Appendix D

Agricultural Impact Mitigation Plan

Agricultural Impact Mitigation Plan

Birch Coulee Solar Project, Renville County, Minnesota

Prepared for
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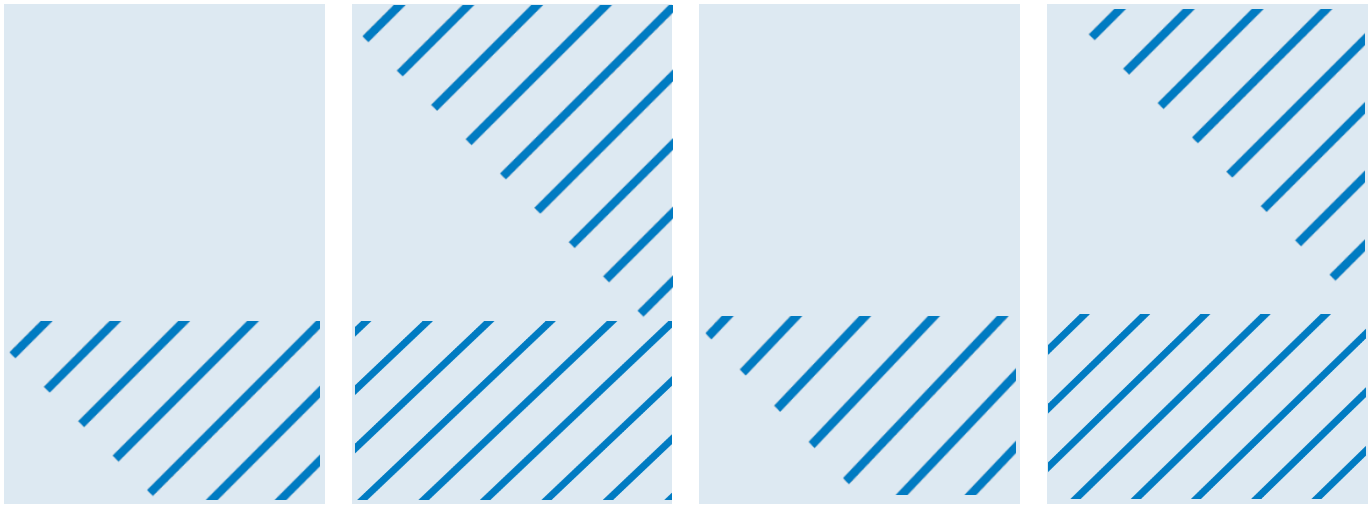

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Abbreviations

AES	AES Clean Energy Development, LLC
AIMP	Agricultural Impact Mitigation Plan
BMP	best management practice
Contractor	construction contractor
LCC	Land Capability Class
MDA	Minnesota Department of Agriculture
Monitor	suitable independent monitor
MW	megawatt
O&M	Operations and maintenance building
PLSS	Public Land Survey System
Project	Birch Coulee Solar Project
PV	Photovoltaic
SSURGO	Soil Survey Geographic Database
SWPPP	Stormwater Management Pollution Prevention Plan
VMP	Vegetation Management Plan

1 Purpose and Applicability of the AIMP

Birch Coulee Solar LLC (Birch Coulee Solar), an affiliate of AES Clean Energy Development, LLC (AES), developed this Agricultural Impact Mitigation Plan (AIMP or Plan) in consultation with the Minnesota Department of Agriculture (MDA). This Plan provides measures that Birch Coulee Solar, including its staff and/or contractors, plan to use to avoid, lessen, and/or rectify possible adverse impacts to agricultural lands resulting from developing, operating, and ultimate decommissioning the Birch Coulee Solar Project (Project) in Renville County, Minnesota. This Plan also includes descriptions of best management practices (BMPs) that Birch Coulee Solar will implement during construction to minimize long-term adverse soil impacts. It is anticipated that the Minnesota Public Utilities Commission will incorporate this Plan by reference into the Site Permit for the Project. Unless the easement or other agreement, regardless of nature, with the Landowner specifically requires the contrary, Birch Coulee Solar will implement the mitigative measures specified in this Plan in accordance with the conditions discussed below.

Birch Coulee Solar owns or leases land required to construct and operate the Project. Agricultural production will temporarily cease during the Project lifespan. This Plan contains measures to allow Project lands to return to agricultural production upon Project decommissioning. Birch Coulee Solar and the construction contractor (Contractor) will follow this Plan. The Contractor may identify some procedures and methods that are more efficient and yield better results during Project construction. Should this occur, Birch Coulee Solar and the Contractor will engage with the MDA to determine if deviations from this AIMP are warranted and gain approval from the MDA for any alternative procedures and methods.

This Plan and the associated Vegetation Management Plan (VMP) seek to maintain and/or emulate the Site's landscape characteristics. Birch Coulee Solar and its Contractor will select native and non-invasive naturalized plant species that grow well in shady conditions and do not hinder solar panel operation while providing benefits to pollinator species and soil conditions. In general, they will seed lands with the Photovoltaic (PV) solar arrays using a mix of shorter prairie plant species at the base of the solar arrays, a mix of taller prairie plant species in the open spaces between fences and arrays, and wetland plant species seed mix for areas that will retain water and wetland characteristics. They will specify the final details for seeding zones in the VMP. Birch Coulee Solar and its Contractor will coordinate with applicable agencies and state plant specialists to formulate native and naturalized, non-invasive plant seed mixes. Birch Coulee Solar will use seed mixes that:

- can attain efficient operation of the PV solar array,
- maintain and/or reestablish stable perennial land cover,
- keep weeds in check,
- preclude soil erosion and minimize runoff,
- preserve water infiltration capabilities of the soil, and
- maintain or create habitat conducive to pollinator species.

Birch Coulee Solar and its Contractor will manage vegetation following the appropriate BMPs included in this Plan as part of an adaptive management approach. Birch Coulee Solar prepared a detailed VMP to

delineate vegetation parameters and procedures to protect and/or restore the existing agricultural land characteristics. Additional details on plans for seeding are available in the VMP.

This Plan is organized into the following sections:

- Section 1 includes the Plan's purpose and applicability.
- Section 2 includes a Project overview.
- Section 3 discusses limitations and the suitability of the on-site soils.
- Section 4 provides the BMPs to be used during construction and operation.
- Section 5 summarizes the decommissioning process.

2 Project Overview

Birch Coulee Solar will construct, own, and operate the Project. The Project involves construction of an up to 125-megawatt (MW) photovoltaic (PV) solar energy generating facility within and north of the City of Franklin in Renville County, Minnesota (Figure 1). The Site is in the city of Franklin, Birch Cooley Township, Camp Township, and Bandon Township, and the following Public Land Survey System (PLSS) sections:

- Section 6 of Township 112 North, Range 33 West
- Sections 1 and 2 of Township 112 North, Range 34 West
- Section 31 of Township 113 North, Range 33 West
- Section 36 of Township 113 North, Range 34 West

The Project is generally north of MN-19, west of 410th Street, south of County Road 2, and east of County Road 5. The Project location is predominantly in agricultural use.

2.1 Project Components

Birch Coulee Solar will construct the following major components, systems, and associated facilities within the Site (Figure 2):

- Single-axis tracking PV arrays installed on driven piles or helical screws
- Inverters, which house AC – DC inverters and medium-voltage step-up transformers
- Buried electrical collection line cables
- Project substation
- Step-up transformers
- Metering equipment
- Supervisory Control and Data Acquisition (SCADA) systems
- Short (<500 feet) 115 kV generation tie line
- Gravel access roads
- Security fencing and gates
- Stormwater management system
- Temporary laydown areas, some of which will be permanently used for operational purposes within the Anticipated Development Area
- Operations and maintenance (O&M) building
- Weather stations

During construction activities, the Contractor will use laydown areas to stage equipment and for temporary construction-related needs. A permanent laydown area will be utilized during operation of the Project.

The proposed solar panels will deliver DC power to the inverters through cabling buried in an underground trench or plowed in place. The AC collector system will transmit the power to the Project substation adjacent to the interconnection point (Figure 2). The cable trenches may need to be deeper to avoid existing utilities or other features. The geotechnical analysis, constructability, and availability of materials will inform the site-specific electrical collection technology used.

The Project substation will consist of supporting structures for high voltage electrical structures, breakers, transformers, lightning protection, and control equipment according to the Interconnection Agreement with the Midcontinent Independent System Operator and transmission owner specifications.

The O&M building will provide a place for maintaining and storing equipment and tools.

Birch Coulee Solar will construct access roads throughout the Site, install perimeter fencing to prevent public access, and construct stormwater management areas if required per the Project's Stormwater Management Pollution Prevention Plan (SWPPP). These basins will be designed to capture stormwater runoff for control and water quality. The Contractor will seed these areas with a proper mix in accordance with the VMP to stabilize soils and minimize erosion.

2.2 Construction

Birch Coulee Solar anticipates beginning construction in 2027 and commercial operation by the end of 2028. The construction activities will include:

- Clearing and vegetation removal activities
- Earthwork and grading
- Installing access roads, solar arrays, and other permanent features

Multiple construction activity stages or phases will possibly occur at the same time. The SWPPP will outline phasing measures to minimize erosion and the potential for off-site sediment transport.

3 Project Location and Characteristics

According to the Minnesota Department of Natural Resources Ecological Classification System, the Site is within the Minnesota River Prairie (251Ba) ecological subsection of the Prairie Parkland Province (Figure 3) (reference (1)). Agriculture is the current dominant land use of this subsection. Natural vegetation in this subsection is characterized as tallgrass prairie (reference (2)), with many islands of wet prairie (reference (1)). Forests of silver maple, elm, cottonwood, and willow are found along streams and floodplains.

3.1 Land Use and Land Cover

Land use within and adjacent to the Site is predominantly agricultural (Figure 4). The Site includes agricultural fields with cultivated crops, agricultural ditches, and a county drain (109A), as well as agricultural related structures. Nearly all of Renville County is comprised of agricultural land.

Over a ten-year period (2022 and 2013), corn and soybeans have been the primary land cover within the Site. (Table 3-1**;** Figure 5) (references (3); (4); (5); (6); (7); (8)). The entire Site is designated as Prime Farmland, Farmland of Statewide Importance, and Prime Farmland if drained (Section 3.3).

Table 3-1 Primary Land Cover for the Site

Year	Primary Land Cover
2022	Soybeans
2021	Corn
2020	Soybeans
2019	Corn
2018	Soybeans
2017	Corn
2016	Soybeans
2015	Corn
2014	Soybeans
2013	Corn

The most developed area near or within the Project is the city of Franklin. Except for residences in the city of Franklin, residences in the vicinity of the Site are primarily associated with farms. The major traffic routes in the area are County Highway 5 which runs north and south, to the east of the Project, and Minnesota Highway 19, which runs east and west just south of the Site. A railroad owned and operated by Minnesota Prairie Line, Inc, whose parent railroad is Twin City & Western Railroad, runs east to west through the city of Franklin.

3.2 Soil Properties and Qualities

The Soil Survey Geographic Database (SSURGO) provides datasets with map data relating soil map unit polygons to component soil characteristics and interpretations. The Project soil varies in the physical and chemical characteristics that influence the soil's suitability and limitations for construction, reclamation, and restoration.

Figure 6 illustrates the mapped soil types within the Site. Table 3-2 summarizes the soil properties and textures of the mapped soil types. Most of the Site contains L107A-Canisteo-Glencoe complex, 0 to 2 percent slopes.

Table 3-2 Soil Properties and Qualities Summary

Total Acres	Surface Texture (acres)					Slope Range (acres)		Drainage Class (acres)						Topsoil Thickness (acres) [1]				Hydric Soils (acres) [2]	Avg Depth to Water Table <10" (acres)
	Sandy Loam	Fine-sandy Loam	Loamy	Muck	Mucky Loam	0-5%	>5-8%	E	W	MW	SWP	P	VP	0-12"	>12-15"	>15-18"	>18"		
1041.6	638.6	310.4	7.4	41.4	43.7	1016.3	25.3	0.0	97.3	206.5	149.6	495.6	92.6	25.3	72.0	817.7	126.6	588.2	588.2

Note(s):
Resource: NRCS SSURGO
[1] Topsoil thickness is the aggregate thickness of the A horizon.
[2] Soils included in the total acres reported for hydric soils include those with either a "predominantly hydric" (67 to 99 percent) rating or a "all hydric" (100 percent) rating.

3.2.1 Soil Surface Texture

The SSURGO describes surface texture as:

> *"Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. 'Loam,' for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand."*

An appropriate modifier, e.g., "clay," is added to “loam” if there is more clay content (27 to 40 percent in total) but less silt content (60 to 73 percent in total) in comparison to just loam.

Soil texture affects soil properties, including infiltration, structure, porosity, water-holding capacity, and chemistry (reference (9)). 61 percent of the soils in the Site are clay loam. The second most prominent surface texture present is loam (30 percent). Loams provide good water storage and aeration (reference (10)).

3.2.2 Slope Range

The Site is primarily in the 0 to 5 percent slope range. The flat nature is conducive to Project development.

3.2.3 Drainage Class

The SSURGO describes drainage class as:

> *"'Drainage class (natural)' refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the 'Soil Survey Manual.'"*

The soil drainage class indicates how quickly water drains from an area and the frequency and duration of wet soil periods and dictates the vegetation types that can grow and activities that can take place (reference (11)). Approximately 48 percent of the soils present within the Site are classified as poorly drained. Approximately 14 percent of the Site soils are classified as somewhat poorly drained. Soils in poor drainage classes are very productive when drained and are well suited for and frequently converted to agriculture after installing subsurface drain tile.

3.2.4 Topsoil Thickness

SSURGO maps identify 91 percent of the soils within the Project area as having a thick topsoil thickness greater than 15 inches (15 to 18+ inches; Table 3-2).

3.2.5 Hydric Rating

Hydric soils form in areas permanently or seasonally saturated with water and, as a result, develop anaerobic conditions at some point during the growing season, which affect the types of vegetation they

can support. Hydric soils are also an important indicator of wetlands, and models that predict wetland locations often include location information (reference (12)).

SSURGO maps identify approximately 56 percent of soils within the Site as predominantly hydric or hydric (Table 3-2).

3.2.6 Depth to Water Table

The depth to the water table is important for many ecological processes, including vegetation growth patterns, interactions with surface water, and pollutant transport (reference (13)). Shallow groundwater also has implications for construction stormwater design, which requires 3 feet of separation from the bottom of an infiltration practice to the seasonal high water table (reference (14)).

SSURGO data classifies the average depth to the water table within approximately half of the Site as shallow. Specifically, SSURGO maps indicate the depth to the water table is 0 inches within 56 percent of the Site, where hydric and predominately hydric soil are mapped (Table 3-2). Due to the existing drain tile, the Site has been able to be farmed. Birch Coulee Solar will confirm the depth to groundwater prior to construction activities.

3.3 Classification Data: Prime Farmland and Land Capability Class

Table 3-3 summarizes the total prime farmland and land capability class classifications within the Site.

Table 3-3 Prime Farmland and Land Capability Summary

Total Acres	Prime Farmland					Land Capability Class						
	Prime	Statewide Importance	If Drained	If Protected	Not Prime	1	2e	2w	3e	3w	4w	6w
1041.6	356.2	104.7	580.7	0.0	0.0	149.6	278.5	495.6	25.3	92.6	0.0	0.0

7 C.F.R. 657.5(a) provides, in part, that prime farmland is:

> *"land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses . . . . It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding."*

Approximately 56 percent of the soils within the Site are designated Prime Farmland If Drained (Figure 7). The remaining Site is designated as Prime Farmland (34 percent) and Prime Farmland of Statewide Importance (10 percent).

The Land Capability Class (LCC) soil grouping system classifies soils based on their suitability for most kinds of field crops and groups according to their limitations for field crops, the risk of damage if used for

crops, and how they respond to management. Capability classes are designated by the numbers 1 through 8, indicating progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

- Class 1 soils have few limitations that restrict their use.
- Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class 3 soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
- Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.
- Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.
- Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

74 percent of the soils within the Site fall within class 2 (2e and 2w); approximately 48 percent fall specifically within 2w. The letters after the class represent the main hazard where:

- "e" shows risk of erosion unless close-growing plant cover is maintained.
- "w" shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage).

Soils present within the Site are suitable for agricultural purposes, particularly if drained, as supported by the Prime Farmland and LCC classifications.

3.4 Construction Related Soil Suitability and Limitation Ratings

The SSURGO soil data also includes designated soil suitability and limitations ratings as they relate to construction. Table 3-4 provides an acreage breakdown of selected soils ratings within the Site.

Table 3-4 Construction Related Soil Suitability and Limited Ratings

Total Acres	Highly Erodible		Compact Prone [1]	Rutting Hazard			Drought Susceptible (Y/N)
	Water	Wind		Slight	Moderate	Severe	
1041.6	0	7.4	303.8	0	0	1041.6	N

[1] Soils included in the total acres reported for Compact Prone include those with a rating of "Medium" or higher.

3.4.1 Erodibility

SSURGO maps do not deem the Site as highly susceptible to either erosion caused by water or erosion caused by wind (Table 3-4).

3.4.2 Compaction and Rutting Hazard

Approximately 29 percent of the soils within the Site are compaction-prone (Table 3-4). 100 percent of the soils within the Site have a severe rating for the rutting hazard (Table 3-4). The severe rating indicates that ruts form readily.

The degree of soil rutting and compaction corresponds to the soil texture and moisture levels, which worsen when heavy equipment traffic impacts wet soils with fine or medium textures.

3.4.3 Drought

Site soils are not considered drought susceptible (Table 3-4). SSURGO maps deem approximately 29 percent of the Site soils as moderately drought-susceptible (SSURGO rating index is greater than 0.33 but less than 0.67) and approximately 25 percent as somewhat drought-vulnerable (SSURGO rating index is greater than 0 but less than 0.33). The remaining Site soils (56 percent) are slightly drought vulnerable (SSURGO rating index equals 0).

4 BMPs During Construction and Operation

Birch Coulee Solar will construct the Project on property they own or lease and does not anticipate direct impacts to adjacent lands.

Birch Coulee Solar anticipates earth-disturbing activities will include minimal grading, constructing interior roads, digging trenches for the DC and AC collection system, and foundational work for the Project substation and inverter skids, as necessary. While the PV arrays design can follow existing grades within certain tolerances, some site balancing is likely. Balancing involves grading topsoil off from areas where borrow or fill is necessary, removing subsoils from borrow areas, and placing those soils in fill areas. Once the subsoil balancing is complete, the segregated topsoil will be replaced in the borrow and fill locations.

4.1 Environmental Monitor

Birch Coulee Solar will coordinate with the MDA to identify a suitable independent monitor (Monitor). The Monitor will assist in overseeing any earthmoving activities, including but not limited to grading, trenching, soil stockpiling/storage, and potential compaction, during Project construction to confirm appropriate measures are taken to properly segregate and handle the topsoil. The Monitor will:

- Perform regular inspections during the major earthmoving phases of Project construction, including grading, trenching, soil stockpiling/storage, and potential for compaction.
- Observe construction crews and activities to oversee that topsoil is segregated and managed appropriately.
- Monitor the site for areas of potential soil compaction (except within access roads) and make specific recommendations for decompaction.
- Assist in determining if "wet weather" conditions exist and provide recommendations to the construction manager on stormwater BMPs.
- Assist in determining BMPs to mitigate any impacts to surface and subsurface agricultural drainage systems.
- Submit a weekly report confirming adherence to soil BMPs to the MDA during the Project construction earthmoving phase and upon completing earthmoving activities.

4.2 Temporary Erosion and Sediment Control

By adhering to a site-specific SWPPP, Birch Coulee Solar will minimize the risk of excessive soil erosion on lands disturbed by construction.

Prior to construction, Birch Coulee Solar will work with engineers or the Contractor to outline reasonable methods for erosion control and prepare the SWPPP. These measures primarily include silt fencing on the downside of hills, near waterways, and near drain tile inlets. Silt fencing controls sediment transport from stormwater. Check dams and sediment control logs slow water during rain events in areas with the potential for high-volume flow. In addition, the Contractor can use erosion control blankets on steep slopes, although given the site topography, this BMP will not likely be necessary. Lastly, as outlined above, topsoil and sub-grade material will be piled, loosely compacted, and/or "tracked" while stored. The

BMPs employed to minimize wind and stormwater erosion on these soil stockpiles may include installing silt fences on the piles' downward and/or installing sediment control logs if these spoil piles are near waterways. The SWPPP will identify inspection and maintenance requirements for BMPs.

4.3 Soil Segregation and Decompaction

During construction, one of the primary means to protect and preserve the valuable topsoil within the Site will be to separate the topsoil from the other subgrade/subsoil materials when earthmoving activities or excavation are taking place (grading, road construction, cable installation, foundation installation, etc.). There may be limited situations where excavated subsoil storage on adjacent undisturbed topsoil needs to occur. In these situations, the Contractor will return subsoil to the excavation with as little disturbance of the underlying topsoil as practicable.

Birch Coulee Solar will strip 12 inches in areas of construction grading and will treat topsoil deeper than 12 inches as subsoil. During the activities that require temporary excavations and backfilling (e.g., trenching) the Contractor will first replace subgrade material in the excavations and compact as necessary, followed by replacing the topsoil to the approximate locations from which they removed it. The Contractor will grade topsoil to the approximate pre-construction contour. Birch Coulee Solar will strive to avoid compaction in other areas where the design does not require it.

Most topsoil disturbance will occur during site balancing and grading. Other activities that impact topsoil are access road construction, underground collection trenching and cable installation, inverter footing installation, and substation construction.

Following earthwork activities that require topsoil/subsoil segregation, the Contractor will re-spread topsoil materials on top of the backfilled subsoils or disturbed areas and decompact if necessary.

4.4 Project Phasing

Birch Coulee Solar will document plans for construction phases in the SWPPP. The first phase of work will be the general civil work, where the cut-and-fill activities will occur.

The Contractor will first strip topsoil that sits higher than other areas, so that the topography is within the tolerances the solar array design allows. Based on the preliminary design, Birch Coulee Solar anticipated some grading will be required. During this civil work, the Contractor will push topsoil outside the cut/fill areas and collect it in designated spots for later use. Once the Contractor removes the topsoil from the cut/fill areas, they will remove the sub-grade materials from on-site hills and relocate to on-site low spots. Prior to relocating subgrade materials to the low spots, the Contractor will strip topsoil and set aside before adding fill, then re-spread the topsoil over the new fill. The Contractor will compact sub-grade materials in place and re-spread the topsoil spoil piles over the reconditioned sub-grade areas. The Contractor will loosely compact his newly spread topsoil and/or "track" and employ the wind and stormwater erosion prevention BMPs.

After completing most major earthwork activities, the Contractor will start constructing the internal road network. This work starts by stripping topsoil materials from the roadbeds to a depth of up to 12 inches. The Contractor will windrow topsoil to the edges of each roadbed by pushing materials into rows of stockpiles adjacent to the road, loosely compacting, and/or "tracking" with stormwater and wind erosion BMPs in place. The Contractor will then compact the sub-grade materials. After gravel installation and compaction to engineers’ requirements is complete, the Contractor will shape Project drainage ditches as

identified on the final grading plan. The Contractor will then re-spread the previously stripped and windrowed topsoil within the Site.

Following grading and road construction, the Contractor will begin installing piles' foundation for the solar PV array racking system. This work will directly drive the pile into the soil with pile-driving equipment.

4.5 Foundations

The Contractor will perform foundation work for the Project substation and inverters. The Contractor will strip topsoil, install the foundations, compact sub-grade materials, re-grade spoils around the substation yard, and install clean rock on the surface of the substation area. They will push topsoil stripped from the Project substation area outside of the substation area and windrow or stockpile it in designated locations for later use, with stormwater and wind erosion BMPs in place. Once construction advances, Contractor will redistribute the topsoil piles in a thin layer adjacent to the substation area.

Where the Contractor installs inverters, they will strip topsoil. They will excavate the inverter foundations using an excavator and install rebar and concrete. After the concrete cures and strength testing, they will compact the subgrade soils around the inverters. The Contractor will re-spread adjacent topsoil around the inverter after the concrete is set.

4.6 Trenching

Birch Coulee Solar will install the electrical collection system and associated communication lines in trenches (at least three feet deep) using direct burial methods. Multiple installation methods (e.g., trenching, plow method) may be used and will be determined based on site-specific conditions, consistent with general solar project construction practices. The Contractor will install AC and DC collection cables at least 3 feet deep when burying the collection lines.

The Contractor will excavate topsoil and subgrade materials from the trench using typical excavating equipment or backhoes and segregate the topsoil as described in Section 4.3. They may line the bottom of each trench with clean fill or imported bedding to surround the cables. Birch Coulee Solar anticipates that native subsoil will be free of rocks greater than 3 inches. After installing cables on top of the fill or bedding materials in the trench, the Contractor will place 1 foot of screened, native backfill subsoil on the cables, followed by an additional 2 feet of unscreened native backfill trench spoil. They will compact the material as necessary. After settling, the Contractor will backfill the last foot of each trench with topsoil to return the surface to its finished grade.

4.7 Drain Tile Identification, Avoidance, and Repair

In July 2023, Barr Engineering Co. observed the agricultural fields to have functioning drain tile present and were able to support soybean, corn, and sugar beet crops. The drain tile appeared to discharge into agricultural ditches and county drains (109A and 14-23). Figure 2 shows the locations of known drain tile within the Site. Drain tile is primarily adjacent to, and within, farmed wetland areas identified in the Site.

To minimize unforeseen repairs or damages to existing drain tile lines and/or drain tile systems, Birch Coulee Solar commits to preserving existing drainage discharge conditions and will mitigate damage to private drain tile lines and drainage systems during construction. Birch Coulee Solar will continue discussions with the Renville County Drainage Supervisor to determine the management plan for drain tile under jurisdiction of the county. The following section details Birch Coulee Solar’s tile identification, avoidance, repair, and soil drainage management plans.

4.8 Pre-construction Tile Mapping and Repair

Identifying and locating drain tiles is complicated because of missing, incomplete, and inaccurate mapping. Birch Coulee Solar will review available drain tile maps from participating landowners and will attempt to avoid existing drainage systems during Project construction. The locations of existing drain tile under the jurisdiction of Renville County are available on the county's website; per Chapter 15 of the Renville County Land Use ordinance, the preliminary engineering design for the Project incorporates a 40-foot setback on each side of the county drain tile from the array areas (80-foot corridor).

In areas where it is not possible to design solar arrays around existing private drain tile locations, Birch Coulee Solar will take steps to maintain the integrity of the drainage system during and after construction. Birch Coulee Solar will attempt to relocate tile that is anticipated to be in conflict with solar array installation or trenches (i.e., collection lines) around the conflict area. Bridging or reinforcing of tile lines may occur to maintain integrity if construction traffic may potentially cause damage.

Birch Coulee Solar will attempt to identify, repair, or relocate drain tile(s) or drainage system(s) adversely affected to achieve the function and scope to its original size and capacity. Replacement or rerouting tile will occur during construction to maintain the integrity of the drainage lines. This practice should minimize on-site or neighboring farms' drainage interruptions that may drain through the Project.

Following completion of construction, Birch Coulee Solar will inspect the Project site after significant snow melt or rainfall events for evidence that tile systems are functioning adequately. If localized wet areas or standing water are present, it may be an indication the tile system is not operating as intended. In this situation, Birch Coulee Solar will seek to remedy soil drainage conditions within a reasonable timeframe, considering weather and soil conditions.

4.9 Wet Weather Conditions

During the Project construction, periods of wet weather may necessitate a temporary halt of construction activities. The Birch Coulee Solar Construction Manager will have the responsibility for halting activities if weather conditions pose a risk to worker safety or if heavy equipment will cause severe rutting. Following initial grading, some activities may proceed in wet weather but with caution and after installing BMPs (e.g., plywood, timber matting) based on the existing soil type present. Birch Coulee Solar's Construction Manager is responsible for avoiding or minimizing topsoil erosion, rutting, compaction, or damage to drain tiles (where present) to the extent possible.

If necessary, prior to installation of the native seed mix, the Construction Manager may direct crews to de-compact soils following wet weather conditions. De-compaction with chisel plows prior to disking and planting is a standard method of soil preparation in areas proposed for seeding to native grasses and forbs.

4.10 Restoration

The Birch Coulee Contractor will comply with the requirements of the SWPPP and VMP during restoration. This includes implementation of BMPs, such as revegetation after the solar array construction and maintenance of vegetation during operations and maintenance using well-suited plants, scheduling seeding periods for optimum soil moisture for germination, and mulching.

4.11 Adaptive Management During Construction

When appropriate and necessary, Birch Coulee Solar and its Contractor will employ the following adaptive management measures:

- Changing the Construction Plan should unforeseeable conditions arise that render it unworkable.
- Working with the Monitor, MDA, and other appropriate agencies to discuss and select potential new approaches to the site-specific conditions during construction that require different BMPs than those described in this section.
- Remaining flexible and implementing new practices/procedures while maintaining safe working conditions.

5 Decommissioning

At the end of the Project's useful life, Birch Coulee Solar will either take necessary steps to continue operation of the Project (such as re-permitting and retrofitting) or decommission the Project and remove facilities. Birch Coulee Solar reserves the right to extend operations instead of decommissioning at the end of the Site Permit term. Refer to the Project's Decommissioning Plan for additional details.

5.1 Reclamation of Facility Site

After removing equipment, Birch Coulee Solar will restore the Site to agricultural use, according to the Decommissioning Plan, or to another use if the economic conditions and landowner intentions indicate another use is appropriate for the site. This includes filling holes created by steel pier foundations and fence poles, concrete pads, re-claiming access road corridors, and returning soils to pre-construction conditions. Birch Coulee Solar will keep grading and other soil disturbance activities during decommissioning to the minimum necessary to maintain the soil benefits realized during the long-term operation of the Project. As noted in the Decommissioning Plan, Birch Coulee Solar will de-compact disturbed soils to return the Project for agricultural use.

6 References

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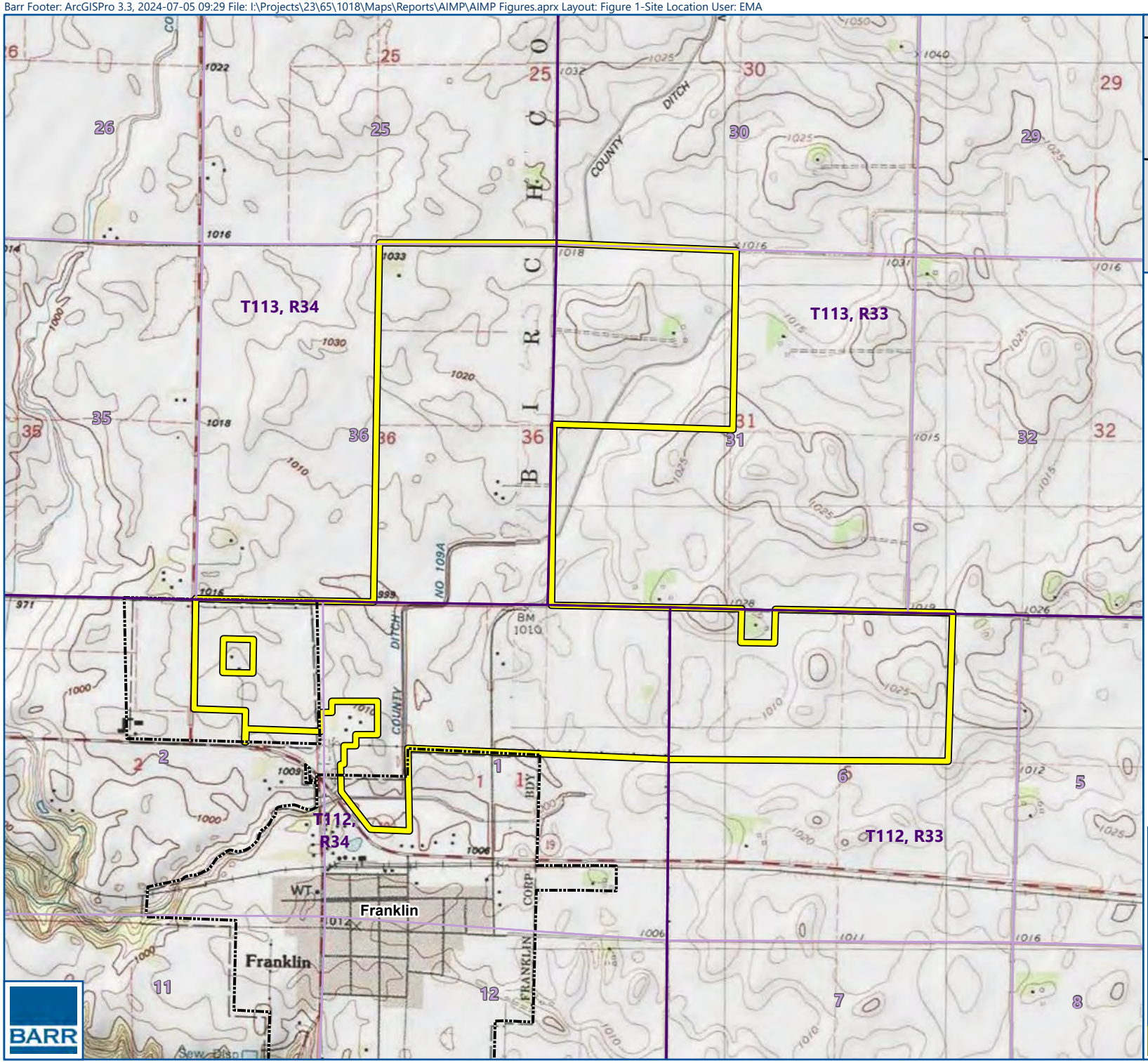
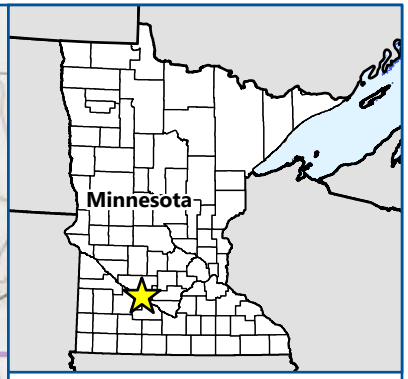
Figures





Site

Public Land Survey Township

Public Land Survey Section

Municipal Boundary

N

0 1,000 2,000

Feet

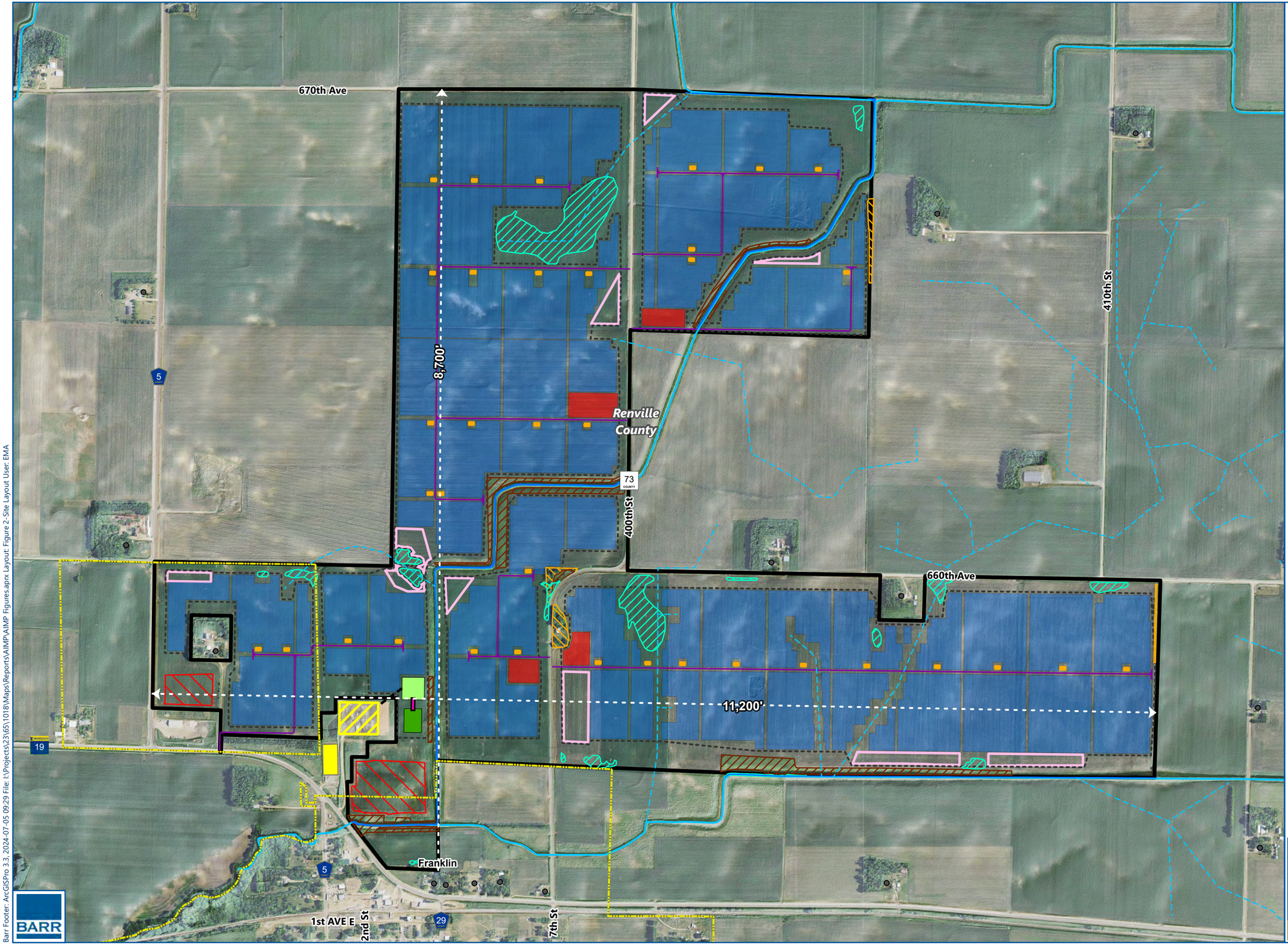
0 0.5

Miles

SITE LOCATION
Agricultural Impact Mitigation Plan
Birch Coulee Solar LLC

FIGURE 1

BARR



SITE LAYOUT
Agricultural Impact Mitigation Plan
Birch Coulee Solar LLC

FIGURE 2

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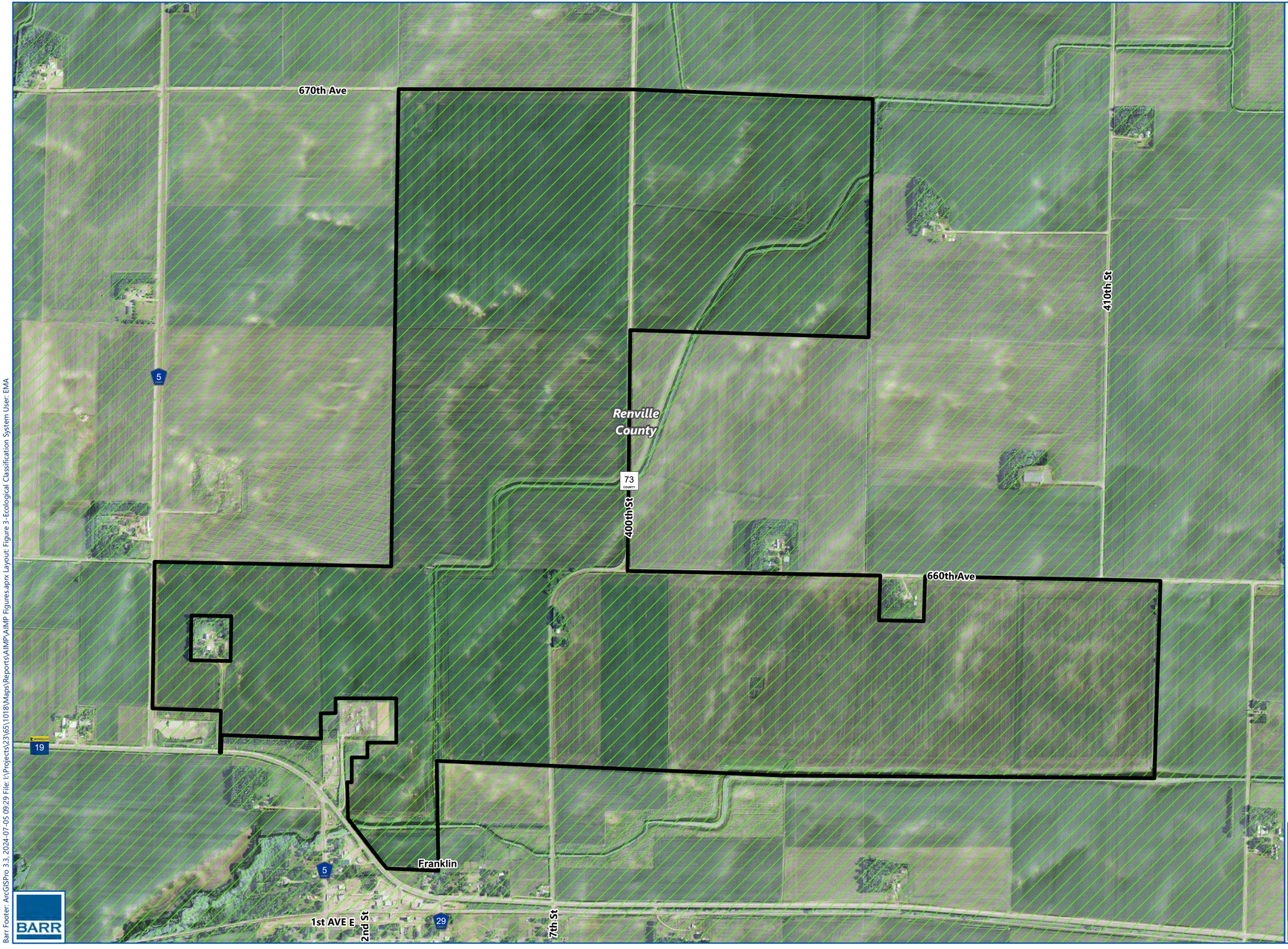

Site

Ecological Subsection

Minnesota River Prairie

0 500 1,000

Feet

USDA NAIP Imagery, 2021

ECOLOGICAL CLASSIFICATION SYSTEM SUBSECTION
Agricultural Impact Mitigation Plan
Birch Coulee Solar LLC

FIGURE 3

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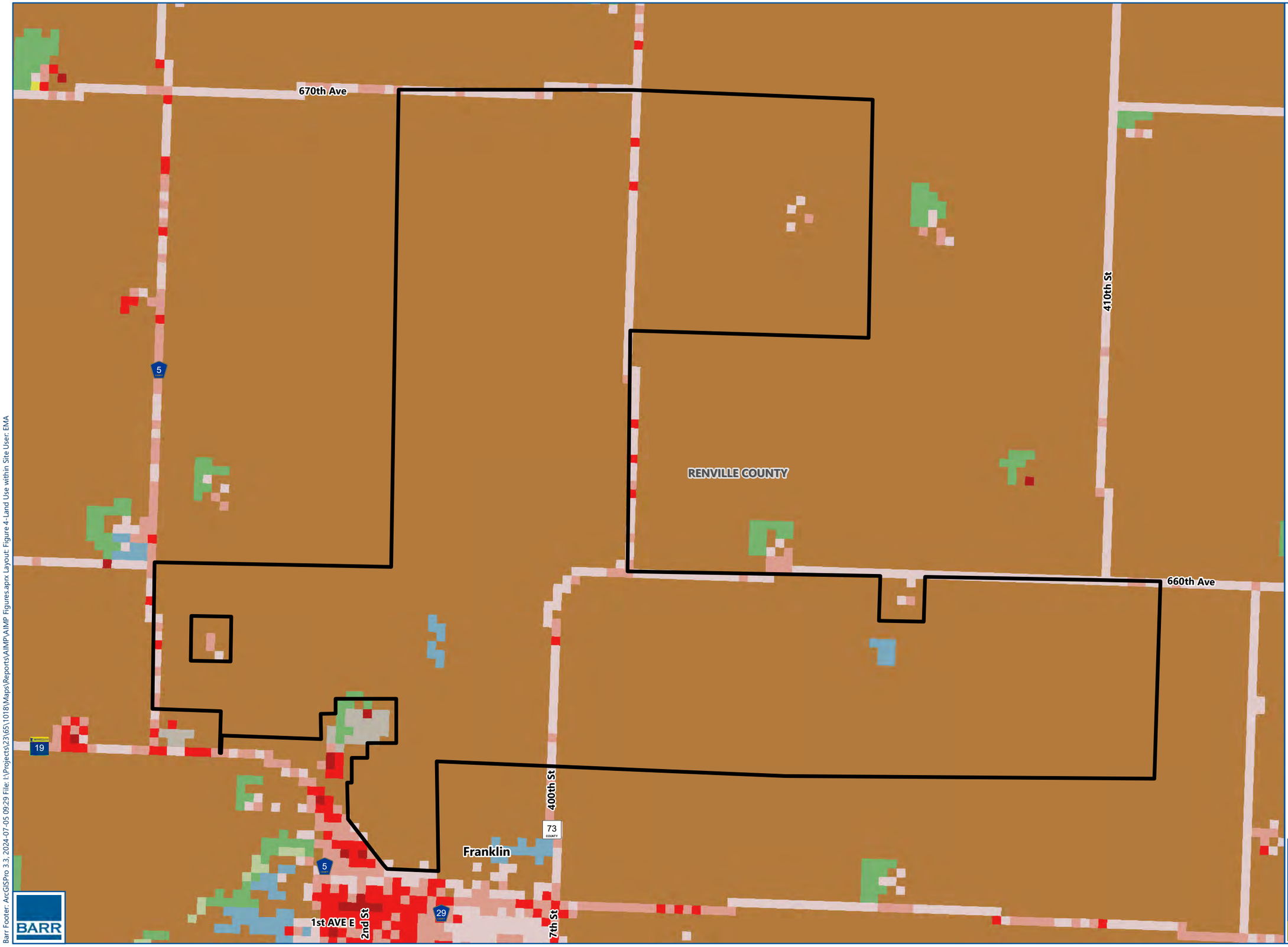

Site

Land Use, NLCD (2021)

- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Mixed Forest
- Cultivated Crops
- Emergent Herbaceous Wetlands

N

0 500 1,000

Feet

LAND USE WITHIN SITE

Agricultural Impact Mitigation Plan

Birch Coulee Solar LLC

FIGURE 4

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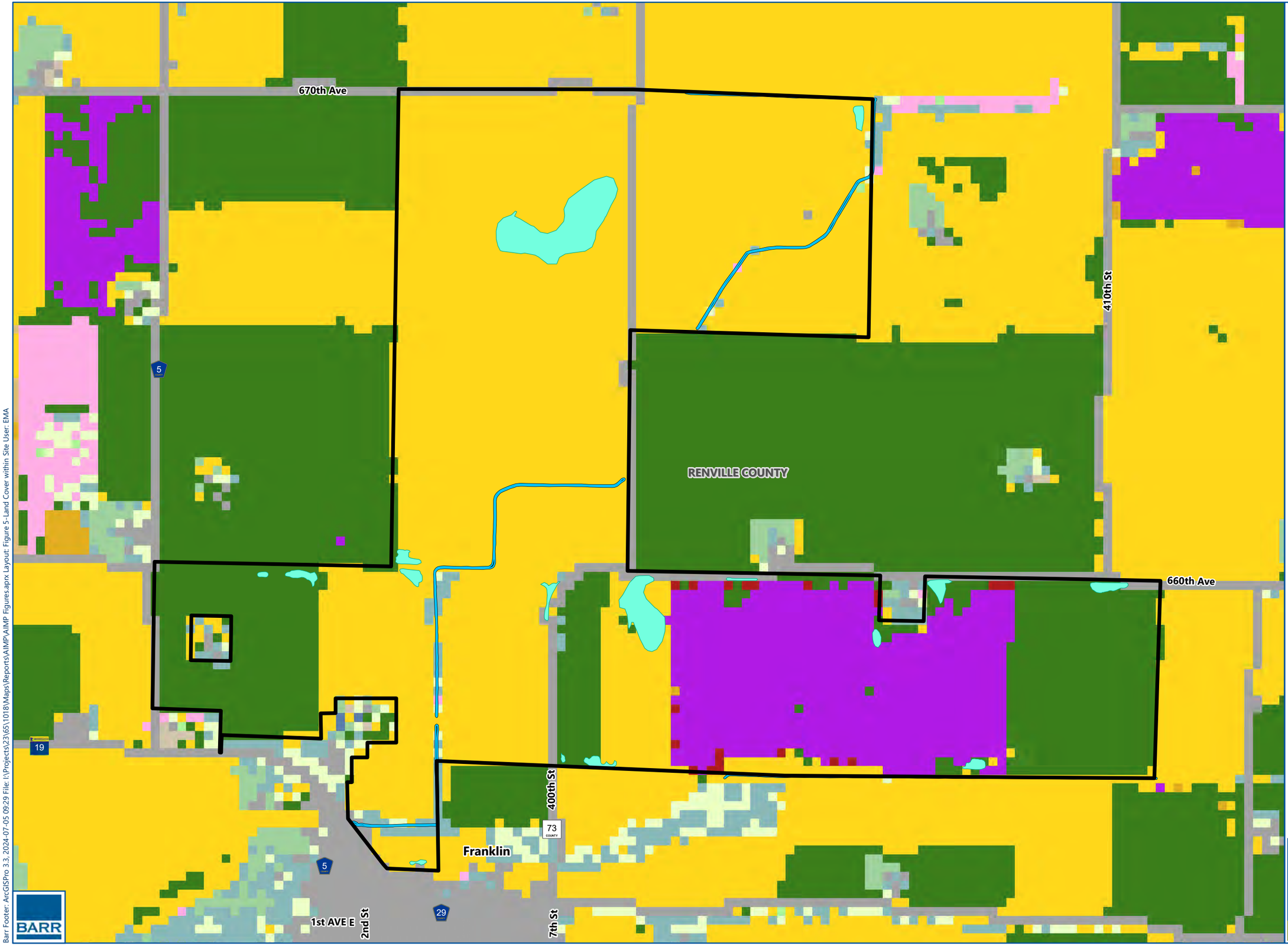

LAND COVER WITHIN PROJECT AREA
Agricultural Impact Mitigation Plan
Birch Coulee Solar LLC

FIGURE 5

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Site

Soil Map Unit

102B-Clarion loam, 2 to 6% slopes

112-Harps clay loam, 0 to 2% slopes

118-Crippin loam, 1 to 3% slopes

1373C-Clarion-Storden-Pilot Grove complex, 6 to 10% slopes, moderately eroded

1376C-Clarion-Storden complex, 6 to 10% slopes, moderately eroded

336-Delft clay loam, 0 to 2% slopes

386-Okoboji mucky silty clay loam, depressional, 0 to 1% slopes

519-Klossner muck, depressional, calcareous, 0 to 1% slopes

86-Canisteo clay loam, 0 to 2% slopes

887B-Clarion-Swanlake complex, 2 to 6% slopes

920B-Clarion-Storden-Hawick complex, 2 to 6% slopes

L107A-Canisteo-Glencoe complex, 0 to 2% slopes

L163A-Okoboji silty clay loam, 0 to 1% slopes

L83A-Webster clay loam, 0 to 2% slopes

L85A-Nicollet clay loam, 1 to 3% slopes

N

0 500 1,000

Feet

USDA NAIP Imagery, 2021

NRCS MAPPED SOIL TYPES
Agricultural Impact Mitigation Plan
Birch Coulee Solar LLC

FIGURE 6

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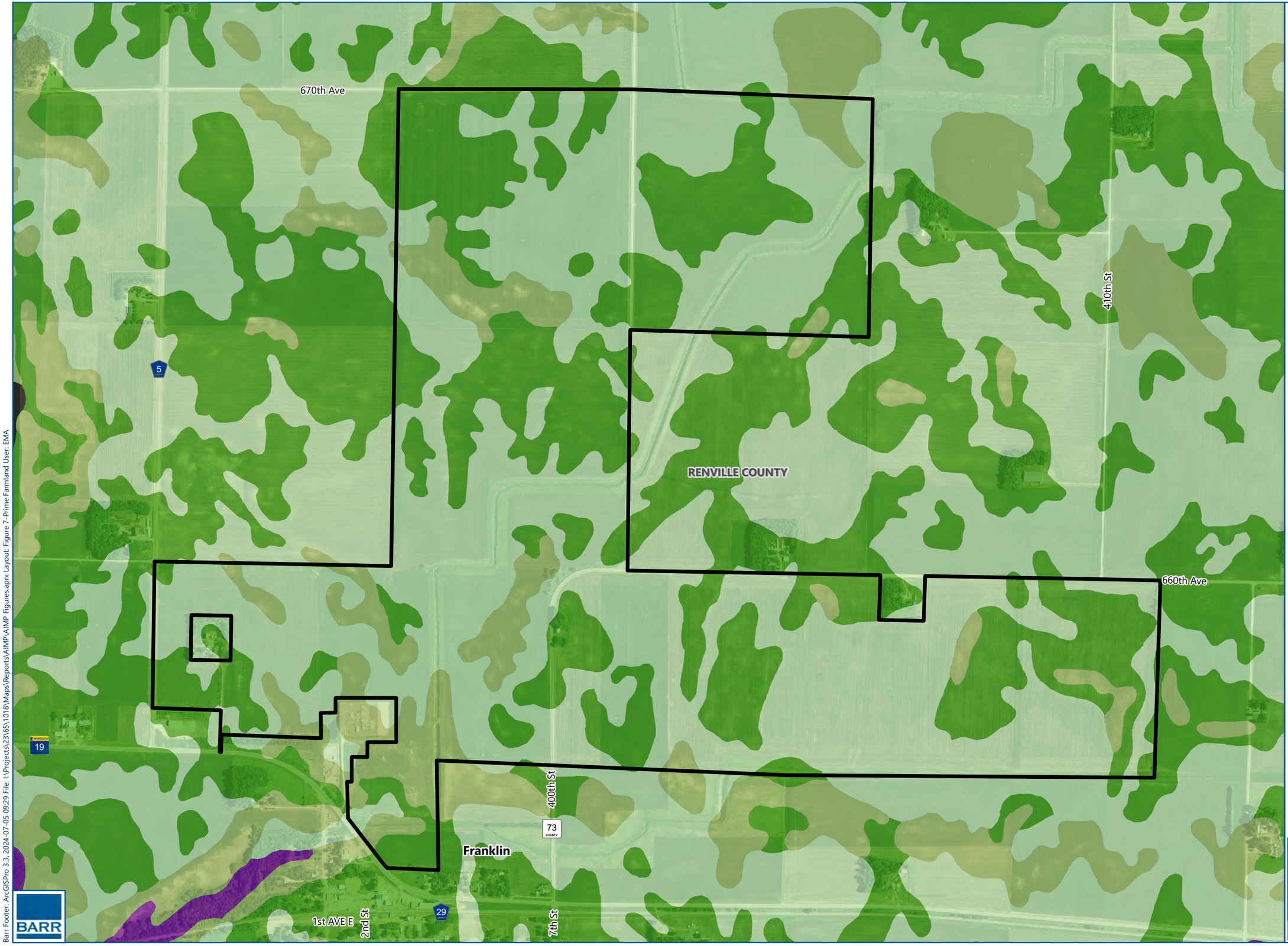

Site

Farmland Classification

- Prime farmland
- Farmland of statewide importance
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Not prime farmland

0 500 1,000

Feet

USDA NAIP Imagery, 2021

PRIME FARMLAND WITHIN SITE
Agricultural Impact Mitigation Plan
Birch Coulee Solar LLC

FIGURE 7

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