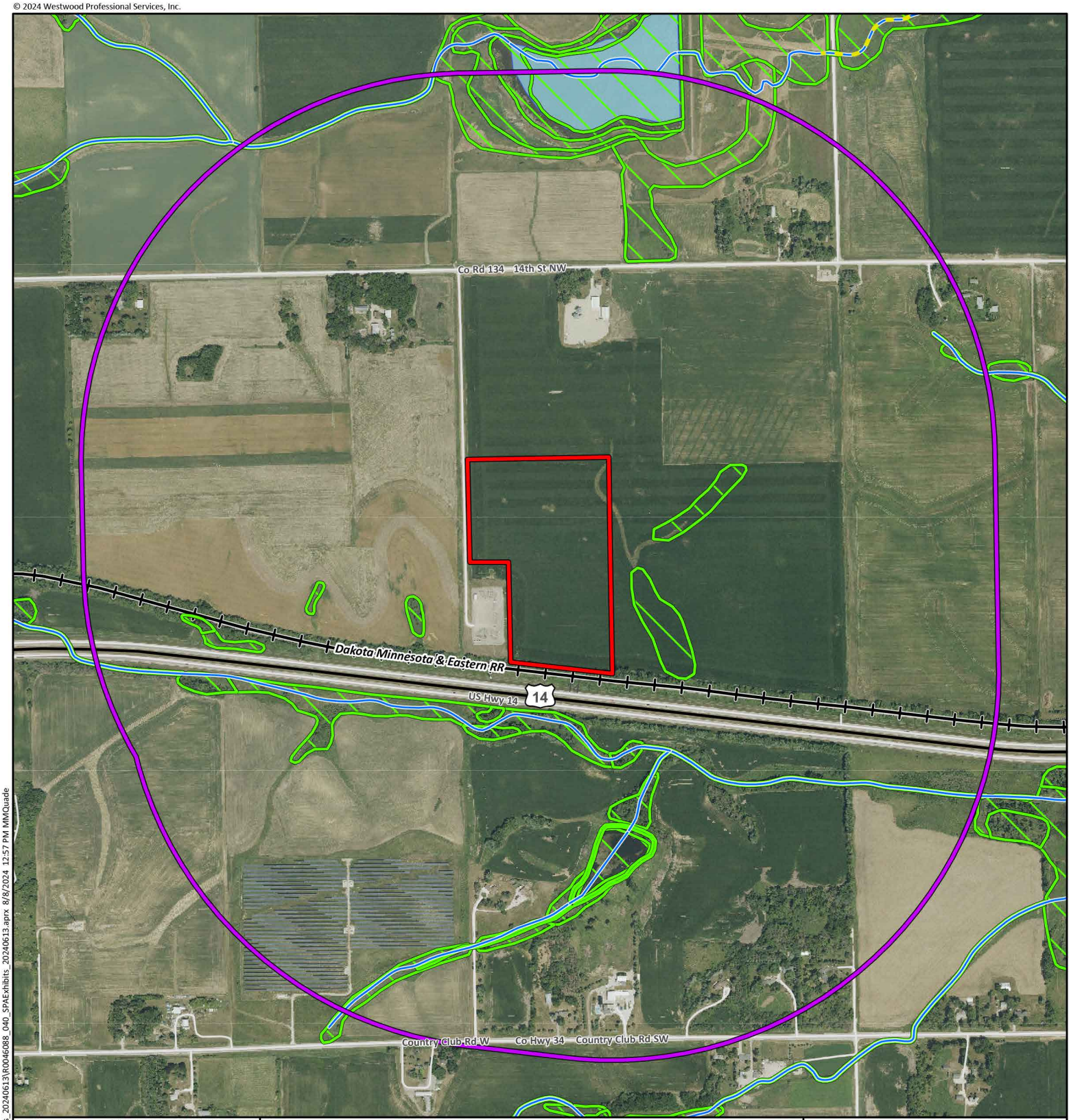
Figure 5: Hydrology Features



Data Source(s): Westwood (2024); NAIP (2023); NWI (2023); NHD (2024); PWI (2024); U.S. Census Bureau (2021 & 2023).

N

0 900 Feet

Snowshoe Energy Storage Project

Kalmar Township, Olmsted County, Minnesota

Surface Waters

Figure 5 (August, 2024)

Legend

- Project Area
- Project Area Half-Mile Buffer
- NWI Wetland
- NHD Waterbody
- NHD Flowline
- PWI Watercourse
- Major Road
- Road
- Railroad

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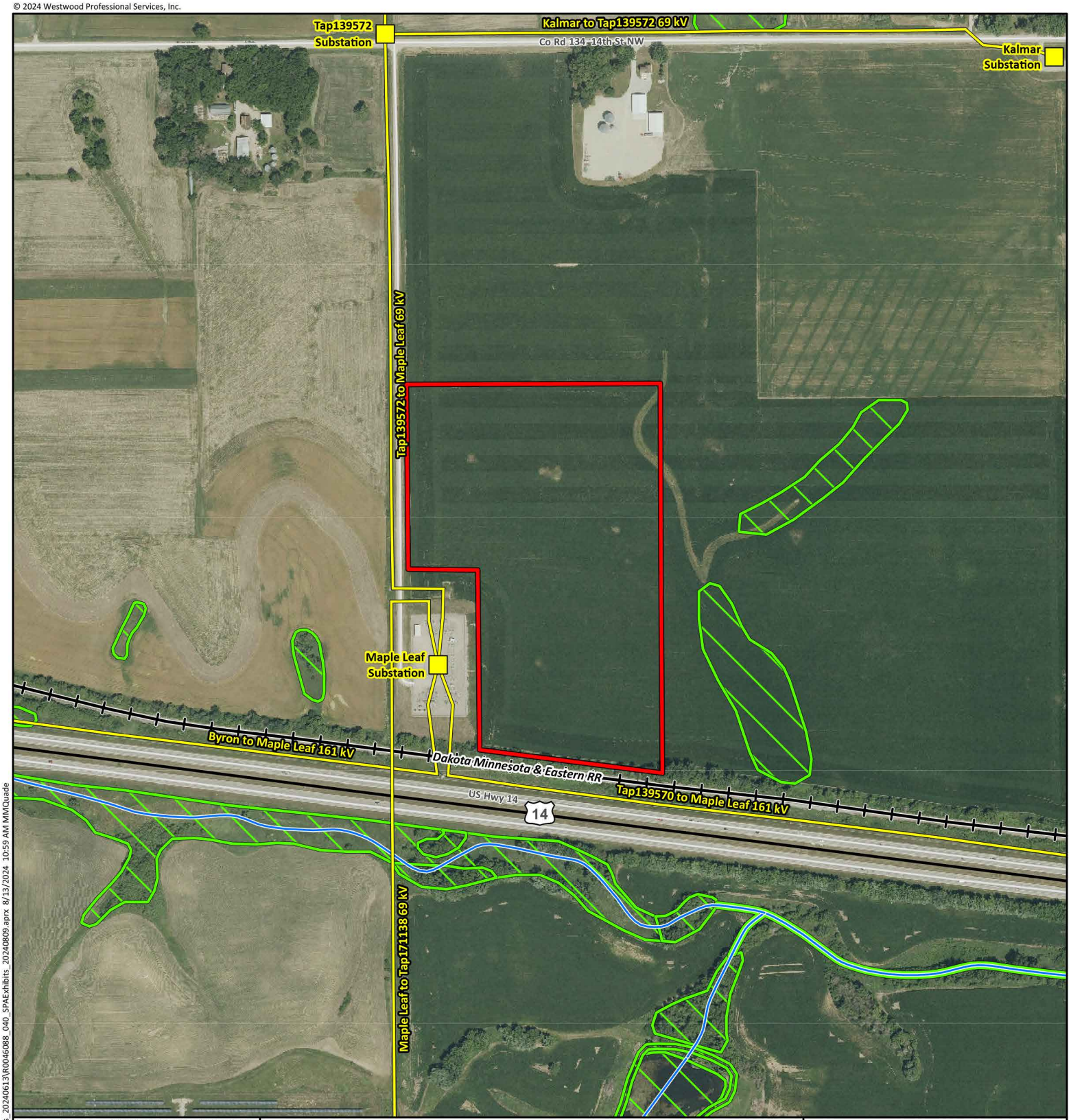
Figure 6: Wetlands



Data Source(s): Westwood (2024); NAIP (2023); NWI (2023); U.S. Census Bureau (2021 & 2023); NHD (2024); HIFLD (2022 & 2024).

N

0 500 Feet

Snowshoe Energy Storage Project

Kalmar Township, Olmsted County, Minnesota

Wetlands Map

Figure 6 (August, 2024)

Legend

- Project Area
- NWI Wetland
- NHD Flowline
- Existing Transmission Line
- Existing Substation
- Major Road
- Road
- Railroad

*There are no field delineated wetlands within the project area.

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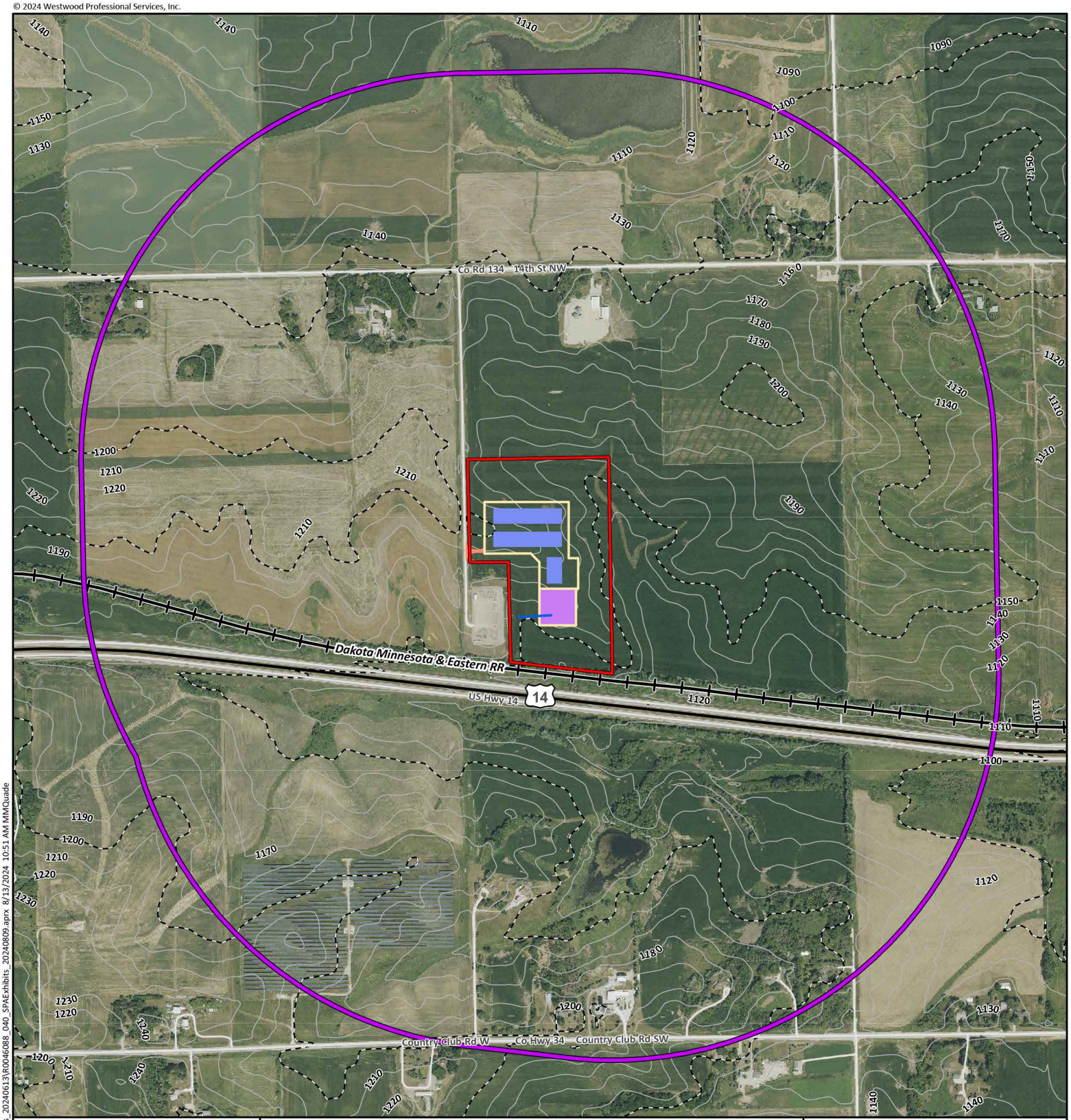
Map Document: N:\0046088.00_GIS_ArcPro\R0046088_040_SPAExhibits_20240613\R0046088_040_SPAExhibits_20240809.aprx 8/13/2024 10:59 AM MMQuade

Figure 7: Site Topography



Data Source(s): Westwood (2024); NAIP (2023); U.S. Census Bureau (2021 & 2023); USGS 3DEP (Accessed 2024).

N

0 900 Feet

Snowshoe Energy Storage Project

Kalmar Township, Olmsted County, Minnesota

Topographic Map

Figure 7 (August, 2024)

Legend

- Project Area
- Project Area Half-Mile Buffer
- Major Road
- Road
- Railroad
- 50ft Contour
- 10ft Contour

Proposed Site Features

- Proposed Project Substation
- Proposed BESS Area
- Proposed Fence Line
- Proposed Tap Line
- Proposed Access Road

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Figure 8: Minnesota Noxious Weed List

Figure 8: MINNESOTA NOXIOUS WEEDS LIST

Eradicate. All noxious weeds and their propagating parts of the plant must be destroyed on all lands within the state.	
Scientific Name	Common Name
Ailanthus altissima	Tree of heaven
Amaranthus palmeri	Palmer amaranth
Centaurea diffusa	Diffuse knapweed
Centaurea jacea	Brown knapweed
Centaurea solstitialis	Yellow star thistle
Conium maculatum	Poison hemlock
Cynanchum louiseae	Black swallow-wort
Cynanchum rossicum	Pale swallow-wort
Digitalis lanata	Grecian foxglove
Dipsacus fullonum	Common teasel
Dipsacus laciniatus	Cut-leaved teasel
Heracleum mantegazzianum	Giant hogweed
Humulus japonicus	Japanese hops
Linaria dalmatica	Dalmatian toadflax
Lonicera japanica	Japanese honeysuckle
Sorghum halepense	Johnsongrass
Thladiantha dubia	Red hailstone
Control. All noxious weeds and their propagating parts of the plant must be controlled on all lands within the state.	
Scientific Name	Common Name
Berberis vulgaris	Common barberry
Cardamine impatiens	Narrowleaf bittercress
Carduus acanthoides	Plumeless thistle
Celastrus orbiculatus	Round leaf bittersweet
Centaurea stoebe	Spotted knapweed
Centaurea x moncktonii	Meadow knapweed
Cirsium arvense	Canada thistle
Conium marculatum	Poison hemlock
Euphorbia esula	Leafy spurge
Lythrum salicaria	Purple loosestrife
Pastinaca sativa	Wild parsnip
Phragmites australis	Non-native phragmites
Polygonum x bohemicum	Bohemian knotweed
Polygonum sachalinese	Giant knotweed
Polygonum cuspidatum	Japanese knotweed
Tanacetum vulgare	Common tansy

Source : Minnesota Department of Natural Resources and
Minnesota Department of Agriculture

Figure 9: MNDOT Seed Mixes

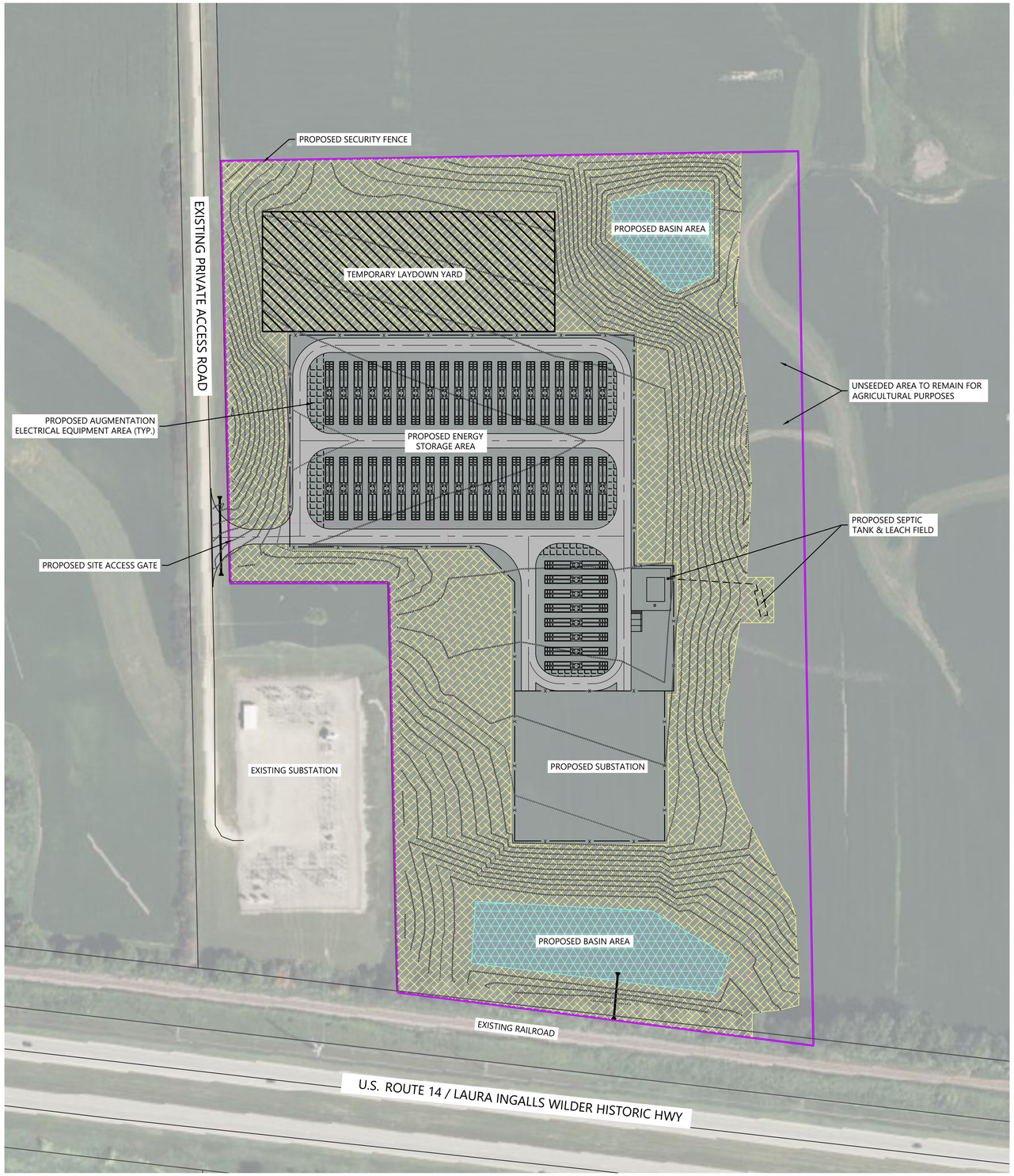
Table 3: BESS Open Space Seed Mix – MNDOT Mesic Inslope Mix

Scientific Name	Common Name	% of Mix	PLS	Seeds / SF
Grasses				
Bouteloua curtipendula	Side-oats Grama	7.70	1.24	11.03
Bromus bierbesteinii	Meadow Brome	10.77	0.90	8.03
Elymus trachycaulus	Slender Wheat Grass	7.69	1.43	12.67
Elymus virginicus	Virginia Wild Rye	7.69	0.87	7.71
Festuca ovina	Sheep Fescue	12.31	10.95	97.34
Lolium perenne	Perennial Ryegrass	18.46	6.72	59.78
Phleum pratense	Timothy	3.08	6.35	56.47
Poa palustris	Fowl Bluegrass	7.69	26.86	238.75
Poa pratensis	Kentucky Bluegrass	16.92	39.48	350.97
	Total Grasses	92.31	94.81	842.76
Forbs				
Dalea candida	White Prairie Clover	115	0.59	5.23
Dalea purpurea	Purple Prairie Clover	1.15	0.46	4.13
Heterotheca villosa	Hairy Golden Aster	0.31	0.58	5.14
Medicago sativa	Alfalfa	3.08	1.17	10.41
Trifolium repens	White Clover	2.00	2.39	21.24
	Total Forbes	7.69	5.19	46.17
	MIX TOTAL	100		

Table 4: Storm Water Basin Mix – MNDOT Wet Ditch Mix

Scientific Name	Common Name	% of Mix	PLS	Seeds / SF
Grasses				
Andropogon gerardii	Big Bluestem	5.00	1.10	3.67
Bromus ciliatus	Fringed Brome	7.50	1.81	6.06
Calamagrostis canadensis	Bluejoint Grass	0.25	1.54	5.14
Elymus canadensis	Nodding Wild Rye	10.00	1.14	3.82
Elymus virginicus	Virginia Wild Rye	20.00	1.85	6.17
Glyceria grandis	Tall Manna Grass	0.75	1.15	3.86
Leersia oryzoides	Rice Cutgrass	1.50	1.12	3.75
Lolium perenne	Perennial Ryegrass	30.00	8.94	29.89
Panicum virgatum	Switchgrass	2.50	0.77	2.57
Poa palustris	Fowl Bluegrass	5.00	14.28	47.75
	Total Grasses	82.50	33.70	112.68
Sedges & Rushes				
Carex hystericina	Porcupine Sedge	0.50	0.33	1.10
Carex stipata	Awl-fruited Sedge	0.25	0.19	0.62
Carex vulpinoidea	Fox Sedge	0.50	1.10	3.67
Juncus dudleyi	Dudley's Rush	0.25	17.58	58.77
Scirpus atrovirens	Dark Green Bulrush	0.50	5.05	16.90
Scirpus cyperinus	Woolgrass	0.50	18.68	62.44
	Total Sedges	2.50	42.92	143.51
Forbs				
Anemone canadensis	Canada Anemone	0.25	0.04	0.15
Asclepias incarnata	Swamp Milkweed	1.25	0.13	0.44
Asclepias syriaca	Common Milkweed	1.00	0.09	0.29
Astragalus canadensis	Canada Milkvetch	2.50	0.93	3.12
Bidens cernua	Nodding Bur Marigold	0.50	0.23	0.77
Desmodium canadense	Canada Tick-trefoil	2.50	0.30	1.01
Doellingeria umbellata	Flat-topped Aster	0.25	0.37	1.23
Eupatorium perfoliatum	Common Boneset	0.25	0.88	2.94
Euthamia graminifolia	Grass-leaved Goldenrod	0.15	1.15	3.86
Eutrochium maculatum	Spotted Joe Pye Weed	0.30	0.63	2.09
Helenium autumnale	Autumn Sneezeweed	0.50	1.43	4.78
Helianthus grosseserratus	Sawtooth Sunflower	0.30	0.10	0.33
Liatris pycnostachya	Prairie Blazing Star	0.85	0.21	0.69
Lobelia siphilitica	Great Lobelia	0.25	2.75	9.18
Mimulus ringens	Blue Monkey Flower	0.15	7.58	25.34
Physostegia virginiana	Obedient Plant	0.30	0.07	0.24
Rudbeckia laciniata	Cut-leaf Coneflower	0.50	0.15	0.51
Solidago rigida	Stiff Goldenrod	0.50	0.45	1.51
Symphyotrichum lanceolatum	Eastern Panicled Aster	0.25	0.86	2.87
Symphyotrichum puniceum	Red-stemmed Aster	0.25	0.44	1.47
Thalictrum dasycarpum	Tall Meadow Rue	0.50	0.22	0.73
Verbena hastata	Blue Vervain	0.75	1.53	5.12
Veronicastrum virginicum	Culver's Root	0.15	2.64	8.82
Zizia aurea	Golden Alexanders	0.80	0.19	0.65
	Total Forbs	15.00	23.37	78.14
	MIX TOTAL	100.00		

Figure 10: Seeding Plan



SEEDING LEGEND:

- MNDOT Mesic Inslope Seed Mix (MI) Total Area: 14.6 ac
- MNDOT Wet Ditch Seed Mix (WD) Total Area: 1.5 ac

LEGEND:

- PROJECT BOUNDARY
- PARCEL LINES
- SETBACK LINES
- POH — EX. OVERHEAD POWER
- x — PROPOSED SECURITY FENCE
- PROPOSED ACCESS ROAD
- PROPOSED CULVERT
- TEMPORARY LAYDOWN YARD
- PROPOSED BATTERY STORAGE EQUIPMENT
- AUGMENTATION ELECTRICAL EQUIPMENT AREA

Westwood

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Westwood Professional Services, Inc.

PREPARED FOR:

spearmint

2916 N Miami Ave, Suite 910
Miami, FL 33127

REVISIONS:

#	DATE	COMMENT	BY	CHK	APR

0' 100' 200' 300'

Snowshoe Energy Storage Project

Olmsted County, Minnesota

OVERALL SEEDING EXHIBIT

NOT FOR CONSTRUCTION

DATE: 09/19/2024
REV:
SHEET: E.001