SPECIAL USE APPLICATION

for

GENOA ROAD SOLAR I, LLC
A 2MW (AC) GROUND-MOUNTED SOLAR
POWER GENERATING FACILITY

Prepared for

GENOA ROAD SOLAR I, LLC
MATT WALSH
101 SUMMER STREET
THIRD FLOOR
BOSTON, MA 02110

Submitted by: Atwell, LLC

March 15th, 2022
GENOA ROAD SOLAR I, LLC
SPECIAL USE APPLICATION
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APPLYING FOR ZONING ACTIONS

MAP AMENDMENTS,
SPECIAL USES AND VARIATIONS

Name of Applicant: Genoa Road Solar I, LLC
Address: 101 Summer Street, Third Floor
City: Boston State: MA Zip: 02110
Phone: (847) 212-1585

Attorney: James R. Griffin
Address: 70 W. Madison Street, Ste. 2300
City: Chicago State: IL Zip: 60602
Phone: (312) 345-5700

Owner of Property: Kenyon Brothers Company, Michael Kenyon, Managing Partner
Address: P.O. Box 134
City: South Elgin State: IL Zip: 60177
Phone: (847) 334-0198

Address and Legal description of property: (May be attached)
Legal Description attached.

MAP AMENDMENTS OR SPECIAL USES

Existing Zoning District: A-1, Agricultural District
Existing Use: Agricultural

Proposed Map Amendment:
N/A

OR

Proposed Special Use:
Allow property to be used as a Solar Garden.
VARIATIONS-Continued

Zoning District: N/A
Existing Use: N/A
Requested Use: 

OR

Required Setback: N/A
Requested Setback: N/A

OR

Existing Requirements (Please Specify):
N/A

Requested Requirements (Please Specify):
N/A

The undersigned grants the DeKalb County Community Development Director or his/her designee and the Hearing Officer permission to enter upon the property described on this application for the purpose of inspection.

Christopher F. Clark, SVP
Owner or Authorized Agent

Date

Mgcl11 29, 2022

Received By
DISCLOSURE OF INTEREST

Pursuant to the requirements of State Statutes (55 ILCS 5/5-12009), please provide the names and addresses of all owners of the property for which the zoning action is requested. If ownership is by a corporation, provide the names and addresses of all officers and directors, and all stockholders owning any interest in excess of 20% of all outstanding stock of such corporation. If the petitioner for zoning action is a business or entity doing business under an assumed name, or if a partnership, joint venture, syndicate or an unincorporated voluntary association, provide the names and addresses of all true and actual owners of the business or entity, the partners, joint ventures, syndicate members or members of the unincorporated voluntary association.

Kenyon Brothers Company Disclosure of Interest
Kenyon Brothers Company is represented by its managing partner - Michael Kenyon. Michael Kenyon and Warren Kenyon, Jr. each own in excess of 20% ownership of Kenyon Brothers Company.

Kenyon Brothers can be reached at:
Kenyon Brothers Company
P.O. Box 134
South Elgin, IL 60177

Genoa Road Solar I, LLC Disclosure of Interest
Genoa Road Solar I, LLC is wholly owned by Nexamp Capital, LLC. The officers are as follows:
- Zaid A. Ashai, President
- John Murphy, Senior Vice President
- Chris Clark, Senior Vice President
- Will Thompson, Senior Vice President
- Peter Tawczynski, Treasurer
- Kamran Idrees, Secretary

Nexamp Capital, LLC is wholly owned by Nexamp, Inc. The officers of Nexamp, Inc. are as follows:
- Zaid A. Ashai, President
- John Murphy, Senior Vice President
- Chris Clark, Senior Vice President
- Will Thompson, Senior Vice President
- Peter Tawczynski, Treasurer
- Kamran Idrees, Secretary
SPECIAL USE REQUESTS

Please provide responses to the following statements:

1. The proposed Special Use complies with all applicable provisions of the applicable district regulations.

   The proposed solar community solar garden substantially complies with all county regulations with regard to the requirements of Article 4 and 5 of the Zoning Code as it relates to A-1 zoned properties and solar uses.

2. The proposed Special Use will not be unreasonably detrimental to the value of other property in the neighborhood in which it is to be located or the public welfare at large?

   Although community solar gardens are relatively new to Illinois, research and experience from other states have shown solar farms typically do not decrease the values of adjacent properties. The nearest residential structure is approximately 1,503 feet to the southwest of the proposed system (from nearest existing residential structure to the nearest proposed module), thus minimizing concerns regarding the effect on adjacent property values.

3. The location and size of the Special Use, the nature and intensity of the operation involved in or conducted in connection with the property, and the location of the site with respect to the street giving access to it are such that the Special Use will not dominate the immediate neighborhood so as to prevent development and use of neighboring property in accordance with the applicable Zoning District Regulations. In determining whether the Special Use will so dominate the immediate neighborhood, consideration shall be given to:

   a. What are the location, nature and height of buildings, structures, walls and fence on the site?

      The solar array is located on the northern proportion of the parcel. Modules are mounted on racking which rotate slowly tracking sun. The modules shall not exceed 20 feet in height. There will be an 8-ft fixed knot farm perimeter fence, as well as a transformer and inverter near the center of the system which will be approx. 8 feet tall.

   b. What is the nature and extent of proposed landscaping and screening on the proposed site?

      The proposed system exceeds the County setback requirements and is approx. 1,485 feet from a public right-of-way, which will limit visibility. A single row of evergreen shrubs maintained so they will not exceed 8 feet in height is proposed along the west side of the proposed project area.

4. Address off-street parking and loading area standards.

   Although there will be no permanent employees on-site and only a few maintenance-related visits per year, a parking area is provided near the center of the system.
5. Address drainage, utility and other such necessary facilities that have been or will be provided.

Adequate utilities, access roads, drainage, and/or other necessary facilities are available or will not be necessary to serve the proposed use. Generally, the proposed solar development does not require access to utilities such as natural gas, water, or sanitary sewer. The routing of the electrical infrastructure required to connect to the ComEd electric system is shown on the enclosed plans. A driveway has been proposed to access the development in the same general location as the existing access driveway. In addition, the introduction of low-mow vegetation in the development areas (versus agricultural row crops) will reduce run-off rates in the project area.

6. The proposed uses, where such developments and uses are deemed consistent with good planning practice or can be operated in a manner that is not detrimental to the permitted developments and uses in the district; can be developed and operated in a manner that is visually compatible with the permitted uses in the surrounding area; shall in all other respects conforms to the applicable regulations of the district in which it is located; and are deemed essential or desirable to preserve and promote the public health, safety and general welfare of DeKalb County.

The proposed solar farm will not be detrimental to or endanger the public's health, safety, morals, comfort, or general welfare of DeKalb County. The solar system is set back significantly from public rights-of-way and exceeds the County setback requirements. As such, the solar system would be visually compatible with the surrounding agricultural lands. The proposed project would promote the public health, safety, and general welfare of DeKalb County by providing access to clean, emissions-free renewable energy. The project would create jobs, increase the tax base, and reduce the electric costs for subscribers.
LEGAL DESCRIPTION OF OVERALL PARCEL
GENOA ROAD SOLAR I, LLC

LEGAL DESCRIPTION (PER ADMINISTRATOR'S DEED, RECORDED AUGUST 7, 2003 AS DOCUMENT 2003022992)

THAT PART OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 42 NORTH, RANGE 4 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE NORTH LINE OF SAID SOUTHEAST QUARTER THAT IS 393.23 FEET EASTERLY OF THE NORTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE SOUTHERLY, AT AN ANGLE OF 90°16'09", MEASURED CLOCKWISE FROM SAID NORTH LINE, 1107.75 FEET; THENCE CONTINUING SOUTHERLY, AT AN ANGLE OF 178° 08' 18", MEASURED CLOCKWISE FROM THE LAST DESCRIBED COURSE, 264.85 FEET; THENCE SOUTHWESTERLY, AT AN ANGLE OF 118°31'17", MEASURED COUNTERCLOCKWISE FROM THE LAST DESCRIBED COURSE, 213.70 FEET TO THE CENTER LINE OF GENOA ROAD; THENCE: NORTHWESTERLY, AT RIGHT ANGLE TO THE LAST DESCRIBED COURSE, ALONG SAID CENTER LINE, 103.84 FEET; THENCE WESTERLY, AT AN ANGLE OF 120°16'04", MEASURED CLOCKWISE FROM THE LAST DESCRIBED COURSE 58.37 FEET TO THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF GENOA ROAD SOUTHWESTERLY, AT AN ANGLE OF 95°02'14", MEASURED COUNTERCLOCKWISE FROM SAID RIGHT-OF-WAY LINE, 117.97 FEET TO THE WEST LINE OF SAID SOUTHEAST QUARTER; THENCE SOUTHERLY, ALONG SAID WEST LINE, 1206.49 FEET TO THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE EASTERLY ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 2656.66 FEET TO THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTHERLY, ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER; 2645.67 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE WESTERLY, ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER, 2258.05 FEET TO THE POINT OF BEGINNING, CONTAINING 148.63 ACRES, ALL IN KINGSTON TOWNSHIP, DEKALB COUNTY, ILLINOIS.
LEGAL DESCRIPTION OF SPECIAL USE AREA
GENOA ROAD SOLAR I, LLC

THAT PART OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 42 NORTH, RANGE 4 EAST OF THE THIRD PRINCIPAL MERIDIAN, KINGSTON TOWNSHIP, DEKALB COUNTY, ILLINOIS, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE SOUTH 89°56'00" EAST 1543.09 FEET ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 89°56'00" EAST 1108.06 FEET ALONG SAID NORTH LINE TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE SOUTH 0°13'06" WEST 830.71 FEET ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 90°00'00" WEST 2140.68 FEET; THENCE SOUTH 44°52'01" WEST 66.13 FEET; THENCE SOUTH 0°07'59" EAST 510.25 FEET; THENCE SOUTH 29°26'48" WEST 131.21 FEET; THENCE SOUTH 30°04'28" EAST 249.10 FEET; THENCE SOUTH 59°20'05" WEST 100.65 FEET TO THE NORTHERLY RIGHT-OF-WAY LINE OF GENOA ROAD; THENCE NORTH 30°03'34" WEST 366.37 FEET ALONG SAID NORTHERLY LINE; THENCE NORTH 60°00'30" EAST 163.70 FEET; THENCE NORTH 01°28'13" WEST 264.96 FEET; THENCE NORTH 00°19'10" EAST 401.56 FEET; THENCE NORTH 90°00'00" WEST 1066.73 FEET; THENCE NORTH 48°35'54" EAST 66.07 FEET; THENCE NORTH 0°44'39" WEST 116.03 FEET; THENCE NORTH 51°58'38" WEST 147.63 FEET; THENCE NORTH 0°07'59" WEST 35.00 FEET; THENCE NORTH 89°52'01" EAST 153.05 FEET; THENCE NORTH 0°05'27" WEST 418.93 FEET TO THE POINT OF BEGINNING.
CONTACT LIST FOR GENOA ROAD SOLAR I, LLC

1. Applicant:
   Genoa Road Solar I, LLC
   c/o Nexamp, Inc.
   Matt Walsh
   101 Summer Street, Third Floor
   Boston, MA 02110
   Phone: 847-212-1585
   Email: mwalsh@nexamp.com

2. Civil Engineer/Surveyor/Landscape Architect
   Atwell, LLC
   Michael Keith
   1250 E. Diehl Road, Suite 300
   Naperville, IL 60563
   Phone: 630-577-0800
   Email: mkeith@atwell-group.com

3. Owner:
   Kenyon Brothers Company
   Michael Kenyon, Managing Partner
   PO Box 134
   South Elgin, IL 60177
   Phone: 847-334-0198
March 15, 2022

Derek Hiland
Community Development Director
DeKalb County
110 East Sycamore Street
Sycamore, IL 60178

Re: Special Use Permit for Genoa Road Solar I
Proposed Ground-Mounted Solar Garden
NEQ Genoa Road/Melms Road – East Site

Dear Mr. Hiland, Zoning Hearing Officers, Members of the Planning & Zoning Committee, and Members of the County Board:

On behalf of Genoa Road Solar I, LLC, please find enclosed and below is our completed project narrative, application fee, and supporting documents as required for Special Use Permit request.

**Project Narrative:**

Genoa Road Solar I, LLC is requesting a Special Use Permit to allow for development of an approximately 22-acre 2MW (AC) ground-mounted distributed generation solar garden facility on an existing farmland parcel comprised of approximately 148.35 total acres located at the NEQ Genoa Road/Melms Road. This project is being submitted concurrently with a similar 2MW solar farm on the same parcel west of this project area.

This Special Use Permit application and accompanying material are substantially similar to the materials submitted in support of the previous Special Use Permit 2019-03 that was issued January 16, 2019. Due to various delays involving the Illinois Adjustable Block Program created by the Future Energy Jobs Act this project was unable to begin construction as quickly as initially anticipated. However, with the recent enactment of the Climate and Equitable Jobs Act some of the short comings of the predecessor Adjustable Block Program have been rectified and there is now a pathway for this project constructed.

**Nexamp Background:**

In 2007, the Company was founded by two U.S. Army veterans with a vision for making a range of renewable energy options more affordable and accessible to homeowners and businesses throughout the Commonwealth of Massachusetts. The pair launched NexGen Energy Solutions, a turnkey provider of renewable energy and carbon solutions, in their hometown of North Andover, Massachusetts. NexGen became Nexamp later in 2007.

During the early years, Nexamp delivered a variety of energy systems for residential, commercial, municipal and agricultural customers. Energy solutions offered included solar PV, solar thermal, micro-wind, geothermal heating and cooling, and a wide array of energy efficiency services. In 2011, the company began shifting its focus fully toward commercial and industrial solar facilities, working with...
businesses and municipalities that wanted to offset their traditional utility energy power using on-site renewable solar generation.

2015 marked Nexamp’s first Community Solar project and the beginning of a new chapter for the company. Leveraging its integrated approach of developing, building, owning and operating solar plants, Nexamp turned its focus to community solar, and alongside that the mission of making the benefits of solar power available to everyone—homeowners, renters, non-profits, small businesses, farms and more. Nexamp was named NECEC Clean Energy Company of the Year in 2015 and a Solar Power World Top 3 Commercial Solar Developer in 2017.

In 2016, Mitsubishi’s Diamond Generating Corporation made a significant investment in Nexamp, and in 2018 the group made an additional investment that gave it a controlling interest. Serving a rapidly expanding network of individuals, property owners, businesses and communities that benefit from its nationally distributed portfolio of solar assets, Nexamp is a Massachusetts-based, nationally headquartered solar company that is laying the groundwork for a cleaner, more secure and resilient energy future.

**Project Details:**

I. **Project components:**
   - Solar modules (i.e. panels) are mounted on racking that slowly rotate and track the sun;
   - The solar modules are treated with anti-reflective coating to minimize glare;
   - The racking is mounted to metal piles. Concrete foundations are not anticipated;
   - The system will be remotely monitored;
   - Electrical cables will be installed underground for the entire project with exception of a series of poles necessary to interconnect with the ComEd grid along Genoa Road. These proposed poles are located per the plan, immediately adjacent to the Genoa Road right-of-way;
   - Perimeter security fencing up to 8 ft. height;
   - Location of proposed structures is in compliance with County setback requirements;
   - Existing drainage patterns will be maintained throughout the site;
   - Limited area of gravel driveway for site access and maintenance;
   - The inverter and transformer will be located on a concrete equipment pad;
   - Disturbed areas will be re-vegetated with a low-mow native seed mix;
   - We have included with our submission a decommissioning plan and a decommissioning estimate that includes information regarding salvage value;
   - There will be no lighting associated with project;

II. **Construction:**
   - Estimated approximately 40 jobs will be created during construction;
   - Most jobs will be local, but some may be brought in if the skill set required is not available;
   - Typical jobs created include construction jobs - i.e. equipment operators, electricians, fence installers, laborers and construction managers;
   - Anticipated construction start is fall 2023, depending on a number of factors;
   - Duration of construction is typically 6 to 8 months;
   - Construction traffic will typically be standard semi-tractor trailers – oversized loads are not anticipated.
- At the start of construction there may be a half dozen deliveries a day and will then taper off to 1 to 2 delivery trucks per day;
- There will be an estimated 4-6 site visits per year for maintenance and inspection;
- There will be approximately 20 – 30 employees at a time during construction;
- A drain tile study has been completed and drain tiles will be avoided, if possible. If tiles are in conflict with the solar system, they will be re-routed or replaced during construction.
- Should drain tiles be inadvertently damaged during construction, the tiles will be replaced and/or upgraded to repair such damages.

On behalf of Genoa Road Solar I, LLC we thank you in advance for your consideration of our request for approval. We look forward to review of our submittal at the next available public hearing. In the interim, please contact us with any questions regarding our submittal or if any additional information is required.

Sincerely,

Matt Walsh
Business Development Director
GENOA ROAD SOLAR I, LLC DECOMMISSIONING PLAN

Genoa Road Solar I, LLC has prepared this Decommissioning Plan (the “Plan”) for its proposed 2-Megawatt solar photovoltaic facility (the “Facility”) to be constructed near the NEQ of Genoa Road/Melms Road, located in DeKalb County, IL (PIN 02-03-400-005). The Plan describes the process for decommissioning the Facility in accordance with applicable federal, state, and local requirements. Decommissioning of the Facility shall be completed within six (6) months after operation of the Solar Garden stops being operational.

Facility Description

The Facility will consist of a 2-megawatt (AC) capacity solar power-generating array secured within a fixed knot farm fence surrounding the solar panels and equipment, accessed through a locked 20’ wide swing gate on the access road. The access road is accessed off Genoa Road. The Facility will include the following site features:

- An approximate 11.12-acre area of photovoltaic (PV) modules and mounting system;
- An approximate 14.43-acre area within the fixed knot farm fence;
- Screw or driven piles supporting the PV modules;
- One (1) transformer (filled with biodegradable mineral oil) and several string central inverters;
- 8-foot fixed knot farm security fence with no barbed wire;
- Underground conduit and wires within the system area;
- Six (6) to eight (8) aboveground wooden utility poles;
- Overhead wires at the poles need to interconnect to the ComEd grid;
- A gravel access drive; and
- A metal security gate at the entrance to the array area.

Decommissioning Plan

The Facility will be decommissioned by completing the following major steps: Dismantlement, Demolition, Disposal or Recycle; and Site Stabilization, as further described below.
Dismantlement, Demolition, and Disposal or Recycle

A significant portion of the components that comprise the Facility will include recyclable or re-saleable components, including copper, aluminum, galvanized steel, and modules. Due to their re-sale monetary value, these components will be dismantled, disassembled, and recycled rather than being demolished and disposed of. All materials associated with the solar farm shall be removed from the site and legally disposed of or recycled.

Following coordination with ComEd regarding timing and required procedures for disconnecting the Facility from the utility distribution network, all electrical connections to the system will be disconnected and all connections will be tested locally to confirm that no electric current is running through them before proceeding. All electrical connections to the PV modules will be severed at each module, and the modules will then be removed from their framework by cutting or dismantling the connections to the supports. Modules will be removed and sold to a purchaser or recycler. In the event of a total fracture of any modules, the interior materials are silicon-based and are not hazardous. Disposal of these materials at a landfill will be permissible.

The PV mounting system framework will be dismantled and recycled. The metal piles will be removed and recycled. All other associated structures will be demolished and removed from the site for recycling or disposal. This will include the site fence and gates, which will likely be reclaimed or recycled.

The driveway and all gravel areas will be removed. These areas will be restored to their original condition, which includes, ripping, re-topping with soil, and seeding. Concrete slabs will be crushed and disposed of off-site or recycled (reused off-site).

Aboveground utility poles owned by Genoa Road Solar I, LLC will be completely removed and disposed of off-site in accordance with utility best practices. Any overhead wires will be removed from the Facility and will terminate at the utility owned (ComEd) connections on Genoa Road. Coordination with ComEd personnel will be conducted to facilitate ComEd’s removal of any utility-owned equipment, poles, and overhead wires located on the site.

A final site walkthrough will be conducted to remove debris and/or trash generated during the decommissioning process and will include removal and proper disposal of any debris that may have been wind-blown to areas outside the immediate footprint of the facility being removed. Sanitary facilities will be provided on-site for the workers performing the decommissioning of the Facility.
Decommissioning Requirements

The following items shall be implemented during the decommissioning of the Facility:

- If underground drainage tiles are damaged by Deconstruction, they shall be repaired in a manner that assures the tile line's proper operation.
- After the topsoil has been replaced, all areas that are not directly under photovoltaic panels that were traversed by vehicles and Deconstruction equipment shall be ripped at least 18 inches deep, and all pasture and woodland shall be ripped at least 12 inches deep to the extent practicable. The existence of tile lines or underground utilities may necessitate less depth.
- Following the completion of Deconstruction, the disturbed area shall be restored, as closely as practical, to its original pre-construction elevation.
- If the Deconstruction interrupts an operational (or soon to be operational) spray irrigation system, coordination with the Landowner shall occur to establish an acceptable amount of time the irrigation system may be out of service.
- Weed control shall be provided in a manner that prevents the spread of weeds onto agricultural land affected by Deconstruction. Spraying shall be done by a pesticide applicator that is appropriately licensed for doing such work in the State of Illinois.

Site Stabilization

The areas of the Facility that are disturbed during decommissioning will be regraded to establish a uniform slope and stabilized via hydroseeding with a ground treatment approved by the Soil and Water Conservation District and the DeKalb County Department of Community Development.

Permitting Requirements

Given the size and location of the Facility, several approvals will be obtained prior to initiation of the decommissioning process. Table 1 provides a summary of the expected approvals if the decommissioning were to take place at the time of the preparation of this Decommissioning Plan. Noting that the decommissioning is expected to occur at a much later date, the permitting requirements listed in the table below will be reviewed at that time and updated based on then current local, state, and federal regulations.
Table 1. Current Permitting Requirements for Decommissioning

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency</th>
<th>Threshold/Trigger</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activity</td>
<td>Illinois Environmental Protection Agency (IEPA)</td>
<td>Ground disturbance of greater than 1 acre requires preparation of a Stormwater Pollution Prevention Plan, including erosion and sedimentation controls.</td>
</tr>
<tr>
<td>Building Permit</td>
<td>DeKalb County</td>
<td>A building permit must be obtained for any construction, alteration, repair, demolition, or change to the use or occupancy of a building.</td>
</tr>
<tr>
<td>Road Use Agreement</td>
<td>DeKalb County</td>
<td>A Road Use Agreement must be entered in with DeKalb County prior to mobilization.</td>
</tr>
</tbody>
</table>

The decommissioning process is estimated to take approximately six to eight (6-8) weeks and is intended to occur outside of the winter season.

Decommissioning Cost Estimate and Surety Proposal

Consistent with the approach it has taken in other communities, Genoa Road Solar I, LLC proposes to provide a decommissioning surety fund to be held by DeKalb County and co-owned with Genoa Road Solar I, LLC. The fund will provide the requisite capital for solar project decommissioning in the unlikely event that Genoa Road Solar I, LLC is unable to meet its contractual obligations for solar project removal and restoration.

The attached Decommissioning Engineer’s Opinion of Probable Cost will be used to determine the amount of the Surety. Prior to construction, Genoa Road Solar I, LLC shall obtain a bond acceptable to the County to be held by the DeKalb County Community Development in the amount of one hundred twenty percent (120%) of the estimate. Based on the Engineer’s Opinion of Probably Cost the value of the surety is $341,250. The value of the bond does not include a reduction in salvage value of certain materials.

Once the decommissioning is complete, and after the County’s inspection that the work has been done in accordance with the Decommissioning Plan, the portion of the surety not needed to remediate shall be returned to the applicant/lessee. If the project is decommissioned or abandoned, and the amount available is insufficient to remediate, Genoa Road Solar I, LLC or successors shall be liable for the deficiency in excess of the bond amount.
Decommissioning Engineer's Opinion of Probable Cost for Genoa Road Solar I, LLC

<table>
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<tr>
<th>Estimated Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Mobilization</td>
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<tr>
<td>Electrical Connect</td>
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<td>EACH</td>
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<td>Permitting (NPDES)</td>
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<td>LUMP SUM</td>
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<td>Wattle Filter Sock</td>
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<td>Rippling, grading, preparing disturbed area</td>
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<td>Site Demolition</td>
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### Decommissioning Engineer's Opinion of Probable Cost for Genoa Road Solar I, LLC

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<th>Unit Cost</th>
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#### Assumptions:
1. Cost Estimate does not include any costs associated with the management of contaminated soils or groundwater.
2. Cost Estimate is based on the Final Construction Plans.
3. Refer to Decommissioning Plan for further information.
4. Seeding costs may not be necessary if the landlord intends to return the agricultural land to crop production immediately following the decommissioning effort.

**Note:** This Engineer's Opinion of Probable Cost is made on the basis of Engineer's experience and qualifications using estimated quantities and represents Engineer's best judgment as an experienced and qualified professional Engineer generally familiar with the construction industry. However, since Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, or over quantities of work actually performed, Engineer cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Opinions of Probable Construction Cost prepared by Engineer. This Opinion of Probable Construction Cost is limited to those items stated herein.
Overview

This Emergency Response and Communications Plan ("ERCP") outlines the general procedures followed for all emergency situations and incidents that could arise as a result of the operation, maintenance and decommissioning of the solar photovoltaic facility due to weather events, equipment failure, human error or other accident. Shortly after commercial operation, an affiliate of Genoa Road Solar I, LLC will meet with the local emergency service personnel (fire, police, and EMS) to review and discuss the operation and decommissioning processes, including unique equipment, the overall process, as well as schedule and phasing. Any hazardous materials that may be present during each phase will be discussed. There are typically no hazardous materials present during operation. Ongoing communication between County officials and police, fire, and emergency services officials, will help assure adequate levels of safety and protection. A site-specific health and safety plan (HASP) will also be developed and maintained on site. Based on relevant experience, Genoa Road Solar I, LLC believes that the following types of hazards are most likely to have the potential to occur during maintenance and decommissioning activities.

- Personnel injury or medical emergency
  - Electrocution
  - Slips, trips, and falls
  - Medical Emergency
- Auto and heavy equipment accidents
- Natural or electrical fire
- Hazardous material spills
  - Gasoline
  - Diesel fuel
  - Hydraulic oil
  - Lubricating oil and grease
  - Cleaning solvents

Genoa Road Solar I, LLC is committed to protecting the community, personal property, wildlife, and the environment in adherence to all applicable local, state, and federal laws and regulations.

Emergency Contact Information

Nexamp personnel, including a specified Emergency Response Coordinator, will be available to arrive on site and may be utilized to assist during emergency situations and/or provide first aid as needed. For all emergency services including hospital, fire, etc. call 9-1-1. During operation of the facility, a phone number where a Nexamp representative can be reached 24 hours a day will
be established and shown on a sign as “IN CASE OF EMERGENCY, PLEASE CONTACT NEXAMP AT (617) 431-1440 x8” and will be provided to local emergency personnel along with the location of the nearest hospital.

Internal Reporting

The following procedures will be prescribed for internal reporting of emergencies.

1. Once notified by local emergency service personnel, the Emergency Response Coordinator will notify any on-site personnel, including any visitors, of the nature of the emergency either in person or via phone.
2. The Emergency Response Coordinator will specify the location for the first responders, if they are not already present onsite. A designated employee or contractor will meet the emergency response personnel at the access road of the emergency.
3. The Emergency Response Coordinator will notify local emergency personnel, if not already present, of the emergency using the contact information to be provided.
4. The Emergency Response Coordinator will identify any need for access control measures at the facility during the emergency and designate a competent person to implement.
5. Personnel will be trained that when any person identifies an emergency situation, or the potential for an emergency situation, and reports it to the Emergency Response Coordinator or his/her designee, the Emergency Response Coordinator will then activate the Plan.

External Reporting

The following procedures will be prescribed for external reporting of emergencies.

- If immediate emergency response assistance is required, the Emergency Response Coordinator or his designee will call 9-1-1.
- A member of management or the Emergency Response Coordinator or his/her designee are the only persons authorized to speak on Nexamp’s behalf to outside agencies (police, fire department, medical services etc.) during an emergency situation.
- In the event of a spill of a hazardous material in excess of reportable limits, the spill must be reported to the Department of Environmental Protection or relevant federal authority.

Emergency Response Procedures

**Personnel Injury or Medical Emergency**

- Provide First Aid to all injured employees or contractors regardless of severity.
- A First Aid kit will be maintained onsite. First Aid kits are to be inspected regularly and restocked as needed following usage.
- Call 9-1-1 if the injury is serious and needs immediate medical treatment.
• For local emergency response assistance, a designated employee or contractor will meet the emergency responders at the access road of the tower site and direct them to the location of the emergency/injured employee.
• The designated employee or contractor should have a handheld orange safety flag to use to get the attention of the responding emergency services.
• Regular inspection of fire extinguishers, if required by the local fire department, at all facility locations where they are installed.

Auto and Heavy Equipment Accidents

• Personnel scheduled to work on site will be briefed prior to arrival on facility road conditions, speed limits and hazards
• Ground guides will be used in situations requiring cranes, excavators, lifts and other heavy equipment to operate in the vicinity of plant equipment, personnel and other vehicles.
• Personnel will be briefed not to approach working heavy equipment without first receiving acknowledgement and approval from the vehicle operator.
• Additional care will be exercised by all auto and equipment operators during periods of darkness, rain, snow and icy conditions.
• All collisions or near misses, regardless of severity, will be reported to the Emergency Response Coordinator or his/her representative.
• Accidents requiring medical or firefighting personnel will follow the instructions listed in those sections.

Fire

If a natural, vehicle or equipment related fire exists at the facility, personnel or contractors will follow the following procedures.

1. Provided it is safe to do so, employees can extinguish small fires using the onsite fire extinguisher.
2. For all other fires, alert others on site to immediately vacate the area and assemble at a specified location for accountability.
3. Shutdown the facility at the point of utility interconnection, provided it is safe to do so.
4. Restrict the area.
5. Request assistance from firefighting personnel, if needed, in controlling the fire.
6. If local emergency response personnel are required, have an employee go to the access road of incident site, to meet emergency personnel and direct them to the fire.
7. Employees will use a handheld orange safety flag, safety vest or other brightly covered material to get the attention of the responding emergency service personnel.
**Hazardous Material Spills**

Cautionary labeling will be provided for any hazardous chemicals and the associated Material Safety Data Sheets (MSDS) or Globally Harmonized System (GHS) documentation will be provided accordingly.

1. The MSDS/GHS for all hazardous materials used at the facility will be provided to the local fire department and emergency service providers upon request.
2. Drip pans and associated control measures will be used for all refueling and hydraulic maintenance activities.
3. Small spills will be cleaned up immediately using absorbent materials such as hay, sand, socks or pads.
4. If the spill is of such magnitude that it cannot be contained, the Emergency Response Coordinator will contact the appropriate authority for assistance.
5. Personnel and contractors will be instructed to report all spills, regardless of severity, to the Emergency Response Coordinator.
6. Once a spill is identified, the Emergency Response Coordinator or his/her designee will maintain access control measures to safeguard personnel and environmental safety until the spill mitigation is complete.

**Site Restoration/Remediation**

If any accident or incident at the facility necessitates site restoration or remediation, the restoration/remediation will be conducted according to applicable federal, state, and local requirements.

**Incident Reporting**

After every accident or incident, the Emergency Response Coordinator or designee will conduct a post incident evaluation to determine the following.

1. Suitability of the organization's structure, operations, equipment, communication plans, adequacy of training, alarm systems, security and access control, spill containment and recovery procedures, monitoring, and safety programs.
2. If any of the above are found to be inadequate, the Emergency Response Coordinator will make necessary changes.
Safety Training

On-site training for local emergency personnel may be given, at their request, by the Emergency Response Coordinator or their designees regarding the content, requirements, and appropriate actions to comply with the provisions of the Plan. The training will occur:

1. At the facility;
2. When changes are made to the plan;
3. At the request of local emergency personnel;
4. When Emergency Response Coordinator determines.

Recording of Responder Complaints

1. Any and all complaints from responders will be kept in both a logbook and an electronic log.
2. The name, address, telephone number, date, and time of all responders issuing a complaint will be included with the responder’s complaint.
3. Assurance will be provided to all responders that complaint has been mitigated and will not reoccur.
4. In addition to the above, complaints requiring significant plan or operational adjustments will be answered in writing within seven (7) days of the complaint.
Genoa Road Solar I
O&M Services Plan

March 15, 2022

Genoa Solar I, LLC, a wholly-owned subsidiary of Nexamp, Inc., as the developer and construction manager of an approximately 2 MW (AC) solar PV array on property owned by Kenyon Brothers Company on Genoa Road in DeKalb County, IL, is pleased to provide this Operation and Maintenance (O&M) services plan.

Nexamp Asset Management Services, LLC (NAMS) is a full-service photovoltaic Operations and Maintenance company, servicing more than 473 MW as of June 2021. Genoa Road Solar I, LLC intends to contract with NAMS in order to provide O&M services for the project for the first ten years of the system operation. At that time, Genoa Road Solar I, LLC will revisit that contract and intends to renew the term.

Attached to this Services Plan is a typical scope of work for an O&M provider for a large-scale solar PV array. NAMS has used this scope of work as the basis for its services for infrastructure that it currently maintains. In the following template, “Contractor” represents NAMS and “Owner” represents the project owner, Genoa Road Solar I, LLC.

The primary services under the scope of an O&M agreement include:

- Annual array maintenance inspections, remote monitoring, unscheduled maintenance (fault detection and repair), and scheduled equipment replacement.
- On-site services typically require one or two pick-up trucks and two to four licensed technicians.
- Technicians perform work with hand tools and battery-operated power tools and rarely require generators or any motorized or heavy equipment.
- The array is designed to facilitate major equipment replacement using truck mounted boom lift every 10-15 years.
- Genoa Road Solar I, LLC will develop the site with using a pile driven or screw mounting system for the array.

Maintenance Activities include:

- Mowing operations are typically conducted two to four times per season, depending on the weather conditions and resultant growth. Normally, five to ten personnel using ride-on and self-propelled mowers, brush hogs and weed whackers will perform the mowing operations. Sheep are also used on some sites and graze from June to September.
- The entire Site is inspected for any erosion upon each site visit and maintenance activity, a minimum of two times per year. Any erosion to roads, embankments, drainage structures/basins, ground cover, etc. is repaired using similar methods to
the initial install, with like equipment and materials. Potentially, additional erosion control blankets, jute netting, etc. will be added to protect the maintenance improvement.

- Depending on the array location and surrounding vegetation, an arborist with boom truck will thin shading tree growth and limbs adjacent to power lines.

- In the event that weed control is required, NAMS uses only non-persistent solutions previously approved for use by DEP and many municipalities for use in regulated and protected areas. The frequency of this activity is typically once annually, if at all. Work is typically performed by licensed applicators using trailer born and backpack spraying apparatus.

- Genoa Road Solar I, LLC does not anticipate conducting module washing at this site. In the event that modules are washed, cleaning solution consists of 100% filtered water. Work is typically performed by two to four technicians using backpacks and scrubbing wands.

- Some snow removal may be required to allow site access during winter months, however no snow removal operations will be performed within the array areas. Snow clearing from modules may be completed depending on the amount and type of snow, two to four times per winter, to facilitate production. Snow clearing is completed manually by three to six laborers using hand held brooms and squeegees.

- Inspection of the storm water management facilities will occur at each site inspection, no less than biannually, with maintenance provided to restore the facilities to their original condition.
Scope of Work – O&M Services Contract

Nexamp Asset Management Services (the “Contractor”) will provide O&M services for the proposed 2 MW (AC) solar photovoltaic system located on property owned by Kenyon Brothers Company at Genoa Road in DeKalb County, IL (the “Facility”). The services to be provided will include the operation, repair, monitoring and maintenance services listed below.

FACILITY OPERATIONS

The Facility will be operated in conformity to the operating specifications and requirements set forth in the O&M Manual, in compliance with prudent industry practices, in accordance with the terms and conditions of the interconnection agreement between the Owner and the local distribution utility, and in accordance with applicable law. As required to achieve these operational requirements, the O&M Contractor shall be present at the Facility site.

PERFORMANCE MONITORING AND OPERATIONS REPORTING

During the Service Term, Contractor shall:

- At all times perform basic monitoring of the Facility to make sure Facility is fully functional and record and report all meter data consistent with all Solar Program requirements.
- Provide Owner with web access to basic monitoring data.
- Provide Owner with monthly reporting of performance against predicted power and historical performance beginning two calendar months after the Commercial Operations Date (as defined as “Substantial Completion” in the EPC Agreement) is achieved, including, summaries of energy measured and reported by the Facility’s revenue grade meters, a summary of planned maintenance, and a summary of all forced outages and emergency response measures and the steps that were taken to resolve such forced outages and emergency situations.
- Provide copies of all such information no later than thirty (30) calendar days of making or receiving information pertaining to maintenance and/or repair pertaining to the system and/or any portion thereof or the Interconnection.
- Maintain warranty records with all inverter, module, and mounting suppliers.
- Maintain service agreements with DAS suppliers.
- Prepare and submit required monthly reports, as the agent of Owner and after obtaining Owner’s prior approval, to report all metered data to the Production Tracking Facility (PTS), maintained by the Massachusetts Clean Energy Center (CEC) / Renewable Energy Trust (The reporting period for the PTS is open during the last five days of the reporting month through the first five days of the following month).
SCHEDULED INSPECTION AND MAINTENANCE

- Contractor will perform required maintenance of the Facility in accordance with the written manufacturer requirements for operation and maintenance of the equipment that is part of the Facility (such written instructions are included in the O&M Manual).
- Contractor will provide continuous 24/7 active monitoring of Facility performance and provide a single point of contact for Facility maintenance and repair related issues.
- Contractor will implement the preventive maintenance schedule, if any, for each item of equipment that is part of the Facility, as set forth in the relevant portions of the O&M Manual.
- Contractor will maintain maintenance logs, records and reports documenting the provision of O&M Services hereunder in sufficient detail to allow Owner to verify that the Facility is performing in accordance with the Project Warranty and the performance requirements for the Facility. Contractor shall maintain current revisions of the drawings, specifications, lists, clarifications and other materials relating to the Facility.
- Contractor will complete and submit to Owner in a timely manner maintenance log sheets to document Contractor’s provision of Services as required hereby in sufficient detail to allow Owner to verify that the Facility is performing in accordance with the Project Warranty and the performance requirements for the Facility.
- Contractor will regularly maintain the Facility, in accordance with the O&M Manual, and provide annual on-site inspections by completing the following:
  - Visual inspection of all feeder terminations for corrosion.
  - Visual check of all power terminations/connections associated with the system e.g. DC combiner boxes, DC and AC disconnects, surge arrestors, inverters and PV modules and re-torque as necessary.
  - Test of ground continuity and correct any unsafe or abnormal issues.
  - Check of all DC and AC fuses in inverters, combiner boxes, and disconnects.
  - Testing and recording of voltage and amperage of the arrays at the string level.
  - Inspection of combiner boxes, disconnects and inverters with an infrared camera, with the purpose of detecting hotspots, bad connections, etc.
  - Conduct aerial infrared drone inspection to detect module and string issues.
  - Checking of the mechanical and structural integrity of the system.
  - Cleaning or replacement of inverter air filters where applicable if necessary.
Checking of inverter housing for dust/water ingress.

Checking and replacement of any unserviceable system labeling as necessary.

Visual inspection of weather stations and calibration verification against monitored data.

Checking of modules for excessive dirt and debris. Cleaning is excluded.

Providing written documentation to include summary report of findings including actions taken and recommendations for additional maintenance or repairs, etc.

**FAULT DETECTION AND DISPATCH**

- Contractor shall respond to all alarms, alerts and service requests pertaining to the system within 24 hours of such alarm, alert and/or service request, as personnel safety and weather conditions permit.

- Contractor shall monitor and respond to forced outages and performance trends. Contractor and Owner shall notify the other as soon as practically possible, but in no event later than twenty-four (24) hours following their discovery, of “**Forced Outage**”, which is defined as: (a) any material malfunction in the operation of the Facility and/or (b) any interruption in the delivery of energy to the Facility’s revenue grade meters. Contractor shall apply safe industry best practices to fully resolve any Forced Outage as quickly as possible. To the extent the correction of the Forced Outage requires either O&M Services or Warranty Services, Contractor shall initiate the O&M Services or Warranty Services needed to return the Facility to service within 24 hours of such notice, and where applicable, as manufacturer service capabilities permit. Contractor shall provide Owner with an estimate of the time necessary to return the Facility to fully operational service. Contractor agrees to notify the Owner as soon as practicable when the Facility returns to service, but in no event later than twenty-four (24) hours following the Facility’s return to service.

- Emergency. Contractor and Owner agree to notify the other upon the discovery of an Emergency condition pertaining to the Facility. If Contractor is notified of an Emergency condition by Owner or otherwise learns of an Emergency condition, Contractor agrees to promptly dispatch appropriate personnel to address such Emergency as quickly as possible in accordance with industry best practices, and as personnel safety permits. Contractor maintains the right to disconnect the Facility and/or to otherwise isolate the Facility from the electric distribution system servicing Owner’s and Owner’s property as a result of any Emergency condition pertaining to the Facility as determined at the Contractor’s discretion; provided, however, that the Contractor shall be responsible for any adverse consequences caused by such exercise of discretion if the exercise is negligent or represents a breach hereof.
Applicant: Atwell LLC
Contact: Austin Aigner
Address: 1250 E. Diehl Rd
Suite 300
Naperville, IL 60563

IDNR Project Number: 2208339
Date: 01/05/2022
Alternate Number: 1903556

Project: Genoa Road Solar Site
Address: Genoa Road and Melms Road, Genoa

Description: Co-located 2MW Community Solar Site

Natural Resource Review Results

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

The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location.

Consultation is terminated. 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. Termination does not imply IDNR's authorization or endorsement.

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

County: DeKalb
Township, Range, Section:
42N, 4E, 3

IL Department of Natural Resources
Contact
Kyle Burkwald
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Environmental Protection Agency
Amy Dragovich
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794

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.

Security

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.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

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.
IDNR Project Number: 2208339

EcoCAT Receipt

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TOTAL PAID $127.81

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

The Illinois State Historic Preservation Office is required by the Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420, as amended, 17 IAC 4180) to review all state funded, permitted or licensed undertakings for their effect on cultural resources. Pursuant to this, we have received information regarding the referenced project for our comment.

Our staff has reviewed the specifications under the state law and assessed the impact of the project as submitted by your office. We have determined, based on the available information, that no significant historic, architectural or archaeological resources are located within the proposed project area.

According to the information you have provided concerning your proposed project, apparently there is no federal involvement in your project. However, please note that the state law is less restrictive than the federal cultural resource laws concerning archaeology. If your project will use federal loans or grants, need federal agency permits, use federal property, or involve assistance from a federal agency, then your project must be reviewed under the National Historic Preservation Act of 1966, as amended. Please notify us immediately if such is the case.

This clearance remains in effect for two (2) years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the IL Human Skeletal Remains Protection Act (20 ILCS 3440).

Please retain this letter in your files as evidence of compliance with the Illinois State Agency Historic Resources Preservation Act.

If further assistance is needed please contact Jeff Kruchten, Chief Archaeologist at 217/785-1279 or Jeffery.kruchten@illinois.gov.

Sincerely,

Carey L. Mayer, AIA
Deputy State Historic Preservation Officer
Custom Soil Resource Report for DeKalb County, Illinois

NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC

September 10, 2018
Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil
scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.
The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map:  Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System:  Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area:  DeKalb County, Illinois
Survey Area Data:  Version 12, Sep 20, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed:  Sep 26, 2010—Jul 24, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Map Unit Legend (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>59A</td>
<td>Lisbon silt loam, 0 to 2 percent slopes</td>
<td>24.7</td>
<td>26.0%</td>
</tr>
<tr>
<td>152A</td>
<td>Drummer silty clay loam, 0 to 2 percent slopes</td>
<td>3.9</td>
<td>4.1%</td>
</tr>
<tr>
<td>356A</td>
<td>Elpaso silty clay loam, 0 to 2 percent slopes</td>
<td>7.4</td>
<td>7.8%</td>
</tr>
<tr>
<td>512B</td>
<td>Danabrook silt loam, 2 to 5 percent slopes</td>
<td>59.2</td>
<td>62.2%</td>
</tr>
<tr>
<td>Totals for Area of Interest</td>
<td></td>
<td>95.2</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Map Unit Descriptions (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor
components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a soil series. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.
DeKalb County, Illinois

59A—Lisbon silt loam, 0 to 2 percent slopes

Map Unit Setting
- National map unit symbol: 65d6
- Elevation: 340 to 1,150 feet
- Mean annual precipitation: 28 to 40 inches
- Mean annual air temperature: 45 to 54 degrees F
- Frost-free period: 140 to 180 days
- Farmland classification: All areas are prime farmland

Map Unit Composition
- Lisbon and similar soils: 92 percent
- Minor components: 8 percent
- Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lisbon

Setting
- Landform: End moraines, ground moraines
- Landform position (two-dimensional): Summit, footslope
- Landform position (three-dimensional): Interfluve
- Down-slope shape: Linear
- Across-slope shape: Linear
- Parent material: Loess or other silty material and in the underlying till

Typical profile
- H1 - 0 to 11 inches: silt loam
- H2 - 11 to 36 inches: silty clay loam
- H3 - 36 to 39 inches: clay loam
- H4 - 39 to 70 inches: loam

Properties and qualities
- Slope: 0 to 2 percent
- Depth to restrictive feature: More than 80 inches
- Natural drainage class: Somewhat poorly drained
- Runoff class: Low
- Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
- Depth to water table: About 12 to 24 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Calcium carbonate, maximum in profile: 40 percent
- Available water storage in profile: High (about 9.7 inches)

Interpretive groups
- Land capability classification (irrigated): None specified
- Land capability classification (nonirrigated): 1
- Hydrologic Soil Group: C/D
- Hydric soil rating: No

Minor Components
- Elpaso
  - Percent of map unit: 3 percent
**Landform:** End moraines, ground moraines
**Landform position (two-dimensional):** Toeslope
**Landform position (three-dimensional):** Talf
**Down-slope shape:** Linear
**Across-slope shape:** Concave
**Hydric soil rating:** Yes

**Drummer**

**Percent of map unit:** 3 percent

**Landform:** Ground moraines, outwash plains

**Landform position (two-dimensional):** Toeslope

**Landform position (three-dimensional):** Talf

**Down-slope shape:** Linear

**Across-slope shape:** Linear

**Hydric soil rating:** Yes

**Sable**

**Percent of map unit:** 2 percent

**Landform:** Swales on ground moraines

**Landform position (three-dimensional):** Talf

**Down-slope shape:** Linear

**Across-slope shape:** Linear

**Hydric soil rating:** Yes

---

**152A—Drummer silty clay loam, 0 to 2 percent slopes**

**Map Unit Setting**

- **National map unit symbol:** 2ssrz
- **Elevation:** 490 to 1,020 feet
- **Mean annual precipitation:** 33 to 43 inches
- **Mean annual air temperature:** 46 to 54 degrees F
- **Frost-free period:** 160 to 190 days
- **Farmland classification:** Prime farmland if drained

**Map Unit Composition**

- **Drummer, drained, and similar soils:** 94 percent
- **Minor components:** 6 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Drummer, Drained**

**Setting**

- **Landform:** Swales on outwash plains, swales on till plains, stream terraces on outwash plains, stream terraces on till plains
- **Landform position (two-dimensional):** Toeslope
- **Landform position (three-dimensional):** Base slope, talf
- **Down-slope shape:** Linear
- **Across-slope shape:** Linear, concave
- **Parent material:** Loess over stratified loamy outwash
Typical profile

Ap - 0 to 14 inches: silty clay loam
Btg - 14 to 41 inches: silty clay loam
2Btg - 41 to 47 inches: loam
2Cg - 47 to 60 inches: stratified sandy loam to clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Harpster, drained

Percent of map unit: 3 percent
Landform: Depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Peotone, drained

Percent of map unit: 3 percent
Landform: Depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes
356A—Elpaso silty clay loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2t6zs
Elevation: 580 to 1,020 feet
Mean annual precipitation: 34 to 42 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition
Elpaso, drained, and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elpaso, Drained
Setting
Landform: Ground moraines, till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loess over till

Typical profile
Ap - 0 to 21 inches: silty clay loam
Btg1 - 21 to 44 inches: silty clay loam
2Btg2 - 44 to 69 inches: silty clay loam
2C - 69 to 79 inches: silty clay loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Harpster, drained
Percent of map unit: 4 percent
Landform: Depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Peotone, drained
Percent of map unit: 2 percent
Landform: Depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

512B—Danabrook silt loam, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: 65d4
Elevation: 540 to 1,020 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Danabrook and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Danabrook

Setting
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess or other silty material and in the underlying till

Typical profile
H1 - 0 to 13 inches: silt loam
H2 - 13 to 33 inches: silty clay loam
H3 - 33 to 50 inches: clay loam
H4 - 50 to 60 inches: loam
Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Elpaso

Percent of map unit:
Landform: End moraines, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Drummer

Percent of map unit:
Landform: Ground moraines, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes
Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

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:


Custom Soil Resource Report
Map—Hydric Rating by Map Unit (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

Soil Map may not be valid at this scale.
MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- 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 Rating Lines**
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

**Soil Rating Points**
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

**Water Features**
- Streams and Canals

**Transportation**
- ✅ Rails
- ✅ Interstate Highways
- ✅ US Routes
- ✅ Major Roads
- ✅ Local Roads

**Background**
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DeKalb County, Illinois
Survey Area Data: Version 12, Sep 20, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 26, 2010—Jul 24, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
### Table—Hydric Rating by Map Unit (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>59A</td>
<td>Lisbon silt loam, 0 to 2 percent slopes</td>
<td>8</td>
<td>24.7</td>
<td>26.0%</td>
</tr>
<tr>
<td>152A</td>
<td>Drummer silty clay loam, 0 to 2 percent slopes</td>
<td>100</td>
<td>3.9</td>
<td>4.1%</td>
</tr>
<tr>
<td>356A</td>
<td>Elpaso silty clay loam, 0 to 2 percent slopes</td>
<td>100</td>
<td>7.4</td>
<td>7.8%</td>
</tr>
<tr>
<td>512B</td>
<td>Danabrook silt loam, 2 to 5 percent slopes</td>
<td>0</td>
<td>59.2</td>
<td>62.2%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td></td>
<td><strong>95.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

### Rating Options—Hydric Rating by Map Unit (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

- **Aggregation Method**: Percent Present
- **Component Percent Cutoff**: None Specified
- **Tie-break Rule**: Lower

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Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Water Features

Water Features include ponding frequency, flooding frequency, and depth to water table.

Depth to Water Table (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.
The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Coordinate System: Web Mercator (EPSC:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DeKalb County, Illinois
Survey Area Data: Version 12, Sep 20, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 26, 2010—Jul 24, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
## Table—Depth to Water Table (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating (centimeters)</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>59A</td>
<td>Lisbon silt loam, 0 to 2 percent slopes</td>
<td>46</td>
<td>24.7</td>
<td>26.0%</td>
</tr>
<tr>
<td>152A</td>
<td>Drummer silty clay loam, 0 to 2 percent slopes</td>
<td>15</td>
<td>3.9</td>
<td>4.1%</td>
</tr>
<tr>
<td>356A</td>
<td>Elpaso silty clay loam, 0 to 2 percent slopes</td>
<td>15</td>
<td>7.4</td>
<td>7.8%</td>
</tr>
<tr>
<td>512B</td>
<td>Danabrook silt loam, 2 to 5 percent slopes</td>
<td>84</td>
<td>59.2</td>
<td>62.2%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td></td>
<td><strong>95.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Rating Options—Depth to Water Table (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

Units of Measure: centimeters  
Aggregation Method: Dominant Component  
Component Percent Cutoff: None Specified  
Tie-break Rule: Lower  
Interpret Nulls as Zero: No  
Beginning Month: January  
Ending Month: December

Flooding Frequency Class (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

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.
Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)
- Not rated or not available

Soils
- Soil Rating Polygons
  - None
  - Very Rare
  - Rare
  - Occasional
  - Frequent
  - Very Frequent
  - Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Web Mercator (EPSG:3857)
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DeKalb County, Illinois
Survey Area Data: Version 12, Sep 20, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 26, 2010—Jul 24, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
### Table—Flooding Frequency Class (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>59A</td>
<td>Lisbon silt loam, 0 to 2 percent slopes</td>
<td>None</td>
<td>24.7</td>
<td>26.0%</td>
</tr>
<tr>
<td>152A</td>
<td>Drummer silty clay loam, 0 to 2 percent slopes</td>
<td>None</td>
<td>3.9</td>
<td>4.1%</td>
</tr>
<tr>
<td>356A</td>
<td>Elpaso silty clay loam, 0 to 2 percent slopes</td>
<td>None</td>
<td>7.4</td>
<td>7.8%</td>
</tr>
<tr>
<td>512B</td>
<td>Danabrook silt loam, 2 to 5 percent slopes</td>
<td>None</td>
<td>59.2</td>
<td>62.2%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td></td>
<td><strong>95.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

### Rating Options—Flooding Frequency Class (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

- **Aggregation Method:** Dominant Condition
- **Component Percent Cutoff:** None Specified
- **Tie-break Rule:** More Frequent
- **Beginning Month:** January
- **Ending Month:** December

### Ponding Frequency Class (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

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.
The soil surveys that comprise your Area of Interest (AOI) were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 12, Sep 20, 2017

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The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Table—Ponding Frequency Class (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>59A</td>
<td>Lisbon silt loam, 0 to 2 percent slopes</td>
<td>None</td>
<td>24.7</td>
<td>26.0%</td>
</tr>
<tr>
<td>152A</td>
<td>Drummer silty clay loam, 0 to 2 percent slopes</td>
<td>Frequent</td>
<td>3.9</td>
<td>4.1%</td>
</tr>
<tr>
<td>356A</td>
<td>Elpaso silty clay loam, 0 to 2 percent slopes</td>
<td>Frequent</td>
<td>7.4</td>
<td>7.8%</td>
</tr>
<tr>
<td>512B</td>
<td>Danabrook silt loam, 2 to 5 percent slopes</td>
<td>None</td>
<td>59.2</td>
<td>62.2%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td></td>
<td><strong>95.2</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Rating Options—Ponding Frequency Class (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

*Aggregation Method:* Dominant Condition
*Component Percent Cutoff:* None Specified
*Tie-break Rule:* More Frequent
*Beginning Month:* January
*Ending Month:* December
Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Erosion

This folder contains a collection of tabular reports that present soil erosion factors and groupings. The reports (tables) include all selected map units and components for each map unit. Soil erosion factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

RUSLE2 Related Attributes (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer.

Report—RUSLE2 Related Attributes (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

<table>
<thead>
<tr>
<th>RUSLE2 Related Attributes–DeKalb County, Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Map symbol and soil name</strong></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>59A—Lisbon silt loam, 0 to 2 percent slopes</td>
</tr>
<tr>
<td>Lisbon</td>
</tr>
</tbody>
</table>
## Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

## Hydrologic Soil Group and Surface Runoff (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

- **Group A.** Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

- **Group B.** Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

- **Group C.** Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

- **Group D.** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at

### Map symbol and soil name | Pct. of map unit | Slope length (ft) | Hydrologic group | Kf | T factor | Representative value
---|---|---|---|---|---|---
152A—Drummer silty clay loam, 0 to 2 percent slopes | 94 | 298 | B/D | .24 | 5 | 8.0 61.0 31.0
Drummer, drained | 94 | 298 | B/D | .24 | 5 | 8.0 61.0 31.0
356A—Elpaso silty clay loam, 0 to 2 percent slopes | 94 | 249 | B/D | .24 | 5 | 6.0 63.0 31.0
Elpaso, drained | 94 | 249 | B/D | .24 | 5 | 6.0 63.0 31.0
512B—Danabrook silt loam, 2 to 5 percent slopes | 90 | 249 | C | .37 | 5 | 7.5 70.0 22.5
Danabrook | 90 | 249 | C | .37 | 5 | 7.5 70.0 22.5

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or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

*Surface runoff* refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

**Report—Hydrologic Soil Group and Surface Runoff (NRI 694 Genoa Road Solar I, LLC & Genoa Road Solar II, LLC)**

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

<table>
<thead>
<tr>
<th>Map symbol and soil name</th>
<th>Pct. of map unit</th>
<th>Surface Runoff</th>
<th>Hydrologic Soil Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>59A—Lisbon silt loam, 0 to 2 percent slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisbon</td>
<td>92</td>
<td>Low</td>
<td>C/D</td>
</tr>
<tr>
<td>152A—Drummer silty clay loam, 0 to 2 percent slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drummer, drained</td>
<td>94</td>
<td>Negligible</td>
<td>B/D</td>
</tr>
<tr>
<td>356A—Elpaso silty clay loam, 0 to 2 percent slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elpaso, drained</td>
<td>94</td>
<td>Negligible</td>
<td>B/D</td>
</tr>
<tr>
<td>512B—Danabrook silt loam, 2 to 5 percent slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danabrook</td>
<td>90</td>
<td>Low</td>
<td>C</td>
</tr>
</tbody>
</table>
References


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Know what's below.
Call before you dig.
Know what's below. Call before you dig.