



December 15, 2020  
File: 172658241

**Attention: Ms. Emily Truebner**  
Martin County Solar Project, LLC  
422 Admiral Blvd  
Kansas City, MO 64106

Dear Ms. Truebner,

**Reference: Martin County Solar Project: Wetland Delineation Summary**

Stantec was retained by Savion to identify, delineate, and report on any potentially jurisdictional water resources within the 1,053-acre proposed Martin County Solar site (“the Project”) near Inez in Martin County, Kentucky (see mapping in **Attachment A**).

The Project is located within the Pigeonroost Fork (050702010504) and Upper Wolf Creek (050702010503) drainages within the Tug Fork watershed (HUC 05070201) and is drained by a combination of Pigeonroost Fork, Petercave Fork, a tributary to Pigeonroost Fork, and Wolf Creek (KYDOW 2020). The Project itself consists mainly of reclaimed mine land with small areas of intact native forested land on the periphery. As such, native vegetation is sparse, and the natural hydrology has been significantly altered. Soils within the Project are shallow, approx. 3-8 inches in depth, and are underlain by mine spoil (crushed up rock and coal residuals). The U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) identifies only two natural streams within the Project boundaries, Pigeonroost Fork and Petercave Fork. All other features are classified either as a canal/ditch or pipeline (see **Figure 2** in **Attachment A**). The pipeline feature is a subterranean pipeline (aqueduct) that was constructed to drain the upper section of Petercave Fork (south of the Project) to the lower section (north/east/south of the Project boundary). The pipeline runs north underneath the Project and exits at the head of the Petercave Fork drainage.

Due to gaps in aerial imagery in the area it is difficult to determine when exactly surface mining began on the Project. Imagery in 1957 shows that the site was untouched at this time; however, in 1983, the majority of the area was currently operating as a surface mine (NETR 2020). By 1995, most of the site was reclaimed and appears to be operating mainly as pasture/farmland. Two areas appear to still be operating as smaller surface mining operations, specifically, the northernmost and easternmost portions of the Project. Mining continued on the easternmost portion of the Project through 2003 and was reclaimed by 2004. The northernmost portion continued to be mined through 2009. By 2010 all of the site was reclaimed mine operating mainly as pasture/farmland with exception to the small areas of native forest remaining on the Project (NETR 2020).

This complex hydrology not only made the identification of surface waters challenging, but it also further complicated the question of jurisdiction under Section 404 of the Clean Water Act (CWA). Most of the streams on-site were observed to be dry with no flowing water, even one day after a significant rain event. Studies of the hydrology of reclaimed mine sites show that reclaimed mine sites, especially those with compacted soils, have increased peak flow and shorter storm-flow lag times. Additionally, it was found that

Reference: Martin County Solar Project: Wetland Delineation Summary

mine sites reclaimed with soil mixed with overburden (as is likely the case within the Project) have increased infiltration rates due to increased subsurface void space (Evans et al. 2015).

There has been a recent change in the interpretation of waters subject to jurisdiction under Section 404 of the Clean Water Act (CWA). Previous regulations and guidance used the determination of a “significant nexus” for a hydrologic connection to identify streams and wetlands that fell under the protection of the CWA; allowing for the regulation of ephemeral streams. The recently passed Navigable Waters Protection Rule (NWPR) substantially narrows the scope of waterbodies subject to regulation under the CWA by a) excluding ephemeral streams/water features, b) requiring rivers, streams, and other natural channels, i.e., tributaries, to directly or indirectly contribute surface flow to a territorial sea or traditional navigable water, c) excluding lakes and wetlands that do not have a direct surface water connection to jurisdictional waters, and d) excluding water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining activity. For this reason, and to support the development of an *Approved Jurisdictional Determination* for the Project area, columns for “Receiving Water( )” and “Opinion of Jurisdiction” have been added to the resource tables below.

## FIELD RESULTS

Field delineations of stream and wetland resources were completed by multiple field teams between October 30<sup>th</sup> and November 7<sup>th</sup>, 2020. Weather during the delineation was relatively mild. Temperatures ranged from 40-75° Fahrenheit and there was little to no precipitation. One significant rain event occurred the day/night before delineations began. According to the Inex 2 E, KY rain gauge approximately 1.16” of rain fell on October 29<sup>th</sup> and 30<sup>th</sup> (NOAA 2020).

These wetland delineations were conducted according to the standard methods set forth in the U.S. Army Corps of Engineers (USACE) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. Stream determinations were made based on the presence of ordinary high-water mark indicators and indicators of flow duration (ephemeral, intermittent, or perennial). These field efforts resulted in the identification of 40 streams, 53 wetlands and 4 open water features.

## STREAMS

Of the 40 streams identified within the project area, 33 were ephemeral channels that appear to only flow in direct response to precipitation and therefore are likely not considered jurisdictional under the NWPR (**Table 1**). Five (5) additional channels were determined to be intermittent streams with potential to fall under jurisdiction of the NWPR, however, the determination of whether these streams are jurisdictional is complicated by the historic mining conducted on the site and the determination of whether these features are natural or were constructed at the time the mine was reclaimed. As discussed earlier, the NWPR does not regulate water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining activity.

Five (5) intermittent streams and two (2) perennial streams were delineated within the Project. Under the NWPR it is anticipated that of the intermittent streams delineated within the Project, Streams 4, 10, and 27 are likely to be non-jurisdictional. Stream 4 is a man-made ditch and runs southeast along an access road until exiting the Project and flowing into a mine pond. Stream 10 is a likely non-jurisdictional man-made

Reference: **Martin County Solar Project: Wetland Delineation Summary**

ditch with berms constructed on either side built to drain an onsite pond (OW-01) into a jurisdictional wetland (Wetland AF) and into a jurisdictional open water feature (OW-02). Stream 27 (intermittent) flows into a non-jurisdictional stream before entering offsite jurisdictional features. Stream 11, a jurisdictional intermittent stream, receives flow downstream of OW-02, Wetland AD, Wetland AE, and Wetland AF and flows to a confluence with Stream 12 (Petercave Fork). Stream 23 (intermittent) has a direct surface water connection to Stream 22 (Pigeonroost Fork) and, therefore, is jurisdictional.

**Table 1. Delineated Channel Segments**

Name	Flow Class	Length (ft)	Likely Jurisdiction	Latitude	Longitude
Stream 01	Ephemeral	3626.3	Non-Jurisdictional	37.75189683	-82.47149691
Stream 02	Ephemeral	299.9	Non-Jurisdictional	37.75192918	-82.46422837
Stream 03	Ephemeral	1340.6	Non-Jurisdictional	37.75130698	-82.46376551
Stream 04	Intermittent	1871.9	Non-Jurisdictional (Ditch)	37.75332938	-82.47411976
Stream 05	Ephemeral	170.1	Non-Jurisdictional	37.75217028	-82.47292611
Stream 06	Ephemeral	2333.6	Non-Jurisdictional	37.75027268	-82.46909607
Stream 07	Ephemeral	1426.2	Non-Jurisdictional	37.76300112	-82.47726942
Stream 08	Ephemeral	494.5	Non-Jurisdictional	37.74376756	-82.49007077
Stream 09	Ephemeral	1190.4	Non-Jurisdictional	37.75777042	-82.47627247
Stream 10	Intermittent	663.4	Non-Jurisdictional (Ditch)	37.76624443	-82.45929003
Stream 11	Intermittent	1914.5	Jurisdictional	37.76558856	-82.45863888
Stream 12 (Petercave Fork)	Perennial	281.8	Jurisdictional	37.7626547	-82.45816713
Stream 13	Ephemeral	135.1	Non-Jurisdictional	37.76408033	-82.45835007
Stream 14	Ephemeral	151.4	Non-Jurisdictional	37.76555921	-82.45920935
Stream 15	Ephemeral	579.9	Non-Jurisdictional	37.76564147	-82.45893353
Stream 16	Ephemeral	143.9	Non-Jurisdictional	37.76544999	-82.45924493
Stream 17	Ephemeral	988.2	Non-Jurisdictional	37.75844144	-82.45325437
Stream 18	Ephemeral	173.6	Non-Jurisdictional	37.75922398	-82.45242698
Stream 19	Ephemeral	387.6	Non-Jurisdictional	37.75512804	-82.45160772
Stream 20	Ephemeral	859.9	Non-Jurisdictional	37.75228479	-82.45840699
Stream 21	Ephemeral	1063.0	Non-Jurisdictional	37.75034618	-82.46115693
Stream 22 (Pigeonroost Fork)	Perennial	1344.2	Jurisdictional	37.73933842	-82.44162914

Reference: **Martin County Solar Project: Wetland Delineation Summary**

Stream 23	Intermittent	249.1	Jurisdictional	37.73865887	-82.44004285
Stream 24	Ephemeral	42.2	Non-Jurisdictional	37.73887619	-82.44045959
Stream 25	Ephemeral	720.3	Non-Jurisdictional	37.73894375	-82.43996992
Stream 26	Ephemeral	1466.0	Non-Jurisdictional	37.74194678	-82.44812195
Stream 27	Intermittent	187.6	Jurisdictional	37.74230206	-82.44683565
Stream 28	Ephemeral	670.7	Non-Jurisdictional	37.74278944	-82.4489742
Stream 29	Ephemeral	462.5	Non-Jurisdictional	37.73876708	-82.44238002
Stream 30	Ephemeral	113.2	Non-Jurisdictional	37.73914148	-82.44307393
Stream 31	Ephemeral	232.1	Non-Jurisdictional	37.73981859	-82.44445076
Stream 32	Ephemeral	142.5	Non-Jurisdictional	37.73981787	-82.4450329
Stream 33	Ephemeral	616.7	Non-Jurisdictional	37.74047163	-82.4454396
Stream 34	Ephemeral	289.8	Non-Jurisdictional	37.74086673	-82.4458699
Stream 35	Ephemeral	822.8	Non-Jurisdictional	37.7418373	-82.44725334
Stream 36	Ephemeral	1247.9	Non-Jurisdictional	37.7426085	-82.45057116
Stream 37	Ephemeral	426.7	Non-Jurisdictional	37.74265407	-82.4500218
Stream 38	Ephemeral	1402.8	Non-Jurisdictional	37.74411224	-82.45250267
Stream 39	Ephemeral	701.5	Non-Jurisdictional	37.74321982	-82.45231713
Stream 40	Ephemeral	78.4	Non-Jurisdictional	37.74600391	-82.45360422
<b>Total</b>	<b>40 Streams</b>	<b>31,312.6 ft</b>	<b>3,977.2 ft Jurisdictional</b>		

## WETLANDS

Most of the 53 wetland features delineated within the project area are closed depressions that have no direct surface connection to jurisdictional waters (**Table 2**). As a result, only six wetlands (Wetland AD, Wetland AE, Wetland AF, Wetland AH, Wetland AU and Wetland AV) would likely be considered jurisdictional. Wetland AF and AE have direct surface water connections with OW-02 which flows directly into Wetland AD, into Stream 11 and ending up in Stream 12 (Petercave Fork). Wetlands AH and AV are located within the floodplains of Petercave Fork and Pigeonroost Fork respectively and, as such, are both jurisdictional. Wetland AU has a direct surface water connection with stream Stream 23, which flows into Pigeonroost Fork. Because the remaining wetlands lack a direct connection to jurisdictional waters they would likely be considered isolated and not subject to regulation under the CWA.

Reference: Martin County Solar Project: Wetland Delineation Summary

**Table 1. Delineated Wetland Resources**

Name	Cowardin Class	Area (ac)	Receiving Feature / Water	Likely Jurisdiction	Latitude	Longitude
Wet-A	PEM	0.267	Stream-01 (Ephemeral)	Non-Jurisdictional	37.7681218	-82.45860674
Wet-B	PEM	0.067	None	Isolated	37.76758677	-82.46085395
Wet-C	PEM	0.066	None	Isolated	37.7674318	-82.46403343
Wet-D	PEM	0.096	None	Isolated	37.76819634	-82.46305892
Wet-E	PEM	0.115	None	Isolated	37.76929169	-82.46132324
Wet-F	PEM	0.209	None	Isolated	37.76867036	-82.46071603
Wet-G	PEM	0.169	None	Isolated	37.76538379	-82.46270271
Wet-H	PEM	0.031	None	Isolated	37.76499092	-82.46305549
Wet-I	PEM	0.174	None	Isolated	37.76469341	-82.46969527
Wet-J	PSS/PEM	0.817	None	Isolated	37.76572356	-82.47329661
Wet-K	PEM	0.084	None	Isolated	37.75897597	-82.4749662
Wet-L	PSS/PEM	0.072	None	Isolated	37.74108365	-82.49266307
Wet-M	PEM	0.335	None	Isolated	37.76098388	-82.47820066
Wet-N	PEM	0.089	None	Isolated	37.76304144	-82.47381593
Wet-O	PEM	0.421	None	Isolated	37.7661017	-82.47038843
Wet-P	PEM	0.151	None	Isolated	37.76682943	-82.45663596
Wet-Q	PEM	0.055	None	Isolated	37.76472573	-82.46028293
Wet-R	PEM	0.053	None	Isolated	37.76528876	-82.46000988
Wet-S	PSS/PEM	0.182	None	Isolated	37.76741256	-82.45868565
Wet-T	PEM	0.009	None	Isolated	37.76726586	-82.45870126
Wet-U	PEM	0.259	None	Isolated	37.76722901	-82.45919792
Wet-V	PEM	0.189	None	Isolated	37.76675534	-82.45914573
Wet-W	PEM	0.076	None	Isolated	37.76265035	-82.45824951
Wet-X	PEM	0.016	None	Isolated	37.7681218	-82.45860674
Wet-Y	PEM	0.090	None	Isolated	37.76758677	-82.46085395
Wet-Z	PEM	0.143	None	Isolated	37.7674318	-82.46403343
Wet-AA	PEM	0.407	None	Isolated	37.76819634	-82.46305892
Wet-AB	PEM	0.004	None	Isolated	37.76929169	-82.46132324
Wet-AC	PEM	0.049	OW-01 (Isolated)	Non-Jurisdictional	37.76867036	-82.46071603

Reference: **Martin County Solar Project: Wetland Delineation Summary**

Wet-AD	PEM	0.014	Stream-11 (Intermittent)	Jurisdictional	37.76538379	-82.46270271
Wet-AE	PEM	0.045	OW-02	Jurisdictional	37.76499092	-82.46305549
Wet-AF	PEM	0.022	OW-02	Jurisdictional	37.76469341	-82.46969527
Wet-AG	PEM	0.023	Stream-10 (Ditch)	Non-Jurisdictional	37.76572356	-82.47329661
Wet-AH	PEM	0.208	Stream-12 (Perennial)	Jurisdictional	37.75897597	-82.4749662
Wet-AI	PEM	0.042	None	Isolated	37.75059233	-82.45851739
Wet-AJ	PEM	0.336	None	Isolated	37.75154265	-82.45637072
Wet-AK	PEM	0.029	None	Isolated	37.75246602	-82.45346061
Wet-AL	PEM	0.103	None	Isolated	37.7525627	-82.45302473
Wet-AM	PEM	0.022	None	Isolated	37.75254418	-82.45249499
Wet-AN	PEM	0.017	None	Isolated	37.75561573	-82.45540107
Wet-AO	PEM	0.095	None	Isolated	37.75833701	-82.45163623
Wet-AP	PEM	0.108	None	Isolated	37.75483358	-82.45268184
Wet-AQ	PEM	0.171	None	Isolated	37.75523406	-82.45320026
Wet-AR	PEM	0.047	None	Isolated	37.74917999	-82.46230964
Wet-AS	PEM	0.241	None	Isolated	37.74737088	-82.45806182
Wet-AT	PEM	0.044	None	Isolated	37.73893291	-82.44034204
Wet-AU	PEM	0.017	Stream-23 (Intermittent)	Jurisdictional	37.73832992	-82.43988378
Wet-AV	PEM	0.148	Stream-24 (Ephemeral)	Jurisdictional	37.74251939	-82.44880571
Wet-AW	PEM	0.181	Stream-28 (Ephemeral)	Non-Jurisdictional	37.74233836	-82.44919424
Wet-AX	PEM	0.024	Stream-37 (Ephemeral)	Non-Jurisdictional	37.74254013	-82.45024191
Wet-AY	PEM	0.104	Stream-39 (Ephemeral)	Non-Jurisdictional	37.7443483	-82.4526321
Wet-AZ	PEM	0.015	None	Isolated	37.74538523	-82.45194287
Wet-BA	PEM	0.016	None	Isolated	37.74578788	-82.45213805
<b>0.454 acres Jurisdictional</b>						

## OPEN WATER FEATURES

Of the four (4) open water features identified within the Project area (**Table 3**), three features have no direct surface water connection to jurisdictional waters; only one pond has a direct connection, OW-02. Feature OW-02 flows into wetland Wet-AD and then Stream 11 which is connected to Stream 12 (Petercave Fork). Because the remaining open water features lack a direct connection to jurisdictional waters they would likely be considered isolated and not subject to regulation under the CWA.

**Table 3. Delineated Open Water Resources**

Name	Cowardin Class	Area (ac)	Receiving Feature / Water	Likely Jurisdiction	Latitude	Longitude
OW-01	PUB	0.393	None	Isolated	37.765202	-82.460029
OW-02	PUB	0.178	Stream 11	Jurisdictional	37.767395	-82.459002
OW-03	PUB	0.007	Stream 28 (Ephemeral)	Non-Jurisdictional	37.74276	-82.44924
OW-04	PUB	0.002	None	Isolated	37.742709	-82.447465
<b>Total</b>	<b>4 open water</b>	<b>0.58 ac</b>				

## DISCUSSION

Due to the impact of surface mining and subsequent reclamation efforts on the majority of the Project area, hydrology, soils, and plant diversity have been severely altered from their natural conditions. Hydrology within the site likely vacates the Project rapidly through several man-made stream channels (ditches) or infiltrates quickly into subsurface voids of the underlying mine residual after storm events. The presence of many isolated wetland features is likely attributable to this disturbance. Determination of jurisdiction for features on the project area is further complicated by NWPR provisions regarding the jurisdiction of stream and wetland features on mining sites. A total of 97 features were identified and delineated within the Project. Based on indicators encountered in the field and the connection of these features to jurisdictional waters it appears that of the 97 features delineated there are four (4) streams, one (1) open water area, and six (6) wetlands that would likely be considered jurisdictional. The remaining 86 features would likely be considered isolated/non-jurisdictional because they either have no surface water connection to jurisdictional waters or are ephemeral streams.

Regards,

**Stantec Consulting Services Inc.**



**Shane Kelley**

Environmental Scientist

Phone: 502 212 5021

Fax: 502 212 5055

Shane.Kelley@stantec.com

Attachment: Attachment A: Mapping  
 Attachment B: Wetland Determination Data Forms  
 Attachment C: Photograph Log  
 Attachment D: Soil Report

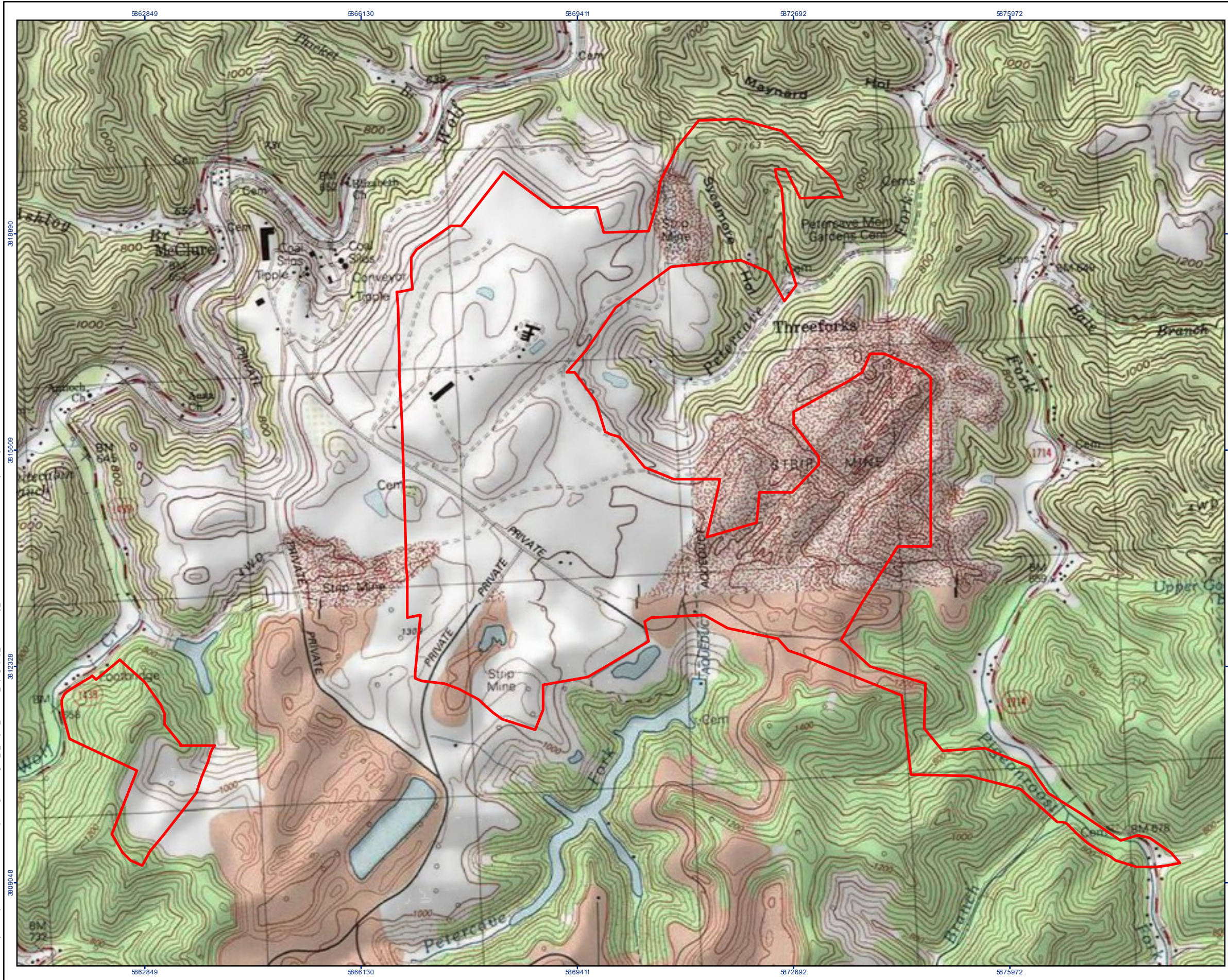
Reference: Martin County Solar Project: Wetland Delineation Summary

## References

- Evans, Daniel M., Carl E. Zipper, Erich T. Hester, and Stephen H Scheonholtz. 2015. Hydrologic Effects of Surface Coal Mining in Appalachia (U.S.). *Journal of the American Water Resources Association* (JAWRA) 1-17. DOI: 10.1111/1752-1688.12322. Accessed: [https://aries.energy.vt.edu/content/dam/aries\\_energy\\_vt\\_edu/journal\\_paper\\_waste\\_and\\_water\\_management/Evans\\_DM\\_et\\_al\\_Journal%20of%20the%20American%20Water%20Resources%20Association\\_2015.pdf](https://aries.energy.vt.edu/content/dam/aries_energy_vt_edu/journal_paper_waste_and_water_management/Evans_DM_et_al_Journal%20of%20the%20American%20Water%20Resources%20Association_2015.pdf). December 2020.
- Kentucky Department of Water. 2020. Kentucky Watershed Viewer. Accessed: <https://epccgis.ky.gov/watershed/>. December 2020.
- National Oceanic and Atmospheric Administration (NOAA). AgACIS. 2020. Daily Precipitation Data by Rain Gauge. Accessed: <http://agacis.rcc-acis.org/>. December 2020.
- Nationwide Environmental Title Research Online (NETR). 2020. Historic Aerials. Accessed: <https://www.historicaerials.com/>. December 2020.
- Navigable Waters Protection Rule: Definition of "Waters of the United States". 33 CFR Part 328. 85 Fed. Reg. 22250. April 21, 2020.

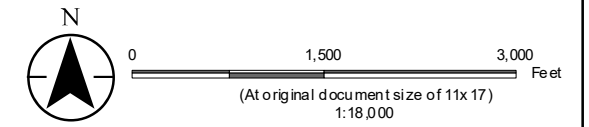


# **Attachment A**

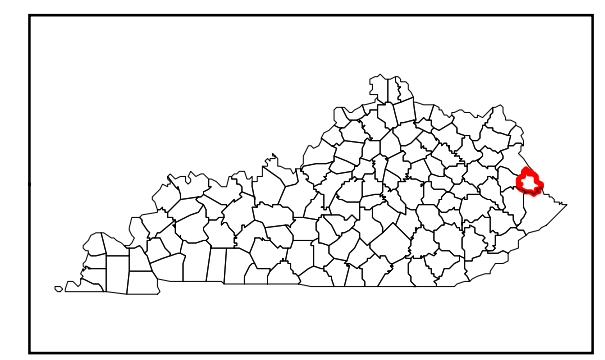


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EXTEND BEYOND THE LEFT  
& RIGHT EDGES OF THIS  
BOX

Legend  
 Project Site



**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet  
 2. Data Sources: Imagery Date (5/8/2018)  
 3. Background: Copyright © 2013 National Geographic Society, icubed



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-11-30  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

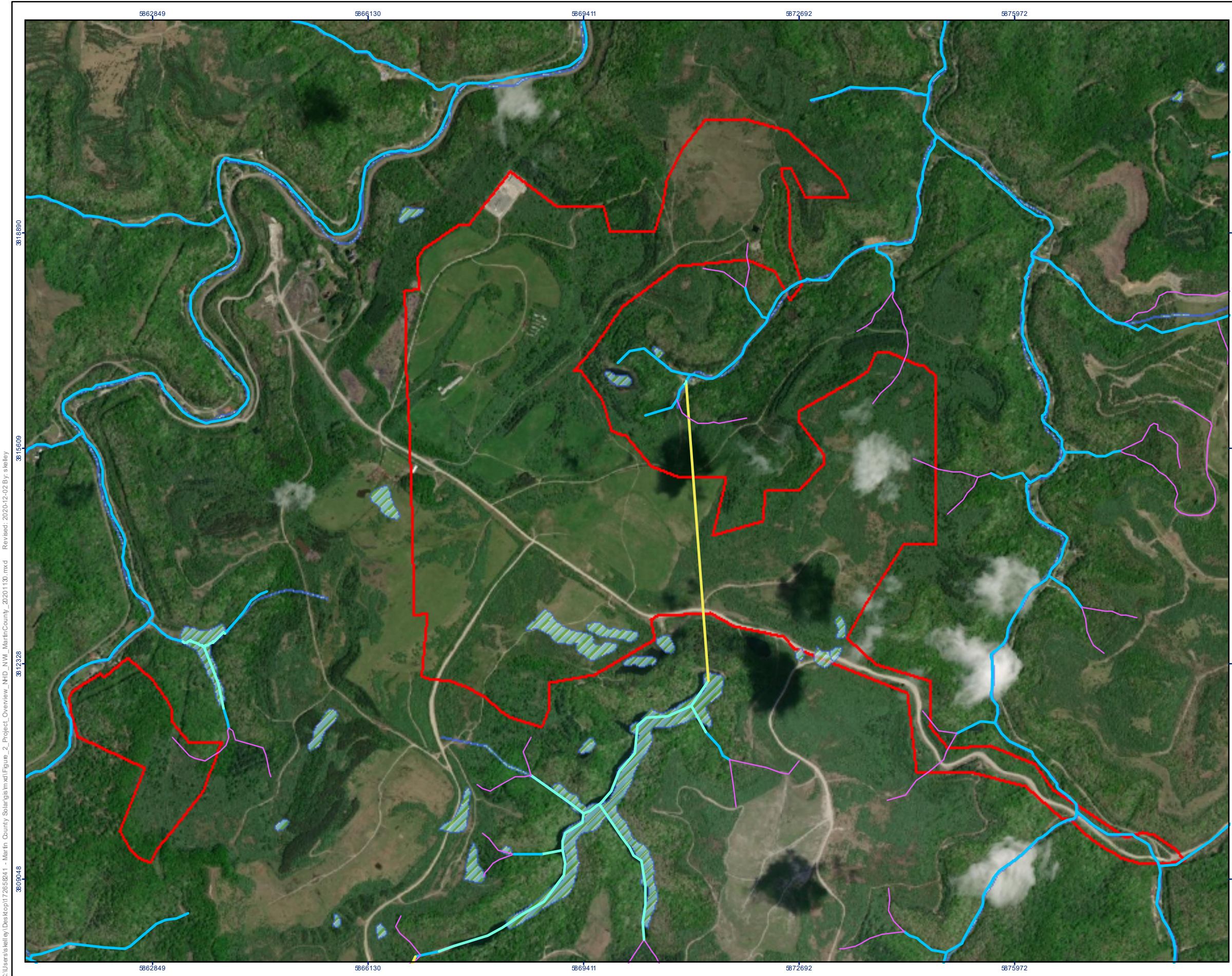
**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

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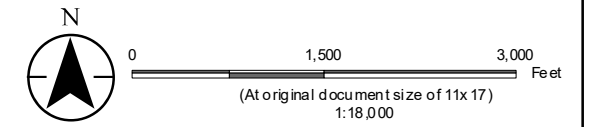
**Figure No.**  
**1**

**Title**  
**Project Overview - Topography**

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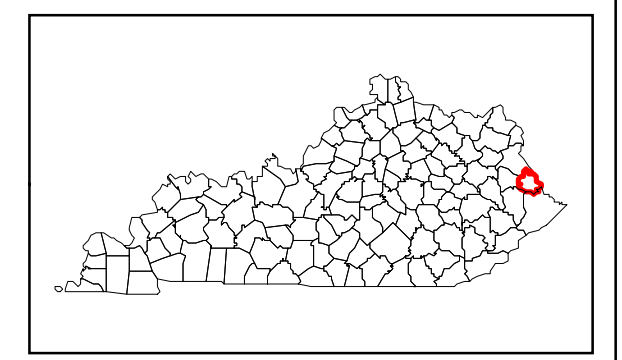


- Legend
- Project Site
  - NWI Wetland Dataset Boundaries
- NHD Dataset Flow Path**
- Type**
- Artificial Path
  - Canal/Ditch
  - Pipeline
  - Stream/River



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-11-30  
 TR by LT on 2020-12-03  
 IR Review by JAon 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

172658241-400.200 REVA

**Figure No.**  
**2**

**Title**  
**NWI Wetlands and NHD Streams Map**

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 3809048  
 3812328  
 3815608  
 3818890

872692



Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

Delineated Streams

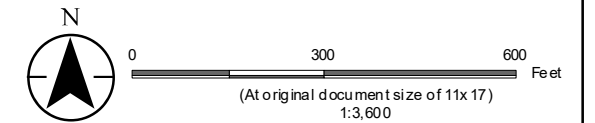
Type

- Ephemeral
- Intermittent
- Perennial

Wetland Assessment Stations

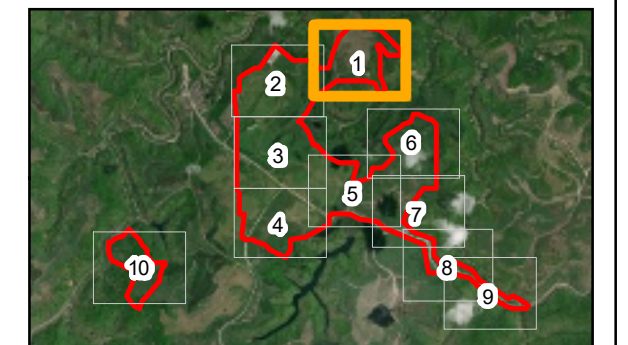
Type

- Test Pit
- Upland
- Wetland



Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
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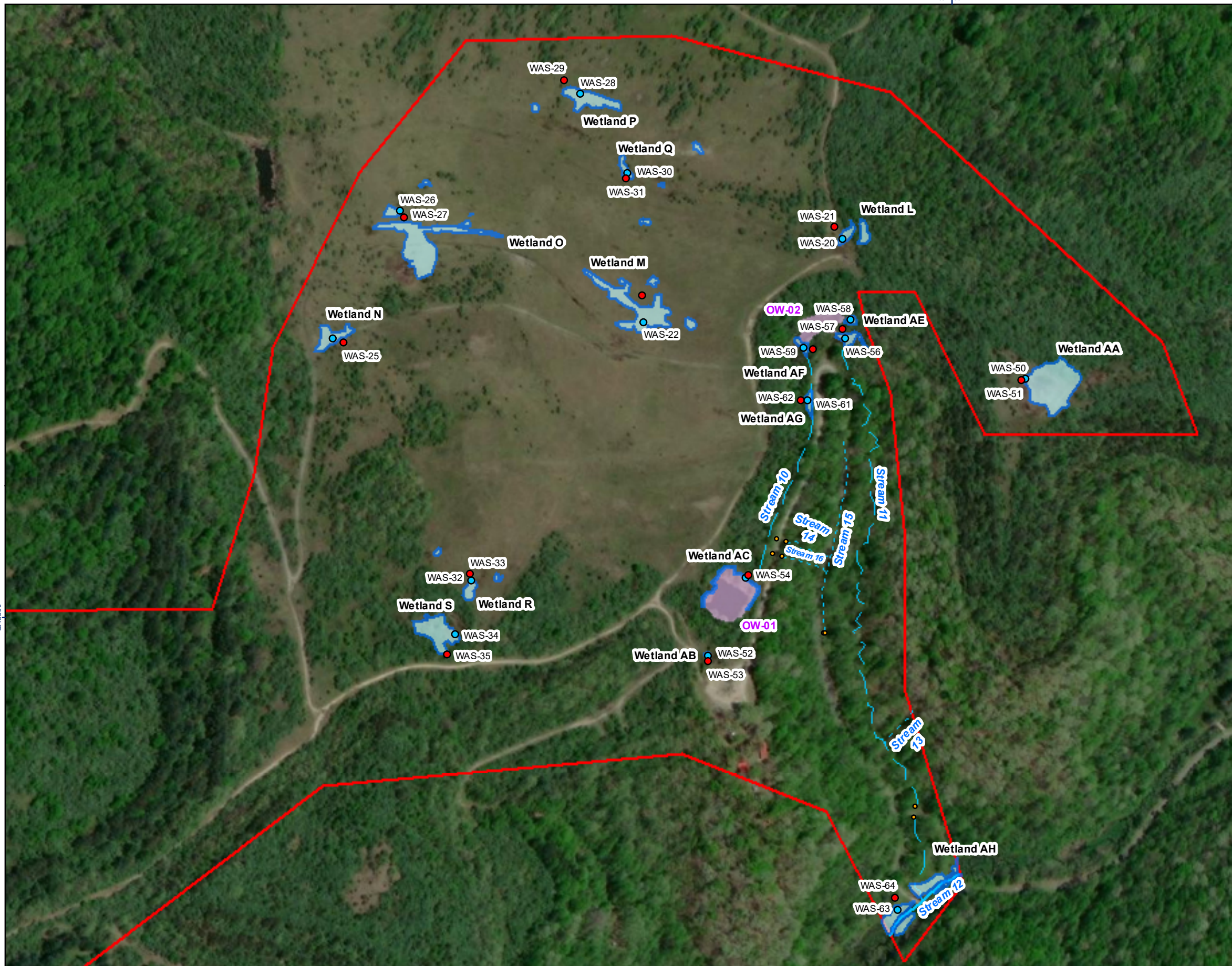
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Figure No.

3

Title

Delineated Streams and Wetlands - Panel 1



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Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

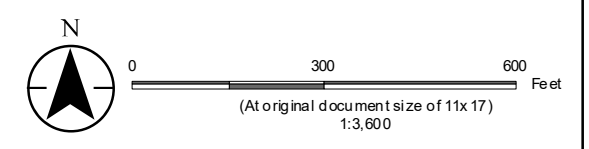
Type

- Ephemeral
- Intermittent
- Perennial

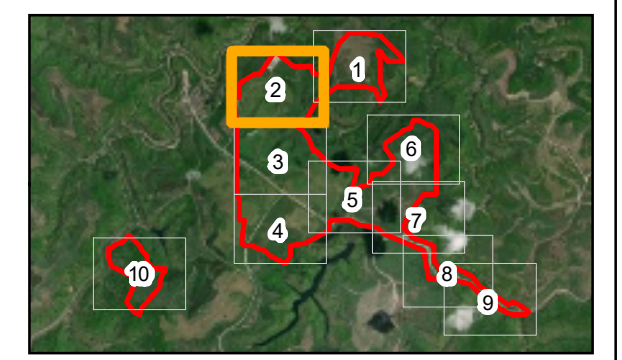
**Wetland Assessment Stations**

Type

- Test Pit
- Upland
- Wetland



**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet  
 2. Data Sources: Imagery Date (5/8/2018)  
 3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

**Figure No.**  
 4

**Title**  
 Delineated Streams and Wetlands - Panel 2

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Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

Delineated Streams

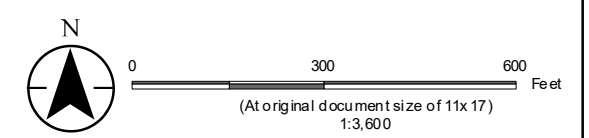
Type

- Ephemeral
- Intermittent
- Perennial

Wetland Assessment Stations

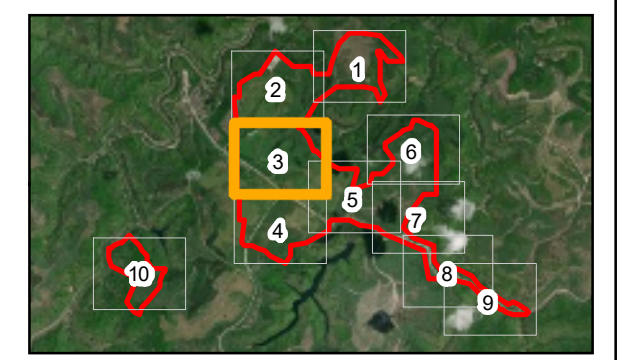
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

172658241-400.200 REV A

Figure No.  
**5**

Title  
**Delineated Streams and Wetlands - Panel 3**

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5869411

5869411



Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

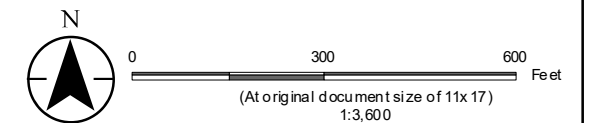
Type

- Ephemeral
- Intermittent
- Perennial

**Wetland Assessment Stations**

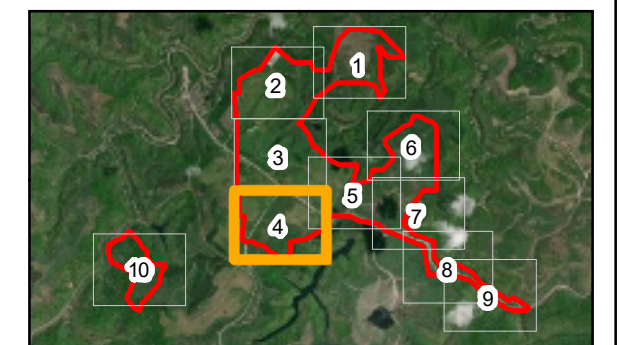
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**

Wolf Creek Road (CR-1439)  
Inez (Theeforks), Martin County, Kentucky

**Prepared by**

SPK on 2020-12-02  
TR by LT on 2020-12-03  
IR Review by JJA on 2020-12-04

**Client/Project**

Martin County Solar Project, LLC  
Martin County Solar Project  
Jurisdictional Determination

**Revision**

172658241-400.200 REV A

**Figure No.**

6

**Title**

**Delineated Streams and Wetlands - Panel 4**

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**Legend**

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

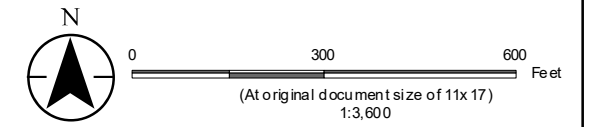
**Type**

- Ephemeral
- Intermittent
- Perennial

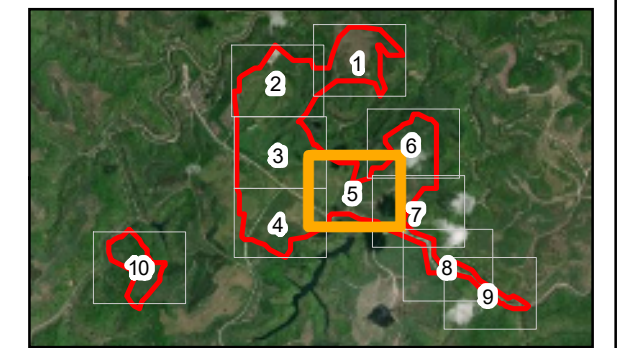
**Wetland Assessment Stations**

**Type**

- Test Pit
- Upland
- Wetland



**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet  
 2. Data Sources: Imagery Date (5/8/2018)  
 3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04  
 172658241-400.200 REV A

**Figure No.**  
**7**

**Title**  
**Delineated Streams and Wetlands - Panel 5**



Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

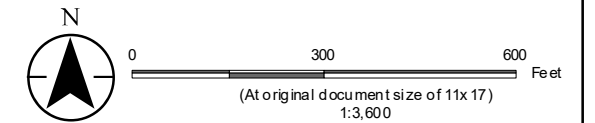
Type

- Ephemeral
- Intermittent
- Perennial

**Wetland Assessment Stations**

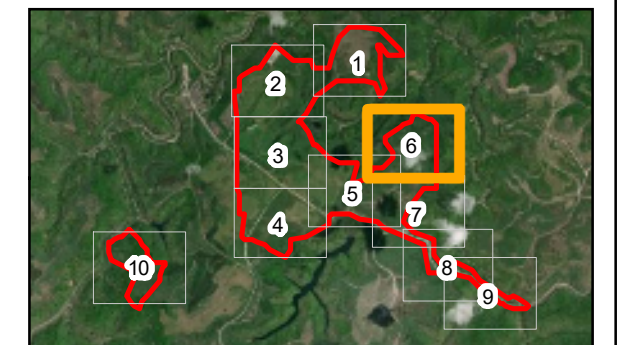
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

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Figure No.

**8**

Title

**Delineated Streams and Wetlands - Panel 6**



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Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

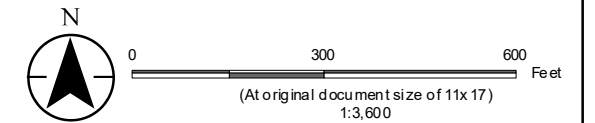
Type

- Ephemeral
- Intermittent
- Perennial

**Wetland Assessment Stations**

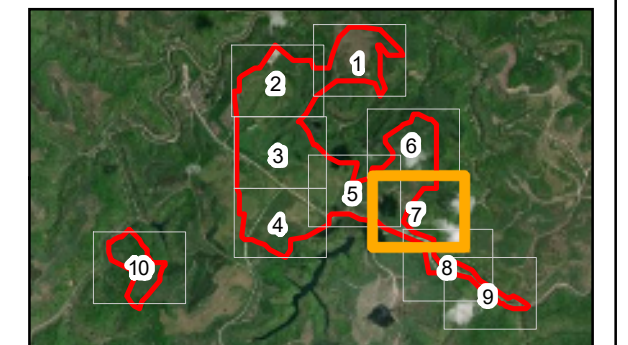
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

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Figure No.

**9**

Title

**Delineated Streams and Wetlands - Panel 7**



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Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

Delineated Streams

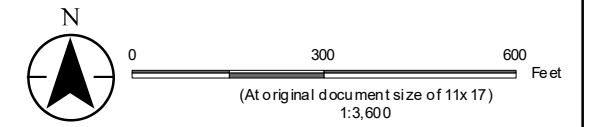
Type

- Ephemeral
- Intermittent
- Perennial

Wetland Assessment Stations

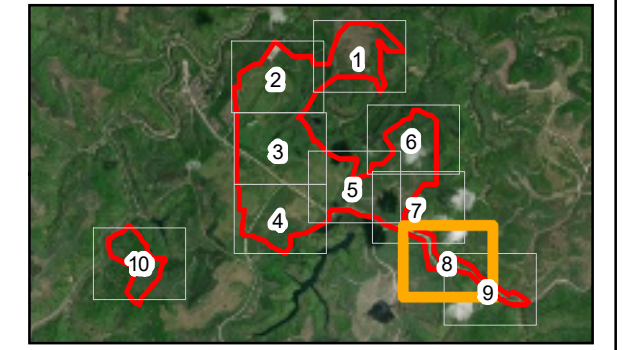
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

172658241-400.200 REVA

**Figure No.**  
**10**

**Title**  
**Delineated Streams and Wetlands - Panel 8**

Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

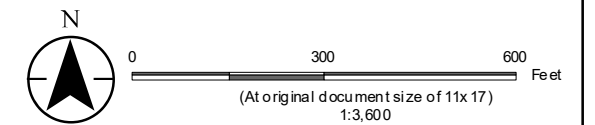
Type

- Ephemeral
- Intermittent
- Perennial

**Wetland Assessment Stations**

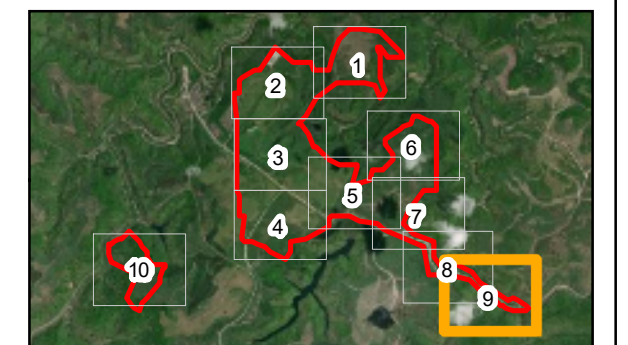
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JAon 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

172658241-400.200 REV A

**Figure No.**

**11**

**Title**

**Delineated Streams and Wetlands - Panel 9**



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862849

862849

812228

812228



Legend

- Project Site
- Delineated Wetlands
- Delineated Open Water
- Culvert

**Delineated Streams**

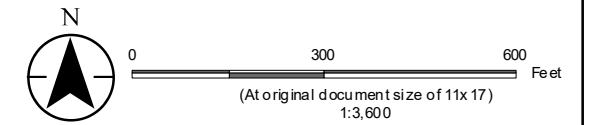
Type

- Ephemeral
- Intermittent
- Perennial

**Wetland Assessment Stations**

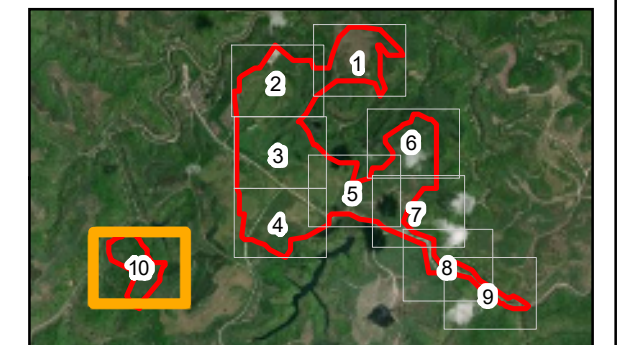
Type

- Test Pit
- Upland
- Wetland



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Imagery Date (5/8/2018)
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Project Location**  
 Wolf Creek Road (CR-1439)  
 Inez (Theeforks), Martin County, Kentucky

Prepared by SPK on 2020-12-02  
 TR by LT on 2020-12-03  
 IR Review by JJA on 2020-12-04

**Client/Project**  
 Martin County Solar Project, LLC  
 Martin County Solar Project  
 Jurisdictional Determination

172658241-400.200 REV A

**Figure No.**

12

**Title**

**Delineated Streams and Wetlands - Panel 10**

WAS-43  
 WAS-42  
 Wetland W

Stream 08

# **Attachment B**

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Savion State: KY Sampling Point: TP-01  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2  
 Subregion (LRR or MLRA): LRPN Lat: 37.764732 Long: -82.470256 Datum: NAD83 (K15P2)  
 Soil Map Unit Name: E1B: Fiveblock, Fairpoint & Kalmine soils, 0-6% slopes, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p style="font-size: 1.2em; color: blue;">Test Pit No hydrology - upland</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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)
---	---

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: TP-01

Tree Stratum (Plot size: <u>30m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

20 = Total Cover  
 50% of total cover: 10 20% of total cover: 4

Sapling/Shrub Stratum (Plot size: <u>15m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

40 = Total Cover  
 50% of total cover: 20 20% of total cover: 8

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. <u>Percelexia pennsylvanica</u>	<u>10</u>	_____	<u>FACW</u>
3. <u>Aposium canadense</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. <u>Solidago gigantea</u>	<u>10</u>	_____	<u>FACW</u>
5. <u>Arthraxon hispidus</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
6. <u>Achyranthes japonica</u>	<u>15</u>	_____	<u>FACW</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

100 = Total Cover  
 50% of total cover: 50 20% of total cover: 20

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

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

**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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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





**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Savin State: KY Sampling Point: WAS-01  
 Investigator(s): S. Kelley, C. Kuchel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 4  
 Subregion (LRR or MLRA): LRRN Lat: 37.755227 Long: -82.476686 Datum: NAD83(KYFIPS)  
 Soil Map Unit Name: FID's Fineblock, Fairpoint, and Kaymine soils, 6-30% slope, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:  

Wetland A  
 Roadside Ditch - Flows into Stream 01

PEM

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 0 in  
 Water Table Present? Yes  No  Depth (inches): 2 in  
 Saturation Present? Yes  No  Depth (inches):           

Wetland Hydrology Present? Yes  No

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-01

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. <u>N/A</u>	_____	_____	_____	<b>Prevalence Index worksheet:</b>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	OBL species _____ x 1 = _____
7. _____	_____	_____	_____	FACW species _____ x 2 = _____
_____ = Total Cover				FAC species _____ x 3 = _____
50% of total cover: _____ 20% of total cover: _____				FACU species _____ x 4 = _____
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				UPL species _____ x 5 = _____
1. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
2. _____	_____	_____	_____	Prevalence Index = B/A = _____
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>
4. <u>N/A</u>	_____	_____	_____	
5. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
6. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				<b>Definitions of Four Vegetation Strata:</b>
50% of total cover: _____ 20% of total cover: _____				
<u>Herb Stratum</u> (Plot size: <u>5M</u> )				<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
1. <u>Carex frankii</u>	<u>15</u>	_____	<u>OBL</u>	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2. <u>Juncus effusus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
3. <u>Lyopodium cuneata</u>	<u>10</u>	_____	<u>FACU</u>	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
4. <u>Setaria pumila</u>	<u>5</u>	_____	<u>FAC</u>	
5. <u>Arthrocnemum hispidis</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Remarks: (Include photo numbers here or on a separate sheet.)
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. <u>N/A</u>	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

**SOIL**

Sampling Point: WAS-01

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	7.5YR 3/1	80	5YR 5/6	8	C	M		
	10YR 5/3	18						

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

- |  |   |  |
|--|---|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input checked="" type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|---|--|

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

**Restrictive Layer (if observed):**

Type: Gravel Layer

Depth (inches): 8 in

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Sarion State: KY Sampling Point: WAS-02  
 Investigator(s): S. Kelley, C. Kradel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 37.755109 Long: -82.476836 Datum: NAD83(KYFIPS)  
 Soil Map Unit Name: FiD: Fiveblack, Fairpoint, and Kalmine soils, 6-30% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center"><i>Upland associated w/ Wetland A</i></p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-02

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15M</u> )				
1. <u>Elmagnus umbellata</u>	<u>65</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
2. <u>Platanus occidentalis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
50% of total cover: <u>425</u>		20% of total cover: <u>17</u>		
<b>Herb Stratum</b> (Plot size: <u>5M</u> )				
1. <u>Solidago canadensis</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Lygodium flexuosum</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Juncus effusus</u>	<u>5</u>		<u>FACW</u>	
4. <u>Daucus carota</u>	<u>10</u>		<u>UPL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>		
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____		20% of 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

SOIL

Sampling Point: WAG-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>		
0-6	10YR 5/1	100					CLL	

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

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<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:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Sawion State: KY Sampling Point: WNS-03  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR or MLRA): LRRN Lat: 37.752452 Long: -82.472748 Datum: NAD83(KY FIPS)  
 Soil Map Unit Name: Fib: Fiveblock, Fairpoint, and Haymire soils, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Wetland B</p> <p>Overland Flow into Stream 01 and Stream 04</p> <p align="right" style="font-size: 1.2em;">PEM</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-03

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____				Total Number of Dominant Species Across All Strata: _____ (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. <u>N/A</u>				<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 = _____
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15M</u> )				
1. <u>Eleagnus umbellata</u>	<u>2</u>		<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Platanus occidentalis</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
50% of total cover: <u>3.5</u> 20% of total cover: <u>1.4</u>				
<u>Herb Stratum</u> (Plot size: <u>5M</u> )				
1. <u>Carex Frankii</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Setaria pumila</u>	<u>10</u>	<u>10</u>	<u>FAC</u>	
3. <u>Platanus occidentalis</u>	<u>5</u>	<u>5</u>	<u>FACW</u>	
4. <u>Lespedeza cuneata</u>	<u>5</u>	<u>5</u>	<u>FACW</u>	
5. <u>Persecauria pennsylvanicum</u>	<u>10</u>	<u>10</u>	<u>FACW</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)     				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**SOIL**

Sampling Point: WAS-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>		
0-5	10YR 7/2	95	10YR 3/6	5	C	PL	SL

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

<b>Restrictive Layer (if observed):</b> Type: <u>Gravel layer</u> Depth (inches): <u>5 in</u>	Hydric Soil Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 Layer of compacted gravel/ coal spoil underlying much of area

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Sawidn State: KY Sampling Point: WAS-04  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3  
 Subregion (LRR or MLRA): LRRN Lat: 37.752507 Long: -82.472898 Datum: NAD83 (KY FIPS)  
 Soil Map Unit Name: F1B: Fivelock, Fairpoint, and Kaymine soils, 0-6% slope, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point For Wetland B</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-04

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. <u>N/A</u>				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15M</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Eleagnus umbellata</u>	<u>95</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
6. _____				UPL species _____ x 5 = _____
7. _____				Column Totals: _____ (A) _____ (B)
8. _____				Prevalence Index = B/A = _____
9. _____				
_____ = Total Cover				
50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				
Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Solidago canadensis</u>	<u>5</u>		<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Lonicera japonica</u>	<u>10</u>		<u>FACU</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Rosa multiflora</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	<input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Four Vegetation Strata:
1. _____				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2. _____				<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
3. _____				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4. <u>N/A</u>				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>

**SOIL**

Sampling Point: WAS-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>		
0-6	10YR 4/2	70			C	M		
	10YR 5/6	30						

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

- |  |  |  |
|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histoſol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|--|

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

**Restrictive Layer (if observed):**

Type: Gravel layer

Depth (inches): 6

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/20/30  
 Applicant/Owner: Sunion State: KV Sampling Point: WAS-05  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 37.752597 Long: -82.472097 Datum: NAD83(NTF83)  
 Soil Map Unit Name: F.B: Fiveblock, Fairpoint, and Kaymine soils, 0-6% slopes, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <span style="float: right;"><u>Isolated</u></span>  <div style="text-align: center; font-size: 1.2em;"><u>Wetland C</u></div> <p><u>Vegetation recently grazed by cattle &amp; horses; Hydrology likely flows overland towards S-01 PEM</u></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-05

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>																
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)																
2. _____				Total Number of Dominant Species Across All Strata: _____ (B)																
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																
4. _____				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = _____</td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	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 = _____	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
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 = _____																				
5. _____																				
6. _____																				
7. _____																				
_____ = Total Cover																				
50% of total cover: _____		20% of total cover: _____																		
_____ = Total Cover																				
50% of total cover: _____		20% of total cover: _____																		
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )																				
1. _____				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
_____ = Total Cover																				
50% of total cover: _____		20% of total cover: _____																		
<u>Herb Stratum</u> (Plot size: <u>SM</u> )																				
1. <u>Ranunculus hispidus</u>	<u>10</u>		<u>FAC</u>																	
2. <u>Persecaria pennsylvanica</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>																	
3. <u>Carex Frankii</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
4. <u>Vernonia gigantea</u>	<u>10</u>		<u>FAC</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
_____ = Total Cover																				
50% of total cover: <u>32.5</u>		20% of total cover: <u>13</u>																		
<u>Woody Vine Stratum</u> (Plot size: _____ )																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
_____ = Total Cover																				
50% of total cover: _____		20% of total cover: _____																		
<table style="width:100%; border:none;"> <tr> <td style="width:60%;"><b>Hydrophytic Vegetation Present?</b></td> <td style="width:40%;">Yes <input checked="" type="checkbox"/> No _____</td> </tr> </table>				<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No _____															
<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No _____																			
Remarks: (Include photo numbers here or on a separate sheet.)																				

**SOIL**

Sampling Point: WAS-05

**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>		
0-7	7.5YR 3/1	88	5YR 4/4	12	C	M	CL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel Layer  
 Depth (inches): 7 in

Hydric Soil Present? Yes  No

Remarks:



**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-06  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 37.75258 Long: -82.472028 Datum: NAD83 (K1115)  
 Soil Map Unit Name: F1B: Fiveblack, Fairpoint, and Kayvine soils, 0-10% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point For Wetland C &amp; D</p> <p>Recently grazed by Cattle &amp; Horses</p>	

**HYDROLOGY**

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

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS -86

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Trifolium repens</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. <u>Plantago major</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Solidago canadensis</u>	<u>15</u>		<u>FACW</u>
4. <u>Setaria pumila</u>	<u>10</u>		<u>FAC</u>
5. <u>Cyperus strigosus</u>	<u>2</u>		<u>FACW</u>
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 46 20% of total cover: 18.4

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

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

**SOIL**

Sampling Point: WAS-06

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>		
6-5	10YR 3/3	100					S:L	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 5

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-07  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.153132 Long: -82.471223 Datum: NAD83 (NAD83)  
 Soil Map Unit Name: FiB: Fiveblock, Fairpoint, Kaymine soils, 0-6% slope, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <p style="font-size: 1.2em; margin-left: 20px;"><i>Recently cattle grazed / Veg is impacted</i></p> <p style="text-align: center; font-size: 1.5em; margin-left: 100px;"><i>Wetland D</i></p> <p style="margin-left: 20px;"><i>Isolated feature originating from hillside seep</i></p> <p style="text-align: right; font-weight: bold; font-size: 1.2em;">PEM</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-07

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Herb Stratum</u> (Plot size: <u>5m</u> )				
1. <u>Carex frankii</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Juncus effusus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Setaria pumila</u>	<u>10</u>	<input type="checkbox"/>	<u>FAC</u>	
4. <u>Trifolium repense</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>	
5. <u>Cyperus strigosus</u>	<u>2</u>	<input type="checkbox"/>	<u>FACW</u>	
6. <u>Panicum pennsylvanicum</u>	<u>5</u>	<input type="checkbox"/>	<u>FACW</u>	
7. <u>Ranunculus hispidus</u>	<u>15</u>	<input type="checkbox"/>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>40</u>		20% of total cover: <u>18.4</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (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 = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

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

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

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

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

---

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: WAS-07

**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	5Y 4/1	90	7.5YR 5/8	10	C	M	S:CL	
5-7	10YR 6/8	70					SL	
	7.5YR 7/3	30						

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Sol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel / Fill Layer  
 Depth (inches): 5 in

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/30/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-08  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.756136 Long: -82.468815 Datum: NAD83(KY FIPS)  
 Soil Map Unit Name: F1B: Fivedlox, fairpoint, and Kaimine soils, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <p style="margin-left: 40px;"><u>Vernal Pool - Isolated</u></p> <p style="margin-left: 200px;"><u>Wetland E</u></p> <p style="margin-left: 40px;"><u>veg impacted - recent cattle grazing</u></p> <p style="text-align: right;"><u>PEM</u></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-08

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Persicaria pennsylvanica</i>	10		FACW
2. <i>Carex frankii</i>	20	✓	OBL
3. <i>Trifolium repense</i>	5		FACW
4. <i>Ranunculus hispidus</i>	15	✓	FAC
5. <i>Arthoxon hispidus</i>	10		FAC
6. <i>Juncus effusus</i>	5		FACW
7.			
8.			
9.			
10.			
11.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 32.5 20% of total cover: 13

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of 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)

**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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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



**SOIL**

Sampling Point: WAS-08

**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>		
0-6	10YR 5/1	70	5YR 4/6	5	C	PL	S;C	
	10YR 5/8	25						

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 6

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-09  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR N Lat: 37.755336 Long: -82.469032 Datum: NAD83 (KYFIPS)  
 Soil Map Unit Name: FtB: Fireblock, Fairpoint, Kayminc soils, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <p style="font-size: 1.2em; margin-left: 40px;"><i>Wetland F</i></p> <p style="font-size: 1.2em; margin-left: 40px;"><i>Veg impacted - recent cattle grazing</i></p> <p style="text-align: right; font-size: 1.2em;"><i>PEM</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-09

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex frankii</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
2. <u>Persecaria pennsylvanica</u>	<u>8</u>		<u>FACW</u>
3. <u>Trifolium repense</u>	<u>2</u>		<u>FACW</u>
4. <u>Toxicodendron radicans</u>	<u>2</u>		<u>FAC</u>
5. <u>Persecaria punctata</u>	<u>8</u>		<u>OBL</u>
6. <u>Juncus effusus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
7. <u>Setaria pumila</u>	<u>5</u>		<u>FAC</u>
8. _____			
9. _____			
10. _____			
11. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 35 20% of total cover: 14

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: WAS-09

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 5/1	65	5YR 4/6	5	C	M		
	10YR 5/6	30						

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 5 in

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-10  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hill top Local relief (concave, convex, none): convex Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.75566 Long: -82.46885 Datum: NAD83(KY FIPS)  
 Soil Map Unit Name: F1B: Fiveldock, Fairpoint, & Keokuk soils, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland associated w/ wetland E &amp; F</p> <p>Veg impacted - Recently cattle grazed</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-10

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				N/A
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				N/A
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Plantago major</u>	30	✓		FAW
2. <u>Trifolium repense</u>	10			FACW
3. <u>Setaria pumila</u>	5			FAC
4. <u>Digitaria sanguinalis</u>	20	✓		FAW
5. <u>Festuca arundinacea</u>	30	✓		UPL
6. <u>Allium vineale</u>	5			FAW
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
50% of total cover: <u>50</u>		20% of total cover: <u>20</u>		
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				N/A
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____		20% of 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

**SOIL**

Sampling Point: WAS-10

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>		
0-4	10YR 3/A	100					S:L	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

<b>Restrictive Layer (if observed):</b> Type: <u>Gravel layer</u> Depth (inches): <u>4</u>	Hydric Soil Present?    Yes _____    No <input checked="" type="checkbox"/>
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Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-11  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Roadside ditch Local relief (concave, convex, none): concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LARN Lat: 37.747912 Long: -82.476954 Datum: NAD83(KYFIPS)  
 Soil Map Unit Name: EjB: F.veblack, Fairpoint, & Haymine soils, 0-6% slope, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Roadside ditch</u> <span style="float: right;"><u>Isolated</u></span>  <p align="center"><u>Wetland G</u></p> <u>Area is poaded due to berm on side of Road</u> <span style="float: right;"><u>PEM</u></span>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-11

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. <u>N/A</u>			
6. _____			
7. _____			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: <u>15m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Platanus occidentalis</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			

**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 = \_\_\_\_\_

\_\_\_\_\_ = Total Cover  
50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex frankii</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
2. <u>Typhus effusus</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Bidens frondosa</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. <u>Persecaria pennsylvanica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
5. <u>Persecaria punctata</u>	<u>2</u>		<u>OBL</u>
6. <u>Boehmeria cylindrica</u>	<u>2</u>		<u>FACW</u>
7. <u>Arthraxon hispidus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
8. <u>Setaria pumila</u>	<u>2</u>		<u>FAC</u>
9. _____			
10. _____			
11. _____			

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

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

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

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

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

\_\_\_\_\_ = Total Cover  
50% of total cover: 20.5 20% of total cover: 8.2

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: WAS-11

**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>		
0-4	10YR 4/1	96	5YR 3/4	4	C	M	SL	

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

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|--|--|
| <b>Hydric Soil Indicators:</b>   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>              |
| <input type="checkbox"/> Histosol (A1)                                   | <input type="checkbox"/> Dark Surface (S7)                               |
| <input type="checkbox"/> Histic Epipedon (A2)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)    |
| <input type="checkbox"/> Black Histic (A3)                               | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)          |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                           | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        |
| <input type="checkbox"/> Stratified Layers (A5)                          | <input checked="" type="checkbox"/> Depleted Matrix (F3)                 |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N)                         | <input type="checkbox"/> Redox Dark Surface (F6)                         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)               | <input type="checkbox"/> Depleted Dark Surface (F7)                      |
| <input type="checkbox"/> Thick Dark Surface (A12)                        | <input type="checkbox"/> Redox Depressions (F8)                          |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                        | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)            |
| <input type="checkbox"/> Sandy Redox (S5)                                | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)      |
| <input type="checkbox"/> Stripped Matrix (S6)                            | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)       |
|  | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)                      |
|  | <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)       |
|  | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
|  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)                |
|  | <input type="checkbox"/> 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: Gravel layer  
 Depth (inches): 4

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Sawion State: KY Sampling Point: WAS-12  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Roadside Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR or MLRA): LRRN Lat: 37.747937 Long: -82.477017 Datum: NAD83 (KYEIPS)  
 Soil Map Unit Name: EiB: Fiveblock, Fairpoint, Kaymine soil, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated w/ Wetland G and H</p> <p align="center" style="font-size: 1.2em;">Berm between Wetlands G &amp; H</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-12

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. <u>N/A</u>	_____	_____	_____	<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 = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
_____ = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: <u>15M</u> )</b>				
1. <u>Eleagnus umbellata</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Platanus occidentalis</u>	<u>15</u>	_____	<u>FACW</u>	
3. <u>Fraxinus americana</u>	<u>10</u>	_____	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>47.5</u>		20% of total cover: <u>19</u>		
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>5M</u> )</b>				
1. <u>Eleagnus umbellata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
2. <u>Lonicera japonica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Trifolium repense</u>	<u>2</u>	_____	<u>FACU</u>	
4. <u>Persecaria pennsylvanica</u>	<u>2</u>	_____	<u>FACW</u>	
5. <u>Rosa multiFlora</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>12</u>		20% of total cover: <u>4.8</u>		
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>25M</u> )</b>				
1. <u>Lonicera japonica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>2.5</u>		20% of total cover: <u>1</u>		
_____ = Total Cover				
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>				

**SOIL**

Sampling Point: WAS-12

**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 3/2	98	5YR 3/4	2	C	M	S:L	
9-12	10YR 4/3	100						

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

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|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|--|

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 12

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Saurion State: KY Sampling Point: WAS-B  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.748066 Long: -82.477026 Datum: NAD83 (KY/FIP)  
 Soil Map Unit Name: PtB: Fiveblock, Fairpoint, Kaymine soils, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Wetland H</p> Area is wet due to Manmade Berm <span style="float: right;">PEM</span>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> True Aquatic Plants (B14)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	Secondary Indicators (minimum of two required) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1)</li> <li><input checked="" type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> Microtopographic Relief (D4)</li> <li><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</li> </ul>
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-13

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			
6. _____			
7. _____			

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex vulpina</u>	<u>10</u>		<u>OBL</u>
2. <u>Carex frankii</u>	<u>15</u>		<u>OBL</u>
3. <u>Vernonia gigantea</u>	<u>5</u>		<u>FAC</u>
4. <u>Ranunculus hispidus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
5. <u>Persecaria pennsylvanica</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
6. <u>Echinoglossa caryophylli</u>	<u>15</u>		<u>FAC</u>
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			

\_\_\_\_\_ = Total Cover  
50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. <u>N/A</u>			
4. _____			
5. _____			

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of 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)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACI 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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: WAS-13

**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>		
0-4	10YR 4/1	93	5YR 4/4	7	C	M	S:CL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 4

Hydric Soil Present?    Yes     No

Remarks:



**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-14  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRRN Lat: 37.74644 Long: -82.47636 Datum: NAD83 (KYFIPS)  
 Soil Map Unit Name: F1B: Fiveblock, Fairpoint, & Kuymin, 0 to 90 slope, Ston-1 NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Isolated</u> <div style="text-align: center; font-size: 1.5em; font-weight: bold; margin: 10px 0;">Wetland I</div> <u>veg impacted - recent cattle grazing</u> <span style="float: right; font-size: 1.5em; font-weight: bold;">PEM</span>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-14

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex vulpinedia</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Scirpus cyperinus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. <u>Symphoricarpon dumosum</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
5.			
6.			
7.			
8.			
9.			
10.			
11.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 42.5 20% of total cover: 17

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>3</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes  No

**SOIL**

Sampling Point: WAS-14

**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>		
0-6	10YR 4/1	92	7.5YR 5/6	0	C	M	S:CL	

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

- |  |   |  |
|--|---|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input checked="" type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|---|--|

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

**Restrictive Layer (if observed):**

Type: Gravel layer

Depth (inches): 6

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-15  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): None Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.746362 Long: -82.47582 Datum: NAD83(KYFIPS)  
 Soil Map Unit Name: FiB: Fiveblock, Fairpoint, & Kaymine soils, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <u>Upland point associated w/ Wetland I</u>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-15

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			
6. _____			
7. _____			

Sapling/Shrub Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. <u>N/A</u>			
6. _____			
7. _____			
8. _____			
9. _____			

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lespedeza cuneata</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Ambrosia laramensis</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
3. <u>Juncus tenuis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
4. <u>Tridens flavus</u>	<u>15</u>		<u>FACU</u>
5. <u>Plantago major</u>	<u>10</u>		<u>FACU</u>
6. <u>Setaria pumila</u>	<u>5</u>		<u>FAC</u>
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			

**Dominance Test worksheet:**

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

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

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

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ 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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

**SOIL**

Sampling Point: WAB-15

**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>		
0-1	10YR 8/1	100					S: h	
1-5	10YR 4/1	60					S: CL	
	10YR 5/6	25						
	10YR 6/4	15						

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 5

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Swirion State: KY Sampling Point: WAS-16  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hill bottom Local relief (concave, convex, none): CONCAVE Slope (%): 1  
 Subregion (LRR or MLRA): LRRN Lat: 37.749583 Long: -82.466087 Datum: NAD83(KYIP5)  
 Soil Map Unit Name: F1D: F.veblock, Fairpoint, & Karpine soils, 1-30% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <p align="center"><u>Ponded depression - Isolated</u></p> <p align="center"><u>Wetland J</u></p> <p><u>S-02, S-03, &amp; S-21 flow towards this wetland</u></p> <p align="right"><u>PSS/PEM</u></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-16

**Tree Stratum** (Plot size: 30 M)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Platanus occidentalis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. <u>Salix nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
3.			
4.			
5.			
6.			
7.			

50% of total cover: 15 20% of total cover: 6  
30 = Total Cover

**Sapling/Shrub Stratum** (Plot size: 15 M)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_  
80 = Total Cover

**Herb Stratum** (Plot size: 5 M)

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
2. <u>Scirpus cespitosus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			

50% of total cover: 10 20% of total cover: 4  
20 = Total Cover

**Woody Vine Stratum** (Plot size: \_\_\_\_\_)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)  
 Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/Shrub** – Woody plants, excluding vines, 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.  
**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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



**SOIL**

Sampling Point: WKS-16

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 5/1	70	5YR 3/4	3	C	M	Sic	
	10YR 5/2	27						

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

- |  |   |  |
|--|---|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input checked="" type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|---|--|

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 8

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 10/31/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-17  
 Investigator(s): S. Kelley, C. Knebel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 8  
 Subregion (LRR or MLRA): LRRN Lat: 37.749696 Long: -82.466045 Datum: NAD83 (KY EIPS)  
 Soil Map Unit Name: Fid: Fiveblock, Fairpoint, & Kaymine soils, 6-30% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated w/ Wetland J</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-17

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 m</u> )					
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42.9</u> (A/B)	
2. <u>Fraxinus americana</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
3. <u>Gleditsia triacanthos</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
4. _____					
5. _____					
6. _____					
7. _____					
45 = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				<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 = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15m</u> )					
1. <u>Eleagnus umbellata</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>UPL</u>		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
80 = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<b>Herb Stratum</b> (Plot size: <u>5m</u> )					
1. <u>Rosa multiFlora</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
2. <u>Eleagnus umbellata</u>	<u>16</u>	<input checked="" type="checkbox"/>	<u>UPL</u>		
3. <u>Boehmeria cylindrica</u>	<u>5</u>		<u>FACW</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
30 = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, 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.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: <u>30 m</u> )					
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
2. _____					
3. _____					
4. _____					
5. _____					
5 = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>					<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: WAS-17

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>		
0-6	10YR 4/3	100						

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

- |  |  |  |
|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|--|

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 6

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/1/20  
 Applicant/Owner: Sawion State: KY Sampling Point: JK-18  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LRAU Lat: 37.755807 Long: -82.47291 Datum: NAD83(10MIPS)  
 Soil Map Unit Name: F1B: Favored, Fairly, & Kaymire soil, 0-10% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <p style="font-size: 1.2em; margin: 0;"><i>Veg impacted - Recent cattle grazing</i></p> <p style="font-size: 1.2em; margin: 0; text-align: center;"><i>Wetland K</i></p> <p style="font-size: 1.2em; margin: 0;"><i>Isolated</i> <span style="float: right;"><i>PEM</i></span></p>	

**HYDROLOGY**

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

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-18

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.	N/A		
5.			
6.			
7.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.	N/A		
5.			
6.			
7.			
8.			
9.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex frankii</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
2. <u>Desmodium pennsylvanicum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Ranunculus hispidus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
4. <u>Setaria pumila</u>	<u>10</u>		<u>FAC</u>
5. <u>Trifolium repens</u>	<u>5</u>		<u>FACU</u>
6.			
7.			
8.			
9.			
10.			
11.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 35 20% of total cover: 14

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.	N/A		
4.			
5.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>3</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: WAS-67

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>		
0-6	2.5Y 4/1	90	5YR 4/6	10	C	M	Sic	

<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"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 6

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/1/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-19  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Convex Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.755888 Long: -82.473099 Datum: NAD83 (KYFIPS)  
 Soil Map Unit Name: FiB: Fiveblock, Fairpoint, & Kaymine soil, 0-6% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <p style="font-size: 1.2em; margin-left: 20px;">Veg impacted - Recent grazing Upland point associated w/ Wetland K</p>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-19

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Herb Stratum</u> (Plot size: <u>5M</u> )				
1. <u>Setaria pumila</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Plantago major</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Taraxacum repense</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Cynodon dactylon</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
5. <u>Persecaria pennsylvanica</u>	<u>5</u>	<input type="checkbox"/>	<u>FACW</u>	
6. <u>Tidens flavus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
7. <u>Asclepias syriaca</u>	<u>5</u>	<input type="checkbox"/>	<u>FACW</u>	
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
50% of total cover: <u>50</u>		20% of total cover: <u>20</u>		
<u>Woody Vine Stratum</u> (Plot size: _____ )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>5</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)</p> <p><b>Prevalence Index worksheet:</b></p> <p>Total % Cover of: _____ Multiply by:</p> <p>OBL species _____ x 1 = _____</p> <p>FACW species _____ x 2 = _____</p> <p>FAC species _____ x 3 = _____</p> <p>FACU species _____ x 4 = _____</p> <p>UPL species _____ x 5 = _____</p> <p>Column Totals: _____ (A) _____ (B)</p> <p>Prevalence Index = B/A = _____</p> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is &gt;50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><input type="checkbox"/> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><small><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small></p> <p><b>Definitions of Four Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vine</b> – All woody vines greater than 3.28 ft in height.</p> <p><b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/></p>				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: WA5\_19

**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>		
0-4.5	10YR 4/3	100					S:C	

<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"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 4.5

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/1/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-20  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LRA1 Lat: 37.768071 Long: -82.458732 Datum: NAD83 (KYFPS)  
 Soil Map Unit Name: F: F: Euroblock, Fairpoint, & Kuzminie soil, 3D-80% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: <div style="text-align: center; font-size: 1.2em; font-weight: bold;">Wetland L</div> <p><i>Isolated</i> <i>Polygon separated by road</i></p> <p align="right" style="font-size: 1.2em; font-weight: bold;">PEM/PSS</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> True Aquatic Plants (B14)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<b>Secondary Indicators (minimum of two required)</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1)</li> <li><input type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> Microtopographic Relief (D4)</li> <li><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</li> </ul>
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-20

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			
6. _____			
7. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: <u>15m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>DBL</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			

15 = Total Cover  
 50% of total cover: 7.5 20% of total cover: 3

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Scirpus cyperinus</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. <u>Typha angustifolia</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>DBL</u>
3. <u>Echinocloa crus-galli</u>	<u>5</u>		<u>FAC</u>
4. <u>Berula pennsylvanica</u>	<u>5</u>		<u>FACW</u>
5. <u>Bidens frondosa</u>	<u>15</u>		<u>FACW</u>
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			

100 = Total Cover  
 50% of total cover: 50 20% of total cover: 20

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. <u>N/A</u>			
4. _____			
5. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)  
 Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (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, unless disturbed or problematic.  
**Definitions of Four Vegetation Strata:**  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/Shrub** – Woody plants, excluding vines, 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.  
**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

**SOIL**

Sampling Point: WA6-20

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>		
0-5	10YR 4/1	92	5YR 4/6	B	C	M	

<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"/> Dark Surface (S7)                             | <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)                      |
| <input type="checkbox"/> Histic Epipedon (A2)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)  | <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)       |
| <input type="checkbox"/> Black Histic (A3)                               | <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)        | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                           | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                      | <input type="checkbox"/> Very Shallow Dark Surface (TF12)                |
| <input type="checkbox"/> Stratified Layers (A5)                          | <input checked="" type="checkbox"/> Depleted Matrix (F3)               | <input type="checkbox"/> Other (Explain in Remarks)                      |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR N)                         | <input type="checkbox"/> Redox Dark Surface (F6)                       |  |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)               | <input type="checkbox"/> Depleted Dark Surface (F7)                    |  |
| <input type="checkbox"/> Thick Dark Surface (A12)                        | <input type="checkbox"/> Redox Depressions (F8)                        |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                        | <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)          |  |
| <input type="checkbox"/> Sandy Redox (S5)                                | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)    |  |
| <input type="checkbox"/> Stripped Matrix (S6)                            | <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)     |  |

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 5

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/1/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-21  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Convex Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.768174 Long: -82.458897 Datum: NAD83 (KY FIPS)  
 Soil Map Unit Name: F: F: Fiddick, Fairpoint; Karpine soils, 30 to 800m slope, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated w/ wetland L</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS - 21

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. <u>N/A</u>	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Eleagnis umbellata</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multi-Flora</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Solidago canadensis</u>	<u>15</u>	_____	<u>FACU</u>
3. <u>Setaria pumila</u>	<u>10</u>	_____	<u>FAC</u>
4. <u>Ambrosia artemisiifolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
5. <u>Lespedeza cuneata</u>	<u>15</u>	_____	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. <u>N/A</u>	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

SOIL

Sampling Point: WAS-21

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 4/1	90	5YR 4/6	10	C	M	Silt	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

Restrictive Layer (if observed): Type: <u>Gravel layer</u> Depth (inches): <u>10</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:



**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/1/20  
 Applicant/Owner: Savion State: KY Sampling Point: WPS-22  
 Investigator(s): S. Kelley, C. Knuckel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Concave Slope (%): 0.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.767456 Long: -82.46081 Datum: NAD83 (WAFIPS)  
 Soil Map Unit Name: F1F = Fineblack, Fairpoint, Kaysville soils, 80-100 slope, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <div style="font-family: cursive; font-size: 1.2em;">                     Closed pondal depressions in open field                      Wetland M  <span style="float: right;">PEM</span> </div>	

**HYDROLOGY**

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

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-22

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			
6. _____			
7. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. <u>N/A</u>			
6. _____			
7. _____			
8. _____			
9. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Scirpus cyperinus</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. <u>Typha angustifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
3. <u>Setaria palmata</u>	<u>15</u>		<u>FAC</u>
4. <u>Bidens frondosa</u>	<u>15</u>		<u>FACW</u>
5. <u>Juncus effusus</u>	<u>5</u>		<u>FACW</u>
6. <u>Syntherisma trichum dumosum</u>	<u>5</u>		<u>FAC</u>
7. <u>Arthraxon hispidum</u>	<u>3</u>		<u>FAC</u>
8. _____			
9. _____			
10. _____			
11. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 49 20% of total cover: 19.6

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. <u>N/A</u>			
5. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)  
 Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/Shrub** – Woody plants, excluding vines, 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.  
**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: WA5-22

**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>		
0-6	10YR4/1	95	5YR4/6	5	C	M		

<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><br><input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> 2 cm Muck (A10) (LRR N)<br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)<br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7)<br><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)<br><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)<br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input checked="" type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input checked="" type="checkbox"/> Redox Depressions (F8)<br><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)<br><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)<br><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147) | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b><br><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)<br><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|--|--|

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 6

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/1/20  
 Applicant/Owner: Sawion State: KY Sampling Point: WAS-23  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): CONVEX Slope (%): 2  
 Subregion (LRR or MLRA): LBRN Lat: 37.7671275 Long: -82.460216 Datum: NA83 (NAD83)  
 Soil Map Unit Name: F1F: Fiveblock, Fairpoint, Kaymine soils, 30-40% slopes, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated w/ Wetland M</p>	

**HYDROLOGY**

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

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-23

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. <u>N/A</u>	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: <u>15M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Eleagnus umbellata</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
 50% of total cover: 2.5 20% of total cover: 1

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago canadensis</u>	<u>10</u>	_____	<u>FACW</u>
2. <u>Ambrosia artemisiifolia</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Eleagnus umbellata</u>	<u>2</u>	_____	<u>UPL</u>
4. <u>Plantain major</u>	<u>10</u>	_____	<u>FACW</u>
5. <u>Andropogon virginicus</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
 50% of total cover: 48.5 20% of total cover: 19.4

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. <u>N/A</u>	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of 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: 0.0 (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

**SOIL**

Sampling Point: WAS-23

**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>		
0-4	10YR 4/1	100					CL	

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

- |  |  |  |
|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> <p><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p> |
|--|--|--|

**Restrictive Layer (if observed):**

Type: Gravel layer

Depth (inches): 4

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-24  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR or MLRA): LRRN Lat: 37.767407 Long: -82.464009 Datum: NAD83 (IC/HP)  
 Soil Map Unit Name: F1F: Fiveblock, Fairpoint, & Kenmore soils, 30-80% slopes, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Closed ponded depression in field / Wetland N</u>  <p align="right"><u>PEM</u></p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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)

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-24

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5M</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Scirpus cyperinus</u>	<u>10</u>		<u>FACW</u>
2. <u>Bidens Frondosa</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Ambrosia artemisiifolia</u>	<u>5</u>		<u>FACW</u>
4. <u>Setaria pumila</u>	<u>10</u>		<u>FAC</u>
5. <u>Carex Frankii</u>	<u>5</u>		<u>OBL</u>
6. <u>Arthraxon hispidus</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
7. <u>Symphoricarpon dumosum</u>	<u>10</u>		<u>FAC</u>
8. _____			
9. _____			
10. _____			
11. _____			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 47.5 20% of total cover: 19

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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



**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)

**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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: WAS-24

**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>		
0-4	10YR 4/2	95	10YR 5/8	5	C	M	CL	

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

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|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Dark Surface (S7)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input checked="" type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input checked="" type="checkbox"/> Redox Depressions (F8)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</li> <li><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|--|

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 4

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Souion State: KY Sampling Point: WAS-25  
 Investigator(s): S. Kelley, C. Knobel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 1.5  
 Subregion (LRR or MLRA): LRRW Lat: 37.767373 Long: -82.463912 Datum: NAD83 (WYFIPS)  
 Soil Map Unit Name: F: F: Fineblot, Firpoint, Kaymic soils, 30-80% slopes, Stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated w/ Wetland N</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-25

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: <u>15m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Elagagnus umbellata</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
2. <u>Platanus occidentalis</u>	<u>2</u>	_____	<u>FACW</u>
3. <u>Quercus rubra</u>	<u>2</u>	_____	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
 50% of total cover: 14.5 20% of total cover: 5.8

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa multi. Florida</u>	<u>10</u>	_____	<u>FACW</u>
2. <u>Ambrosia artemisiifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
3. <u>Symphoricaricum dumosum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
4. <u>Andropogon virginicus</u>	<u>10</u>	_____	<u>FACW</u>
5. <u>Solidago canadensis</u>	<u>5</u>	_____	<u>FACU</u>
6. <u>Cirsium vulgare</u>	<u>5</u>	_____	<u>FACU</u>
7. <u>Daucus carota</u>	<u>5</u>	_____	<u>UPL</u>
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
 50% of total cover: 40 20% of total cover: 16

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

N/A

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

**Dominance Test worksheet:**

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

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

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

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ 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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

SOIL

Sampling Point: WAS-25

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>		
0-4	10YR 4/2	95	10YR 5/3	5	C	M		

<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)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

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

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- 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: Gravel layer  
 Depth (inches): 4

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Saxion State: KY Sampling Point: WAS-26  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR or MLRA): LRRN Lat: 37.768436 Long: -82.463282 Datum: NAD83 (NADIPS)  
 Soil Map Unit Name: Fif: Fiveblock, fairpoint, Keaymine soils, 30-40% slope, NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <p align="center" style="font-size: 1.2em;">Closed ponded depression in field Wetland 0</p> <p align="right" style="font-size: 1.2em;">PEM</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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)

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

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS - 26

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1.				
2.				
3.				
4.	N/A			
5.				
6.				
7.				
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1.	<u>Salix nigra</u>	✓	OBL	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
_____ = Total Cover				
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>		
Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1.	<u>Scirpus cyperinus</u>	✓	FACW	
2.	<u>Bidens frondosa</u>	✓	FACW	
3.	<u>Arthraxon hispidus</u>	✓	FAC	
4.	<u>Salix nigra</u>		OBL	
5.	<u>Andropogon virginicus</u>		FACU	
6.				
7.				
8.				
9.				
10.				
11.				
_____ = Total Cover				
50% of total cover: <u>50</u>		20% of total cover: <u>20</u>		
Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1.				
2.				
3.	N/A			
4.				
5.				
_____ = Total Cover				
50% of total cover: _____		20% of 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: 4 (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 = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

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

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

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

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

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**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: WAS-26

**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>		
0-4	2.5Y3/1	95	7.5YR5/0	5	C	M	SILC	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 4

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Scursion State: KY Sampling Point: WAS-27  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1.5  
 Subregion (LRR or MLRA): LRRN Lat: 37.68583 Long: -82.463241 Datum: NAD83(KIPNS)  
 Soil Map Unit Name: F1F: Fireblock, Fairpoint, Kaymine soils, 30-80% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated w/ wetland 0</p>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)      <input type="checkbox"/> True Aquatic Plants (B14)  <input type="checkbox"/> High Water Table (A2)      <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Saturation (A3)      <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Water Marks (B1)      <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Sediment Deposits (B2)      <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Drift Deposits (B3)      <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Algal Mat or Crust (B4)      <input type="checkbox"/> Other (Explain in Remarks)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)  <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 type="checkbox"/> FAC-Neutral Test (D5)</p>
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: WAS-27

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. <u>N/A</u>	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: <u>15m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Eleagnus umbellata</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>UDL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ambrosia artemisiifolia</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAW</u>
2. <u>Chrysium vulgare</u>	<u>5</u>	_____	<u>FAW</u>
3. <u>Solidago canadensis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAW</u>
4. <u>Andropogon virginicus</u>	<u>15</u>	_____	<u>FAW</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. <u>N/A</u>	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover  
50% of total cover: \_\_\_\_\_ 20% of 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: 0.0 (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

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

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

**SOIL**

Sampling Point: WAS-27

**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-M	10 YR 4/6	92	10YR 5/6	B	C	M	SicL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 4

Hydric Soil Present?    Yes     No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Savion State: KY Sampling Point: WAS-28  
 Investigator(s): S. Kelley, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1.0  
 Subregion (LRR or MLRA): LRRN Lat: 37.169333 Long: -82.461307 Datum: NAD83/KMPS  
 Soil Map Unit Name: F: F = Fiveblock, Fairpoint, Kaymine soils, 30-80% soils, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Closed ponded depression in open field</u> <u>Wetland P</u> <div style="text-align: right;"><u>PEM</u></div>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: UK-28

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.	N/A		
5.			
6.			
7.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.	N/A		
5.			
6.			
7.			
8.			
9.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

Herb Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Scirpus cyperinus</i>	30	✓	FACW
2. <i>Cyperus strigosus</i>	2		FACW
3. <i>Eleocharis compressa</i>	5		OBL
4. <i>Juncus effusus</i>	15		FACW
5. <i>Symphitrichum dumosum</i>	18	✓	FACW
6. <i>Typha angustifolia</i>	5		OBL
7. <i>Atheropogon virginicus</i>	2		FACW
8. <i>Setaria pumila</i>	8		FAC
9. <i>Bidens frondosa</i>	10		FACW
10.			
11.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: 47.5 20% of total cover: 11

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.	N/A		
4.			
5.			

\_\_\_\_\_ = Total Cover  
 50% of total cover: \_\_\_\_\_ 20% of total cover: \_\_\_\_\_

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

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (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, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: WAS-28

**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>		
0-4	10YR 5/1	95	5YR 3/4	5	C	PL	SICL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

**Restrictive Layer (if observed):**  
 Type: Gravel layer  
 Depth (inches): 4

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region**

Project/Site: Martin County Solar City/County: Martin County Sampling Date: 11/2/20  
 Applicant/Owner: Savlon State: KY Sampling Point: WAS-29  
 Investigator(s): S. Keller, C. Knabel Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONCAVE Slope (%): 2  
 Subregion (LRR or MLRA): LARN Lat: 37.769454 Long: -82.461541 Datum: NAD83(NAIP2)  
 Soil Map Unit Name: F: F: Fiddlers, Fairpoint, & Kaymine soils, 30-80% slope, stony NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:  <p align="center" style="font-size: 1.2em;">Upland point associated with Wetland P</p>	

**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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <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 type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: