

# **ATTACHMENT M**

Wetlands Investigation Report



**Stantec Consulting Services Inc.**  
500 N. Broadway, Suite 1425, St. Louis, MO 63102

September 4, 2024  
File: 193807004

**Attention: Ms. Allie Loschen**  
Nexamp, Inc.  
101 North Wacker Drive, Suite 200  
Chicago, Illinois 60606  
Ph. 317-898-2970

**Reference: Dundee Renewables Project – No Wetland and Waterway Impact Summary**

Dear Ms. Loschen,

Stantec Consulting Services Inc. (Stantec) completed a wetland and waterway delineation of the Dundee Renewables site (the "Project") on behalf of Nexamp, Inc., on May 22, 2024. The Study Area encompasses an approximate 19 acres and located in Section 6, Township 42 North, Range 8 East, Kane County, Illinois. Two wetlands totaling 1.64 acres were identified and delineated within the Study Area (Attachment A).

At this time, a formal Jurisdictional Determination has not been obtained from the U.S. Army Corps of Engineers (USACE). Based on our review of the current site plans (Appendix B), it appears that the identified wetlands will be completely avoided by project development and impacts to WOTUS as a result of the Project will not occur. Therefore, no wetland related permits from the USACE or State should be required for the project.

Further details on these areas and the general site conditions can be found within Stantec's Wetland Delineation Report, dated June 20, 2024, and enclosed as Attachment A. A copy of the current site plan is also enclosed as Attachment B. Please contact me if you have any questions regarding this assessment.

Regards,  
**Stantec Consulting Services Inc.**

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Attachments: Attachment A – Wetland Delineation Report  
Attachment B – Current Site Design



September 3, 2024

**Reference: Dundee Renewables Project - No Wetland & Waterway Impact Summary**

**ATTACHMENT A – WETLAND DELINEATION REPORT**



## **Wetland Delineation Report**

Dundee Renewables  
Dundee, Kane County, Illinois  
Stantec Project #:193807004

Lead Delineator: Shane Murphy

July 8, 2024

Prepared for:

Dundee Renewables, LLC

Prepared by:

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### 1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed a wetland delineation of the Dundee Renewables Solar Project (the "Study Area") on behalf of Dundee Renewables, LLC. The wetland delineation was led by Shane Murphy of Stantec, on May 22, 2024.

The Study Area is approximately 19.15 acres and located in Section 6, Township 42 North, Range 8 East, Kane County, Illinois. Specifically, the Study Area is located immediately adjacent to the west side of Boyer Road, approximately 660 feet north of Huntley Rd (Appendix B, Figure 1). The purpose and objective of the wetland delineation was to identify the extent and spatial arrangement of wetlands within the Study Area.

Wetland and waterways may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the Illinois Environmental Protection Agency (IEPA), and local regulation under jurisdiction of the county, town, city, or village. Stantec recommends this report be submitted to local authorities, the IEPA, and USACE for final jurisdictional review and concurrence.

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## 2.0 METHODS

### 2.1 WETLANDS

Wetland delineations were based on the criteria and methods outlined in the *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplements to the *Corps of Engineers Wetland Delineation Manual*.

The wetland delineation involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping, and aerial photography.

On-site wetland delineation were made using the three criteria (vegetation, soil, and hydrology) and technical approach defined in the USACE 1987 Manual and applicable Regional Supplement. According to procedures described in the 1987 Manual and applicable Regional Supplement, areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands.

As recent weather patterns influence the visibility and presence of some wetland hydrology indicators, the antecedent precipitation in the three months leading up to the field investigation was reviewed. The current year's precipitation data were compared to the most recent long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

A review of U.S. Department of Agriculture Farm Service Agency (FSA) National Agriculture Imagery Program (NAIP) aerial imagery was conducted for the Study Area to assist in the wetland delineation because farmed areas with mapped poorly drained or somewhat poorly drained soils are present within the Study Area. The aerial imagery was reviewed for the appearance of wetland signatures within the farmed areas. A wetland signature is field evidence, recorded by aerial imagery, of ponding, flooding, or impacts of saturation for sufficient duration, which meets wetland hydrology and possibly wetland vegetation criteria. Wetland signatures may vary based on the type and seasonal date of the aerial imagery. Signatures visible on FSA annual aerial slides in cropland for Illinois have been categorized as follows (USDA, NRCS 1998):

1. NWI – area is labeled as a wetland on the National Wetland Inventory
2. Hydrophytic vegetation (seen as a different color of green)
3. Surface water (usually black or white)
4. Drowned-out crops (bare soil or mud flats)
5. Differences in vegetation (within a field) due to different planting dates
6. Isolated areas that are not farmed with rest of the field (includes areas not planted due to wetness at times of planting)
7. Inclusion of wet areas in set-aside program if other signs of wetness are evident
8. Patches of greener vegetation (crop) during years of below normal precipitation
9. Crop stress (yellow) or sparse canopy coverage of crop (light green), that has been in stress due to wetness.

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As part of the imagery review, the climatic condition of each aerial image was determined by comparing the antecedent precipitation in the three months leading up to the capture date of the image to the most recent long-term (30-year) precipitation averages using a WETS analysis for each imagery year. This comparison was made to determine if the climatic condition for a given year was normal, wet, or dry.

Additionally, the presence of mapped poorly and somewhat poorly drained soils, NWI mapping, and topography within the Study Area was reviewed in conjunction with an analysis of available aerial imagery for wetland signatures in these areas. Areas within agricultural fields are typically identified as wetland if they contain hydric soils and 50% or more of the aerial images taken in the five (or more) most recent normal precipitation years show any of the wetland signatures listed above.

The wetland boundary and sampling points were identified and surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software.

## 2.2 WATERWAYS

If observed, the Ordinary High Water Mark (OHWM) of waters of the U.S. were identified, surveyed with GPS, and mapped using GIS software.

## 2.3 FLORISTIC QUALITY ASSESSMENT

A Floristic Quality Assessment (FQA) was performed by completing meander surveys for species present within the wetland communities identified within the Study Area and applying an assessment technique that was developed by Swink and Wilhelm (1994) for rapid evaluation of plant communities. This method is based on calculating a mean Coefficient of Conservatism value (C) and a Floristic Quality Index value (FQI) for each wetland plant community. A state or region assigns each native species a C value which ranges from 0 to 10 and represents an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition. A C-value of 0 is applied to a species that demonstrates little fidelity to any remnant natural community, whereas a C-value of 10 is applied to plants that are almost always restricted to pre-settlement remnants. Values lower than 4 generally represent weedy species and values closer to 10 represent more “conservative”, rare, or disturbance intolerant species (Wilhelm and Rericha, 2017).

FQI values were calculated using the following formula:

$$FQI = \text{Mean } C (\sqrt{N})$$

C= Coefficient of Conservatism  
N=species richness (Identifiable Native and Non-native)

The FQI has traditionally been calculated using C values and species richness of only native species. However, more recently, scientists have been including the non-native species in the calculations, giving all non-native species a C value of “0”. This methodology better reflects the actual integrity of a site, particularly in highly disturbed conditions dominated by non-native taxa. Disregarding the non-native species can often give sites falsely elevated mean C and FQI values that do not reflect the presence or abundance of these less desirable species, which can influence the overall floristic quality of an area.



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### 3.0 RESULTS

#### 3.1 SITE DESCRIPTION

The Study Area is comprised of agricultural cropland, emergent wetland, and wooded margins along the edges of the cultivated crop field. The regularly cropped areas within the Study Area had been recently cultivated at the time of the field investigation. The terrain within the Study Area is gently rolling with topographic highs of approximately 916 feet above mean sea level (msl) in the northeastern and southwestern portions to topographic lows of approximately 900 feet msl within the southwest and northeastern portions. The Study Area is immediately adjacent to Boyer Road to the east and otherwise bordered by cropland and rural residences.

The National Wetland Inventory (NWI) map identifies one emergent wetland (PEM1C) within the southwestern portion of the Study Area that correlates with the field-delineated wetland, W1(Appendix A, Figures 3 and 4).

Soils present within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located within areas mapped as hydric or partially hydric soils (Appendix A, Figure 2).

**Table 1. Summary of Soils Identified within the Study Area**

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
223B: Varna silt loam, 2 to 4 percent slopes	Varna	85-100	Ground moraines, end moraines	No
	Ashkum-Drained	0-9	Ground moraines, end moraines	Yes
	Urban land	0-7	Ground moraines	No
	Orthents, clayey	0-7	Ground moraines	No
223C2: Varna silt loam, 4 to 6 percent slopes, eroded	Varna-Eroded	85-100	Ground moraines, end moraines	No
	Ashkum-Drained	0-9	Ground moraines, end moraines	Yes
	Urban land	0-7	Ground moraines	No
	Orthents, clayey	0-7	Ground moraines	No
232A: Ashkum silty clay loam, 0 to 2 percent slopes	Ashkum-Drained	85-100	Ground moraines, end moraines	Yes
	Peotone-Drained	0-9	Depressions on ground moraines	Yes
	Orthents, clayey	0-3	Lake plains, ground moraines	No
	Urban land	0-3	Ground moraines	No
356A: Elpaso silty clay loam, 0 to 2 percent slopes	Elpaso-Drained	88-100	Till plains, ground moraines	Yes

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	Harpster-Drained	0-7	Depressions on till plains	Yes
	Peotone-Drained	0-5	Depressions on till plains	Yes
531C2: Markham silt loam, 4 to 6 percent slopes, eroded	Markham-Eroded	85-100	Ground moraines, end moraines	No
	Ashkum-Drained	0-9	Ground moraines, end moraines	Yes
	Urban land	0-3	Ground moraines	No
	Orthents, clayey	0-3	Ground moraines	No
656B: Octagon silt loam, 2 to 4 percent slopes	Octagon	92	Ground moraines, end moraines	No
	Elpaso	8	Ground moraines, end moraines	Yes

### 3.2 CLIMATIC CONDITIONS

Average precipitation for the investigation area was obtained from the Elgin Water, IL WETS weather station and used for the WETS analysis. A total of 10.77 inches of precipitation occurred over and the three-month period leading up to the investigation in May of 2024, compared to the long-term average of 7.42 inches. Based on the WETS analysis field conditions were within of the normal range (Appendix B). The Study Area received 0.21 inches of precipitation between May 13, 2024 and May 22, 2024, with the most recent precipitation event occurring on May 17 with 0.03 inches. Based on the results of the WETS analysis and only mild precipitation occurring prior to the field investigation, antecedent climatic conditions were determined to be normal at this location at the time of the field investigation. Primary indicators of wetland hydrology, Saturation and Algal Mat, were observed within wetland areas, as well as the secondary indicator, Drainage Patterns. These observations are consistent with the effects of recent precipitation and the lack of such indicators in the adjacent uplands reflect normal hydrologic conditions.

### 3.3 WETLANDS

Two wetlands were identified and delineated within the Study Area. The wetland boundary and sample point locations are shown on Figure 4 (Appendix A). Wetland determination data forms were completed for nine sample points through the wetlands and adjacent uplands and are included in Appendix C. Photographs of the wetlands and adjacent lands are included in Appendix D. The wetlands are described in detail in the following sections.

#### 3.3.1 Wetland 1

Wetland 1 (W1) is an emergent wetland community located in an isolated depression in the cultivated crop field. The wetland totals 0.85 acre and appeared consistently uncropped and farmed around during the aerial review.

##### *Vegetation*

The dominant plant species identified at sample point W1-1w completed within the wetland consisted of hybrid cattail (*Typha X glauca*, OBL). Other common species identified in the wetland are listed on the data

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forms included in Appendix B. Dominant species within the wetland were comprised entirely of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion. W1 had a Total FQI of 7.9. The complete species inventory is included in Table E-1 of Appendix E.

### *Hydrology*

The wetland is located within an isolated depression that appears to be seasonally saturated during normal climate conditions and inundated during wetter than normal climate conditions. Inundation Visible on Aerial Imagery (B7) and Oxidized Rhizospheres on Living Roots (C3) were observed as a primary indicators of wetland hydrology. Secondary indicators of wetland hydrology observed included Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9), Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

### *Soils*

Soils within the wetland are mapped by the NRCS as Elpaso silty clay loam (356A) (Figure 2, Appendix A). The soils observed at the sample points were generally consistent with the Elpaso series characteristics, however the Elpaso series typically consists of a thick, dark soil surface layer that extends down to 21 inches in depth. The soil profile observed at sample point W1-1w had a distinct depleted layer observed at 12 inches below the soil surface. Field indicators of hydric soils identified consisted of A12-Thick Dark Surface and F-6 Redox Dark Surface, A11-Depleted Below Dark Surface, and F3-Depleted Matrix. Therefore, the hydric soil criterion was satisfied.

## 3.3.2 Wetland 2

Wetland 2 (W2) is an emergent wetland community located within a depression along the northern boundary of the Study Area. The wetland totals 0.79 acre and appears to collect surface water run-off from the surrounding crop field. The wetland is hydrologically connected to a wetland area beyond the Study Area to the north via a culvert under a driveway adjacent to the Study Area boundary.

### *Vegetation*

Dominant plant species identified at sample points completed within W2 consist of hybrid cattail (OBL), scouring rush (*Equisetum hyemale*, FAC), and common reed (*Phragmites australis*, FACW) throughout, as well as eastern cottonwood trees (*Populus deltoides*, FAC) and sandbar willow shrubs (*Salix interior*, FACW) in the eastern portion. Other common species identified in the wetland are listed on the data forms included in Appendix C. The dominant species within the wetland were comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion. Wetland 2 had a Total FQI of 5.2. The complete species inventory is included in Table E-1 of Appendix E.

### *Hydrology*

The wetland is located within a depression that appears to be perennially saturated and seasonally inundated. Primary wetland hydrology indicators observed at the sample points collected within W2 included Saturation (A3), Algal Mat or Crust (B4), and Inundation Visible on Aerial Imagery (B7). Secondary indicators of wetland hydrology observed included Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9), Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

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### Soils

Soils within the wetland are mapped by the NRCS as Ashkum silty clay loam (232A) (Figure 2, Appendix A). The soils observed at the sample points collected within W2 were generally consistent with the Ashkum series characteristics, and Field indicators of hydric soil consisted of NRCS field Indicators F3-Depleted Matrix and F6-Redox Dark Surface. Therefore, the hydric soil criterion was satisfied.

### 3.3.3 Wetland Boundary

The wetland boundary was generally determined based on distinct differences in vegetation, hydrology, soils, and topography consisting of the following: 1) Transition from an emergent community dominated by hybrid cattail to a cultivated crop field absent of vegetation; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from soils exhibiting hydric soil indicators to soils lacking indicators of hydric soil conditions; and 4) location of crop stress signatures from the off-site aerial imagery analysis consistent with observations made in the field.. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break.

## 3.4 OFF-SITE AERIAL IMAGERY REVIEW

A review of aerial imagery covering the ten most recent years available from the NAIP was completed for the active agricultural field to determine if there were any areas of potential wetland signatures (Appendix F). Four normal, three drier than normal, and three wetter than normal years were used to calculate the percentage of years with wetness signatures for each potential wetland area. Seven areas (Areas A-G) were identified and subsequently investigated in the field.

W1 and W2 correlate with Areas A and B, respectively, where both wetlands appeared to be consistently farmed around.

Sample point W2-1u was collected within Area C, immediately east of W2. A culvert on Boyer Road to the east of this location appears to outlet surface water run off across this area into W2. No other indicators of wetland hydrology were observed, therefore the wetland hydrology parameter was not satisfied. The soil profile also did not exhibit hydric soil indicators, and thus the area was determined to be upland.

Areas D and E are subtle depressions on sloping terrain. The soils observed at these locations (sample points UPL-01 and UPL-02) did not meet hydric soil criteria, nor were any other indicators of wetland hydrology observed. Therefore, the upland determination is supported.

Sample point UPL-04 was collected within Area F, which is located within a subtle swale between W1 and W2. While this area exhibited potential wetland signatures in 40% of the imagery reviewed, no other indicators of wetland hydrology or hydric soils were documented, resulting in an upland determination. Sample point W1-1u was collected within Area G on the slope above W1. While the soils at this location met NRCS hydric soil indicator F6 – Redox Dark Surface, no other indicators of wetland hydrology were observed. The signatures identified in the aerial review appeared to be the result of overland drainage into W1, therefore this area was determined to be upland.

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### 3.5 UPLANDS

Upland within the Study Area primarily consisted of higher topographical areas within the crop field and wooded margins along the edges of the cultivated area.

Dominant plant species identified along the edges of the crop field generally consisted of smooth brome (*Bromus inermis*, FACU), boxelder (*Acer negundo*, FAC), black cherry (*Prunus serotina*, FACU), silver maple (*Acer saccharinum*, FACW), Amur honeysuckle (*Lonicera maackii*, UPL), and white mulberry (*Morus alba*, FAC). Sample point UPL-03 was collected in a low area on the southern, north-facing slope along the Study Area boundary. The area was comprised of a mesic community dominated by boxelder trees, elderberry shrubs (*Sambucus nigra*, FACW) reed canary grass (*Phalaris arundinaceus*, FACW), stinging nettle (*Urtica dioica*, FAC) and smooth brome in the herb layer. While the plant community at this location passed the dominance test for hydrophytic vegetation and met one secondary indicator for wetland hydrology, D5 - Fac-Neutral test, the soil profile lacked hydric soil indicators sufficient to meet hydric soil criteria and other indicators of wetland hydrology were absent. Therefore, the findings resulted in an upland determination.

### 3.6 WATERWAYS

No waterways were observed within the Study Area. However, the NHD layer identifies one open water body that correlates with W1 and the wetland area depicted in the NWI mapping.

### 3.7 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands within the Study Area. However, there may be other regulated features within the Study Area, including, but not limited to, historical or archeological features, endangered or threatened species, navigable waters, shoreland zones, and/or floodplains, etc. Federal, state, and local units of government and regional planning organizations may have regulatory authority to control or restrict land uses within or in close proximity to these features.

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### 4.0 CONCLUSION

Stantec performed a wetland delineation of the Dundee Renewables Solar Project on behalf of Dundee Renewables, LLC located in Section 6, Township 42 North, Range 8 East, Kane County, Illinois. The purpose and objective of the wetland delineation was to identify wetlands within the Study Area.

Two wetlands were identified and delineated within the Study Area in accordance with state and federal guidelines and were subsequently surveyed with GPS and mapped using GIS software. There was a combined total of 1.64 acres of wetlands within the Study Area. Wetlands were composed of emergent wetland communities. Adjacent uplands were composed of higher topographical areas within the crop field and wooded margins along the crop field edges.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of USACE, state regulation under the jurisdiction of the IDNR, and local regulation under jurisdiction of the county, town, city, or village. Stantec recommends this report be submitted to local authorities, the IDNR, and USACE for final jurisdictional review and concurrence.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work to comply with applicable regulations.

The information provided by Stantec regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present within the Study Area at the time of the fieldwork. The delineation was performed by experienced and qualified professionals using standard practices and sound professional judgment. The ultimate decision on wetland boundaries rests with the USACE and, in some cases, the IDNR or a local unit of government. As a result, there may be adjustments to boundaries based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to recent precipitation patterns and the season of the year. In addition, the physical characteristics of the Study Area can change over time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands within the Study Area.

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## FIGURES

June 20, 2024

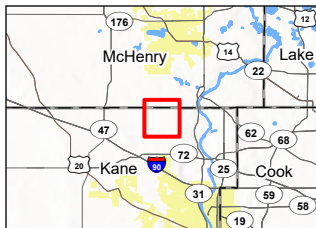
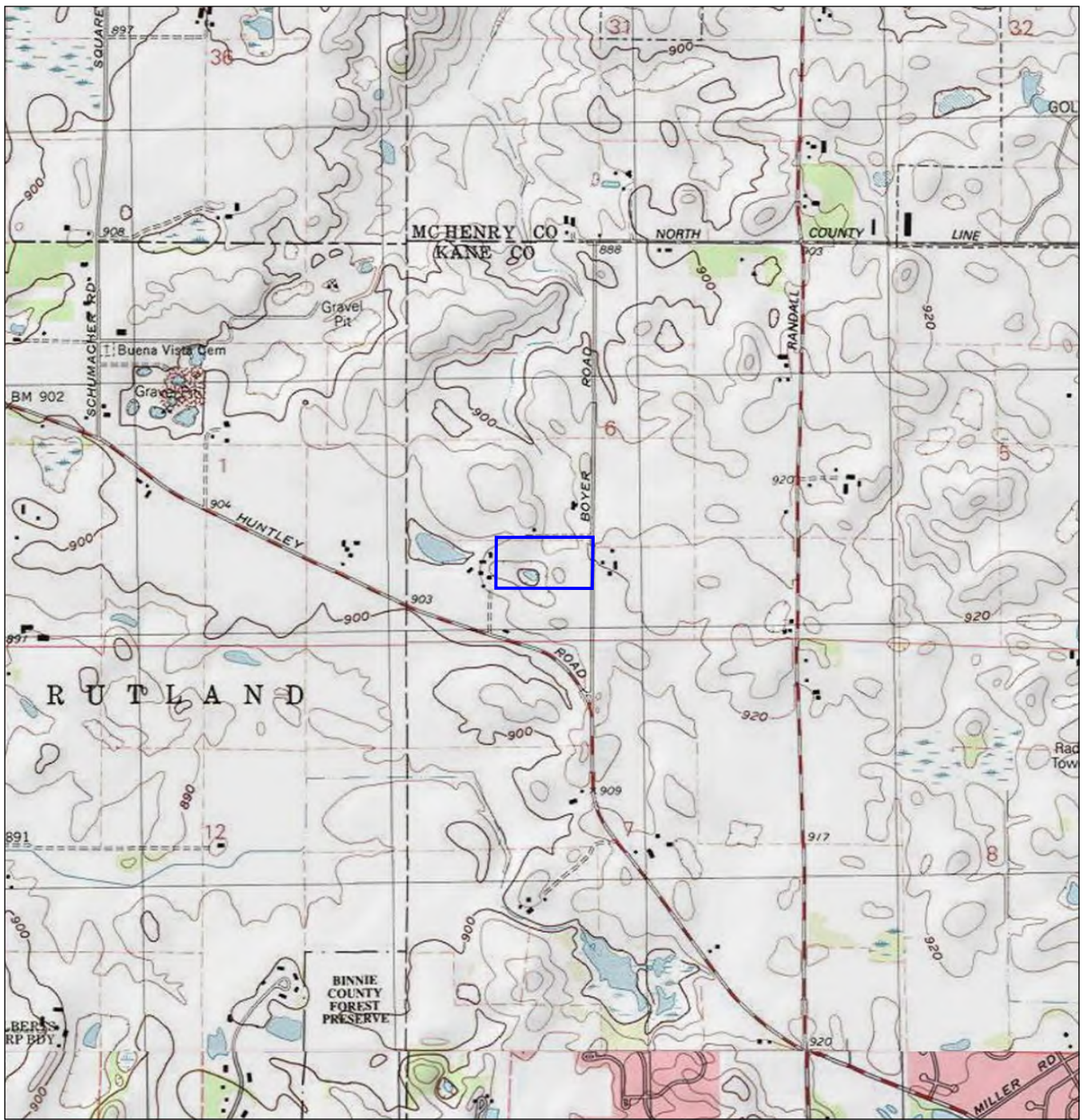
## Appendix A FIGURES

Figure 1. Project Location and Topography

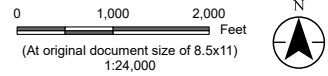
Figure 2. NRCS Soil Survey Data – Hydric Ratings

Figure 3. National Wetlands Inventory Data

Figure 4. Field Collected Data



**Legend**  
 Approximate Project Boundary



*Project Location* T42N, R8E, S6 Kane Co., IL  
*Prepared by* DBB on 2024-05-16  
 TR by JDP on 2024-05-29  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807004

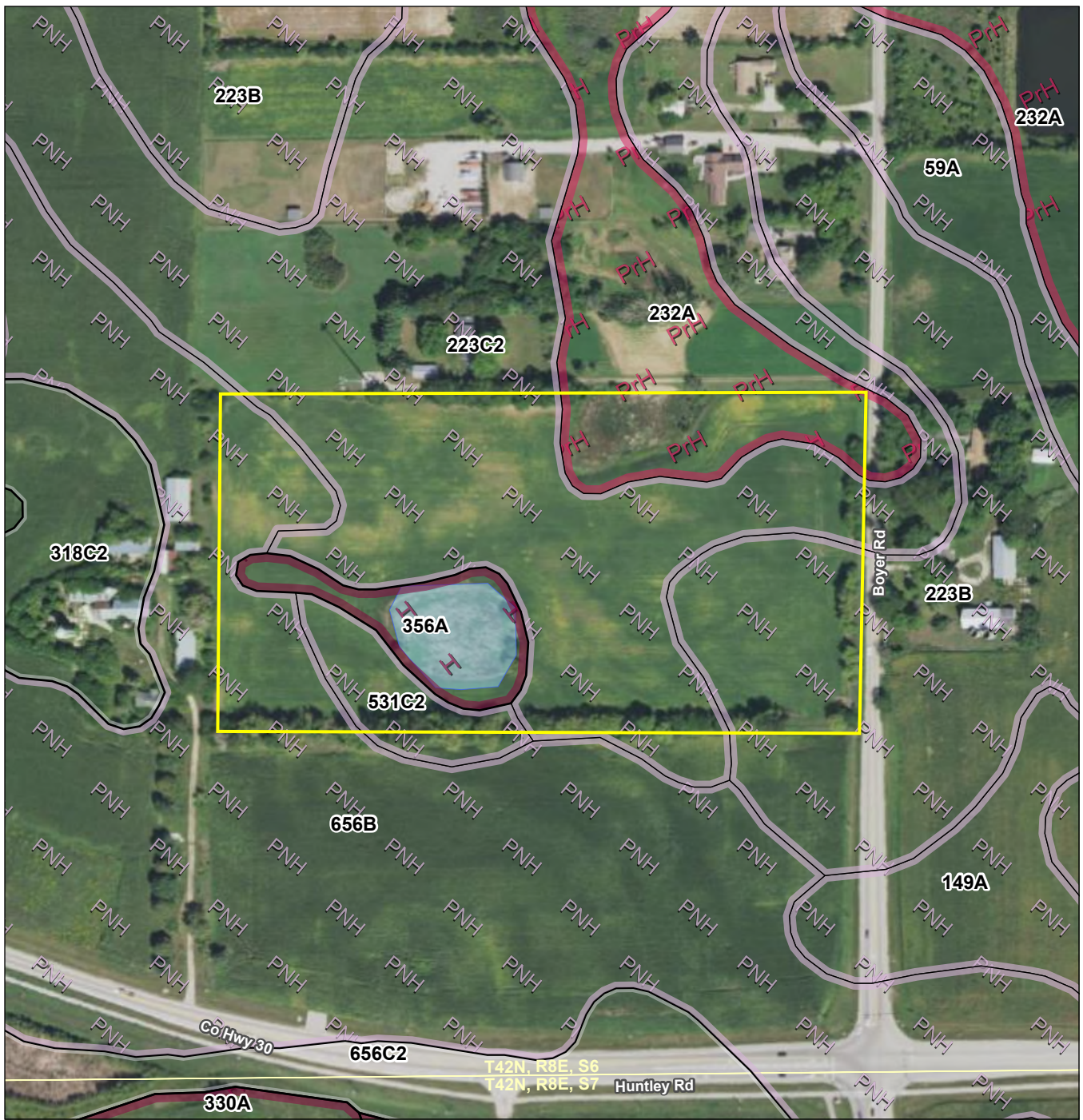
*Figure No.* 1 **DRAFT**

*Title* **Project Location and Topography**

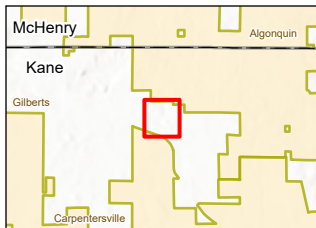
- Notes**
1. Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
  2. Data Sources: Stantec, Nexamp, Esri, NADS, USGS
  3. Background: USGS 7.5' Topographic Quadrangles

U:\193807004\03\_data\gis\_cad\gis\ArcPro\193807004\_Dundee\_Delineation.aprx Revised: 2024-05-29 By: dblianks

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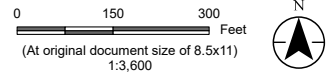
U:\1938\193807004\03\_data\gis\_cad\gis\ArcPro\193807004\_Dundee\_Delineation.aprx Revised: 2024-05-29 By: dbianks



**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet  
 2. Data Sources: Stantec, Nexamp, Esri, NADS, USGS, NRCS  
 3. Background: NAIP 2022

- Legend**
- Approximate Project Boundary
  - NRCS Soil Survey Data**
  - Hydric Soil Rating**
  - Hydric (H)\*
  - Predominantly Hydric (PrH)
  - Partially Hydric (PaH)\*
  - Predominantly Non-Hydric (PNH)
  - Non-Hydric

- National Hydrography Dataset**
- ~ Perennial Stream\*
  - - - Intermittent Stream\*
  - · - · - Ephemeral Stream\*
  - | | Canal/Ditch\*
  - Waterbody



**Project Location**  
 T42N, R8E, S6  
 Kane Co., IL

**Prepared by** DBB on 2024-05-16  
 TR by JDP on 2024-05-29  
 IR by XXX on 2024-XX-XX

**Client/Project**  
 Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation

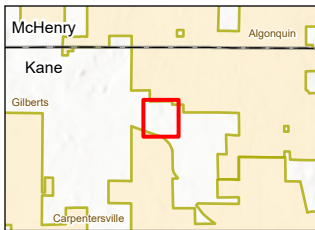
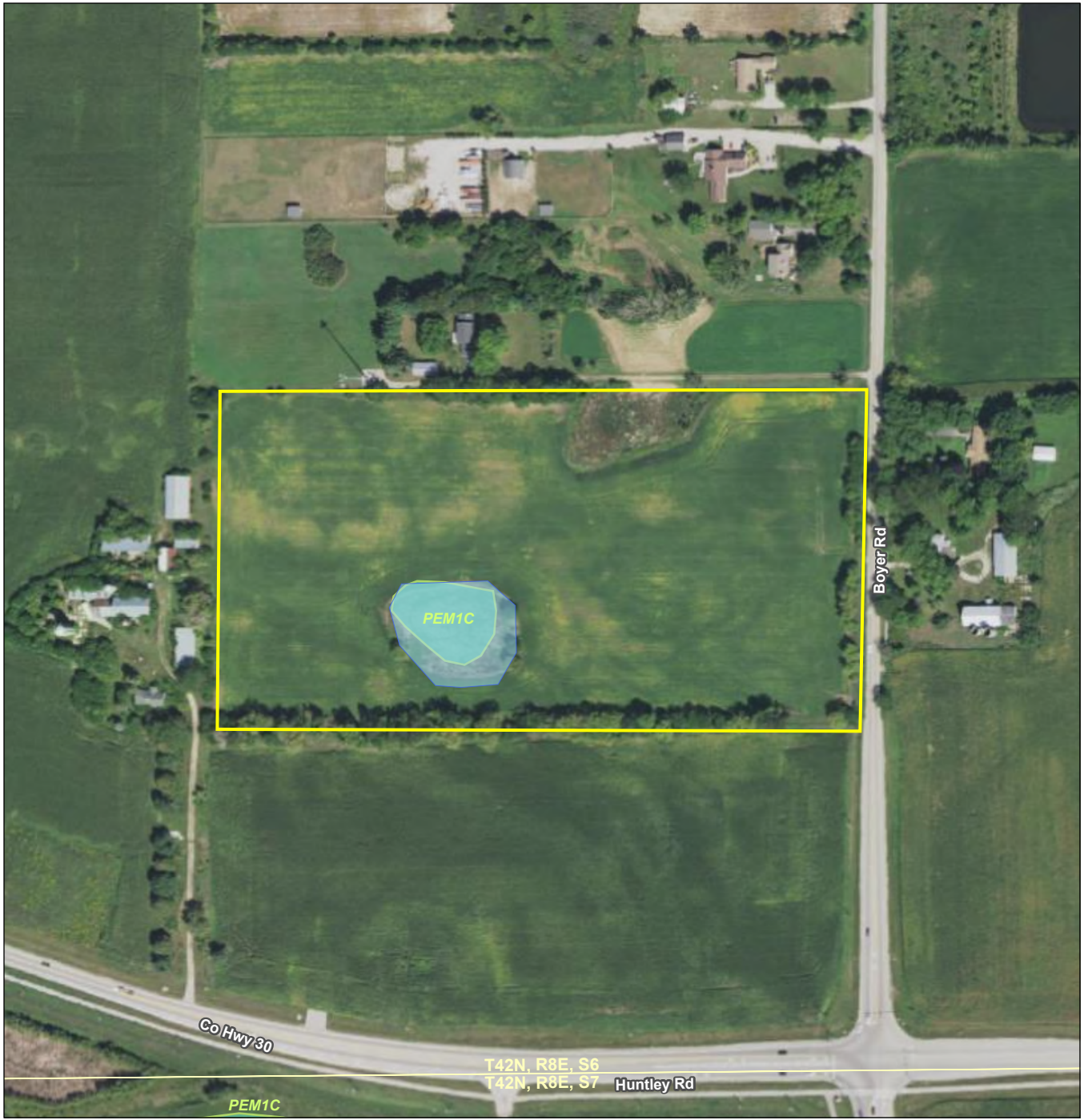
**Figure No.**  
 2

**Title**  
 NRCS Soil Survey Data

\*No Features Within Data Frame

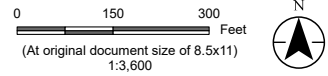
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**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet  
 2. Data Sources: Stantec, Nexamp, Esri, NADS, USGS, USFWS  
 3. Background: NAIP 2022

- Legend**
- Approximate Project Boundary
  - National Wetlands Inventory Feature
  - National Hydrography Dataset**
  - ~ Perennial Stream\*
  - - - Intermittent Stream\*
  - · · Ephemeral Stream\*
  - = Canal/Ditch\*
  - Waterbody



*Project Location* T42N, R8E, S6 Kane Co., IL  
 Prepared by DBB on 2024-05-16  
 TR by JDP on 2024-05-29  
 IR by XXX on 2024-XX-XX

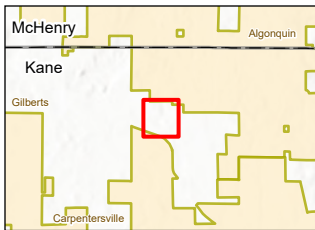
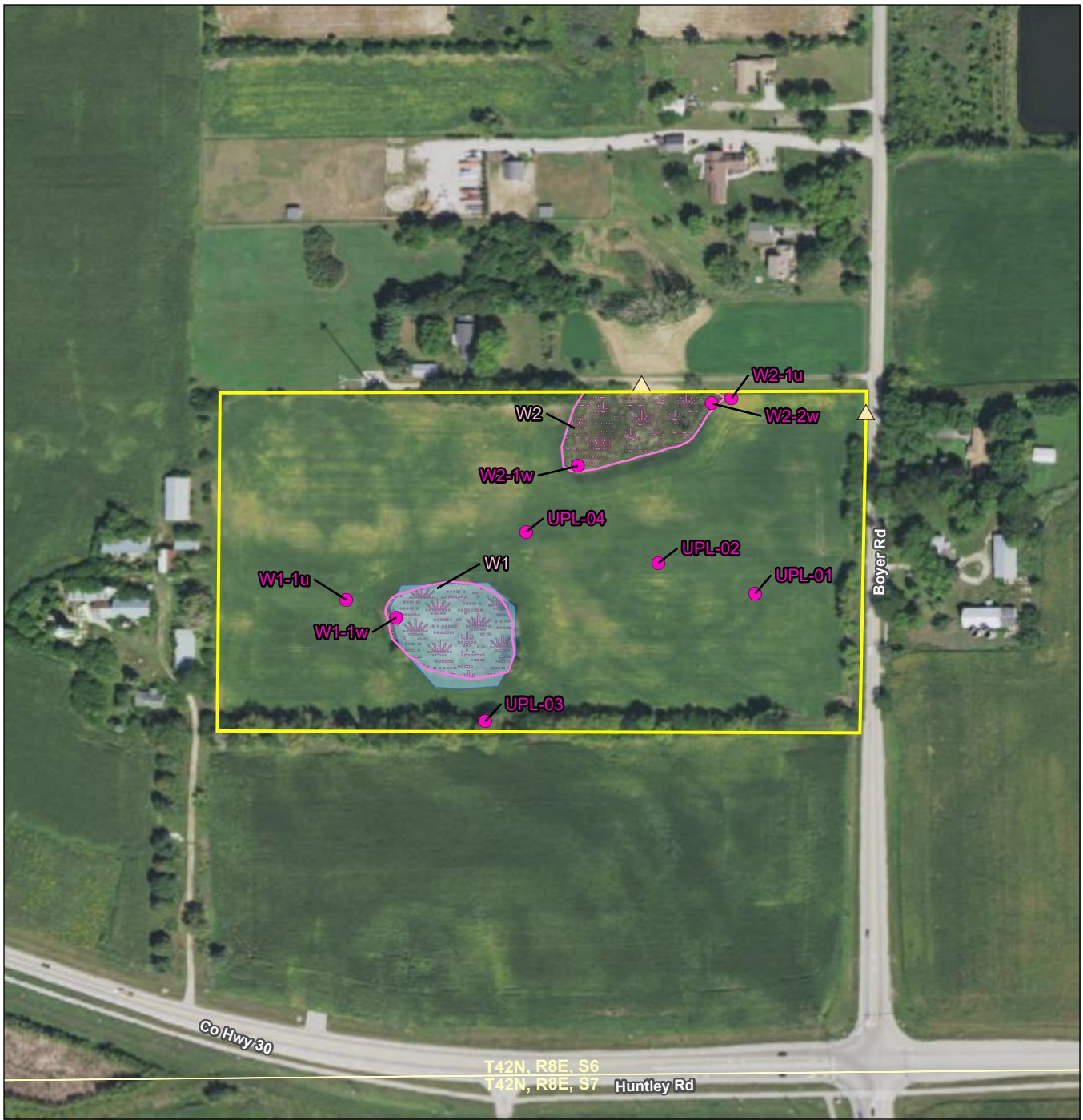
*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807004

*Figure No.* 3  
*Title* National Wetlands Inventory Data

\*No Features Within Data Frame

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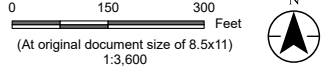
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**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet  
 2. Data Sources: Stantec, Nexamp, Esri, USGS  
 3. Background: NAIP 2022

- Legend**
- Approximate Project Boundary
  - Sample Point
  - ▲ Culvert
  - Field Delineated Wetland
  - National Hydrography Dataset
  - Perennial Stream\*
  - Intermittent Stream\*
  - Ephemeral Stream\*
  - Canal/Ditch\*
  - Waterbody

\*No Features Within Data Frame



*Project Location*  
 T42N, R8E, S6  
 Kane Co., IL

*Prepared by* DBB on 2024-05-16  
 TR by JDP on 2024-05-29  
 IR by XXX on 2024-XX-XX

*Client/Project*  
 Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation

*Figure No.*  
**4**

*Title*  
**Field Collected Data**

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**WETLAND DELINEATION REPORT**

Dundee Renewables

**WETS ANALYSIS**

June 20, 2024

**Appendix B WETS ANALYSIS**

## WETS Analysis Worksheet

Project Name: Dundee Renewables  
 Project Number: 193807004  
 Period of interest: Mar - May  
 Station: ELGIN WATER, IL  
 County: Kane County, IL

### Long-term rainfall records (from WETS table)

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	May	3.52	5.11	6.08
2nd month prior:	April	2.80	3.81	4.48
3rd month prior:	March	1.40	2.31	2.80
		Sum =	<b>7.42</b>	

### Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
3.62	Normal	2	3	6
3.23	Normal	2	2	4
3.92	Wet	3	1	3
		Sum =	<b>10.77</b>	Sum*** = <b>13</b>

\*Normal precipitation with 30% to 70% probability of occurrence

Determination:  Wet  
 Dry  
 Normal

\*\*Condition value:

Dry = 1  
 Normal = 2  
 Wet = 3

\*\*\*If sum is:

6 to 9 then period has been drier than normal  
 10 to 14 then period has been normal  
 15 to 18 then period has been wetter than normal

### Daily Data Between Two Dates

Date	Precipitation (in)
5/13/2024	0
5/14/2024	0.13
5/15/2024	0.05
5/16/2024	0
5/17/2024	0.03
5/18/2024	0
5/19/2024	0
5/20/2024	0
5/21/2024	0
5/22/2024	0
<b>Sum</b>	<b>0.21</b>
Count	10

Precipitation data sources: Agricultural Applied Climate Information System: <http://agacis.rcc-acis.org/>

Midwestern Regional Climate Center Application Tools Environment: <https://mrcc.purdue.edu/CLIMATE/Station/Daily/>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

**WETLAND DELINEATION REPORT**

Dundee Renewables

**WETLAND DETERMINATION DATA FORMS**

June 20, 2024

**Appendix C WETLAND DETERMINATION DATA FORMS**



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: W1-1w  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.142147 Long: -88.349039 Datum: WGS84  
 Soil Map Unit Name: Elpaso silty clay loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (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.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>W1</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within concave depression that is consistently avoided by farming activities.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present     Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area D identified in the Aerial review, with 100% of imagery reviewed exhibiting wet signatures during normal climate conditions.

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

Sampling Point: W1-1w

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

0 = Total Cover

Sapling/Shrub Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

0 = Total Cover

Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. <i>Typha X glauca</i>	65	Yes	OBL
2. <i>Persicaria amphibia</i>	10	No	OBL
3. <i>Lobelia cardinalis</i>	10	No	OBL
4. <i>Persicaria virginiana</i>	5	No	FAC
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

90 = Total Cover

Woody Vine Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>85</u>	x 1 = <u>85</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>100</u> (B)
Prevalence Index = B/A = <u>1.11</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.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: W1-1w

**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>		
0-12	10YR 2/1	98	7.5R 4/4	2	C	PL	Silty Clay Loam	
12-18	10YR 4/1	60	5YR 4/6	5	C	PL	Silty Clay Loam	
12-18	10YR 3/1	35		0			Silty Clay Loam	

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

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Dark Surface (S7)		

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

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

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: W1-1u  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope %: 1  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.142242 Long: -88.3494 Datum: WGS84  
 Soil Map Unit Name: Elpaso silty clay loam, 0 to 2 percent slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation X, Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes      No X  
 Are Vegetation     , Soil     , or Hydrology      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 <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>W1</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within a recently worked agricultural field that is regularly tilled and planted for crop production.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
---	--

<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area G identified in the Aerial review, with 50% of imagery reviewed exhibiting wet signatures during normal climate conditions. Based on topography, water likely continues to drain eastward downslope.

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

Sampling Point: W1-1u

Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	0 = Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

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

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**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.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
 No natural vegetation growing at this location. Field was recently worked, successfully harvest soy debris observed.

**SOIL**

Sampling Point: W1-1u

**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>		
0-15	10YR 2/1	95	5YR 3/4	5	C	M	Silty Clay Loam	
15-18	10YR 3/1	80	7.5YR 4/4	5	C	M	Silty Clay Loam	Mixed matrix of 10YR 4/1 Silty Clay Loam

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

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

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: W2-1w  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 1  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.142959 Long: -88.347733 Datum: WGS84  
 Soil Map Unit Name: Ashkum silty clay loam, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (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.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>W2</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within concave depression that is consistently avoided by farming activities.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                      ___ Aquatic Fauna (B13) <u>X</u> Saturation (A3)                                      ___ Marl Deposits (B15) ___ Water Marks (B1)                                      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                                      ___ Presence of Reduced Iron (C4) <u>X</u> Algal Mat or Crust (B4)                                      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                                      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)                      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) <u>X</u> Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present        Yes <u>X</u> No <u>    </u> Depth (inches): <u>15</u> Saturation Present        Yes <u>X</u> No <u>    </u> Depth (inches): <u>12</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <u>X</u> No <u>    </u></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 This feature receives water from the surrounding sloped field and a culvert to the north, connecting it to another wet area beyond a neighboring driveway. The concave area had 16" of standing water at its northern most extent.

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

Sampling Point: W2-1w

Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

0 = Total Cover

Sapling/Shrub Stratum (Plot size: 15 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

0 = Total Cover

Herb Stratum (Plot size: 5 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. <i>Typha X glauca</i>	40	Yes	OBL
2. <i>Phalaris arundinacea</i>	5	No	FACW
3. <i>Ranunculus sceleratus</i>	5	No	OBL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

50 = Total Cover

Woody Vine Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>45</u>	x 1 = <u>45</u>
FACW species <u>5</u>	x 2 = <u>10</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>50</u> (A)	<u>55</u> (B)
Prevalence Index = B/A = <u>1.1</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.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Hydrophytic Vegetation Present?** Yes  No

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



**SOIL**

Sampling Point: W2-1w

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 2/1	98	5YR 3/4	2	C	M	Silt Loam			
10-30	10YR 2/1	100					Silty Clay			

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/></p>
Empty space for additional notes or data	

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: W2-1u  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope %: 2  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.143322 Long: -88.346626 Datum: WGS84  
 Soil Map Unit Name: Ashkum silty clay loam, 0 to 2 percent slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes      No X  
 Are Vegetation     , Soil     , or Hydrology      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 <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>W2</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within a recently worked agricultural field that is regularly tilled and planted for crop production. A culvert located east of this location drains surface runoff across this location and into W2.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area C identified in the Aerial review. A culvert is located east of this location along Boyer Rd. Due to westward sloping topography, surface flow from this culvert likely drains across this area and into W2, explaining the wet signatures observed in the aerial review.

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

Sampling Point: W2-1u

Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft )			
1. <i>Populus deltoides</i>	10	Yes	FAC
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	10 = Total Cover		
Herb Stratum (Plot size: 5 ft )			
1. <i>Equisetum hyemale</i>	30	Yes	FAC
2. <i>Cirsium arvense</i>	5	No	FACU
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	35 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft )			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	0 = Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

---

**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.

---

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

---

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
 Field was recently worked, successfully harvest soy debris observed. Disturbed Equisetum (FAC) stems present in worked soil area.

**SOIL**

Sampling Point: W2-1u

**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 2/1	100					Silty Clay Loam	
10-14"	10YR 4/4	95	10YR 2/1	5	D	M	Silt Loam	
14-18"	10YR 4/2	85	10YR 6/6	5	C	M	Silty Clay Loam	Remainder is 10YR 4/4

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

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

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: W2-2w  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope %: 1  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.143294 Long: -88.346769 Datum: WGS84  
 Soil Map Unit Name: Ashkum silty clay loam, 0 to 2 percent slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (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.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>W2</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within concave depression that is consistently avoided by farming activities.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area C identified in the Aerial review, with 83% of imagery reviewed exhibiting wet signatures during normal climate conditions.

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

Sampling Point: W2-2w

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status
1. <u>Populus deltoides</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>5</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status
1. <u>Populus deltoides</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Salix interior</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
<u>25</u> = Total Cover			
Herb Stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status
1. <u>Equisetum hyemale</u>	<u>80</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Phragmites australis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Erigeron philadelphicus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>
4. <u>Typha X glauca</u>	<u>5</u>	<u>No</u>	<u>OBL</u>
5. <u>Cirsium arvense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
<u>115</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
<u>0</u> = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>105</u>	x 3 = <u>315</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145</u> (A)	<u>400</u> (B)
Prevalence Index = B/A = <u>2.76</u>	

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 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.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Hydrophytic Vegetation Present?** Yes X No   

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

**SOIL**

Sampling Point: W2-2w

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>			
0-9	10YR 2/1	100					Silty Clay Loam		
9-16	10YR 4/2	95	10YR 5/8	2	C	M	Silty Clay Loam	Remainder is 10YR 2/1	

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:  
 Ashkum silty clay loam series (232A) typically have a soil B horizon at 12". This is inconsistent with the observed soil profile at this location with a distinct layer was found at 9".

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: UPL-01  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope %: 2  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.142275 Long: -88.346456 Datum: WGS84  
 Soil Map Unit Name: Varna silt loam, 2 to 4 percent slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation X, Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes      No X  
 Are Vegetation     , Soil     , or Hydrology      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 <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>None</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within a recently worked agricultural field that is regularly tilled and planted for crop production.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present     Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present       Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area D identified in the Aerial review, with 40% of imagery reviewed exhibiting wet signatures during normal climate conditions. Water does not appear to collect at this location.



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

Sampling Point: UPL-01

Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status		
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
0 = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: 15 ft )	Absolute % Cover	Dominant Species	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
0 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> - 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.	
Herb Stratum (Plot size: 5 ft )	Absolute % Cover	Dominant Species	Indicator Status		
1. <i>Capsella bursa-pastoris</i>	1	Yes	FACU		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
1 = Total Cover				<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 or equal to 3.28 ft (1 m) tall.  <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody Vine Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
0 = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)  
 Field was recently worked, successfully harvest soy debris observed.

**SOIL**

Sampling Point: UPL-01

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 3/2	100					Silty Clay Loam	

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

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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

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

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: UPL-02  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope %: 4  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.142439 Long: -88.347152 Datum: WGS84  
 Soil Map Unit Name: Varna silt loam, 4 to 6 percent slopes, eroded NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation X, Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes      No X  
 Are Vegetation     , Soil     , or Hydrology      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 <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>None</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within a recently worked agricultural field that is regularly tilled and planted for crop production.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present     Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present       Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area E identified in the Aerial review, with 40% of imagery reviewed exhibiting wet signatures during normal climate conditions.

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

Sampling Point: UPL-02

Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>0</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
0 = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15 ft )	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
0 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> - 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> <small>(Provide supporting data in Remarks or on a separate sheet)</small>  - Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <small><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.</small>
Herb Stratum (Plot size: 5 ft )	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
0 = Total Cover				<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 or equal to 3.28 ft (1 m) tall.  <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30 ft )	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>  X  </u>

Remarks: (Include photo numbers here or on a separate sheet.)  
 No natural vegetation present at this location. Field was recently worked, successfully harvest soy debris observed.

**SOIL**

Sampling Point: UPL-02

**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>		
0-14	10YR 3/2	100					Silt Loam	
14-18"	10YR 4/3	70	10YR 4/2	30	RM	M	Silty Clay Loam	

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

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

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: UPL-03  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope %: 3  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.141591 Long: -88.3484 Datum: WGS84  
 Soil Map Unit Name: Markham silt loam, 4 to 6 percent slopes, eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (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.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>None</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within tree line separating two agricultural fields.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Low area within the upland tree line appears to drain northward further down slope.

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

Sampling Point: UPL-03

Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. <i>Acer negundo</i>	25	Yes	FAC
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
25 = Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. <i>Sambucus nigra</i>	5	Yes	FACW
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
5 = Total Cover			
Herb Stratum (Plot size: 5 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. <i>Urtica dioica</i>	50	Yes	FAC
2. <i>Phalaris arundinacea</i>	40	Yes	FACW
3. <i>Bromus inermis</i>	20	Yes	UPL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
110 = Total Cover			
Woody Vine Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
0 = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)
Prevalence Index = B/A = _____	

**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.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
Low point in tree line adjacent to agricultural field consists of mesic community. Area drains north.

**SOIL**

Sampling Point: UPL-03

**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>		
0-5"	10YR 3/2	100					Silty Clay Loam	
5-18	10YR 2/2	98	7.5YR 4/4	2	C	M	Silty Clay Loam	

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No

**Remarks:**

Concentrations need to be at 5% or greater within a matrix value of 3 or less and a chroma of 2 or less to be considered F6-Redox Dark Surface. Profile does not meet criteria for any hydric soils indicators.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Dundee Renewables City/County: Kane County Sampling Date: 05/22/202  
 Applicant/Owner: Dundee Renewables, LLC State: IL Sampling Point: UPL-04  
 Investigator(s): SM, MM Section, Township, Range: S06, T042N, R008E  
 Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Linear Slope %: 4  
 Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 42.142606 Long: -88.348104 Datum: WGS84  
 Soil Map Unit Name: Varna silt loam, 4 to 6 percent slopes, eroded NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation X, Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes      No X  
 Are Vegetation     , Soil     , or Hydrology      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 <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>None</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point was collected within a recently worked agricultural field that is regularly tilled and planted for crop production.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present    Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present      Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present        Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sample point was collected in Area F identified in the aerial review, with 40% of imagery reviewed exhibiting wet signatures. Location is convex. draining to the northeast and southwest.

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

Sampling Point: UPL-04

	Absolute % Cover	Dominant Species	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30</u> ft )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> ft )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5</u> ft )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>0</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> ft )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

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

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)
Prevalence Index = B/A = _____	

**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.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
 No natural vegetation present. Field was recently worked, successfully harvest soy debris observed.

**SOIL**

Sampling Point: UPL-04

**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>		
0-3	10YR 2/2	100					Silt Loam	
3-10	10YR 2/1	100					Silty Clay Loam	
10-18	10YR 3/2	100					Silty Clay Loam	

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

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

Dundee Renewables

**SITE PHOTOGRAPHS**

June 20, 2024

**Appendix D SITE PHOTOGRAPHS**



**Photo 1.** Sample Point W1-1w within W1, view east.



**Photo 2.** Sample Point W1-1u, view east towards W1.



**Photo 3.** Sample Point W2-1w within W2, view east.



**Photo 4.** Sample Point W2-1u, view west towards W2.



**Photo 5.** Sample Point W2-2w withing W2, view west.



**Photo 6.** Sample Point UPL-01, view east towards Boyer Road.



**Photo 7.** Sample Point UPL-02, view west.



**Photo 8.** Sample Point UPL-03, view north towards W1 (background).





**Photo 1.** Sample Point UPL-04, view north towards W2 (right background)



**Photo 2.** Tree line bordering southern Study Area boundary. View south.



**Photo 3.** Eastern Study Area boundary along Boyer Road. View south.



**Photo 4.** Topographical rise between W1 (left) and W2 (right), subtle swale and UPL-04 in background. View east.

**WETLAND DELINEATION REPORT**

Dundee Renewables

**FLORISTIC QUALITY ASSESSMENT**

June 20, 2024

**Appendix E FLORISTIC QUALITY ASSESSMENT**

**TABLE E-1. WETLAND 01 PLANT SPECIES INVENTORY**

Native Species	16
Non-native Species	12
Total Species	28
Total Mean C	1.5
Native Mean C	2.6
Total FQI	7.9
Native FQI	10.4

<b>Scientific Name</b>	<b>Common Name</b>	<b>Native Status</b>	<b>C</b>	<b>W</b>	<b>Duration</b>
<i>Acer negundo</i>	ash-leaf maple	native	0	0	perennial
<i>Arctium lappa</i>	great burdock	non-native	0	2	biennial
<i>Asclepias syriaca</i>	common milkweed	native	0	1	perennial
<i>Celtis occidentalis</i>	common hackberry	native	2	0	perennial
<i>Chenopodium album</i>	lamb-quarters	non-native	0	1	annual
<i>Cirsium arvense</i>	canadian thistle	non-native	0	1	perennial
<i>Cirsium vulgare</i>	bull thistle	non-native	0	1	biennial
<i>Daucus carota</i>	queen annes lace	non-native	0	2	biennial
<i>Equisetum hyemale</i>	tall scouring-rush	native	1	-1	perennial
<i>Erigeron canadensis</i>	canadian horseweed	native	0	1	annual
<i>Frangula alnus</i>	glossy false buckthorn	non-native	0	-1	perennial
<i>Galium aparine</i>	sticky-willy	native	0	1	annual
<i>Lobelia cardinalis</i>	cardinal-flower	native	7	-2	perennial
<i>Morus alba</i>	white mulberry	non-native	0	0	perennial
<i>Persicaria amphibia</i>	water smartweed	native	4	-2	perennial
<i>Persicaria virginiana</i>	jumpseed	native	4	0	perennial
<i>Phalaris arundinacea</i>	reed canary grass	non-native	0	-1	perennial
<i>Ranunculus sceleratus</i>	cursed buttercup	native	4	-2	annual
<i>Rosa multiflora</i>	rambler rose	non-native	0	1	perennial
<i>Rosa palustris</i>	swamp rose	native	8	-2	perennial
<i>Salix nigra</i>	black willow	native	5	-2	perennial
<i>Solanum dulcamara</i>	climbing nightshade	non-native	0	0	perennial
<i>Solidago altissima</i>	tall goldenrod	native	1	1	perennial
<i>Solidago gigantea</i>	late goldenrod	native	4	-1	perennial
<i>Taraxacum officinale</i>	common dandelion	non-native	0	1	perennial
<i>Typha x glauca</i>	hybrid cat-tail	non-native	0	-2	perennial
<i>Urtica dioica ssp. gracilis</i>	tall nettle	native	1	-1	perennial
<i>Vitis riparia</i>	river-bank grape	native	1	-1	perennial

**TABLE E-2. WETLAND 02 PLANT SPECIES INVENTORY**

Native Species	8
Non-native Species	8
Total Species	16
Total Mean C	1.3
Native Mean C	2.6
Total FQI	5.2
Native FQI	7.4

<b>Scientific Name</b>	<b>Common Name</b>	<b>Native Status</b>	<b>C</b>	<b>W</b>	<b>Duration</b>
<i>Acer negundo</i>	ash-leaf maple	native	0	0	perennial
<i>Cirsium arvense</i>	canadian thistle	non-native	0	1	perennial
<i>Equisetum hyemale</i>	tall scouring-rush	native	1	-1	perennial
<i>Erigeron philadelphicus</i>	philadelphia fleabane	native	4	-1	perennial
<i>Juncus effusus ssp. solutus</i>	lamp rush	native	5	-2	perennial
<i>Lactuca serriola</i>	prickly lettuce	non-native	0	1	biennial
<i>Lythrum salicaria</i>	purple loosestrife	non-native	0	-2	perennial
<i>Phalaris arundinacea</i>	reed canary grass	non-native	0	-1	perennial
<i>Phragmites australis ssp. australis</i>	common reed	non-native	0	-1	perennial
<i>Populus deltoides</i>	eastern cottonwood	native	0	0	perennial
<i>Ranunculus sceleratus</i>	cursed buttercup	native	4	-2	annual
<i>Salix interior</i>	sandbar willow	native	2	-1	perennial
<i>Salix nigra</i>	black willow	native	5	-2	perennial
<i>Solanum dulcamara</i>	climbing nightshade	non-native	0	0	perennial
<i>Sonchus arvensis</i>	field sow-thistle	non-native	0	1	perennial
<i>Typha x glauca</i>	hybrid cat-tail	non-native	0	-2	perennial

**WETLAND DELINEATION REPORT**

Dundee Renewables

**OFF-SITE AERIAL IMAGERY ANALYSIS**

June 20, 2024

**Appendix F OFF-SITE AERIAL IMAGERY ANALYSIS**

**Dundee Renewables - Dundee Township; Kane County, IL**

Project Location: Township 42 N, Range 8 E, Section 6

Investigator: Shane Murphy

**Wetland Hydrology from Aerial Imagery - Recording Form**

Image Date <sup>1</sup> (M-D-Y)	Image Source	Climate Condition	Image Interpretation(s)							Additional Notes
			Area A	Area B	Area C	Area D	Area E	Area F	Area G	
7-10-2005	NAIP	Dry	WS	NV	NV	NV	NV	NV	NV	Area B does not appear in this year
8-7-2006	NAIP	Normal	WS	DO	NV	NV	NV	SS	SS	Linear features Area F and G appear to have green volunteers growing
7-21-2007	NAIP	Dry	WS	SS	NV	NV	NV	NV	NV	Area B appears to be developing
8-16-2009	NAIP	Normal	WS	WS	NC	NV	NV	NV	NV	Northeast corner of the site is left unplanted.
8-26-2011	NAIP	Wet	WS	WS	NC	CS	NV	NV	NV	Northeast corner of the site is left unplanted.
6-19-2012	NAIP	Dry	WS	WS	SS	SS	SS	SS	SS	Green volunteers growing in areas besides Area A and B.
9-16-2015	NAIP	Wet	WS	WS	SS	SS	CS	SS	SS	Green volunteers growing in areas besides Area A and B.
9-1-2017	NAIP	Normal	WS	WS	DO	DO	DO	SS	SS	Areas F & G have deeper shade of grea, Area C, D, and E drowned out.
6-16-2019	NAIP	Wet	WS	WS	CS	NV	NV	NV	DO	Green volunteers growing in areas besides Area A and B.
9-5-2021	NAIP	Normal	WS	WS	CS	NV	CS	NV	NV	Dark green veg in majority of farm field

Normal Climate Condition	Area A	Area B	Area C	Area D	Area E	Area F	Area G
Number of years with normal climate conditions	10	10	10	10	10	10	10
Number with wet signatures	7	6	7	4	4	4	5
Percent with wet signatures	70	60	70	40	40	40	50

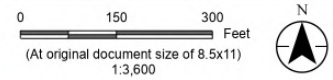
KEY		
WS - wetland signature	SS - soil wetness signature	CS - crop stress
NC - not cropped	AP - altered pattern	NV - normal vegetative cover
DO - Drowned out	SW - standing water	NSS - no soil wetness signature

<sup>1</sup>If only the year is known, assumption is made that FSA slides are taken in July; as a result, climate condition analysis focuses on three months prior to July

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- Legend**
- Approximate Project Boundary
  - Aerial Wetness Signature
  - 2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

**DRAFT**

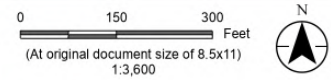
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**Imagery Review 7-10-2005**  
**Climatic Conditions: Dry**



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- Legend**
- Approximate Project Boundary
  - Aerial Wetness Signature
  - 2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX




*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

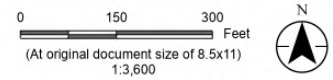
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**Climatic Conditions: Normal**

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- Legend**
-  Approximate Project Boundary
  -  Aerial Wetness Signature
  -  2ft Elevation Contour



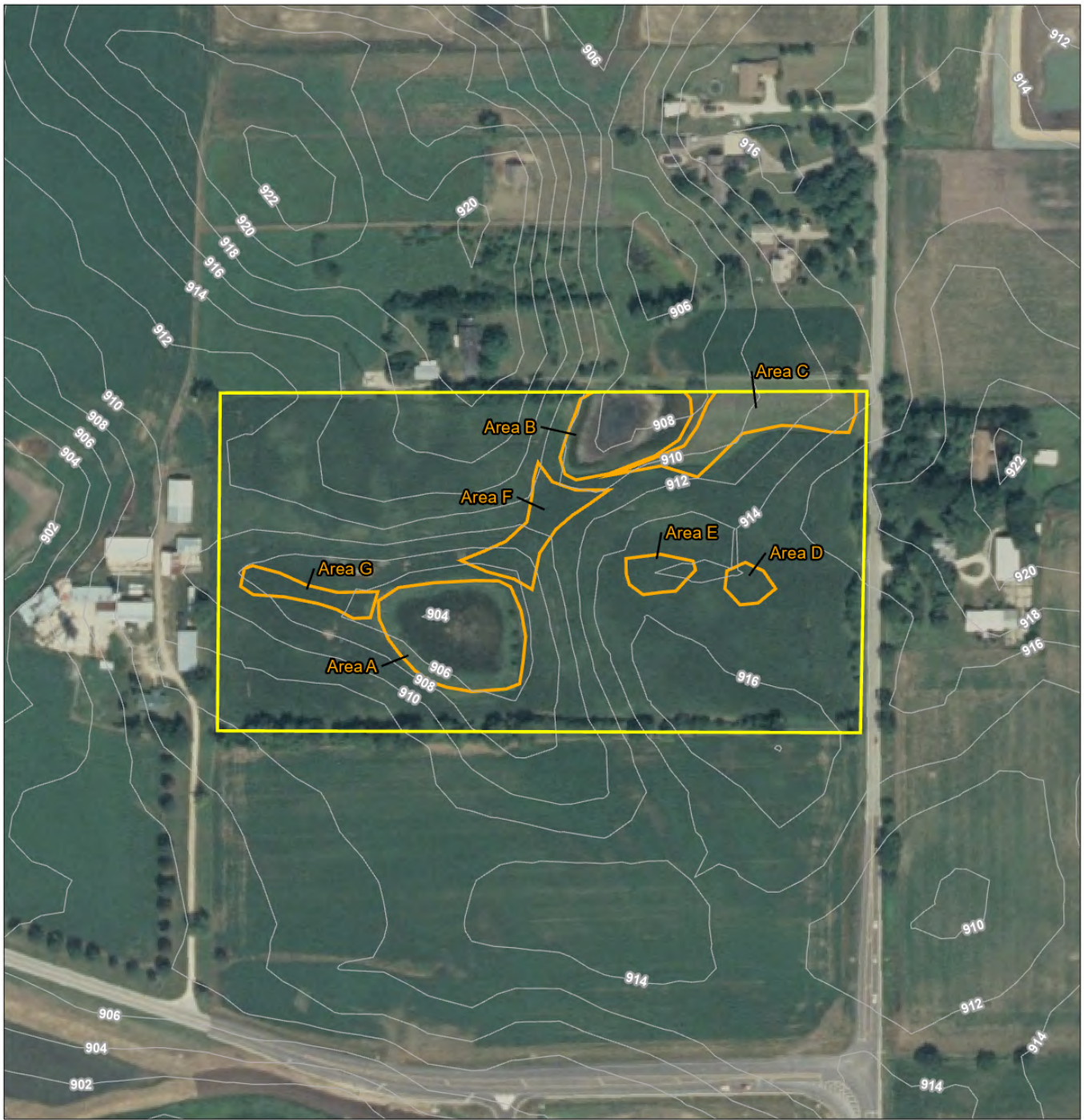
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*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

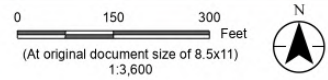
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*Title*  
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**Climatic Conditions: Dry**

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- Legend**
- Approximate Project Boundary
  - Aerial Wetness Signature
  - 2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX




*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

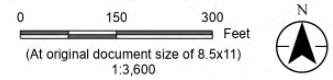
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**Imagery Review 8-16-2009**  
**Climatic Conditions: Normal**

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- Legend**
-  Approximate Project Boundary
  -  Aerial Wetness Signature
  -  2ft Elevation Contour



Project Location  
T14N, R2W, S15 & S22  
Mercer Co., IL

Prepared by DBB on 2024-05-15  
TR by XXX on 2024-XX-XX  
IR by XXX on 2024-XX-XX

Client/Project  
Dundee Renewables, LLC  
Dundee Renewables  
Wetland Delineation




193807005

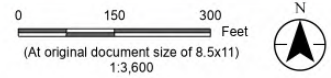
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Title  
**Imagery Review 7-10-2010  
Climatic Conditions: Normal**

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- Legend**
-  Approximate Project Boundary
  -  Aerial Wetness Signature
  -  2ft Elevation Contour



Project Location  
T14N, R2W, S15 & S22  
Mercer Co., IL

Prepared by DBB on 2024-05-15  
TR by XXX on 2024-XX-XX  
IR by XXX on 2024-XX-XX

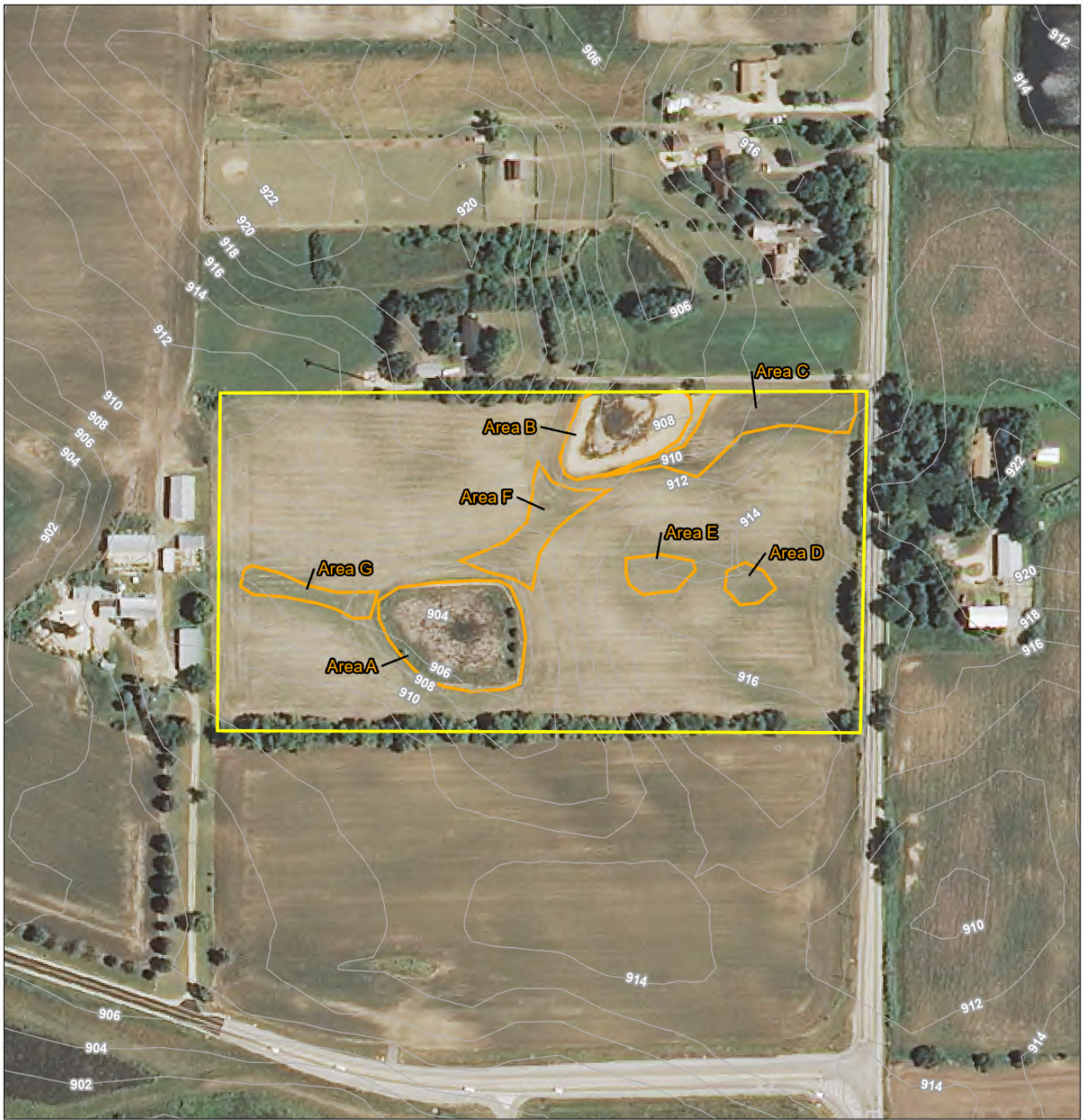
Client/Project  
Dundee Renewables, LLC  
Dundee Renewables  
Wetland Delineation

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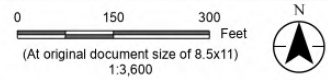
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Title  
**Imagery Review 8-26-2011  
Climatic Conditions: Wet**

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- Legend**
- Approximate Project Boundary
  - Aerial Wetness Signature
  - 2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX




*Client/Project* Nexamp Inc.  
 Viola Renewables  
 Wetland Delineation Report

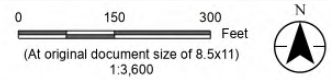
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**Imagery Review 6-19-2012**  
**Climatic Conditions: Dry**

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- Legend**
-  Approximate Project Boundary
  -  Aerial Wetness Signature
  -  2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

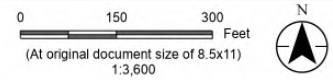
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*Title*  
**Imagery Review 9-16-2015**  
**Climatic Conditions: Wet**

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- Legend**
- Approximate Project Boundary
  - Aerial Wetness Signature
  - 2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

- Notes**
1. Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
  2. Data Sources: Stantec, Nexamp, Esri, USGS
  3. Background: NAIP




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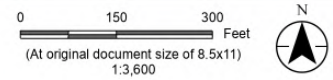
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**Imagery Review 9-1-2017**  
**Climatic Conditions: Normal**



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- Legend**
-  Approximate Project Boundary
  -  Aerial Wetness Signature
  -  2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

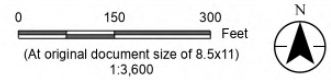
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**Climatic Conditions: Wet**

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- Legend**
- Approximate Project Boundary
  - Aerial Wetness Signature
  - 2ft Elevation Contour



*Project Location* T14N, R2W, S15 & S22 Mercer Co., IL  
*Prepared by* DBB on 2024-05-15  
 TR by XXX on 2024-XX-XX  
 IR by XXX on 2024-XX-XX

*Client/Project* Dundee Renewables, LLC  
 Dundee Renewables  
 Wetland Delineation  
 193807005

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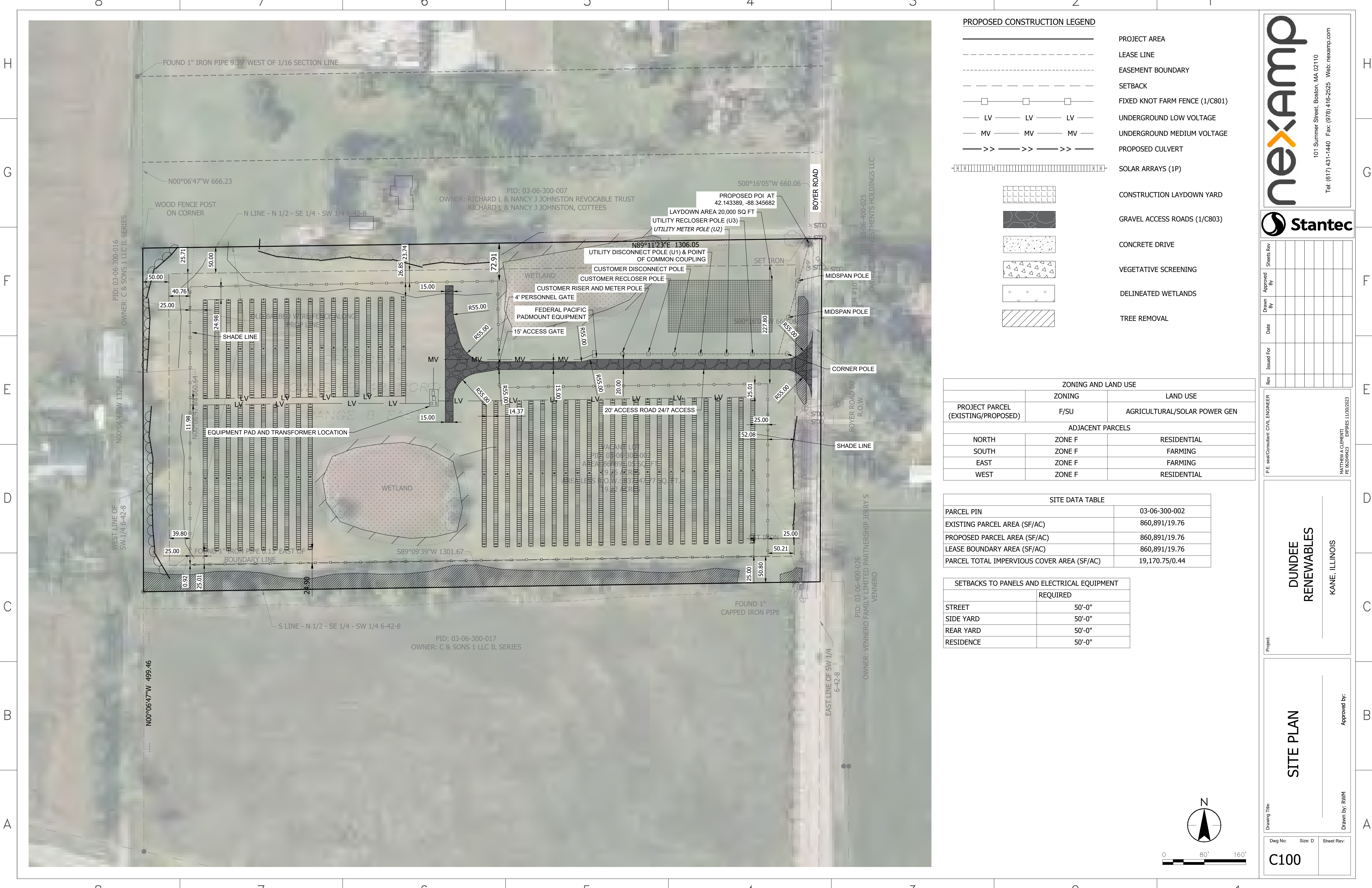
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**Imagery Review 9-5-2021**  
**Climatic Conditions: Normal**



September 3, 2024

**Reference: Dundee Renewables Project - No Wetland & Waterway Impact Summary**

**ATTACHMENT B – CURRENT SITE DESIGN**



**PROPOSED CONSTRUCTION LEGEND**

- PROJECT AREA
- LEASE LINE
- EASEMENT BOUNDARY
- SETBACK
- FIXED KNOT FARM FENCE (1/C801)
- UNDERGROUND LOW VOLTAGE
- UNDERGROUND MEDIUM VOLTAGE
- PROPOSED CULVERT
- SOLAR ARRAYS (1P)
- CONSTRUCTION LAYDOWN YARD
- GRAVEL ACCESS ROADS (1/C803)
- CONCRETE DRIVE
- VEGETATIVE SCREENING
- DELINEATED WETLANDS
- TREE REMOVAL

ZONING AND LAND USE		
PROJECT PARCEL (EXISTING/PROPOSED)	ZONING	LAND USE
	F/SU	AGRICULTURAL/SOLAR POWER GEN
ADJACENT PARCELS		
NORTH	ZONE F	RESIDENTIAL
SOUTH	ZONE F	FARMING
EAST	ZONE F	FARMING
WEST	ZONE F	RESIDENTIAL

SITE DATA TABLE	
PARCEL PIN	03-06-300-002
EXISTING PARCEL AREA (SF/AC)	860,891/19.76
PROPOSED PARCEL AREA (SF/AC)	860,891/19.76
LEASE BOUNDARY AREA (SF/AC)	860,891/19.76
PARCEL TOTAL IMPERVIOUS COVER AREA (SF/AC)	19,170.75/0.44

SETBACKS TO PANELS AND ELECTRICAL EQUIPMENT	
	REQUIRED
STREET	50'-0"
SIDE YARD	50'-0"
REAR YARD	50'-0"
RESIDENCE	50'-0"

101 Summer Street, Boston, MA 02110  
Tel: (617) 431-1440 Fax: (978) 416-2525 Web: nexamp.com

Rev	Issued For	Date	Drawn By	Approved By	Sheets Rev

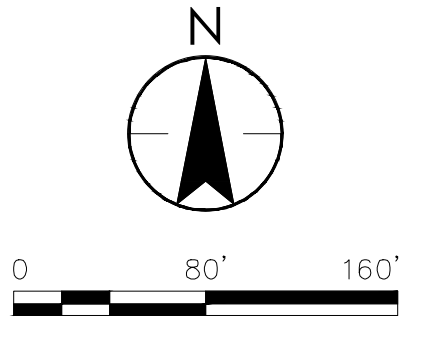
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 MATTHEW A. CLEMENT  
 PE 62049423  
 EXPIRES 11/30/2023

**DUNDEE RENEWABLES**  
KANE, ILLINOIS

**SITE PLAN**

Project: \_\_\_\_\_ Approved by: \_\_\_\_\_  
 Drawing Title: \_\_\_\_\_ Drawn by: RWM

Dwg No: C100 Size: D Sheet Rev: \_\_\_\_\_



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