McHenry County
Zoning Board of Appeals - Zoning Hearing
AGENDA

July 30, 2025, 1:30 PM
County Board Conference Room
Administration Building, 667 Ware Rd., Woodstock, IL 60098

Pages

1. CALL TO ORDER
2. ROLL CALL
3. NEW BUSINESS / PUBLIC HEARING
   - 3.1 Z25-0047 Trolley Coach Solar, LLC, A1-A1C, Coral Twp — 2
4. OLD BUSINESS
5. PUBLIC COMMENT
   Topics unrelated to public hearing - 3-minute time limit per speaker
6. ANNOUNCEMENTS
7. ADJOURNMENT

IN THE MATTER OF THE APPLICATION OF	)
TROLLEY COACH SOLAR, LLC, *APPLICANT*	)
FOR AN AMENDMENT OF THE UNIFIED DEVELOPMENT	) LEGAL NOTICE OF PUBLIC HEARING
ORDINANCE OF McHENRY COUNTY, ILLINOIS FOR A	) Z25-0047
CONDITIONAL USE	)

Notice is hereby given in compliance with the McHenry County Unified Development Ordinance, that a public hearing will be held before the **McHenry County Zoning Board of Appeals,** in connection with this Ordinance, which would result in a ***CONDITIONAL USE*** for the following described real estate:

A PART OF THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP-43-NORTH, RANGE-6-EAST OF THE THIRD PRINCIPAL MERIDIAN, MC HENRY COUNTY, ILLINOIS BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 00 DEGREES 00 MINUTES 02 SECONDS EAST, ALONG THE EAST LINE OF SAID SOUTHWEST QUARTER, 2362.59 FEET; THENCE NORTH 64 DEGREES, 27 MINUTES, 08 SECONDS WEST, 277.50 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 1159.22 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 262.87 FEET; THENCE SOUTH 60 DEGREES 56 MINUTES 44 SECONDS WEST, 349.19 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 749.37 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 1022.37 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS EAST, 729.37 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 227.44 FEET TO THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION; THENCE NORTH 89 DEGREES 45 MINUTES 47 SECONDS EAST ALONG SAID NORTH LINE, 838.47 FEET TO THE POINT OF BEGINNING, CONTAINING 45.623 ACRES, MORE OR LESS.

Part of PINs 17-02-300-001 and 17-02-300-002

The subject property is located adjacent to the West side of the intersection of McCue and Hemmingsen Roads***, with a common address of McCue Road and Hemmingsen Road, Union, Illinois, in Coral Township.***

The subject property is presently zoned ***"A-1" Agriculture District*** and consists of approximately ***45.623 acres*** with ***"A-1" Agriculture District zoning to the North, South and West and "A-1" Agriculture District and "A-2" Agriculture District with a Conditional Use Permit zoning to the East.***

The Applicant is requesting **a CONDITIONAL USE** ***of the subject property to allow for a commercial solar energy facility.***

The Applicant, Trolley Coach Solar, LLC is wholly owned by Apex Clean Energy Holdings, LLC. The officers of Trolley Coach Solar, LLC and Apex Clean Energy Holdings, LLC are: Ken Young, Kenny Chernauskas, Steve Porto, Noah Ehrenpreis, Kurt Friesen. They can be reached at 120 Garrett Street, Suite 700, Charlottesville, Virginia 22902. The property owner is A D Land Holdings LLC. Dante Domanella is the Managing Member and Gino Domanella, John Perritt and Americo Domanella Revocable Trust Agreement are members of A D Land Holdings LLC. They can be reached at 2000 North Racine, Suite 2290, Chicago, IL 60614.

A hearing on this Petition will be held on the 30th day of July 2025 at 1:30 P.M. in the County Board conference room at the McHenry County Government Center Administration Building 667 Ware Rd, Woodstock, Illinois at which time

and place any person desiring to be heard may be present. The McHenry County Government Center Mailing address is 2200 N. Seminary Avenue, Woodstock, Illinois 60098.

DATED THIS 9th DAY OF JULY 2025.

By: Linnea Kooistra, Chair
McHenry County Zoning Board of Appeals
2200 N. Seminary Avenue
Woodstock, IL 60098

Petitions for all Zoning Board of Appeals hearings can be accessed at the following link: www.mchenrycountyil.gov/county-government/new-meeting-portal and choosing the "Agenda" link for the specific meeting date.

Live audio streams of all Zoning Board of Appeals hearings can be accessed at the following link: www.mchenrycountyil.gov/county-government/new-meeting-portal and choosing the "Video" link for the specific meeting date.

Special Use Permit Application
Trolley Coach Solar
McHenry, IL

Trolley Coach Solar, LLC

May 2025

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1 APPLICATION SUMMARY

Trolley Coach Solar, LLC (the "Applicant") requests a Conditional Use Permit (CUP) for the construction and operation of Trolley Coach Solar (the "Project"), an approximately 5 MW alternating current ground-mounted solar facility on private land, spanning approximately 32 acres in McHenry County, Illinois ("Trolley Coach Solar Project," the "Project," or "Trolley Coach Solar") in accordance with the McHenry County Unified Development Ordinance ("Zoning Ordinance").

The Applicant respectfully requests approval of the application for a Conditional Use Permit[1] ("Application") by the McHenry County Zoning Board of Appeals and the McHenry County Board. As detailed herein, the Applicant has met all requirements set forth in the McHenry County Unified Development Ordinance, §*16.56.030PP Principal Use Standards – Commercial Solar Energy Facility* and §*16.20.040 Conditional Use Standards.*

1.1 Solar Project Overview

The Applicant is the owner of the proposed Trolley Coach Solar Project. The Project will span two parcels in McHenry County, IL ("Property"), owned by A.D. Land Holdings, LLC, who has leased the Property to the Applicant. The majority of the Project's facilities will be located on parcel PRN# 17-02-300-001 and the interconnection facilities will be located on the adjacent parcel (PRN# 17-02-300-002), subject to Commonwealth Edison's ("ComEd") recommendation for location of the interconnection. The Property is zoned A-1 and is located approximately 1.5 miles from Union, IL, on McCue Road, about a quarter mile north of where it intersects Hemmingsen Road. Land use is predominantly agricultural, consisting of cultivated corn and soybean varietals. The Project will not impact neighboring land uses, nor will it be injurious to the use and enjoyment of nearby properties.

Legal Description: THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 43 NORTH, RANGE 6, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN MCHENRY COUNTY, ILLINOIS.

Approximately 32 acres located within the boundaries of the Property will be utilized for the solar panel area, electrical system components, and encompassing fencing (the "Project Area"). The Project Area is ideal for hosting a community solar farm because:

- The land has previously been cleared and leveled for farming activities, so further tree clearing, grading, and other disturbances for solar will be minimal;
- The flat topography and rural location in combination with deliberate screening which includes the use of existing vegetation, will create little to no impact on public viewsheds;
- ComEd's existing distribution infrastructure nearby can be used for interconnection of the solar project, foregoing the need to build out extensive overhead electrical lines and avoiding additional impacts on the area;
- Throughout its 40-year life, the Project will produce the equivalent of approximately 1,000 homes' worth of clean solar electricity per year, providing cost savings to ComEd customers that elect to participate in a community solar farm

- Though Kishwaukee River runs through the southwest corner of the parcel, precautions have been taken to avoid impacts, including extensive setbacks for all facilities and components and avoidance of the flood hazard area.

The Applicant anticipates that Project construction will commence during the fall of 2026 or later that same year, with operations beginning in the first half of 2027.

[1] Trolley Coach Solar will update this application as approvals are made or documents are revised until the McHenry County Board issues its report of findings and recommendations on the Application.

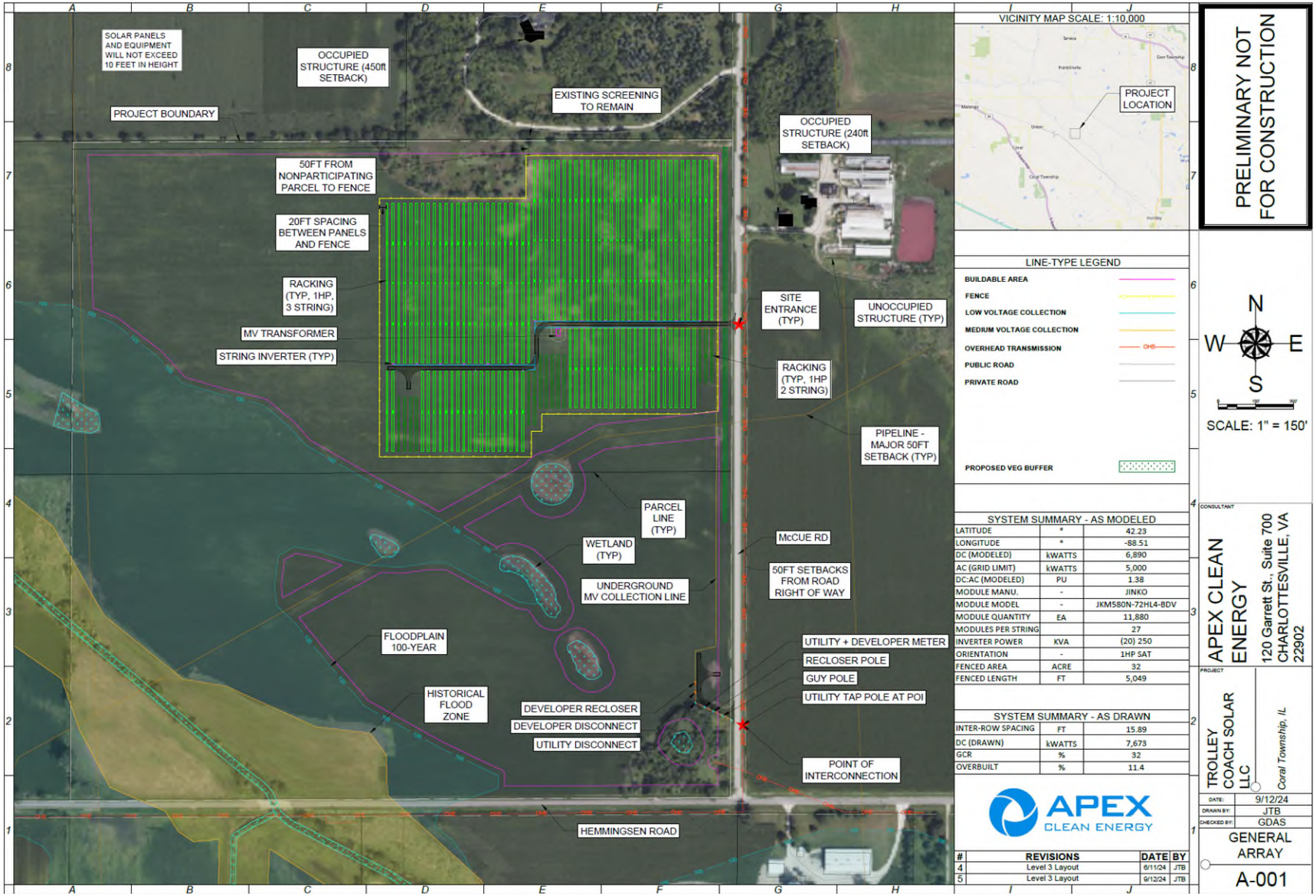

Figure 1. Trolley Coach Solar Preliminary Layout

1.2 Applicant Description and Contact Information

Trolley Coach Solar, LLC is a wholly owned subsidiary of Apex Clean Energy. Apex Clean Energy is a privately held renewable energy company based in Charlottesville, Virginia. Founded in 2009, Apex is a full-service renewable energy company that develops, constructs, and operates utility-scale generation facilities across the United States. Driven by a team of more than 400 professionals and headquartered in Charlottesville, Virginia; Apex has commercialized more than 45 projects totaling over eight (8) gigawatts (GW) of capacity. For example, in 2024, Apex constructed or is currently constructing eight projects across the country: three solar projects, three wind projects, and two energy storage projects. In Illinois alone, Apex currently operates Mulligan Solar, a 70 MW solar facility near Lincoln and over 500 MW of wind facilities across the state.

Trolley Coach Solar, LLC's agents for contact purposes are:

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Charlie Johnson
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Apex Clean Energy
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Charlottesville, VA 22902
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(434) 987-8437

1.3 Right to Use Property for Proposed Facility

The Applicant's affiliate, Trolley Coach Solar, LLC, is the Lessee of the Property, as evidenced by the recorded Memorandum of Ground Lease for Solar Energy System included in this Application.

1.4 Project Facilities Overview

Overview

The Project will consist of a 32-acre, 5MWac solar facility situated on two adjacent parcels of private land within McHenry County. The facility will deliver electricity to a single point of interconnection on the existing ComEd distribution system, providing the opportunity for the utility's customers locally and statewide to subscribe to the project.

The Project access road is located approximately 0.4 miles north of the intersection of Hemmingsen Rd and McCue Rd. A (preliminary) Site Plan has been prepared in accordance with the requirements of the McHenry County Commercial Solar Energy Facility Site Plan Checklist and Zoning Ordinance and is included with this application. The Project's layout will be finalized after field surveys, wetland delineations, and other permitting requirements are completed and will be submitted to the County along with any required construction and vegetation plans as a part of the full building and zoning approval process.

The Project is expected to bring significant economic benefits to McHenry County and the Applicant has designed the Project with the following considerations:

- To preserve of the rural character of the area by providing significant setbacks from and minimal impacts to neighboring parcels;
- To qualify as a community solar facility and participate in one of the Illinois Power Agency's incentive programs (e.g. Illinois Shines or Illinois Solar For All);
- To produce the equivalent of over 1000 homes' worth of clean electricity per year, based on average home electricity consumption in the U.S.;
- To comply with the agreed upon terms of Commonwealth Edison's Standard Agreement for Interconnection of Distributed Energy Resources Facilities;
- To provide local economic stimulus via increased tax revenue (estimated at approximately $1.4 million over its 40 years of operation);
- To deconstruct (or decommission) the Project at the end of its operational life in accordance with state law, the McHenry-Lake County Soil and Water Conservation District, and the Illinois Department of Agriculture's Standard Agriculture Impact Mitigation Agreement (AIMA) (see Section 3.4 below). The Applicant will provide financial security to McHenry County pursuant to state law and the AIMA to ensure that the County has financial resources available to deconstruct the Project in the unlikely event that Apex fails to. A Deconstruction Plan has been prepared and will be provided in this application.

Design

The Project has been designed to comply with all State setback requirements, as defined by 55 ILCS § 5/5-12020. These setbacks are shown in the Site Plan and detailed in Section 3.6 of this Application. These requirements are set forth in 55 ILCS § 5/5-12020(e)(3).

While the Applicant has not yet finalized the selection of panel model or manufacturer, the location, layout, and capacity of the Project will not materially change from what is depicted in the Site Plan. This application contains specification sheets for an example of the type of technology that may be used. The final Project layout and technology selection will comply with all applicable Federal, State, and County Code requirements and final designs will be submitted for approval as part of the building and zoning review process prior to construction.

Solar Facility Configuration

Solar facilities consist of three major components: the panels, the inverters, and the racking. The solar panels used will operate photovoltaic technology to convert sunlight into direct current (DC) energy. Each solar panel is comprised of several cells that are connected via semiconductors. These cells absorb photons from the sun, releasing electrons that flow through the semiconductors and system wiring to the inverters which convert this DC energy into alternating current (AC). A pole-mounted transformer then increases the voltage of the AC energy to make it compatible with the electric grid.

Steel piles for the racking are driven into the ground, then solar panels and string inverters are mounted to the racking. If sufficient depths cannot be achieved, or if larger central inverters are used, then concrete foundations will be poured to provide structural support and mounting for these components.

Solar Panels: Each solar panel, also known as a “solar module,” typically contains 72 or 96 photovoltaic cells. These photovoltaic cells are made of silicon and connected via semiconductors made from commonplace metals like aluminum and copper. These cells are encapsulated by a non-toxic, rubber-like adhesive film, and secured between a front layer of glass and a durable plastic back sheet. A junction box that houses the panel’s wiring is mounted to the underside of the panel, and everything is secured by an aluminum frame. Multiple interconnected solar panels are called a “string” and multiple strings form an “array”. A solar facility can be composed of multiple solar arrays.

Based on current technology, the Project’s site could contain around 10,000-14,000 photovoltaic solar panels in total and, with the scale at which the technology is improving, the number of panels needed for the Project may be reduced due to increases in the energy output per panel. Any changes to the model or manufacturer will be submitted for review to the County prior to construction.

The solar panel industry is moving away from toxic panel components, and the Applicant will not use solar panels that contain cadmium telluride, lead, or any other toxic substances. For more details on these types of panels, an example specification sheet has been provided with the submission of this application.

Racking: The structural support for a solar array is called the racking. Racking is made of high-grade

aluminum and steel and can take the form of either fixed-tilt or single-axis trackers depending on the available space and contour of the land. As the name implies, single-axis trackers track the sun's path across the sky from east to west throughout the day along a horizontal axis with nearly imperceptible movement. A fixed-tilt racking system will be oriented towards the south pole (in the northern hemisphere) and tilted at an angle that matches the latitude of the facility's location.

A single axis tracking system is currently proposed for the Project racking. This system is designed to withstand wind speeds of 145mph and will not exceed 20ft at maximum height when combined with the solar arrays. Measurements for this system type are included on the Preliminary Site Plan with specifications from a potential product manufacturer on the provided specification sheets. Final racking selection, details, and design will be submitted to the County for approval prior to construction.

Inverters: The inverter converts DC energy to AC energy that is ready to be transmitted to the local distribution grid. Two types of inverters are used in solar facilities: string inverters and central inverters. String inverters, the most common for projects of this size, are proposed for this Project and typically have the following dimensions: (W x H x D): 26.4" x 35.5" x 11.7". If central inverters are used, cabling from the solar arrays will be routed underground to the concrete pad on which the inverter is mounted. Central inverters typically have the following dimensions (W x H x D): 22' x 13' x 7'. A sample string inverter specification sheet has been provided for reference on the specification sheets. The final inverter selection will not substantially change the facility size or location but will be approved by the utility and submitted to the County for approvals prior to construction.

Most of the sound produced by the system is due to the inverter's low-level hum and only occurs during the day when energy is being produced. This hum has been described as roughly equivalent to the sound of a dishwasher. At night, there will be no noise emanating from the solar facility audible at the property line.

Access Roads

Two new gravel access roads, both with a single point of entry/exit will be sited on the Property along McCue Rd with the goal of minimizing impervious impact and traffic hazards. One on the northeastern edge of the Property, and an additional smaller access road on the southeastern edge of the Property. If necessary, any existing roads on the Property will be utilized and improved. The new access road will be gravel surfaced and 20 feet in width. During construction, the access road may be temporarily widened to accommodate movement of the larger system components or construction equipment, generally not exceeding 50 feet. Following construction, the access road will be reduced back to 20 feet and the area temporarily used will be restored, to the extent practicable. The exact routing of both of the project access roads is shown in detail in the Site Plan and is preliminary in nature and subject to the completion of further engineering analysis prior to construction.

Electrical Collector Lines

The Project will utilize underground electrical collector lines to the extent practicable to connect all Project facilities to each other and to the equipment needed for interconnection with the utility. The collector system will be designed for operation at 34.5 kV. The collector lines will be installed in a trench at a depth of at least 18 inches within the fenced Project area and a minimum of five feet outside of the fenced area. The location of collector lines installed underground outside of the fenced area will be reviewed by the landowner to minimize disturbance to the existing agricultural use of the Property. A fiber-optic cable and an additional separate ground wire will also be installed with the collector system. The fiber-optic cable will be used for Project-specific telemetry, control, and communication purposes. Above-ground junction boxes will be installed, as required, for connections or splices.

Transformer and Interconnection

Due to the Project's small size, which will not exceed 5 MWac of generating capacity, no substations or ancillary structures will be constructed or permanently installed. Instead, the Project will be interconnected to ComEd's existing three-phase distribution system via step-up transformer, circuit reclosers, switches and metering equipment. All of which are mounted to the tops of telephone poles close to the point of interconnection. The point of interconnection is on the electrical circuit adjacent to the Property which runs north to south along McCue Road. These 34.5kV lines connect to the Marengo substation. The electricity generated by this system will be utilized locally by all ComEd customers that the substation services. *Please note: while this project is intended to be a community solar facility, ComEd customers in the project's vicinity will need to elect to subscribe to the project to experience the cost savings on their monthly electric bills.*

The Project has completed Commonwealth Edison's interconnection study process and executed an Interconnection Agreement with the utility (*Section 466.Appendix D: Levels 1 to 4 Contract*).

At this time, the scope of this Project does not include Energy Storage or any equipment and facilities other than those described herein and planned for on the preliminary Site Plan.

1.5 Project Construction

Upon approval of the Application and issuance of a Conditional Use Permit, and as other state and federal approvals are obtained, the Applicant will complete engineering-scale designs of the access roads, construction areas, array layout, and the electrical components.

Consistent with the AIMA (see Section 3.4), the Applicant will take measures to minimize impacts to drainage infrastructure on the Property. Prior to Construction, the Applicant will work with the Landowner to identify drainage tile lines traversing the Property to the extent reasonably practicable, depicting all identified tile lines on the Construction and Deconstruction Plans, and recording their locations using GPS technology. The Applicant will repair and/or install new drainage tile lines as needed and will compile “as built” drawings showing the locations of all encountered drainage tile lines and repair locations for distribution to the Landowner, the Illinois Department of Agriculture (IDOA), and the McHenry County Stormwater Management Commission.

Under the AIMA, the Applicant will also maintain soil quality at the Property utilizing industry best practices which include a planting and maintenance plan to ensure that noxious weeds are controlled, and native plantings are properly installed and managed. For trenching of underground electrical collector lines during construction, topsoil will be stripped prior to trenching and then restored as close as reasonably practicable to the original depth and contour once trenching is completed. Best efforts shall be made to store the topsoil near the excavation site in a manner so as not to cause mixing with subsoil materials.

Safety will be a top priority during all aspects of construction activities, especially on public roads. The total estimated timeframe for solar farm construction is approximately 6-8 months. Subject to receipt of the necessary permits and any weather delays, the Project is slated to commence commercial operations during the first half of 2027.

1.6 Economic Benefits

The Trolley Coach Solar project in McHenry County will provide tangible economic benefits to the local community, further reinforcing its positive impact on property values. The project involves an initial $18 million capital investment and is expected to create approximately 25 full-time-equivalent (FTE) jobs during construction.

Over its 25-year operational life, the project will generate approximately $1.4 million in local tax revenue based on the Illinois Department of Revenue’s Commercial Solar Energy System Valuation method. This revenue, with a 2% annual escalator, will directly benefit ten local taxing bodies, including:

- McHenry County
- Coral Township & Coral Township Road & Bridge
- Marengo-Union Library
- McHenry County Conservation District
- Marengo Rescue Squad

- Union Fire District
- School District 154 & School District 165
- College District 528 (McHenry County College)

This increased tax revenue can be used to support local schools, emergency services, libraries, and infrastructure improvements, helping to maintain strong public services that make the area more attractive to homebuyers.

Impact of Solar Projects on Property Values

The impact of solar energy projects on nearby property values has been studied extensively across the United States, and research consistently shows that utility-scale solar farms do not have a significant negative effect on property values. In some cases, they may even contribute to stabilizing or increasing home values by generating local tax revenue and economic benefits.

A 2024 study completed by researchers at Loyola University examined property values near 70 utility-scale solar projects in the Midwest and found that nearby property values increased by 0.5% to 2.0% following the installation of a solar facility. This positive impact was particularly evident for smaller projects under 20MW, such as the Trolley Coach Solar project, which provide economic benefits without significant visual or land use concerns.

Similarly, a 2023 study by the Lawrence Berkeley National Laboratory (LBNL) analyzed over 1.8 million home sales near 1,500 large-scale solar projects in six U.S. states and found no measurable negative impact on property values beyond one mile. While a minor price adjustment (approximately 1.5%) was observed for homes within 0.5 miles of a large-scale project, this effect was statistically insignificant beyond that range. Moreover, the study found that solar farms built on agricultural land—like Trolley Coach Solar—had less impact on nearby properties compared to solar installations in more densely populated areas.

Why Solar Farms Do Not Reduce Property Values

Several key factors explain why solar projects do not negatively impact property values:

1. Minimal Disruptions – Unlike industrial developments, solar farms produce no emissions, minimal noise, and generate little traffic, making them one of the least disruptive land uses.
2. Vegetative Buffers and Visual Screening – Many solar projects, including Trolley Coach Solar, incorporate landscape buffering, fencing, and setbacks to minimize visibility and integrate seamlessly into the surrounding area.
3. Local Economic Benefits – Solar farms contribute significant tax revenue to counties and municipalities, which can fund schools, emergency services, and infrastructure improvements—all of which positively influence property values.
4. No Environmental Hazards – Unlike landfills, factories, or fossil fuel plants, solar farms do not produce pollution, hazardous waste, or odors that could negatively affect home values.
5. Growing Public Acceptance – Surveys indicate that most residents support solar energy in their communities, and concerns about property value impacts tend to decline once projects are operational.

1.7 Compliance with Federal, State, and Local Requirements

As detailed below in Sections 2, 3, and 5, the Project will comply with all Federal, State, and Local requirements prior to commencement of construction activities. All studies, permitting milestones, and coordination activities required in the Zoning Ordinance have been initiated or completed.

2 FEDERAL COMPLIANCE AND NOTIFICATIONS

The Project submitted applications to, entered into agreements with, or otherwise conferred with the following federal regulatory agencies:

2.1 Federal Aviation Administration

The Federal Aviation Administration (FAA) has the regulatory authority to evaluate and permit structures which may pose a hazard to aviation.

The closest airport to the Project is the Casa De Aero Park-68IS, located approximately 6.1 miles from the project site. To confirm that the Project will meet the standards and regulations of the FAA, the Applicant utilized the FAA's online Notice Criteria Tool, entering in the coordinates of the Project Area, the anticipated maximum height of the panels, and the site elevation to evaluate the potential to affect airspace or cause glare for aircraft. The Project does not exceed Notice Criteria and no further coordination with the FAA is required.

As of 2021, the FAA no longer requires guidance or assessment for potential glare associated with off-airport solar facilities and does not require submission of a Form 7460-2 (86 Fed. Reg. 25801 (May 11, 2021).

2.2 United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) is responsible for regulating the discharge of dredged or fill material into waters of the United States (WOTUS), including wetlands, under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA).

The Applicant retained Tetra Tech, Inc.—a U.S.-based environmental consulting and engineering firm—to conduct a desktop survey for aquatic resources that could potentially be considered waters of the United States (WOTUS) within the property, to inform project design and ensure compliance with Section 404 of the Clean Water Act (CWA). Based on the survey results, one potential jurisdictional feature was identified within the parcel: the Kishwaukee River. However, the Project has been designed to avoid potential impacts to potential WOTUS, and a Section 404 permit is therefore not required. Field wetland surveys will be conducted to verify the results of the desktop report and delineate boundaries of potentially jurisdictional aquatic resources for avoidance as Project designs are finalized prior to construction.

2.3 United States Environmental Protection Agency (US EPA)

Determining the potential presence of environmental conditions is necessary for financing, siting, and Project construction. As such, the Applicant retained Tetra Tech, Inc. to perform a Due Diligence Environmental Review (DDER). The purpose of the DDER was to evaluate the Property for indications of recognized environmental conditions (RECs). The information provided in the DDER included a review of historical and current environmental records and followed the "approximate minimum search distance" defined in the ASTM International (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E1527-

21). The approximate minimum search distance included research of standard federal, state, and tribal environmental record sources (as defined by ASTM E1527-21) in a 0.5 to 1.0-mile buffer around the Project Area. The review found no RECs, historical recognized environmental conditions (HRECs), controlled recognized environmental conditions (CRECs), or other potential issues.

Prior to Construction, a Phase I Environmental Site Assessment ("Phase I ESA") will be conducted to comply with US EPA requirements for environmental liability protections under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

2.4 United States Fish and Wildlife Service

Given the Property's prior use as cleared agricultural land, adverse impacts to federally protected species are not anticipated, and no action is required under the Endangered Species Act (ESA). Even so, the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online tool was used to review the potential presence of listed species and critical habitats.

The USFWS also administers the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), which prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Migratory Bird Treaty Act also prohibits the take (including killing, capturing, selling, trading, and transport) of migratory birds. Because the Property and surrounding areas have been previously cleared for agricultural purposes, there is no suitable habitat for nesting eagles and limited suitable breeding habitat for migratory birds, in general. Thus, construction and operation of the Project will comply with these federal statutes.

2.5 Federal Emergency Management Agency (FEMA) - Flood Plain Designations

A desktop review of the FEMA Flood Hazard maps determined that there is FEMA Flood Zone A within the parcel boundary. Flood zone A are areas with a 1% annual chance of flooding. The FEMA National Flood Hazard Layer FIRMette can be found in the application submission. The Applicant intends to avoid placing any structures within all such flood zones.

3 STATE OF ILLINOIS COMPLIANCE AND NOTIFICATIONS

Compliance with State of Illinois rules and regulations involved permit applications, consultations and/or agreements with the following agencies:

3.1 Illinois Department of Natural Resources (IDNR)

State-listed Threatened and Endangered Species

Under 520 ILCS §§ 10/11, 30/17, issuers of local or state permits must consider the potential adverse effects of proposed actions on Illinois endangered and threatened species and nature preserves. To ensure compliance with state threatened and endangered species regulations, the Applicant requested a formal Ecological Compliance Assessment Tool (EcoCAT) review by the Illinois Department of Natural Resources (IDNR) for the Property on October 19th, 2023. The review indicated that a few state-listed threatened or endangered species and an Illinois Natural Area Inventory sites may be in the vicinity of the Property. However, this review was evaluated by IDNR staff, who concluded that adverse effects to Illinois endangered and threatened species and nature preserves are unlikely. Consultation with IDNR is complete. The EcoCAT report and IDNR letter can be found in the submission of this application.

Illinois Pollinator-Friendly Solar Site Act

The Project plans to implement a strategy for vegetation management at the site that is compliant with the Illinois Pollinator-Friendly Solar Site Act of 2018 (525 Illinois Compiled Statues [ILCS] 55; IDNR 2023a, 2023b). The vegetation strategy will be consistent with the intent of the IDNR and will 1) provide native perennial vegetation and foraging habitat for game birds, songbirds, and pollinators; 2) reduce storm water runoff and erosion, and 3) prevent establishment of noxious weeds.

3.2 Illinois Historic Preservation Division (IHPD)

Under the Illinois State Agency Historic Resources Protection Act, the Illinois State Preservation Office (SHPO) division at IDNR is responsible for studying possible Project effects on archaeological and/or architectural (cultural) resources. Agencies requiring SHPO evaluation concurrent with their review include the Illinois Environmental Protection Agency, IDNR, and the USACE.

Since the Project will require a National Pollutant Discharge Elimination System (NPDES) Permit from the Illinois Environmental Protection Agency (IEPA), SHPO review and concurrence is required to ensure impacts to cultural resources are avoided and/or minimized. Further, if human remains, or archaeological resources are uncovered during construction, an Unanticipated Discoveries Plan will be developed to inform appropriate response.

Archaeological/Architectural Desktop Study

The Applicant retained Tetra Tech, Inc. to complete a desktop review of the Property and a 1-mile buffer (archaeological resource buffer) to inform Project design. The desktop review included a site

file search and literature review through the Illinois State Archaeological Survey (ISAS) Cultural Resource management (CRM) Report Archive and Illinois Historic Preservation Agency (IHPA) Historic Architectural Resources Geographic Information System (HARGIS). Results of the desktop review indicated the presence of one potential historic resource (a General Land Office, "GLO" site) and an Archaeological Resource Potential Area ("RPA") on the Property. No impacts to the RPA are expected.

Phase 1 Archaeological Reconnaissance Survey

Due to the potential for impact, further reconnaissance of the GLO site was performed by Tetra Tech, Inc. in accordance with Illinois Guidelines for archaeological survey. The field study located no archaeological material and clearance will be recommended to SHPO.

Based on current project design, no additional archaeological field surveys are necessary for regulatory compliance. If Project design changes such that the areas with higher potential for cultural resources cannot be avoided, then additional field surveys will be conducted, and the results will be provided to the IHPD for concurrence.

Architectural Resource Survey

An Architectural Resource Survey (Phase 1 Survey) based on requirements of the Illinois State Agency Historic Resources Protection Act (IHRPA) will be required pursuant to the issuance of an IEPA Storm Water Industrial Activity permit. The Phase 1 Survey will identify previously recorded cultural resources as well as identify any potential historic resources within the Area of Potential Effect (APE; 0.5-mile buffer on the Property in compliance with IHPA guidelines). This survey will be performed prior to issuance of a construction permit for the Project.

3.3 Illinois Environmental Protection Agency (IEPA)

The IEPA Division of Water Pollution Control is responsible for regulating wastewater discharges to Illinois streams and lakes, which includes issuance of stormwater permits under the NPDES program.

The Project will obtain coverage under the Illinois General NPDES Permit for Storm Water Discharges from Construction Site Activities (ILR10) prior to the initiation of Project construction. To satisfy all standards for obtaining a NPDES permit, the Project will design a Stormwater Pollution Prevention Plan (SWPPP) which includes both structural and non-structural best management practices (BMPs) that will be implemented to minimize the potential discharge of pollutants during construction activities. Examples of structural BMPs may include the installation of silt fences and/or other physical controls to divert flows from exposed soils, or otherwise limit runoff and pollutants from exposed areas of the site. Examples of non-structural BMPs include implementation of materials handling, disposal requirements, and spill prevention methods.

Before the commencement of construction on the Project, the Applicant will file a notice of intent and accompanying SWPPP for a general permit to discharge relating to storm water discharges during Project construction.

3.4 Illinois Department of Agriculture (IDOA)

The Project will be located on a site that is currently zoned A-1, Agriculture District, and used for agricultural purposes. Because of this, the Applicant is required to follow the IDOA's minimum requirements related to construction and deconstruction of a renewable energy facility, including topsoil segregation, rock removal, weed control, and repair of damages. The Applicant has submitted an Agricultural Impact Mitigation Agreement (AIMA) with the Illinois Department of Agriculture, per the Renewable Energy Facilities Agricultural Impact Mitigation Act (505 ILCS § 147/15) and the requirements of state statute 55 ILCS § 5/5-12020. A copy of the AIMA has been provided to the landowner and can be found in the submission of this Application.

3.5 Illinois Department of Transportation (IDOT)

IDOT considers solar energy access roads as low- to moderate-volume commercial entrances. The Project will have one access road/entrance from McCue Road, which is not an IDOT right-of-way. Regardless, the Applicant will comply with any Illinois Department of Transportation (IDOT) guidelines and requirements of state statute 55 ILCS § 5/5-12020 as applicable.

3.6 State Statute 55 ILCS § 5/5-12020 Commercial Solar Energy Facilities

The Applicant will comply with all requirements described in Illinois State Statute 55 ILCS § 5/5-12020, regulating Solar Energy Facilities.

[55 ILCS § 5/5-12020(e)(3)] Setbacks.

The Project has been designed so as not to exceed setbacks of 150 feet from the nearest point on the outside walls of dwellings on nonparticipating properties, 50 feet from the nearest edge of public road rights-of-way, and 50 feet from the nearest point on the property lines of nonparticipating properties.

[55 ILCS § 5/5-12020(e)(4)] Fencing.

The perimeter of the Project will be enclosed by fencing that is at least 6 feet but no more than 25 feet in height.

[55 ILCS § 5/5-12020(e)(5)] Facility Height.

The height of the components of the Project will not exceed more than 20 feet above ground when the solar arrays are at full tilt.

[55 ILCS § 5/5-12020(j)] Construction and deconstruction standards.

At the end of the Project life, the Project will be deconstructed in accordance with a deconstruction plan that is prepared and stamped by a Professional Engineer. This plan will be prepared prior to application for building permits, and after the final site plan design and will be provided to the County. As part of the deconstruction, all Project facilities will be dismantled and removed, and the land will return to agricultural uses, or another use permitted by the Zoning Ordinance and as

desired by the property owner. If it is agreed upon with the County and the landowner, the Project access roads may be kept in place for continued use. The Applicant shall file an updated Deconstruction Plan with the County on or before the tenth year of project operations. A draft Deconstruction Plan is included in the submission of this application.

In accordance with the guidelines of Section 17.D. of the Standard Solar AIMA (see Section 3.4 above), the Applicant will provide the County with financial assurance to cover the estimated costs of deconstruction of the Project. The estimated deconstruction cost will be based upon the final site plan, prepared by a Professional Engineer, and provided via bond, letter of credit, or other form of financial assurance that is phased in over the first 11 years of the Project's operation. Most of the Project's components will still have significant market value and are able to be reused or recycled. Despite this, the salvage value will not be used to reduce the estimated costs of deconstruction unless the County agrees to this subordination.

[55 ILCS § 5/5-12020(s)] Road Use Agreements.

As shown in the Site Plan, the Property will be accessed via a section of McCue Road that is a Coral Township right-of-way. Prior to delivery of the solar facility components and construction vehicles, the Applicant will comply with the Coral Township Highway Department's requirements, including application for permit and submittal of a bond to cover potential culvert and road damage resulting from construction of the Project. If necessary, any Road Use Agreement with the Coral Township Highway Authority shall place responsibility on the Applicant to cover costs of improving and/or repairing roads that are used to construct the Project so that those roads are restored to safe conditions for public utilization when construction is complete.

The level of permitting and further coordination with Coral Township will be better defined as the final engineering designs progress.

4 MCHENRY COUNTY PERMITS, APPROVALS, AGREEMENTS, AND NOTIFICATIONS

This section summarizes how the Conditional Use Permit application and the project comply with the McHenry County Unified Development Ordinance.

4.1 McHenry County Unified Development Code

§ 16.20.040(E) Approval Standards for Conditional Use Permits

The following section details how the project complies with the approval standards for conditional use permits as listed in Section E of McHenry County's UDO, § 16.20.040.

(1) The project is designed to meet requirements outlined in the Site Development Standards described in Chapter 16.60 of the county code of ordinances. The contents of this application and site plan demonstrate compliance with general development standards, exterior lighting requirements, and permitted encroachments. Additionally, consultations with the appropriate environmental authorities have been performed to ensure compliance with the County's environmental performance standards, likewise outlined in § 16.60. The site was selected and the project designed to meet the use standards described in § 16.56 of the County's code of ordinances.

(2) Agriculture is the designated future land use for the Property. The project is compatible with this designation because solar is a low-density development which preserves the land within the project area so that it may be returned to agricultural use at the end of the Project's operational life.

(3) Measures have been taken to ensure that the project maintains a low-profile and to protect the general welfare of the neighboring vicinity. This is achieved through vegetative screening and the implementation of setbacks which meet or exceed local requirements. All safety measures will be considered during construction, operation, and decommissioning to ensure that the project will not be detrimental to or endanger public health.

(4) A community solar farm is a quiet, clean neighbor that will not disrupt the uses of neighboring properties. As described above, measures such as vegetative screening and proper setbacks have been put in place to ensure properties in the immediate vicinity are not impacted.

(5) Solar farms do not emit sound, produce odor, or utilize hazardous materials. They are designed with anti-glare technology and are completely dark at night. Vegetative screening reduces visibility, and the panels, at maximum tilt, do not exceed 20 feet in height. Studies consistently show that solar farms do not harm the value of adjoining or nearby properties, especially where the aforementioned measures are put in place.

(6) Necessary facilities for the proper construction and maintenance of the project, including access roads, transmission lines for interconnection, and any other facilities shown on the site plan will be provided in coordination with ComEd and relevant County and State authorities.

(7) The construction of a gravel access roads to the project area will be created with the approval of the necessary transportation authorities, including the Coral Township Highway Department. During construction these access roads will provide ingress and egress, designed to minimize traffic congestion and hazard on public streets. During operation, vehicles will occasionally be at the site for maintenance and operation.

(8) According to the McHenry County Unified Development Ordinance Table 16.32-1: Zoning District Uses, commercial solar energy facilities are a conditionally permitted principal use in A-1 and A-2 zoning districts. The selected property is within the Agricultural zoning district of McHenry County and thus conforms to the standards outlined in the ordinance. Further, because solar farms are a low impact land use, they preserve the property during operation, allowing it to return to an agricultural use when the project is decommissioned.

(9) The project is designed with public welfare in mind. In addition to providing a clean and renewable energy supply, its construction will create local jobs, stimulate economic growth, and provide increased tax revenues. Community solar farms, like the proposed project, allow utility customers to subscribe and reduce their utility bills. They also contribute to replacing fossil fuels, reducing air pollution, combatting climate change, and promoting a healthy environment.

(10) The Project falls within a Sensitive Aquifer Recharge Area (SARA) district. However, the amount of disturbed area will not exceed 1-acre and all County regulations for development of impervious surface within this district will be followed. Additionally, all standards set forth in the McHenry County Stormwater Management Ordinance to safeguard groundwater resources and prevent any adverse effects on groundwater quality will be followed. The Applicant will obtain a Stormwater Management Permit prior to construction.

§ **16.56.030PP Principal Use Standards**

This section addresses compliance with each of the items listed in § 16.56.030PP as principal use standards for commercial solar energy facilities in the order those items are listed in the UDO.

(1) Application.

a. EcoCAT. To ensure compliance with state threatened and endangered species regulations, the Applicant requested a formal Ecological Compliance Assessment Tool (EcoCAT) review by the Illinois Department of Natural Resources (IDNR). The results of the EcoCAT request can be found in the submission of this application.

b. Site Plan. A site plan has been provided that shows all improvements, including structures, fencing, power lines (above and below ground), lighting, and landscaping, at a detail sufficient to understand the location, height, appearance, and area.

c. Application Packet. The Applicant shall comply with all other application submittal requirements outlined on the Conditional Use Permit Application Portal, through the McHenry County Website.

(2) Site Design.

a. Facilities. The solar panels, structures, and electrical equipment that comprise the Project Area have been designed to meet or exceed the listed setbacks: at least fifty (50) feet from any lot line and one hundred (150) feet from any non-participating residence.

b. Height. No structures, excluding power lines for interconnection, will exceed twenty (20) feet in height. Power lines will be buried to the extent practicable

c. Lighting. The exterior lighting on the Project shall comply with § 16.60.020.

d. Anti-glare. The Project will produce no hazardous glare. Anti-reflective coatings and anti-glare technology are inherent to solar panel design. This combined with the remote location of the Project will significantly inhibit glare on neighboring properties and public roads.

e. Drainage. Multiple desktop studies have been conducted to ensure the Project minimizes impacts to woodlands, savannas, wetlands, drainage tiles, and encroachment into flood plains. The Project will obtain coverage under the Illinois General NPDES Permit for Storm Water Discharges from Construction Site Activities (ILR10) prior to the initiation of Project construction. Any damaged drainage tiles shall be repaired in accordance with the AIMA. Regulations for impervious surface coverage in SARA districts will be followed.

f. Groundcover. The Applicant will implement ground cover that is consistent IDNR standards, specifically the Pollinator Friendly Solar Site Scorecard for Illinois (525 ILCS 55).

g. Fence. The Applicant shall install a security fence around the Solar Equipment that is a minimum six (6) feet in height accompanied with anti-climbing fixed to the top of the fence. Fencing will be installed on the interior of the vegetative buffer and shall always be maintained while the facility is in operation.

h. Screening. The use of vegetative screening will also be utilized to further limit visibility from public rights-of-way and non-participating residences within 500 feet along the northern and eastern project boundaries. This vegetative screening would be maintained within the setbacks and consist of landscaped native shrubs or existing vegetation boosted with new planting where needed, all subject to approval by the County Board.

i. Landscaping. Prior to building permit issuance, the Applicant will prepare a landscape monitoring and maintenance plan that details the methods of site preparation, sustainable vegetation establishment, and maintenance of installed and existing vegetative screening.

j. AIMA. The Applicant has executed an AIMA with the IDOA (included in application submission).

k. Road Use. The Applicant will comply with the requirements of the Coral Township Highway Authority and the Illinois Department of Transportation (IDOT) guidelines and requirements of state statute 55 ILCS § 5/5-12020 prior to delivery of the solar facility components and construction vehicles needed to construct the Project. Any road use agreements shall be provided to the County as part of the building permit process.

(3) Safety.

The Applicant will prepare an emergency management plan acceptable to the County and the local fire district prior to construction. The Project will not pose increased security or safety risks. Once the Project is constructed, a permanent perimeter/boundary fence will surround the entire Project. The fence will be posted with security signage and will be metal chain-link fence with a minimum height of six (6) feet and topped with one (1) foot of barbed wire, therefore inaccessible to unauthorized personnel. The Project will be monitored remotely on a 24/7 basis to ensure the Project is operating properly. If any emergency arises, it will be noted by the remote operator who will contact and coordinate with the appropriate local emergency and security personnel and will be able to remotely de-energize the Project. Existing County fire fighting services and equipment are suitable to handle any issues that may arise at the Project, and training will be provided to local emergency services on how to access the Project in case of emergency. The Project's access road will be maintained in good condition to continue to allow easy access to the Project through all phases of its life.

(4) Abandonment.

The Applicant acknowledges the standards for Abandonment as outlined in this section of the ordinance.

(5) Decommissioning.

The Applicant has provided a Decommissioning Plan that complies with all standards set forth in this section of the County's ordinance as well as those outlined in the executed AIMA. The Plan can be found included in the submission of this application.

4.2 McHenry County 2010-2030 Comprehensive Plan

The following sections of this narrative explain the Project's relationship to the significant elements

of the Comprehensive Plan and how the project will complement and support the community's vision.

Community Character and Housing

The Applicant has considered the community from the onset of the Project's design process, ensuring it does not adversely affect the health, safety, or general welfare of nearby residents or impair the character of the district and surrounding property values. With the current adjoining uses, setbacks, and planned vegetative buffers, the Project will be inconspicuous and have minimal viewshed impact, thus preserving the rural character of the surrounding area.

The Project will produce no hazardous glare. Solar panels, by design, absorb as much light as possible, and panels reflect/refract very little light – often less than two percent. This is comparable to the reflectivity of water, and significantly less reflective than standard glass. Anti-reflective coatings and anti-glare technology are inherent to solar panel design. This combined with the remote location of the Project will significantly inhibit glare on neighboring properties and public roads.

Agricultural Resources

The Project has been sited to allow continued farming on the remaining 130 acres of the Property. The ground-mounted solar facility will be located on the northern portion of the Property, and the landowner will continue farming the western and southern portions. The Applicant will develop a planting and maintenance plan that includes pollinator-friendly groundcover which will serve to promote productive yields for the landowner and neighboring farmers. The conversion of the Property to a non-agricultural use is temporary since solar is a low-intensity development that allows for land to be restored at the end of the solar farm's useful life.

Greenways, Open Spaces, and Natural Resources

Once installed, a solar array can produce energy undisturbed for a minimum of 35 years with minimal upkeep. Native grasses and vegetation can thrive within the Project boundary, helping to improve the soil's composition over time. These reasons combined with close coordination with IDNR, IDOA, and other regulatory agencies means that the Project will preserve environmentally sensitive corridors and be minimally impactful to the rural landscape during construction and operations.

The Comprehensive Plan recognizes the need for minimizing the impact of development by protecting sensitive environmental areas, wildlife habitats, and rural vistas. The results of studies have demonstrated that natural features such as wetlands, floodplains, forests, steep slopes, and scenic vistas are not impacted by the Project.

By aligning with sustainable development principles, the Project will reduce the county's carbon footprint and reliance on external energy sources, ensuring that future growth enhances McHenry County's unique identity and balances modern advancements with the preservation of natural and cultural heritage.

Water Resources

The Project is designed to have no negative impacts on wetlands, groundwater, or community water facilities. Unlike traditional energy sources that require water for operation and risk contamination, solar energy generation does not, thus eliminating these concerns. Appropriate measures to mitigate impacts to stormwater and sensitive aquifers will be taken per the guidelines of the County's Stormwater Ordinance.

When wetland determinations are complete prior to construction, the Applicant will obtain all necessary permits from relevant federal, state, and local agencies as required, including a Stormwater Management Permit, accounting for all impervious areas such as piles, access drives, and equipment pads.

Economic Development

The Project's assessed value is higher than that of agricultural land, therefore providing a boost to local tax revenues without adding a demand to local, supportive services and infrastructure.

Infrastructure

Upgrades to existing electrical infrastructure will be needed to support the Project, which will improve the reliability of the surrounding electric distribution system that powers nearby homes and businesses.

Land Use

Solar is a low-impact land use, with minimal to no impact on the County's resources. Other forms of development (commercial, residential housing, etc.) would require additional services such as roads, utilities, schools, and law enforcement. This Project will not place any material burden on the County's resources but will increase the County's tax base and associated revenues which could be utilized for the expansion of affordable housing.

The Project is designed to minimize land disturbance and provide environmental benefits like reduced greenhouse gas emissions. It will also promote low-density development by utilizing existing land for renewable energy generation, thus supporting sustainable land use practices while enhancing economic viability and environmental sustainability in agricultural areas.

5 PROPOSED PERMIT CONDITIONS

1. **Expiration**. Per Section 5.4.H (Expiration of Approved Conditional Use Permits), Trolley Coach Solar respectfully requests that the Conditional Use Permit for the proposed solar energy project be approved for a duration of up to 40 years. This requested term reflects the anticipated operational life of the proposed solar equipment and is consistent with the lease agreement secured for the project site, which spans up to 40 years. The extended term will ensure alignment between the County's approval and the project's technical and financial expectations. Upon the conclusion of operations, the project will be decommissioned in accordance with the AIMA, and the land will be returned to agricultural use or another permissible use in accordance with the County's regulations.

2. **Transfer**. This Special Use is granted for a 5MW scale solar energy facility use to Trolley Coach Solar, LLC and is located on Tax Map ID# 17-02-300-002 and 17-02-300-001 (the "Solar Energy Facility"). This Conditional Use may be transferred so long as the transferee agrees to be bound by the terms and conditions of this Conditional Use Permit.

3. **Binding Obligation.** This SUP shall be binding on the Applicant or any successors, assignees, current of future lessee, sub-lessee, or owner of the solar energy facility.

4. **Sound.** The Solar Energy Facility shall not emanate sound exceeding the limits established by the Illinois Pollution Control Board under 35 Ill. Adm. Code Parts 900, 901 and 910.

5. **Lighting.** Any outdoor lighting associated with the Solar Energy Facility will be positioned to reasonably avoid disturbance to neighboring properties and rights-of-ways and comply with Chapter 16.60 *Site Development Standards*.

6. **Panel Height.** Solar panels within the Solar Energy Facility, will not exceed twenty (20) feet in height at full tilt.

7. **Fencing.** The Applicant shall install a security fence around the Solar Equipment that is a minimum six (6) feet in height accompanied with anti-climbing fixed to the top of the fence. Fencing must be installed on the interior of the vegetative buffer. The fencing shall always be maintained while the facility is in operation.

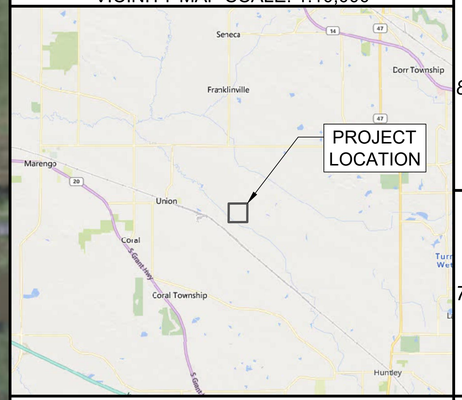
8. **Compliance with Laws.** The Solar Energy Facility shall be designed, constructed, and tested to meet relevant local, state, and federal standards as applicable.

9. **General Plan.** The construction of the Project shall be in substantial conformance with these conditions and in general conformance with the Special Use Preliminary Site Plan prepared by Apex Clean Energy dated October 11th, 2024 (the "General Plan"). Modifications to the General Plan shall be permitted at the time of building permit based on state and federal approvals and final engineering and design requirements that comply with these conditions.

10. **Deconstruction and Financial Assurance:** The Applicant will decommission the project at the

end of project operations consistent with the included Decommissioning Plan, and financial assurance shall be provided as described in Section 17D of the AIMA.

VICINITY MAP SCALE: 1:10,000



PRELIMINARY NOT FOR CONSTRUCTION

LINE-TYPE LEGEND

BUILDABLE AREA	
FENCE	
LOW VOLTAGE COLLECTION	
MEDIUM VOLTAGE COLLECTION	
OVERHEAD TRANSMISSION	OHE
PUBLIC ROAD	
PRIVATE ROAD	
PROPOSED VEG BUFFER	

SYSTEM SUMMARY - AS MODELED

LATITUDE	°	42.23
LONGITUDE	°	-88.51
DC (MODELED)	kWATTS	6,890
AC (GRID LIMIT)	kWATTS	5,000
DC:AC (MODELED)	PU	1.38
MODULE MANU.	-	JINKO
MODULE MODEL	-	JKM580N-72HL4-BDV
MODULE QUANTITY	EA	11,880
MODULES PER STRING		27
INVERTER POWER	KVA	(20) 250
ORIENTATION	-	1HP SAT
FENCED AREA	ACRE	32
FENCED LENGTH	FT	5,049
FENCED HEIGHT	FT	7

SYSTEM SUMMARY - AS DRAWN

INTER-ROW SPACING	FT	15.89
DC (DRAWN)	kWATTS	7,516
GCR	%	32
OVERBUILT	%	9.1

APEX CLEAN ENERGY

#	REVISIONS	DATE	BY
7	Level 3 Layout	6/12/25	JTB
8	Level 3 Layout	7/2/25	JTB

N W E S

0 150' 300'

SCALE: 1" = 150'

CONSULTANT
APEX CLEAN ENERGY
120 Garrett St., Suite 700
CHARLOTTESVILLE, VA
22902

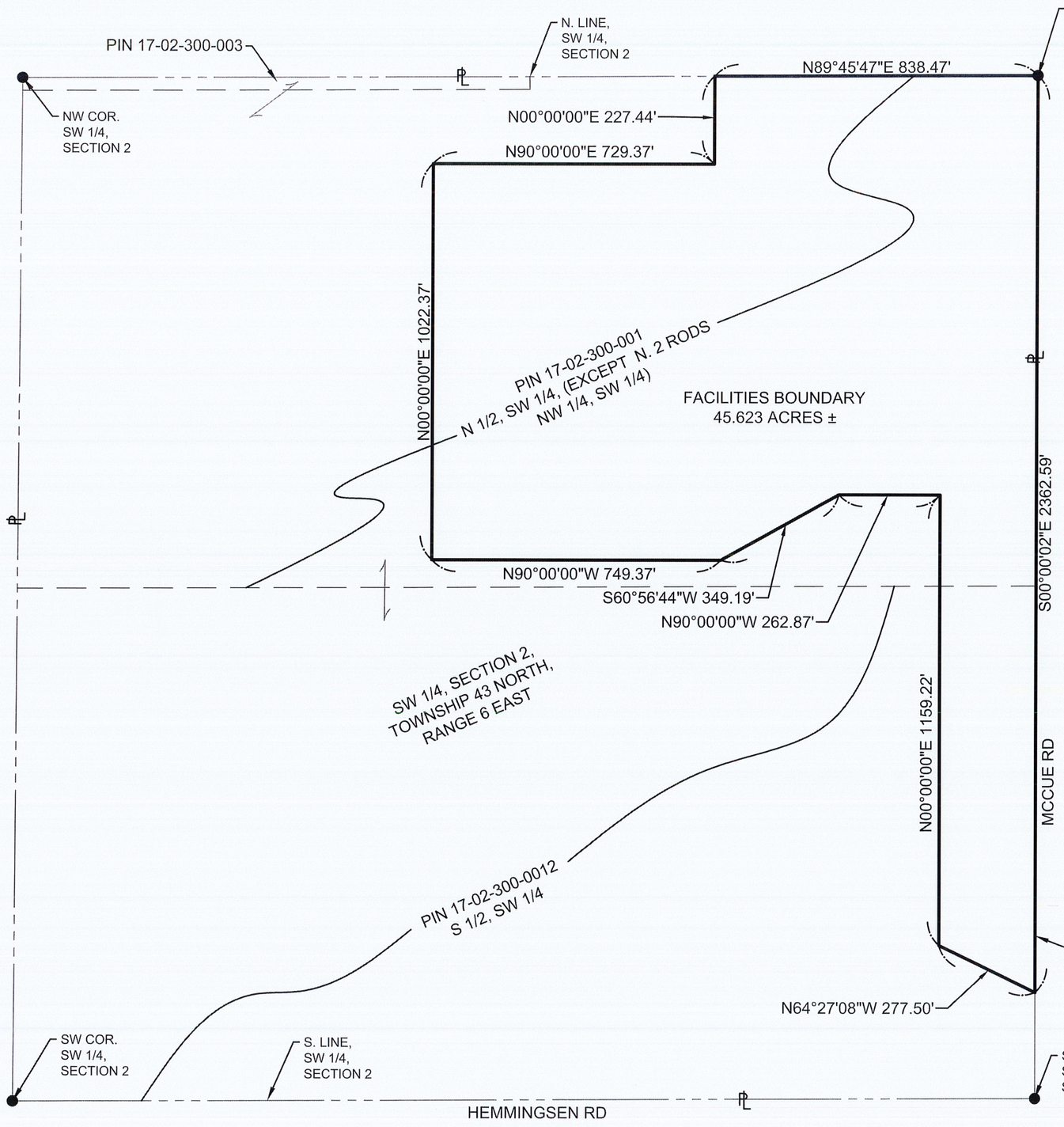
PROJECT
TROLLEY COACH SOLAR LLC
Coral Township, IL

DATE:	7/2/25
DRAWN BY:	JTB
CHECKED BY:	ML

GENERAL ARRAY

A-001

TROLLEY COACH SOLAR - FACILITIES BOUNDARY



LEGEND

PL	PARCEL LINE
	SECTION LINE
	FACILITIES BOUNDARY
POB	POINT OF BEGINNING

N

0 300' 600'

SCALE: 1" = 300'

FACILITIES BOUNDARY DESCRIPTION

A PART OF THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP-43-NORTH, RANGE-6-EAST OF THE THIRD PRINCIPAL MERIDIAN, MC HENRY COUNTY, ILLINOIS BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 00 DEGREES 00 MINUTES 02 SECONDS EAST, ALONG THE EAST LINE OF SAID SOUTHWEST QUARTER, 2362.59 FEET; THENCE NORTH 64 DEGREES, 27 MINUTES, 08 SECONDS WEST, 277.50 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 1159.22 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 262.87 FEET; THENCE SOUTH 60 DEGREES 56 MINUTES 44 SECONDS WEST, 349.19 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 749.37 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 1022.37 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS EAST, 729.37 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST, 227.44 FEET TO THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION; THENCE NORTH 89 DEGREES 45 MINUTES 47 SECONDS EAST ALONG SAID NORTH LINE, 838.47 FEET TO THE POINT OF BEGINNING, CONTAINING 45.623 ACRES, MORE OR LESS.

WE, MILLENNIA PROFESSIONAL SERVICES, HEREBY CERTIFY THAT THIS EXHIBIT IS AN ACCURATE REPRESENTATION OF A SURVEY MADE UNDER MY DIRECT SUPERVISION FOR THE EXCLUSIVE BENEFIT OF TROLLEY COACH SOLAR, LLC.

DEREK A. S. HUFFMAN No. 3899 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS MORTON, ILLINOIS

4-15-2025

DEREK A.S. HUFFMAN
ILLINOIS PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER 35-3899
MY LICENSE EXPIRES 11/30/2026

NOTES:
1. BEARINGS SHOWN HEREON ARE BASED ON THE ILLINOIS STATE PLANE COORDINATE SYSTEM. NAD 83-EAST ZONE.

2. FIELD WORK COMPLETED MARCH 2025.

3. FACILITIES BOUNDARY IS A PART OF PINS 17-02-300-001 & 17-02-300-002.

4. FACILITIES BOUNDARY AREA = 45.623 ACRES ±

IT IS NOT WARRANTED THAT THIS EXHIBIT CONTAINS COMPLETE INFORMATION REGARDING EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHTS OF WAY, BUILDING LINES, ENCROACHMENTS, OR OTHER ENCUMBRANCES. FOR COMPLETE INFORMATION, A TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE SHOULD BE OBTAINED.

FACILITIES BOUNDARY

A PART OF THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP-43-NORTH, RANGE-6-EAST OF THE THIRD PRINCIPAL MERIDIAN, MC HENRY COUNTY, ILLINOIS

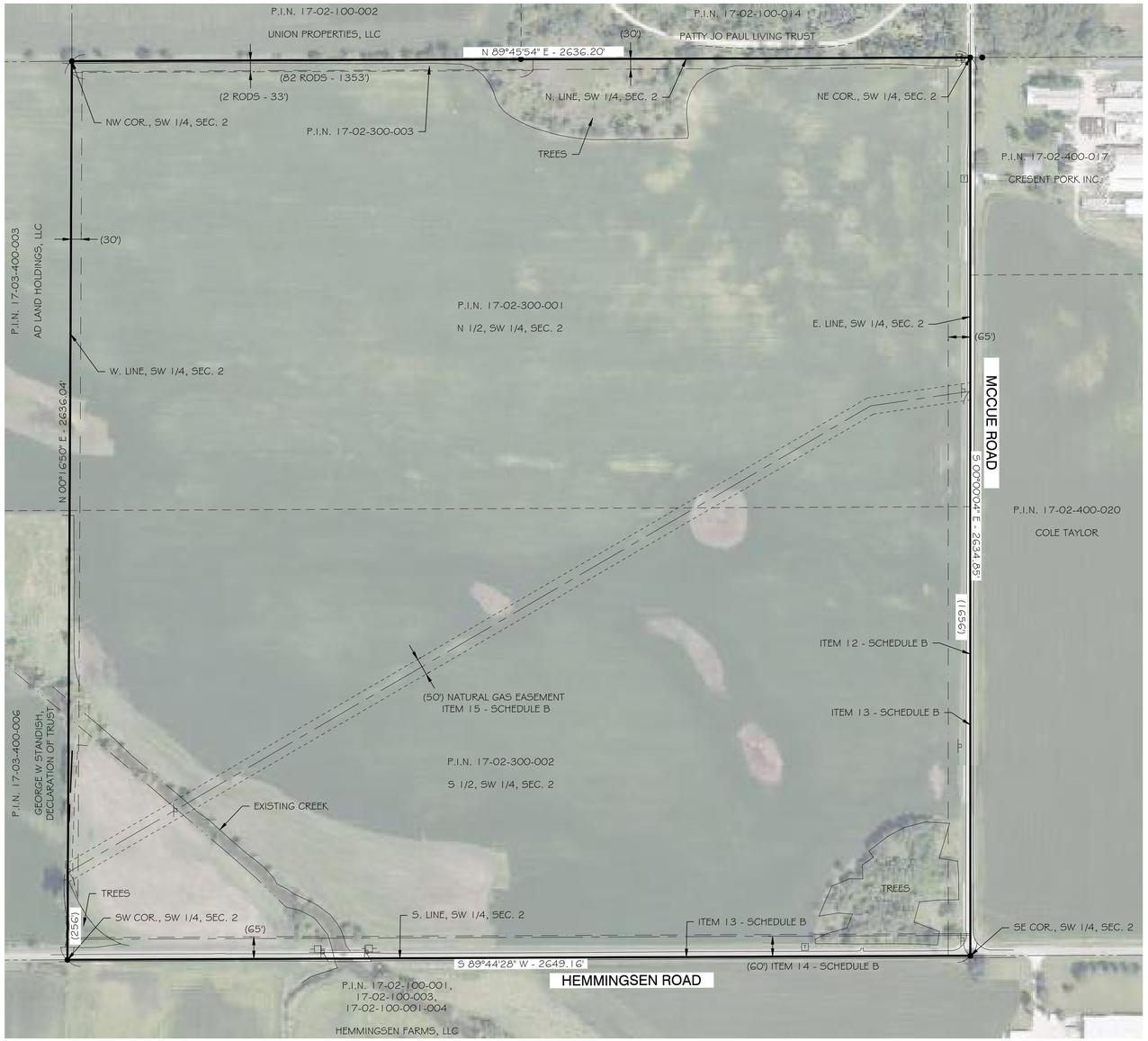
CLIENT:
TROLLEY COACH SOLAR, LLC

HANSON

MILLENNIA PROFESSIONAL SERVICES
850 NORTH MAIN STREET, MORTON, IL 61550
309.321.8141 VOICE, 309.321.8142 FAX
WWW. MILLENNIA.PRO

ALTA/NSPS LAND TITLE SURVEY

THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 43 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN MCHENRY COUNTY, ILLINOIS.



LEGEND

———	DEED LINE
——— ——— ———	RIGHT OF WAY LINE
— — — — — — — — — —	ADJACENT PROPERTY LINE
——— — — — ———	BUILDING SETBACK LINE
N 89°31'01" E ~ 193.27'	MEASURED BEARING & DISTANCE
(193.19')	RECORD BEARING & DISTANCE
●	FOUND IRON ROD / PIPE / RR SPIKE
○	SET 1/2"Ø X 24" IRON ROD
	UTILITY POLE
T	TELEPHONE PEDESTAL
	SIGN

NOTES:

1. SURVEY BASED ON SCHEDULE "A" LEGAL DESCRIPTIONS IN COMMITMENTS FOR TITLE INSURANCE ISSUED BY STEWART TITLE GUARANTY COMPANY; COMMITMENT NUMBERS: 23000371880-01, 123000371881-01 AND 230003701879-01 ALL WITH A COMMITMENT DATE OF AUGUST 25, 2023.
2. BEARINGS BASED ON STATE PLANE COORDINATES, ILLINOIS EAST ZONE, NAD 83, 2011 ADJUSTMENT.
3. THE PROPERTY SHOWN ON THIS SURVEY IS THE SAME AS DESCRIBED IN THE ABOVE REFERENCED TITLE COMMITMENT.
4. SUBJECT PROPERTY CURRENTLY HAS VEHICULAR ACCESS TO MCCUE ROAD AND HEMMINGSEN ROAD.
5. SURVEYOR OBSERVED NO EVIDENCE OF A CEMETERY OR GRAVES DURING THIS SURVEY.
6. P.I.N.'S SHOWN ARE PER ABOVE REFERENCED TITLE COMMITMENTS.
7. THERE IS A 33' APPARENT RIGHT-OF-WAY FOR PUBLIC ROAD ALONG THE SOUTH AND EAST SIDES OF THE ENTIRE TRACT.
8. THERE ARE NO BUILDINGS ON THIS PROPERTY.

TABLE "A"

TABLE A, ITEM 2 - ADDRESS PER TITLE COMMITMENT - NO ADDRESS LISTED

TABLE A, ITEM 3 - PROPERTY SHOWN HEREON IS LOCATED IN ZONE X (AREAS OF MINIMAL FLOODING) AND ZONE A (SPECIAL FLOOD HAZARD AREAS), PER FLOOD INSURANCE RATE MAP NUMBER 17111C0300J WITH A COMMUNITY PANEL NUMBER OF 170732 0300 J AND AN EFFECTIVE DATE OF 11/16/2006.

TABLE A, ITEM 4 - GROSS LAND AREA - 159.88 ACRES ±

TABLE A, ITEM 6 - INFORMATION PER MCHENRY COUNTY ZONING DEPARTMENT ON APRIL 28, 2025.

- 6(a) - CURRENT ZONING = A-1 AGRICULTURAL DISTRICT
  SETBACK REQUIREMENTS = FRONT = 30 FT FROM R.O.W. (OR 65 FT FROM CENTERLINE IF NO R.O.W. EXISTS)
  SIDE = 30 FT
  REAR = 30 FT
  MAXIMUM BUILDING HEIGHT OR STORIES = NONE OR 35 FT FOR NON-AGRICULTURAL USES
  BUILDING SITE AREA REQUIREMENTS = NONE
  MIN. LOT WIDTH: 330 FT
  BUILDING DENSITY FORMULA = NONE
  MINIMUM LOT SIZE = 40 ACRES - RESIDENCE
  NONE - AGRICULTURE

- 6(b) - SHOWN AS SPECIFIED ABOVE

TABLE A, ITEM 8 - SURVEYOR OBSERVED NO SUBSTANTIAL AREAS OF REFUSE DURING THE SURVEY.

TABLE A, ITEM 13 - NAMES OF ADJOINING OWNERS PER MCHENRY COUNTY GIS.

TABLE A, ITEM 16 - THERE IS NO EVIDENCE OF RECENT EARTH MOVING WORK OR BUILDING ADDITIONS

TABLE A, ITEM 17 - THE SURVEYOR IS NOT AWARE OF ANY PROPOSED RIGHT-OF-WAY CHANGES. THERE IS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION.

SCHEDULE B, PART II
EXCEPTIONS

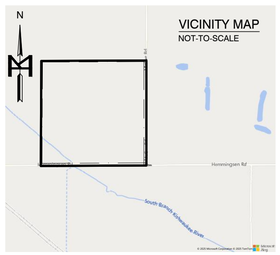
- ITEM 11
RIGHTS OF WAY FOR MCCUE ROAD THAT RUNS ALONG THE EASTERN BORDER OF SAID PROPERTY, AND HEMMINGSEN ROAD THAT RUN ALONG THE SOUTHERN BORDER OF SAID PROPERTY AS EVIDENCE BY THE ASSESSOR'S MAP. NOTE: THERE IS NO DOCUMENTATION OF RECORD OF THESE RIGHTS OF WAY OTHER THAN THE ASSESSOR'S MAP. (SEE NOTE 7)

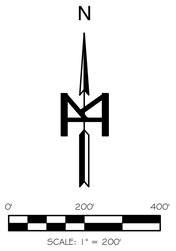
- ITEM 12
POLE AND ELECTRIC LINE PERMIT IN FAVOR OF ILLINOIS NORTHERN UTILITIES COMPANY, A CORPORATION ORGANIZED UNDER THE LAWS OF THE STATE OF ILLINOIS, DATED JUNE 2, 1938, AND RECORDED AUGUST 12, 1938 AS DOCUMENT NO. 1928R013408 2 IN PUBLIC RECORDS OF MCHENRY COUNTY, ILLINOIS. (AFFECTS NORTH HALF AND SOUTH HALF OF THE SOUTHWEST QUARTER OF SECTION 2)

- ITEM 13
RIGHT OF WAY IN FAVOR OF ILLINOIS BELL TELEPHONE COMPANY DATED APRIL 11, 1941, AND RECORDED MAY 29, 1941 AS DOCUMENT NO. 1941R0155208 IN PUBLIC RECORDS OF MCHENRY COUNTY, ILLINOIS. (AFFECTS NORTH HALF AND SOUTH HALF OF THE SOUTHWEST QUARTER OF SECTION 2)

- ITEM 14
RIGHT OF WAY IN FAVOR OF ILLINOIS BELL TELEPHONE COMPANY DATED AUGUST 27, 1941, AND RECORDED AUGUST 27, 1941, AND RECORDED SEPTEMBER 3, 1941 AS DOCUMENT NO. 1941R0157505 IN PUBLIC RECORDS OF MCHENRY COUNTY, ILLINOIS. (AFFECTS SOUTH HALF WITH INGRESS AND EGRESS ALONG ALL PARCELS)

- ITEM 15
RIGHT OF WAY AGREEMENT IN FAVOR OF NATURAL GAS PIPELINE COMPANY OF AMERICA, A DELAWARE CORPORATION, DATED SEPTEMBER 27, 1968, AND RECORDED OCTOBER 7, 1968 AS DOCUMENT NO. 1968R0497769 IN PUBLIC RECORDS OF MCHENTRY COUNTY, ILLINOIS. (AFFECTS SOUTH HALF AND NORTH HALF OF THE SOUTHWEST QUARTER OF SECTION 2)





RECORD DESCRIPTIONS PER COMMITMENTS

P.I.N. 17-02-300-001
THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 43 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN MCHENRY COUNTY, ILLINOIS. EXCEPT A STRIP OF LAND OFF FROM THE NORTH SIDE OF THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 2 DESCRIBED AS FOLLOWS, TO-WIT: COMMENCING AT THE NORTHWEST CORNER OF SAID NORTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 2; THENCE SOUTH ON THE WEST LINE OF SAID NORTH 1/2 A DISTANCE OF 2 RODS; THENCE EAST PARALLEL WITH THE NORTH LINE OF SAID NORTH 1/2 A DISTANCE OF 82 RODS; THENCE NORTH 2 RODS TO THE NORTH LINE OF SAID NORTH 1/2; THENCE WEST ON THE NORTH LINE OF SAID NORTH 1/2 A DISTANCE OF 82 RODS TO THE PLACE OF BEGINNING, AS CONTAINED IN DEED RECORDED JANUARY 6, 1902 AS DOCUMENT NO. 12882.

P.I.N. 17-02-300-002
THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 43 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN MCHENRY COUNTY, ILLINOIS.

PIN 17-02-300-003
A PORTION OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 43 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN MCHENRY COUNTY, ILLINOIS, DESCRIBED AS FOLLOWS, TO-WIT: COMMENCING AT THE NORTHWEST CORNER OF THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 2; THENCE SOUTH ON THE WEST LINE OF SAID NORTH 1/2 A DISTANCE OF 2 RODS; THENCE EAST PARALLEL WITH THE NORTH LINE OF SAID NORTH 1/2 A DISTANCE OF 82 RODS; THENCE NORTH 2 RODS TO THE NORTH LINE OF SAID NORTH 1/2; THENCE WEST ON THE NORTH LINE OF SAID NORTH 1/2 A DISTANCE OF 82 RODS TO THE PLACE OF BEGINNING.

TO: TROLLEY COACH SOLAR, LLC
HANSON PROFESSIONAL SERVICES

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 8, 13, 16, 17, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 23, 2025.

DATE OF PLAT OR MAP: _____ _____, 2025

MOHR AND KERR ENGINEERING AND LAND SURVEYING P.C.

_____
DANIEL J. EVANS
ILLINOIS PROFESSIONAL LAND SURVEYOR #035-3348
5901 N. PROSPECT ROAD, SUITE 6B, PEORIA, ILLINOIS 61614
PHONE NUMBER: (309)692-8500, WEB SITE: WWW.MOHRANDKERR.COM
DJEVANS@MOHRANDKERR.COM

LICENSE EXPIRES NOVEMBER 30, 2026

MOHR & KERR ENGINEERING & LAND SURVEYING, P.C.
5901 N. Prospect Road, Suite 6B
Peoria, Illinois 61614
www.mohrandkerr.com
Office: (309) 692-8500
Fax: (309) 692-8501
Professional Design Firm #184.005091

REV.	DATE	NATURE OF REVISION	CHECKED

FILE NAME: N:\25-186 McHenry County ALTA - Hanson\Civil3d\25-186 McHenry County ALTA.dwg May 13, 2025

SURVEYED	CTG / NPM
DRAWN	LDE
CHECKED	DJE
SCALE	1" = 200'
DATE	05-12-25

CLIENT: TROLLEY COACH SOLAR, LLC

TITLE: ALTA/NSPS LAND TITLE SURVEY FOR HANSON PROFESSIONAL SERVICES INC.

PROJECT NO.	25-186
SHEET	1 OF 1
DRAWING NO.	1

McHENRY-LAKE COUNTY SOIL & WATER CONSERVATION DISTRICT

NATURAL RESOURCES INFORMATION REPORT

25-031-4692

May 14, 2025

This report has been prepared for:
Trolley Coach Solar, LLC

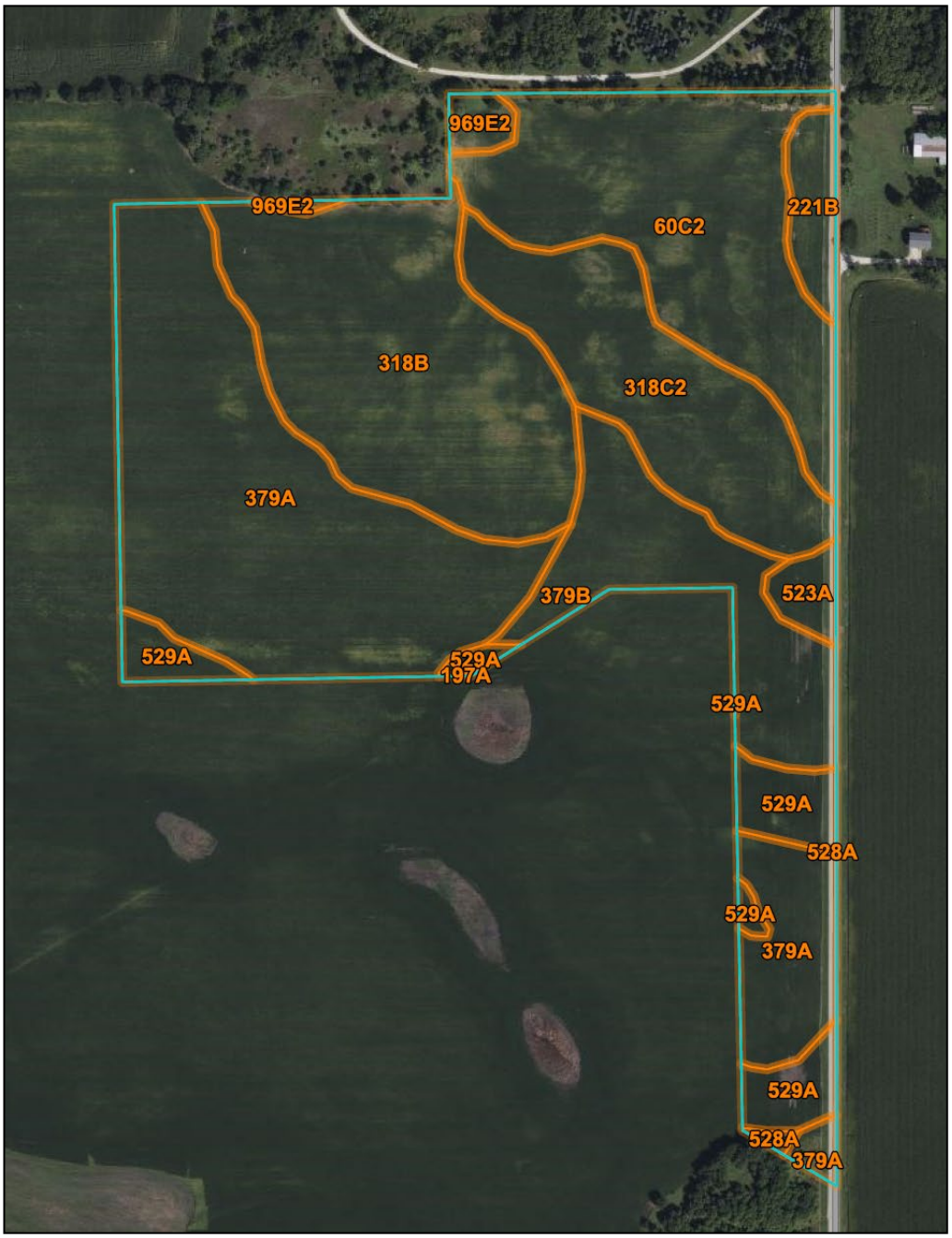
Contact Person:
Nick Finguerra

PREPARED BY:
McHENRY-LAKE COUNTY SOIL & WATER CONSERVATION DISTRICT
1648 S. EASTWOOD DR.
WOODSTOCK, IL 60098
PHONE: (815) 338-0444
www.mchenryswcd.org

The McHenry-Lake County Soil & Water Conservation District is an equal opportunity provider and employer.

EXECUTIVE SUMMARY OF NRI REPORT #25-031-4692

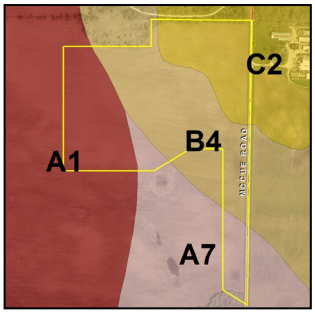
It is the opinion of the McHenry-Lake County Soil and Water Conservation District Board of Directors that this report as summarized on these pages are pertinent to the requested zoning change.



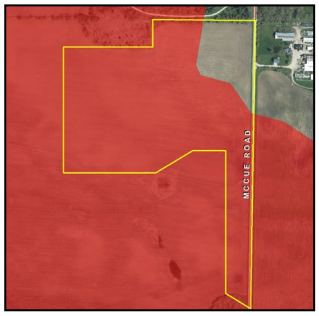
Picture 1: Looking west from northeast corner of parcel.

Picture 2: Looking southwest, from northeast corner of the parcel.

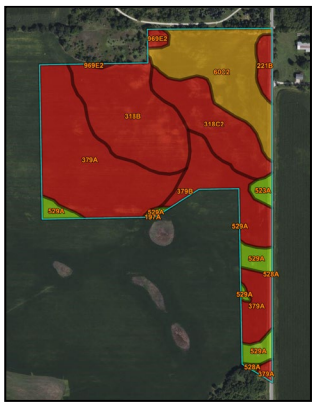
Groundwater Contamination Potential and Recharge Areas:



Aquifer Sensitivity Map (*This is the area beneath the soil profile down to bedrock)
The Geologic features map indicates the parcel is comprised of 11.1 acres of A1, 4.76 acres of A7, 18.46 of B4, and 9.97 acres of C2 geologic limitations. A1 and A7 have a high aquifer contamination potential, B4 has a moderately-high potential, and C2 has a moderate potential.



Sensitive Aquifer Recharge Areas (Includes the soil profile and underlying geology).
The Sensitive Aquifer Recharge Map indicates 38.56 acres of the parcel is within an area designated as Sensitive Aquifer Recharge Area (red areas on map).

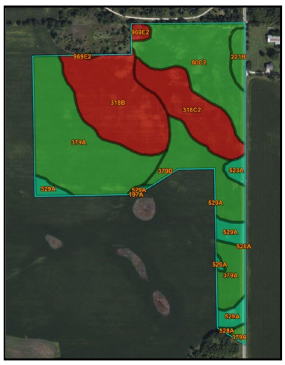


Soil Leachability Map (This is only the soil profile within the parcel from the surface down to approx. 5 feet).
The Soil Leachability Index indicates 33.6 acres or 75.9% of the parcel has a high leachability for fertilizers (identified in red).

Soil Permeability Map (This is only the soil profile within the parcel from the surface down to approx. 5 feet. Soil permeability is a reflection of the speed in which water (with or without pollutants) can move through the soil profile.)
The USDA-NRCS Soil Survey Map of the area indicates 35.7 acres or 80.4% of the parcel contains highly permeable soils that allow water to rapidly move through the soil profile.

Soil Limitations (This evaluates the parcel from the surface down to approximately 5 feet.):

Erosion Ratings
The NRCS Soils Survey indicates 13.6 acres or 30.6% of the parcel is identified as containing highly erodible soils.



Prime Farmland Soils
The Natural Resources Conservation Service (NRCS) Soil Survey indicates 26.7 acres or 60.3% of the parcel is comprised of prime farmland soils and 2.8 acres or 6.5% of the parcel is comprised of prime farmland if drained soils (identified in shades of green).

Ground-Based Solar Arrays
The Natural Resources Conservation Service (NRCS) Soil Survey indicates 3.3 acres or 7.5% of the parcel has very limited soils for ground-based solar arrays (identified in red).

Hydric Soils
The NRCS Soil Survey indicates 2.8 acres or 6.5% of the parcel contains hydric soils (identified in red and orange).

Floodplain Information:

The Flood Insurance Rate Map
Indicates the parcel is outside of the 100-year floodplain.

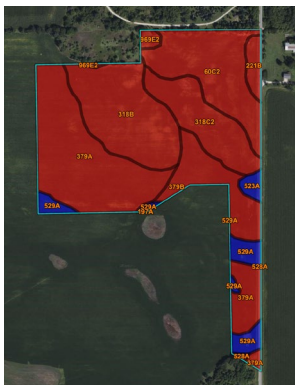
Flood of Record Map (Hydrologic Atlas)
The Flood of Record Map for this area indicates there has been no previous flooding on the parcel.

Wetland Information:

USDA-NRCS Wetland Inventory
The NRCS Wetlands Inventory indicates there are no wetlands on the parcel.

ADID Wetland Inventory
The ADID Wetland Study indicates there are no wetlands on the parcel.

Flooding Frequency
The NRCS Soil Survey indicates that flooding is not probable. The chance of flooding is nearly 0% in any year. Flooding occurs less than once in 500 years.



Ponding Frequency
The NRCS Soil Survey indicates that frequent ponding occurs on 2.8 acres or 6.5% of the parcel. Frequent means that ponding occurs, on the average, more than once in 2 years. The chance of ponding is more than 50 % in any year (identified in blue).

Cultural Resources: None identified

Preserved or Recognized Ecological Sites: McHenry County Conservation District's Pleasant Valley Site is northeast of the parcel and their Lakehead Easement is south of the parcel.

Woodlands: None identified

Agricultural Areas: Office Maps indicate there are no State designated agricultural areas on the parcel in question.

Land Evaluation Site Assessment (LESA)
The Land Evaluation Score for the parcel is 75.47. A Site Assessment was not completed due to the Agricultural zoning on the parcel.

ADDITIONAL CONCERNS

The Board recommends that areas between panels and within the buffers be planted to a native prairie mix to help increase water infiltration and reduce runoff from the site. It is recommended that a planting and maintenance plan be developed with the landowner to ensure that noxious weeds are controlled, and native plantings are properly installed and managed. The petitioner should refer to the planting requirements of the Illinois Department of Natural Resources and McHenry County Department of Planning & Development.

Agricultural Impact Mitigation Agreement: We have not received notice from the Illinois Department of Agriculture that an Agricultural Impact Mitigation Agreement has been filed. Please reach out to Jeff Evers, IDOA, for more information.

JEFFREY EVERS | AGRICULTURAL LAND & WATER RESOURCE SPECIALIST III
Land and Water Resources

Illinois Department of Agriculture
John R. Block Building | 801 E. Sangamon Ave., P.O. Box 19281 | Springfield, IL 62794-9281
(O) 217-785-5594 | (F) 217-557-0993 | (TTY) 866-287-2999 | jeff.evers@illinois.gov


www

NATURAL RESOURCE INFORMATION REPORT (NRI)

NRI Report Number	25-031-4692
Applicant's Name	Trolley Coach Solar, LLC
Size of Parcel	45.623 acres
Zoning Change	Solar Array
Parcel Index Number(s)	17-02-300-001, 17-02-300-002
Common Location	Undefined
Contact Person	Nick Finguerra

Copies of this report or notification of the proposed land-use change were provided to:	***yes***	***no***
The Applicant	x	
The Applicant's Legal Representation		x
The Village/City/County Planning and Zoning Department or Appropriate Agency	x	

Report Prepared By: *Spring M. Duffey* Position: *Executive Director*

Contents *Page*

PURPOSE AND INTENT

The purpose of this report is to inform officials of the local governing body and other decision-makers with natural resource information. This information may be useful when undertaking land use decisions concerning variations, amendments or relief of local zoning ordinances, proposed subdivision of vacant or agricultural lands and the subsequent development of these lands. This report is a requirement under Section 22.02a of the Illinois Soil and Water Conservation Districts Act.

The intent of this report is to present the most current natural resource information available in a readily understandable manner. It contains a description of the present site conditions, the present resources, and the potential impacts that the proposed change may have on the site and its resources. The natural resource information was gathered from standardized data, on-site investigations and information furnished by the petitioner. This report must be read in its entirety so that the relationship between the natural resource factors and the proposed land use change can be fully understood.

Due to the limitations of scale encountered with the various resource maps, the property boundaries depicted in the various exhibits in this report provide a generalized representation of the property location and may not precisely reflect the legal description of the PIQ (Parcel in Question).

This report, when used properly, will provide the basis for proper land use change decisions and development while protecting the natural resource base of the county. It should not be used in place of detailed environmental and/or engineering studies that are warranted under most circumstances, but in conjunction with those studies.

The conclusions of this report in no way indicate that a certain land use is not possible, but it should alert the reader to possible problems that may occur if the capabilities of the land are ignored. Any questions on the technical data supplied in this report or if anyone feels that they would like to see more additional specific information to make the report more effective, please contact:

McHenry-Lake County Soil & Water Conservation District
1648 S. Eastwood Dr.
Woodstock, IL 60098
Phone: (815) 338-0444 ext. 3
www.mchenryswcd.org
E-mail: Spring.Duffey@il.nacdnet.net

PARCEL LOCATION

Location Map for Natural Resources Information Report # 25-031-4692
In the Southwest Quarter of Section 2, Township 43 North, Range 6 East, on 45.623 acres. This parcel is located at the northwest intersection of McCue Road and Hemmingson Road, McHenry County, IL.

ARCHAEOLOGIC/CULTURAL RESOURCES

Simply stated, cultural resources are all the past activities and accomplishments of people. They include the following: buildings; objects made or used by people; locations; and less tangible resources, such as stories, dance forms, and holiday traditions. The Soil and Water Conservation District most often encounters cultural resources as historical properties. These may be prehistoric or historical sites, buildings, structures, features, or objects. The most common type of historical property that the Soil and Water Conservation District may encounter is non-structural archaeological sites. These sites often extend below the soil surface, and must be protected against disruption by development or other earth moving activity if possible. Cultural resources are *non-renewable* because there is no way to "grow" a site to replace a disrupted site.

Landowners with historical properties on their land have ownership of that historical property. However, the State of Illinois owns all of the following: human remains, grave markers, burial mounds, and artifacts associated with graves and human remains.
Non-grave artifacts from archaeological sites and historical buildings are the property of the landowner. The landowner may choose to disturb a historical property, but may not receive federal or state assistance to do so. If an earth moving activity disturbs human remains, the landowner must contact the county coroner within 48 hours.

Office maps do not indicate historical features on the parcel in question. (PIQ)

ECOLOGICALLY SENSITIVE AREAS

What is Biological Diversity and Why Should it be Conserved?[1]

Biological diversity, or biodiversity, is the range of life on our planet. A more thorough definition is presented by botanist Peter H. Raven: "At the simplest level, biodiversity is the sum total of all the plants, animals, fungi and microorganisms in the world, or in a particular area; all of their individual variation; and all of the interactions between them. It is the set of living organisms that make up the fabric of the planet Earth and allow it to function as it does, by capturing energy from the sun and using it to drive all of life's processes; by forming communities of organisms that have, through the several billion years of life's history on Earth, altered the nature of the atmosphere, the soil and the water of our Planet; and by making possible the sustainability of our planet through their life activities now." (Raven 1994)

[1]Taken from *The Conservation of Biological Diversity in the Great Lakes Ecosystem: Issues and Opportunities*, prepared by the Nature Conservancy Great Lakes Program 79W. Monroe Street, Suite 1309, Chicago, IL 60603, January 1994

It is not known how many species occur on our planet. Presently, about 1.4 million species have been named. It has been estimated that there are perhaps 9 million more that have not been identified. What is known is that they are vanishing at an unprecedented rate. Reliable estimates show extinction occurring at a rate several orders of magnitude above "background" in some ecological systems. (Wilson 1992, Hoose 1981)

The reasons for protecting biological diversity are complex, but they fall into four major categories.

First, loss of diversity generally weakens entire natural systems. Healthy ecosystems tend to have many natural checks and balances. Every species plays a role in maintaining this system. When simplified by the loss of diversity, the system becomes more susceptible to natural and artificial perturbations. The chances of a system-wide collapse increase. In parts of the midwestem United States, for example, it was only the remnant areas of natural prairies that kept soil intact during the dust bowl years of the 1930s. (Roush 1982)

Simplified ecosystems are almost always expensive to maintain. For example, when synthetic chemicals are relied upon to

control pests, the target species are not the only ones affected. Their predators are almost always killed or driven away, exasperating the pest problem. In the meantime, people are unintentionally breeding pesticide-resistant pests. A process has begun where people become perpetual guardians of the affected area, which requires the expenditure of financial resources and human ingenuity to keep the system going.

A second reason for protecting biological diversity is that it represents one of our greatest untapped resources. Great benefits can be reaped from a single species. About 20 species provide 90% of the world's food. Of these 20, just three, wheat, maize and rice-supply over one half of that food. American wheat farmers need new varieties every five to 15 years to compete with pests and diseases. Wild strains of wheat are critical genetic reservoirs for these new varieties.

Further, every species is a potential source of human medicine. In 1980, a published report identified the market value of prescription drugs from higher plants at over $3 billion. Organic alkaloids, a class of chemical compounds used in medicines, are found in an estimated 20% of plant species. Yet only 2% of plant species have been screened for these compounds. (Hoose 1981)

The third reason for protecting diversity is that humans benefit from natural areas and depend on healthy ecosystems. The natural world supplies our air, our water, our food and supports human economic activity. Further, humans are creatures that evolved in a diverse natural environment between forest and grasslands. People need to be reassured that such places remain. When people speak of "going to the country," they generally mean more than getting out of town. For reasons of their own sanity and well being, they need a holistic, organic experience. Prolonged exposure to urban monotony produces neuroses, for which cultural and natural diversity cure.

Historically, the lack of attention to biological diversity, and the ecological processes it supports, has resulted in economic hardships for segments of the basin's human population.

The final reason for protecting biological diversity is that species and natural systems are intrinsically valuable. The above reasons have focused on the benefits of the natural world to humans. All things possess intrinsic value simply because they exist.

Biological Resources Concerning the Subject Parcel

As part of the Natural Resources Information Report, staff checks office maps to determine if any nature preserves are within 500 feet of the parcel in question. If there is a nature preserve in the area, then that resource will be identified as part of the report. The SWCD recommends that every effort be made to protect that resource. Such efforts should include, but are not limited to erosion control, sediment control, stormwater management, and groundwater monitoring.

Office maps indicate McHenry County Conservation District's Pleasant Valley Site is northeast of the parcel and their Lakehead Easement is south of the parcel.

0 265 530 1,060 1,590 2,120
Feet

N

Produced By: McHenry-Lake County Soil & Water Conservation District

Key To Features

- Parcel Boundary
- MCCD Sites

WOODLANDS

Existing mature trees should be preserved whenever possible. Woodlands provide a large number of benefits such as wildlife habitat, erosion control, air and water quality improvements, as well as aesthetic values. There is no indication that a tree inventory has been done. A tree preservation plan needs to be developed and this intent needs to be clearly conveyed to the contractors doing the work. Construction activities can indirectly destroy trees. Oak trees are particularly susceptible to long term, permanent damage caused by construction activities and require special consideration. It is also recommended that invasive non-native species be removed whenever possible.

Native woodlands are no longer a common occurrence throughout much of McHenry County. Although forests originally covered nearly 40% of Illinois, today only about 12% of the state is forested, with most of this being secondary growth (Ill. Natural History Survey Reports, Nov/Dec 1993, No. 324). The composition of Illinois forests has changed markedly over the past three decades. 97% of the timberland is classified as hardwood forest. The forest acreage continues to increase from 4.2 million acres in 1985 to 4.3 million acres in 1998. (IL Forest Development Council News, IL DNR, Winter 2001/Volume 2, No. 1). Oak-hickory forests, which had made up half of the acreage, have declined by 14%, and make up 2.1 million acres. This decline is largely a result of wildfire suppression that allows maples to take over. Thus, the acres of maple-beech forest have risen more than 40-fold from 1962 to 1985, to one quarter of the total forest area, 696 thousand acres. Dutch elm disease and the conversion of forested bottomlands to agriculture have resulted in huge declines in the elm-ash-cottonwood forests, 906 thousand acres, falling from one third - one sixth of the Illinois forest area. Elm accounts for the greatest number of individual trees – 412 million. Other species groups with more than 100 million trees include hickory, red oak, sugar/black maple, ash, hackberry, and black cherry.

Woodlands provide many benefits such as wildlife habitat, erosion control, air and water quality improvements, and aesthetic values.

Forests are responsible for much of the biological diversity in the state. Many species are dependent upon forests for food & shelter, including threatened/endangered species.

One of the most serious problems facing Illinois forests is the invasion of exotic plants and animals. Some of the most damaging plants includes European buckthorn, multiflora rose, honeysuckle, purple loosestrife, and garlic mustard.

Many trees, particularly hardwoods (especially oaks) are extremely sensitive to construction-induced disturbances. The area most susceptible to damage is within the "drip radius," the ground surface directly beneath the leafy canopy of the tree. Many trees have an extensive system of feeder roots, located within one foot of the surface, and supply the tree with the majority of its moisture and nutrient needs.

Construction activities can negatively impact trees in several different ways. Earth-moving activities that stockpile soil near trees can suffocate tree roots that, although buried, require oxygen. Vehicle traffic can compact the soil to a point where the roots no longer function effectively. Grading activities for road cuts and foundations can cause a localized drop in the water table, placing the trees under stress. The placement of pavement or stormwater management facilities near established trees can also radically change soil moisture. The removal of the accumulated organic materials normally present on a woodland floor, and the subsequent establishment of turf lawns, can drastically affect the soil temperature and nutrient balance. Injury to the bark of a tree can increase the chance of the tree being subjected to a potentially harmful disease.

If existing trees are to be maintained in a healthy state, the appropriate planning is necessary. Someone with a working knowledge of forestry should assess existing trees to determine which trees should be protected. Some tree species are not considered desirable due to their aggressive growth, behavior, and limited value to local wildlife. Proper management of woodlands and open space includes the selective elimination of such trees and replacement by more desirable species. **Trees**

that are to be saved should be marked and protected with snow fencing or similar material, installed around the drip radius, to prevent root damage, and vehicle traffic should be minimized around the drip line. Contractors should be informed of the intention to preserve trees and be expected to conduct their work accordingly.

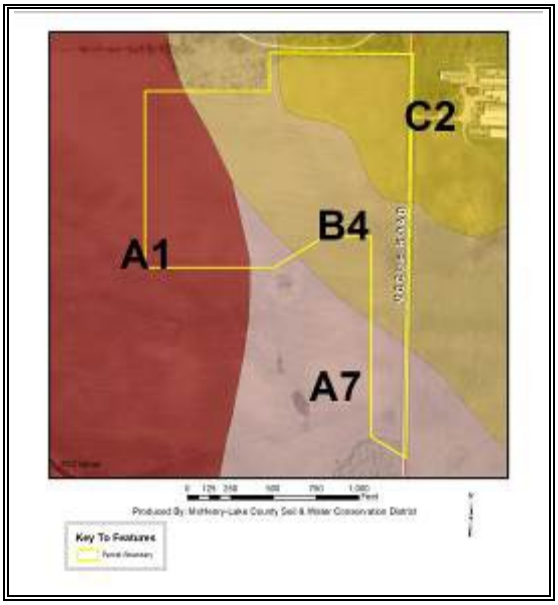
Tree damage resulting from construction activities may not be apparent for a number of years. While it is recognized that some tree loss is unavoidable, this should be minimized to the extent possible. It is highly recommended that trees lost to development activity be replaced by younger specimens of the native trees now found on the PIQ.

GEOLOGIC INFORMATION

Geology and the Proposed Land Use

As density of septic systems increases, the concern for pollution potential of local groundwater rises. Local geology plays an important role in determining the pollution potential. Groundwater pollution potential is an important factor when determining a specific area's suitability for a given land use. The local geology, is an important element of the natural resource base. This information, when compared to soils information, gives a clearer picture of conditions on this parcel.

Geological data comes from the Illinois State Geological Survey Circular 559, *Geologic Mapping for Environmental Planning, McHenry County, Illinois.*



Aquifer Sensitivity, McHenry County, Illinois (e.g., septic systems) (Vaiden et al.)

The Geologic features map indicates the parcel is comprised of 11.1 acres of A1, 4.76 acres of A7, 18.46 of B4, and 9.97 acres of C2 geologic limitations.

A-1 limitation: High potential for aquifer contamination. In these areas, contaminants from any source can move rapidly through these sand and gravel deposits to wells or nearby streams. In addition, this thick surficial aquifer is commonly hydraulically connected to underlying aquifers (Berg 1994). Land-use practices should be very conservative in all areas mapped as unit A. (Curran et al 1997) (Contains greater than 50 feet Henry sand and gravel at surface.)

A-7: Geologic limitations. The potential for contaminating shallow aquifers is high. In these areas, contaminants from any source can move rapidly through these sand and gravel deposits to wells or nearby streams. In addition, this thick surficial aquifer is commonly hydraulically connected to underlying aquifers (Berg 1994). Land-use practices should be very conservative in all areas mapped as unit A. (Curran et al 1997) (Contains less than 20 feet fine-grained materials overlying 20-50 feet Henry sand and gravel.)

B-4: Geologic limitations. The potential for contamination is moderately high. Groundwater in these thin sand and gravel deposits is not commonly tapped for water resource; however, contaminated groundwater may flow into aquifers of adjoining units, or it may migrate through the sand and gravel, especially along the contact with underlying fine-grained deposits, and discharge on slopes or into surface-water bodies. (Contains less than 20

feet fine-grained materials overlying less than 20 feet Henry sand and gravel.)	**C-2.** Geologic limitations. The potential for contaminating shallow aquifers is moderate. Fine-grained materials 20-50 feet thick offer moderate protection for underlying aquifers (particularly where the Yorkville and /or Tiskilwa diamictons overlie the sand and gravel) from waste spreading or septic systems. For example it was reported that pesticide and nitrate detections in Illinois were significantly fewer where aquifers were buried 20-50 feet than where aquifers where shallower. (Contains 20-50 feet fine-grained materials overlying 20-50 feet sand and gravel.)

SENSITIVE AQUIFER RECHARGE AREAS

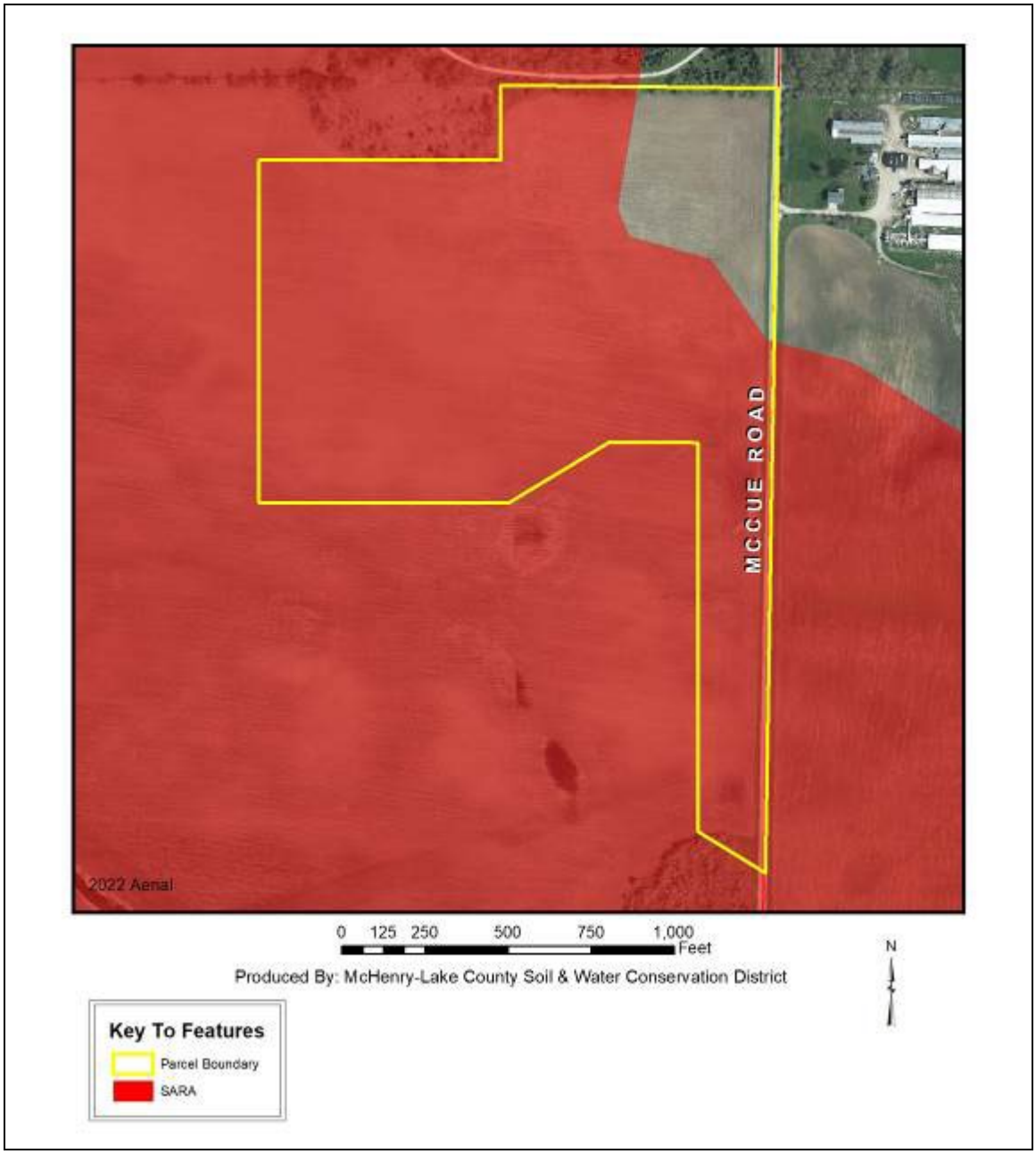
Developed for McHenry County in 2008 and revised in 2018 is the "McHenry County Sensitive Aquifer Recharge Areas" map. Because McHenry County is 100% reliant on groundwater and has been experiencing groundwater quantity/quality issues, the county board in 1995 authorized a groundwater investigation/report titled "County of McHenry Groundwater Resources Management Plan". Many facts in that report startled decision makers. For example, the report found that in 2000, one township was withdrawing groundwater at unsustainable rates and by 2030 if status-quo, three townships would be doing the same and that three other townships would be approaching that un-sustainability. In 2007, the County Board hired a full time Water Resources Manager and authorized the creation of the McHenry County Groundwater Task Force. The Recharge Subcommittee of the Groundwater Task Force was charged with identifying areas within the county that could be considered to have high potential for recharge of shallow groundwater and develop recommendations for protecting those areas in terms of both quantity and quality. The original main basis for the map identifying recharge is areas of high or moderately high potential for aquifer contamination as identified in the Illinois State Geological Survey's Circular 559, "Geologic Mapping for Environmental Planning, McHenry County, IL". In a meeting of the recharge subcommittee, Illinois State Geological Survey and Illinois State Water Survey, it was determined that the areas of high or moderately high potential for aquifer contamination could be qualified by using soil properties. The plan was to remove from the high and moderately high areas those soils with slow permeability, steep slopes and hydric soils that discharge groundwater. Using Table 6 of the Soil Survey of McHenry County a digital layer was developed of soil properties:

- Restricted permeability
- Slopes 4% or greater (except if the soil had excessive permeability, it was not included)

Also digitized were groundwater discharge hydric soils. NRCS Illinois Area 3 Resource Soil Scientists in 2002 developed a hydric soil recharge/flow through/discharge guide to use when designing wetland restoration. Because recharge/flow through/discharge is very complex and changes depending on the year only soils that were thought to be generally only groundwater discharge were used.

Subsequent to the original map development, 3D groundwater modeling has occurred and provided more precise groundwater flow data and thus was the basis for the 2018

map update. *(Information Courtesy of the McHenry County Groundwater Taskforce – Recharge Subcommittee.)*



The map indicates 38.56 acres of the parcel is within a Sensitive Aquifer Recharge Area.

SOILS INFORMATION

Importance of Soils Information

Soils information comes from Natural Resources Conservation Service Soil Maps and Descriptions for McHenry County. This information is important to all parties involved in determining the suitability of the proposed land use change.

Each soil polygon is given a number, which represents its soil type. The letter found after the soil type number indicates the soils slope class.

Each soil map unit has limitations for a variety of land uses such as septic systems, buildings with basements, and buildings without basements. It is important to remember that soils do not function independently of each other. The behavior of a soil depends upon the physical properties of adjacent soil types, the presence of artificial drainage, soil compaction, and its position in the local landscape.

The limitation categories (slight, moderate or severe) indicate the potential for difficulty in using that soil unit for the proposed activity and, thus, the degree of need for thorough soil borings and engineering studies. A limitation does not necessarily mean that the proposed activity cannot be done on that soil type. It does mean that the reasons for the limitation need to be thoroughly understood and dealt with in order to complete the proposed activity successfully. A severe limitation indicates that the proposed activity will be more difficult and costly to do on that soil type than on a soil type with a moderate or slight rating.

Soil survey interpretations are predictions of soil behavior for specified land uses and specified management practices. They are based on the soil properties that directly influence the specified use of the soil. Soil survey interpretations allow users of soil surveys to plan reasonable alternatives for the use and management of soils.

Soil interpretations do not eliminate the need for on-site study and testing of specific sites for the design and construction for specific uses. They can be used as a guide for planning more detailed investigations and for avoiding undesirable sites for an intended use. The scale of the maps and the range of error limit the use of the soil delineations.


Soil Map—McHenry County, Illinois
(ParcelBoundary)
88° 30' 29" W
88° 30' 0" W
42° 14' 2" N
42° 13' 34" N
375600
375700
375800
375900
376000
376100
376200
4676800
4676700
4676600
4676500
4676400
4676300
4676200
4676100
4676000
969E2
969E2
60C2
221B
318B
318C2
379A
379B
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529A
529A
197A
529A
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379A
Soil Map may not be valid at this scale.
Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Map Unit Symbol	Map Unit Name	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes	4.3	9.6%
523A	Dunham silty clay loam, 0 to 2 percent slopes	0.5	1.2%
528A	Lahoguess loam, 0 to 2 percent slopes	0.1	0.2%
529A	Selmass loam, 0 to 2 percent slopes	2.3	5.3%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	0.5	1.0%

Soil Interpretations Explanation

Nonagricultural

General

These interpretative ratings help engineers, planners, and others to understand how soil properties influence behavior when used for nonagricultural uses such as building site development or construction materials. This report gives ratings for proposed uses in terms of limitations and restrictive features. The tables list only the most restrictive features. Other features may need treatment to overcome soil limitations for a specific purpose.

Ratings come from the soil's "natural" state, that is, no unusual modification occurs other than that which is considered normal practice for the rated use. Even though soils may have limitations, an engineer may alter soil features or adjust building plans for a structure to compensate for most degrees of limitations. Most of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs for site preparation and maintenance.

Soil properties influence development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Soil limitation ratings of slight, moderate, and severe are given for the types of proposed improvements that are listed or inferred by the petitioner as entered on the report application and/or zoning petition. The most common types of building limitation that this report gives limitations ratings for is: septic systems. It is understood that engineering practices can overcome most limitations for buildings with and without basements, and small commercial buildings. Limitation ratings for these types of buildings are not commonly provided. Organic soils, when present on the parcel, are referenced in the hydric soils section of the report. This type of soil is considered to be unsuitable for all types of construction.

Limitations Ratings

1. ***Slight*** - This soil has favorable properties for the use. The degree of limitation is minor. The people involved can expect good performance and low maintenance.
2. ***Moderate*** - This soil has moderately favorable properties for the use. Special planning, design, or maintenance can overcome this degree of limitation. During some part of the year, the expected performance is less desirable than for soils rated slight.
3. ***Severe or Very Severe***- This soil has one or more properties that are unfavorable for the rated use. These may include the following: steep slopes, bedrock near the surface, flooding, high shrink-swell potential, a seasonal high water table, or low strength. This degree of limitation generally requires major soil reclamation, special design, or intensive maintenance, which in most situations is difficult and costly.

SOIL LEACHABILITY

This interpretation is designed to evaluate the potential for nitrate-nitrogen to be transmitted through the soil profile below the root zone by percolating water under nonirrigated conditions. Leaching nitrates have the potential to contaminate shallow and deep aquifers used for drinking water. The ratings are based on inherent soil and climate properties that affect nitrate leaching and do not account for management practices, such as crop rotation and rates and timing of nitrogen fertilizer applications.

The following soil and climate factors are used in the interpretation criteria:

1. Mean annual precipitation minus potential evapotranspiration - This factor provides an estimate of the amount of water that is available to move through the soil profile on an annual basis. Potential evaporation is estimated from mean annual air temperature using an algorithm (developed by the National Soil Survey Center) that employs the Hamon potential evapotranspiration method.

2. Water travel time through the entire soil profile - This factor uses the saturated hydraulic conductivity (Ksat) and thickness of each soil horizon to estimate the number of hours that would be required for a given volume of water to move through the entire soil profile. One advantage of this method for estimating the rate of water movement is that the properties and thickness of each soil horizon are accounted for instead of using an average saturated hydraulic conductivity for the entire profile. This method accounts for subtle differences between soils in texture, structure, horizon thickness, and depth to water-restricting layers.

3. Available water capacity - This factor accounts for the cumulative amount of water available to plants that the entire soil profile can hold at field capacity to a depth of 150 cm. The more water the soil profile can hold, the less water is available for deep leaching.

4. Depth to and duration of a water table - This factor uses a water table index based on the minimum average depth to a water table and the number of months that the water table is present during the period from April through October. The factor is used to account for the loss of nitrates to the atmosphere as nitrous oxide or nitrogen gas due to denitrification under anaerobic conditions caused by water saturation. The higher the water table and the longer its duration, the larger the quantity of nitrates that would potentially be lost to the atmosphere and therefore would not be available for deep leaching.

5. Slope gradient adjusted for hydrologic soil group - The steeper the slope gradient, the higher the potential for surface runoff and the lower the amount of water available to move through the soil profile. The following adjustments are made to the slope gradient by hydrologic group to account for differences in potential for surface runoff:

Hydrologic group A-slope % x 0.75

Hydrologic group B-slope % x 0.85

Hydrologic group C-slope % x 0.95

Hydrologic group D-no adjustment

The ratings are both verbal and numerical. The ratings for Nitrate Leaching Potential, Nonirrigated Areas, are calculated as follows:

- The Mean Annual Precipitation minus Potential Evapotranspiration subrule is weighted by multiplying by 0.60.
- The Water Travel Time subrule is weighted by multiplying by 0.25.
- The Available Water Capacity subrule is weighted by multiplying by 0.15.
- The sum of these three weighted subrules results in a value between 0.00 and 1.00.
- Adjustments are then made for water table depth and duration and for slope gradient adjusted for hydrologic group. The sum of the values from these subrules is subtracted from the sum in step 4 above. The maximum reduction is 0.50 for the water table index subrule and 0.30 for the slope gradient subrule.

The following rating classes for Nitrate Leaching Potential, Nonirrigated Areas, are assigned based on the final calculation from the factors above:

Low: 0.00 to 0.25

Moderate: 0.26 to 0.50

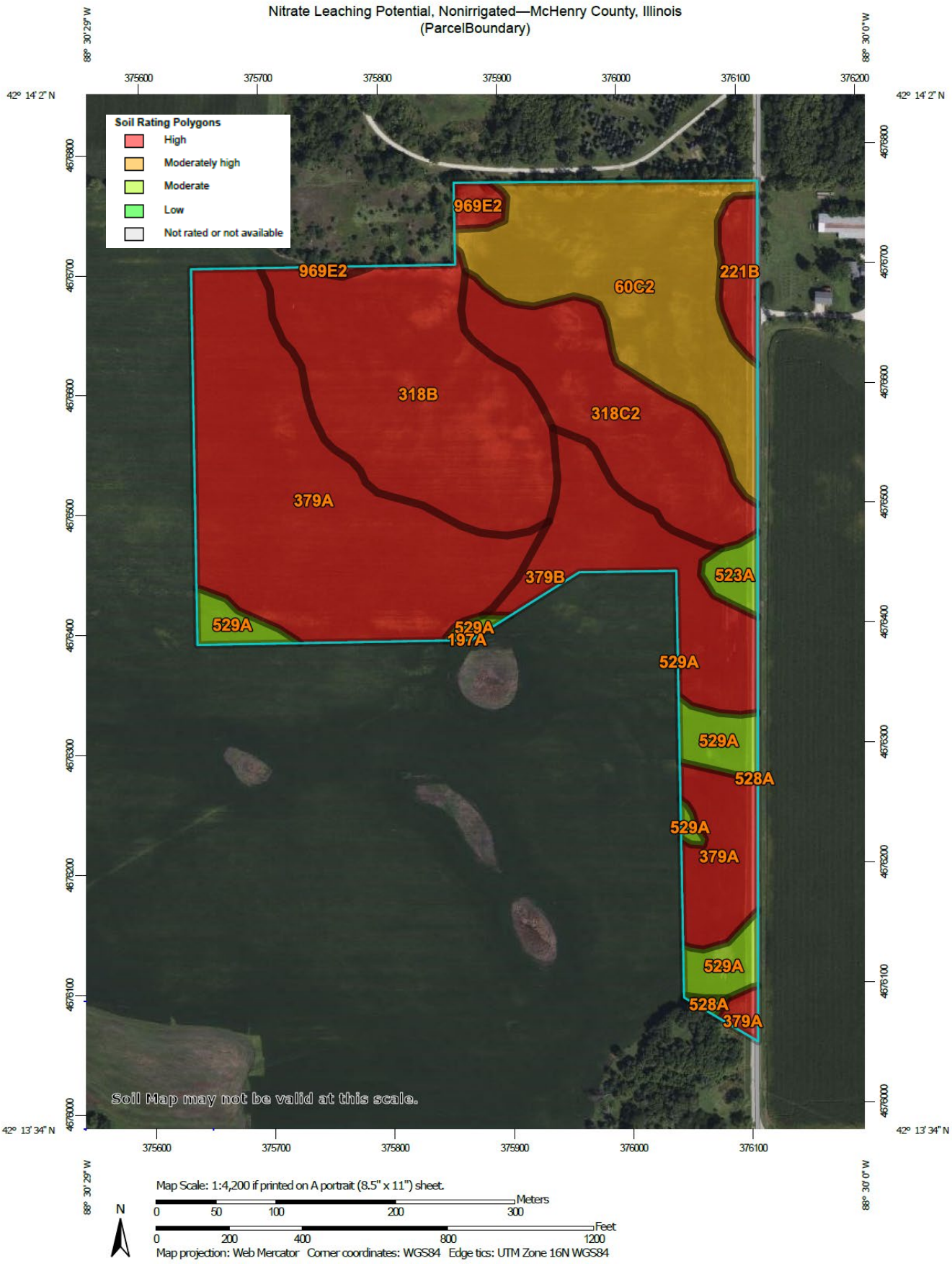
Moderately high: 0.51 to 0.75

High: 0.76 to 1.00

The ratings indicate the potential for nitrate leaching below the root zone, based on inherent soil and climate properties. A "low" rating indicates a low potential for leaching of nitrates below the root zone. A "high" rating indicates a high potential for leaching of nitrates below the root zone. The "moderate" and "moderately high" ratings indicate intermediate potential.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.


Nitrate Leaching Potential, Nonirrigated—McHenry County, Illinois
(ParcelBoundary)
Soil Rating Polygons
High
Moderately high
Moderate
Low
Not rated or not available
969E2
969E2
60C2
221B
318B
318C2
379A
379B
523A
529A
529A
197A
529A
529A
528A
529A
379A
529A
528A
379A
Soil Map may not be valid at this scale.
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Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
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Meters
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Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Nitrate Leaching Potential, Nonirrigated

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	Moderately high	La Rose (85%)	Water quantity available for leaching (0.97) Water holding capacity (0.50) Water travel time (0.25)	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes	High	Troxel (85%)	Water quantity available for leaching (1.00) Water travel time (0.82)	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes	High	Parr (85%)	Water quantity available for leaching (0.98) Water travel time (0.47) Water holding capacity (0.35)	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes	High	Lorenzo (85%)	Water travel time (1.00) Water holding capacity (0.97) Water quantity available for leaching (0.90)	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	High	Lorenzo (85%)	Water travel time (1.00) Water holding capacity (0.97) Water quantity available for leaching (0.90)	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	High	Dakota (85%)	Water quantity available for leaching (0.99) Water travel time (0.99) Water holding capacity (0.61)	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes	High	Dakota (85%)	Water travel time (0.99)	4.3	9.6%

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
				Water quantity available for leaching (0.92)		
				Water holding capacity (0.63)		
523A	Dunham silty clay loam, 0 to 2 percent slopes	Moderate	Dunham (85%)	Water quantity available for leaching (0.99)	0.5	1.2%
				Water travel time (0.92)		
				Denitrification due to saturation (0.50)		
				Water holding capacity (0.13)		
528A	Lahoguess loam, 0 to 2 percent slopes	Moderate	Lahoguess (85%)	Water quantity available for leaching (0.99)	0.1	0.2%
				Water travel time (0.93)		
				Denitrification due to saturation (0.50)		
				Water holding capacity (0.19)		
			Selmass (8%)	Water quantity available for leaching (0.99)		
				Water travel time (0.92)		
				Denitrification due to saturation (0.50)		
				Water holding capacity (0.14)		
529A	Selmass loam, 0 to 2 percent slopes	Moderate	Selmass (90%)	Water quantity available for leaching (0.99)	2.3	5.3%
				Water travel time (0.92)		
				Denitrification due to saturation (0.50)		
				Water holding capacity (0.14)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	High	Casco, eroded (53%)	Water travel time (1.00)	0.5	1.0%
				Water quantity available for leaching (0.99)		
				Water holding capacity (0.94)		
				Slope (0.04)		
			Rodman, eroded (37%)	Water travel time (1.00)		
				Water quantity available for leaching (0.99)		
				Water holding capacity (0.98)		
				Slope (0.02)		

Rating	Acres	Percent
High	33.6	75.9%
Moderately high	7.7	17.5%
Moderate	3.0	6.7%

SOIL PERMEABILITY

Soil permeability is the quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality.

For the purposed of the NRI Report, those soils which have “rapid” to “very rapid” permeability, have been identified as “highly permeable.”

Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow ..... 0.0 to 0.01 inch
Very slow ..... 0.01 to 0.06 inch
Slow ..... 0.06 to 0.2 inch
Moderately slow ..... 0.2 to 0.6 inch
Moderate ..... 0.6 inch to 2.0 inches
Moderately rapid ..... 2.0 to 6.0 inches
Rapid ..... 6.0 to 20 inches
Very rapid ..... more than 20 inches

Highly Permeable Soils

Map Unit Symbol	Highly Permeable	Acres	Percent
60C2	No	7.7	17.5%
197A	No	0.0	0.0%
221B	No	0.9	2.1%
318B	Yes	8.9	20.1%
318C2	Yes	5.4	12.1%
379A	Yes	13.7	30.9%
379B	Yes	4.3	9.6%
523A	Yes	0.5	1.2%
528A	Yes	0.1	0.2%
529A	Yes	2.3	5.3%
969E2	Yes	0.5	1.0%
Total Highly Permeable Soils		**35.7**	**80.4%**

SOIL EROSION & SEDIMENT CONTROL

Erosion is the wearing away of the soil by water, wind, and other forces. Soil erosion threatens the Nation's soil productivity and contributes the most pollutants in our waterways. Water causes about two thirds of erosion on agricultural land. Four properties, mainly, determine a soil's erodibility:

1. Texture 2. Slope 3. Structure
4. Organic matter content

Slope has the most influence on soil erosion potential when the site is under construction. Erosivity and runoff increase as slope grade increases. The runoff then exerts more force on the particles, breaking their bonds more readily and carrying them farther before deposition. The longer water flows along a slope before reaching a major waterway, the greater the potential for erosion.

Soil erosion during and after this proposed construction can be a primary non-point source of water pollution. Eroded soil during the construction phase can create unsafe conditions on roadways, decrease the storage capacity of lakes, clog streams and drainage channels, cause deterioration of aquatic habitats, and increase water treatment costs. Soil erosion also increases the risk of flooding by choking culverts, ditches and storm sewers, and by reducing the capacity of natural and man-made detention facilities.

The general principles of erosion and sedimentation control measures include:

- reducing or diverting flow from exposed areas, storing flows or limiting runoff from exposed areas,
- staging construction in order to keep disturbed areas to a minimum,
- establishing or maintaining or temporary or permanent groundcover,
- retaining sediment on site and
- properly installing, inspecting and maintaining control measures.

Erosion control practices are useful controls only if they are properly located, installed, inspected and maintained.
The SWCD recommends an erosion control plan for all building sites, especially if there is a wetland or stream nearby.

Highly Erodible Soils (HEL)

Map Unit Symbol	HEL	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded - HEL	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes – Non-HEL	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes – Non-HEL	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes – Non-HEL	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded - HEL	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes – Non-HEL	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes – Non-HEL	4.3	9.6%
523A	Dunham silty clay loam, 0 to 2 percent slopes – Non-HEL	0.5	1.2%

528A	Lahoguess loam, 0 to 2 percent slopes – Non-HEL	0.1	0.2%
529A	Selmass loam, 0 to 2 percent slopes – Non-HEL	2.3	5.3%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded - HEL	0.5	1.0%
Total Highly Erodible		**13.6**	**30.6%**

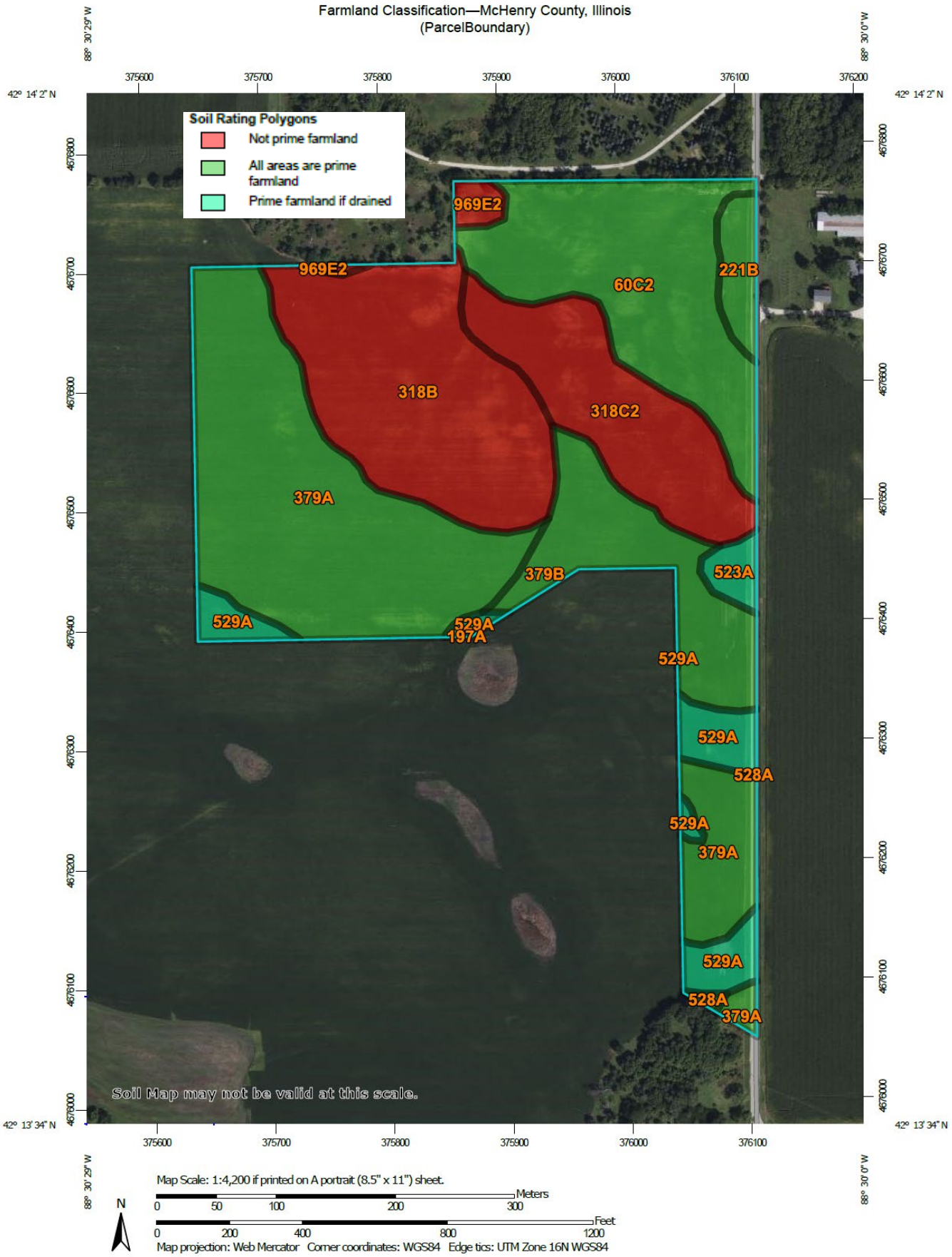
PRIME FARMLAND SOILS

Prime farmland soils are an important resource to McHenry County. Some of the most productive soils in the United States occur locally. Each soil map unit in the United States is assigned a prime or non-prime rating. Prime agricultural land does not need to be in the production of food & fiber.

Section 310 of the NRCS general manual states that urban or built-up land on prime farmland soils is not prime farmland. The percentages of soils map units on the parcel reflect the determination that urban or built up land on prime farmland soils is not prime farmland.

Prime Farmland Soils

Map unit symbol	Map unit name	Rating	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	All areas are prime farmland	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes	All areas are prime farmland	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes	All areas are prime farmland	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes	Not prime farmland	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	Not prime farmland	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	All areas are prime farmland	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes	All areas are prime farmland	4.3	9.6%
523A	Dunham silty clay loam, 0 to 2 percent slopes	Prime farmland if drained	0.5	1.2%
528A	Lahoguess loam, 0 to 2 percent slopes	All areas are prime farmland	0.1	0.2%
529A	Selmass loam, 0 to 2 percent slopes	Prime farmland if drained	2.3	5.3%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	Not prime farmland	0.5	1.0%
Totals Prime Farmland			**26.7**	**60.3%**
Total Prime farmland if drained			**2.8**	**6.5%**


Farmland Classification—McHenry County, Illinois
(ParcelBoundary)
Soil Rating Polygons
Not prime farmland
All areas are prime farmland
Prime farmland if drained
969E2
969E2
60C2
221B
318B
318C2
379A
379B
523A
529A
529A
197A
529A
529A
528A
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Soil Map may not be valid at this scale.
88° 30' 29" W
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Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
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Feet
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

GROUND-BASED SOLAR ARRAYS, SOIL-PENETRATING ANCHOR SYSTEMS

Description

Ground-based solar arrays are sets of photovoltaic panels that are not situated on a building or pole. These installations consist of a racking system that holds the panel in the desired orientation and the foundation structures that hold the racking system to the ground. Two basic methods are used to hold the systems to the ground, based on site conditions and cost. One method employs driven piles, screw augers, or concrete piers that penetrate into the soil to provide a stable foundation. The ease of installation and general site suitability of soil-penetrating anchoring systems depends on soil characteristics such as rock fragment content, soil depth, soil strength, soil corrosivity, shrink-swell tendencies, and drainage. The other basic anchoring system utilizes precast ballasted footings or ballasted trays on the soil surface to make the arrays too heavy to move. The site considerations that impact both basic systems are slope, slope aspect, wind speed, land surface shape, flooding, and ponding. Other factors that will contribute to the function of a solar power array include daily hours of sunlight and shading from hills, trees or buildings.

Soil-penetrating anchoring systems can be used where the soil conditions are not limited. Installation of these systems requires some power equipment for hauling components and either driving piles, turning helices, or boring holes to install the anchoring apparatus.
Soils can be a non-member, partial member or complete members of the set of soils that are limited for "Ground-based Solar Panel Arrays". If a soil's property within 150 cm (60 inches) of the soil surface has a membership indices greater than zero, then that soil property is limiting and the soil restrictive feature is identified. The overall interpretive rating assigned is the maximum membership indices of each soil interpretive property that comprise the "Ground-based Solar Panel Array" interpretive rule. Minor restrictive soil features are identified but not considered as part of the overall rating process. These restrictive features could be important factors where the major restrictive features are overcome through design application.

Soils are placed into interpretive rating classes per their rating indices. These are not limited (rating index = 0), somewhat limited (rating index greater than 0 and less than 1.0), or very limited (rating index = 1.0).

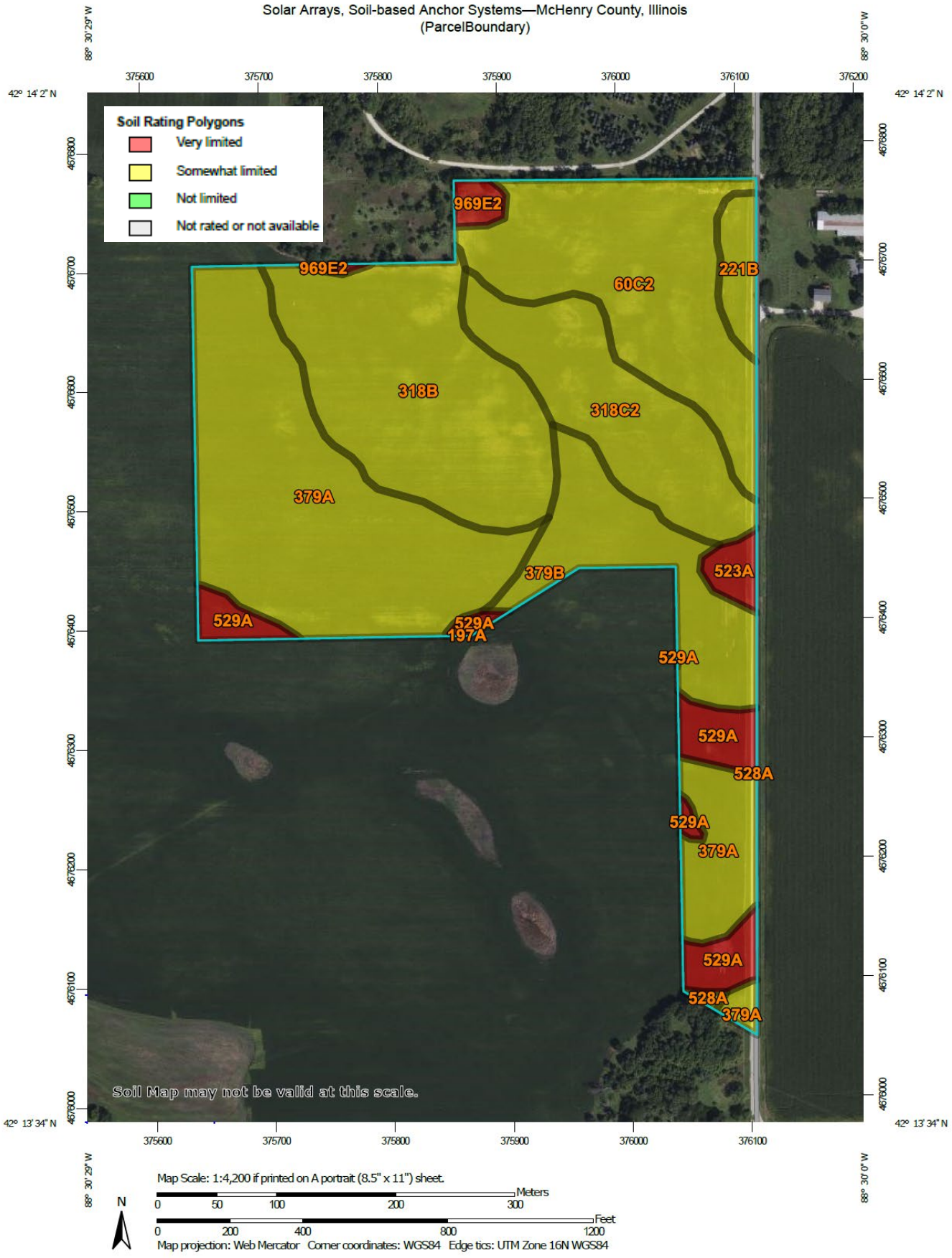
Numerical ratings indicate the degree of limitation. The ratings are shown in decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the least similarity to a good site (1.00) and the point at which the soil feature is very much like known good sites (0).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

References:
Canada, S. 2012. Corrosion impacts on steel piles. Solarpro. Solarprofessional.com.

Romanoff, Melvin. 1962. Corrosion of Steel Pilings in Soils. Journal of Research of the National Bureau of Standards. (Volume 66C, No. 3). July/September, 1962.


Solar Arrays, Soil-based Anchor Systems—McHenry County, Illinois
(ParcelBoundary)
88° 30' 29" W
88° 30' 0" W
42° 14' 2" N
42° 13' 34" N
375600
375700
375800
375900
376000
376100
376200
4576800
4576700
4576600
4576500
4576400
4576300
4576200
4576100
4576000
Soil Rating Polygons
Very limited
Somewhat limited
Not limited
Not rated or not available
969E2
969E2
60C2
221B
318B
318C2
379A
379B
523A
529A
529A
197A
529A
529A
528A
529A
379A
529A
528A
379A
Soil Map may not be valid at this scale.
Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
50
100
200
300
Feet
0
200
400
800
1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Solar Arrays, Soil-based Anchor Systems

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	Somewhat limited	La Rose (85%)	Frost action (0.50)	7.7	17.5%
				Shrink-swell (0.50)		
				Slope direction and gradient (0.06)		
				Low strength (0.05)		
197A	Troxel silt loam, 0 to 2 percent slopes	Very limited	Troxel (85%)	Frost action (1.00)	0.0	0.0%
				Low strength (0.42)		
				Shrink-swell (0.06)		
			Sable (8%)	Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (0.87)		
				Shrink-swell (0.76)		
				Steel corrosion (0.75)		
221B	Parr silt loam, 2 to 5 percent slopes	Somewhat limited	Parr (85%)	Steel corrosion (0.75)	0.9	2.1%
				Frost action (0.50)		
				Shrink-swell (0.23)		
318B	Lorenzo loam, 2 to 4 percent slopes	Somewhat limited	Lorenzo (85%)	Steel corrosion (0.75)	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	Somewhat limited	Lorenzo (85%)	Steel corrosion (0.75)	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	Somewhat limited	Dakota (85%)	Steel corrosion (0.75)	13.7	30.9%
				Frost action (0.50)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
				Hillslope position (0.25)		
				Shrink-swell (0.04)		
379B	Dakota loam, 2 to 4 percent slopes	Somewhat limited	Dakota (85%)	Steel corrosion (0.75)	4.3	9.6%
				Frost action (0.50)		
523A	Dunham silty clay loam, 0 to 2 percent slopes	Very limited	Dunham (85%)	Ponding (1.00)	0.5	1.2%
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Steel corrosion (0.75)		
				Shrink-swell (0.50)		
528A	Lahoguess loam, 0 to 2 percent slopes	Somewhat limited	Lahoguess (85%)	Steel corrosion (0.75)	0.1	0.2%
				Depth to saturated zone (0.75)		
				Frost action (0.50)		
				Shrink-swell (0.20)		
				Low strength (0.11)		
529A	Selmass loam, 0 to 2 percent slopes	Very limited	Selmass (90%)	Ponding (1.00)	2.3	5.3%
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Steel corrosion (0.75)		
				Shrink-swell (0.21)		
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	Very limited	Casco, eroded (53%)	Slope direction and gradient (1.00)	0.5	1.0%
				Slope (1.00)		
				Steel corrosion (0.75)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
				Frost action (0.50)		
				Slope shape across (0.20)		
			Rodman, eroded (37%)	Slope direction and gradient (1.00)		
				Slope (1.00)		
				Steel corrosion (0.75)		
				Slope shape across (0.20)		
				Hillslope position (0.13)		

Rating	Acres	Percent
Somewhat limited	41.0	92.5%
Very limited	3.3	7.5%

AGRICULTURAL AREAS

The Agricultural Areas Conservation and Protect Act became effective July 1, 1980. The purpose of the Act is to provide a means by which agricultural land may be protected and enhanced as a viable segment of the State's economy and as an economic and environmental resource of major importance. Established Ag Areas tend to influence adjacent and surrounding land use changes since they are voluntary in nature and petitioned before the County Board for approval. Ag Areas are considered a high commitment to agriculture. Designated Ag Areas limit land utilization to specified agricultural uses within their designated boundaries. Ag Areas allow landowners limited benefits such as immunity form locally enacted ordinances, which would limit farming operations and immunity from special tax assessments from local units of government.

Office Maps indicate there are no State Designated agricultural areas on or adjacent to the parcel in question.

LAND EVALUATION & SITE ASSESSMENT (LESA)

The Land Evaluation and Site Assessment system is a tool designed to evaluate the viability of agricultural lands where changes in land-use are proposed. LESA was developed as a decision-making tool used by the Zoning Board of Appeals, City Councils or County Boards to help make unbiased decisions of proper land-use. The LESA system was developed by the USDA-NRCS and takes into consideration local conditions such as physical characteristics of the land, compatibility of surrounding land-uses, urban growth factors, and land-use policies determined by local government. LESA was designed to be used in conjunction with the county's land-use plan, zoning ordinances, and other policies being used to decide land-use changes.

Decision makers use the Land Evaluation and Site Assessment (LESA) System to determine the suitability of a land use change and/or a zoning request as it relates to agricultural land. The LESA System is a two step procedure that includes:

- Land Evaluation (LE), soils value
- Site Assessment (SA), land use

Land Evaluation (**LE**) encompasses information regarding soils found on the site and their suitability for agricultural purposes. McHenry County soils consist of 73 different soil series ranging from gravely loams to wet muck soils and from highly productive agricultural soils to high quality gravel deposits. For purposes of the Land Evaluation portion of the LESA system, each soil is assigned a relative value number, from 0 to 100, a 0 being the worst soils for crop production, 100 the best. Parcels containing higher percentages of higher valued soils will rate higher on the overall LESA score while those containing higher percentages lowered value soils will rate lower in the overall LESA score. McHenry County SWCD provides a weighted average of the soils using a simple, mechanical, unbiased method of determining agricultural suitability of soils on site.

Site Assessment (**SA**) identifies and weighs 10 criteria, other than soils information, that contributes to the quality of a site for agricultural uses. The determination to include the specific site assessment factors directly resulted from the following:

- McHenry County Zoning Ordinance,
- 2030 Land Use Plan,
- Other adopted county policies.

In summary, the LESA evaluation addresses all factors, including soils information, together to provide a rational, consistent, and unbiased determination of the impact to agriculture from the proposed land use and zoning changes.

LAND EVALUATION (LE) WORKSHEET

Map Unit Symbol	LE Score	Acres	Percent	Weighted Ave
60C2	76	7.7	17.5%	13.3
197A	97	0.0	0.0%	0
221B	82	0.9	2.1%	1.722
318B	72	8.9	20.1%	14.472
318C2	67	5.4	12.1%	8.107
379A	78	13.7	30.9%	24.102
379B	77	4.3	9.6%	7.392
523A	92	0.5	1.2%	1.104
528A	84	0.1	0.2%	0.168
529A	84	2.3	5.3%	4.452
969E2	65	0.5	1.0%	0.65
Land Evaluation Score				**75.47**

Explanation of the LE Worksheet:
Symbol: is the soil type of the polygon on the soils map. **Percentage and Acreage**: the percentages of the parcel, and the area that the soil polygon represents. **LE Score**: the numeric value from 0 - 100 that is assigned that soil unit **Weighted Ave**: The acreage multiplied by the value of that soil unit.

SITE ASSESSMENT (SA) WORKSHEET: A Site Assessment was not completed due to the remaining agricultural zoning.

LAND USE PLANS

Many counties, municipalities, villages and townships have developed land-use plans. These plans are intended to reflect the existing and future land-use needs of a give community.

This parcel is within the McHenry County 2030 Land Use Plan Map and is identified as agriculture.

DRAINAGE, RUNOFF AND FLOOD INFORMATION

U.S.G.S Topographic maps give information on elevations, which are important mostly to determine slopes, drainage directions, and watershed information.

Elevations determine the area of impact of floods of record. Slope information determines steepness and erosion potential. Drainage directions determine where water leaves the PIQ, possibly impacting surrounding natural resources.

Watershed information is given for changing land use to a subdivision type of development on parcels greater than 10 acres.

What is a watershed?

Simply stated, a watershed is the area of land that contributes water to a certain point. The point that we use on these reports is usually the point where water exits the parcel. The point is marked with a "○." The watershed boundary is drawn in using the following marking: (— • • —). Often times, water will flow off the parcel in two or more directions. In that case, there is a watershed break on the parcel. (— • • —), and there are two or more watersheds on the parcel.

The watershed boundary is important because the area of land in the watershed can now be calculated using an irregular shape area calculator such as a dot counter or planimiter.

Using regional storm event information, and site specific soils and land use information, the peak stormwater flow through the point marked "○" for a specified storm event can be calculated. This value is called a "Q" value (for the given storm event), and is measured in cubic feet per second (CFS).

When construction occurs, the Q value naturally increases because of the increase in impermeable surfaces. This process decreases the ability of soils to accept and temporarily hold water. Therefore, more water runs off and increases the Q value.

Theoretically, if each development, no matter how large or small, maintains their preconstruction Q value after construction by the installation of stormwater management systems, the streams and wetlands and lakes will not suffer damage from excessive urban stormwater.

For this reason, the McHenry County SWCD recommends that the developer for intense uses such as a subdivision calculate the preconstruction Q value for the exit point(s). A stormwater management system should be designed, installed, and maintained to limit the postconstruction Q value to be at or below the preconstruction value.

Importance of Flood Information

A floodplain is defined as land adjoining a watercourse (riverine) or an inland depression (non-riverine) that is subject to periodic inundation by high water. Floodplains are important areas demanding protection since they have water storage and conveyance functions which affect upstream and down stream flows, water quality and quantity, and suitability of the land for human activity. Since floodplains play distinct and vital roles in the hydrologic cycle, development that interferes with their hydrologic and biologic functions should be carefully considered.

Flooding is both dangerous to people and destructive to their properties. The following maps, when combined with wetland and topographic information, can help developers and future homeowners to "sidestep" potential flooding or ponding problems.

FIRM is the acronym for the Flood Insurance Rate Map, produced by the Federal Emergency Management Agency. These maps define flood elevation adjacent to tributaries and major bodies of water, and superimpose that onto a simplified USGS topographic map. The scale of the FIRM maps is generally dependent on the size and density of parcels in that area. (This is to correctly determine the parcel location and flood plain location.) The FIRM map has three (3) zones. A is the zone of 100 year flood, zone B is the 100 to 500 year flood, and zone C is outside the flood plain.

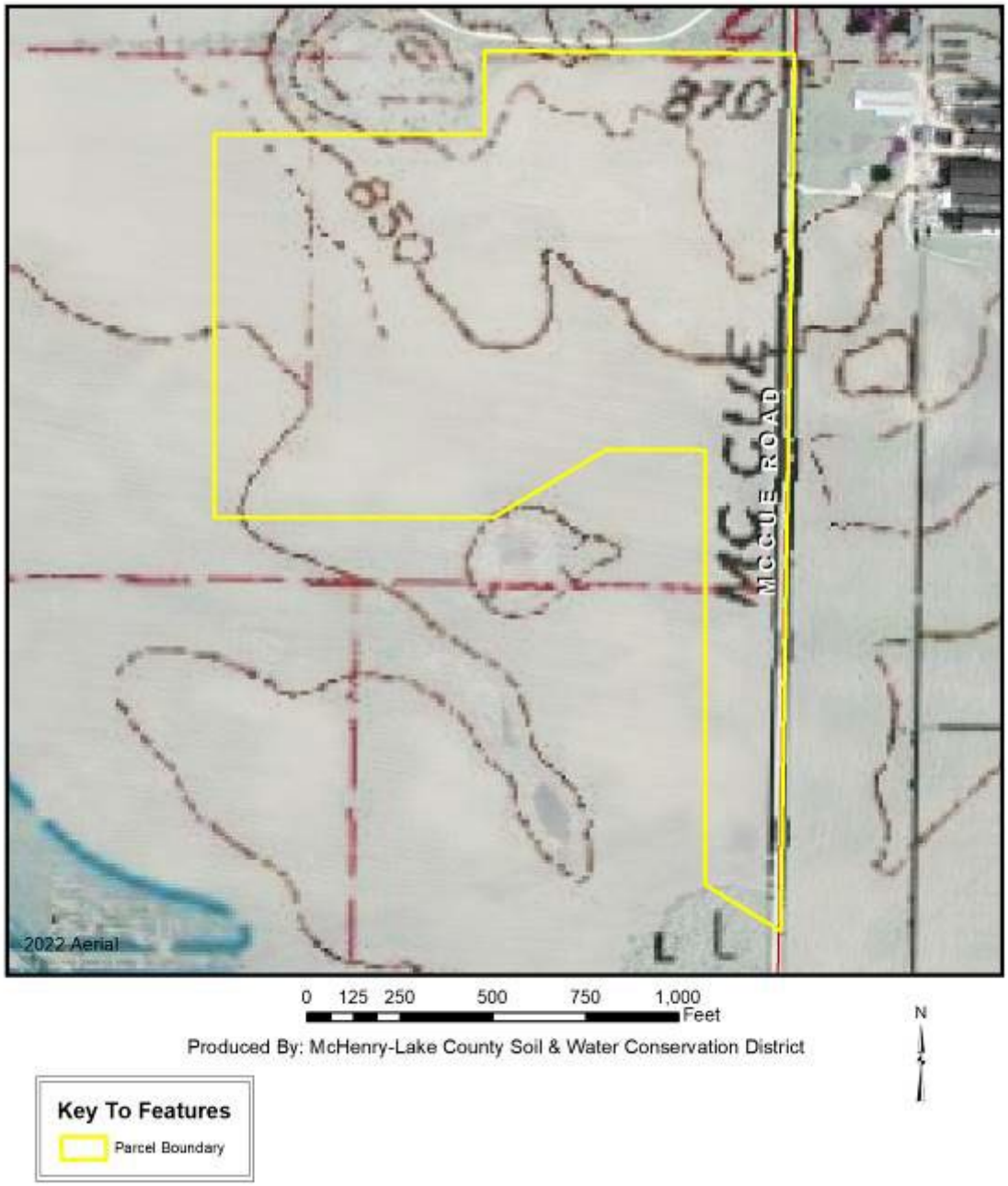
The Hydrologic Atlas (H.A.) Series of the Flood of Record Map is also used for the topographic information. This map is different from the FIRM map mainly because it will show isolated, or pocketed flooded areas. McHenry County uses both these maps in conjunction with each other for flooded area determinations. The Flood of Record maps, show the areas of flood for various years. Both of these maps stress that the recurrence of flooding is merely statistical. That is to say a 100-year flood may occur twice in one year, or twice in one week, for that matter.

It should be noted that greater floods than those shown on the two maps are possible. The flood boundaries indicated provide a historic record only until the map publication date. Additionally, these flood boundaries are a function of the watershed conditions existing when the maps were produced. Cumulative changes in runoff characteristics caused by urbanization can result in an increase in flood height of future flood episodes.

Floodplains play a vital role in reducing the flood damage potential associated with an urbanizing area and, when left in an undisturbed state, also provide valuable wildlife habitat benefits. If it is the petitioner's intent to conduct floodplain filling or modification activities, the petitioner and the Unit of Government responsible need to consider the potentially adverse effects this type of action could have on adjacent properties. The change or loss of natural floodplain storage often increases the frequency and severity of flooding on adjacent property.

If the available maps indicate the presence of a floodplain on the PIQ, the petitioner should contact the IDOT-DWR and FEMA to delineate a floodplain elevation for the parcel. If a portion of the property is indeed floodplain, applicable state, county and local regulations will need to be reflected in the site plans.

Another indication of flooding potential can be found in the soils information. Hydric soils indicate the presence of drainageways, areas subject to ponding, or a naturally occurring high water table. These need to be considered along with the floodplain information when developing the site plan and the stormwater management plan. If the site does include these hydric soils and development occurs, thus raising the concerns of the loss of water storage in these soils and the potential for increased flooding in the area.

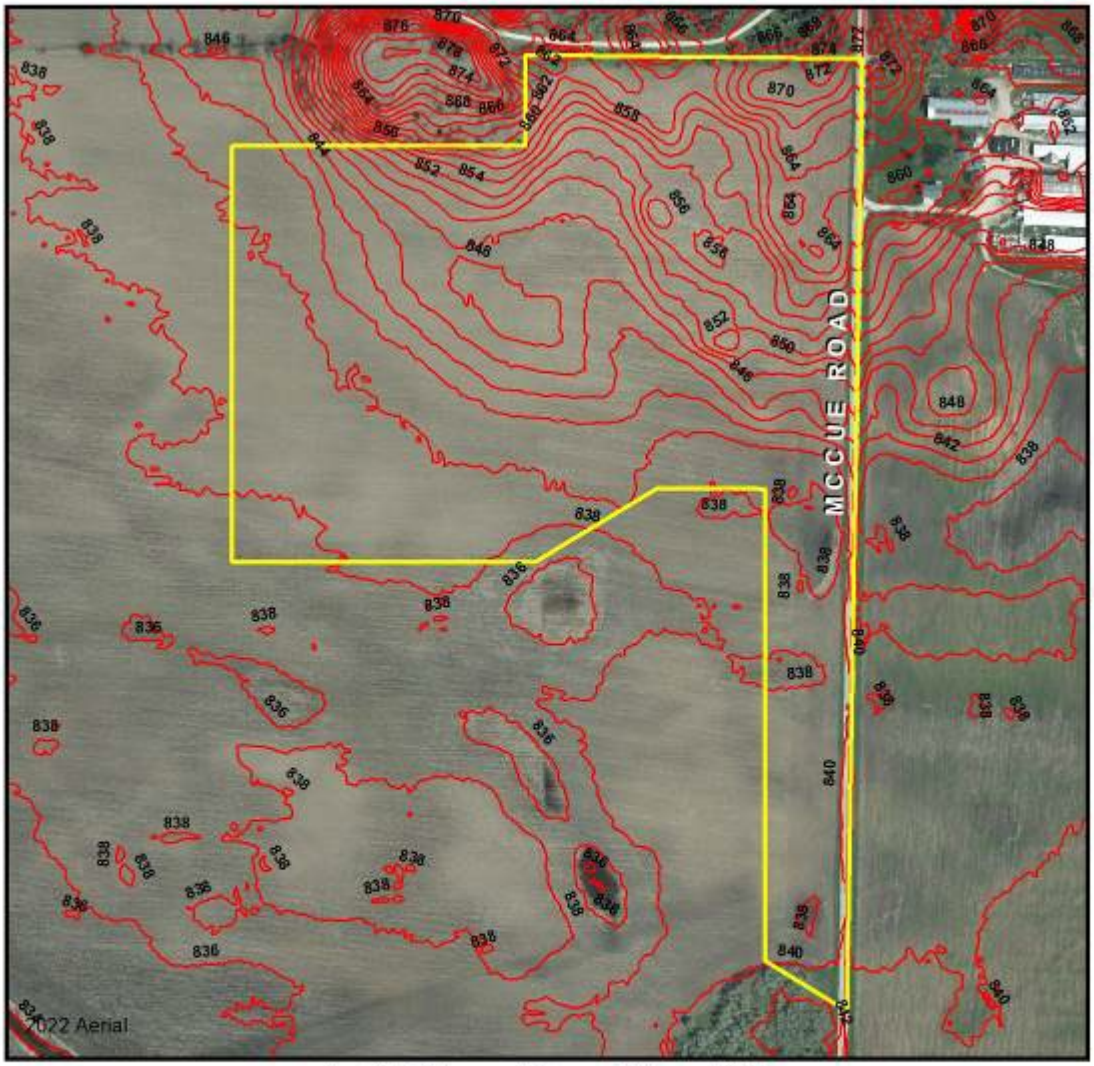


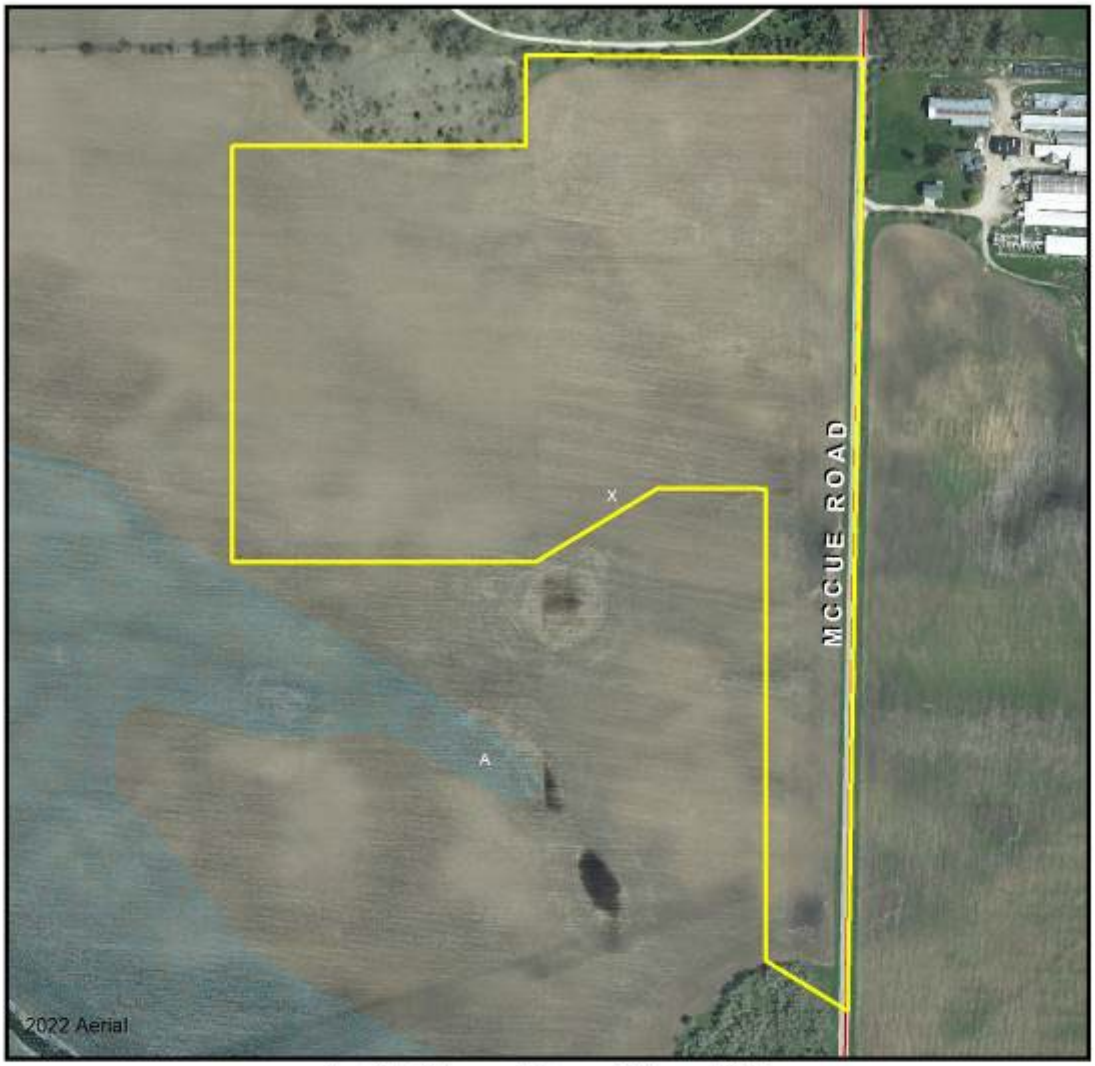
Flood of Record Map Showing Topographic Information

This parcel is located on sloping topography (slopes 0 to 20%) involving high and low areas (elevation ranges from 838' above sea level to 874' above sea level). An erosion control system should include a sedimentation basin to address these exiting concentrated flows during construction. The same area used for a sedimentation basin during construction can be used for a stormwater retention system after construction.

During construction, temporary vegetation can decrease erosion on the slopes if the area is to be mass graded.

Also, the flood of record for this area indicates previous flooding on 0% of the parcel.


MCCUE ROAD
2022 Aerial
0 125 250 500 750 1,000
Feet
N
Produced By: McHenry-Lake County Soil & Water Conservation District
Key To Features
Parcel Boundary
2 Ft Contours



0 125 250 500 750 1,000 Feet

N

Produced By: McHenry-Lake County Soil & Water Conservation District

Key To Features

Parcel Boundary

FEMA Floodplain

Flood Zone

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- 100 yr
- 100 yr with base flood elevations determined
- 100 yr with 1-3 ft. flood depths
- 100 yr usually sheet flow

Federal Emergency Management Agency: Flood Insurance Rate Map Panel 17111C0300J

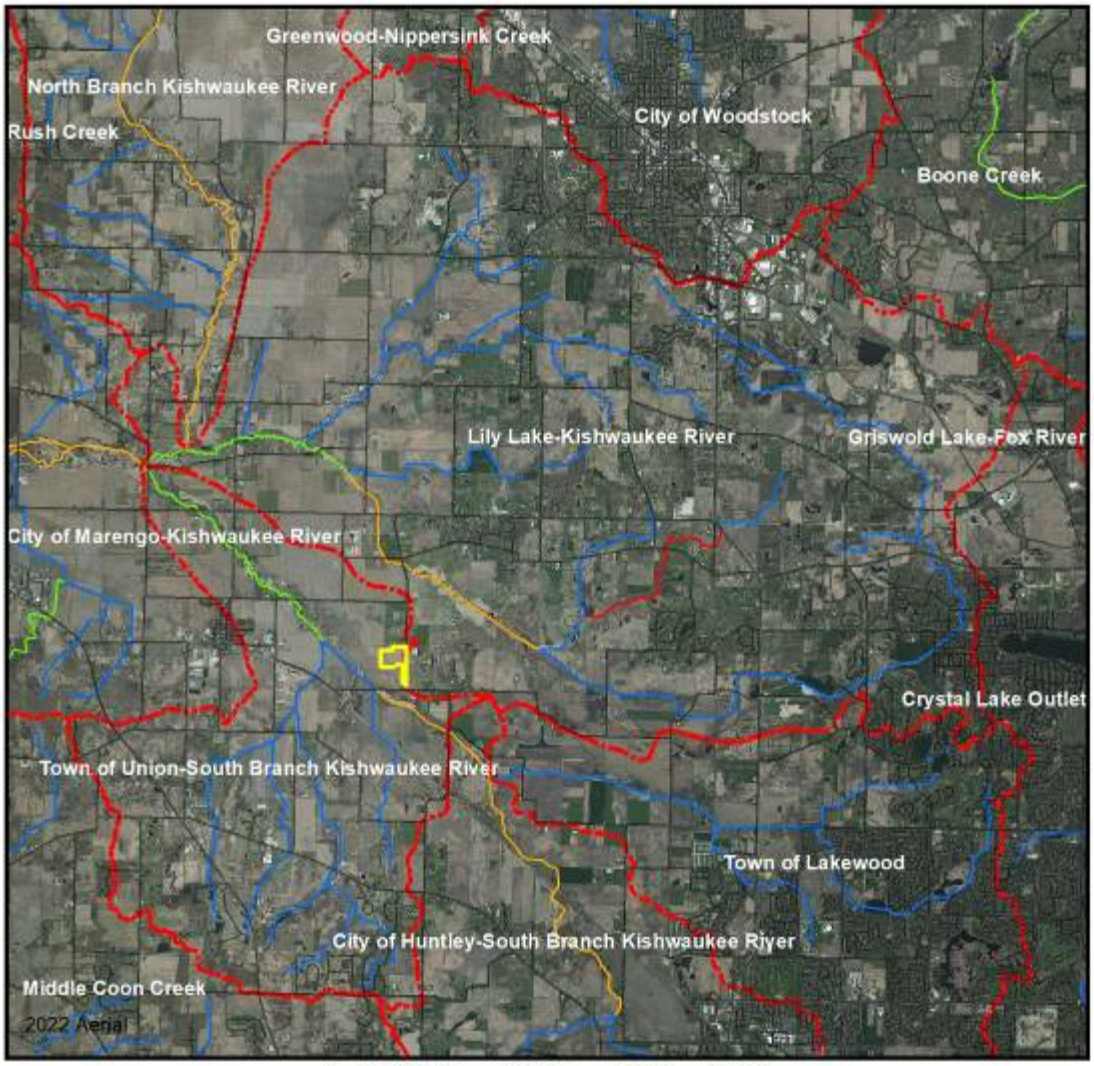
The map indicates the parcel is outside of the 100-year floodplain.

WATERSHED PLANS

Watershed and Subwatershed Information

A watershed is the area of land that drains into a specific point including a stream, lake or other body of water. High points on the Earth's surface, such as hills and ridges define watersheds. When rain falls in the watershed, it flows across the ground towards a stream or lake. Rainwater carries any pollutants it comes in contact with such as oils, pesticides, and soil. Everyone lives in a watershed. Their actions can impact natural resources and people living downstream. Residents can minimize this impact by being aware of their environment and implications of their activities, implementing practices recommended in watershed plans and educating others about their watershed.

The western majority of the parcel is within the Town of Union – South Branch of the Kishwaukee River Subwatershed (HUC 12 – 070900060203) and the remainder of the parcel is within the Lily Lake Subwatershed (HUC 12 – 070900060205) of the Kishwaukee River Watershed, which encompasses 124,802.04 acres of McHenry County. This watershed has an active planning group, which can help the petitioner to limit negative impacts to the watershed from activities performed on this parcel. The petitioner is encouraged to contact the Kishwaukee River Ecosystem Partnership for more information.



0 3,1006,200 12,400 18,600 24,800 Feet

N

Produced By: McHenry-Lake County Soil & Water Conservation District

Key To Features

Parcel Boundary
HUC 12 Watersheds
Rivers & Streams
High Quality Streams
Stream
High Quality Aerial Score
High Quality IBI
High Quality T&E Species

WETLAND INFORMATION

Importance of Wetland Information

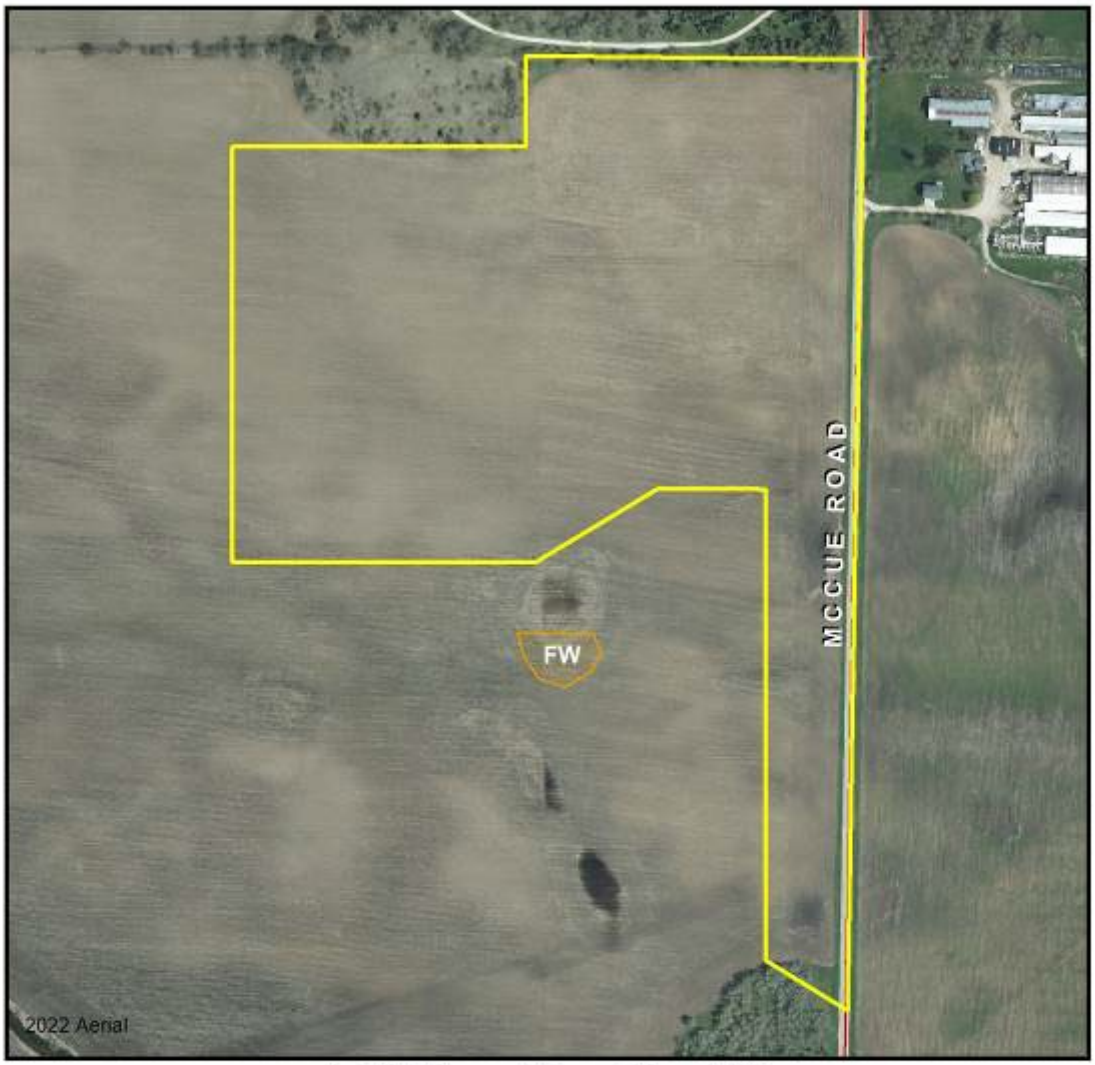
Wetlands function in many ways to provide numerous benefits to society. They control flooding by offering a slow release of excess water downstream or through the soil. They cleanse water by filtering out sediment and some pollutants, and can function as rechargers of our valuable groundwater. They also are essential breeding, rearing, and feeding grounds for many species of wildlife.

These benefits are particularly valuable in urbanizing areas as development activity typically adversely affects water quality, increases the volume of stormwater runoff, and increases the demand for groundwater. In an area where many individual homes rely on shallow groundwater wells for domestic water supplies, activities that threaten potential groundwater recharge areas are contrary to the public good. The conversion of wetlands, with their sediment trapping and nutrient absorbing vegetation, to biologically barren stormwater detention ponds can cause additional degradation of water quality in downstream or adjacent areas.

It has been estimated that over 95% of the wetlands that were historically present in Illinois have been destroyed while only recently has the true environmental significance of wetlands been fully recognized. America is losing 100,000 acres of wetland a year, and has saved 5 million acres total (since 1934). One acre of wetland can filter 7.3 million gallons of water a year. These are reasons why our wetlands are high quality and important.

This section contains the NRCS (Natural Resources Conservation Service) Wetlands Inventory, which is the most comprehensive inventory to date. The NRCS Wetlands Inventory is reproduced from an aerial photo at a scale of 1" equals 660 feet. The NRCS developed these maps in cooperation with U.S. EPA (Environmental Protection Agency,) and the U.S. Fish and Wildlife Service, using the National Food Security Act Manual, 3rd Edition. The main purpose of these maps is to determine wetland areas on agricultural fields and areas that may be wetlands but are in a non-agriculture setting.

The NRCS Wetlands Inventory in no way gives an exact delineation of the wetlands, but merely an outline, or the determination that there is a wetland within the outline. For the final, most accurate wetland **determination** of a specific wetland, a wetland ***delineation*** must be certified by NRCS staff using the National Food Security Act Manual (on agricultural land.) On urban land, a certified wetland delineator must perform the delineation using the ACOE 1987 Manual. *See the glossary section for the definitions of "delineation" and "determination."*



0 125 250 500 750 1,000 Feet

N

Produced By: McHenry-Lake County Soil & Water Conservation District

Key To Features

- Parcel Boundary
- Farmed Wetland
- Farmed Wetland Pasture
- Non-inventoried Hydric Soil
- Non-inventoried Soil With Hydric Inclusions
- Prior Converted
- Wetland

Natural Resources Conservation Service: Wetland Inventory Map.

The map indicates there are no wetlands on the parcel.

ADID (ADVANCED IDENTIFICATION OF AQUATIC RESOURCES)

Wetlands are some of the most productive and diverse ecological systems on Earth. The unique characteristics of plants, soils, and water distinguish these systems. Marshes, wet meadows, fens and bogs are some of the common wetland types found within McHenry County. There are also various streams scattered throughout the county, including several that rank among the highest quality in Illinois.

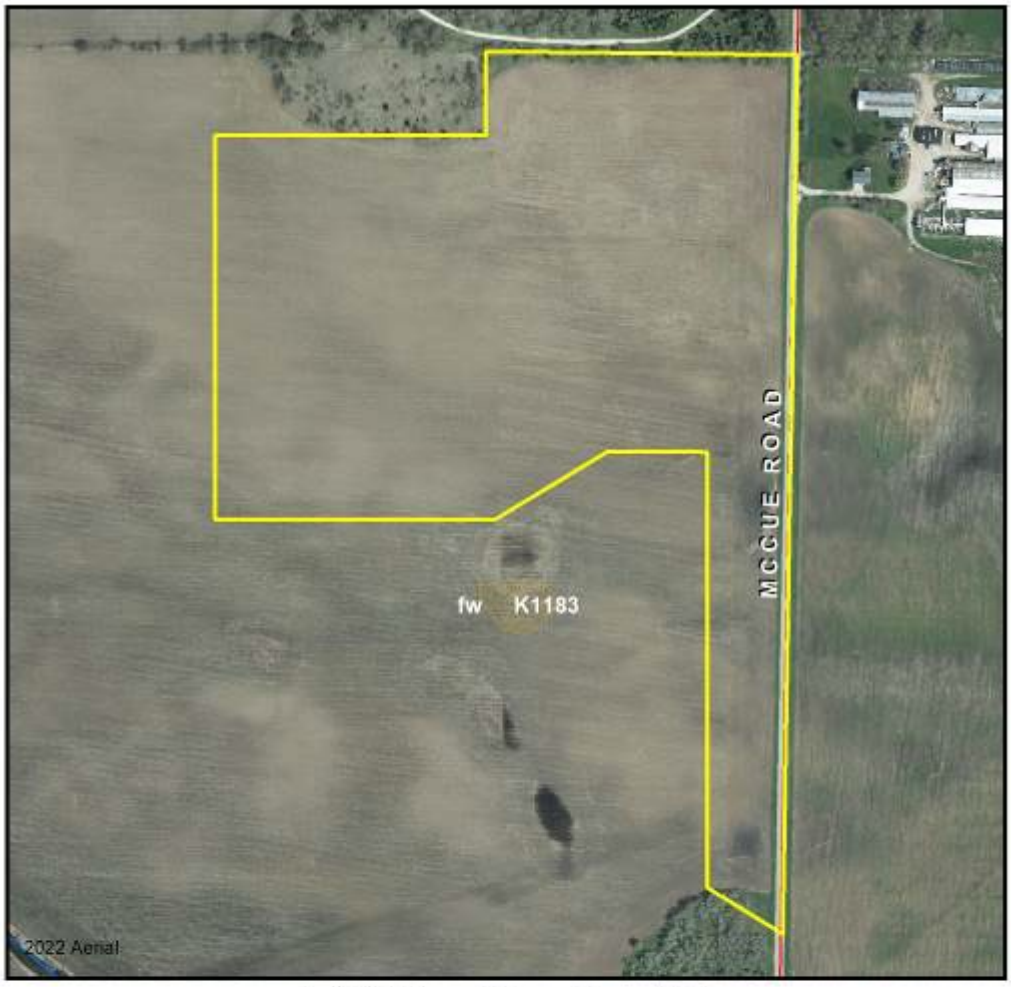
These wetlands, lakes and streams provide needed habitat and food for fish and wildlife. Diverse plants both common and rare are can be found in wetlands, and over 40 percent of Illinois' threatened and endangered plant and animal species rely on wetlands.

Wetlands have many other roles. They are critical to the control of flooding by storing vast quantities of runoff water during floods, and releasing it slowly to rivers and srteams as the floodwater recedes. This in turn helps to prevent erosion in downstream channels, aids in groundwater recharge, and stabilizes the baseflow in streams and rivers. Wetlands are also crucial in protecting water quality. Wetlands that border lakes and streams prevent erosion by holding soil in place and deflecting erosive flows and waves. They also remove sediment, nutrients, and toxic chemicals from runoff water.
Other benefits include groundwater recharge, discharge of clean water, recreation, enhancement of natural aesthetics and serve as buffers between adjacent developments.

This program designed by the EPA (Environmental Protection Agency), is intended to improve awareness of the functions and values of wetlands and other U.S. waters. It is also intended to inform landowners and developers that high quality sites may not be unsuitable for the disposal of dredged or fill material. These ADID projects can also provide guidance on the long-term protection and management of aquatic resources.

The wetland boundaries shown are not jurisdictional delineations. Any proposed drainage work in wet areas requires a certified wetland determination.

The ADID study indicates there are no wetlands on the parcel in question. (Map shown on next page.)



0 125 250 500 750 1,000 Feet

N

Produced By: McHenry-Lake County Soil & Water Conservation District

Key To Features

- Parcel Boundary
- farmed wetland
- high functional wetland
- high quality lake
- high quality wetland
- lake
- wetland

Rivers & Streams

High Quality Streams

- Stream
- High Quality Aerial Score
- High Quality IBI
- High Quality T&E Species

Hydric Soils

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field.

These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States. Federal Register. September 18, 2002. Hydric soils of the United States.

Soils information gives another indication of flooding potential. The soils map on this page indicates the soil(s) on the parcel that the Natural Resources Conservation Service indicates as hydric. Hydric soils by definition have seasonal high water at or near the soil surface and/or have potential flooding or ponding problems. All hydric soils range from poorly suited to unsuitable for building. One group of the hydric soils, are the organic soils, which formed from dead organic material. Organic soils are unsuitable for building because of not only the high water table, but also their subsidence problems.

It is also important to add the possibility of hydric inclusions in a soil type. An inclusion is a soil polygon that is too small to appear on these maps. While relatively insignificant for agricultural use, hydric soil inclusions become more important to more intense uses such as a residential subdivision.
While considering hydric soils and hydric inclusions, it is noteworthy to mention that subsurface agriculture drainage tile occurs in almost all poorly drained and somewhat poorly drained soils. Drainage tile expedites drainage and facilitates farming. It is imperative that these drainage tiles remain undisturbed. A damaged subsurface drainage tile may return original hydrologic conditions to all of the areas that drained through the tile (ranging from less than one acre to many square miles.)

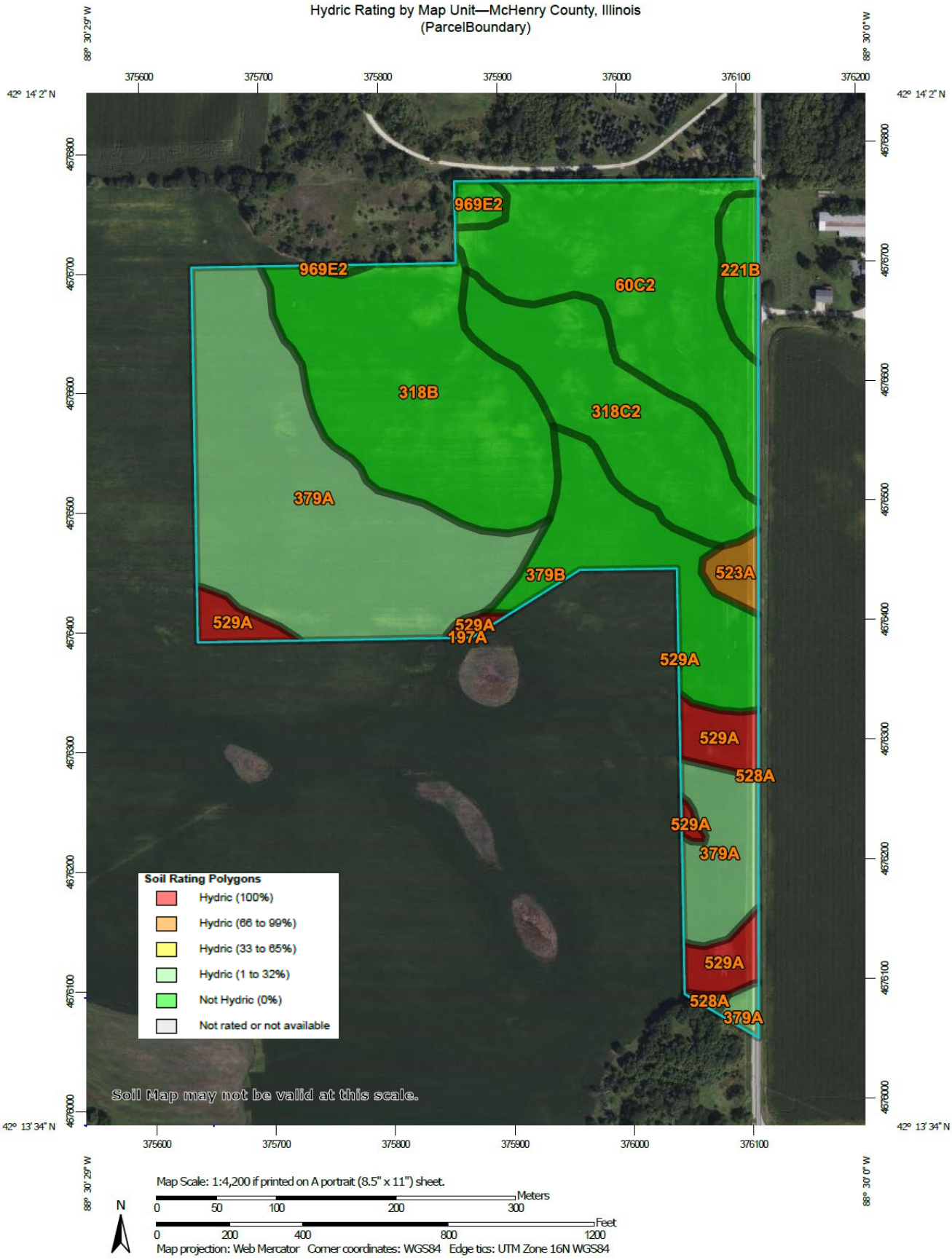
For an intense land use, such as a subdivision, the McHenry County SWCD recommends the following:

1. A topographical survey with 1 foot contour intervals to accurately define the flood area on the parcel.
2. An intensive soil survey to define most accurately the locations of the hydric soils and inclusions
3. A drainage tile survey on the area to locate the tiles that must be preserved.

In general, the District does not recommend building on hydric soils because of the unfavorable properties they exhibit and because of their long term, negative effects on the structures built.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	0 – Non-Hydric	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes	15 – Non-Hydric	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes	0 – Non-Hydric	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes	0 – Non-Hydric	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	0 – Non-Hydric	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	7 – Non-Hydric	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes	0 – Non-Hydric	4.3	9.6%
523A	Dunham silty clay loam, 0 to 2 percent slopes	85 - Hydric	0.5	1.2%
528A	Lahoguess loam, 0 to 2 percent slopes	8 – Non-Hydric	0.1	0.2%
529A	Selmass loam, 0 to 2 percent slopes	100 - Hydric	2.3	5.3%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	0 – Non-Hydric	0.5	1.0%
Total Hydric			**2.8**	**6.5%**


Hydric Rating by Map Unit—McHenry County, Illinois
(ParcelBoundary)
88° 30' 29" W
88° 30' 0" W
42° 14' 2" N
42° 13' 34" N
375600
375700
375800
375900
376000
376100
376200
4676800
4676700
4676600
4676500
4676400
4676300
4676200
4676100
4676000
969E2
969E2
60C2
221B
318B
318C2
379A
379B
523A
529A
529A
197A
529A
529A
528A
529A
379A
529A
528A
379A
Soil Rating Polygons
Hydric (100%)
Hydric (66 to 99%)
Hydric (33 to 65%)
Hydric (1 to 32%)
Not Hydric (0%)
Not rated or not available
Soil Map may not be valid at this scale.
Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

FLOODING FREQUENCY

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent.

"None" means that flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.

"Very rare" means that flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1 percent in any year.

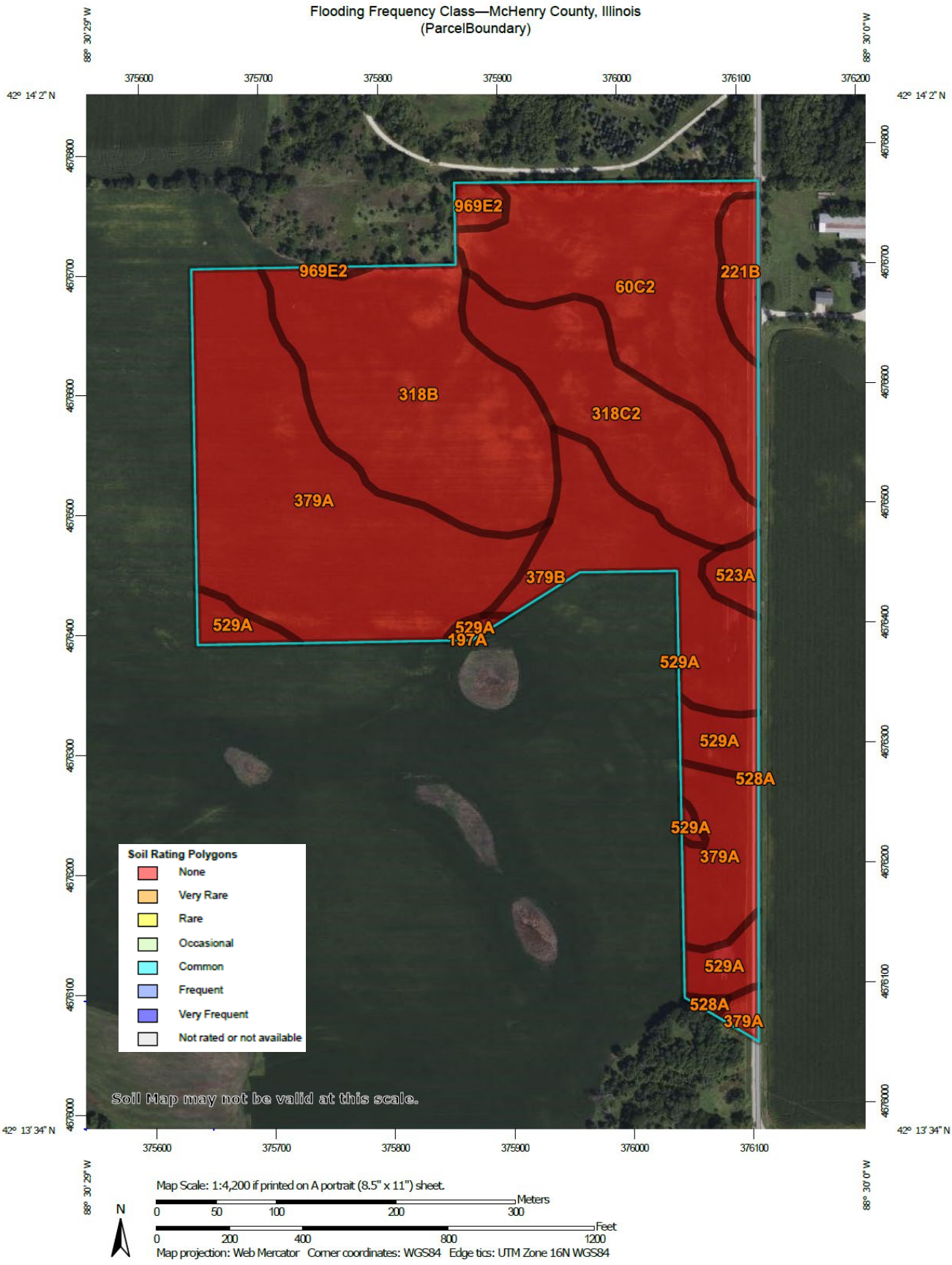
"Rare" means that flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1 to 5 percent in any year.

"Occasional" means that flooding occurs infrequently under normal weather conditions. The chance of flooding is 5 to 50 percent in any year.

"Frequent" means that flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year.

"Very frequent" means that flooding is likely to occur very often under normal weather conditions. The chance of flooding is more than 50 percent in all months of any year.

Map unit symbol	Map unit name	Rating	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	None	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes	None	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes	None	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes	None	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	None	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	None	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes	None	4.3	9.6%
523A	Dunham silty clay loam, 0 to 2 percent slopes	None	0.5	1.2%
528A	Lahoguess loam, 0 to 2 percent slopes	None	0.1	0.2%
529A	Selmass loam, 0 to 2 percent slopes	None	2.3	5.3%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	None	0.5	1.0%
Total Frequent Flooding			**0**	**0%**


Flooding Frequency Class—McHenry County, Illinois
(ParcelBoundary)
88° 30' 29" W
88° 30' 0" W
42° 14' 2" N
42° 13' 34" N
375600
375700
375800
375900
376000
376100
376200
4676800
4676700
4676600
4676500
4676400
4676300
4676200
4676100
4676000
969E2
969E2
60C2
221B
318B
318C2
379A
379B
523A
529A
529A
197A
529A
529A
528A
529A
379A
529A
528A
379A
Soil Rating Polygons
None
Very Rare
Rare
Occasional
Common
Frequent
Very Frequent
Not rated or not available
Soil Map may not be valid at this scale.
Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
50
100
200
300
Feet
0
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400
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1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

PONDING FREQUENCY

Ponding is standing water in a closed depression. The water is removed only by deep percolation, transpiration, or evaporation or by a combination of these processes. Ponding frequency classes are based on the number of times that ponding occurs over a given period. Frequency is expressed as none, rare, occasional, and frequent.

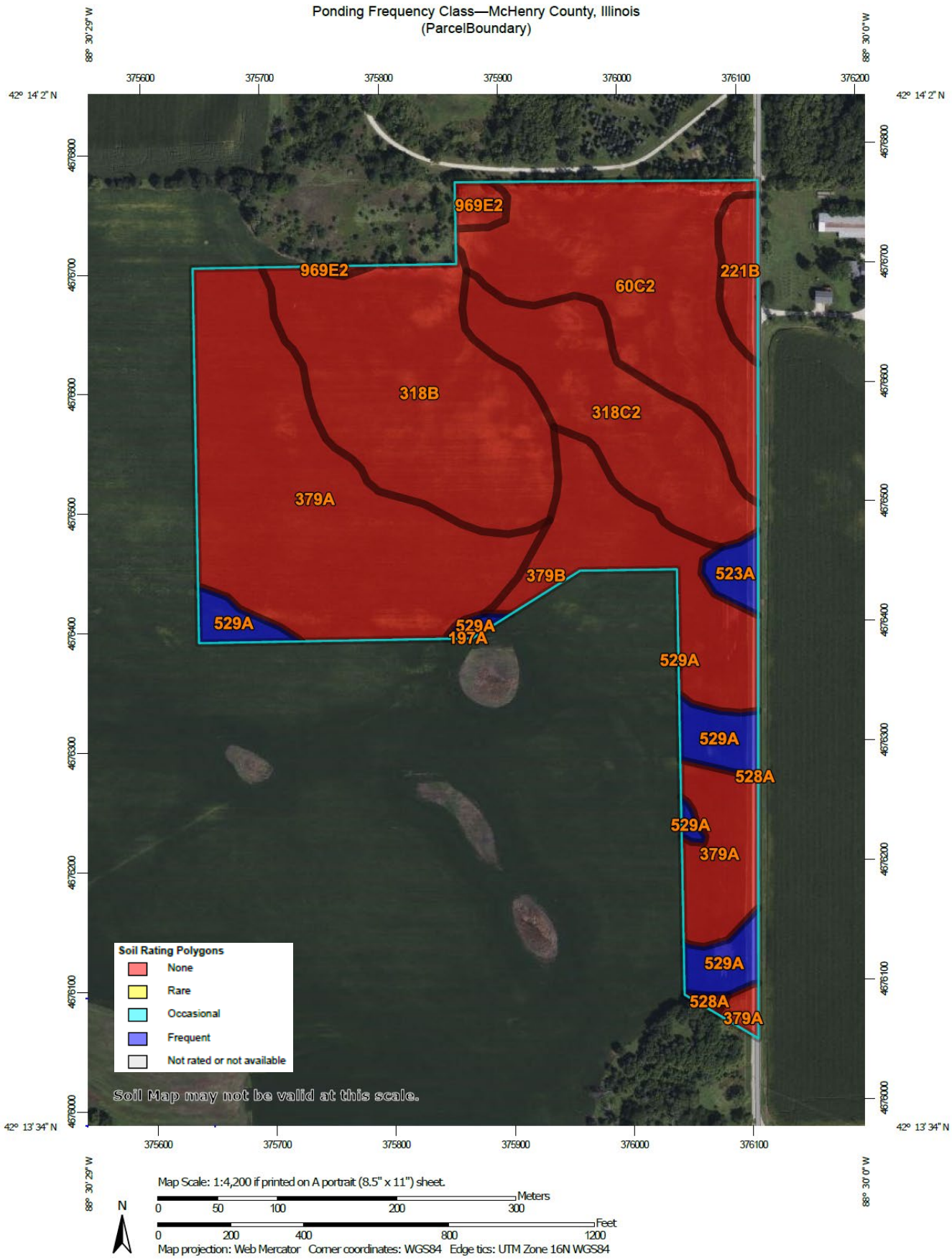
"None" means that ponding is not probable. The chance of ponding is nearly 0 percent in any year.

"Rare" means that ponding is unlikely but possible under unusual weather conditions. The chance of ponding is nearly 0 percent to 5 percent in any year.

"Occasional" means that ponding occurs, on the average, once or less in 2 years. The chance of ponding is 5 to 50 percent in any year.

"Frequent" means that ponding occurs, on the average, more than once in 2 years. The chance of ponding is more than 50 percent in any year.

Map unit symbol	Map unit name	Rating	Acres	Percent
60C2	La Rose loam, 5 to 10 percent slopes, eroded	None	7.7	17.5%
197A	Troxel silt loam, 0 to 2 percent slopes	None	0.0	0.0%
221B	Parr silt loam, 2 to 5 percent slopes	None	0.9	2.1%
318B	Lorenzo loam, 2 to 4 percent slopes	None	8.9	20.1%
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	None	5.4	12.1%
379A	Dakota loam, 0 to 2 percent slopes	None	13.7	30.9%
379B	Dakota loam, 2 to 4 percent slopes	None	4.3	9.6%
523A	Dunham silty clay loam, 0 to 2 percent slopes	Frequent	0.5	1.2%
528A	Lahoguess loam, 0 to 2 percent slopes	None	0.1	0.2%
529A	Selmass loam, 0 to 2 percent slopes	Frequent	2.3	5.3%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	None	0.5	1.0%
Total Frequent			**2.8**	**6.5%**


Ponding Frequency Class—McHenry County, Illinois
(ParcelBoundary)
88° 30' 29" W
88° 30' 0" W
42° 14' 2" N
42° 13' 34" N
375600
375700
375800
375900
376000
376100
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4676800
4676700
4676600
4676500
4676400
4676300
4676200
4676100
4676000
969E2
969E2
60C2
221B
318B
318C2
379A
379B
523A
529A
529A
197A
529A
529A
528A
529A
379A
529A
528A
379A
Soil Rating Polygons
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Rare
Occasional
Frequent
Not rated or not available
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Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.
Meters
0
50
100
200
300
Feet
0
200
400
800
1200
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

WETLAND AND FLOODPLAIN REGULATIONS

PLEASE READ THE FOLLOWING IF YOU ARE PLANNING TO DO ANY WORK NEAR A STREAM (THIS INCLUDES SMALL UNNAMED STREAMS), LAKE, WETLAND OR FLOODWAY.

The laws of the United States and the State of Illinois assign certain agencies specific and different regulatory roles to protect the waters within the State's boundaries. These roles, when considered together, include protection of navigation channels and harbors, protection against flood way encroachments, maintenance and enhancement of water quality, protection of fish and wildlife habitat and recreational resources, and, in general, the protection of total public interest. Unregulated use of the waters within the State of Illinois could permanently destroy or alter the character of these valuable resources and adversely impact the public. Therefore, please contact the proper regulatory authorities when planning any work associated with Illinois waters so that proper consideration and approval can be obtained.

WHO MUST APPLY

Anyone proposing to dredge, fill, rip rap, or otherwise alter the banks or beds of, or construct, operate, or maintain any dock, pier, wharf, sluice, dam, piling, wall, fence, utility, flood plain or flood way subject to County, State or Federal regulatory jurisdiction should apply for agency approvals.

REGULATORY AGENCIES:

- **Wetlands or U.S. Waters: U.S. Army Corps of Engineers**, Chicago District,
  231 S. LaSalle St., Suite 1500
  Chicago, IL 60604
  Phone: (312) 846-5330
- **Isolated Wetlands and Floodplain: McHenry County Department of Planning & Development Stormwater Division,**
  2200 N. Seminary Ave., Woodstock, IL 60098
  Phone: (815) 334-4560
- **Flood plains: Illinois Department of Natural Resources \ Office of Water Resources**, 201 W. Center Court, Schaumburg, IL 60196-1096, phone (847).705.
- **Water Quality \ Erosion Control: Illinois Environmental Protection Agency**, Division of Water Pollution Control, Permit Section, Watershed Unit, 2200 Churchill Road, Springfield, IL 62706, phone (217).782.0610.

COORDINATION

We recommend Early coordination with the regulatory agencies BEFORE finalizing work plans. This allows the agencies to recommend measures to mitigate or compensate for adverse impacts. Also, the agency can make possible environmental enhancement provisions early in the project planning stages. This could reduce time required to process necessary approvals.

CAUTION: Contact with the United States Army Corps of Engineers is strongly advised before commencement of any work in or near a water of the United States. This could save considerable time and expense. Persons responsible for willful and direct violation of Section 10 of the River And Harbor Act of 1899 or Section 404 of the Federal Water Pollution Control Act are subject to fines ranging up to $27,500 per day of violation and imprisonment for up to one year or both.

THREATENED & ENDANGERED SPECIES

The State of Illinois provides habitat for 500 threatened and endangered species, including 356 plants and 144 animals. Twelve counties in Illinois have 50 or more endangered species, 5 of which are in northeastern Illinois. ("Endangered Species of Illinois," by the U.S. Fish & Wildlife Service, IDOC Division of Natural Heritage & Endangered Species Protection Board).

Approximately 40% of the state's listed species depend on wetlands for survival. The two main causes for species decline are the loss of habitat and the degradation of habitat. While habitat loss is the primary reason species become endangered, the effects of habitat change are not always seen overnight. It is seldom simply a case of individual animals or plants being killed. More often, habitat loss and the resulting species declines are indirectly caused and are the result of cumulative impacts over a period of time.

It is because of this slow encroachment of habitat degradation, fragmentation and loss that wildlife habitat must be looked at on a greater scale than just the site. Cumulative impacts occur because a small amount of damage is being done over here and little over there and no one is looking at the whole picture. Thus, the villages and county are strongly encouraged to look at habitat management on a regional scale.

THERE IS A POSSIBILITY FOR ENDANGERED SPECIES ON THE SITE. IF A REQUEST HAS NOT ALREADY BEEN SUBMITTED, THE PETITIONER SHOULD ASK THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES TO CHECK THIS PARCEL FOR THE PRESENCE OF THREATENED OR ENDANGERED SPECIES. SHOULD ANY SUCH SPECIES BE IDENTIFIED AS UTILIZING THIS PARCEL, THE PETITIONER WILL BE NOTIFIED ACCORDINGLY. FOR MORE INFORMATION ON HOW TO REQUEST AN ENDANGERED SPECIES CHECK ON THIS PARCEL, PLEASE VISIT
www.dnrecocat.state.il.us/ecopublic.

GLOSSARY

AGRICULTURAL PROTECTION AREAS (AG AREAS) - Allowed by P.A. 81-1173. An AG AREA consists of a minimum of 350 acres of farmland, as contiguous and compact as possible. Petitioned by landowners, AG AREAS protect for a period of ten years initially, then reviewed every eight years thereafter. AG AREA establishment exempts landowners from local nuisance ordinances directed at farming operations, and designated land can not receive special tax assessments on public improvements that do not benefit the land, e.g. water and sewer lines.

AGRICULTURE - The growing, harvesting and storing of crops including legumes, hay, grain, fruit and truck or vegetable including dairying, poultry, swine, sheep, beef cattle, pony and horse production, fur farms, and fish and wildlife farms; farm buildings used for growing, harvesting and preparing crop products for market, or for use on the farm; roadside stands, farm buildings for storing and protecting farm machinery and equipment from the elements, for housing livestock or poultry and for preparing livestock or poultry products for market; farm dwellings occupied by farm owners, operators, tenants or seasonal or year around hired farm workers.

B.G. - Below Grade. Under the surface of the Earth.

BEDROCK - Indicates depth at which bedrock occurs. Also lists hardness as rippable or hard.

FLOODING - Indicates frequency, duration, and period during year when floods are likely to occur.

HIGH LEVEL MANAGEMENT - The application of effective practices adapted to different crops, soils, and climatic conditions. Such practices include providing for adequate soil drainage, protection from flooding, erosion and runoff control, near optimum tillage, and planting the correct kind and amount of high quality seed. Weeds, diseases, and harmful insects are controlled. Favorable soil reaction and near optimum levels of available nitrogen, phosphorus, and potassium for individual crops are maintained. Efficient use is made of available crop residues, barnyard manure, and/or green manure crops. All operations, when combined efficiently and timely, can create favorable growing conditions and reduce harvesting losses -- within limits imposed by weather.

HIGH WATER TABLE - A seasonal high water table is a zone of saturation at the highest average depth during the wettest part of the year. May be apparent, perched, or artesian kinds of water tables.

Water Table, Apparent - A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water Table, Artesian - A water table under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole.

Water Table, Perched - A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

DELINEATION - For Wetlands: A series of orange flags placed on the ground by a certified professional that outlines the wetland boundary on a parcel.

DETERMINATION - A polygon drawn on a map using map information that gives an outline of a wetland.

HYDRIC SOIL - This type of soil is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Natural Resources Conservation Service 1987)

INTENSIVE SOIL MAPPING - Mapping done on a smaller more intensive scale than a modern soil survey to determine soil properties of a specific site, e.g. mapping for septic suitability.

LAND EVALUATION AND SITE ASSESSMENT (L.E.S.A.) - LESA is a systematic approach for evaluating a parcel of land and to determine a numerical value for the parcel for farmland preservation purposes.

MODERN SOIL SURVEY - A soil survey is a field investigation of the soils of a specific area, supported by information from other sources. The kinds of soil in the survey area are identified and their extent shown on a map, and an accompanying report describes, defines, classifies, and interprets the soils. Interpretations predict the behavior of the soils under different used and the soils' response to management. Predictions are made for areas of soil at specific places. Soils information collected in a soil survey is useful in developing land-use plans and alternatives involving soil management systems and in evaluating and predicting the effects of land use.

PALUSTRINE - Name given to inland fresh water wetlands

PERMEABILITY - Values listed estimate the range (in rate and time) it takes for downward movement of water in the major soil layers when saturated, but allowed to drain freely. The estimates are based on soil texture, soil structure, available data on permeability and infiltration tests, and observation of water movement through soils or other geologic materials.

PIQ - Parcel in question

POTENTIAL FROST ACTION - Damage that may occur to structures and roads due to ice lens formation causing upward and lateral soil movement. Based primarily on soil texture and wetness.

PRIME FARMLAND - Prime farmland soils are lands that are best suited to food, feed, forage, fiber and oilseed crops. It may be cropland, pasture, woodland, or other land, but it is not urban and built up land or water areas. It either is used for food or fiber or is available for those uses. The soil qualities, growing season, and moisture supply are those needed for a well managed soil economically to produce a sustained high yield of crops. Prime farmland produces in highest yields with minimum inputs of energy and economic resources, and farming the land results in the least damage to the environment.

Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The level of acidity or alkalinity is acceptable. Prime farmland has few or no rocks and is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The slope ranges mainly from 0 to 5 percent. (Source USDA Natural Resources Conservation Service)

PRODUCTIVITY INDEXES - Productivity indexes for grain crops express the estimated yields of the major grain crops grown in Illinois as a single percentage of the average yields obtained under basic management from several of the more productive soils in the state. This group of soils is composed of the Muscatine, Ipava, Sable, Lisbon, Drummer, Flanagan, Littleton, Elburn and Joy soils. Each of the 425 soils found in Illinois are found in Circular 1156 from the Illinois Cooperative Extension Service.

SEASONAL - When used in reference to wetlands indicates that the area is flooded only during a portion of the year.

SHRINK-SWELL POTENTIAL - Indicates volume changes to be expected for the specific soil material with changes in moisture content.

SOIL MAPPING UNIT - A map unit is a collection of soil areas of miscellaneous areas delineated in mapping. A map unit is generally an aggregate of the delineations of many different bodies of a kind of soil or miscellaneous area but may consist of only one delineated body. Taxonomic class names and accompanying phase terms are used to name soil map units. They are described in terms of ranges of soil properties within the limits defined for taxa and in terms of ranges of taxadjuncts and inclusions.

SOIL SERIES - A group of soils, formed from a particular type of parent material, having horizons that, except for texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

SUBSIDENCE - Applies mainly to organic soils after drainage. Soil material subsides due to shrinkage and oxidation.

TERRAIN - The area or surface over which a particular rock or group of rocks is prevalent.

TOPSOIL - That portion of the soil profile where higher concentrations of organic material, fertility, bacterial activity and plant growth take place. Depths of topsoil vary between soil types.

WATERSHED - An area of land that drains to an associated water resource such as a wetland, river or lake. Depending on the size and topography, watersheds can contain numerous tributaries, such as streams and ditches, and ponding areas such as detention structures, natural ponds and wetlands.

WETLAND - An area that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of

hydrophytic vegetation typically adapted for life in saturated soil conditions.

REFERENCES

A Citizens' Guide to Protecting Wetlands. By The National Wildlife Federation. Washington, D.C., March 1989

Agricultural Areas Inventory
McHenry County Soil & Water Conservation District

FIRM - Flood Insurance Rate Maps for McHenry County. Prepared by FEMA - Federal Emergency Management Agency.

Flood of Record (Hydrologic Atlas) for McHenry County
U.S. Geologic Survey

Geologic Mapping for Environmental Planning, McHenry County, Illinois. Department of Natural Resources Illinois State Geological Survey, Circular 559, 1997

Geology For Planning in Boone and Winnebago Counties. State Geological Survey Division, Circular 531. 1984

Hydrologic Unit Map for McHenry County.
Natural Resources Conservation Service, United States Department of Agriculture

Hydric Soils of the United States. USDA Natural Resources Conservation Service, 1987.

Illinois Natural Areas Inventory
Illinois Department of Natural Resources

Land Evaluation and Site Assessment System. 2005. The McHenry County Department of Planning and McHenry County Soil and Water Conservation District. In cooperation with: USDS, Natural Resources Conservation Service

McHenry County Advanced Identification of Wetlands (ADID)
Northeastern Illinois Planning Commission

McHenry County Health Code relating to septic system suitability

McHenry County 2030 Land Use Plan
McHenry County Dept. of Planning and Development

McHenry County Natural Areas Inventory
McHenry County Conservation District

McHenry County, Illinois Fire Protection Districts
McHenry County Dept. of Planning and Development

McHenry County, Illinois Historic Landmarks
McHenry County Historic Preservation Committee

Natural Resources Conservation Service Wetland Inventory Map. United States Department of Agriculture

The Conservation of Biological Diversity in the Great Lakes Ecosystem: Issues and Opportunities, prepared by the Nature Conservancy Great Lakes Program 79W. Monroe Street, Suite 1309, Chicago, IL 60603, January 1994

Wetlands - The Corps of Engineers' Administration of the Section 404 Program July 1988 (GAO/RCED-88-110)

Soil Erosion by Water - United States Department of Agriculture Natural Resources Conservation Service. Agriculture Information Bulletin 513.

Soil Survey of McHenry County, Illinois Part 1 and Part 2
Natural Resources Conservation Service, United States Department of Agriculture.

Illinois Department of
Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

JB Pritzker, Governor

Natalie Phelps Finnie, Director

October 20, 2023

Mary-Margaret Hertz
Apex Clean Energy
120 Garrett Street
Suite 700
Charlottesville , VA 22902

RE: Trolley Coach Solar
Project Number(s): 2405945
County: McHenry

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

However, the Department recommends the following:

The project proponent should establish pollinator-friendly habitat as groundcover wherever feasible. Solar Site Pollinator Establishment Guidelines can be found here: https://dnr.illinois.gov/conservation/pollinatorscorecard.html

The site should be de-compacted before planting. Long term management of the site should be planned for prior to development to ensure successful native pollinator habitat establishment and prevent the spread of invasive species throughout the lifetime of this project. An experienced ecological management consultant should be hired to assist with long-term management. Required fencing, excluding areas near or adjacent to public access areas, should not exceed 6 feet in height and should have a 6-inch gap along the bottom to prevent the restriction of wildlife movement.

Trees should be cleared between November 1st and March 31st to avoid impacts to State-listed bats. All night lighting should follow IDA guidance.

Illinois Department of
Natural Resources
One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

JB Pritzker, Governor
Natalie Phelps Finnie, Director

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Bradley Hayes

Bradley Hayes
Division of Ecosystems and Environment
217-785-5500

SOLAR PANELS AND EQUIPMENT WILL NOT EXCEED 10 FEET IN HEIGHT

OCCUPIED STRUCTURE (450ft SETBACK)

PROJECT BOUNDARY

150FT FROM NONPARTICIPATING PARCEL TO FENCE

20FT SPACING BETWEEN PANELS AND FENCE

RACKING (TYP, 1HP, 3 STRING)

MV TRANSFORMER

STRING INVERTER (TYP)

OCCUPIED STRUCTURE (240ft SETBACK)

SITE ENTRANCE 14' WIDTH WITH 35' TURNING RADIUS (TYP)

UNOCCUPIED STRUCTURE (TYP)

RACKING (TYP, 1HP 2 STRING)

PIPELINE - MAJOR 50FT SETBACK (TYP)

500FT FROM FENCE TO END OF SCREENING

UNDERGROUND MV COLLECTION LINE

PARCEL LINE (TYP)

McCUE RD

WETLAND (TYP)

50FT SETBACKS FROM ROAD RIGHT OF WAY

FLOODPLAIN 100-YEAR

UTILITY + DEVELOPER METER

RECLOSER POLE

GUY POLE

UTILITY TAP POLE AT POI

HISTORICAL FLOOD ZONE

DEVELOPER RECLOSER

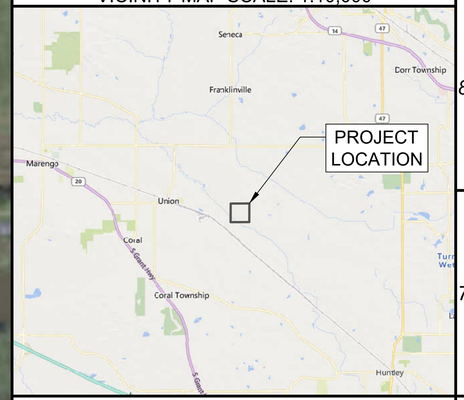
DEVELOPER DISCONNECT

UTILITY DISCONNECT

POINT OF INTERCONNECTION

HEMMINGSEN ROAD

VICINITY MAP SCALE: 1:10,000



PRELIMINARY NOT FOR CONSTRUCTION

LINE-TYPE LEGEND

BUILDABLE AREA	
FENCE	
LOW VOLTAGE COLLECTION	
MEDIUM VOLTAGE COLLECTION	
OVERHEAD TRANSMISSION	OHE
PUBLIC ROAD	
PRIVATE ROAD	
PROPOSED VEG BUFFER	

SYSTEM SUMMARY - AS MODELED

LATITUDE	°	42.23
LONGITUDE	°	-88.51
DC (MODELED)	kWATTS	6,890
AC (GRID LIMIT)	kWATTS	5,000
DC:AC (MODELED)	PU	1.38
MODULE MANU.	-	JINKO
MODULE MODEL	-	JKM580N-72HL4-BDV
MODULE QUANTITY	EA	11,880
MODULES PER STRING		27
INVERTER POWER	KVA	(20) 250
ORIENTATION	-	1HP SAT
FENCED AREA	ACRE	32
FENCED LENGTH	FT	5,049
FENCED HEIGHT	FT	7

SYSTEM SUMMARY - AS DRAWN

INTER-ROW SPACING	FT	15.89
DC (DRAWN)	kWATTS	7,516
GCR	%	32
OVERBUILT	%	9.1

APEX CLEAN ENERGY

#	REVISIONS	DATE	BY
6	Level 3 Layout	11/20/24	JTB
7	Level 3 Layout	6/12/25	JTB

N W E S

0 150' 300'

SCALE: 1" = 150'

CONSULTANT

APEX CLEAN ENERGY

120 Garrett St., Suite 700
CHARLOTTESVILLE, VA
22902

PROJECT

TROLLEY COACH SOLAR LLC

Coral Township, IL

DATE:	6/12/25
DRAWN BY:	JTB
CHECKED BY:	ML

GENERAL ARRAY

A-001

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant: Apex Clean Energy
Contact: Mary-Margaret Hertz
Address: 120 Garrett Street
Suite 700
Charlottesville , VA 22902

IDNR Project Number: 2405945
Date: 10/19/2023

Project: Trolley Coach Solar
Address: 15616 HEMINGSEN Rd, Coral

Description: Community Solar project

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Hum Railroad Prairie East INAI Site
Prairie Bush Clover *(Lespedeza leptostachya)*
Slender Bog Arrow Grass *(Triglochin palustris)*
Tall Sunflower *(Helianthus giganteus)*
Yellow-Headed Blackbird *(Xanthocephalus xanthocephalus)*

An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: McHenry

Township, Range, Section:
43N, 6E, 2
43N, 6E, 3

IL Department of Natural Resources Contact
Bradley Hayes
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
McHenry County Dept. of Planning and Development
McHenry County Dept. of Planning and Development
2200 N. Seminary Ave.
Woodstock, Illinois 60098

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

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EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

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Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

EcoCAT Receipt

Project Code 2405945

APPLICANT	DATE
Apex Clean Energy Mary-Margaret Hertz 120 Garrett Street Suite 700 Charlottesville , VA 22902	10/19/2023

DESCRIPTION	FEE	CONVENIENCE FEE	TOTAL PAID
EcoCAT Consultation	$ 125.00	$ 2.81	$ 127.81

TOTAL PAID $ 127.81

Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
217-785-5500
dnr.ecocat@illinois.gov

STANDARD AGRICULTURAL IMPACT MITIGATION AGREEMENT
between
Trolley Coach Solar, LLC

and the
ILLINOIS DEPARTMENT OF AGRICULTURE
Pertaining to the Construction of a Commercial Solar Energy Facility
in
McHenry **County, Illinois**

Pursuant to the Renewable Energy Facilities Agricultural Impact Mitigation Act (505 ILCS 147), the following standards and policies are required by the Illinois Department of Agriculture (IDOA) to help preserve the integrity of any Agricultural Land that is impacted by the Construction and Deconstruction of a Commercial Solar Energy Facility. They were developed with the cooperation of agricultural agencies, organizations, Landowners, Tenants, drainage contractors, and solar energy companies to comprise this Agricultural Impact Mitigation Agreement (AIMA).

Trolley Coach Solar, LLC, hereafter referred to as Commercial Solar Energy Facility Owner, or simply as Facility Owner, plans to develop and/or operate a 5MWac Commercial Solar Energy Facility in McHenry County [GPS Coordinates: 42.22907, -88.50586], which will consist of up to 90 acres that will be covered by solar facility related components, such as solar panel arrays, racking systems, access roads, an onsite underground collection system, inverters and transformers and any affiliated electric transmission lines. This AIMA is made and entered between the Facility Owner and the IDOA.

If Construction does not commence within four years after this AIMA has been fully executed, this AIMA shall be revised, with the Facility Owner's input, to reflect the IDOA's most current Solar Farm Construction and Deconstruction Standards and Policies. This AIMA, and any updated AIMA, shall be filed with the County Board by the Facility Owner prior to the commencement of Construction.

The below prescribed standards and policies are applicable to Construction and Deconstruction activities occurring partially or wholly on privately owned agricultural land.

Conditions of the AIMA

The mitigative actions specified in this AIMA shall be subject to the following conditions:

A. All Construction or Deconstruction activities may be subject to County or other local requirements. However, the specifications outlined in this AIMA shall be the minimum standards applied to all Construction or Deconstruction activities. IDOA may utilize any legal means to enforce this AIMA.

B. Except for Section 17. B. through F., all actions set forth in this AIMA are subject to modification through negotiation by Landowners and the Facility Owner, provided such changes are negotiated in advance of the respective Construction or Deconstruction activities.

C. The Facility Owner may negotiate with Landowners to carry out the actions that Landowners wish to perform themselves. In such instances, the Facility Owner shall offer Landowners the area commercial rate for their machinery and labor costs.

D. All provisions of this AIMA shall apply to associated future Construction, maintenance, repairs, and Deconstruction of the Facility referenced by this AIMA.

E. The Facility Owner shall keep the Landowners and Tenants informed of the Facility's Construction and Deconstruction status, and other factors that may have an impact upon their farming operations.

F. The Facility Owner shall include a statement of its adherence to this AIMA in any environmental assessment and/or environmental impact statement.

G. Execution of this AIMA shall be made a condition of any Conditional/Special Use Permit. Not less than 30 days prior to the commencement of Construction, a copy of this AIMA shall be provided by the Facility Owner to each Landowner that is party to an Underlying Agreement. In addition, this AIMA shall be incorporated into each Underlying Agreement.

H. The Facility Owner shall implement all actions to the extent that they do not conflict with the requirements of any applicable federal, state and local rules and regulations and other permits and approvals that are obtained by the Facility Owner for the Facility.

I. No later than 45 days prior to the Construction and/or Deconstruction of a Facility, the Facility Owner shall provide the Landowner(s) with a telephone number the Landowner can call to alert the Facility Owner should the Landowner(s) have questions or concerns with the work which is being done or has been carried out on his/her property.

J. If there is a change in ownership of the Facility, the Facility Owner assuming ownership of the Facility shall provide written notice within 90 days of ownership transfer, to the Department, the County, and to Landowners of such change. The Financial Assurance requirements and the other terms of this AIMA shall apply to the new Facility Owner.

K. The Facility Owner shall comply with all local, state and federal laws and regulations, specifically including the worker protection standards to protect workers from pesticide exposure.

L. Within 30 days of execution of this AIMA, the Facility Owner shall use Best Efforts to provide the IDOA with a list of all Landowners that are party to an Underlying Agreement and known Tenants of said Landowner who may be affected by the Facility. As the list of Landowners and Tenants is updated, the Facility Owner shall notify the IDOA of any additions or deletions.

M. If any provision of this AIMA is held to be unenforceable, no other provision shall be affected by that holding, and the remainder of the AIMA shall be interpreted as if it did not contain the unenforceable provision.

Definitions

Abandonment	When Deconstruction has not been completed within 12 months after the Commercial Solar Energy Facility reaches the end of its useful life. For purposes of this definition, a Commercial Solar Energy Facility shall be presumed to have reached the end of its useful life if the Commercial Solar Energy Facility Owner fails, for a period of 6 consecutive months, to pay the Landowner amounts owed in accordance with an Underlying Agreement.

Aboveground Cable	Electrical power lines installed above ground surface to be utilized for conveyance of power from the solar panels to the solar facility inverter and/or point of interconnection to utility grid or customer electric meter.
Agricultural Impact Mitigation Agreement (AIMA)	The Agreement between the Facility Owner and the Illinois Department of Agriculture (IDOA) described herein.
Agricultural Land	Land used for Cropland, hayland, pastureland, managed woodlands, truck gardens, farmsteads, commercial ag-related facilities, feedlots, livestock confinement systems, land on which farm buildings are located, and land in government conservation programs used for purposes as set forth above.
Best Efforts	Diligent, good faith, and commercially reasonable efforts to achieve a given objective or obligation.
Commercial Operation Date	The calendar date of which the Facility Owner notifies the Landowner, County, and IDOA in writing that commercial operation of the facility has commenced. If the Facility Owner fails to provide such notifications, the Commercial Operation Date shall be the execution date of this AIMA plus 6 months.
Commercial Solar Energy Facility (Facility)	A solar energy conversion facility equal to or greater than 500 kilowatts in total nameplate capacity, including a solar energy conversion facility seeking an extension of a permit to construct granted by a county or municipality before June 29, 2018. "Commercial solar energy facility" does not include a solar energy conversion facility: (1) for which a permit to construct has been issued before June 29, 2018; (2) that is located on land owned by the commercial solar energy facility owner; (3) that was constructed before June 29, 2018; or (4) that is located on the customer side of the customer's electric meter and is primarily used to offset that customer's electricity load and is limited in nameplate capacity to less than or equal to 2,000 kilowatts.
Commercial Solar Energy Facility Owner deemed (Facility Owner)	A person or entity that owns a commercial solar energy facility. A Commercial Solar Energy Facility Owner is not nor shall it be to be a public utility as defined in the Public Utilities Act.
County	The County or Counties where the Commercial Solar Energy Facility is located.
Construction	The installation, preparation for installation and/or repair of a Facility.
Cropland	Land used for growing row crops, small grains or hay; includes land which was formerly used as cropland, but is currently enrolled in a government conservation program; also includes pastureland that is classified as Prime Farmland.

Deconstruction	The removal of a Facility from the property of a Landowner and the restoration of that property as provided in the AIMA.
Deconstruction Plan	A plan prepared by a Professional Engineer, at the Facility's expense, that includes: (1) the estimated Deconstruction cost, in current dollars at the time of filing, for the Facility, considering among other things: i. the number of solar panels, racking, and related facilities involved; ii. the original Construction costs of the Facility; iii. the size and capacity, in megawatts of the Facility; iv. the salvage value of the facilities (if all interests in salvage value are subordinate to that of the Financial Assurance holder if abandonment occurs); v. the Construction method and techniques for the Facility and for other similar facilities; and (2) a comprehensive detailed description of how the Facility Owner plans to pay for the Deconstruction of the Facility.
Department	The Illinois Department of Agriculture (IDOA).
Financial Assurance	A reclamation or surety bond or other commercially available financial assurance that is acceptable to the County, with the County or Landowner as beneficiary.
Landowner	Any person with an ownership interest in property that is used for agricultural purposes and that is party to an Underlying Agreement.
Prime Farmland	Agricultural Land comprised of soils that are defined by the USDA Natural Resources Conservation Service (NRCS) as "Prime Farmland" (generally considered to be the most productive soils with the least input of nutrients and management).
Professional Engineer	An engineer licensed to practice engineering in the State of Illinois.
Soil and Water Conservation District (SWCD)	A unit of local government that provides technical and financial assistance to eligible Landowners for the conservation of soil and water resources.
Tenant	Any person, apart from the Facility Owner, lawfully residing or leasing/renting land that is subject to an Underlying Agreement.
Topsoil	The uppermost layer of the soil that has the darkest color or the highest content of organic matter; more specifically, it is defined as the "A" horizon.
Underlying Agreement	The written agreement between the Facility Owner and the Landowner(s) including, but not limited to, an easement, option, lease, or license under the terms of which another person has constructed, constructs, or intends to construct a Facility on the property of the Landowner.

Underground Cable	Electrical power lines installed below the ground surface to be utilized for conveyance of power within a Facility or from a Commercial Solar Energy Facility to the electric grid.
USDA Natural Resources Conservation Service (NRCS)	An agency of the United States Department of Agriculture that provides America's farmers with financial and technical assistance to aid with natural resources conservation.

Construction and Deconstruction Standards and Policies

1. Support Structures

A. Only single pole support structures shall be used for the Construction and operation of the Facility on Agricultural Land. Other types of support structures, such as lattice towers or H-frames, may be used on nonagricultural land.

B. Where a Facility's Aboveground Cable will be adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures shall be placed as close as reasonably practicable and allowable by the applicable County Engineer or other applicable authorities to the highway or railroad right-of-way. The only exceptions may be at jogs or weaves on the highway alignment or along highways or railroads where transmission and distribution lines are already present.

C. When it is not possible to locate Aboveground Cable next to highway or railroad right-of-way, Best Efforts shall be expended to place all support poles in such a manner to minimize their placement on Cropland (i.e., longer than normal above ground spans shall be utilized when traversing Cropland).

2. Aboveground Facilities

Locations for facilities shall be selected in a manner that is as unobtrusive as reasonably possible to ongoing agricultural activities occurring on the land that contains or is adjacent to the Facility.

3. Guy Wires and Anchors

Best Efforts shall be made to place guy wires and their anchors, if used, out of Cropland, pastureland and hayland, placing them instead along existing utilization lines and on land other than Cropland. Where this is not feasible, Best Efforts shall be made to minimize guy wire impact on Cropland. All guy wires shall be shielded with highly visible guards.

4. Underground Cabling Depth

A. Underground electrical cables located outside the perimeter of the (fence) of the solar panels shall be buried with:

1. a minimum of 5 feet of top cover where they cross Cropland.
2. a minimum of 5 feet of top cover where they cross pastureland or other non-Cropland classified as Prime Farmland.
3. a minimum of 3 feet of top cover where they cross pastureland and other Agricultural Land not classified as Prime Farmland.

4. a minimum of 3 feet of top cover where they cross wooded/brushy land.

B. Provided that the Facility Owner removes the cables during Deconstruction, underground electric cables may be installed to a minimum depth of 18 inches:

1. Within the fenced perimeter of the Facility; or

2. When buried under an access road associated with the Facility provided that the location and depth of cabling is clearly marked at the surface.

C. If Underground Cables within the fenced perimeter of the solar panels are installed to a minimum depth of 5 feet, they may remain in place after Deconstruction.

5. Topsoil Removal and Replacement

A. Any excavation shall be performed in a manner to preserve topsoil. Best Efforts shall be made to store the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.

B. Best Efforts shall be made to store all disturbed subsoil material near the excavation site and separate from the topsoil.

C. When backfilling an excavation site, Best Efforts shall be used to ensure the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.

D. Refer to Section 7 for procedures pertaining to rock removal from the subsoil and topsoil.

E. Refer to Section 8 for procedures pertaining to the repair of compaction and rutting of the topsoil.

F. Best Efforts shall be performed to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance shall the topsoil materials be used for any other purpose unless agreed to explicitly and in writing by the Landowner.

G. Based on the mutual agreement of the landowner and Facility Owner, excess soil material resulting from solar facility excavation shall either be removed or stored on the Landowner's property and reseeded per the applicable National Pollution Discharge Elimination System (NPDES) permit/Stormwater Pollution Prevention Plan (SWPPP). After the Facility reaches the end of its Useful Life, the excess subsoil material shall be returned to an excavation site or removed from the Landowner's property, unless otherwise agreed to by Landowner.

6. Rerouting and Permanent Repair of Agricultural Drainage Tiles

The following standards and policies shall apply to underground drainage tile line(s) directly or indirectly affected by Construction and/or Deconstruction:

A. Prior to Construction, the Facility Owner shall work with the Landowner to identify drainage tile lines traversing the property subject to the Underlying Agreement to the extent reasonably practicable. All drainage tile lines identified in this manner shall be shown on the Construction and Deconstruction Plans.

B. The location of all drainage tile lines located adjacent to or within the footprint of the Facility shall be recorded using Global Positioning Systems (GPS) technology. Within 60 days after Construction is complete, the Facility Owner shall provide the Landowner, the IDOA, and the respective County Soil and Water Conservation District (SWCD) with "as built" drawings (strip maps) showing the location of all drainage tile lines by survey station encountered in the Construction of the Facility, including any tile line repair location(s), and any underground cable installed as part of the Facility.

C. **Maintaining Surrounding Area Subsurface Drainage**

If drainage tile lines are damaged by the Facility, the Facility Owner shall repair the lines or install new drainage tile line(s) of comparable quality and cost to the original(s), and of sufficient size and appropriate slope in locations that limit direct impact from the Facility. If the damaged tile lines cause an unreasonable disruption to the drainage system, as determined by the Landowner, then such repairs shall be made promptly to ensure appropriate drainage. Any new line(s) may be located outside of, but adjacent to the perimeter of the Facility. Disrupted adjacent drainage tile lines shall be attached thereto to provide an adequate outlet for the disrupted adjacent tile lines.

D. **Re-establishing Subsurface Drainage Within Facility Footprint**

Following Deconstruction and using Best Efforts, if underground drainage tile lines were present within the footprint of the facility and were severed or otherwise damaged during original Construction, facility operation, and/or facility Deconstruction, the Facility Owner shall repair existing drainage tiles or install new drainage tile lines of comparable quality and cost to the original, within the footprint of the Facility with sufficient capacity to restore the underground drainage capacity that existed within the footprint of the Facility prior to Construction. Such installation shall be completed within 12 months after the end of the useful life of the Facility and shall be compliant with Figures 1 and 2 to this Agreement or based on prudent industry standards if agreed to by Landowner.

E. If there is any dispute between the Landowner and the Facility Owner on the method of permanent drainage tile line repair, the appropriate County SWCD's opinion shall be considered by the Facility Owner and the Landowner.

F. During Deconstruction, all additional permanent drainage tile line repairs beyond those included above in Section 6.D. must be made within 30 days of identification or notification of the damage, weather and soil conditions permitting. At other times, such repairs must be made at a time mutually agreed upon by the Facility Owner and the Landowner. If the Facility Owner and Landowner cannot agree upon a reasonable method to complete this restoration, the Facility Owner may implement the recommendations of the appropriate County SWCD and such implementation constitutes compliance with this provision.

G. Following completion of the work required pursuant to this Section, the Facility Owner shall be responsible for correcting all drainage tile line repairs that fail due to Construction and/or Deconstruction for one year following the completion of Construction or Deconstruction, provided those repairs were made by the Facility Owner. The Facility Owner shall not be responsible for drainage tile repairs that the Facility Owner pays the Landowner to perform.

7. Rock Removal

With any excavations, the following rock removal procedures pertain only to rocks found in the uppermost 42 inches of soil, the common freeze zone in Illinois, which emerged or were brought to the site as a result of Construction and/or Deconstruction.

A. Before replacing any topsoil, Best Efforts shall be taken to remove all rocks greater than 3 inches in any dimension from the surface of exposed subsoil which emerged or were brought to the site as a result of Construction and/or Deconstruction.

B. If trenching, blasting, or boring operations are required through rocky terrain, precautions shall be taken to minimize the potential for oversized rocks to become interspersed in adjacent soil material.

C. Rocks and soil containing rocks removed from the subsoil areas, topsoil, or from any excavations, shall be removed from the Landowner's premises or disposed of on the Landowner's premises at a location that is mutually acceptable to the Landowner and the Facility Owner.

8. Repair of Compaction and Rutting

A. Unless the Landowner opts to do the restoration work on compaction and rutting, after the topsoil has been replaced post-Deconstruction, all areas within the boundaries of the Facility that were traversed by vehicles and Construction and/or Deconstruction equipment that exhibit compaction and rutting shall be restored by the Facility Owner. All prior Cropland shall be ripped at least 18 inches deep or to the extent practicable, and all pasture and woodland shall be ripped at least 12 inches deep or to the extent practicable. The existence of drainage tile lines or underground utilities may necessitate less ripping depth. The disturbed area shall then be disked.

B. All ripping and disking shall be done at a time when the soil is dry enough for normal tillage operations to occur on Cropland adjacent to the Facility.

C. The Facility Owner shall restore all rutted land to a condition as close as possible to its original condition upon Deconstruction, unless necessary earlier as determined by the Landowner.

D. If there is any dispute between the Landowner and the Facility Owner as to what areas need to be ripped/disked or the depth at which compacted areas should be ripped/disked, the appropriate County SWCD's opinion shall be considered by the Facility Owner and the Landowner.

9. Construction During Wet Weather

Except as provided below, construction activities are not allowed on agricultural land during times when normal farming operations, such as plowing, disking, planting or harvesting, cannot take place due to excessively wet soils. With input from the landowner, wet weather conditions may be determined on a field by field basis.

A. Construction activities on prepared surfaces, surfaces where topsoil and subsoil have been removed, heavily compacted in preparation, or otherwise stabilized (e.g. through cement mixing) may occur at the discretion of the Facility Owner in wet weather conditions.

B. Construction activities on unprepared surfaces will be done only when work will not result in rutting which may mix subsoil and topsoil. Determination as to the potential of subsoil and topsoil mixing will be made in consultation with the underlying Landowner, or, if approved by the Landowner, his/her designated tenant or designee.

10. Prevention of Soil Erosion

A. The Facility Owner shall work with Landowners and create and follow a SWPPP to prevent excessive erosion on land that has been disturbed by Construction or Deconstruction of a Facility.

B. If the Landowner and Facility Owner cannot agree upon a reasonable method to control erosion on the Landowner's property, the Facility Owner shall consider the recommendations of the appropriate County SWCD to resolve the disagreement.

C. The Facility Owner may, per the requirements of the project SWPPP and in consultation with the Landowner, seed appropriate vegetation around all panels and other facility components to prevent erosion. The Facility Owner must utilize Best Efforts to ensure that all seed mixes will be as free of any noxious weed seeds as possible. The Facility Owner shall consult with the Landowner regarding appropriate varieties to seed.

11. Repair of Damaged Soil Conservation Practices

Consultation with the appropriate County SWCD by the Facility Owner shall be carried out to determine if there are soil conservation practices (such as terraces, grassed waterways, etc.) that will be damaged by the Construction and/or Deconstruction of the Facility. Those conservation practices shall be restored to their preconstruction condition as close as reasonably practicable following Deconstruction in accordance with USDA NRCS technical standards. All repair costs shall be the responsibility of the Facility Owner.

12. Compensation for Damages to Private Property

The Facility Owner shall reasonably compensate Landowners for damages caused by the Facility Owner. Damage to Agricultural Land shall be reimbursed to the Landowner as prescribed in the applicable Underlying Agreement.

13. Clearing of Trees and Brush

A. If trees are to be removed for the Construction or Deconstruction of a Facility, the Facility Owner shall consult with the Landowner to determine if there are trees of commercial or other value to the Landowner.

B. If there are trees of commercial or other value to the Landowner, the Facility Owner shall allow the Landowner the right to retain ownership of the trees to be removed and the disposition of the removed trees shall be negotiated prior to the commencement of land clearing.

14. Access Roads

A. To the extent practicable, access roads shall be designed to not impede surface drainage and shall be built to minimize soil erosion on or near the access roads.

B. Access roads may be left intact during Construction, operation or Deconstruction through mutual agreement of the Landowner and the Facility Owner unless otherwise restricted by federal, state, or local regulations.

C. If the access roads are removed, Best Efforts shall be expended to assure that the land shall be restored to equivalent condition(s) as existed prior to their construction, or as otherwise agreed to by the Facility Owner and the Landowner. All access roads that are removed shall be ripped to a depth of 18 inches. All ripping shall be performed consistent with Section 8.

15. Weed/Vegetation Control

A. The Facility Owner shall provide for weed control in a manner that prevents the spread of weeds. Chemical control, if used, shall be done by an appropriately licensed pesticide applicator.

B. The Facility Owner shall be responsible for the reimbursement of all reasonable costs incurred by owners of agricultural land where it has been determined by the appropriate state or county entity that weeds have spread from the Facility to their property. Reimbursement is contingent upon written notice to the Facility Owner. Facility Owner shall reimburse the property owner within 45 days after notice is received.

C. The Facility Owner shall ensure that all vegetation growing within the perimeter of the Facility is properly and appropriately maintained. Maintenance may include, but not be limited to, mowing, trimming, chemical control, or the use of livestock as agreed to by the Landowner.

D. The Deconstruction plans must include provisions for the removal of all weed control equipment used in the Facility, including weed-control fabrics or other ground covers.

16. Indemnification of Landowners

The Facility Owner shall indemnify all Landowners, their heirs, successors, legal representatives, and assigns from and against all claims, injuries, suits, damages, costs, losses, and reasonable expenses resulting from or arising out of the Commercial Solar Energy Facility, including Construction and Deconstruction thereof, and also including damage to such Facility or any of its appurtenances, except where claims, injuries, suits, damages, costs, losses, and expenses are caused by the negligence or intentional acts, or willful omissions of such Landowners, and/or the Landowners heirs, successors, legal representatives, and assigns.

17. Deconstruction Plans and Financial Assurance of Commercial Solar Energy Facilities

A. Deconstruction of a Facility shall include the removal/disposition of all solar related equipment/facilities, including the following utilized for operation of the Facility and located on Landowner property:

1. Solar panels, cells and modules;
2. Solar panel mounts and racking, including any helical piles, ground screws, ballasts, or other anchoring systems;
3. Solar panel foundations, if used (to depth of 5 feet);

4. Transformers, inverters, energy storage facilities, or substations, including all components and foundations; however, Underground Cables at a depth of 5 feet or greater may be left in place;
5. Overhead collection system components;
6. Operations/maintenance buildings, spare parts buildings and substation/switching gear buildings unless otherwise agreed to by the Landowner;
7. Access Road(s) unless Landowner requests in writing that the access road is to remain;
8. Operation/maintenance yard/staging area unless otherwise agreed to by the Landowner; and
9. Debris and litter generated by Deconstruction and Deconstruction crews.

B. The Facility Owner shall, at its expense, complete Deconstruction of a Facility within twelve (12) months after the end of the useful life of the Facility.

C. During the County permit process, or if none, then prior to the commencement of construction, the Facility Owner shall file with the County a Deconstruction Plan. The Facility Owner shall file an updated Deconstruction Plan with the County on or before the end of the tenth year of commercial operation.

D. The Facility Owner shall provide the County with Financial Assurance to cover the estimated costs of Deconstruction of the Facility. Provision of this Financial Assurance shall be phased in over the first 11 years of the Project's operation as follows:

1. On or before the first anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover ten (10) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan.
2. On or before the sixth anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover fifty (50) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan.
3. On or before the eleventh anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover one hundred (100) percent of the estimated costs of Deconstruction of the Facility as determined in the updated Deconstruction Plan provided during the tenth year of commercial operation.

The Financial Assurance shall not release the surety from liability until the Financial Assurance is replaced. The salvage value of the Facility may only be used to reduce the estimated costs of Deconstruction if the County agrees that all interests in the salvage value are subordinate or have been subordinated to that of the County if Abandonment occurs.

E. The County may, but is not required to, reevaluate the estimated costs of Deconstruction of any Facility after the tenth anniversary, and every five years thereafter, of the Commercial Operation Date. Based on any reevaluation, the County may require changes in the level of Financial Assurance used to calculate the phased Financial Assurance levels described in Section 17.D. required from the Facility Owner. If the County is unable to its satisfaction to perform the investigations necessary to approve the Deconstruction Plan filed by the Facility Owner, then the County and Facility may mutually agree on the selection of a Professional Engineer independent of the Facility Owner to conduct any necessary investigations. The Facility Owner shall be responsible for the cost of any such investigations.

F. Upon Abandonment, the County may take all appropriate actions for Deconstruction including drawing upon the Financial Assurance.

Concurrence of the Parties to this AIMA

The Illinois Department of Agriculture and Trolley Coach Solar, LLC concur that this AIMA is the complete AIMA governing the mitigation of agricultural impacts that may result from the Construction and Deconstruction of the solar farm project in McHenry County within the State of Illinois.

The effective date of this AIMA commences on the date of execution.

STATE OF ILLINOIS
DEPARTMENT OF AGRICULTURE

Jerry Costello II

By: Jerry Costello II, Director 4

Clay Nordsieh

By ~~Tess Peagans, General Counsel~~
Clay Nordsieh, Deputy General Counsel

801 E. Sangamon Avenue, 62702
State Fairgrounds, POB 19281 Springfield,
IL 62794-9281

12/4, 2023

Trolley Coach Solar, LLC

Charlie Johnson (Oct 23, 2023 09:04 EDT)

By Charlie Johnson, Sr. Director of DER

120 Garrett Street, Suite 700
Charlottesville, VA 22902

Address

October 20, 2023

Trolley Coach AIMA Form

Final Audit Report 2023-10-23

Created:	2023-10-20
By:	Mary-Margaret Hertz (mary-margaret.hertz@apexcleanenergy.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAqyUUIRoAhdExZIbSSYUrnw-jSm9k0MNO

"Trolley Coach AIMA Form" History

Document created by Mary-Margaret Hertz (mary-margaret.hertz@apexcleanenergy.com)
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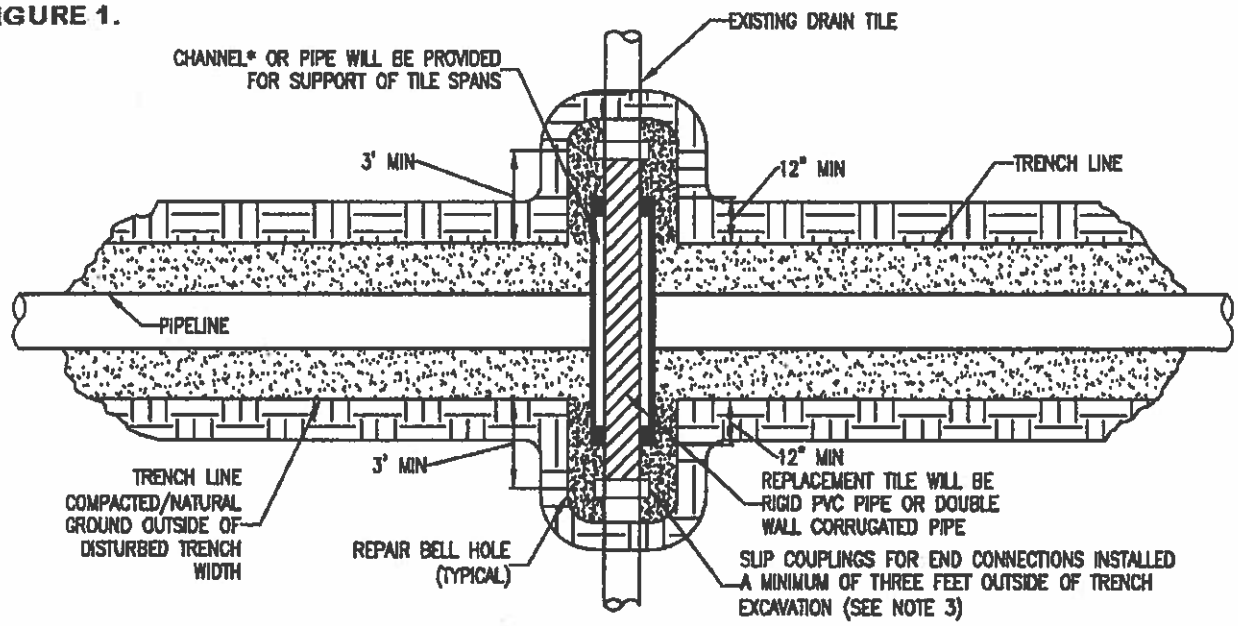
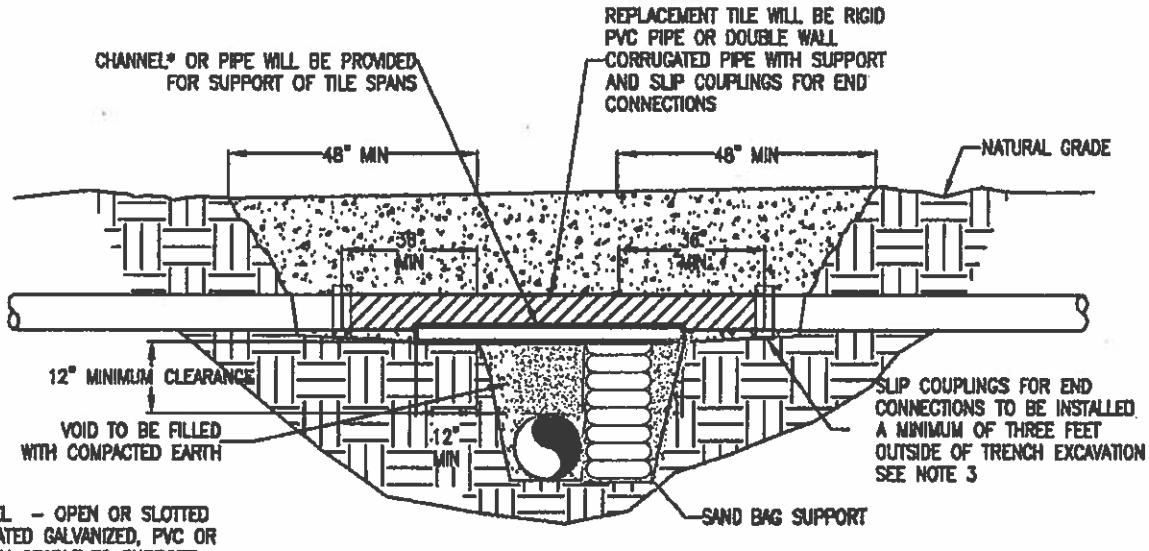
Signature Date: 2023-10-23 - 1:04:00 PM GMT - Time Source: server

Agreement completed.
2023-10-23 - 1:04:00 PM GMT

FIGURE 1.



PLAN
N.T.S.



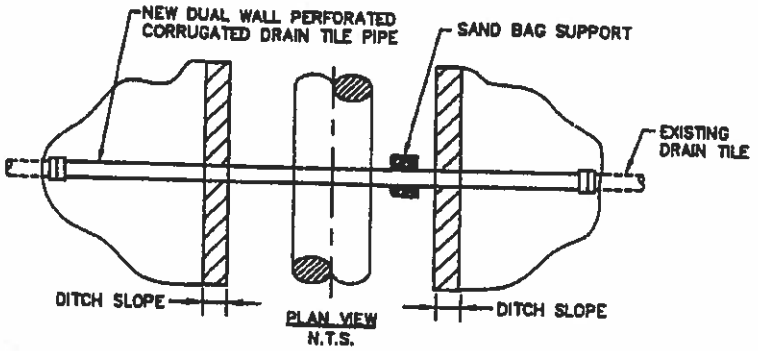
CROSS SECTION
N.T.S.

NOTE:

1. IMMEDIATELY REPAIR TILE IF WATER IS FLOWING THROUGH TILE AT TIME OF TRENCHING. IF NO WATER IS FLOWING AND TEMPORARY REPAIR IS DELAYED, OR NOT MADE BY THE END OF THE WORK DAY, A SCREEN OR APPROPRIATE 'NIGHT CAP' SHALL BE PLACED ON OPEN ENDS OF TILE TO PREVENT ENTRAPMENT OF ANIMALS ETC.
2. CHANNEL OR PIPE (OPEN OR SLOTTED) MADE OF CORRUGATED GALVANIZED PIPE, PVC OR ALUMINUM WILL BE USED FOR SUPPORT OF DRAIN TILE SPANS.
3. INDUSTRY STANDARDS SHALL BE FOLLOWED TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES.

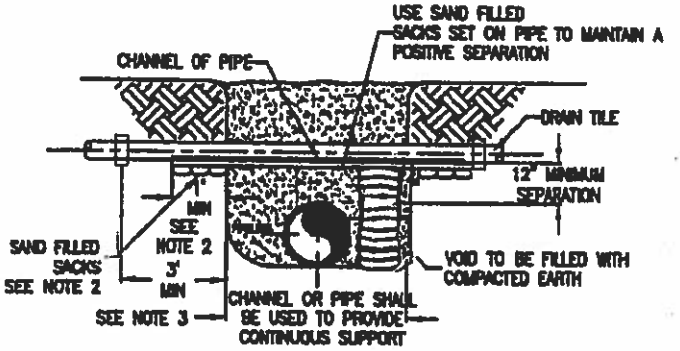
TEMPORARY DRAIN TILE REPAIR

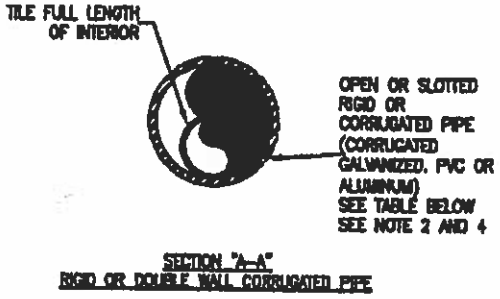
FIGURE 2.



PLAN VIEW
N.T.S.

PLAN VIEW





SECTION "A-A"
RIGID OR DOUBLE WALL CORRUGATED PIPE

END VIEWS

MINIMUM SUPPORT TABLE			
TILE SIZE	CHANNEL SIZE	PIPE SIZE	
3"	4" @ 5.4 #/ft	4"	STD. WT.
4"-5"	5" @ 6.7 #/ft	6"	STD. WT.
6"-9"	7" @ 9.8 #/ft	9"-10"	STD. WT.
10"	10" @ 15.3 #/ft	12"	STD. WT.

NOTE:

1. TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.

2. 1'-0" MINIMUM LENGTH OF CHANNEL OR RIGID PIPE (OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE) SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAND BAGS TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES).

3. DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SUP COUPLINGS.

4. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.

5. OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH TO THE CHANNEL/PIPE SECTIONS SHOWN AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE. SITE SPECIFIC ALTERNATE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THEN 10" DIAMETER, AND FOR "HEADER" SYSTEMS.

6. ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.

7. PRIOR TO REPAIRING TILE, CONTRACTOR SHALL PROBE LATERALLY INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITION.

PERMANENT DRAIN TILE REPAIR

MCHENRY COUNTY PLANNING AND DEVELOPMENT
2200 N. SEMINARY AVENUE, WOODSTOCK, IL 60098
815-334-4560

Office Use Only

Petition #/Permit # _____

CORPORATE DISCLOSURE

Applications shall be brought in the name of the record title owner or the owner(s) of the beneficial interest through authorized agents. If application is made by a corporation or partnership for any zoning map amendment, variation, or conditional use permit, the application and notice shall identify the names and addresses of all officers and directors and all shareholders/stockholders owning an interest in excess of seven and one-half percent (7.5%)

If an owner, officer, director, shareholder/stockholder is another legal entity and not an individual, we require the same information (name, title, address) for that entity.

Name of Entity: A D Land Holdings LLC - Union

Name	Title (officers, directors, shareholders/stockholders)	Address (address, city, state, zip)	Percent of ownership interest
Dante Domenella	Managing Member	2000 North Racine Suite 2290 Chicago, Illinois 60614	27.47
Gino Domenella	Member	2000 North Racine Suite 2290 Chicago, Illinois 60614	27.47
John Perritt	Member	2000 North Racine Suite 2290 Chicago, Illinois 60614	27.47
Americo Domenella Revocable Trust Agreement	Member	2000 North Racine Suite 2290 Chicago, Illinois 60614	17.59

Please attach additional information, if needed.

*Extracted from Title 16: Unified Development Ordinance §16.16.020 §§ A1-4 (2014).

MCHENRY COUNTY PLANNING AND DEVELOPMENT
2200 N. SEMINARY AVENUE, WOODSTOCK, IL 60098
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If an owner, officer, director, shareholder/stockholder is another legal entity and not an individual, we require the same information (name, title, address) for that entity.

Name of Entity: Trolley Coach Solar, LLC

Name	**Title (officers, directors, shareholders/stockholders)**	**Address (address, city, state, zip)**	**Percent of ownership interest**
Apex Clean Energy Holdings, LLC	Owner	120 Garrett Street, Suite 700, Charlottesville, VA, 22902	100%
Ken Young	Officer	120 Garrett Street, Suite 700, Charlottesville, VA, 22902	
Kenny Chernauskas	Officer	120 Garrett Street, Suite 700, Charlottesville, VA, 22902	
Steve Porto	Officer	120 Garrett Street, Suite 700, Charlottesville, VA, 22902	
Noah Ehrenpreis	Officer	120 Garrett Street, Suite 700, Charlottesville, VA, 22902	
Kurt Friesen	Officer	120 Garrett Street, Suite 700, Charlottesville, VA, 22902	

Please attach additional information, if needed.

*Extracted from Title 16: Unified Development Ordinance §16.16.020 §§ A1-4 (2014).