Technical Memorandum

3159 Voyager Drive ● Green Bay, WI 54311 ● 920.455.8200

Via Email:	zoning@piattcounty.org
To:	Mrs. Keri Nusbaum, County Zoning Officer, Piatt County, Illinois
From:	Faith Zangl-Wiese, Project Manager and Jillian Finucane, Engineer
cc:	Copy sent to Ms. Ashley Fletcher, P.E., Sol Source Power Devco, LLC
Date:	January 9, 2026
Re:	Technical Memorandum – Conceptual Stormwater Calculations East Monticello Solar 1, LLC. Monticello, IL
Project No.:	2501182

GEI Consultants, Inc. (GEI) was retained by Sol Source Power Devco, LLC (Sol Source), to assist in obtaining a Special Use Permit for the proposed East Monticello Solar 1, LLC site (Project Area), located in Piatt County, Illinois. This Technical Memorandum and supporting attachments, are provided in accordance with Piatt County Solar Ordinance J(2)(E) and J(2)(F) to demonstrate the proposed development will not negatively impact stormwater quantity or quality at the project site.

Site Description

The Project Area (total parcel area) is approximately 120.94-acres in size and consists of agricultural land located to the east of N 1000 East Road and north of E 1500 North Road in Section 17, Township 18 North, Range 6 East, Monticello, Piatt County, Illinois. The Project Area is bounded to the west by residential properties, to the north by agricultural field and a residence, to the East by agricultural field, and to the south by E 1500 North Road, an agricultural field, and a farmstead. The property address is 1018 E. 1500 North Road, Monticello, IL, 61856. There is existing drain tile located on the southwest portion of the site. The existing or pre-development site is presented in **Appendix A, Figure 1.**

Proposed Development

The proposed development includes the installation of a photovoltaic module ground mount system. The system will be configured in one array consisting of solar panel modules arranged in rows with clear space between each row to provide access for maintenance. Solar panel modules will be fitted to an adjustable racking system set to track the optimum angle for solar radiation collection. The racking system will be secured to steel posts embedded in the ground. The system will be surrounded by a fence encompassing 21.3 acres. Two equipment pads will be installed, with a total of 0.04 acres of concrete within the fenced area. A 20-foot-wide gravel access road is proposed to provide access to the solar arrays and associated infrastructure. A 16-foot-wide gravel access road is proposed at the west edge of the property for Ameren access to the utility meter. The post-development site conditions are presented in **Appendix A, Figure 2.**

Assumptions

- This Technical Memorandum has been prepared to comply with Piatt County Solar Ordinance J(2)(E) and J(2)(F) for the purpose of obtaining a Special Use Permit for the Project Area. The information provided herein is based on conceptual site development plans which are subject to change and do not constitute a complete design. This Technical Memorandum shall not be used for construction purposes.
- This analysis does not account for potential stormwater run-on to the Project Area.
- This analysis evaluates stormwater runoff for the general Project Area as a whole and does not consider sub-watersheds or specific outfalls within the Project Area.
- Other assumptions provided in the Technical Memorandum.

Hydrologic Analysis

In general, stormwater runoff is dictated by geographic region/ climate, precipitation, soil type/ classification, topography, ground cover, and stormwater infrastructure. This analysis utilizes the Soil Conservation Service (SCS) runoff curve number method to estimate stormwater runoff. The following sections present the assumptions and methods used for evaluating the pre-development condition (agricultural field) and post-development condition (native vegetative cover and photovoltaic system).

Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 2, Version 3, Precipitation Frequency Data Server (PFDS). The geographic location of the Project Area was input into the PFDS and the precipitation frequency estimates summarized in Table 1 were returned. The complete PFDS output is presented in **Appendix B**.

Table 1: Precipitation Summary

24-hour Design Storm	Rainfall Depth (inches)
1-year	2.57
2-year	3.07
5-year	3.74
10-year	4.31
25-year	5.18
50-year	5.95
100-year	6.82

Soil Classification

The Natural Resources Conservation Service (NRCS) Web Soil Survey provides information on soils for a specific area of interest. The soil resource report is included as **Appendix C** and provides the hydrologic soil groups (HSG) for the Project Area. The soil types identified in the NRCS report include Dana Silt Loam (56B2) with HSG C, Drummer Silty Clay Loam (152A) with HSG D, Flanagan Silt Loam (154A) with HSG D, and Peotone Silty Clay Loam (330A) with HSG D. If multiple HSG's were provided for a given soil, the more conservative classification, i.e. classification with greater runoff potential, was selected.

Runoff Curve Number

A runoff curve number (CN) is used to estimate rainfall excess based upon land use, ground cover and soil conditions in the watershed. CN's were developed using methods outlined in TR-55. For pre-development conditions, the Project area is comprised of two primary ground cover types: agricultural fields and woods. An area weighted CN is used where multiple ground covers exist in a watershed. The area weighted CN determination for the pre-development conditions is presented in Table 2.

Table 2: Pre-Development Weighted CN Determination

Ground Cover Type	Area (Acres)	Percent of Total Watershed Area (%)	NRCS TR-55, Ch. 2 CN	Product
Straight Row Crops, Good, HSG C	16.08	13.3	85	11
Straight Row Crops, Good, HSG D	102.62	84.9	89	75
Woods, Good, HSG C	0.94	0.8	70	1
Woods, Good, HSG D	0.28	0.2	77	0
Impervious Area, HSG C	0.26	0.2	98	0
Impervious Area, HSG D	0.76	0.6	98	1
			Weighted CN	**88**

For post-development conditions, much of the agricultural field area will be planted with native vegetation resulting in a meadow ground cover. The solar panels will be installed above grade, supported by posts embedded in the ground. The drip line will be located close enough to the ground to limit scour in the grass cover. Vegetation will be maintained throughout the Project Area and may be mowed as needed to reduce solar obstructions. The above ground installation will facilitate vegetative growth and stormwater infiltration within the solar array footprint. A gravel road will be constructed to provide access to the panels and equipment. A second gravel access road will be constructed on the west side of the property. The area weighted CN determination for the post-development condition is presented in Table 3.

Table 3: Post-Development Weighted CN Determination

Ground Cover Type	Area (Acres)	Percent of Total Watershed Area (%)	NRCS TR-55, Ch. 2 CN	Product
Meadow, HSG C	0.24	0.2	71	0
Meadow, HSG D	20.72	17.1	78	13
Straight Row Crops, Good, HSG C	15.57	12.9	85	10
Straight Row Crops, Good, HSG D	80.69	66.7	89	59
Woods, Good, HSG C	0.94	0.8	70	1
Woods, Good, HSG D	0.28	0.2	77	1
Impervious Area, HSG C	0.26	0.2	98	1
Impervious Area, HSG D	0.80	0.7	98	1
Gravel Road	1.44	1.2	96	1
			Weighted CN	**87**

Time of Concentration

Time of concentration (Tc) is defined in TR-55 as the time for runoff to travel from the most hydraulically distant point of a watershed to a point of interest in a watershed. Factors that impact Tc include surface cover, slope, and stormwater infrastructure. No major grading plans are proposed for the existing surface slopes and overall ground cover conditions will be improved as presented in the CN determinations. In general, runoff will begin as sheet flow and then will transition to shallow concentrated flow over much of the Project Area. It is assumed the time of concentration will remain unchanged for the pre-development and post-development conditions as the discontinuous nature of the driven steel posts and relatively small percentage of impervious surfaces will not significantly alter the natural runoff patterns.

Calculations and Results

The volume of runoff is estimated using methods described in Chapter 2 of TR-55 and the following equations:

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)} \quad and \quad S = \frac{1000}{CN} - 10$$

Where:

Q = runoff (in)
P = rainfall (in)
S = potential maximum retention after runoff begins (in)
CN = runoff curve number

The results of the pre- and post-development stormwater runoff are summarized in Tables 4 and 5.

Table 4: Pre-Development Stormwater Runoff

Design Storm (24-hour)	P, Rainfall (in)	CN, Runoff Curve Number	S, Potential Retention (in)	Q, Runoff (in)	Total Runoff (ac-ft)
1-year	2.57	88	1.31	1.47	14.83
2-year	3.07	88	1.31	1.91	19.29
5-year	3.74	88	1.31	2.53	25.45
10-year	4.31	88	1.31	3.06	30.81
25-year	5.18	88	1.31	3.88	39.13
50-year	5.95	88	1.31	4.62	46.58
100-year	6.82	88	1.31	5.46	55.07

Table 5: Post-Development Stormwater Runoff

Design Storm (24-hour)	P, Rainfall (in)	CN, Runoff Curve Number	S, Potential Retention (in)	Q, Runoff (in)	Total Runoff (ac-ft)
1-year	2.57	87	1.55	1.34	13.52
2-year	3.07	87	1.55	1.77	17.82
5-year	3.74	87	1.55	2.36	23.82
10-year	4.31	87	1.55	2.88	29.06
25-year	5.18	87	1.55	3.69	37.24
50-year	5.95	87	1.55	4.42	44.60
100-year	6.82	87	1.55	5.26	53.00

Erosion and Sediment Control

Development of the Project Area will also include the implementation of best management practices (BMP's) to protect water quality in accordance with federal, state, and local ordinance. Wetlands immediately adjacent to the photovoltaic area were identified during a delineation performed by Encap Inc. on May 21, 2025. Erosion and sediment control (ESC) measures will be installed and maintained with the primary objective of preserving nearby wetland habitat.

Based on the conceptual site development plans, land disturbing activities will include discing or scarifying the former agricultural fields to facilitate seeding of native vegetation, construction of a gravel access road, concrete placement for the equipment pad footings, and installation of electric utility

infrastructure. BMP's identified for the project include construction road stabilization, permanent seeding, silt fence, construction entrance, and concrete washout facility. The ESC measures are presented in **Appendix A, Figure 3.**

Conclusion

The following conclusions resulted from the assessment:

- The proposed development includes the installation of a photovoltaic module ground mount system that will encompass approximately 21 acres of the 120.94-acre Project Area.
- Stormwater calculation results based on conceptual site development plans indicate the post-development condition (meadow vegetative cover and photovoltaic system) will produce a lower runoff volume than the pre-development condition (agricultural field) for the 1, 2, 5, 10, 25, 50, and 100-yr, 24-hr design storms. This is made possible due to converting the agricultural fields to a meadow, the above grade installation of solar panels, and relatively small quantity of impervious area constructed during the development.
- Erosion and sediment control BMP's will be implemented to protect water quality in accordance with federal, state, and local ordinance.

References

- NRCS, "Urban Hydrology for Small Watersheds", Technical Release 55 (TR-55), Second Ed., June 1986.
- NOAA, Precipitation Frequency Data Server, https://hdsc.nws.noaa.gov/pfds/ , Website accessed 9/24/25.
- NRCS, Web Soil Survey, Version 3.4.0, https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx , Website accessed 9/24/25.

Appendices

Appendix A Project Site Figures
- Figure 1 - Pre-Development Condition
- Figure 2 - Post-Development Condition
- Figure 3 - Erosion and Sediment Control

Appendix B NOAA Atlas 14, Vol. 2, Ver. 3, for Monticello, Illinois

Appendix C NRCS Custom Soil Resource Report for Piatt County, Illinois

CDR/JF
B:\Working\SOL SOURCE POWER, LLC\2501182 Illinois Solar Portfolio 2025\Task 12_E Monticello Solar 1 LLC\Task 12.08.01_Stormwater\E_Monticello_Solar_1_LLC_Stormwater_Memo_SolSource_DRAFT.docx

Appendix A Project Site Figures

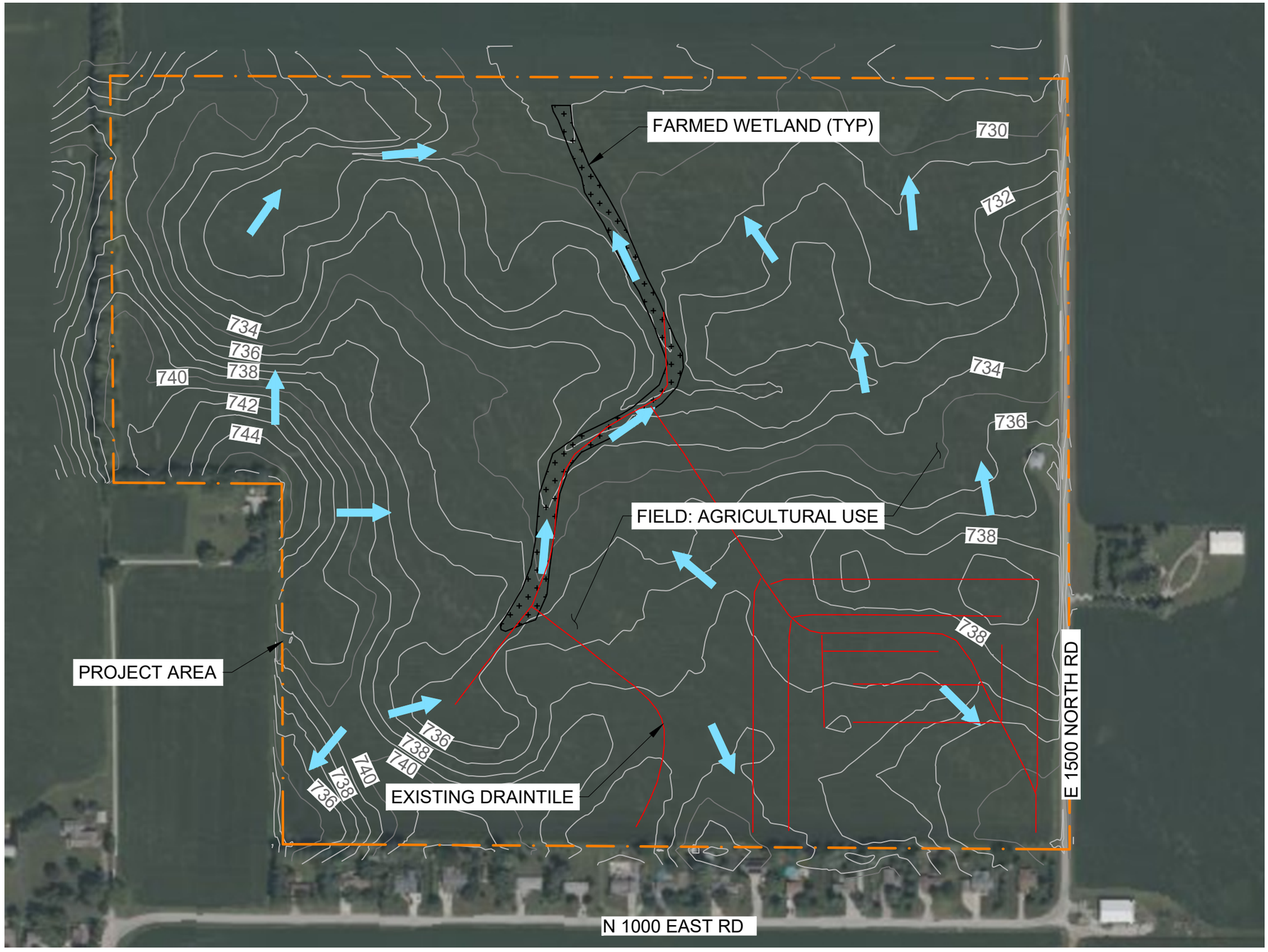
- **Figure 1 - Pre-Development Condition**
- **Figure 2 - Post-Development Condition**
- **Figure 3 - Erosion and Sediment Control**

LEGEND:

- PROPERTY LINE
- DELINEATED WETLAND
- 740 — MAJOR TOPOGRAPHIC CONTOUR
- 742 — MINOR TOPOGRAPHIC CONTOUR
- SURFACE WATER FLOW
- EXISTING DRAIN TILE

PRE-DEVELOPMENT LAND CHARACTERISTICS

GROUND COVER TYPE	AREA (AC)
STRAIGHT ROW CROPS, GOOD, HSG C	16.08
STRAIGHT ROW CROPS, GOOD, HSG D	102.62
WOODS, GOOD, HSG C	0.94
WOODS, GOOD, HSG D	0.28
IMPERVIOUS AREA, HSG C	0.26
IMPERVIOUS AREA, HSGD	0.76
WEIGHTED CN = 88	



NOTES:

1. AERIAL IMAGERY OBTAINED FROM © 2025 MICROSOFT CORPORATION, © 2025 MAXAR, AND © CNES (2025) DISTRIBUTION AIRBUS.
2. FIELD WETLAND AND WATERWAY DELINEATION PERFORMED BY ENCAP INC. ON MAY 21, 2025.
3. TOPOGRAPHIC CONTOURS OBTAINED FROM SITE SURVEY COMPLETED BY JLH LAND SURVEYING INC. ON OCTOBER 14, 2025.

N

0 300 600

SCALE, FEET

Technical Memorandum - Conceptual Stormwater
East Monticello Solar 1, LLC.
1018 E. 1500 North Road, Monticello, IL 61856

Sol Source Power Devco, LLC.

GEI Consultants

PRE-DEVELOPMENT CONDITION

Project 2501182 | 12/19/2025 | Fig. 1

LEGEND:

- PROPERTY LINE
- DELINEATED WETLAND
- GRAVEL ROAD
- X — FENCE
- U/E — UNDERGROUND ELECTRIC
- EQUIPMENT PAD
- SOLAR PANELS
- EXISTING DRAIN TILE

POST-DEVELOPMENT LAND CHARACTERISTICS

GROUND COVER TYPE	AREA (AC)
MEADOW, HSG C	0.24
MEADOW, HSG D	20.72
STRAIGHT ROW CROPS, GOOD, HSG C	15.57
STRAIGHT ROW CROPS, GOOD, HSG D	80.69
WOODS, GOOD, HSG C	0.94
WOODS, GOOD, HSG D	0.28
IMPERVIOUS AREA, HSG C	0.26
IMPERVIOUS AREA, HSG D	0.80
GRAVEL ROAD	1.44
WEIGHTED CN = 87	

NOTES:

1. AERIAL IMAGERY OBTAINED FROM © 2025 MICROSOFT CORPORATION, © 2025 MAXAR, AND © CNES (2025) DISTRIBUTION AIRBUS.
2. FIELD WETLAND AND WATERWAY DELINEATION PERFORMED BY ENCAP INC. ON MAY 21, 2025.
3. CONCEPTUAL PHOTOVOLTAIC SYSTEM LAYOUT OBTAINED FROM SOL SOURCE POWER DEVCON, LLC. "SITE LAYOUT" DWG. NO. C-101, REV. 5.

0 300 600
SCALE, FEET

Technical Memorandum - Conceptual Stormwater
East Monticello Solar 1, LLC.
1018 E. 1500 North Road, Monticello, IL 61856

Sol Source Power Devco, LLC.

GEI Consultants

POST-DEVELOPMENT CONDITION

Project 2501182 | 12/19/2025 | Fig. 2

LEGEND:

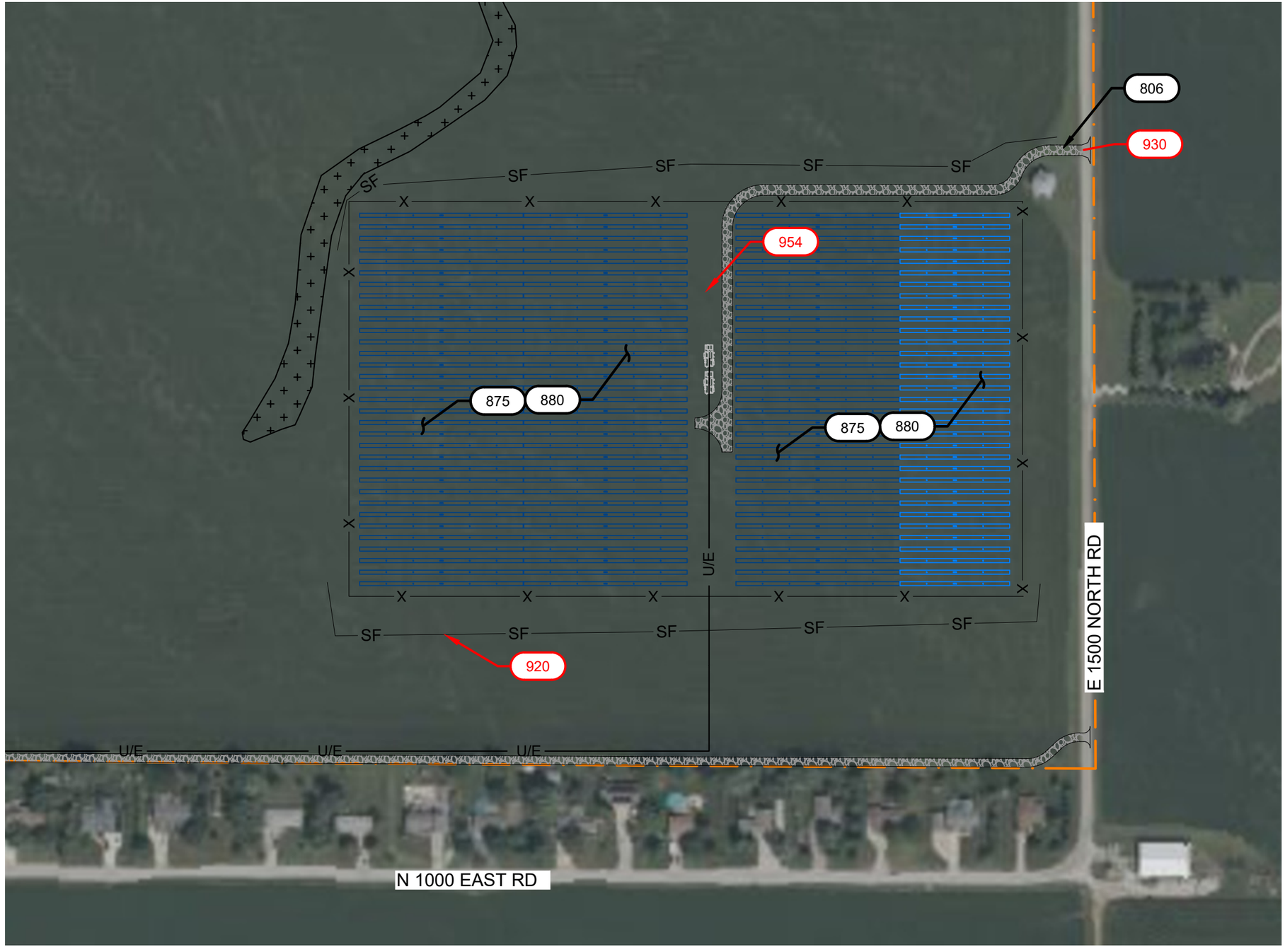
- PROPERTY LINE
- DELINEATED WETLAND
- GRAVEL ROAD
- X — FENCE
- U/E — UNDERGROUND ELECTRIC
- EQUIPMENT PAD
- SOLAR PANELS
- SF — SILT FENCE

ESC LEGEND:

CODE	***PRACTICE STANDARD***
806	CONSTRUCTION RD. STABILIZATION
875	MULCHING
880	PERMANENT VEGETATION
920	SILT FENCE
930	CONSTRUCTION ENTRANCE
954	CONCRETE WASHOUT FACILITY
000	TEMPORARY BMP
000	PERMANENT BMP

NOTES:

1. AERIAL IMAGERY OBTAINED FROM © 2025 MICROSOFT CORPORATION, © 2025 MAXAR, AND © CNES (2025) DISTRIBUTION AIRBUS.
2. FIELD WETLAND AND WATERWAY DELINEATION PERFORMED BY ENCAP INC. ON MAY 21, 2025.
3. CONCEPTUAL PHOTOVOLTAIC SYSTEM LAYOUT OBTAINED FROM SOL SOURCE POWER DEVCON, LLC. "SITE LAYOUT" DWG. NO. C-101, REV. 5.



N

0 200 400

SCALE, FEET

Technical Memorandum - Conceptual Stormwater East Monticello Solar 1, LLC. 1018 E. 1500 North Road, Monticello, IL 61856	GEI Consultants	EROSION AND SEDIMENT CONTROL
Sol Source Power Devco, LLC.	Project 2501182	12/19/2025 Fig. 3

Appendix B NOAA Atlas 14, Vol. 2, Ver. 3, for Monticello, Illinois

NOAA Atlas 14, Volume 2, Version 3
Location name: Monticello, Illinois, USA*
Latitude: 40.0168°, Longitude: -88.5581°
Elevation: 729 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.407** (0.374-0.445)	**0.483** (0.443-0.529)	**0.573** (0.525-0.627)	**0.645** (0.590-0.705)	**0.736** (0.671-0.805)	**0.809** (0.734-0.883)	**0.880** (0.794-0.960)	**0.955** (0.857-1.04)	**1.06** (0.940-1.15)	**1.13** (1.00-1.23)
10-min	**0.632** (0.581-0.691)	**0.753** (0.692-0.826)	**0.890** (0.816-0.975)	**0.995** (0.910-1.09)	**1.13** (1.03-1.23)	**1.23** (1.11-1.34)	**1.32** (1.20-1.44)	**1.42** (1.28-1.55)	**1.55** (1.38-1.69)	**1.65** (1.46-1.79)
15-min	**0.775** (0.712-0.847)	**0.921** (0.846-1.01)	**1.09** (1.00-1.20)	**1.22** (1.12-1.34)	**1.39** (1.27-1.52)	**1.52** (1.38-1.66)	**1.65** (1.49-1.79)	**1.77** (1.59-1.93)	**1.94** (1.72-2.11)	**2.06** (1.82-2.24)
30-min	**1.02** (0.943-1.12)	**1.23** (1.13-1.35)	**1.50** (1.37-1.64)	**1.70** (1.56-1.86)	**1.96** (1.79-2.15)	**2.17** (1.97-2.37)	**2.38** (2.14-2.59)	**2.59** (2.32-2.82)	**2.87** (2.55-3.13)	**3.09** (2.73-3.36)
60-min	**1.25** (1.15-1.37)	**1.51** (1.39-1.66)	**1.88** (1.72-2.06)	**2.16** (1.98-2.37)	**2.55** (2.32-2.78)	**2.86** (2.59-3.12)	**3.18** (2.87-3.46)	**3.51** (3.15-3.82)	**3.97** (3.53-4.32)	**4.33** (3.84-4.72)
2-hr	**1.49** (1.36-1.64)	**1.80** (1.64-1.97)	**2.22** (2.03-2.44)	**2.57** (2.34-2.82)	**3.07** (2.78-3.36)	**3.50** (3.16-3.82)	**3.97** (3.57-4.33)	**4.49** (4.02-4.90)	**5.27** (4.68-5.75)	**5.95** (5.25-6.49)
3-hr	**1.59** (1.45-1.76)	**1.92** (1.75-2.11)	**2.38** (2.16-2.62)	**2.75** (2.50-3.03)	**3.31** (3.00-3.64)	**3.79** (3.41-4.16)	**4.33** (3.88-4.74)	**4.93** (4.39-5.39)	**5.84** (5.16-6.38)	**6.63** (5.82-7.26)
6-hr	**1.88** (1.71-2.08)	**2.26** (2.06-2.50)	**2.78** (2.53-3.08)	**3.23** (2.93-3.56)	**3.88** (3.50-4.28)	**4.45** (3.99-4.89)	**5.07** (4.53-5.57)	**5.78** (5.13-6.34)	**6.85** (6.03-7.50)	**7.78** (6.80-8.52)
12-hr	**2.20** (2.02-2.40)	**2.63** (2.42-2.89)	**3.23** (2.96-3.53)	**3.72** (3.40-4.07)	**4.45** (4.05-4.86)	**5.08** (4.60-5.54)	**5.77** (5.20-6.29)	**6.54** (5.86-7.13)	**7.71** (6.86-8.39)	**8.72** (7.70-9.49)
24-hr	**2.57** (2.40-2.78)	**3.07** (2.86-3.32)	**3.74** (3.49-4.06)	**4.31** (4.01-4.68)	**5.18** (4.77-5.63)	**5.95** (5.43-6.48)	**6.82** (6.17-7.48)	**7.84** (6.98-8.65)	**9.41** (8.23-10.5)	**10.8** (9.32-12.2)
2-day	**2.99** (2.79-3.22)	**3.56** (3.32-3.84)	**4.30** (4.02-4.63)	**4.94** (4.59-5.32)	**5.88** (5.43-6.35)	**6.73** (6.16-7.30)	**7.69** (6.96-8.39)	**8.78** (7.86-9.67)	**10.5** (9.20-11.7)	**12.0** (10.4-13.6)
3-day	**3.20** (2.99-3.43)	**3.81** (3.56-4.09)	**4.58** (4.28-4.91)	**5.23** (4.87-5.61)	**6.19** (5.73-6.66)	**7.04** (6.46-7.60)	**7.98** (7.25-8.68)	**9.05** (8.14-9.93)	**10.7** (9.45-11.9)	**12.2** (10.6-13.7)
4-day	**3.41** (3.20-3.65)	**4.06** (3.80-4.34)	**4.86** (4.54-5.19)	**5.52** (5.15-5.90)	**6.50** (6.02-6.97)	**7.34** (6.76-7.90)	**8.28** (7.55-8.96)	**9.32** (8.42-10.2)	**10.9** (9.69-12.1)	**12.3** (10.8-13.8)
7-day	**4.00** (3.76-4.25)	**4.73** (4.45-5.03)	**5.56** (5.23-5.91)	**6.24** (5.86-6.64)	**7.24** (6.76-7.71)	**8.08** (7.51-8.64)	**9.00** (8.30-9.68)	**10.0** (9.15-10.8)	**11.5** (10.4-12.6)	**12.8** (11.5-14.2)
10-day	**4.56** (4.29-4.85)	**5.39** (5.07-5.73)	**6.31** (5.93-6.70)	**7.05** (6.61-7.49)	**8.12** (7.58-8.63)	**9.01** (8.37-9.62)	**9.96** (9.20-10.7)	**11.0** (10.1-11.9)	**12.5** (11.4-13.7)	**13.8** (12.4-15.2)
20-day	**6.24** (5.91-6.59)	**7.34** (6.96-7.75)	**8.46** (8.01-8.93)	**9.36** (8.84-9.87)	**10.6** (9.98-11.2)	**11.6** (10.9-12.3)	**12.7** (11.9-13.5)	**13.8** (12.8-14.8)	**15.4** (14.2-16.7)	**16.7** (15.3-18.3)
30-day	**7.66** (7.28-8.06)	**8.98** (8.53-9.45)	**10.3** (9.74-10.8)	**11.3** (10.7-11.9)	**12.8** (12.1-13.5)	**14.0** (13.2-14.8)	**15.2** (14.3-16.2)	**16.6** (15.5-17.8)	**18.6** (17.1-20.1)	**20.2** (18.4-22.0)
45-day	**9.59** (9.11-10.1)	**11.2** (10.7-11.8)	**12.7** (12.1-13.4)	**13.9** (13.2-14.6)	**15.6** (14.7-16.4)	**16.9** (16.0-17.9)	**18.3** (17.2-19.4)	**19.8** (18.5-21.1)	**21.8** (20.3-23.5)	**23.5** (21.6-25.5)
60-day	**11.4** (10.8-11.9)	**13.3** (12.7-13.9)	**15.0** (14.3-15.7)	**16.4** (15.6-17.2)	**18.3** (17.3-19.2)	**19.8** (18.7-20.9)	**21.4** (20.2-22.6)	**23.1** (21.6-24.5)	**25.4** (23.6-27.2)	**27.2** (25.1-29.5)

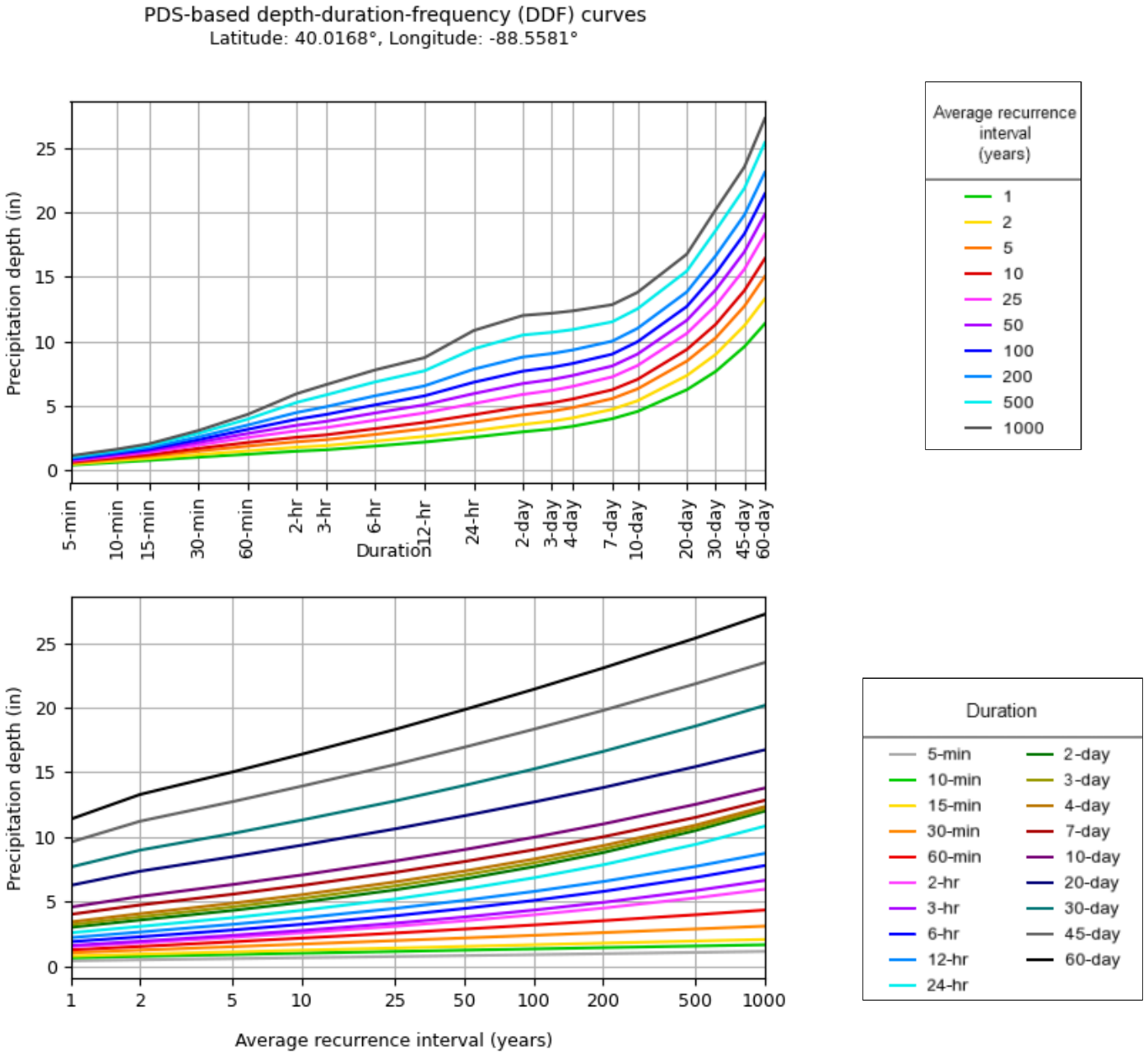
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

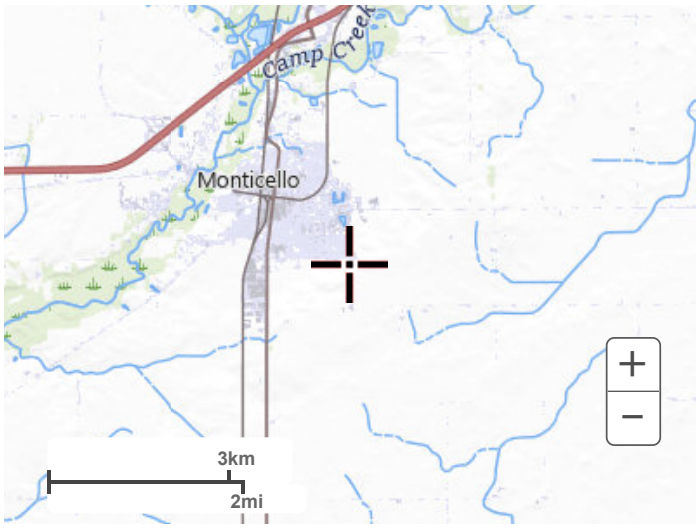


NOAA Atlas 14, Volume 2, Version 3 Created (GMT): Wed Sep 24 16:06:36 2025

Back to Top

Maps & aerials

Small scale terrain



Large scale terrain

Large scale map

Large scale aerial

Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix C NRCS Custom Soil Resource Report for Piatt County, Illinois

United States Department of Agriculture

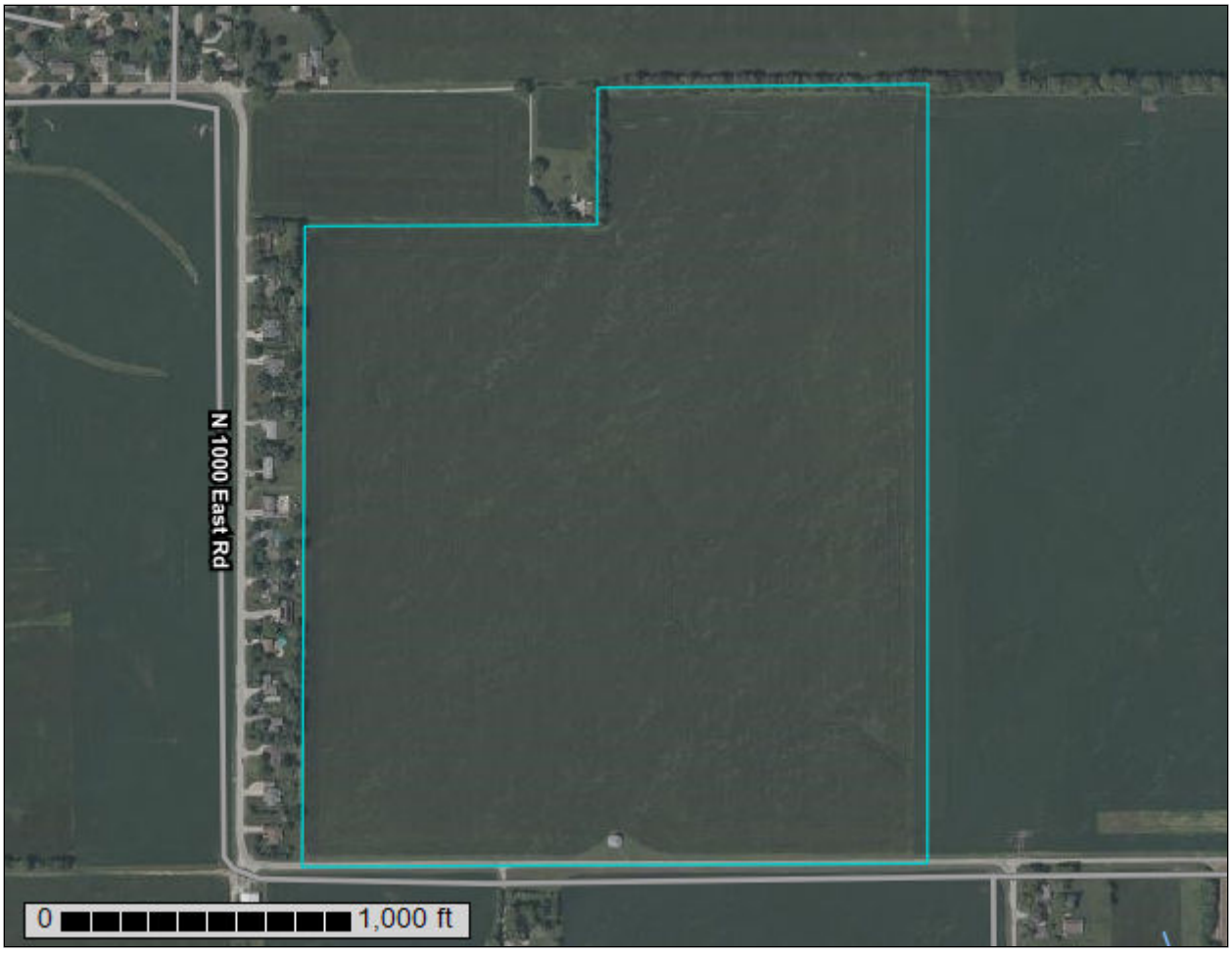
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Piatt County, Illinois

East Monticello Solar 1, LLC Area



September 24, 2025

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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

Contents

How Soil Surveys Are Made

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

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

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

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

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

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

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

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

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

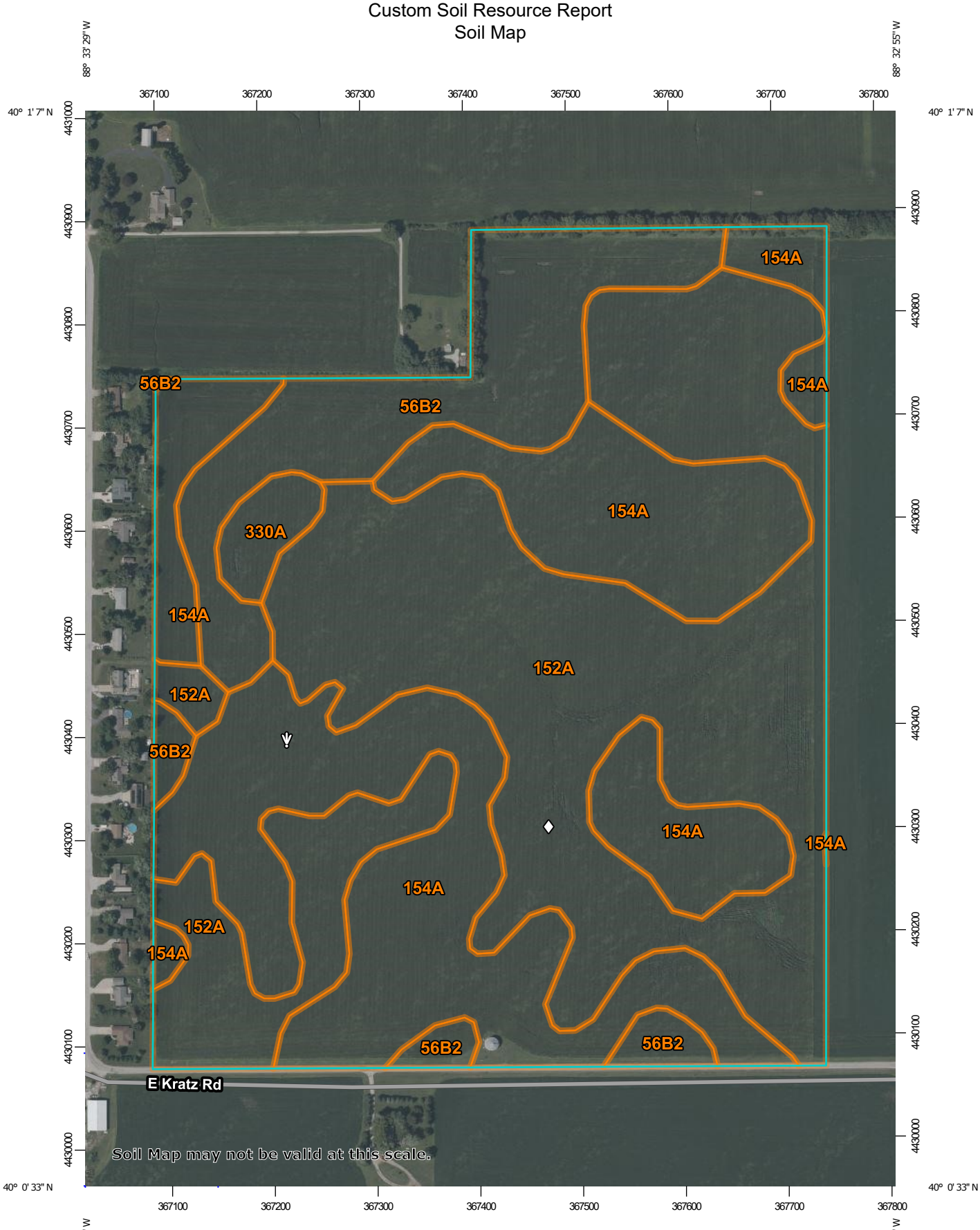
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:5,080 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Piatt County, Illinois
Survey Area Data: Version 20, Aug 21, 2024

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

Date(s) aerial images were photographed: Jul 7, 2023—Aug 31, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
56B2	Dana silt loam, 2 to 5 percent slopes, eroded	17.2	14.3%
152A	Drummer silty clay loam, 0 to 2 percent slopes	55.5	45.9%
154A	Flanagan silt loam, 0 to 2 percent slopes	46.2	38.2%
330A	Peotone silty clay loam, 0 to 2 percent slopes	1.9	1.6%
Totals for Area of Interest		**120.9**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Piatt County, Illinois

56B2—Dana silt loam, 2 to 5 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2smzx
Elevation: 610 to 870 feet
Mean annual precipitation: 37 to 43 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 165 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Dana, eroded, and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dana, Eroded

Setting

Landform: Ground moraines, till plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over loamy till

Typical profile

Ap - 0 to 7 inches: silt loam
Bt1 - 7 to 34 inches: silty clay loam
2Bt2 - 34 to 44 inches: clay loam
2BC - 44 to 53 inches: clay loam
2C - 53 to 60 inches: loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R108XA006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Drummer, drained

Percent of map unit: 4 percent
Landform: Swales on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R108XA013IL - Wet Outwash Prairie, R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

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

Map Unit Setting

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

Map Unit Composition

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

Description of Drummer, Drained

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: R111XD020IN - Wet Outwash Mollisol, R108XA013IL - Wet Outwash Prairie, R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Peotone, drained
Percent of map unit: 3 percent
Landform: Depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Harpster, drained
Percent of map unit: 3 percent
Landform: Depressions on outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY025IL - Ponded Calcareous Sedge Meadow
Hydric soil rating: Yes

154A—Flanagan silt loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2ssry
Elevation: 570 to 990 feet
Mean annual precipitation: 34 to 42 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 160 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Flanagan and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Flanagan

Setting

Landform: Ground moraines, till plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over loamy till

Typical profile

Ap - 0 to 8 inches: silt loam
A - 8 to 18 inches: silty clay loam
Bt1 - 18 to 32 inches: silty clay loam
Bt2 - 32 to 45 inches: silty clay loam
2Bt3 - 45 to 49 inches: silt loam
2C - 49 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Ecological site: R108XA006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Elpaso, drained

Percent of map unit: 4 percent
Landform: Ground moraines, till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R108XA007IL - Wet Loess Upland Prairie, R110XY024IL - Ponded Depressional Sedge Meadow, R108XA008IL - Ponded Loess Sedge Meadow

Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

330A—Peotone silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2sn05
Elevation: 500 to 1,020 feet
Mean annual precipitation: 33 to 43 inches
Mean annual air temperature: 46 to 55 degrees F
Frost-free period: 140 to 195 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Peotone, drained, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peotone, Drained

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey colluvium

Typical profile

Ap - 0 to 7 inches: silty clay loam
Bg1 - 7 to 27 inches: silty clay loam
Bg2 - 27 to 50 inches: silty clay
Cg - 50 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

Peotone, long duration ponding

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F095XB004WI - Wet Loamy or Clayey Lowland
Hydric soil rating: Yes

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf