

# Aquatic Resources Delineation Report

Bluestem Solar  
South of Prairie Street  
Sugar Grove, Kane County Illinois  
Terracon Project No. 11257111  
July 11, 2025

Prepared for:  
CLEAN FIELD POWER LLC  
DOVER, DELEWARE



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July 11, 2025

Clean Field Power LLC  
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Attn: Mr. Gary LaNoce  
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**Re: Aquatic Resource Delineation Report**

Bluestem Solar  
South of Prairie Street  
Sugar Grove, Kane County, Illinois 60506  
Terracon Project No. 11257111

Dear Mr. LaNoce:

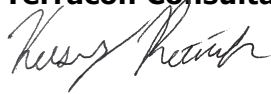
Terracon Consultants, Inc. (Terracon) is pleased to submit this aquatic resources delineation report for proposed community solar facility in Sugar Grove, Kane County, Illinois. This report has been prepared in accordance with Proposal No. P11257111, dated May 6, 2025, and the associated Service Authorization dated May 7, 2025. During the delineation completed on June 11, 2025, two artificial ponds (P-A and P-B) were identified on the study area. An ephemeral drainage feeding to the northeast portion of pond P-A was also identified, and an emergent fringe wetland surrounding pond P-B was delineated.

Based on current guidance, it is Terracon's opinion that the onsite aquatic features would not likely be regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) or by Kane County under the Kane County Stormwater Management Ordinance as these features were excavated within uplands. It should be noted that this jurisdictional opinion is not authoritative, and that regulatory definitions and status of WOTUS may change due to agency guidance, litigation, or other regulatory mechanisms.

It is Terracon's understanding that the client intends to avoid impacts to the aquatic features identified within the study area. Upon availability of project plans documenting avoidance of the wetlands, Terracon recommends coordinating with the USACE Chicago District to obtain a "No Permit Required" letter.

Terracon appreciates the opportunity to have worked for you on this project. Please feel free to contact Aric Larson at (8500) 445-8933 or [aric.larson@terracon.com](mailto:aric.larson@terracon.com) if you have questions or require additional information regarding the content of this report.

Sincerely,  
**Terracon Consultants, Inc.**

A handwritten signature in black ink, appearing to read 'Kelsey Retich', written in a cursive style.

Kelsey Retich  
Project Scientist

A handwritten signature in black ink, appearing to read 'Aric A. Larson', written in a cursive style.

Aric A. Larson  
Senior Scientist

Enclosure

Delineation Report and attachment

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## 1.0 INTRODUCTION

Terracon Consultants, Inc., (Terracon) was retained by Clean Field Power LLC (Client) to perform an aquatic resources delineation for approximately 138.19 acres of land located within a parcel of land south of Prairie Street in Sugar Grove, Kane County, Illinois (study area), as depicted on *Exhibit 1.0* in *Appendix A*.

The delineation was generally performed in accordance with the 1987 United States Army Corps of Engineers (USACE) Manual and 2010 Midwest Regional Supplement 2.0. The United States Supreme Court issued its decision in *Sackett v. Environmental Protection Agency* (EPA) on May 25, 2023 and a publication of the Final Rule - Amendments to the Revised Definition of Waters of the United States (WOTUS), effective on September 8, 2023. Based on the ruling, WOTUS are limited to streams, rivers, lakes, oceans, relatively permanent water bodies that are connected to navigable waters that are navigable in fact, and wetlands that have a continuous surface connection with navigable waters. The delineation was also generally performed in accordance with the Interagency Wetlands Policy Act of 1989 (IWPA) regulated by the Illinois Department of Natural Resources (IDNR).

Consistent with these guidance documents, Terracon traversed the study area, and documented changes in vegetation, soil, and hydrologic conditions utilizing USACE approved data forms for the Midwest Region. In some instances, where these characteristics remained consistent with adjacent detailed data point locations, reference photo points were utilized to document reoccurrence. Data was collected in the field utilizing a Bad Elf Flex Global Positioning System (GPS) unit, capable of approximately one meter accuracy. GPS data was differentially corrected in real-time using Satellite Based Augmentation System (SBAS) utilizing the regional reference system and exported to an ArcGIS geodatabase for analysis. Data point coordinates are reported in latitude and longitude, Global Coordinate System (GCS), North American Datum (NAD), 1983.

The purpose of performing the delineation was to characterize the existing site conditions and document the presence of aquatic features with the potential to be regulated as WOTUS by USACE under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA), the Illinois Environmental Protection Agency (IEPA) under Section 401 of the CWA, and by Kane County under the Kane County Stormwater Management Ordinance.

## 2.0 SCOPE OF SERVICES

Terracon performed the following scope of work:

- Reviewed United States Geologic Survey (USGS) 7.5-minute topographic maps, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, United States Department of Agriculture (USDA) soil survey data, Federal Emergency Management Agency (FEMA) floodplain maps, aerial photographs, and

local climatic data to assist in identifying potential WOTUS and wetland areas at the study area.

- Mobilized to the study area to conduct the aquatic resources delineation.
- Prepared a map showing approximate locations of potential WOTUS, including wetland areas observed and delineated during the site visit, if identified.
- Prepared an aquatic resources delineation report that included site characterization information and a discussion of applicable data.

## 3.0 PRELIMINARY DATA GATHERING AND ANALYSIS

Prior to performing the delineation, several sources of mapping and other relevant background data were reviewed to assist with identifying potential aquatic features within the study area. Each source of data is described in detail below.

### 3.1 Topographic Map / LiDAR Topography

The USGS 7.5-Minute Series topographic map (1:24,000) for the Sugar Grove, Illinois quadrangle (2024) and the Light Detection and Ranging (LiDAR)<sup>1</sup> topography map for the study area were evaluated to preliminarily identify drainages, creeks, ponds, wetlands, and other aquatic features, as well as characterize vegetation and potential areas of habitat within the site. The USGS quadrangle map and topographic map depict elevations in the site ranging from approximately 660 to 710 feet above mean sea level (msl). The site is primarily agricultural land with a driveway leading to two farm buildings and six grain bins located near the north boundary of the site that adjoins Prairie Street. The site contains a road which runs down the center of the site, bisecting the site into an eastern and western half, and providing access to two small ponds. A potential freshwater emergent wetland is depicted over the southwest corner of the site. *Exhibit 2 (Appendix A)* depicts the USGS topographic map in the vicinity of the site and *Exhibit 3 (Appendix A)* depicts the LiDAR topography (1-foot elevation contours) of the study area and surrounding areas.

### 3.2 Aerial Photographs

Publicly available Google Earth aerial imagery from 1993 through 2025 was reviewed. The review indicated that the on-site use and habitat has remained largely unchanged for at least 32 years. Most of the site consists of agricultural land. A road traverses the central portion of the site, entering from the northern site boundary and heading south to the two reservoirs on the property. Two farm buildings and six grain bins located near the north boundary of the site that adjoins Prairie Street. The surrounding properties largely consist of agricultural land. Sometime after 2019 and consistent with site observations, the aerials suggest that drainage tile was installed through portions of the site which appears to have significantly affected hydrology in these areas.

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<sup>1</sup> Illinois Geospatial Data Clearinghouse - Digital Elevation Model utilized to create LiDAR contours and Digital Terrain Model image (2025)

Select aerial imagery of the study area is included in Appendix B.

### 3.3 National Wetlands Inventory Map

NWI data was reviewed to identify potential aquatic features within the study area. The data was published by the USFWS and depicts potential wetland areas and other waterbodies based on stereoscopic analysis of high-altitude aerial photographs. It is Terracon's understanding that the published data is not regularly updated and has not been validated in the field. Presence of mapped NWI features is not always indicative of the presence of jurisdictional waterbodies or wetlands.

A portion of two palustrine emergent persistent temporary flooded, farmed wetlands (PEM1Af) is depicted over the southern portion of the site. NWI features surrounding the study area are depicted atop recent aerial imagery in *Exhibit 4 of Appendix A*.

### 3.4 Soil Survey

Data from the USDA Natural Resource Conservation Service Web Soil Survey and the State Soil Data Access Hydric Soils List were reviewed to characterize soils within the study area and vicinity, accessed July 8, 2025. The study area is located within twelve soil units. *Table 1* contains a summary of the mapped soil unit within the study area and relevant physical characteristics. The USDA NRCS soil survey map for the study area is included as *Exhibit 5*.

Table 1 Study Area Mapped Soil Types							
Map Unit Symbol	Map Unit Name	Landform	Natural Drainage Class	Frequency of Ponding	Frequency of Flooding	Depth to Water Table	Hydric Soil Rating
60C2	La Rose loam, 5 to 10 percent slopes, eroded	End moraines, ground moraines	Well drained	None	None	>200 centimeters (cm)	Not hydric
60D2	La Rose loam, 10 to 18 percent slopes, eroded	End moraines, ground moraines	Well drained	None	None	>200 cm	Not hydric

**Table 1 Study Area Mapped Soil Types**

Map Unit Symbol	Map Unit Name	Landform	Natural Drainage Class	Frequency of Ponding	Frequency of Flooding	Depth to Water Table	Hydric Soil Rating
67A	Harpster silty clay loam, 0 to 2 percent slopes	Depressions on till plains, depressions on outwash plains, depressions on lake plains	Poorly drained	Frequent	None	15 cm	Hydric
103A	Houghton muck, 0 to 2 percent slopes	Depressions	Very poorly drained	Frequent	None	0 cm	Hydric
152A	Drummer silty clay loam, 0 to 2 percent slopes	Stream terraces on outwash plains, stream terraces on till plains, swales on outwash plains, swales on till plains	Poorly drained	Frequent	None	15 cm	Hydric
154A	Flanagan silt loam, 0 to 2 percent slopes	Till plains, ground moraines	Somewhat poorly drained	None	None	46 cm	Not hydric
198A	Elburn silt loam, 0 to 2 percent slopes	Outwash plains, stream terraces	Somewhat poorly drained	None	None	46 cm	Not hydric

**Table 1 Study Area Mapped Soil Types**

Map Unit Symbol	Map Unit Name	Landform	Natural Drainage Class	Frequency of Ponding	Frequency of Flooding	Depth to Water Table	Hydric Soil Rating
210A	Lena muck, 0 to 2 percent slopes	Outwash plains, ground moraines	Very poorly drained	Frequent	None	15 cm	Hydric
356A	Elpaso silty clay loam, 0 to 2 percent slopes	Till plains, ground moraines	Poorly drained	Frequent	None	15 cm	Hydric
512B	Danabrook silt loam, 2 to 5 percent slopes	End moraines, ground moraines	Moderately well drained	None	None	84 cm	Not hydric
512C2	Danabrook silt loam, 5 to 10 percent slopes, eroded	End moraines, ground moraines	Moderately well drained	None	None	84 cm	Not hydric
W	Water	Channels, perennial streams, drainageways, lakes, oxbows, rivers	N/A	None	None	>200 cm	N/A

### 3.5 FEMA National Flood Hazard Layer Map

Terracon downloaded and reviewed the FEMA National Flood Hazard Layer (NFHL) panels 17089C0318H, 17089C0319H, and 17093C0035H effective January 8, 2014. According to the NFHL, the study area is depicted within Zone X: area of minimal flood hazard. A map (depicting the digital NFHL) is included as *Exhibit 6 in Appendix A*.

### 3.6 Wetland Hydrologic Index

Terracon reviewed local climate data to identify current site hydrologic conditions. Data from the NRCS Agriculture Applied Climate Information System (AgACIS) was downloaded and reviewed using the Direct Antecedent Rainfall Evaluation Method (DAREM), accessed July 8, 2025. The DAREM provides an index of climatic conditions, as they pertain to wetland hydrology, for the time period in which field data was collected. Antecedent rainfall data was obtained from the Aurora Water weather station, the nearest stations to the study area with the range of historic data available necessary to calculate the DAREM.

Tables 2 and 3 summarize the DAREM index data for the study area at the time of the field investigation on June 11, 2025. According to the DAREM, the study area was experiencing drier than normal hydrologic conditions. Additionally, daily rainfall accumulation data from the Aurora Water weather station indicated that the study area received a total of 2.14 inches of rainfall the 7 days prior to fieldwork. Data obtained from the USACE Antecedent Precipitation Tool is included in *Appendix C*.

Table 2: Study Area Wetland Hydrologic Condition for June 2025							
Prior Month	30-Days Ending Date	WETS Percentile (in) Natural Drainage Class		Measured Rainfall <sup>1</sup>	Condition <sup>2</sup>	Weight <sup>3</sup>	Score
		30 <sup>th</sup>	70 <sup>th</sup>				
1st	6-11-2025	3.05	4.92	1.89	1	3	3
2nd	5-12-2025	3.51	5.67	2.01	1	2	2
3rd	4-12-2025	1.87	2.95	3.13	3	1	3
Total:							8

<sup>1</sup>Measured rainfall recorded by the Aurora Water weather station.

<sup>2</sup>Condition: 1 = monthly rainfall totals less than the 30-year Extreme Rainfall Distribution 30<sup>th</sup> percentile, 2 = monthly rainfall totals between the 30<sup>th</sup> and 70<sup>th</sup> percentile for the 30-year Extreme Rainfall Distribution, 3 = monthly rainfall totals greater than the 70<sup>th</sup> percentile for the 30-year Extreme Rainfall Distribution.

<sup>3</sup>Monthly weights equal 3 for the prior month, 2 for the second prior month, and 1 for the third prior month.

Table 3: DAREM Score Summary for June 2025													
DAREM Score (Observed Score)	6	7	<u>8</u>	9	10	11	12	13	14	15	16	17	18
DAREM Wetland Hydrologic Condition	<i>Drier than normal</i>				Normal					Wetter than normal			

## 4.0 FIELD TECHNIQUES

Terracon personnel conducted the delineation on June 11, 2025, to characterize the existing site conditions and identify/delineate the presence of aquatic features with the potential to be regulated. Based on the size of the study area, and generally consistent with the regulatory guidance outlined in Section 1.0, Terracon collected data points documenting vegetation, soil, and hydrologic characteristics. This methodology is consistent with general USACE guidance to expedite field data collection and reduce unnecessary redundancy and paperwork.

Three data points were collected during the field investigation. Data was collected in the field utilizing a GPS unit capable of approximately one meter accuracy. GPS data was differentially corrected in real-time using SBAS utilizing the regional reference system and exported to an ArcGIS geodatabase for analysis. Data point coordinates are reported in latitude and longitude, WGS 1984.

Aquatic features were identified based on the presence of an ordinary high-water mark (OHWM) and bed/bank features, or the presence of wetland indicators where applicable. For portions of the surface tributary system (i.e., streams and impoundments of streams, and certain types of manmade canals), the OHWM is the limit of USACE jurisdiction under Section 404. The OHWM can generally be defined as the line on the shore established by the fluctuation of the surface water, and is indicated by the following characteristics:

- clear line impressed on the bank,
- shelving,
- changes in soil character,
- destruction of terrestrial vegetation,
- the presence of litter and debris, or
- other features influenced by the surrounding area.

The USACE and EPA define wetlands as *“those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil condition. Wetlands generally include swamps, marshes, bogs, and similar areas”* (33 CFR 328.3b). In order to make a positive wetland determination, indicators of hydrophytic vegetation, hydric soil, and wetland hydrology must be observed and recorded. In order to provide data with which to evaluate hydrophytic vegetation, the USACE publishes wetland indicator statuses for many plant species in the National Wetlands Plant List (NWPL). If a species is not listed on the NWPL, it is assumed to be an upland species. Generally, hydrophytic vegetation is indicated if there is a dominance or prevalence of FAC, FACW, or OBL vegetation<sup>2</sup>. *Table 4* defines the NWPL indicator categories.

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<sup>2</sup> If a community is dominated by FAC vegetation, hydric soil and wetland hydrology must be present for the community to be considered hydrophytic.

**Table 4: Wetland Plant Indicator Status Descriptions**

Indicator Status (Abbreviation)	Occurrence in Wetlands (%)
Obligate (OBL). Occur almost always under natural conditions in wetlands.	99%
Facultative Wetland (FACW). Usually occur in wetlands, but occasionally found in non-wetlands.	67%-99%
Facultative (FAC). Equally likely to occur in wetlands and non-wetlands.	34%-66%
Facultative Upland (FACU). Usually occur in non-wetlands but occasionally found in wetlands.	1%-33%
Upland (UPL) occur in wetlands in another region but occur almost always in non-wetland under natural conditions in the region specified.	1% or less

To evaluate hydric soil, profiles (between 4 and 20 inches) were excavated and characterized utilizing Munsell Soil Color Charts (Munsell, 2009) to record soil color. Visual and tactile observations related to composition, texture, and disturbance were also recorded. This information was compared to criteria in the *Field Indicators of Hydric Soils in the United States* manual (USDA, NRCS, 2017) to make a positive or negative determination of hydric soil. Generally, hydric soils exhibit physical characteristics (aroma, composition, color, texture) indicative of biogeochemical processes associated with anoxic conditions; including the presence of decaying organic material, hydrogen sulfide odor, and redoximorphic characteristics (i.e., iron or manganese depletions and/or concentrations).

Wetland hydrology is generally indicated by visual observations of saturated or inundated conditions. For the Midwest Region, the USACE approved data form includes 19 primary indicators of wetland hydrology, and eight secondary indicators of wetland hydrology. To make a positive determination of wetland hydrology, one primary or two secondary indicators must be present. In the absence of these indicators, a positive wetland hydrology determination can be made if hydric soil and hydrophytic vegetation are present, and morphological adaptations associated with prolonged inundation (e.g. adventitious roots, aerenchyma tissue, etc.) are present on dominant vegetation species. Additionally, stream gauge data, aerial photos, and previous wetland delineation data can all be utilized in the absence of visual indicators in certain circumstances.



## 5.0 SUMMARY OF FIELD OBSERVATIONS AND RESULTS

On June 11, 2025, Terracon completed the delineation of the study area. The study area primarily consisted of agricultural fields with corn (*Zea mays*) as the most recent crop. Terracon identified fringe wetlands present around the two artificial ponds present within the study area.

During the delineation, Terracon collected data for vegetation, soils, and hydrology at three data points. Aquatic features are depicted on *Exhibit 7* in *Appendix A*. Wetland determination data forms are provided in *Appendix D*, and study area photographs are provided in *Appendix E*. Descriptions of the aquatic features identified within the study area are provided in the following sections.

### 5.1 Open Water and Wetland Features

The following open water and wetland features were identified within the study area:

- **Pond P-A:** A ±1.18-acre artificial pond was observed over the central portion of the study area, near the western site boundary. Terracon delineated the OHWM which was observed along a well-defined, steeply sloped bank that lacked hydrophytic vegetation. A short ephemeral drainage was observed connecting to the northeastern portion of pond P-A. At the time of the site reconnaissance, this drainage was dry. No outflow pond P-A was observed.

As Pond P-A appears to have been excavated from uplands, it is Terracon's opinion that this feature is not likely jurisdictional with USACE or Kane County.

- **Pond P-B:** A ±0.43-acre artificial pond was observed over the southern portion of the study area. The OHWM was determined to be the observed interface of open water and the water-ward edge of an emergent wetland surrounding pond P-B. No inflow or outflow was observed connecting to pond P-B.

As pond P-B appears to have been excavated from uplands, it is Terracon's opinion that this feature is not likely jurisdictional with USACE or Kane County.

- **Wetland WA:** A ±0.32-acre emergent fringe wetland was observed surrounding pond P-B. DP2 documents the wetland characteristics. Dominant hydrophytic vegetation observed included common reed (*Phragmites australis*) and reed canary grass (*Phalaris arundinacea*). Hydric soil indicators were observed, with a high-water table at 6" below ground surface and saturation observed at the surface.

As wetland WA appears to have formed as the result of the excavation of pond P-B, it is Terracon's opinion that this feature is not likely jurisdictional with USACE or Kane County.

- **Ephemeral Drainage ED-A:** A ±136 linear-foot (<0.01 acres) ephemeral drainage was observed connecting to the northeastern portion of pond P-A. At the time of the site reconnaissance, ED-A was observed to be dry. An OHWM averaging 2-feet in width along the course of ED-A was observed; however, based on observations flow likely only occurs as a direct result of rainfall. ED-A also appears to be connected to drain tile extending to the northeast.

As this feature is ephemeral in nature and appears to be associated with the excavation of pond P-A, it is Terracon's opinion that this feature is not likely jurisdictional with USACE or Kane County.

## 6.0 CONCLUSIONS

An aquatic resources delineation was completed for the ±138.19-acre study area on June 11, 2025. Two artificial ponds (P-A and P-B) were identified on the study area. An ephemeral drainage feeding to the northeast portion of pond P-A was also identified, and an emergent fringe wetland surrounding pond P-B was delineated.

Based on current guidance, it is Terracon's opinion that the onsite aquatic features would not likely be regulated by USACE under Section 404 of the CWA or by Kane County under the Kane County Stormwater Management Ordinance as these features appear to have been excavated within uplands. It should be noted that this jurisdictional opinion is not authoritative, and that regulatory definitions and status of WOTUS may change due to litigation or other regulatory mechanisms.

It is Terracon's understanding that the client intends to avoid impacts to the aquatic features identified within the study area. Upon availability of project plans documenting avoidance of the wetlands, Terracon recommends coordinating with the USACE Chicago District to obtain a "No Permit Required" letter.

## 7.0 GENERAL COMMENTS

The aquatic resources delineation was performed in accordance with generally accepted scientific and engineering evaluation practices of this profession undertaken in similar studies at the same time and in the same geographical area. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. No biological assessment can wholly eliminate uncertainty regarding the potential for concerns in connection with a project.

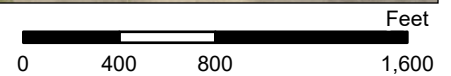
This report has been prepared for the exclusive use and reliance of the Client. Use or reliance by other parties is prohibited without the written authorization of the Client and Terracon. Reliance on the report by the Client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, signed agreement, and report.

# APPENDIX A

## Exhibits



- Study Area (138.19 ac.±)
- Parent Parcel



DATA SOURCES:  
Kane County - Parcels (2025); ESRI - World Hybrid Imagery Basemap and World Navigation Map

Project No.:	11257111
Date:	Jul 2025
Drawn By:	JMA
Reviewed By:	AAL

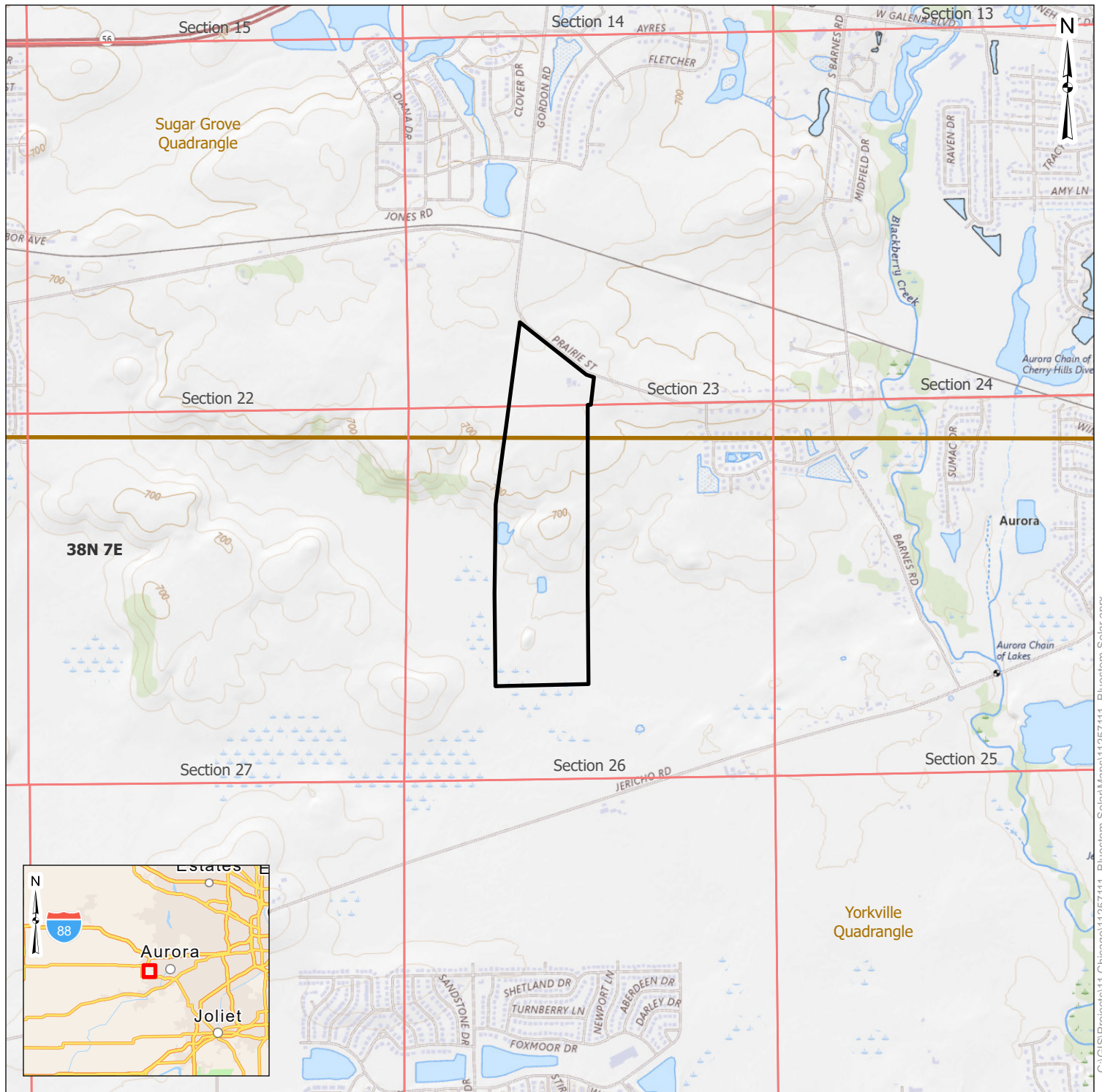
9856 S. 57th Street Franklin, WI 53132

PH. (850) 445-8933 [terracon.com](http://terracon.com)

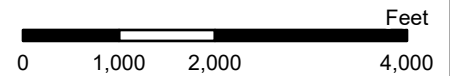
Study Area Parcel Map
<p>Aquatic Resources Delineation and Protected Species</p> <p>Bluestem Solar</p> <p>Sugar Grove, Kane County, Illinois</p>

Exhibit
1





- Study Area
- USGS 24k Grid Quadrangles
- PLSS Township
- PLSS Sections



DATA SOURCES:  
USGS Topographic Survey; Sugar Grove and Yorkville  
Quadrangles; ESRI - USGS Topographic Basemap &  
World Navigation Map

Project No.:	11257111
Date:	Jul 2025
Drawn By:	JMA
Reviewed By:	AAL

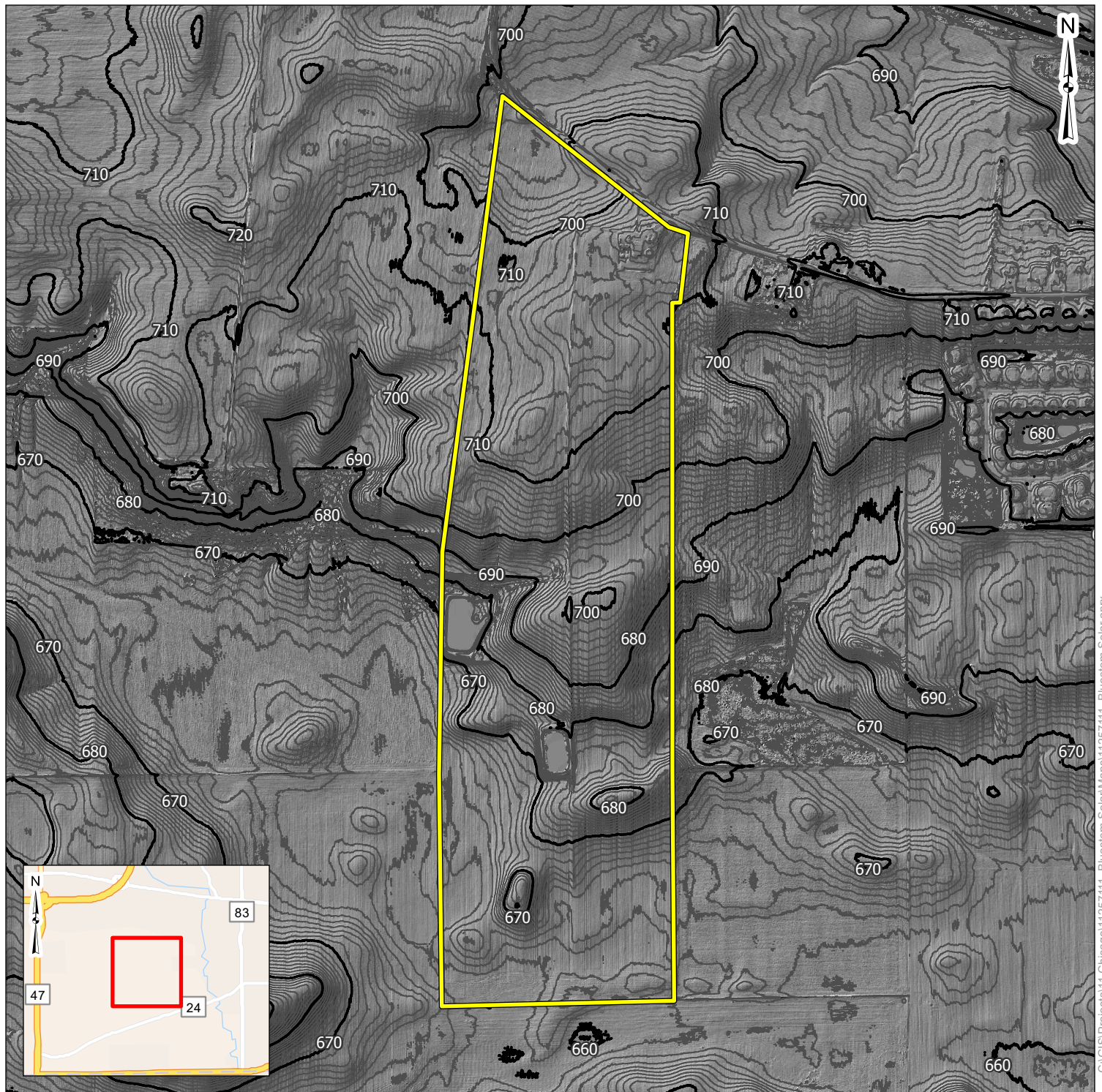
9856 S. 57th Street Franklin, WI 53132

PH. (850) 445-8933 [terracon.com](http://terracon.com)

Topographic Project Location
<p>Aquatic Resources Delineation and Protected Species</p> <p>Bluestem Solar</p> <p>Sugar Grove, Kane County, Illinois</p>

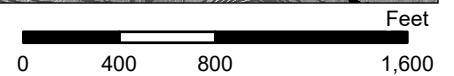
Exhibit
2





C:\GIS\Projects\11 Chicago\11257111 - Bluestem Solar\Map\11257111 - Bluestem Solar.aprx

- Study Area
- Index Contour
- Intermediate Contour



DATA SOURCES:  
 Illinois Geospatial Data Clearinghouse - Kane County  
 Digital Elevation Model (2017) utilized to create LiDAR  
 contours, Digital Surface Model used for background  
 image; ESRI - World Navigation Map

Project No.:	11257111
Date:	Jul 2025
Drawn By:	JMA
Reviewed By:	AAL

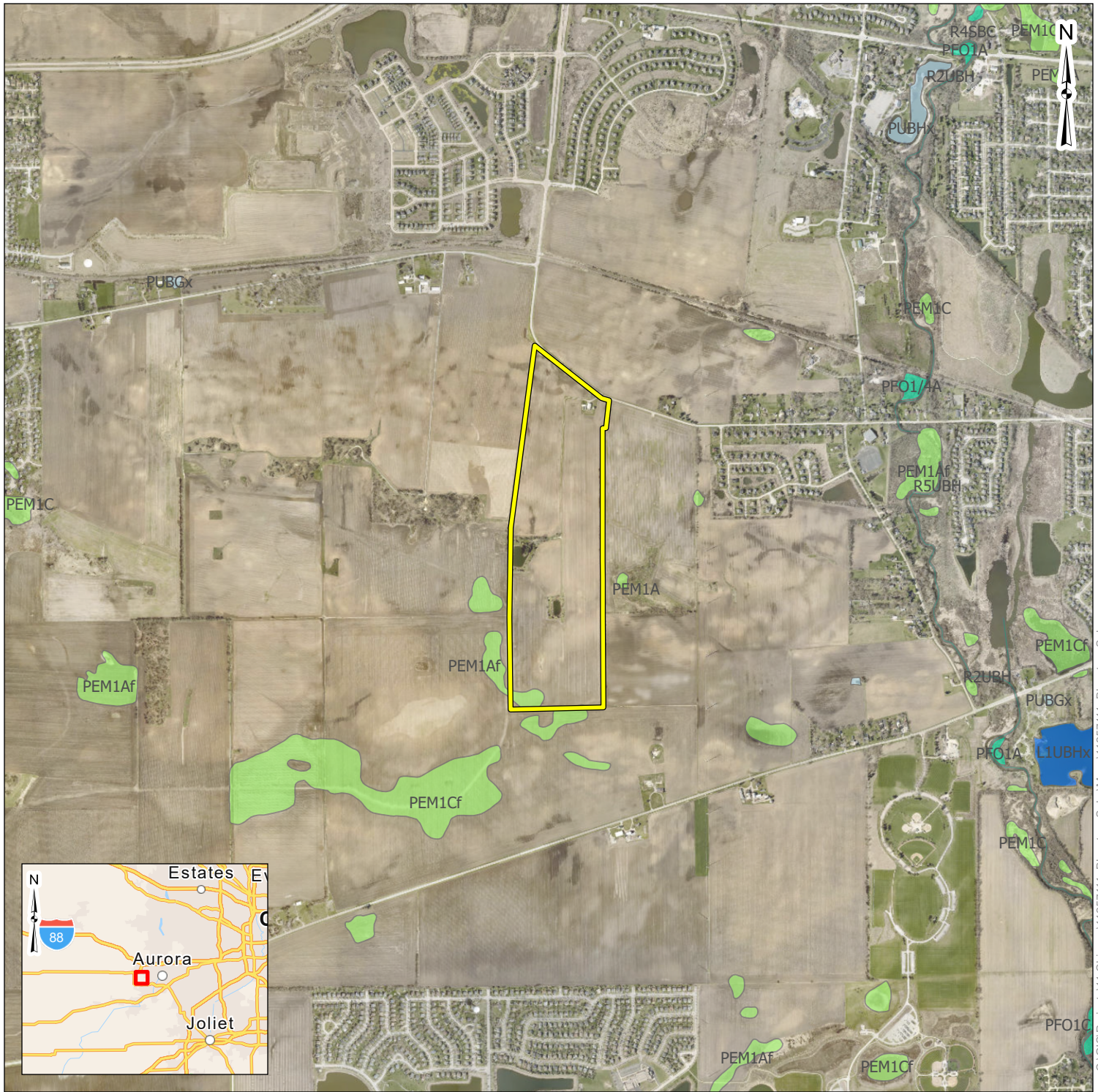
9856 S. 57th Street Franklin, WI 53132

PH. (850) 445-8933 [terracon.com](http://terracon.com)

LiDAR Topography
Aquatic Resources Delineation and Protected Species Bluestem Solar Sugar Grove, Kane County, Illinois

Exhibit
3





- Study Area**
- National Wetlands Inventory**
- Freshwater Emergent Wetland
  - Freshwater Forested/Shrub Wetland
  - Freshwater Pond
  - Lake
  - Riverine

Feet  
0 1,000 2,000 4,000

DATA SOURCES:  
USFWS - National Wetlands Inventory (NWI);  
ESRI - World Imagery Basemap & World Navigation Map

Project No.:	11257111
Date:	Jul 2025
Drawn By:	JMA
Reviewed By:	AAL

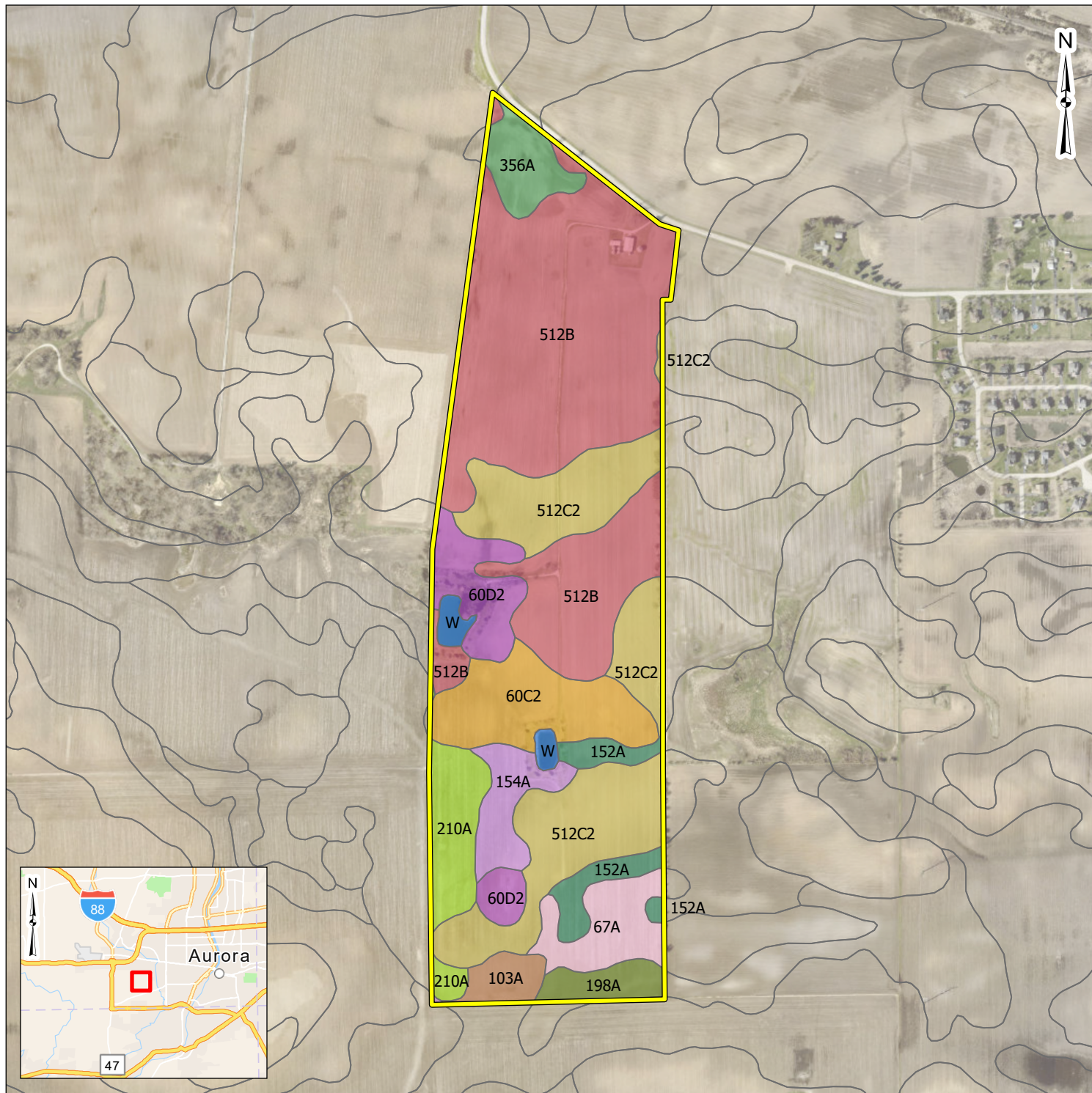
9856 S. 57th Street Franklin, WI 53132

PH. (850) 445-8933 [terracon.com](http://terracon.com)

National Wetlands Inventory
<p>Aquatic Resources Delineation and Protected Species</p> <p>Bluestem Solar</p> <p>Sugar Grove, Kane County, Illinois</p>

Exhibit
4





Study Area

#### SSURGO Soils

- 60C2, La Rose Loam, 5-10% Slopes, Eroded
- 60D2, La Rose Loam, 10-18% Slopes, Eroded
- 103A, Houghton Muck, 0-2% Slopes
- 152A, Drummer Silty Clay Loam, 0-2% Slopes
- 154A, Flanagan Silt Loam, 0-2% Slopes
- 198A, Elburn Silt Loam, 0-2% Slopes

- 210A, Lena Muck, 0-2% Slopes
- 356A, Elpaso Silty Clay Loam, 0-2% Slopes
- 512B, Danabrook Silt Loam, 2-5% Slopes
- 512C2, Danabrook Silt Loam, 5-10% Slopes, Eroded
- 67A, Harpster Silty Clay Loam, 0-2% Slopes
- W, Water

Feet  
0 400 800 1,600

DATA SOURCES:  
USDA - NRCS Soils Survey of Kane County, IL  
(SSURGO Publish Date - 10/23/2024); ESRI - World  
Imagery Basemap & World Navigation Map

Project No.:	11257111
Date:	Jul 2025
Drawn By:	JMA
Reviewed By:	AAL



9856 S. 57th Street Franklin, WI 53132  
PH. (850) 445-8933 terracon.com

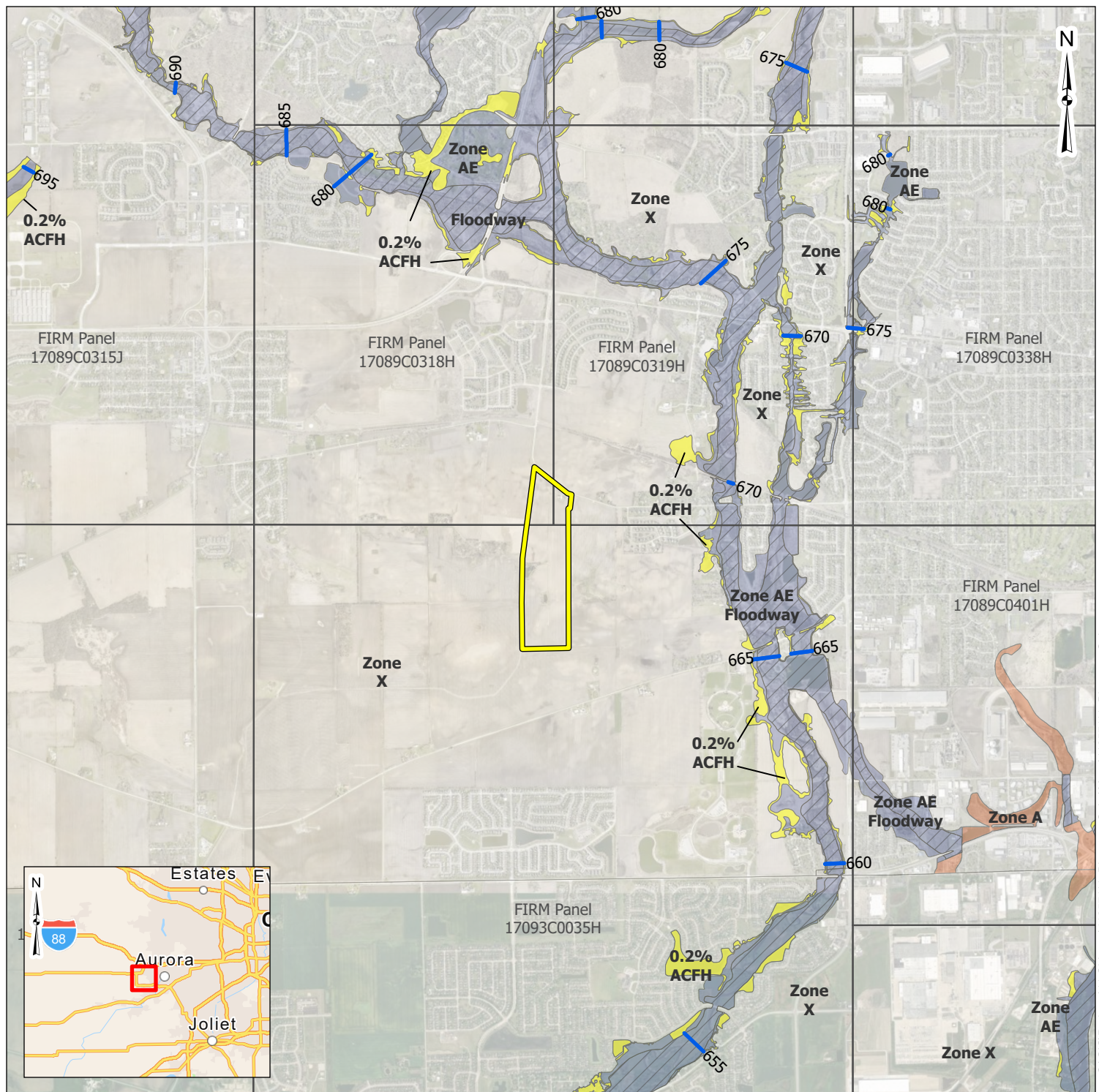
#### NRCS SSURGO Soils

Aquatic Resources Delineation and Protected  
Species  
Bluestem Solar  
Sugar Grove, Kane County, Illinois

#### Exhibit

5





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- Study Area
- FIRM Panel
- Base Flood Elevation (Feet)

- FEMA Flood Hazard Zone**
- Zone A - No Base Flood Elev. Determined
  - Zone AE - Base Flood Elev. Determined
  - Zone X - Outside 0.2% Annual Chance Floodplain
  - 0.2 Pct Annual Chance Flood Hazard
  - Zone AE Floodway

**Feet**

0      2,000      4,000      8,000

**DATA SOURCES:**  
 FEMA - Preliminary Flood Hazard Zones for Kane County, IL, FIRM Panels - 17093C0035H, 17089C0318H and 17089C0319H, Effective 1/8/2014;  
 ESRI - World Imagery Basemap & World Navigation Map

Project No.: 1125711  
 Date: Jul 2025  
 Drawn By: JMA  
 Reviewed By: AAL

**terracon**  
 9856 S. 57th Street Franklin, WI 53132  
 PH. (850) 445-8933 terracon.com

### FEMA Flood Zones

Aquatic Resources Delineation and Protected Species  
 Bluestem Solar  
 Sugar Grove, Kane County, Illinois

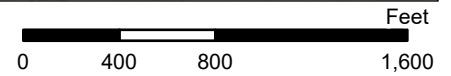
### Exhibit

6





- Study Area (138.19 ac.±)
- Ponds (1.61 ac.±)
- Wetlands (0.32 ac.±)
- Ephemeral Drainage (136 LF)
- Data Point
- Reference Photo Point



DATA SOURCES:  
Terracon - Wetland/Stream Delineation; ESRI - World Imagery Basemap & World Navigation Map

Project No.:	11257111
Date:	Jul 2025
Drawn By:	JMA
Reviewed By:	AAL

9856 S. 57th Street Franklin, WI 53132

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Depiction of Aquatic Resources
<p>Aquatic Resources Delineation</p> <p>Bluestem Solar</p> <p>Sugar Grove, Kane County, Illinois</p>

Exhibit
7

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## **APPENDIX B**

### **Historical Aerial Maps**



May 23, 2013



September 20, 2015





June 17, 2016



April 7, 2017



October 15, 2018



October 8, 2019



May 29, 2021



July 2, 2022





June 19, 2023



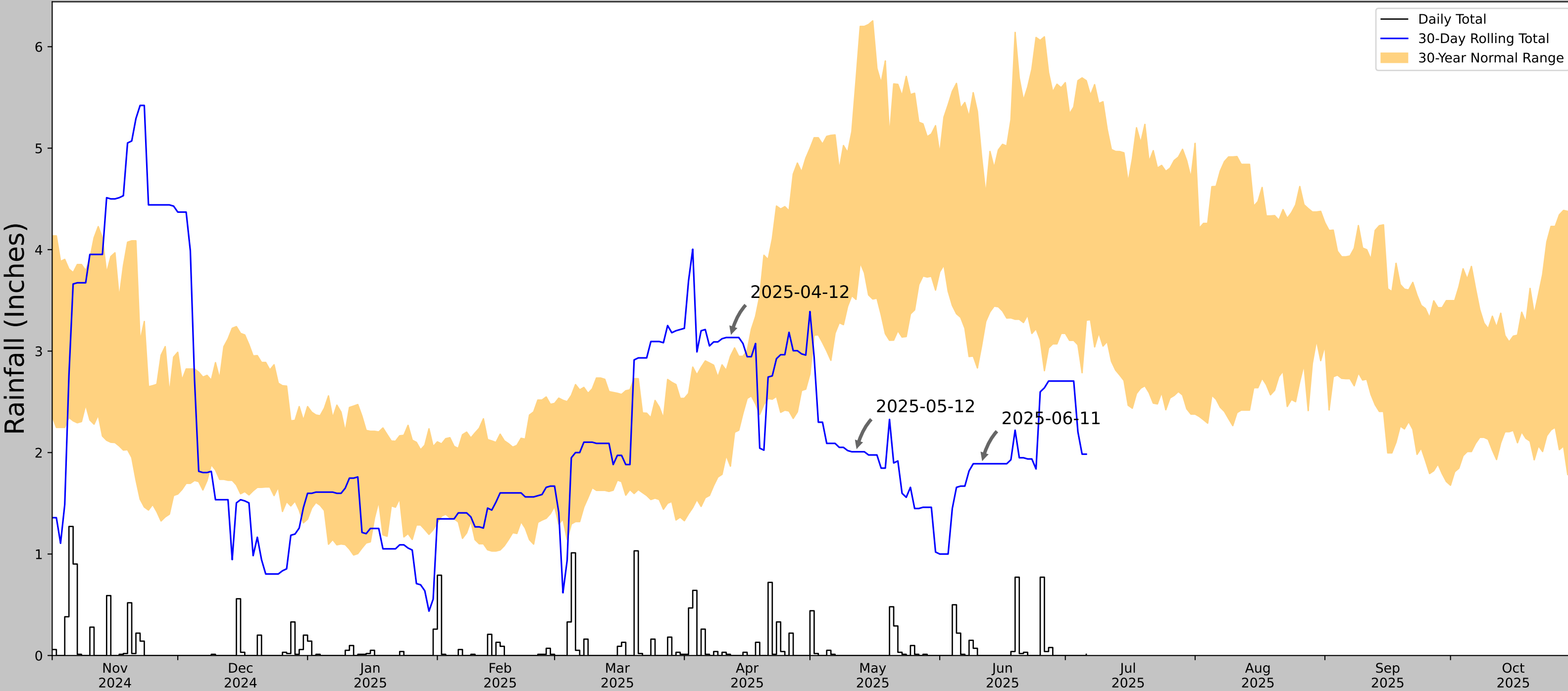
June 7, 2024



## **APPENDIX C**


### **Antecedent Precipitation Data**

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	41.745871, -88.407258
Observation Date	2025-06-11
Elevation (ft)	692.885
Drought Index (PDSI)	Moderate drought (2025-05)
WebWIMP H <sub>2</sub> O Balance	Dry Season


30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-06-11	3.050787	4.919291	1.889764	Dry	1	3	3
2025-05-12	3.509449	5.673622	2.007874	Dry	1	2	2
2025-04-12	1.865354	2.948819	3.133858	Wet	3	1	3
Result							Drier than Normal - 8



**US Army Corps  
of Engineers®**

Figures and tables made by the  
Antecedent Precipitation Tool  
Version 2.0

Developed by:  
U.S. Army Corps of Engineers and  
U.S. Army Engineer Research and  
Development Center



**ERDC**  
ENGINEER RESEARCH & DEVELOPMENT CENTER

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
AURORA WATER	41.7803, -88.3092	674.869	5.586	18.016	2.614	11332	90
AURORA 2.8 WSW	41.7588, -88.3461	687.008	2.413	12.139	1.115	4	0
AURORA 3.4 W	41.7723, -88.3577	689.961	2.559	15.092	1.19	6	0
NORTH AURORA 1.5 NE	41.8163, -88.3068	719.16	2.49	44.291	1.231	2	0
WHEATON 3 SE	41.8128, -88.0728	680.118	12.382	5.249	5.637	9	0

## **APPENDIX D**

### **USACE DATA FORMS**

OMB Control #: 0710-0024, Exp: 9/30/2027  
Requirement Control Symbol EXEMPT:  
(Authority: AR 335-15, paragraph 5-2a)

Are climatic / hydrologic conditions on the site typical for this time of year?      Yes \_\_\_\_\_ No X (If no, explain in Remarks.)

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed?      Are "Normal Circumstances" present?      Yes X      No \_\_\_\_\_

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic?      (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u>      </u>	No <u>  X  </u>	<b>Is the Sampled Area within a Wetland?</b>	<b>Yes</b> <u>      </u>	<b>No</b> <u>  X  </u>
Hydric Soil Present?	Yes <u>  X  </u>	No <u>      </u>			
Wetland Hydrology Present?	Yes <u>      </u>	No <u>  X  </u>			
<b>Remarks:</b> Drier than normal conditions were present according to the APT, however lack of wetland hydrology and vegetation may be attributed to recent drain tile installed at the location.					

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			=Total Cover	
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			=Total Cover	
<u>Herb Stratum</u> (Plot size: <u>5m</u> )				
1. <u>Setaria pumila</u>	10	Yes	FAC	
2. <u>Arctium minus</u>	5	Yes	FACU	
3. <u>Ipomoea purpurea</u>	5	Yes	FACU	
4. <u>Cirsium arvense</u>	2	No	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
			22 =Total Cover	
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			=Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>12</u>	x 4 = <u>48</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>22</u> (A)	<u>78</u> (B)
Prevalence Index = B/A = <u>3.55</u>	

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

\_\_\_ 2 - Dominance Test is >50%

\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Corn was present at the time of the delineation. Hydrologic stress to crops was not observed.

## SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/1	100					Loamy/Clayey	
8-24	2.5Y 4/2	95	2.5Y 5/4	5	C	M	Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Stratified Layers (A5)	
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Iron Monosulfide (A18)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

## HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Based on review of aerial imagery and information from the site lessee, recently installed drain tile may be significantly reducing site hydrology.	
Remarks:	

**VEGETATION Continued** – Use scientific names of plants.

 Sampling Point: DP1

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata:
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
			=Total Cover	
<u>Sapling/Shrub Stratum</u>				
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
			=Total Cover	
<u>Herb Stratum</u>				
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
			22 =Total Cover	
<u>Woody Vine Stratum</u>				
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
			=Total Cover	

Remarks: (Include photo numbers here or on a separate sheet.)

<b>U.S. Army Corps of Engineers</b> <b>WETLAND DETERMINATION DATA SHEET – Midwest Region</b> See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R	<b>OMB Control #: 0710-0024, Exp: 9/30/2027</b> <b>Requirement Control Symbol EXEMPT:</b> <b>(Authority: AR 335-15, paragraph 5-2a)</b>
--	---

Project/Site: <u>Bluestem Solar</u>	City/County: <u>Sugar Grove / Kane</u>	Sampling Date: <u>6-11-2025</u>
Applicant/Owner: <u>Cleanfield Power</u>	State: <u>IL</u>	Sampling Point: <u>DP2</u>
Investigator(s): <u>Aric Larson, Nick Fritz (Terracon)</u>	Section, Township, Range: <u>26, 38N, 7E</u>	
Landform (hillside, terrace, etc.): <u>Slope</u>	Local relief (concave, convex, none): <u>None</u>	
Slope (%): <u>5%</u> Lat: <u>41.744484</u>	Long: <u>-88.406908</u>	Datum: <u>NAD83</u>
Soil Map Unit Name: <u>60C2: La Rose loam, 5-10 percent slopes, eroded</u>		NWI classification: <u>None</u>
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If no, explain in Remarks.)		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? Are "Normal Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If needed, explain any answers in Remarks.)		

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Emergent wetland fringe surrounding artificial pond.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1. _____																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: _____)				<b>Prevalence Index worksheet:</b>  <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>160</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.88</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>85</u> (A)	<u>160</u> (B)	Prevalence Index = B/A = <u>1.88</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>10</u>	x 1 = <u>10</u>																				
FACW species <u>75</u>	x 2 = <u>150</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>85</u> (A)	<u>160</u> (B)																				
Prevalence Index = B/A = <u>1.88</u>																					
1. _____																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Indicators:</b>  <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Phragmites australis</u>		<u>50</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Phalaris arundinacea</u>		<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Carex comosa</u>		<u>10</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Verbena hastata</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. _____																					
6. _____																					
7. _____																					
8. _____																					
9. _____																					
10. _____																					
		<u>85</u>	=Total Cover																		
Woody Vine Stratum	(Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																
1. _____																					
2. _____																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) Photos 12-15 in photo log of delineation report.																					

## SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 3/1	100					Loamy/Clayey	
10-24	2.5Y 4/2	95	2.5Y 5/4	5	C	M	Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Stratified Layers (A5)	
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Iron Monosulfide (A18)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

## HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 6 Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 0 (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION Continued** – Use scientific names of plants.

 Sampling Point: DP2

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	_____ =Total Cover			
<u>Sapling/Shrub Stratum</u>				
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	_____ =Total Cover			
<u>Herb Stratum</u>				
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
	85 _____ =Total Cover			
<u>Woody Vine Stratum</u>				
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ =Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)



## SOIL

Sampling Point: DP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 3/2	100					Loamy/Clayey	
10-20	7.5YR 4/4	100					Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Stratified Layers (A5)	
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Iron Monosulfide (A18)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
Remarks:	

## HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION Continued** – Use scientific names of plants.

 Sampling Point: DP3

<u>Tree Stratum</u>	Absolute % Cover	Dominant Species?	Indicator Status	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody Vine</b> – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	_____ =Total Cover			
<u>Sapling/Shrub Stratum</u>				
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	_____ =Total Cover			
<u>Herb Stratum</u>				
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
	95 _____ =Total Cover			
<u>Woody Vine Stratum</u>				
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ =Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)

## **APPENDIX E**

### **Site Photographs**



Photo 1: View from DP1 looking north.



Photo 2: View from DP1 looking east.



Photo 3: View from DP1 looking south.



Photo 4: View from DP1 looking west.





Photo 5: View from RPP1 looking east.



Photo 6: View from RPP1 looking west.



Photo 7: View from RPP2, (Pond P-A).



Photo 8: View from RPP3 looking north.



Photo 9: View from RPP3 looking east.



Photo 10: View from RPP3 looking south.



Photo 11: View from RPP3 looking west.



Photo 12: View from DP2 looking north (wetland W-A).





Photo 13: View from DP2 looking east (wetland W-A).



Photo 14: View from DP2 looking south (wetland W-A).



Photo 15: View from DP2 looking west (wetland W-A).



Photo 16: View from DP3 looking north.



Photo 17: View from DP3 looking east.



Photo 18: View from DP3 looking south.



Photo 19: View from DP3 looking west.

## **APPENDIX F**

### **Credentials**



# Aric A. Larson

## SENIOR SCIENTIST / ENVIRONMENTAL PLANNING

### PROFESSIONAL EXPERIENCE

Mr. Larson has over 20 years of experience as a natural resource professional in both state government and as a private consultant; specializing in the assessment of ecosystems and natural resource management. His expertise includes wetland delineation, natural resources permitting, environmental due diligence, NEPA assessments, compliance monitoring, preliminary site evaluations, wildlife surveys, listed species permitting, and project management. Project experience includes school sites, hospitals, rail corridors and bridges, roads, natural gas pipelines, transmission corridors, residential development, solar farms, military installations, commercial projects, as well as public conservation lands.

### PROJECT EXPERIENCE

- **Environmental Planning Due Diligence Services – Cook County, Illinois**  
Project manager and Senior Ecologist responsible for coordinating and managing all aspects of environmental planning due diligence services for a proposed data center project in Hoffman Estates, Illinois. Services included wetland delineation, preliminary threatened and endangered species assessment, desktop cultural resources assessment, and preliminary protected tree inventory. Conducted daily project status briefings with the client developer to identify risks and constraints ahead of an established “go / no go” deadline. Client: Navix Engineering
- **Environmental Planning Services – Eau Claire County, Wisconsin**  
Project manager and Senior Ecologist responsible for coordinating and carrying out all aspects of environmental planning services for a proposed wholesale warehouse project near Eau Claire, Wisconsin. Services included wetland delineation, preliminary threatened and endangered species assessment, and wild lupine survey to determine presence of habitat for the Federally endangered Karner blue butterfly. Client: Confidential
- **Desktop Constraints Analysis – Multiple Solar Sites in Illinois and Missouri**  
Project manager and Senior Ecologist responsible for coordinating and conducting desktop constraints analysis studies for proposed solar developments in Calhoun and Williamson Counties, Illinois, and Mississippi County Missouri. The analysis included the review of key elements to assist in addressing the suitability of the sites for development as a photovoltaic (PV) energy asset, and provide a preliminary baseline for project information determination. Elements assessed included land use, floodplains, topography, wetlands and jurisdictional waters, threatened and endangered species, hazardous materials, federal, state, and local regulatory requirements, cultural resources, and airspace restrictions.  
Client: Heelstone Renewable Energy, LLC
- **City of Tallahassee NPDES MS4 Surface Water Monitoring – Leon County, Florida**  
Project manager and Senior Ecologist responsible for coordinating and carrying out all aspects of bi-monthly surface water sampling and monitoring activities for the City of Tallahassee’s MS4 Stormwater Program. These activities are required for adhering to compliance conditions



### EDUCATION

Bachelor of Arts  
Biology  
Ripon College, Ripon, WI, 1999

**YEARS WITH TERRACON: 5**  
**YEARS WITH OTHER FIRMS: 17**

### CERTIFICATIONS

Licensed Environmental  
Professional (LEP #373)

Qualified Stormwater  
Management Inspector (#13378)

### ADDITIONAL TRAINING

Archaeological Resource  
Management for Land Managers,  
2017

Florida Master Naturalist, 2010

USACE Wetland Delineation and  
Management Training, 2007

Stream Condition Index and  
Stream Habitat Assessment, 2003

### AFFILIATIONS

International Society for Technical  
and Environmental Professionals  
(INSTEP)

Florida Energy Pipeline  
Association (FEPA) Member

*\* Work performed prior to joining  
Terracon.*

## Aric A. Larson (continued)

associated with the City's NPDES MS4 permit. Bi-monthly activities include collection of surface water samples and field analyte data. Client: City of Tallahassee

- **Proposed Solar Farm Environmental Due Diligence – North and Central Florida**

Senior ecologist for numerous proposed solar projects located in north and central Florida (Bay, Gulf, Hamilton, Columbia, Gilchrist, Suwannee, Jefferson, Manatee, and Hardee Counties) ranging from 800 to 1,600 acres in size. Scope of work includes wetland delineation, listed species assessments, identification of critical environmental issues, Phase I Environmental Site Assessments (ESAs), and permitting support. Client: Duke Energy

- **Environmental Baseline Surveys in Real Property Transactions – Tyndall AFB, Florida**

Project manager and environmental professional responsible for implementing Air Force Policy Directive (AFPD) 32-70, as it applies to the responsibilities and procedures for an Environmental Baseline Survey (EBS). Scope of services included Phase I ESA meeting "All appropriate inquiries" pursuant to 40 CFR Part 312 and ASTM E1527-13; assessment of potential presence of Cultural Resources and need for consultation; and assessment for presence of natural resources. Client: Consolidated Communications

- **Natural Gas Pipeline Uprate – Natural Resources Support – Northeast Florida**

Senior ecologist and project manager overseeing natural resources support services for an 18.5 mile natural gas pipeline uprate project located in Duval and Nassau Counties. The scope of services includes wetland delineation and permitting with US Army Corps of Engineers (USACE) and Florida Department of Environmental Protection (FDEP) as well as local government approvals, listed species assessment and consultation with US Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FWC), desktop assessment for cultural resources and coordination with the State Historic Preservation Office (SHPO), National Pollution Discharge Elimination System (NPDES) permitting support, and development and implementation of a stormwater pollution prevention plan (SWPPP). Client: Magnolia River

- **Telecommunications Limited Environmental Assessments and NEPA Services – North Florida**

Project manager and senior ecologist on multiple projects for a large national telecommunications provider, responsible for the oversight of Limited Environmental Site Assessments at numerous proposed 5G small cell locations located throughout north Florida. Many of these locations have been prioritized for local emergency operations centers in response to Hurricane Michael and require highly expedited deliverable submittals. Scope of work includes site reconnaissance in accordance with 40 CFR Part 312 and ASTM E1528-14e1, and regulatory database review in accordance with All Appropriate Inquiries (AAI) regulations and ASTM E1527-13. Scope of work also includes analysis of constraints associated with wetlands and other surface waters, as well as threatened and endangered species constraints. Coordinated all aspects of the FCC NEPA / Section 106 process as applicable for each small cell location. Client: Verizon

- **Everglades Restoration Permitting – Miami-Dade, Broward, Palm Beach, and Monroe Counties, Florida \***

Served as the Environmental Manager for the FDEP Office of Ecosystem Projects, responsible for implementing permitting and program support activities for the FDEP in accordance with Chapters 403 and 373 F.S. to implement the Comprehensive Everglades Restoration Plan (CERP), Northern Everglades and Estuaries Protection Program (NEEPP), and the Everglades Forever Act (EFA). Evaluate potential environmental impacts and effects on water quality and surrounding ecosystems resulting from the construction and operations of large-scale civil works projects including reservoirs, impoundments, and stormwater treatment areas (STAs) associated with Everglades restoration. Key customers included the South Florida Water Management District, U.S. Army Corps of Engineers, National Park Service, and Florida Department of Transportation. Issued permits for high profile projects including the C-43 Reservoir, C-44 Reservoir and STA, Tamiami Trail Bridge Projects, and S-333N Expansion Project.

# Kelsey Retich

## Project Scientist, Environmental Planning

### PROFESSIONAL EXPERIENCE

Ms. Retich is a Project Scientist in the Environmental Planning Group for Terracon's Glendale Heights, Illinois office. She has over ten years of experience in natural resources with an emphasis in wildlife and conservation biology.

As a threatened and endangered (T&E) species biologist, Kelsey shares her expertise in National Environmental Policy Act (NEPA) analysis and biological evaluations and assessments ranging from large-scale vegetation management Environmental Assessments (EAs) to small projects under Categorical Exclusions (CEs). She is well-versed in regulatory compliance and has extensive experience with Section 7 consultation under the Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA), and Migratory Bird Treaty Act (MBTA).

### SELECT PROJECT EXPERIENCE

#### Conexon Fiber Optics Project, Arizona (2025)

Kelsey is serving as the lead biologist for this large-scale fiber optics installation project occurring across multiple land jurisdictions including United States Forest Service (USFS), Bureau of Land Management, State Lands, Private Land, etc. She is leading coordination efforts with the USFS and required biological surveys and analysis.

#### Telecommunications Tower Avian Surveys and Reports for Verizon Wireless (2025)

Kelsey has provided avian expertise in organizing field surveys for nesting birds in telecommunication towers, identifying species present, nesting status, and overall reporting for telecommunication tower maintenance projects.

#### Caltrans Restoration Project, California (2025)

Kelsey served as a biological monitor conducting California Tiger Salamander burrow excavations under a designated biologist for a Caltrans restoration project.

#### T&E Habitat Assessments for Solar Array Projects (Illinois and Minnesota) (2025)

Experience writing numerous T&E habitat assessment reports for solar array projects occurring in midwestern states.

#### \*Social and Ecological Resilience Across the Landscape 2.0 (SERAL 2.0) EIS, Stanislaus National Forest, California (2022-2024)

Kelsey was the lead wildlife biologist on the project and provided technical expertise for the SERAL 2.0 large landscape project. She wrote the biological assessment (BA) . Providing research, technical writing, and species effects determinations. The BA was prepared in accordance with legal requirements pursuant to Section 7 of the Endangered Species Act, the Migratory Bird Treaty

### EDUCATION

Bachelor of Science, Biology with an Emphasis in Wildlife/Natural Resource Management Minor, Grand Valley State University, Allendale, MI, 2014

### WORK HISTORY

Terracon, Project Scientist, Environmental Planning, 2025-Present

United States Department of Agriculture (USDA), United States Forest Service (USFS), Stanislaus National Forest, CA 2022 - 2025

USDA, USFS, Colville National Forest, WA 2017 -2022

USDA, USFS, Umatilla National Forest, OR 2020-2021

Department of the Interior (DOI), Bureau of Land Management (BLM), Las Vegas Field Office and Red Rock National Conservation Area, NV 2016-2017

USDA, USFS, San Bernardino National Forest, CA 2015

DOI, Bureau of Reclamation (BOR) Socorro, NM 2014-2015

USDA, USFS, Huron-Manistee National Forest, MI 2013

Act, the Bald and Golden Eagle Protection Act, and applicable agency guidance documents. Work on this project also included California spotted owl, American goshawk, and great gray owl survey.

**\*Stanislaus Forest-wide Hazard Tree Mitigation EA, Stanislaus National Forest, California (2023-2025)**

Ms. Retich was the lead wildlife biologist on the project and provided technical expertise for the Forest-wide Hazard Tree Mitigation Project. She wrote the biological assessment (BA). Providing research, technical writing, and species effects determinations. The BA was prepared in accordance with legal requirements pursuant to Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and applicable agency guidance documents. California spotted owl, American goshawk, great gray Owl, and mesocarnivore camera survey.

**\*Dollar Mountain Vegetation Management Project EA, Colville National Forest, Washington (2019-2022)**

Kelsey was the lead wildlife biologist on the project and provided technical expertise for the large landscape project. She wrote the biological assessment (BA). Providing research, technical writing, and species effects determinations. The BA was prepared in accordance with legal requirements pursuant to Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and applicable agency guidance documents. In addition, she managed technicians, provided training and guidance to the technicians and performed field work for the project. Field work included survey for Canada lynx, American goshawk, and acoustic bat survey.

**\*Bulldog Vegetation Management Project EA, Colville National Forest, Washington (2018-2021)**

Kelsey was the lead wildlife biologist on the project and provided technical expertise for the large landscape project. She wrote the biological assessment (BA). Providing research, technical writing, and species effects determinations. The BA was prepared in accordance with legal requirements pursuant to Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and applicable agency guidance documents. In addition, she managed technicians, provided training and guidance to the technicians and performed field work for the project. Field work included survey for Canada lynx, American goshawk, and acoustic bat survey.

**\*Ellis Vegetation Management Project EIS, Umatilla National Forest, Oregon (2020-2021)**

Ms. Retich assisted with the Ellis project. She contributed to the biological assessment (BA) by providing research, technical writing, and species effects determinations. The BA was prepared in accordance with legal requirements pursuant to Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and applicable agency guidance documents.

**\*Sanpoil Vegetation Management Project EA, Colville National Forest, Washington (2017-2020)**

Kelsey was the lead wildlife biologist on the project and provided technical expertise for the large landscape project. She wrote the biological assessment (BA) . Providing research, technical writing, and species effects determinations. The BA was prepared in accordance with legal requirements pursuant to Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and applicable agency guidance documents. In addition, she managed technicians, provided training and guidance to the technicians and performed field work for the project. Field work included survey for Canada lynx, American goshawk, and acoustic bat survey.

**\*Experience Prior to Terracon Employment**

## **APPENDIX G**

### **Common Acronyms**



## COMMON ACRONYMS

ADID	Advanced Identification of Wetlands Program
AJD	Approved Jurisdictional Determination
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FQI	Floristic Quality Index
GPS	Global Positioning Systems
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
NHI	Natural Heritage Inventory
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate Wetland
OHWM	Ordinary High-Water Mark
PJD	Preliminary Jurisdictional Determination
UPL	Obligate Upland

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
WOTUS	Waters of the U.S.