

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 1:

Refer to Exie Solar's response to Siting Board Staff's First Request for Information (Staff's First Request), Item 6. Provide, in detail, more information regarding the commercial and recreational uses of those two properties that abut the proposed Exie Solar project.

Response:

Based on review of publicly available data, the commercial use referenced in Response to Staff's First Request, Item 6 is the Liletown United Methodist Church and the recreational use is an upland bird hunting preserve called Covey Quest Preserve.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 2:

Provide the distance the transmission line and the boundary of the right-of-way (ROW), individually, will be located to the closest nonparticipating landowner.

Response:

Based on the current site plan, the nearest nonparticipating residential structure to the transmission line and ROW is 2853 Liletown Road (PID 45-05.01), identified in the Project's Noise Assessment as Receptor 23. This residential structure is located 185 feet from the transmission line and 135 feet from the ROW boundary.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 3:

Provide, in detail, the communication that Exie Solar has had with the closest nonparticipating landowner from the transmission line or the ROW.

Response:

In addition to the mailers which contained information about the public information meeting and application, Project representatives communicated in person with this landowner in September 2025 about the Project. During this conversation, project representatives discussed the location of the solar arrays and location of the gen-tie line which provides access to the point of interconnection at the existing transmission line.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 4:

Refer to Staff's First Request, Item 20. Provide the specification sheets or other source information documenting noise emission estimates for the solar post pile driver likely to be used for the Exie project, such as the Everstar HXR5 or HXR6 Solar Pile Driver or the Vermeer PD10.

Response:

As discussed in Response to Request No. 17 in the Staff's First Request, the EPC will make the final selection of solar post pile driver to be used prior to the commencement of construction. Please see the attached specification sheet from the 2022 Vermeer PD-10 manual.

Responding Witness: Courtney Whitworth

SOUND AND VIBRATION LEVELS



Levels for Deutz engine options

The stated sound levels are representative for a given operating condition. Operating conditions may vary at each jobsite. The actual sound levels for your application and operating conditions may be different.

Equivalent Continuous A-Weighted Sound Pressure at Operator's Ear
as determined by directive 2000/14/EC and ISO 6396114 dB(A)

Guaranteed Sound Power Level
as determined by directive 2000/14/EC, ISO 6395, ISO 3744.132 dB(A)

Whole Body Vibration according to ISO 2631-1 less than 0.5 m/s²

Right and Left Hand/Arm Vibration according to ISO 5349 less than 2.5 m/s²

Levels for Yanmar engine option

The stated sound levels are representative for a given operating condition. Operating conditions may vary at each jobsite. The actual sound levels for your application and operating conditions may be different.

Equivalent Continuous A-Weighted Sound Pressure at Operator's Ear
as determined by directive 2000/14/EC and ISO 6396105 dB(A)

Guaranteed Sound Power Level
as determined by directive 2000/14/EC, ISO 6395, ISO 3744.123 dB(A)

Whole Body Vibration according to ISO 2631-1 less than 0.5 m/s²

Right and Left Hand/Arm Vibration according to ISO 5349 less than 2.5 m/s²

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 5:

Provide the specification sheets or other source information documenting noise emission estimates for the rock drills anticipated to be used during construction.

Response:

The EPC will make the final selection of any rock drill to be used during construction. Please see the attached Excel sheet. This contains the raw data source information provided in the National Cooperative Highway Research Program (NCHRP) Project No. 25-49, Development of a Highway Construction Noise Prediction Model (Sept. 2018), and used in the noise emission estimate as stated in Section 4.4 of the Exie Solar Noise Assessment Report. This data is available publicly at <https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3889>.

Responding Witness: Eddie Duncan

Equipment_ID	Equipment_Name	Source Height -ft	Stationary	Operation_Name	Metric	Side	12.5Hz
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAeq	Left	-2.9
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAeq	Front	-2.9
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAeq	Right	-2.9
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAeq	Back	-10.3
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAeq	Avg	-5.2
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAeq	Max	-4.3
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAmax	Left	-2.4
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAmax	Front	-2.4
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAmax	Right	-2.4
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAmax	Back	-10.6
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAmax	Avg	-4.8
1057	Rock Drill	3.7	TRUE	Drilling / Drilling in rock	LAmax	Max	-3.8

16Hz	20Hz	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz
4.6	10.7	18	26.9	36	44.4	48.8	56	51.6	55.8	58.9	60.6	65.3
4.6	10.7	18	26.9	36	44.3	45.8	56	51.6	55.8	58.9	60.6	65.3
4.6	10.7	18	26.9	36	44.4	48.8	56	51.6	55.8	58.9	60.6	65.3
-0.6	4.2	11.3	16.7	27.9	44.4	48.8	40.3	47.9	55	51.1	52.4	58.8
2.7	8.6	15.8	24.3	33.6	44.4	47.6	53.1	50.2	55.4	56.5	58.2	63.1
3.4	9.4	16.6	25.3	34.6	44.4	47.1	54.3	50.7	55.6	57.5	59.2	64
3.3	8.6	15.7	25.5	36.7	50.4	51.1	55.4	50.7	55.3	59.5	61	65.7
3.3	8.6	15.7	25.5	36.7	44.8	45.1	55.4	49.8	55.3	59.5	61	65.7
3.3	8.6	15.7	25.5	36.7	50.4	51.1	55.4	50.7	55.3	59.5	61	65.7
-6.5	-2	8.7	18.2	30.8	50.4	51.1	37.3	50.7	55.2	54	51.8	58.3
0.7	5.9	13.5	23.2	34.7	48.5	49.1	52.4	50.3	55.3	57.6	58.5	63.5
1.8	7	14.4	24.1	35.4	47.5	48.1	53.7	50.1	55.3	58.3	59.5	64.4

315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz
77.7	78.3	77	86.9	77.5	83.7	82.9	79.7	83.9	80	82.9	84.6	78.5
77.7	78.3	77	86.9	77.5	76.7	74.8	76.5	83.9	80	78.3	73.1	72.7
77.7	78.3	77	86.9	77.5	83.7	82.9	79.7	83.9	80	82.9	84.6	78.5
60.7	64.7	68.3	71.4	76.1	83.7	82.9	79.7	77	77.7	82.9	84.6	78.5
74.7	75.5	74.5	84	76.9	81.5	80.5	78.4	81.7	79	81.2	81.9	76.5
75.9	76.6	75.5	85.2	77.1	80.4	79.3	77.9	82.6	79.3	80.4	80.4	75.6
76.6	78.1	77.2	87.9	80	89.4	86.4	87.4	85.9	83.2	86.1	90.9	85.6
76.6	78.1	77.2	87.9	78.5	77.1	76.1	77.8	85.9	83.2	80	74.6	75
76.6	78.1	77.2	87.9	80	89.4	86.4	87.4	85.9	83.2	86.1	90.9	85.6
61.8	66.2	70.7	75.9	80	89.4	86.4	87.4	82.2	82.4	86.1	90.9	85.6
73.7	75.4	75	85.2	79.3	86.6	83.8	84.8	84.4	82.8	84	88	83
74.9	76.5	75.9	86.3	79.1	85.1	82.4	83.5	85	83	83.1	86.3	81.5

6.3kHz	8kHz	10kHz	12.5kHz	16kHz	20kHz
82.3	76.1	74.4	69.3	63	52.2
75.1	69.4	66.6	63.1	56.4	48.8
82.3	76.1	74.4	69.3	63	52.2
82.3	76.1	74.4	69.3	63	52.2
80	73.9	72.1	67.2	60.8	50.8
78.9	72.9	70.9	66.2	59.8	50.3
85.7	80.8	80.5	71.5	62.5	51.2
76.7	71.2	68	64.6	57.4	50.3
85.7	80.8	80.5	71.5	62.5	51.2
85.7	80.8	80.5	71.5	62.5	51.2
83.2	78.2	77.7	69.3	60.6	50.8
81.9	76.9	76.2	68.2	59.8	50.6

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 6:

Refer to Exie Solar's response to Staff's First Request, Item 80.

- a. Confirm whether the update to Table 1 (Peak Hourly Traffic column) refers to existing peak traffic or to peak traffic modeled for the proposed Exie construction period.
- b. If the updated Peak Hourly Traffic column refers only to existing conditions, provide quantitative results of expected traffic impacts (from worker vehicles and deliveries to site) during the construction of the proposed Exie project, such as maximum ADT or peak daily traffic (e.g., for the busiest phase of project construction).

Response:

- a. The update to Table 1 refers to existing peak traffic.
- b. Please see updated Table 1 below.

Station ID	Roadway	County	Milepoints	AADT ¹	Estimated AADT During Peak Construction	Peak Hourly Traffic (AADT/K-Factor)	Estimated Peak Hourly Traffic (AADT/K-Factor)
44691	Old Little Barren Road	Green	1.291-1.835	94	184	N/A	N/A
44508	KY-729	Green	0-5.245	117	207	24	42.4
44690	Liletown Road	Green	0.791-0.991	220	310	N/A	N/A
85002	US-68	Metcalf	17.842-20.016	778	868	93.4	104.2
44511	US-68	Green	0-4.576	784	874	83.9	93.5
44513	KY-218	Green	1.615-5.045	791	881	87	96.9
44253	KY-218	Green	5.045-9.523	982	1,072	114.9	125.4
44254	US-68	Green	4.576-6.099	1,310	1,400	132.3	141.4

Responding Witness: Tim Burgener

¹ AADT is average annual daily traffic, or the average number of vehicles per 24 hours based on annual traffic volumes.

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 7:

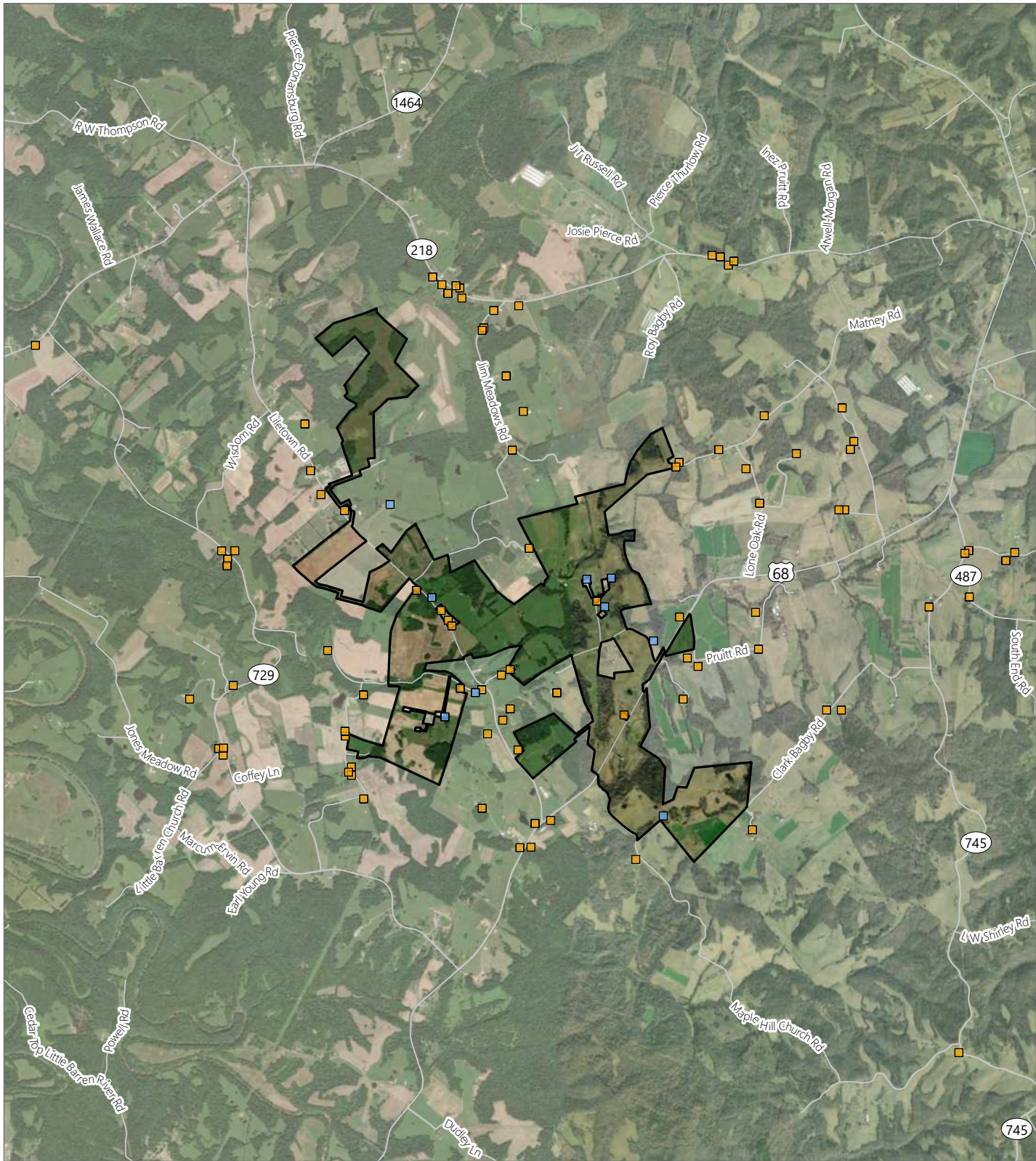
Refer to Exie Solar's response to Staff's First Request, Item 97. Provide a map of the residential structures that may have a view of any portion of the Project. Differentiate between participating and nonparticipating residences.

Response:

Please see the attached. The response to Staff's First Request, Item 97, erroneously included two cemeteries and one church. When removing these locations, a total of 98 residential homes may have a view of the project, eight of which are owned by participating landowners.

Responding Witness: Tim Burgener

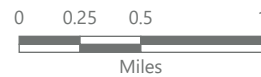
Residential Structures with a Potential View of the Project



Exie Solar Project

Green County, Kentucky

- Non-Participating Residence with Potential View
■ Participating Residence with Potential View
 Project Area



Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 8:

Provide a map showing all planned areas of vegetative clearing. Include on the map satellite imagery, wetland features, and elevation contours.

Response:

See attached.

Responding Witness: Tim Burgener

Vegetative Clearing Areas



Exie Solar Project

Green County, Kentucky

- 5 Foot Contour Line
- Delineated Stream
- Delineated Wetland
- Proposed Vegetation Clearing
- Project Area



0 500 1,000 2,000
Feet

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 9:

Confirm whether all fencing, installed according to National Electrical Safety Code (NESC) standards, will be installed prior to the commencement of any electrical work.

Response:

Exie confirms that all fencing, installed according to NESC standards, will be installed prior to the commencement of any electrical work.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 10:

Provide information on all natural gas pipelines that intersect the project. Include in the response the owner, pipe diameter, status, and setback requirements.

Response:

There are two natural gas pipelines that run approximately parallel through the Project Area according to NPMS and other data sources. Prior to construction, Exie Solar will coordinate with the pipeline owner and operator regarding setbacks and any other issues. The information on these pipelines are as follows.

Pipeline 1

Location ID: NGPIPE-601199
Owner: Kinder Morgan, Inc.
Operator: Tennessee Gas Pipeline Company
Diameter: 36 inches
Status: Operational
Setbacks: Under investigation

Pipeline 2

Location ID: NGPIPE-601198
Owner: Kinder Morgan, Inc.
Operator: Tennessee Gas Pipeline Company
Diameter: 30 inches
Status: Operational
Setbacks: Under investigation

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 11:

Provide any communication with representatives of Horseshoe Bend regarding the proximity between the two projects. Include in the response any concerns that were raised.

Response:

There has been no communication with representatives of Horseshoe Bend regarding the proximity between the two projects. Thus, no concerns were raised regarding proximity.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 12:

Describe the cumulative effects on noise from the construction activities of the two projects (Exie Solar and Horseshoe Bend) and describe any steps to minimize these effects.

Response:

According to publicly available information, Horseshoe Bend Solar is anticipated to commence commercial operation in 2025. While review of the area does not indicate that significant construction work has been performed, Exie's preliminary schedule plans for construction to not begin until mid to late 2027 and therefore no cumulative impacts are anticipated. Please also see Response to Request No. 68 of Staff's First Request for Exie's mitigation measures for noise impacts.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 13:

Describe the potential for cumulative effects on traffic and roadways from construction activities of Exie Solar and Horseshoe Bend, and any steps planned to minimize these effects.

Response:

See Response No. 12 above. Also, Exie will utilize those mitigation measures related to traffic and roadways as identified in its SAR and road study.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 14:

Describe the potential cumulative effects on property values and land uses from the construction and operation of Exie Solar and Horseshoe Bend.

Response:

There are no anticipated cumulative effects on property values from the construction and operation of Exie Solar and Horseshoe Bend. Studies of multiple existing solar facilities with multi-phase development and projects co-located next to other renewable energy projects did not provide any observed or documented effects to property values.

Responding Witness: Andrew Lines

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 15:

Refer to SAR, Attachment F, Property Value Impact Report. Explain whether the report considered the effects of adjoining solar projects Exie and Horseshoe Bend during its calculations and findings or just the Exie Solar Project.

Response:

The Property Value Impact Report demonstrates Cohn Reznick's consideration of studies of existing solar projects which have multiple phases or which are located near other existing solar projects. The Report concludes that projects located in such a manner have resulted in no consistent negative impacts to property values. Please see Response to Request No. 14 as the review of Exie and Horseshoe Bend did not change these conclusions.

Responding Witness: Andrew Lines

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 16:

Refer to Appendix B in the final Order in Case No. 2020-00190. After overlapping the boundaries from maps submitted in final Order, Appendix B, Case No. 2020-00190, and the SAR, Attachment B, Preliminary Site Plan in Case No. 2025-00151, Exie Solar, it appears there are two overlaps in the two project boundaries in the northeastern area of Exie Solar's proposed site between Lone Oak Road and DAR Cemetery Road. Provide the following:

- a. Explain if any communication has occurred with representatives of the Horseshoe Bend project regarding the boundaries of both projects.
- b. An updated site plan to reflect any changes to the proposed project boundary.

Response:

- a. No communication has taken place with representatives of Horseshoe Bend regarding the boundaries of both projects.
- b. The preliminary site layout submitted by Exie Solar LLC on August 6, 2025, as part of SAR Attachment A is the most recent site plan to date. After review of publicly available data for Horseshoe Bend in the Siting Board docket, there are no overlaps in the two project boundaries in the northeastern area of Exie Solar's proposed site between Lone Oak Road and DAR Cemetery Road. Exie Solar has complete site control over parcel 55-42, which belongs to an entirely different landowner than the neighboring parcel for Horseshoe Bend. Horseshoe Bend's boundary line related to parcel 55-42 differs between that Horseshoe Bend's legal boundaries exhibit and approved site plan. The ALTA survey for the subject area is attached hereto. As shown on pages 2 and 3, the survey shows a 12.36-acre grove of trees along the boundary line shared by parcels 55-17 and 55-42. It appears that

IL 1
1" = 60'

NE and KIMBERLY MATNEY
24 Page 372
0-00-017
ince Road
Kentucky

LINE SCHEDULE FOR INGRESS-EGRESS ESMT.		
LINE NO.	BEARING	DIST.
(E-23)	S 49°33'38"W	23.31
(E-24)	S 63°49'11"W	148.73
(E-25)	S 01°17'13"W	45.04
(E-26)	S 09°08'30"W	82.10
(L-27)	S 08°32'09"E	35.49
(E-28)	S 29°52'27"E	20.00
(E-29)	S 52°12'54"E	22.08
(E-30)	N 63°49'11"E	122.96
(E-31)	N 46°38'35"E	12.90

7 10:06:00 AM

DE LOWE
BAKER

4-334

RM

Edgar L. Cox P.E. P.L.S.
CONSULTING ENGINEER

9430 Highway 88
Greensburg, Ky. 42743

NOTE:
This boundary survey is
in compliance with
201 KAR 18:150.

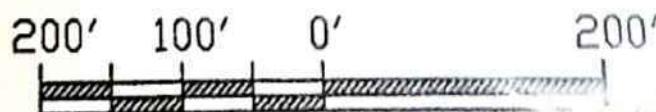
SURVEY DATE: 05/19/2016

JOB-286crd.

DRAWING DATE: 11/28/2016

DWG: JOB-286

SCALE: 1" = 200'



GRAPHIC SCALE

JCKY

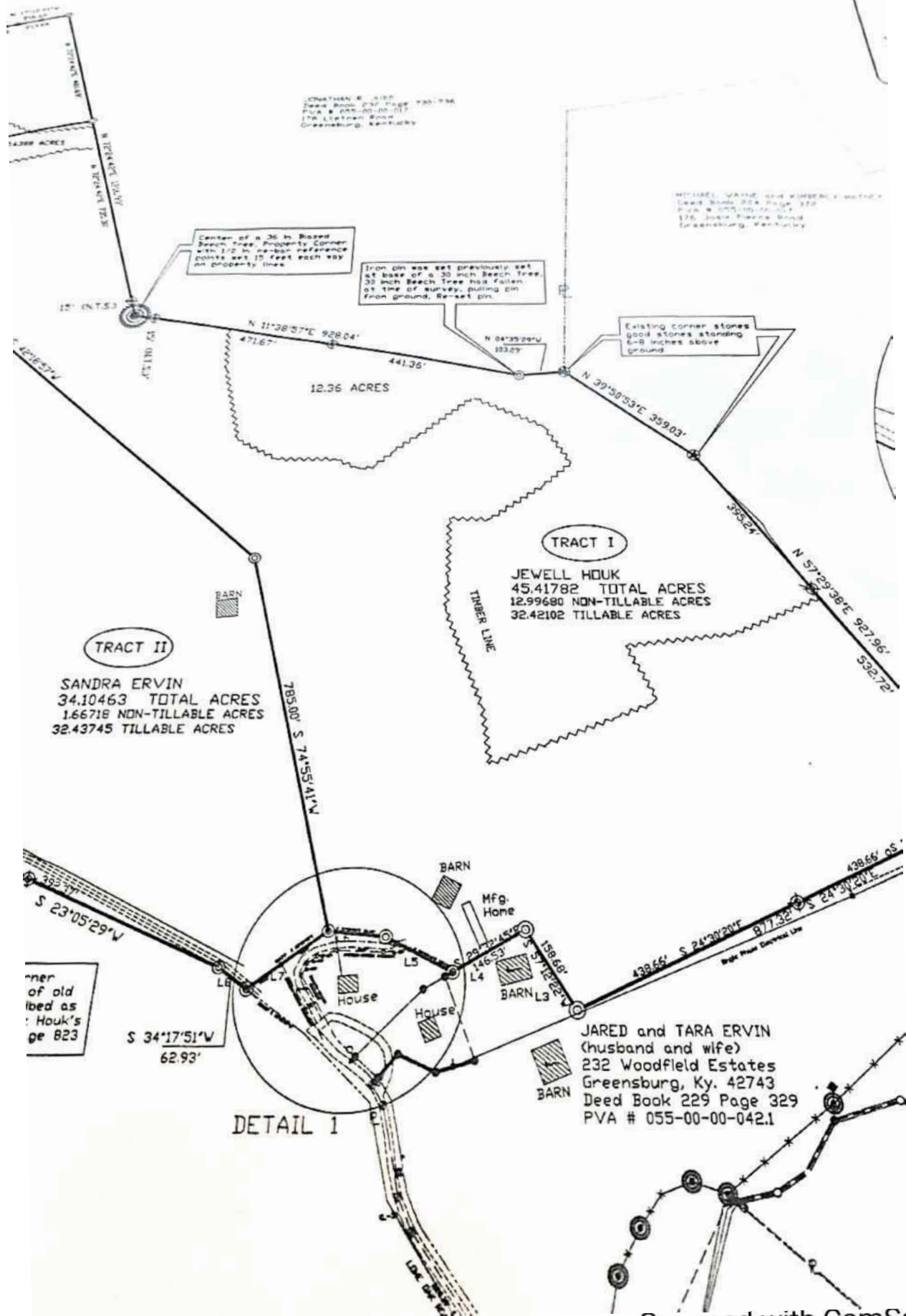




EXHIBIT A-1

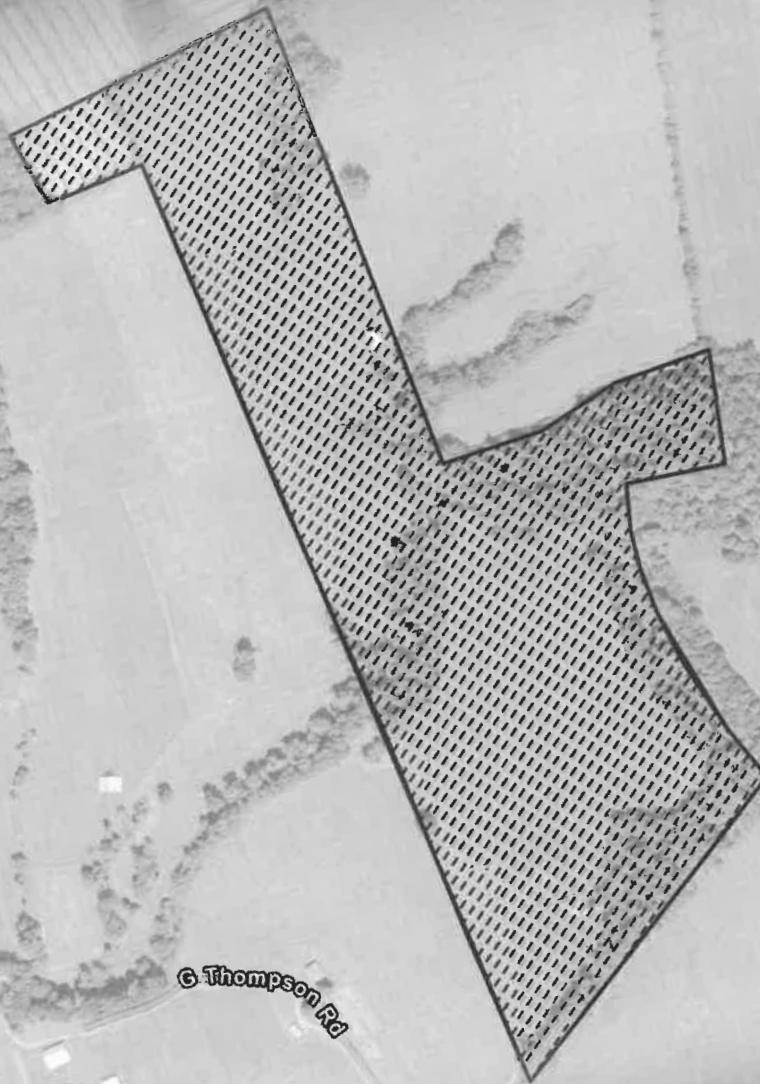
SITE PLAN

Joey & Jennifer Houk
Parcel No: 55-42.04

Green County, Kentucky

Lease Area contains approximately 45.66 acres
Entire Parcel Area contains approximately 45.66 acres

N



G Thompson Rd

Greasy Creek

Parcels
Lease Area

Center: 85°34'15"W 37°9'22"N

*All distances are approximate

Path: G:\GISData\Project\Compass\MapServer\Joey & Jennifer Houk Green KY\Joey & Jennifer Houk Green KY.aprx

User: amxintyre 7/16/2020 9:26 PM

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Horseshoe Bend's approved site plan treated this grove of trees as the property boundary, thereby incorporating the land north of the grove's tree line into parcel 55-17, whereas the true property boundary line traverses through the grove of trees. Given that the boundary line is located within the 12.36-acre grove of trees and Exie Solar intends only to install Project components on parcel 55-42, there is no physical overlap or shared infrastructure between the two facilities on parcel 55-42.

Likewise, Exie Solar has complete site control over parcel 55-42.04, which belongs to an entirely different landowner than the neighboring parcel for Horseshoe Bend. Horseshoe Bend's boundary line related to parcel 55-42.04 differs between that Horseshoe Bend's legal boundaries exhibit and approved site plan. Please refer to Exhibit A-1 of the Land Lease and Solar Easement agreement for parcel 55-42.04, provided in Response No. 1 to Staff's First Request and attached again hereto for ease of reference. As shown thereon, the northwestern portion of the parcel boundary extends across a tract of tilled farmland to a grove of trees, said grove serving as the boundary line for that portion of the parcel. It appears that Horseshoe Bend's approved site plan treated this tract of tilled farmland as the property boundary, thereby incorporating the land west thereof and east of the grove's tree line into parcel 44-31, despite the true property boundary which ends at the tree line. Given that the boundary line between parcels 44-31 and 55-42.04 is located at the tree line and Exie Solar intends only to install Project components on parcel 55-42.04, there is no physical overlap or shared infrastructure between the two facilities on parcel 55-42.04.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 17:

Explain why Exie Solar decided to adjoin its project to the Horseshoe Bend project.

Response:

Exie Solar did not specifically decide to adjoin its Project to the Horseshoe Bend project. Exie Solar's site suitability was initially determined based on available capacity within the existing transmission infrastructure and the identification of the most feasible point of interconnection, along with landowners willing to participate in the Project. This area is favorable to solar development for those reasons, which were also discussed in the Application.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 18:

The project is in a region with a groundwater sensitivity rating of 5, the highest possible rating. Explain how Exie Solar will consider groundwater sensitivity during construction and what mitigation measures will be implemented as a result.

Response:

Exie Solar will create a stormwater prevention pollution plan and obtain the required construction stormwater permits. Exie Solar also plans to use panels that have passed the EPA's TCLP testing to mitigate risk of leaching.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 19:

The proposed substation site, switchyard site, BESS site, and gen-tie corridor all sit in an area where karst and especially sinkholes are prevalent. Provide the following:

- a. Whether relocation of these sites is possible or feasible.
- b. Explain the mitigation measures Exie Solar will implement during construction to combat karst should these sites be used.
- c. Explain the foundations each site will have.

Response:

- a. To the extent Project components have been sited on karst, the location will be adjusted within the current parcel in a manner compliant with setbacks imposed by the Siting Board and for karst avoidance. Relocation of these components is not planned and Exie intends to locate as shown on the preliminary site layout. The area selected for these components was chosen based on proximity to the POI and on willing landowner participation. A final geotechnical study will be performed prior to construction.
- b. Exie Solar intends to apply a 25-foot setback for project equipment (e.g., panels, inverters, substation) to mitigate impacts to karst features.
- c. At this time, the Project assumes that standard foundations will be used for the substation, switchyard, BESS, and gen-tie, but the Project's EPC contractor will make the final decision on selection of foundation materials after further geotechnical investigation. Substation and switchyard foundations typically consist of concrete footings for above-grade steel and a slab on grade for transformers. BESS foundations for the skids typically consist of slab on grade. Foundations for transmission structures in the gen-tie corridor will typically consist of drilled concrete pier foundations or embedded monopoles. Additional

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

geotechnical investigations are planned prior to construction and the Project's karst survey attached to Response No. 73 of Siting Board Staff's first data request will be field verified.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 20:

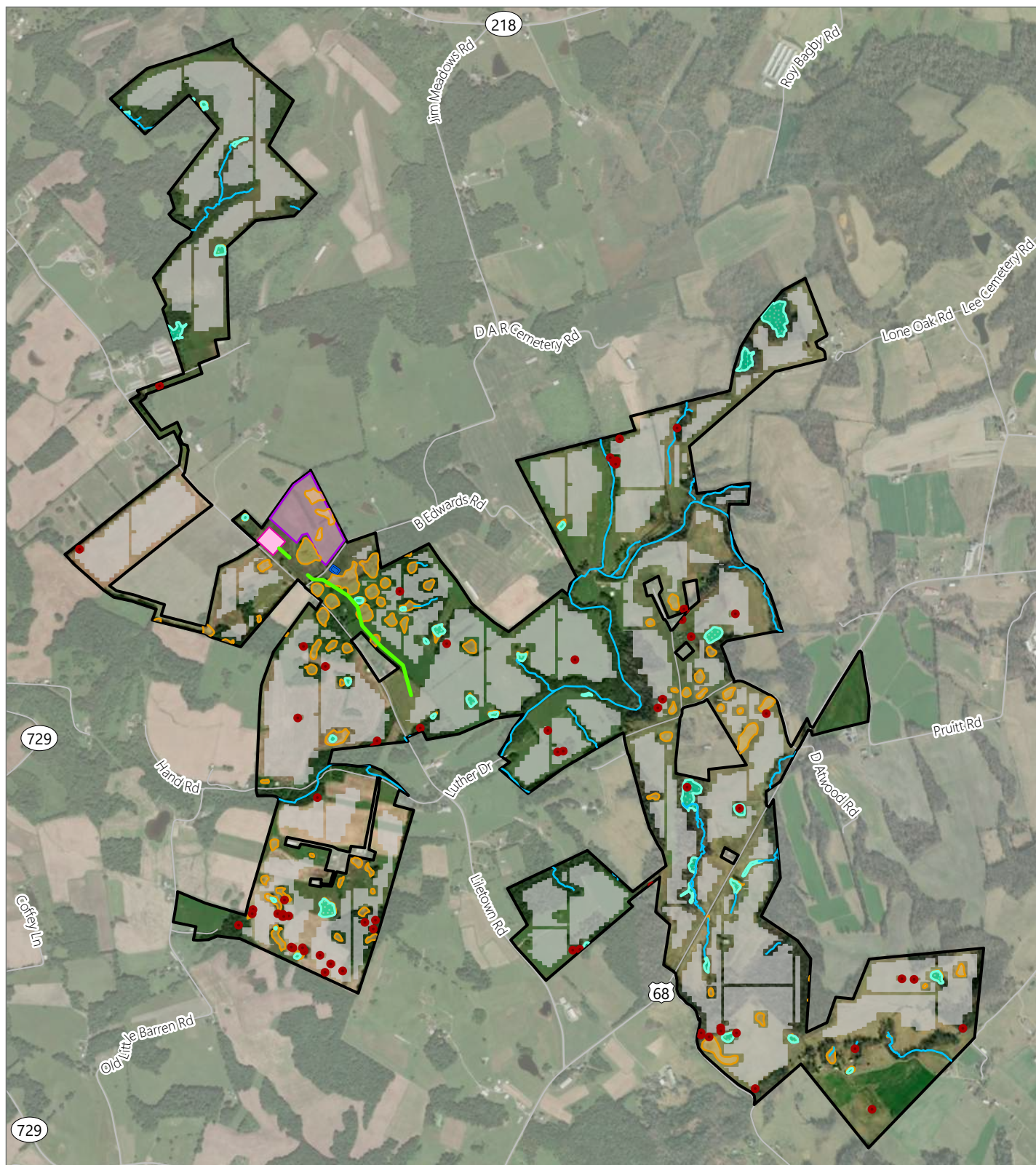
Refer to the map provided in Exie Solar's response to Staff's First Request, Item 27. Add to the map the proposed substation, battery energy storage system (BESS) facility, O&M building, and transmission line route locations. Also include proposed solar array areas.

Response:

See attached.

Responding Witness: Tim Burgener

Water Features and Karst Features



Exie Solar Project

Green County, Kentucky

- Suspected Karst Point
- Transmission Line
- Delineated Stream
- Delineated Wetland
- Suspected Karst Area
- Substation
- BESS
- O&M Building
- Solar Array Area
- Project Area



0 500 1,000 2,000
Feet

Prepared October 31, 2025
Basemap: Esri "World Imagery" map service

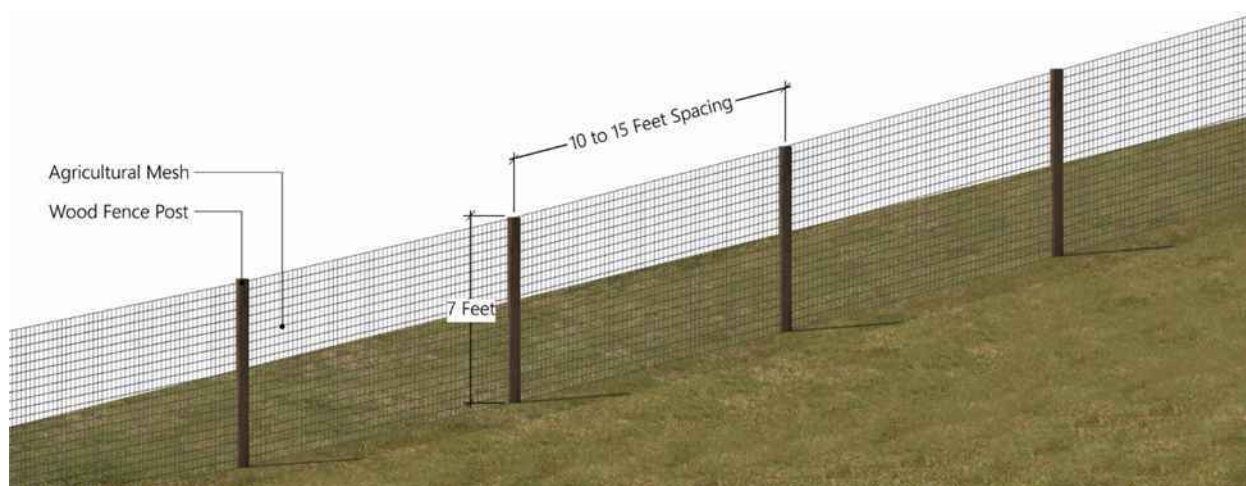
Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 21:

Describe the agricultural-style fence. In the response, include a preliminary design.

Response:

The agriculture style fence consists of 7-foot-tall wood fence posts spaced approximately 10-15 feet apart supporting tall agricultural box wire mesh.



Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 22:

Explain whether the agricultural-style fence will include barbed wire.

Response:

The agricultural-style fence will not include barbed wire.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 23:

Provide the number of gates that will be along the fenced perimeter.

Response:

Please refer to Response No. 16 of Siting Board Staff's first data request. The Project will construct a gate at each access road, totaling 18 gates.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 24:

Provide a table showing the distance between transmission line structures (poles) and nearby residences, for the proposed route, the ROW, and the alternate route and ROW.

Response:

No alternate route or ROW was proposed as part of this application. The table below includes the distance from the nearest transmission line pole, transmission route, and ROW to each residence for those residences that are within 500 feet of a transmission line pole. The 500-foot limitation was to assist in determining which residences may qualify as “nearby.”

Receptor ID	PID	Participation Status	Nearest Pole (Feet)	Proposed Route (Feet)	Proposed ROW (Feet)
79	45-04.01_.02	Participating	270	243	193
37	45-05	Non-Participating	266	242	192
23	45-05.01	Non-Participating	273	185	135
68	45-11.01	Non-Participating	324	298	248
78	45-12.01	Non-Participating	365	365	315

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 25:

State the number of individual parcels and landowners participating in the Project, including the transmission line.

Response:

The Exie Solar Project consists of 28 parcels, inclusive of easements, pursuant to agreements with 12 landowner parties. Each party may consist of an individual landowner or multiple individuals with shared ownership interests.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 26:

Provide the name and business who will perform inspections of the BESS facility prior to and during operations. Include in the response the frequency of inspections and details of the inspection criteria.

Response:

The BESS facility will be subject to ongoing inspections and maintenance prior to and during operations. The EPC contractor has not yet been selected. During construction, the EPC contractor will conduct daily inspections to ensure proper mechanical and electrical installation and adherence to best practices. Once operational, the Exie operations team will follow the manufacturer's guidelines for routine maintenance. Additionally, weekly and monthly site inspections will be performed to manage vegetation and wildlife, ensuring safe and reliable facility operation.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 27:

All other qualifications for the positions being equal, explain whether Exie Solar intends to hire as many local workers for the construction and operation phases of the project as possible. If so, include how Exie Solar intends to accomplish that.

Response:

Although final hiring decisions will be made by the Project's EPC contractor, Exie Solar intends to hire as many qualified local workers as feasible for both the construction and operation phases of the Project. To support this goal, Exie Solar will strongly encourage its EPC to hire locally first prior to hiring outside of the local labor pool. If feasible when there are hiring needs, Exie Solar plans to organize job fairs, utilize various advertising channels to promote employment opportunities, and conduct outreach efforts with area schools and colleges to raise awareness of available positions. While local hiring is a priority, certain roles may require specialized expertise or qualifications that necessitate hiring from outside the immediate area.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 28:

Explain whether a power purchase agreement has been finalized. If not, provide a timeline for drafting and finalizing a power purchase agreement.

Response:

No power purchase agreement has been finalized. Drafting and finalizing a power purchase agreement is anticipated following the approval of the construction certificate.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 29:

Provide any updates to vegetative screening plans.

Response:

See attached.

Responding Witness: Courtney Whitworth

Conceptual Visual Mitigation Report

Exie Solar Project

Green County, Kentucky

Prepared for:



Exie Solar, LLC
8400 Normandale Lake Blvd, Suite 1200
Bloomington, MN 55437
exiesolar@geronimopower.com

Prepared by:



Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
5 E Long St, Suite 700
Columbus, OH 43215
edrdpc.com

November 2025

Table of Contents

1.0	Goals and Objectives	1
2.0	Design Methodology and Plant Selection	2
3.0	Planting Modules	6
4.0	Plant Material Installation, Establishment, and Maintenance	9
5.0	Preliminary Planting Module Locations	15
6.0	Conclusion	20
7.0	References	21

1.0 Goals and Objectives

Exie Solar, LLC (the Applicant) is proposing to construct the Exie Solar Project (the Project), an up to 110-megawatt (MW) solar photovoltaic (PV) electric generation facility in Green County, Kentucky. The area leased or purchased for the Project includes 1,340 acres of private land (the Project Area). Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) has developed this *Conceptual Visual Mitigation Report* to address the potential visual impacts resulting from the installation of the Project.

This report includes a conceptual visual mitigation strategy consisting of an example plant species palette, conceptual arrangements of the example plant species in three distinct planting modules, and proposed planting module locations intended to address the varied aesthetic impacts of the Project on adjacent, residential non-participating properties and the traveling public. Preliminary planting and establishment guidelines are included to provide initial planning and guidance on the steps required for successful implementation. Objectives of this report include:

- Provide preliminary recommendations for visual mitigation of potential Project impacts that match the character of the existing landscape, avoiding the use of non-natural forms and features such as berms and privacy fences, which would contrast inappropriately with the Project setting
- Prioritize the use of native plant material which complements the existing vegetation within and adjacent to the Project Area
- Contribute ecological benefits to the Project Area through the creation of habitat areas for local wildlife, including pollinators
- Provide preliminary guidance for the installation, establishment, and long-term care of the proposed plantings

The proposed planting module locations shown in this report have been developed through analysis of facility visibility from non-participating residences, roadways, and other scenic and cultural resources near the Project Area, with the primary goal of reducing potential visual impacts to resources and receptors adjacent to the facility.

2.0 Design Methodology and Plant Selection

Selecting the appropriate visual buffer is dependent on local context. While opaque screening such as uninterrupted fencing or berms may be well suited to some settings, it would not be visually compatible with a rural landscape. Vegetative buffers such as wind breaks and hedgerows, however, have precedent in agricultural and rural landscapes and would not appear out of place in most instances. The use of vegetation for visual impact mitigation mimics the existing hedgerow borders at perimeters of farm fields and along roadways and complements the visual buffers provided by natural vegetation within and surrounding the Project Area.

Existing vegetation within and adjacent to the Project Area consists mainly of expansive agricultural fields used for pastureland and cropland, divided by hedgerows, woodlots, and wooded riparian corridors along creek and stream channels. These existing vegetative stands have informed the plant material selection for the proposed mitigation strategy, which includes deciduous trees predominantly composed of oaks and tulip poplar, evergreen trees including Virginia pine and eastern red cedar, and a variety of lower-growing spreading shrubs and understory trees. This strategy is based on the idea that the success of existing native species in the area indicates that conditions may be suitable for newly installed plants of the same species. Because they are well suited for the site-specific climate, these native species often require less maintenance than introduced species.

Species and growth habit diversity within the plantings can enhance cover, food, breeding, and feeding habitat for a variety of wildlife species. Using a mixture of native flowering species can also improve pollinator habitat and increase biodiversity in a way that complements the existing landscape, which includes large areas dominated by a monoculture of agricultural crops.

Example plant species with representative photographs are included below. Additional species for potential selection are included in the planting module design sheets shown in Section 3.0. A number of sources were used in development of the suggested plant lists, including but not limited to: on-site observation, the USDA PLANTS database (NRCS, 2024), the *Forest Atlas of the United States* (Perry et al., 2022), the listed Exotic Invasive Plants of Kentucky (Kentucky Exotic Pest Plant Council, 2013), and the native plant lists included in the *Kentucky Pollinator Protection Plan* (Kentucky Department of Agriculture, 2019).

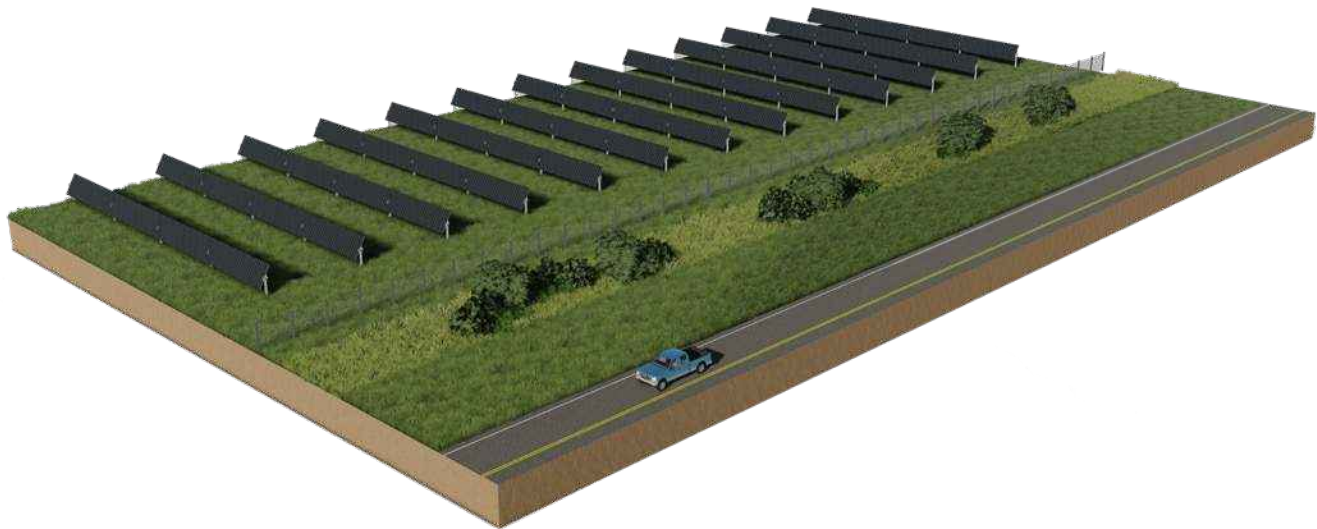
Planting Design Strategy

The proposed vegetative visual mitigation is designed with the intent of moderating views of the solar arrays, above ground electrical components, and the associated perimeter fence that may contrast with the existing agricultural landscape, while maintaining the safe and efficient operation of the facility. Depending on the location and distance of resources adjacent to the Project Area, various plant types and densities are proposed to provide an appropriate level of mitigation. For example, mitigation for a residence adjacent to the Project Area with views focused directly into the facility may require a more dense planting module (Figure 2.1) than a local road where only fleeting views of the facility may be available, requiring less plant material to soften the view (Figure 2.2). This report considers three preliminary planting modules that vary in density and plant material and are described in detail in Section 3.0.

Figure 2.1 Example of Dense Visual Mitigation Module



Figure 2.2 Example of Intermittent Visual Mitigation Module



Examples of Potential Plant Materials

American
Hornbeam



Sweet Gum



Cucumbertree
Magnolia



Tupelo



American
Hophornbeam



Virginia Pine



Eastern
Red Cedar



Eastern
Redbud



Allegheny
Serviceberry



Common Witch Hazel



Virginia Sweetspire



Gray Dogwood



Black Chokeberry



Blackhaw Viburnum



Spicebush

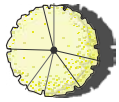
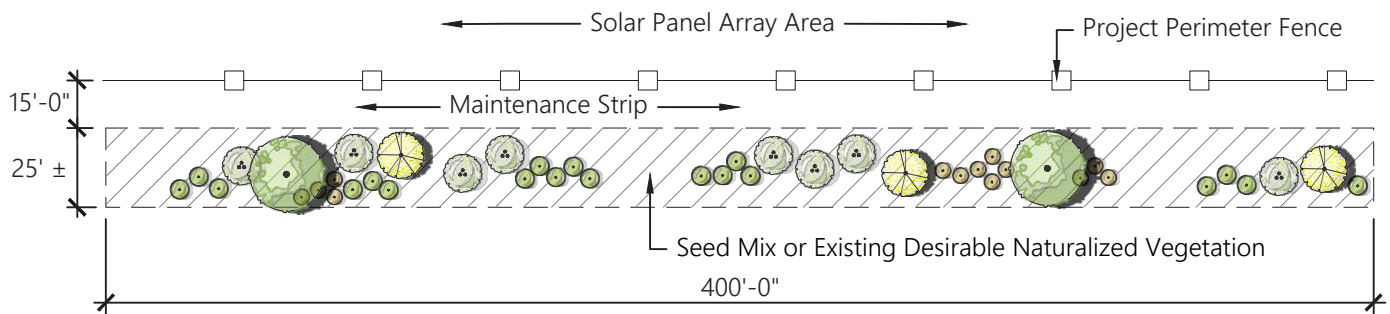


Botanical Name	Common Name	Install Height	5-7 Year Height	Max. Mature Height	Module 1	Module 2	Module 3
<i>Amelanchier laevis</i>	Allegheny Serviceberry	8'	14'	30'	X		X
<i>Aronia melanocarpa</i>	Black Chokeberry	3'	6'	6'	X	X	X
<i>Cercis canadensis</i>	Eastern Redbud	6'	12'	30'	X		X
<i>Carpinus caroliniana</i>	American Hornbeam	10'	16'	35'	X	X	
<i>Cornus racemosa</i>	Gray Dogwood	3'	8'	15'	X	X	X
<i>Hamamelis virginiana</i>	Common Witch Hazel	4'	10'	20'	X	X	X
<i>Itea virginica</i>	Virginia Sweetspire	3'	4'	8'	X	X	
<i>Juniperus virginiana</i>	Eastern Red Cedar	4'	12'	50'		X	X
<i>Lindera benzoin</i>	Spicebush	3'	5'	12'	X	X	X
<i>Liquidambar styraciflua</i>	American Sweetgum	12'	24'	70'		X	
<i>Magnolia acuminata</i>	Cucumbertree	10'	16'	50'	X	X	
<i>Nyssa sylvatica</i>	Tupelo	10'	16'	40'	X	X	
<i>Ostrya virginiana</i>	American	10'	16'	40'	X	X	
<i>Pinus virginiana</i>	Virginia Pine	6'	15'	70'		X	
<i>Viburnum prunifolium</i>	Blackhaw Virbunum	3'	9'	12'	X	X	X

3.0 Planting Modules

Planting Module 1

Module 1 consists of shrubs and trees of varying scale and form. The module is intended to visually break up the horizontal line of the solar array, provide partial screening, and visually integrate with the surrounding landscape in areas with frequent viewers but without prolonged viewer duration, such as along public roadways. The low profile of the selected species allows for partial screening while maintaining long views and open sky over the top of the solar facility. A 15-foot maintenance strip is provided for routine fence inspection and maintenance.



Small Flowering Tree

Aesculus glabra / Ohio Buckeye
Amelanchier laevis / Allegheny Serviceberry
Cercis canadensis / Eastern Redbud
Crataegus crus-galli / Cockspur Hawthorn
Halesia carolina / Silverbell



Large Shrub

Cornus racemosa / Gray Dogwood
Hamamelis virginiana / Common Witch Hazel
Rhus typhina / Staghorn Sumac
Salix discolor / Pussy Willow
Viburnum prunifolium / Blackhaw Viburnum



Medium Deciduous Tree

Carpinus caroliniana / American Hornbeam
Magnolia acuminata / Cucumbertree Magnolia
Nyssa sylvatica / Tupelo
Ostrya virginiana / American Hophornbeam
Oxydendrum arboreum / Sourwood Tree



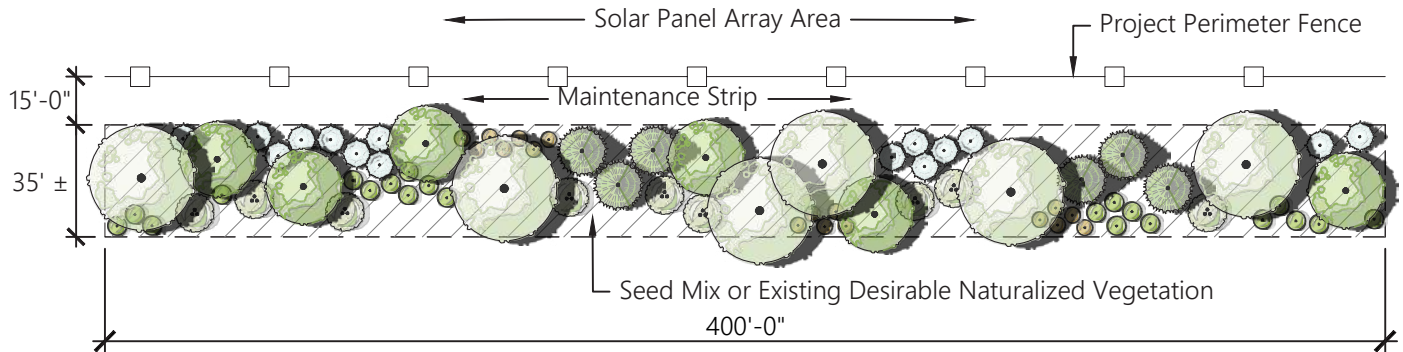
Medium Shrub

Aronia melanocarpa / Black Chokeberry
Corylus americana / American Hazelnut
Kalmia latifolia / Mountain Laurel
Lindera benzoin / Spicebush
Physocarpus opulifolius / Ninebark

1. Suitability of existing vegetation in lieu of seed mix shall be as determined by facility owner.
2. Species identified in planting module graphics are representative of the design intent, subject to availability and site conditions at the time of planting. If species identified in the plant lists shown are not available at the time of installation, substitute with plant species that meet the design intent of the species to be substituted, in coordination with the facility owner and construction manager.
3. Plant species graphic icons represent the average canopy spread of each plant type at maturity, to be used for Exie Solar conceptual planting designs only.

Planting Module 2

Module 2 consists of shade trees, shrubs, and evergreen material to provide screening during winter (leaf-off) and summer (leaf-on) conditions. This module is intended to provide a higher level of screening, particularly where stationary adjacent uses, such as residences, could be impacted by direct views of facility components. This module type will not create a 100% opaque screen, but rather a dynamic vegetative buffer that allows light to pass through and replicates the character and density of existing hedgerows found throughout the area. A 15-foot maintenance strip is provided to accommodate routine fence inspection and maintenance.



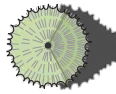
Large Deciduous Tree

Celtis occidentalis / Common Hackberry
Liquidambar styraciflua / Sweet Gum
Liriodendron tulipifera / Tulip Poplar
Quercus alba / White Oak
Quercus muehlenbergii / Chinkapin Oak



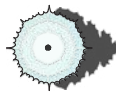
Medium Deciduous Tree

Carpinus caroliniana / American Hornbeam
Magnolia acuminata / Cucumbertree Magnolia
Nyssa sylvatica / Tupelo
Ostrya virginiana / American Hophornbeam
Oxydendrum arboreum / Sourwood Tree



Large Evergreen

Abies concolor / White Fir
Picea glauca / White Spruce
Pinus strobus / White Pine
Pinus virginiana / Virginia Pine



Small / Medium Evergreen

Abies balsamea phanerolepis / Canaan Fir
Juniperus virginiana / Eastern Red Cedar
Picea glauca `Densata` / Black Hills Spruce



Large Shrub

Cornus racemosa / Gray Dogwood
Hamamelis virginiana / Common Witch Hazel
Rhus typhina / Staghorn Sumac
Salix discolor / Pussy Willow
Viburnum prunifolium / Blackhaw Viburnum



Medium Shrub

Aronia melanocarpa / Black Chokeberry
Corylus americana / American Hazelnut
Kalmia latifolia / Mountain Laurel
Lindera benzoin / Spicebush
Physocarpus opulifolius / Ninebark



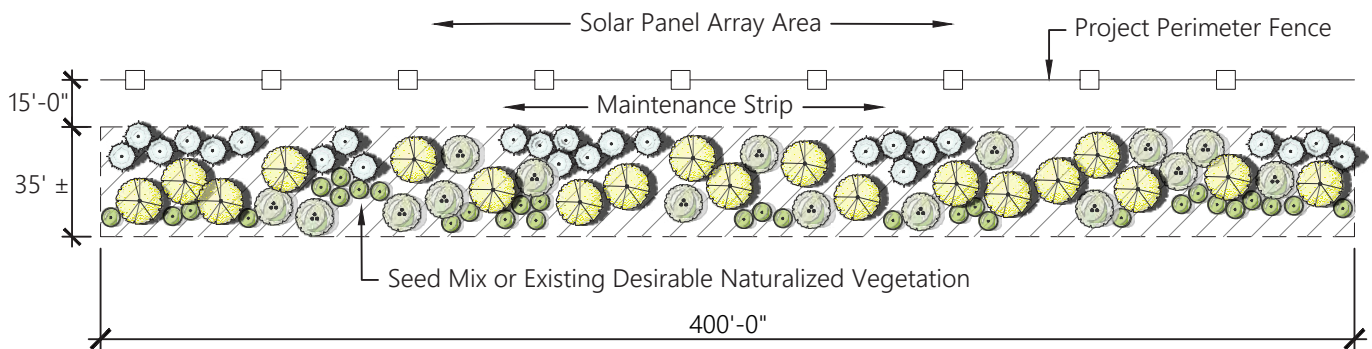
Small Shrub

Itea virginica / Virginia Sweetspire
Rhus aromatica / Fragrant Sumac
Rosa carolina / Carolina Rose

1. Suitability of existing vegetation in lieu of seed mix shall be as determined by facility owner.
2. Species identified in planting module graphics are representative of the design intent, subject to availability and site conditions at the time of planting. If species identified in the plant lists shown are not available at the time of installation, substitute with plant species that meet the design intent of the species to be substituted, in coordination with the facility owner and construction manager.
3. Plant species graphic icons represent the average canopy spread of each plant type at maturity, to be used for Exie Solar conceptual planting designs only.

Planting Module 3

Module 3 consists of small flowering trees, shrubs, and evergreen material to provide screening during winter (leaf-off) and summer (leaf-on) conditions. This module is intended to provide a higher level of screening, particularly where stationary adjacent uses could be impacted by direct views of facility components, while reaching a lower mature height than the species proposed in Module 2, for use in areas where panel shading or overhead obstructions are a constraint. This module type will not create a 100% opaque screen, but rather a dynamic vegetative buffer that allows light to pass through and replicates the character and density of existing hedgerows found throughout the area. A 15-foot maintenance strip is provided to accommodate routine fence inspection and maintenance.



Small Flowering Tree

Aesculus glabra / Ohio Buckeye
Amelanchier laevis / Allegheny Serviceberry
Cercis canadensis / Eastern Redbud
Crataegus crus-galli / Cockspur Hawthorn
Halesia carolina / Silverbell



Large Shrub

Cornus racemosa / Gray Dogwood
Hamamelis virginiana / Common Witch Hazel
Rhus typhina / Staghorn Sumac
Salix discolor / Pussy Willow
Viburnum prunifolium / Blackhaw Viburnum



Small / Medium Evergreen

Abies balsamea phanerolepis / Canaan Fir
Juniperus virginiana / Eastern Red Cedar
Picea glauca `Densata` / Black Hills Spruce



Medium Shrub

Aronia melanocarpa / Black Chokeberry
Corylus americana / American Hazelnut
Kalmia latifolia / Mountain Laurel
Lindera benzoin / Spicebush
Physocarpus opulifolius / Ninebark

1. Suitability of existing vegetation in lieu of seed mix shall be as determined by facility owner.
2. Species identified in planting module graphics are representative of the design intent, subject to availability and site conditions at the time of planting. If species identified in the plant lists shown are not available at the time of installation, substitute with plant species that meet the design intent of the species to be substituted, in coordination with the facility owner and construction manager.
3. Plant species graphic icons represent the average canopy spread of each plant type at maturity, to be used for Exie Solar conceptual planting designs only.

4.0 Plant Material Installation, Establishment, and Maintenance

Overview

The plant material proposed in this *Conceptual Visual Mitigation Report* has been selected for its regional compatibility with the existing landscape to lessen the need for prolonged maintenance beyond the period of establishment. Proper installation, establishment, and continued management are critical to the survival and long-term health of the vegetation installed for visual mitigation. The Applicant will review the condition of plant material after initial installation to ensure the intent of the mitigation strategy is successfully implemented.

This *Conceptual Visual Mitigation Report* is intended to support permitting efforts only; therefore, this information has not been developed to the level of detail required for bidding and installation of the mitigation plantings. Prior to implementation of this strategy, EDR recommends that industry-standard construction drawings and specifications be produced by a licensed Landscape Architect. Landscape construction drawings for the contractor should be designed to achieve the visual mitigation goals outlined in this report.

Site Preparation, Plant Delivery, and Staging

To improve plant establishment outcomes, it is essential that site preparation measures are completed prior to plant layout. Planting modules may be indicated in areas previously occupied by a variety of uses including temporary laydown yards, agricultural hedgerows, vegetated right-of-way shoulders, and agricultural crop production. Site preparation measures should be tailored to each planting site in consideration of prior use, current soil nutrient levels, and planting module type. Planting areas should be cleared of existing broadleaf vegetation in the immediate planting area that may compete with or impede visibility of the new plantings. Example site preparation measures include, but are not limited to:

- Decompact soils, particularly if site has been subjected to concentrated mechanical or vehicular use.
- Mow the entire planting area, including applicable maintenance strips.
- Apply herbicides as necessary to control competing vegetation.
- Amend soils with fertilizer, organic matter, and sulfur or lime, according to soil test recommendations. If applying lime, a two-week interval should be reserved from fertilizer application.

Plant installation is recommended to occur immediately following the delivery of plant materials to the site. If this cannot be achieved, a staging area should be established for the sole purpose of plant care and protection until the planting can occur. The staging site should provide shade for all materials and access to irrigation, optimally providing a fine-mist spray to balled-and-burlapped root balls and steady irrigation to containerized plants. If planting is scheduled to occur more than a week following delivery, plants should be heeled in with native site soils and/or mulch.

Installation

Upon completion of the site preparation stage, individual plant locations should be laid out in the field, using stakes to mark the planting locations of larger specimens, for approval prior to installation. Trees and shrubs should be installed according to industry-standard best management practices to promote the establishment and long-term health and vigor of the plants, taking care to perform the following:

1. Install during the dormant season, occurring after leaf-drop in fall and prior to bud-break in spring.
2. Remove containers, wire baskets, burlap, twine, protective wrap, and tags prior to planting.
3. Install trees plumb or straight from all viewpoints.
4. Backfill planting pits with on-site soils, or amended according to the recommendations of a qualified soil testing agency or landscape contractor.
5. Apply mulch to retain moisture and insulate tree roots from extreme temperatures.
6. Stake trees.
7. Seed all disturbed areas outside of the immediate planting areas that are not intended to receive mulch with the selected Project seed mix.
8. Water all new plantings thoroughly.
9. Provide rodent guards at the base of each tree. In areas where deer pressure is noted, an individual wire-mesh tree fence should instead be utilized.

Individual plant installations should be tailored to plant type (e.g., evergreen tree, deciduous tree, or shrub), form (e.g., single-stem or multi-stem), size, and root/container (e.g., balled-and-burlapped, bare root, or container), as illustrated in the typical plant installation details (see Figures 4.1, 4.2 and 4.3).

To aid maintenance and monitoring activities performed during the early establishment period, it is recommended that stakes be positioned at the limits of each planting module area to delineate the maintenance boundaries. Individual woody plant specimens under 36" in height should be marked with flags to bolster plant visibility during inspections and maintenance activities.

Figure 4.1 Typical Deciduous Tree Installation Detail

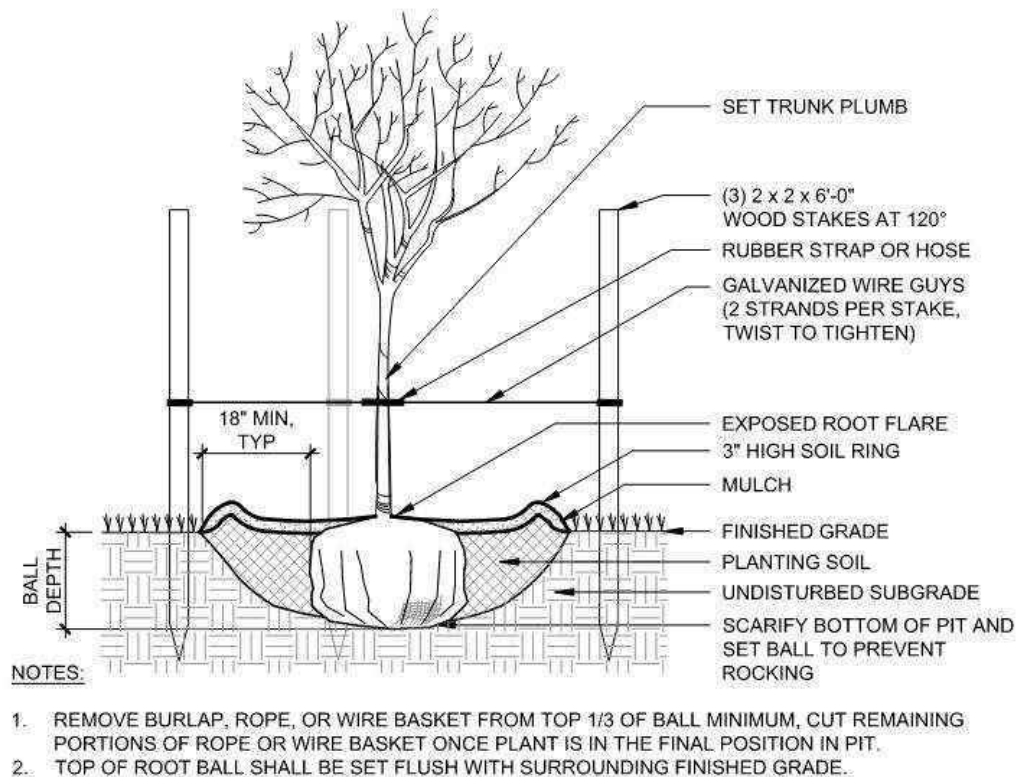


Figure 4.2 Typical Evergreen Tree Installation Detail

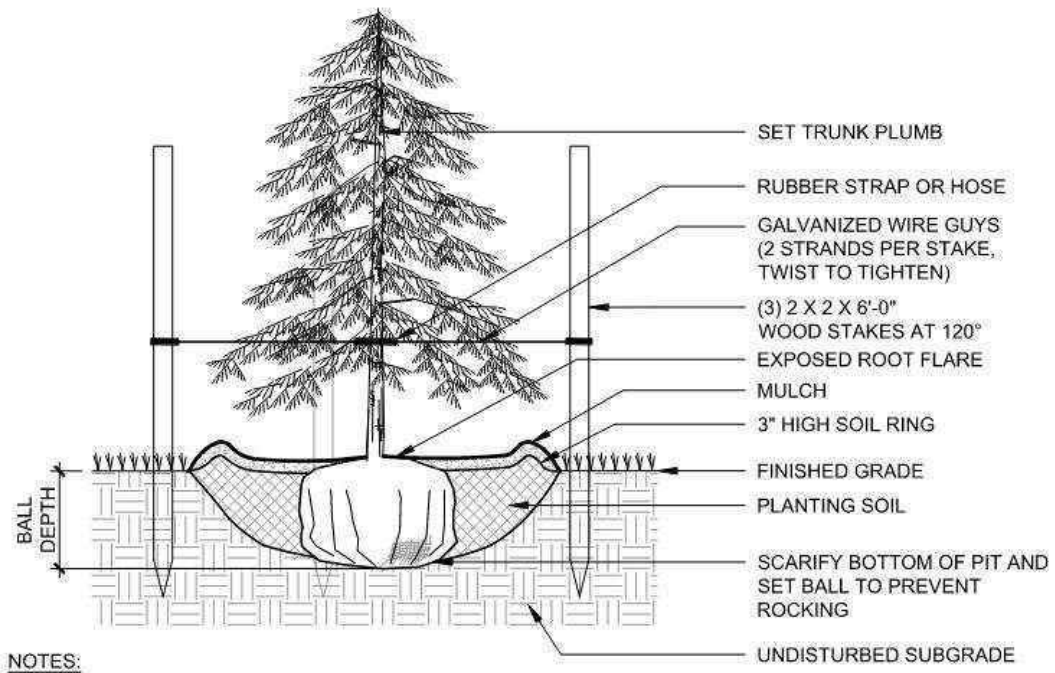
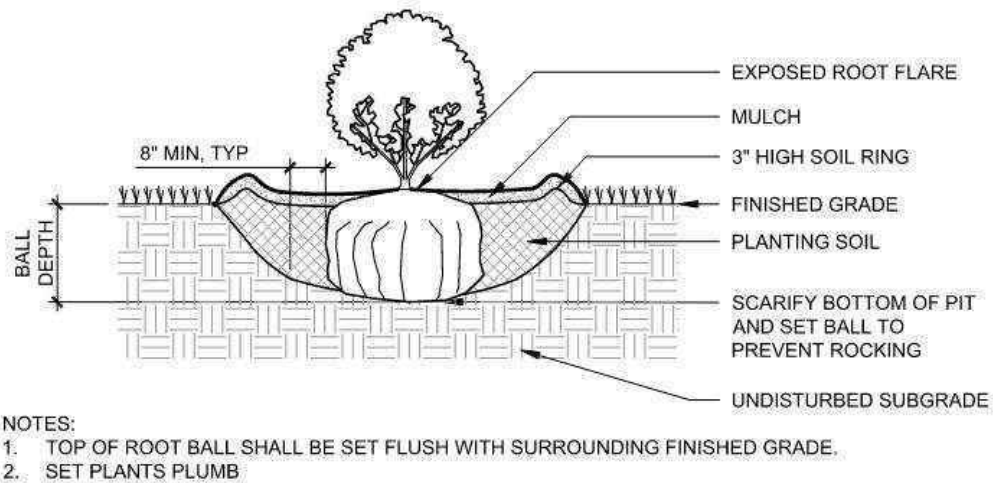


Figure 4.3 Typical Shrub Installation Detail



Establishment

The plant establishment period is the initial phase following planting where plants must receive targeted support to encourage the development of a healthy root system. Proper establishment protocols such as irrigation and post-installation monitoring are imperative for the long-term health and survivability of the plantings. These measures should be performed at regular intervals throughout the establishment period, which typically encompasses the active growing season (typically from early April to early November in central Kentucky) of the first two years following planting.

Irrigation timing and amounts should be tailored to each individual plant or group of plants. In general, it is recommended that woody plants receive irrigation daily for the first two weeks following initial planting, with watering intervals increasing to every three days between weeks three to twelve, and weekly thereafter during the establishment period. Recommended irrigation amounts per plant at each watering are provided as follows:

Plant Size	Gallons
12 to 36 inches height	5
36 inches to 5 feet	7
5 to 8 feet	15
2 to 3 inches caliper	25
3 to 4 inches caliper	30

Irrigation timing and amounts may require adjustment based on current environmental conditions. To accurately determine irrigation needs per plant, probe a soil moisture meter to the depth of each root ball. Irrigate plants measuring 30% moist or less with the amounts indicated in the chart, adjusting for clay soils to prevent over-watering.

Post-installation monitoring can ensure that issues resulting from transplant shock are addressed while they remain treatable, before plant mortality is at risk. Monitor plants at regular intervals throughout the establishment period to inspect for signs of plant stress, which commonly present through the following initial indicators:

- Root suckering
- Bolting branches
- Wilted leaves or branches
- Early leaf drop
- Curled, rolled, or mishapen leaves
- Discolored leaves (e.g., brown edges, overall yellowed appearance, or bleaching)
- Crown or branch dieback

It is recommended that an ISA-certified arborist be engaged to develop a treatment plan if any of the aforementioned issues are observed.

Plant Material Maintenance

To ensure the goals of the final visual mitigation planting plan continue to be met, the visual mitigation plantings must be managed regularly throughout the life of the Project to manage tree health, develop proper form and structure, reduce risk of failure, and provide clearance to facility structures. Following the establishment period, conduct maintenance and inspection on an annual basis, including:

- Inspect for physical damage and signs of pests and disease
- Apply fertilizer as needed
- Prune trees only as necessary under the direction of a certified arborist, remaining consistent with each species' natural growth habit
- Engage an ISA-certified arborist to develop a treatment plan for any noted issues

Replacement Protocol

Trees and shrubs within the visual mitigation plantings are intended to be replaced as needed to maintain the desired plant density and screening effect outlined in Section 3.0. Trees with greater than 50% crown dieback should be evaluated for removal and replacement with the same species or a functionally similar species.

5.0 Preliminary Planting Module Locations

Planting Module Location Methodology

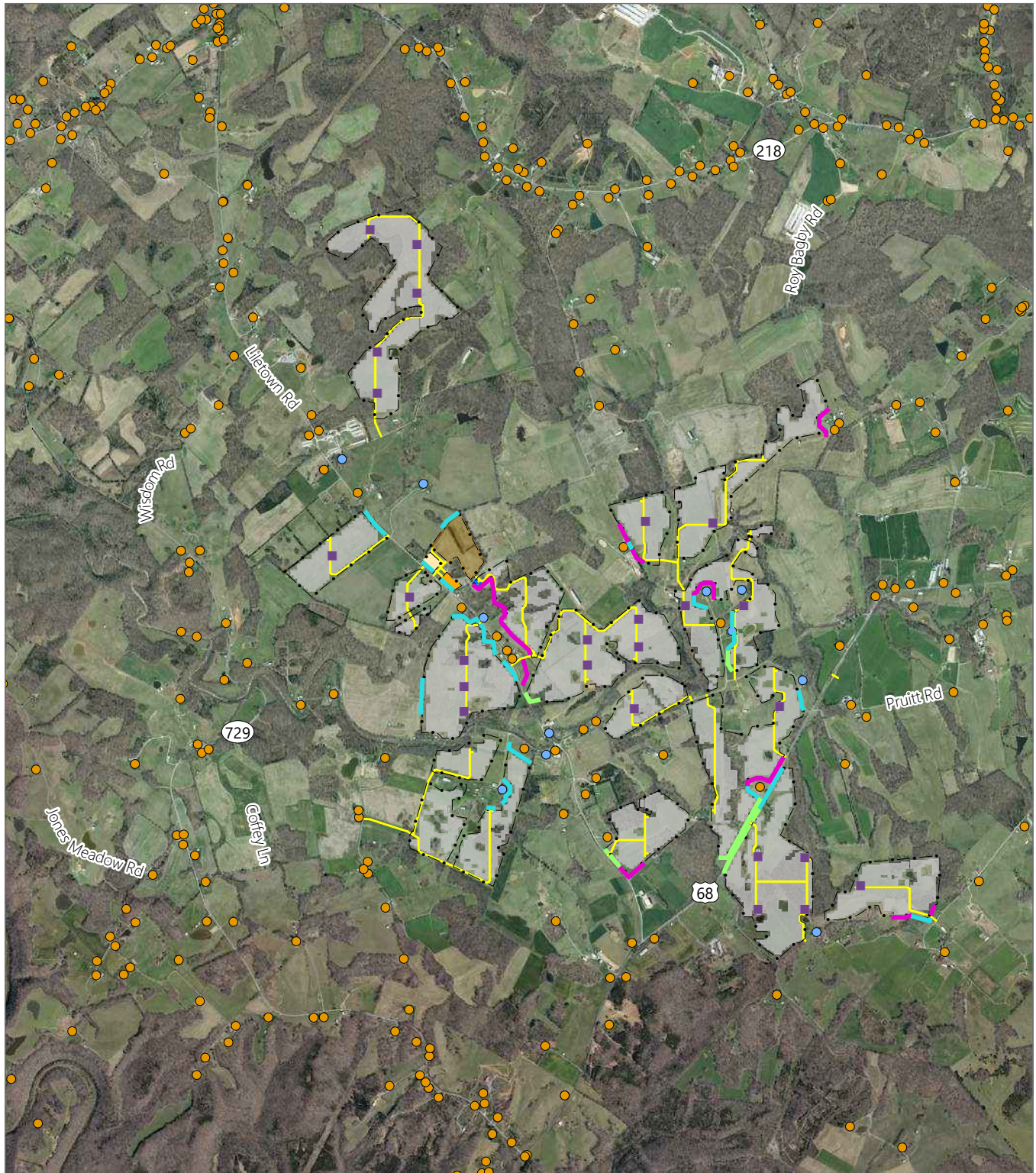
In order to identify adjacent, non-participating receptors with a potential direct line of sight to the Project, EDR conducted a digital surface model (DSM) viewshed analysis, which considers the screening effects of existing topography, structures, and vegetation. For the purposes of this analysis, adjacent, non-participating receptor was defined as a habitable residential structure on a property owned by a person without prior agreements with the Applicant and whose parcel abuts any Project parcel or a road or utility right-of-way that also abuts a Project parcel. Direct line-of-sight is defined as a straight line between the observer and the object being observed, unobstructed by any physical barrier that materially obscures a view of the object being observed.

This viewshed analysis was prepared using:

1. A DSM derived from publicly available 2020 lidar data revised to reflect facility-related clearing and to remove adjacent, non-participating receptors (in order to prevent them from obstructing their own visibility)
2. Sample points placed in the approximate center of each adjacent, non-participating receptor
3. A viewer height of 15 feet applied to each sample point to approximate the viewer's eye level from the second story of the residence
4. A maximum PV array height of 8.5 feet was utilized for the purposes of the viewshed analysis described in this report
5. A viewshed extent limit equal to the distance from the receptor to the nearest PV panel plus 500 feet (varies by receptor)
6. Esri ArcGIS Pro® software with the Spatial Analyst extension

The resulting viewshed indicates areas where the receptor has a direct line-of-sight to areas 8.5 feet above the surrounding ground surface. Therefore, areas where the receptor viewshed overlaps the proposed PV arrays indicate potential receptor visibility of adjacent PV panels. These locations were then evaluated for appropriate placement of mitigation modules.

The preliminary locations for planting modules are illustrated on the following figures.



Landscape Planting Module

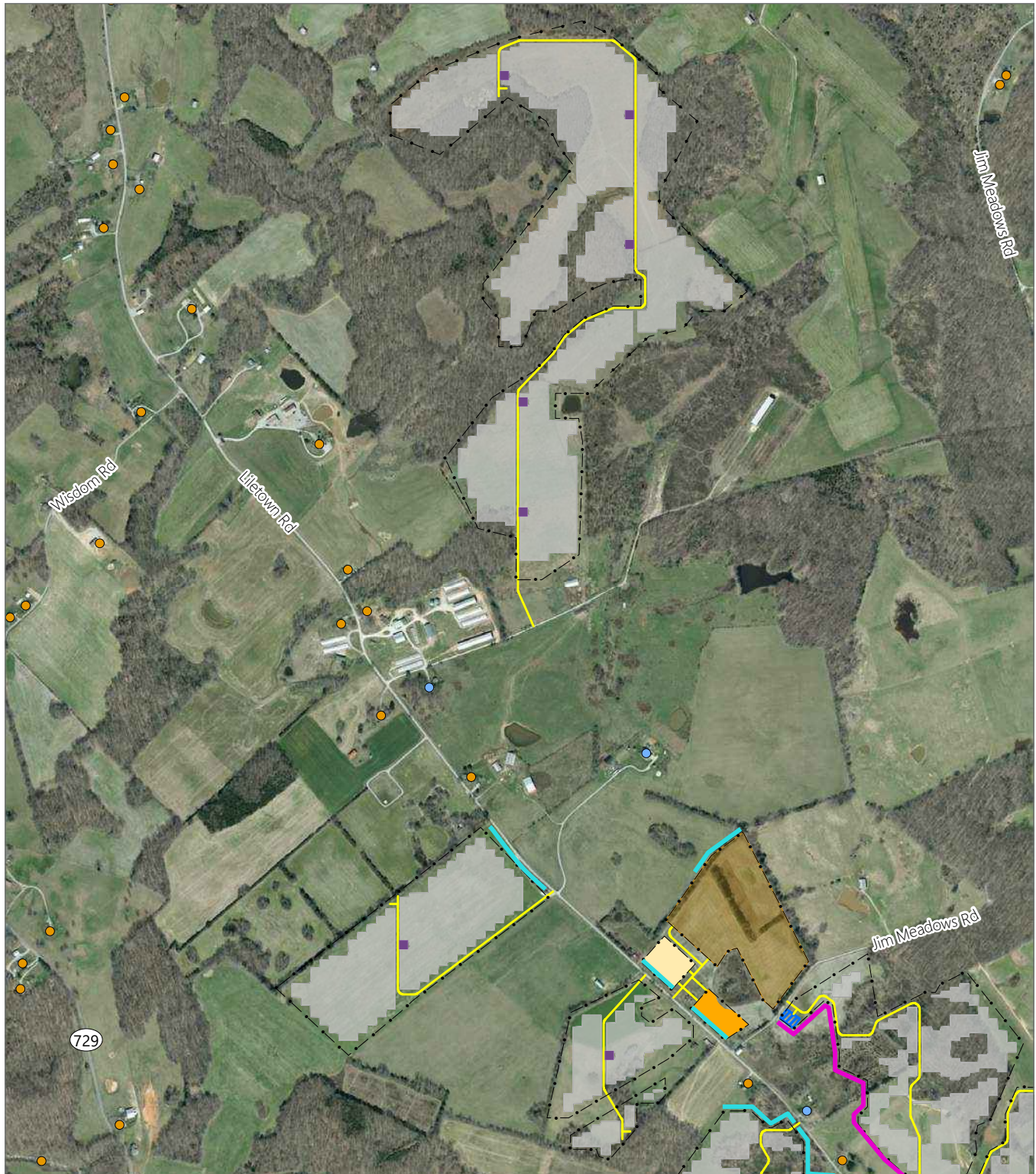
- Module 1
- Module 2
- Module 3
- Non-Participating Residence
- Participating Residence

Facility Layout

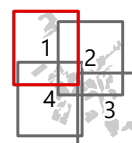
- Switchyard
- Substation
- BESS
- PV Panel Area
- Fenceline



Basemap: KyFromAbove 2024 "Phase 3 - 3in" orthoimagery map service



- | | | |
|---|--|--|
| — Module 2 | Facility Layout | BESS |
| — Module 3 | ■ Inverter | O&M Building |
| ● Non-Participating Residence | — Access Road | PV Panel Area |
| ● Participating Residence | Switchyard | Fenceline |
| | Substation | |



0 250 500 1,000
Feet



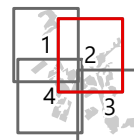
Landscape Planting Module

- Module 1
- Module 2
- Module 3
- Non-Participating Residence
- Participating Residence

Facility Layout

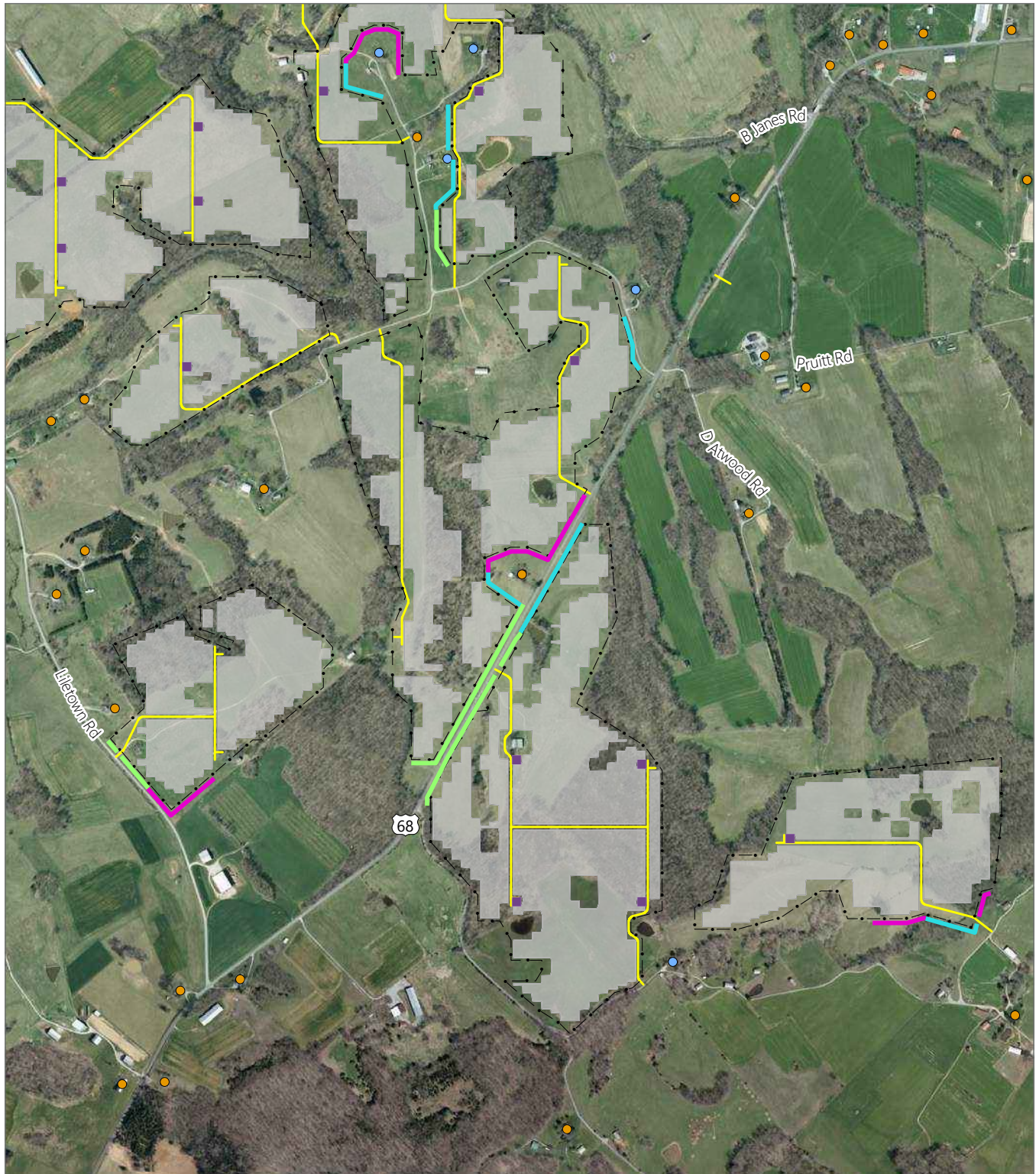
- Inverter
- Access Road
- Switchyard

- BESS
- O&M Building
- PV Panel Area
- Fenceline



0 250 500 1,000
Feet

Basemap: KyFromAbove 2024 "Phase 3 - 3in" orthoimagery map service



Landscape Planting Module

- Module 1
- Module 2
- Module 3

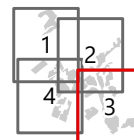
- Non-Participating Residence
- Participating Residence

Facility Layout

- Inverter
- Access Road

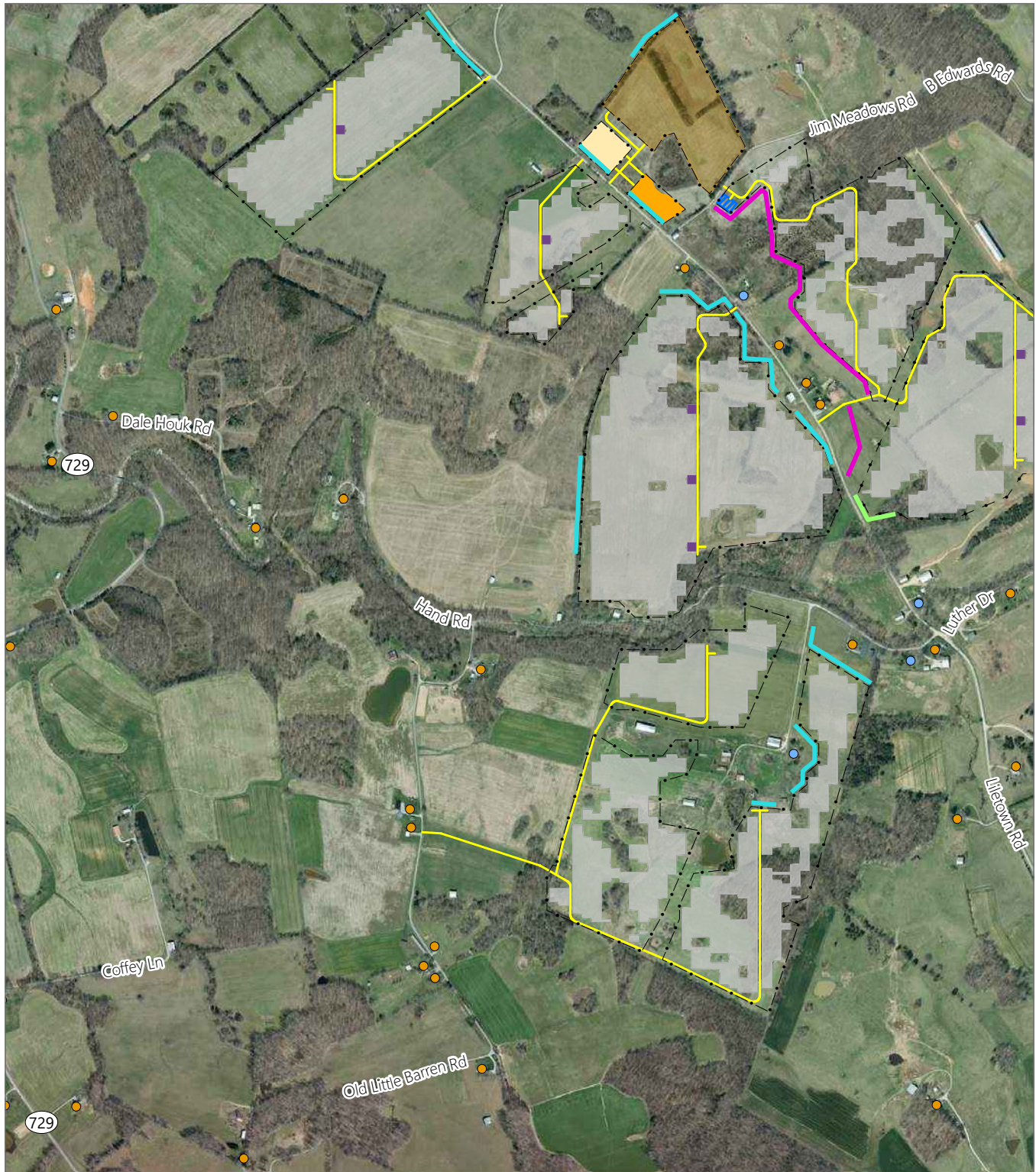
PV Panel Area

Fenceline



0 250 500 1,000
Feet

Basemap: KyFromAbove 2024 "Phase 3 - 3in" orthoimagery map service



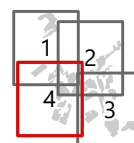
Landscape Planting Module

- Module 1
- Module 2
- Module 3
- Non-Participating Residence
- Participating Residence

Facility Layout

- Inverter
- Access Road
- Switchyard
- Substation

- BESS
- O&M Building
- PV Panel Area
- Fenceline



0 250 500 1,000
Feet

Basemap: KyFromAbove 2024 "Phase 3 - 3in" orthoimagery map service

6.0 Conclusion

Mitigation of visual impacts is an important consideration in the development of a solar facility. The Exie Solar Project mitigation strategy proposes measures to reasonably mitigate the potential visual impacts associated with the facility. The three proposed planting modules provide potential visual mitigation options that could be incorporated into the Project. The selection of native plant species further enhances ecological benefits through habitat creation and increased biodiversity. However, circumstances such as inappropriate planting, the presence of utility conflicts, availability/condition of species at the time of procurement, and input from the Project stakeholders (such as adjacent landowners) may require alterations or substitutions to the proposed materials, or result in plant material decline or loss.

7.0 References

Agricultural Research Service. 2023. *USDA Plant Hardiness Zone Map*. U. S. Department of Agriculture. Available at: <https://planthardiness.ars.usda.gov/> (Accessed April 2025).

Kentucky Department of Agriculture (KDA). 2019. *Kentucky Pollinator Protection Plan*. Available at: https://www.kyagr.com/statevet/documents/OSV_Bee_KY-Pollinator-Pro-Plan.pdf (Accessed April 2025).

Kentucky Exotic Pest Plant Council. 2013. *Exotic Invasive Plants of Kentucky*. Third Edition. Available at: https://www.se-eppc.org/ky/KYEPPC_2013list.pdf (Accessed April 2025).

Natural Resources Conservation Service (NRCS). 2025. *PLANTS Database*. United States Department of Agriculture. Available at: <http://plants.usda.gov> (Accessed April 2025).

Perry, Charles H.; Finco, Mark V.; Wilson, Barry T., eds. 2022. *Forest Atlas of the United States*. FS-1172. Washington, D.C.: U.S. Department of Agriculture, Forest Service. 94p.

Soil Survey Staff. 2025. *Web Soil Survey*. Natural Resources Conservation Service, U.S. Department of Agriculture. Available at: <http://websoilsurvey.sc.egov.usda.gov/> (Accessed April 2025).

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 30:

Provide the name of the company that will employ the individuals that are or will be responsible for ensuring compliance with the statements in the Application, as well as any conditions imposed by the Siting Board during construction and operation of the project.

Response:

The name of the company that will employ the individuals that are or will be responsible for ensuring compliance with the statements in the Application and any conditions imposed by the Siting Board during construction and operation of the project will be Geronimo Power, LLC (f/k/a National Grid Renewables, LLC).

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 31:

Explain any commitments regarding infrastructure removal or land restoration during decommissioning, including in the landowner lease agreements.

Response:

See Application Exhibit J for the Project's decommissioning plan. All above-ground and below-ground components, including solar panels, racking systems, inverters, transformers, and fencing, will be removed unless otherwise requested by the landowner. Similarly, underground collection cables will be removed to a depth of three feet unless otherwise requested by the landowner. The land will be restored to a substantially similar state to its pre-construction condition, including grading and seeding as necessary to support prior land uses. In addition, Exie Solar's lease agreements include comprehensive decommissioning obligations. These agreements require the removal of all solar equipment and improvements in compliance with applicable law within twelve months of lease expiration or termination, with continued rent payments until removal is complete. All decommissioning activities will comply with applicable permits and environmental regulations.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 32:

Provide the maximum expected load weights for each type of delivery truck, including cement and water trucks, heavy equipment, gravel for access roads, panels, inverters, and the transformer.

Response:

Approximate load weight for each type of equipment or material will be as follows: 45,000 lbs. for concrete; 40,000 lbs. for water; 50,000 lbs. for aggregate; 40,000 lbs. for panels; 40,000 lbs. for an inverter; and 225,000 lbs. for the main power transformer. Additionally, 25,000-35,000 lbs. can be added to each to account for the weight of the semi and trailer configuration with the specific load to be carried.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 33:

Provide the average number of construction workers on-site each day over the course of the construction period.

Response:

See Response No. 81 to Staff's First Request. The site will typically average 40-70 construction workers per day. This will increase during peak activity for a short duration.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 34:

Provide the peak daily number of construction vehicles accessing the site, identified by vehicle type (i.e., worker vehicles, delivery trucks, cement trucks, water trucks, tractor trailers, or other types of general delivery trucks if utilized).

Response:

The peak daily number of construction vehicles accessing the site are estimated as follows: 90 worker vehicles; 10 delivery vehicles; 10 cement trucks; 3 water trucks; and 20 tractor trailers.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 35:

Refer to Staff's First Request, Item 102. Provide the number distance between the boundaries of the Exie Solar project and Horseshoe Bend Solar, LLC, project approved in Case No. 2020-00190, at the closest point.

Response:

Parcel boundaries for each project directly touch at the closest point at a distance of zero feet. Project boundaries will be set back 50 feet from any nonparticipating parcel directly adjacent to the Project.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 36:

Provide any environmental studies that have been completed including a Phase I Environmental Assessment.

Response:

Please find the Project's Protected Species Habitat Assessment Report attached. The Project's Wetland Delineation Study, Phase I ESA, and Archaeological Survey were submitted as attachments to Response Nos. 45, 74, and 75 to Staff's First Request, respectively.

Responding Witness: Courtney Whitworth

Protected Species Habitat Assessment Report

Geronimo Power

Exie Solar Project



Version 2.0
8/27/2025

Protected Species Habitat Assessment Report

prepared for
Geronimo Power

Exie Solar Project
Green County, Kentucky

Version 2.0
8/27/2025

prepared by
Burns & McDonnell Engineering Company, Inc.
Atlanta, Georgia

COPYRIGHT © 2025 BURNS & McDONNELL ENGINEERING COMPANY, INC.

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 INTRODUCTION	1-1
2.0 METHODOLOGY	2-1
2.1 Review Existing Information.....	2-1
2.2 Environmental Field Surveys.....	2-2
3.0 RESULTS.....	3-1
3.1 Habitat Types	3-1
3.1.1 Active Agriculture/Pastureland/Open Space	3-1
3.1.2 Upland Forest.....	3-1
3.1.3 Wetlands and Waterbodies	3-1
3.2 Protected Species Information	3-2
3.2.1 Regulatory Framework	3-2
3.2.2 Species Protected Under the Endangered Species Act	3-5
3.2.3 Bald Eagles and Migratory Birds.....	3-8
3.2.4 Kentucky State-Listed Species	3-9
4.0 CONCLUSIONS	4-1
5.0 REFERENCES	5-1
 APPENDIX A - PROTECTED SPECIES INFORMATION	
APPENDIX B - MAPS AND FIGURES	
APPENDIX C - PHOTOSHEET	

LIST OF TABLES

	<u>Page No.</u>
Table 3-1: Protected Species Potentially Occurring within the Survey Area.....	3-4

LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
dbh	diameter at breast height
ESA	Endangered Species Act of 1973
GIS	Geographic Information System
HCP	Habitat Conservation Plan
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Conservation
KDFWR	Kentucky Department of Fish and Wildlife Resources
KY	Kentucky
MBTA	Migratory Bird Protection Act
NLEB	Northern long-eared bat
NRCS	Natural Resources Conservation Service
OKNP	Office of Kentucky Nature Preserves
Project	Exie Solar Project
ROW	Right-of-way
Survey Area	The approximately 2,004 acres that were evaluated during field surveys
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

Geronimo Power is evaluating a site in Green County, Kentucky (KY) to develop a solar facility. The Exie Solar Project (Project) is located approximately 1.8 miles west of Exie, KY.

The Project was surveyed for ecological resources on November 4 through November 8, 2024. Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) environmental scientists evaluated characteristics of the Project Area to determine presence or absence of potentially suitable habitat for federal and state protected species. The habitat assessment survey was conducted throughout all parcels being considered for the proposed Project as identified by Geronimo Power. The Project included approximately 1,330 acres (Survey Area), some of which may not be developed or impacted as part of the Project. Based on the results of this protected species habitat assessment survey, in addition to results from other environmental, cultural, and civil surveys, Geronimo Power will implement a project design that minimizes environmental impacts to the greatest extent practicable.

Additional information regarding federal and state protections on listed species is included in section 3.2.1.

2.0 METHODOLOGY

Key methods used to determine the presence or absence of potentially suitable protected species habitats within the Survey Area were review of existing publicly available information published by federal and states agencies such as the U.S. Fish and Wildlife Service (USFWS) and Kentucky Department of Fish and Wildlife Resources (KDFWR) and performance of pedestrian surveys to observe existing conditions and key habitat attributes.

2.1 Review Existing Information

Prior to conducting field work, Burns & McDonnell biologists reviewed USFWS Information for Planning and Consultation (IPaC) species list (Appendix A) obtained by Burns & McDonnell on November 19, 2024, which identified special status species that may occur within the Survey Area and assessed whether the proposed Project had potential to affect species protected by the Endangered Species Act of 1973 (ESA). Such species could be designated by the ESA as threatened, endangered, proposed threatened, proposed endangered, and candidate species. Additionally, known occurrences of bald eagles (*Haliaeetus leucocephalus*), golden eagles (*Aquila chrysaetos*), and migratory birds (including raptor species) were reviewed.

The KDFWR's protected species list for Green County (Kentucky Department of Fish and Wildlife Resources, 2024) was reviewed to familiarize the field survey teams of potential protected species and associated habitat that may occur within Green County, KY. The Office of Kentucky Nature Preserves (OKNP) Kentucky Biological Assessment Tool was also reviewed to see which state listed species occurrences are within and adjacent to the Survey Area. The USFWS's Range Wide Indiana Bat & Northern Long-eared Bat Survey Guidelines (USFWS, 2024) were also reviewed.

Field maps were created using the available Geographic Information System (GIS) data including U.S. Geological Survey (USGS) topographic data and Natural Resources Conservation Service (NRCS) soil survey data. This information was reviewed to determine which protected species could potentially occur within the Survey Area. In addition to federal and state agency sources, a literature review was conducted on each species for pertinent information regarding species' distinct physical characteristics, vegetative preferences, diet, motility, home range requirements, reproductive needs, and sensitivity to anthropogenic disturbances.

Based on a review of available information (Appendix A), it was determined suitable habitat may occur within the Survey Area for six federally listed species and one state listed species.

2.2 Environmental Field Surveys

Field surveys were conducted from November 4 through November 8, 2024. The Survey Area is approximately 1.8 miles west of Exie, KY (Figure 1, Appendix B). The survey was conducted within multiple parcels under consideration for the proposed Project. The Survey Area encompassed approximately 2,004 acres (Appendix B).

During the field surveys, data was collected on habitat types/land use and protected species habitats. The field investigation consisted of pedestrian surveys within the Survey Area depicted in the Survey Area Map for components of the overall Project.

3.0 RESULTS

3.1 Habitat Types

The Project is within the U.S. Environmental Protection Agency (USEPA) Interior Plateau (Level 4) and is situated within the Greasy Creek-Little Barren River subwatershed [Hydrologic Unit Code (HUC) 051100010608].

Three dominant habitat type/land use communities were observed within the Survey Area, including active agriculture/pastureland, upland forest, and wetlands/waterbodies (Figure 2, Appendix B).

Descriptions of these communities are provided below.

3.1.1 Active Agriculture/Pastureland/Open Space

Active agricultural and pasture is the primary land use and habitat found in the Survey Area. Areas identified as active agriculture include cattle pasture, hay production, and row crop fields. Vegetation in these communities is maintained in an early successional state due to herbicide application, crop growth/harvesting, and cattle grazing. Soybeans, corn, and other crops are planted in late spring and cover the row crop fields. Vegetation observed in pastures consists of primarily smooth brome (*Bromus inermis*), giant cane (*Arundinaria gigantea*), nodding fescue (*Festuca subverticillata*), wingstem (*Verbesina alternifolia*), Johnson grass (*Sorghum halepense*), and Canadian goldenrod (*Solidago canadensis*).

3.1.2 Upland Forest

Upland forest communities are present in the Survey Area and are composed of a canopy age ranging from approximately 20 to 70 years old. Dominant vegetation observed consisted of deer-tongue rosette grass (*Dichanthelium clandestinum*), eastern poison ivy (*Toxicodendron radicans*), eastern red-cedar (*Juniperus virginiana*), tuliptree (*Liriodendron tulipifera*), amur bush honeysuckle (*Lonicera maackii*), common greenbriar (*Smilax rotundifolia*), groundivy (*Glechoma hederacea*), Japanese stilt grass (*Microstegium vimineum*), multiflora rose (*Rosa multiflora*), sugar maple (*Acer saccharum*), common hackberry (*Celtis occidentalis*), black cherry (*Prunus serotina*), slippery elm (*Ulmus rubra*), white snakeroot (*Ageratina altissima*), American beech (*Fagus grandifolia*) and white heath American-aster (*Symphyotrichum ericoides*).

3.1.3 Wetlands and Waterbodies

Portions of the Survey Area are composed of wetlands and waterbodies like ponds and streams. During the field surveys, a total of 25 open water ponds and 13 wetlands were identified. Dominant vegetation

observed consisted of green ash (*Fraxinus pennsylvanica*), water smartweed (*Persicaria amphibia*), sandbar willow (*Salix interior*), black locust (*Robinia pseudocacia*), narrow-leaf cat-tail (*Typha angustifolia*), red maple (*Acer rubrum*), black tupelo (*Nyssa sylvatica*), bog yellowcress (*Rorippa palustris*), rough cocklebur (*Xanthium strumarium*), dock-leaf smartweed (*Persicaria lapathifolia*), slippery elm, common hackberry, and giant cane. Forty (40) streams were identified within the Survey Area. There were 30 ephemeral, eight intermittent, and two perennial streams. Greasy Creek is a named perennial stream that flows through a large portion of the Survey Area. Common riparian vegetation included American sycamore (*Platanus occidentalis*), chinquapin oak (*Quercus muehlenbergii*), northern red-oak (*Quercus rubra*), and shagbark hickory (*Carya ovata*). Substrate was commonly comprised of sand, silt, or rock. Representative photos of each type of wetland and waterbody encountered are enclosed in Appendix C.

3.2 Protected Species Information

The USFWS IPaC for the Survey Area was reviewed to determine the potential occurrence of species listed by the USFWS as threatened, endangered, or species of special concern within the Survey Area (Appendix A). Eight listed species of various statuses were identified as potentially occurring within the Survey Area: gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), whooping crane (*Grus americana*), rabbitsfoot (*Quadrula cylindrica cylindrica*), salamander mussel (*Simpsonia ambigua*) and monarch butterfly (*Danaus Plexippus*). Designated critical habitat for federally protected species does not occur within the Survey Area.

The state of Kentucky county lists does not have state-protected designations for plants; however, there are aquatic species (mussels, fish, crayfish), amphibians, snakes, and birds that hold special state listed status within the county. The OKNP report shows which species have a potential to be within or adjacent to the Survey Area. One state-threatened species, the spotted darter (*Nothonotus maculatus*), and one species of concern, the loggerhead shrike (*Lanius ludovicianus*), was identified as potentially occurring in the Survey Area. The County list and OKNP report can be found in Appendix A. The federal and state protected species identified are listed in Table 3-1 and discussed in further detail below.

3.2.1 Regulatory Framework

There are numerous regulatory protections and considerations that may be relevant to the Project:

- Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544).
- Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703-712) (for actions of nonfederal entities).

- Executive Order for Migratory Birds (EO 13186 of January 10, 2001) (for actions of federal agencies).
- Bald and Golden Eagle Protection Act (BGEPA); and
- Kentucky law (301 KAR 3:061).

The ESA is a program that provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. Any project under federal review will need to satisfy the ESA requirements prior to final approval. If a project is not likely to adversely affect federally protected species, then informal consultation with the USFWS will typically suffice. This means the project either does not possess suitable habitat for protected species and no protected species were observed during field surveys or suitable habitat was observed, but no protected species were identified through species-specific surveys.

If a project could affect or is likely to adversely affect federally protected species, the project proponent is required to submit an application for an incidental take permit. A habitat conservation plan (HCP) must accompany an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how those impacts will be adequately minimized and mitigated, and how the conservation measures included in the plan will be funded. If the Service finds an HCP meets the specified criteria, it issues an incidental take permit. This allows the permit holder to proceed with an activity that could otherwise result in the unlawful take of a listed species.

The MBTA provides protection for migratory birds listed in 50 CFR part 10.13 by making it unlawful at any time, by any means or in any manner, to pursue; hunt; take; capture; kill; attempt to take, capture, or kill; possess; offer for sale; sell; offer to barter; barter; offer to purchase; purchase; deliver for shipment; ship; export; import; cause to be shipped, exported, or imported; deliver for transportation; transport or cause to be transported; carry or cause to be carried; or receive for shipment, transportation, carriage, or export; any migratory bird, any part, nest, or egg of any such bird, unless allowed by permit. The MBTA defines “take” as to pursue, hunt, shoot, wound, kill, trap, capture, collect or to attempt to pursue, hunt, shoot, wound, kill, trap, capture, collect.

The KDFWR is granted authority from the state of Kentucky to protect state listed threatened or endangered species. Kentucky law states that it is unlawful for any person to import, transport, possess, process, sell or offer for sale any endangered species of fish and wildlife, or parts thereof without a permit unless the possession was prior to 1973. Nor shall any article be made in whole or from any part or parts of any species of fish and wildlife designated as endangered by this administrative regulation.

Table 3-1: Protected Species Potentially Occurring within the Survey Area

Common Name	Scientific Name	Federal Status	State Status	Preferred Habitat Description	Habitat Present
Mammals					
Northern long-eared bat	<i>Myotis septentrionalis</i>	LE	LE	Summer roosts occur in tree cavities and under exfoliating bark, but this species has also been found in buildings and behind shutters. During the winter, northern long-eared bats hibernate in tight crevices in caves and mines. Foraging is done primarily on forested hillsides and ridges.	Yes, foraging habitat is present in forested areas. Some roost trees identified during survey.
Gray Bat	<i>Myotis grisescens</i>	LE	LE	Found around karst features with streams and foraging habitat needed to support them. Occupy caves, cave-like structures sinkholes, or rock shelters.	Yes, foraging habitat is present. Karst features were identified during the survey.
Indiana bat	<i>Myotis sodalis</i>	LE	-	Summer roosts occur in tree cavities and under exfoliating bark, but this species has also been found in buildings and behind shutters. During the winter, northern long-eared bats hibernate in tight crevices in caves and mines. Foraging is done primarily on forested hillsides and ridges.	Yes, foraging habitat is present in forested areas. Some roost trees identified during survey.
Tricolored Bat	<i>Perimyotis subflavus</i>	PE	-	During spring, summer, and fall, bats are found in forested habitats where they roost in trees, primarily among leaves. During the winter, they are found in caves and mines.	Yes, foraging and roosting habitat is present in forested areas.
Mussels					
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	LT	-	Small to medium rivers with moderate to swift currents containing gravel or cobble substrates.	Yes, some habitat is present in perennial streams on site.
Salamander Mussel	<i>Simpsonaias ambigua</i>	PE	LT	Medium to large rivers and lakes with swift currents, in areas of sand or silt under large, flat stones. Seasonal low flow can be tolerated.	yes, some habitat is present in perennial streams on site.
Insects					
Monarch Butterfly	<i>Danaus Plexippus</i>	C	-	Prairies, grasslands, meadows, and along roadsides. Requires milkweed.	Unlikely, due to limited amount of milkweed.
Birds					
Whooping Crane	<i>Grus americana</i>	EXPN	-	Found in a variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, wet meadows, and rivers.	Unlikely, experimental population is not present within the Survey Area.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	-	S	Commonly inhabit open country with short vegetation and well-spaced shrubs or low trees with spines or thorns. They frequent agricultural fields, pastures, and riparian areas.	Yes, habitat is present but hasn't been observed in the area since 1990.

Common Name	Scientific Name	Federal Status	State Status	Preferred Habitat Description	Habitat Present
Fish					
Spotted Darter	<i>Nothonotus maculatus</i>	-	LT	Populations have been found in the South Fork Little Barren River which is located to the south of the Survey Area. It prefers fast-moving, rocky riffles in small to medium-sized streams.	Yes, OKNP population found in the range of the southernmost section of the Survey Area.
Key: Statuses are LE= Listed Endangered, LT= Listed Threatened, PE = Proposed Endangered, C=Candidate, EXPN=Experimental Population, Non-Essential S=Special Concern Sources: USFWS, 2024 and Office of Kentucky Nature Preserves, 2024.					

3.2.2 Species Protected Under the Endangered Species Act

Burns & McDonnell identified three federally endangered species, two proposed endangered, one listed threatened, one candidate species, and one experimental population with potential to occur within the Survey Area. None of the species described herein were observed during environmental field surveys; and no critical habitats were identified in the IPaC report (Appendix A).

3.2.2.1 Northern Long-eared Bat

The northern long-eared bat is a federally endangered mammal that roosts in tree cavities and under exfoliating bark, but this species has also been found in buildings and behind shutters. During the winter, northern long-eared bats hibernate in tight crevices in caves and mines. Foraging is done primarily on forested hillsides and ridges. Burns and McDonnell identified potentially suitable roosting habitat in areas of the Survey Area containing mature hardwood forests. Habitat within the Survey Area that requires new and/or maintenance clearing could be considered potentially suitable habitat for the northern long-eared bat. As an avoidance/minimization measure, the USFWS recommends that time of year restrictions be incorporated into construction timing.

In the USFWS's Range-Wide Indiana Bat & Northern Long-eared Bat Survey Guidelines (USFWS, 2024), suitable summer habitat for NLEB is defined as follows:

“Suitable summer habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel. Although they may also traverse habitat adjacent and interspersed with forest habitat, such as emergent wetlands and field edges, they are predominately found in forest/wooded habitat. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches diameter at breast height (dbh) that have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable

habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested/wooded habitat. The NLEB has also been observed roosting (although to a lesser degree than forested habitat) in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. NLEBs typically occupy their summer habitat from mid-May through mid-August each year”

Potentially suitable roosting trees and foraging habitat for the northern long-eared bat were observed within forested areas of the Project Site (Figure 2, Appendix B). Photographs taken on site of the roost trees can be found in Appendix C.

3.2.2.2 Gray Bat

The gray bat is a federally endangered mammal. During all seasons, gray bats occupy caves, cave-like structures, or rock shelters. Winter roosts are in deep vertical caves with domed halls. Large summer colonies utilize caves that trap warm air and provide restricted rooms or domed ceilings; maternity caves often have a stream flowing through them and are separate from the caves used in summer by males. They hunt over large areas during the breeding season that feed on flying insects over rivers, streams and lakes and other bodies of water. Habitat within the Survey Area that requires construction or clearing could be considered potentially suitable habitat for the gray bat. As an avoidance/minimization measure, the USFWS recommends surveys be completed on the Survey Area. Some of the more prominent cave/karst feature locations are shown on Figure 2 in Appendix B. Photographs taken on site of the cave/karst features can be found in Appendix C.

3.2.2.3 Indiana Bat

The Indiana bat is a federally endangered mammal that roosts in tree cavities and under exfoliating bark. Burns and McDonnell identified potentially suitable roosting habitat in areas of the Project site containing mature hardwood forests. Habitat within the Survey Area that requires new and/or maintenance clearing could be considered potentially suitable habitat for the Indiana bat. As an avoidance/minimization measure, the USFWS recommends that time of year restrictions be incorporated into construction timing.

In the USFWS’s Range-Wide Indiana Bat & Northern Long-eared Bat Survey Guidelines (USFWS, 2024), suitable summer habitat for Indiana Bat is defined as follows:

“Suitable summer habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 5 inches diameter at dbh (12.7

centimeter) that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat.”

Potentially suitable roosting trees and foraging habitat for the Indiana bat were observed within forested areas of the Project Site (Figure 2, Appendix B). Photographs taken on site of the roost trees can be found in Appendix C.

3.2.2.4 Tricolored Bat

The tricolored bat is a federally proposed endangered bat species that may be listed as endangered during 2025. This bat roosts in live and dead leaf clusters and pine needles in spring, summer, and fall. During winter, this species is known to hibernate in tree cavities, caves, and culverts. Burns and McDonnell identified several areas of suitable roost trees throughout the Survey Area (Figure 2, Appendix B). Photographs taken on site of the roost trees can be found in Appendix C. Habitat within the Survey Area that requires new and/or maintenance clearing is considered potentially suitable habitat for the tricolored bat. As an avoidance/minimization measure, the USFWS recommends that time of year restrictions be incorporated into construction timing. The Project is located north of the year-round active zone 1 and zone 2; therefore, if the tricolored bat does occur within the Survey Area, it would experience hibernation during winter months.

3.2.2.5 Rabbitsfoot

Rabbitsfoot is a federally threatened mussel that occupies small to medium rivers with moderate to swift currents containing gravel or cobble substrates. Perennial streams that cross through the Survey Area could have potential habitat for mussel species. It is assumed that the Project would have no impact on streams and standard BMPs would be implemented during construction and operation of the Project in compliance with other permitting mechanisms to minimize siltation and erosion.

3.2.2.6 Salamander Mussel

The salamander mussel is a federally proposed endangered mussel that occupies rivers and streams with areas of shelter under rocks or in crevices. They require appropriate water flow to remove silt from rock structures and aid in reproduction. For the salamander mussel to complete reproduction mudpuppies (*Necturus maculosus*) must be present in the summer to serve as the host of the glochidial larval stage when released into the water by the female salamander mussel. Perennial streams that cross through the

Survey Area could have potential habitat for mussel species. It is assumed that the Project would not impact streams and standard BMPs would be implemented during construction and operation of the Project in compliance with other permitting mechanisms to minimize siltation and erosion.

3.2.2.7 Monarch Butterfly

Monarch butterflies can inhabit a variety of habitats including open fields, rights-of-way, grasslands, meadows, prairies, roadsides, and wetlands. This insect typically feeds on the nectar of different flowers; however, it only breeds where milkweed is present. The butterfly is a candidate for listing on the threatened and endangered species list. Potentially suitable habitat for the monarch butterfly is present within the pastures and open land that occurs within the Survey Area; however, very few milkweed plants were observed during field surveys. Therefore, it is possible the butterfly may forage in the area, but breeding is highly unlikely.

3.2.2.8 Whooping Crane

An experimental population of whooping cranes were reintroduced into historic habitat in the eastern United States in 2001. This population is federally designated as an experimental population, non-essential. This population migrates between Wisconsin and Florida with the potential of stopping in Kentucky during migration. During migration whooping cranes use agricultural fields with nearby water sources as their stopover sites. They prefer areas away from human disturbance and with limited visual obstruction from trees, shrubs, buildings, or landforms. The Survey Area is primarily composed of agricultural fields, grazed pastures, and forested riparian corridors which is not unique relative to the surrounding landscapes. The wetlands and waterbodies within the Survey Area are surrounded by visual obstruction. There is also human disturbance from multiple roads and buildings within the vicinity of the Survey Area.

3.2.3 Bald Eagles and Migratory Birds

In Kentucky, the bald eagle is protected under the BGEPA and MBTA. No bald eagles or nests were observed during the environmental field surveys within the Survey Area or along public roadways near the Project. There are certain birds that are protected under the MBTA. In the USFWS IPaC Report for the Survey Area, eight Birds of Conservation Concern (BCC), including the bald eagle, were identified.

The chimney swift (*Chaetura pelagica*) is a small migratory bird and prefers to nest in chimneys and on other vertical surfaces in dim, enclosed areas. They forage mostly over open terrain but also over forests, ponds, and residential areas (Cornell 2024). It breeds from March 15 to August 25.

The field sparrow (*Spizella pusilla*) prefers low perches, such as abandoned agricultural fields and pastures, fencerows, road and forest edges, and openings in wooded areas. This species typically consumes a blend of seeds and insects. It breeds from March 1 to August 15.

The Kentucky warbler (*Geothlypis formosa*) is a small migratory warbler that prefers lowland hardwood forests, often near streams, with dense understory. They forage mostly on the forest floor for insects. Kentucky warbler breeds from April 20 to August 20.

The prairie warbler (*Setophaga discolor*) is a small migratory warbler that prefers shrubby habitats with open canopies, ranging from pine forests, scrub oak barrens, regenerating forests, and borders of forest and prairie. Prairie warbler breeds from May 1 to July 31.

The prothonotary warbler (*Protonotaria citrea*) is a small migratory warbler that prefers flooded bottomland forests, wooded swamps, and forests near lakes and streams. They tend to avoid forest patches smaller than about 250 acres or forest borders less than 100 feet wide. Prothonotary warbler breeds from April 1 to July 31.

The red-headed woodpecker (*Melanerpes erythrocephalus*) breed in deciduous woodlands. During the start of the breeding season, they move from forest interiors to forest edges or disturbed areas. Red-headed woodpecker breeds from May 10 to September 10 in dead trees for their nest cavities.

The wood thrush (*Hylocichla mustelina*) is a medium sized migratory bird that breed throughout mature deciduous and mixed forests. Ideal habitat includes trees over 50 feet tall, a moderate understory of saplings and shrubs, an open floor with moist soil and decaying leaf litter, and water nearby. Wood thrush breeds from May 10 to August 31.

The Bald Eagle would be most likely found near the Project ponds and large streams in the area. These areas could provide a source of food for the Bald Eagle. No nests or individuals were observed during field surveys.

3.2.4 Kentucky State-Listed Species

The KDFWR's protected species list for all species in Green County and a more detailed report from the OKNP showing which species have a potential to be within or adjacent to the Survey Area can be found in Appendix A. Green County has 389 animal species found within the county and 28 of those species are listed as state threatened or endangered. The OKPN report shows seven state listed plant or animal species are potentially present within three miles of the Survey Area. These species include salamander

mussel, gray bat, little spectaclecase (*Leaunio lienosus*), elusive clubtail (*Stylurus notatus*), loggerhead shrike, and spotted darter.

One state threatened species, the spotted darter and one state species of concern the loggerhead shrike was identified as having potential to occur within the Survey Area. A description of the listed species preferred habitat is provided below.

The spotted river darter is a state threatened species that prefers fast-moving, rocky riffles in small to medium-sized streams. Populations have been found in the South Fork Little Barren River which is located to the south of the Survey Area. This species could be found in the larger tributaries of the South Fork Little Barren River found within the Survey Area. If these streams are impacted further consultation with state agencies may be necessary.

The loggerhead shrike is listed as a species of special concern by the state of Kentucky and has a wide distribution across the state. They are found in open habitats like grazed pastures that contain medium grass with shrubs, trees, or other structures to perch from for hunting. The Study Area is comprised of agricultural fields and grazed pasture with forested riparian corridors providing trees for perching along field edges. This habitat is not unique relative to the surrounding landscapes. The last time a loggerhead shrike was observed in the area was 1990.

4.0 CONCLUSIONS

Potentially suitable habitat for federal and state-listed species was observed during field surveys conducted in November 2024.

Potentially suitable roosting and foraging habitat for the NLEB, Indiana bat, and tricolored bat was identified within the Survey Area. If the Project does require forest clearing within areas of potentially suitable habitat, additional consultations with state and federal wildlife agencies may be required.

Potentially suitable roosting and foraging habitat for protected bats could occur in forested areas and along stream channels. If protected bats are likely to occur within the Survey Area, summer clearing restrictions may be necessary as well as additional consultations with USFWS.

Suitable hibernation and foraging habitat for the gray bat was identified within the Survey Area. If the Project impacts sinkholes, caves, or other karst features on the project, additional consultations with state and federal wildlife agencies may be required. Acoustic or mist netting surveys may be necessary to identify the presence or absence of gray bats in the Survey Area as well as additional consultations with USFWS.

The monarch butterfly has potential to occur within the Survey Area, especially within pastureland; however, any breeding habitat would be marginal at best. With the conversion of actively cultivated fields to solar farms, the intentional seeding of pollinators and other insect-friendly grasses and flowers, the Project could ultimately increase the availability of suitable habitat over time.

Potentially suitable habitat for the state listed spotted darter and federally listed mussels are present within the perennial streams that are present within the Survey Area. Most streams lack the necessary substrate or flow to support these listed species. It is assumed that the Project would not impact streams and standard BMPs would be implemented during construction and operation of the Project in compliance with other permitting mechanisms to minimize siltation and erosion. If impacts to streams are proposed additional consultation with the USFWS and additional surveys may be required.

Based on information contained in the IPaC for the Survey Area, potential breeding periods for birds protected by the MBTA that have potential to occur within the Survey Area are between March to September. Considerations for minimizing potential impacts on migratory birds may be recommended, such as pre-clearing nesting surveys.

5.0 REFERENCES

- Cornell University 2024. The Cornell Lab. All About Birds. Chimney Swift.
https://www.allaboutbirds.org/guide/Chimney_Swift. Accessed December 3, 2024.
- Cornell University 2024. The Cornell Lab. All About Birds. Field Sparrow.
https://www.allaboutbirds.org/guide/Field_Sparrow. Accessed December 3, 2024.
- Cornell University 2024. The Cornell Lab. All About Birds. Kentucky Warbler.
https://www.allaboutbirds.org/guide/Kentucky_Warbler. Accessed December 3, 2024.
- Cornell University 2024. The Cornell Lab. All About Birds. Prothonotary Warbler.
https://www.allaboutbirds.org/guide/Prairie_Warbler. Accessed December 3, 2024.
- Cornell University 2024. The Cornell Lab. All About Birds. Prairie Warbler.
https://www.allaboutbirds.org/guide/Prothonotary_Warbler. Accessed December 3, 2024.
- Cornell University 2024. The Cornell Lab. All About Birds. Red-headed Woodpecker.
https://www.allaboutbirds.org/guide/Red-headed_Woodpecker. Accessed December 3, 2024.
- Cornell University 2024. The Cornell Lab. All About Birds. Wood Thrush.
https://www.allaboutbirds.org/guide/Wood_Thrush. Accessed December 3, 2024.
- Kentucky Department of Fish and Wildlife Resources (KDFR). 2024. Green County Species information.
<https://app.fw.ky.gov/speciesinfo/countyListSpecies.asp> Accessed on November 19, 2024
- Office of Kentucky Nature Preserves (OKNP). 2024. Kentucky Biological Assessment Tool.
<https://kygisportal.ky.gov/arcgis/apps/webappviewer/index.html?id=d57ad568a4e44cc4b7c505952f3e898f> Accessed on November 25, 2024
- U.S. Fish and Wildlife Service (USFWS). 2024. Range-wide Indiana Bat & Northern Long-eared Bat Survey Guidelines. December 3, 2024. https://www.fws.gov/sites/default/files/documents/2024-10/2024_usfws_rangewide_ibat-nleb_survey_guidelines.pdf
- U.S. Fish and Wildlife Service (USFWS). 2024. IPaC Report for Exie Solar. Information for Planning and Consultation. November 19, 2024.

APPENDIX A - PROTECTED SPECIES INFORMATION



Andy Beshear
Governor

Energy and Environment Cabinet Office of Kentucky Nature Preserves

300 Sower Boulevard
Frankfort, Kentucky 40601
Telephone: 502-782-7828
EEC.KYBAT@ky.gov

Rebecca W. Goodman
Secretary

Sunni Carr
Executive Director

<FNT style="Italic">Requested on Monday, November 25, 2024</FNT> by <FNT style="Italic">Benjamin Salupo,
Burns & McDonnell

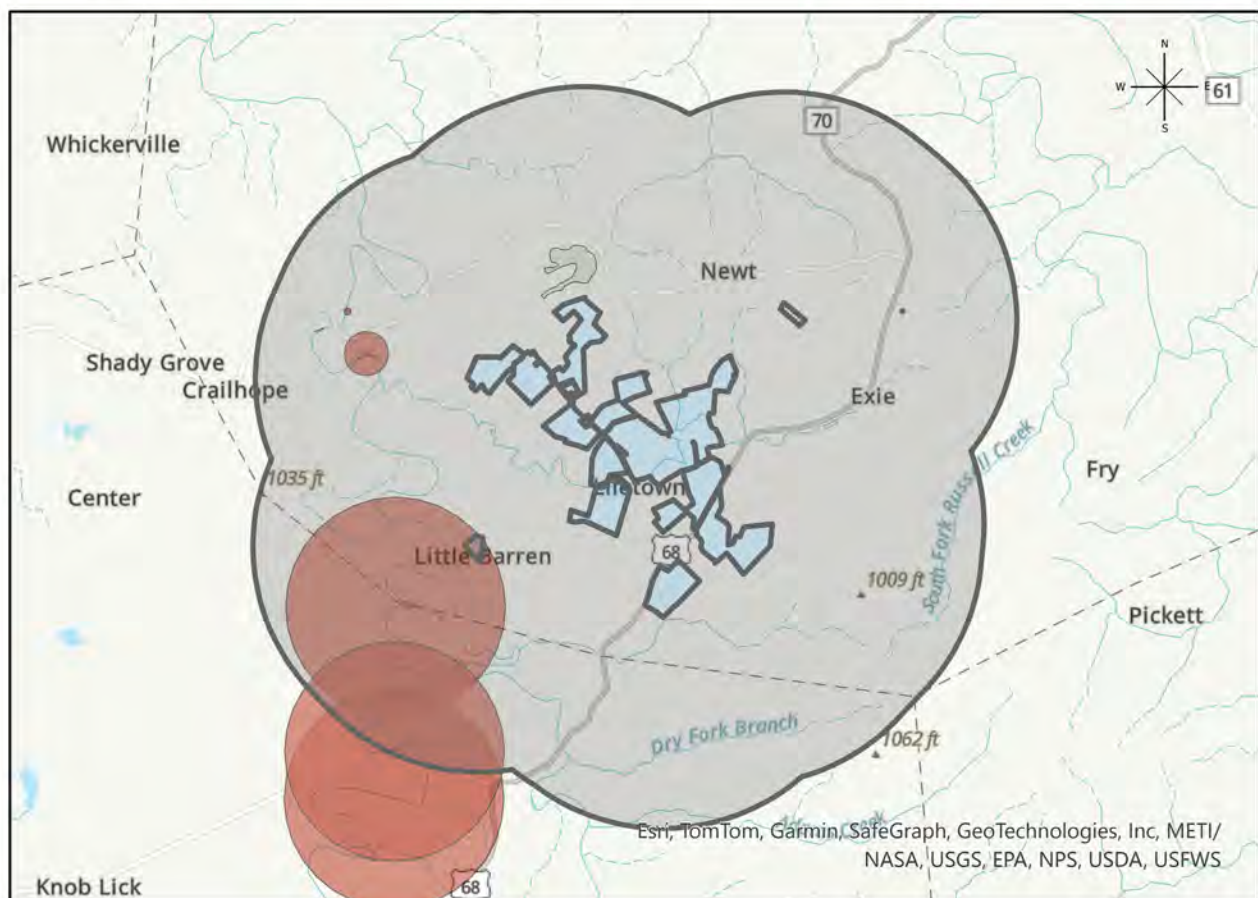
Re: Kentucky Biological Assessment Data Request 241125B01

National Grid - Exie Solar

Energy Storage - Solar, 3 mile buffer.

GREEN County, Kentucky

This letter is in response to your data request for the project referenced above. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants, animals, features or exemplary natural communities monitored by the Office of Kentucky Nature Preserves are noted within your submitted project area.





Andy Beshear
Governor

Energy and Environment Cabinet Office of Kentucky Nature Preserves

300 Sower Boulevard
Frankfort, Kentucky 40601
Telephone: 502-782-7828
EEC.KYBAT@ky.gov

Rebecca W. Goodman
Secretary

Sunni Carr
Executive Director

This report includes the following items:

- A - A report for occurrences which intersect the project area
- B - A report for occurrences which intersect the buffer around the project area
- C - A list of best management practices relevant to occurrences near to or within the project area
- D - A list of best management practices relevant to the chosen project type

Thank you for using Office of Kentucky Nature Preserves' Biological Assessment Tool.

We would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Office of Kentucky Nature Preserves, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Office of Kentucky Nature Preserves." The exact location of plants, animals, and natural communities, if released by the Office of Kentucky Nature Preserves, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Office of Kentucky Nature Preserves Biological Assessment Branch (300 Sower Blvd - 4th Floor, Frankfort, KY, 40601. Phone: 502-782-7828).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the occurrences being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

If you have any questions, or if we can be of further assistance, please do not hesitate to contact our office by email at EEC.KYBAT@ky.gov or by phone at 502-782-7828.

Sincerely,

Alexis R. Schoenlaub
Geoprocessing Specialist
Office of Kentucky Nature Preserves

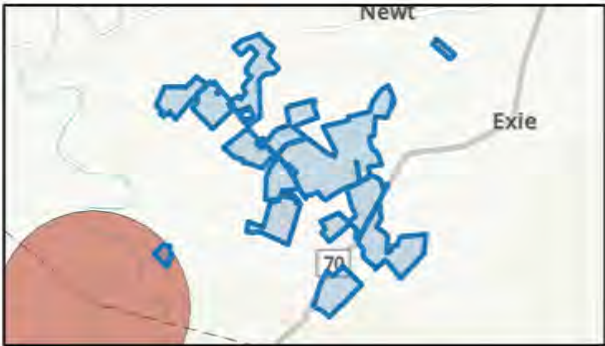
A.1. Project Area - Occurrence Report

The following table outlines occurrences found within your project footprint (if any). You can find more information about global and state rank status definitions on our [Standard Occurrence Report Key](#) . Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the “Directions” column should you have further questions related to sensitive occurrences found within the project area.



Map Credits: Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

- Botanical
- Ecological
- Zoological



EO ID	Scientific Name	Common Name	G Rank	S Rank	Fed. Status	State Status	SWAP	Precision	Last Obs. Date
15990	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S3S4B,S4N	None	S	Y	Q	1990-07-12
2831	<i>Nothonotus maculatus</i>	Spotted Darter	G3?	S2	None	T	Y	S	2006-04-04

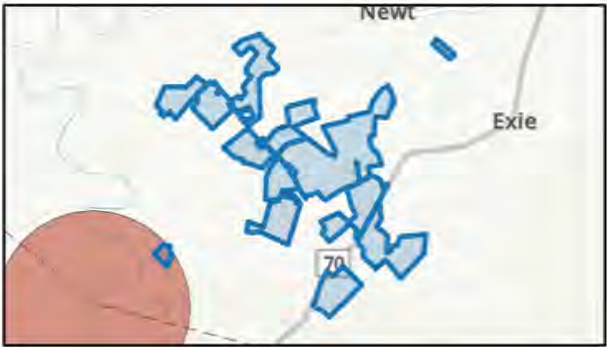
A.2. Project Area – Occurrence Habitat and Location

The following table provides supplemental occurrence information found within your project footprint (if any). You can find more information about global and state rank status definitions on our [Standard Occurrence Report Key](#) . Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the “Directions” column should you have further questions related to sensitive occurrences found within the



Map Credits: Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

- Botanical 
- Ecological 
- Zoological 



EOID	Scientific Name	Habitat	Location
2831	Nothonotus maculatus	Inhabits medium to large streams where it occurs among coarse gravel, cobble and boulders in swift riffles and shoals (Kuehne and Barbour 1983, Page 1983, Zorach and Raney 1967, Stiles 1972, Burr and Warren 1986, Kessler 1992).	SOUTH FORK LITTLE BARREN RIVER JUST UPSTREAM FROM THE CONFLU
15990	Lanius ludovicianus		CW block of quadrangle.

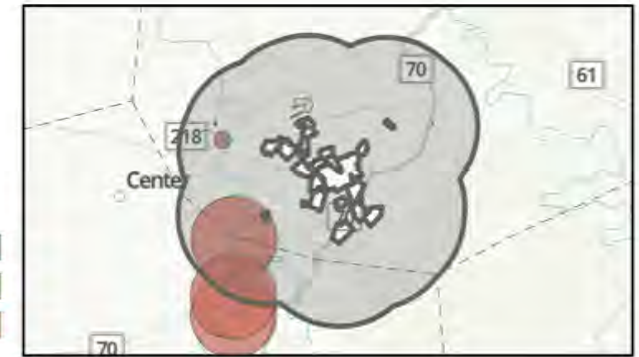
B. Buffer Area - Occurrence Report

The following table outlines occurrences found within your buffered project footprint (if any). You can find more information about global and state rank status definitions on our [Standard Occurrence Report Key](#). Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the project area.



Map Credits: Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

Botanical ■
Ecological ■
Zoological ■



EO ID	Scientific Name	Common Name	G Rank	S Rank	Fed. Status	State Status	SWAP	Precision	Last Obs. Date
12291	<i>Simpsonia ambigua</i>	Salamander Mussel	G1G2	S2S3	ERROR	T	Y	M	1967-07-24
11150	<i>Myotis grisescens</i>	Gray Myotis	G3G4	S2	LE	T	Y	S	2004-08-17
25214	<i>Myotis septentrionalis</i>	Northern Long-Eared Bat	G2G3	S1	LE	E	Y	S	2004-08-17
10201	<i>Barbicambarus cornutus</i>	Bottlebrush Crayfish	G4	S2S3	None	S	Y	S	2000-08-25
15982	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S3S4B,S4N	None	S	Y	Q	1989-06-30
15990	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S3S4B,S4N	None	S	Y	Q	1990-07-12
15740	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S3S4B,S4N	None	S	Y	Q	1989-05-31
8737	<i>Leaunio lienosus</i>	Little Spectaclecase	G5	S2S3	None	T	Y	S	1992-09-03
953	<i>Nothonotus maculatus</i>	Spotted Darter	G3?	S2	None	T	Y	S	2000-06-05
2831	<i>Nothonotus maculatus</i>	Spotted Darter	G3?	S2	None	T	Y	S	2006-04-04
4200	<i>Nothonotus maculatus</i>	Spotted Darter	G3?	S2	None	T	Y	S	2000-08-25
10040	<i>Nothonotus maculatus</i>	Spotted Darter	G3?	S2	None	T	Y	S	2001-07-09
2458	<i>Ophiogomphus aspersus</i>	Brook Snaketail	G4	SH	None	H		S	1940-07-31
5677	<i>Phenacobius uranops</i>	Stargazing Minnow	G4	S2S3	None	S	Y	M	1954-08-05
8642	<i>Phenacobius uranops</i>	Stargazing Minnow	G4	S2S3	None	S	Y	M	1954-08-04
6390	<i>Phenacobius uranops</i>	Stargazing Minnow	G4	S2S3	None	S	Y	S	2001-07-09
3737	<i>Stylurus notatus</i>	Elusive Clubtail	G3	S1	None	E	Y	S	1950
2982	<i>Stylurus notatus</i>	Elusive Clubtail	G3	S1	None	E	Y	S	2000-07-28
24738	<i>Vitis labrusca</i>	Northern Fox Grape	G5	S2S3	None	T		S	2019-07-22
5787	<i>Wet flatwoods</i>		G3G4Q	S3S4	None	E		S	1999-10-08
26260	<i>Xyris torta</i>	Twisted Yellow-eyed-grass	G5	S2S3	None	S		S	2019-07-22

C. Occurrence References and Recommendations (1 of 2)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.



Map Credits: Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

- Botanical 
- Ecological 
- Zoological 



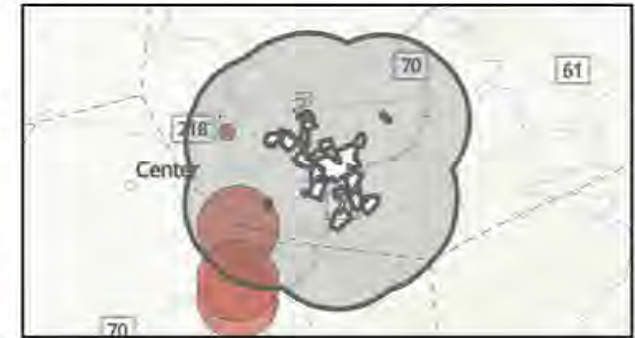
C. Occurrence References and Recommendations (2 of 2)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.



Map Credits: Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

Botanical 
Ecological 
Zoological 



Per the U.S. Fish and Wildlife Service's recommendations: Birds covered under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) should be considered during project reviews. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish & Wildlife Service (50 C.F.R. § 10.12 and 16 U.S.C. § 668(a)). For more information regarding these acts go to: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>. The MBTA currently has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within a NEPA document (if there is a federal nexus), a Bird- or Eagle-specific Conservation Plan, or both. Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds to the project-related stressors; proponents should also implement a rigorous plan to monitor the effectiveness of conservation measure. For more information on avian stressors and recommended conservation measures go to: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html>. In addition to MBTA and BGEPA, Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <http://www.fws.gov/migratorybirds/AboutUS.html>.

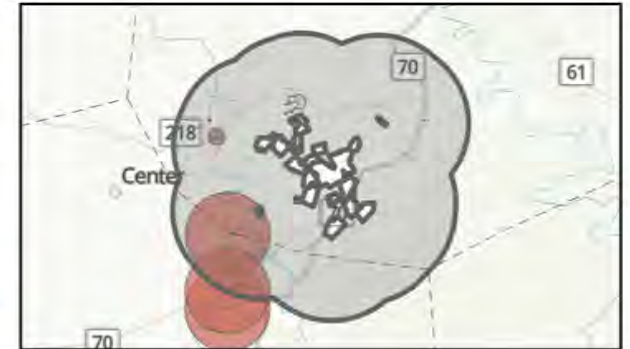
D. Project References and Recommendations (1 of 1)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.



Map Credits: Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

Botanical 
Ecological 
Zoological 





Thank you for using the Office of Kentucky Nature Preserves
Biological Assessment Tool.

OKNP's species dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. If you would like to contribute any additional species information, please do not hesitate to contact our office by email at EEC.KYBAT@ky.gov or by phone at 502-782-7828.



Species Information

Species observations for selected counties

Linked life history provided courtesy of NatureServe Explorer .
Records may include both recent and historical observations.
[US Status Definitions](#) [Kentucky Status Definitions](#)

List Species observations in 1 selected county.
Selected county is: Green.

Scientific Name and Life History	Common Name and Pictures	Class	County	US Status	KY Status	WAP	Reference
<i>Accipiter cooperii</i>	Cooper's Hawk	Aves	Green	N	N		Reference
<i>Acris crepitans</i>	Eastern Cricket Frog	Amphibia	Green	N	N		Reference
<i>Actinonaias ligamentina</i>	Mucket	Bivalvia	Green	N	N		Reference
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Aves	Green	N	N		Reference
<i>Aix sponsa</i>	Wood Duck	Aves	Green	N	N		Reference
<i>Alasmidonta marginata</i>	Elktoe	Bivalvia	Green	N	T	Yes	Reference
<i>Alasmidonta viridis</i>	Slippershell Mussel	Bivalvia	Green	N	S	Yes	Reference
<i>Alosa chrysochloris</i>	Skipjack Herring	Actinopterygii	Green	N	N		Reference
<i>Amblema plicata</i>	Threeridge	Bivalvia	Green	N	N		Reference
<i>Ambloplites rupestris</i>	Rock Bass	Actinopterygii	Green	N	N		Reference
<i>Ambystoma jeffersonianum</i>	Jefferson Salamander	Amphibia	Green	N	N		Reference
<i>Ambystoma maculatum</i>	Spotted Salamander	Amphibia	Green	N	N		Reference
<i>Ambystoma tigrinum</i>	Eastern Tiger Salamander	Amphibia	Green	N	N		Reference

<i>Ameiurus melas</i>	Black Bullhead	Actinopterygii	Green	N	N		Reference
<i>Ameiurus natalis</i>	Yellow Bullhead	Actinopterygii	Green	N	N		Reference
<i>Ammocrypta clara</i>	Western Sand Darter	Actinopterygii	Green	N	E	Yes	Reference
<i>Ammocrypta pellucida</i>	Eastern Sand Darter	Actinopterygii	Green	N	N		Reference
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	Aves	Green	N	N	Yes	Reference
<i>Amnicola limosus</i>	Mud Amnicola	Gastropoda	Green	N	N		Reference
<i>Anas platyrhynchos</i>	Mallard	Aves	Green	N	N		Reference
<i>Anas rubripes</i>	American Black Duck	Aves	Green	N	N	Yes	Reference
<i>Anaxyrus americanus</i>	American Toad	Amphibia	Green	N	N		Reference
<i>Anaxyrus fowleri</i>	Fowler's Toad	Amphibia	Green	N	N		Reference
<i>Anguilla rostrata</i>	American Eel	Actinopterygii	Green	N	N	Yes	Reference
<i>Antigone canadensis</i>	Sandhill Crane	Aves	Green	N	N		Reference
<i>Antrostomus carolinensis</i>	Chuck-will's-widow	Aves	Green	N	N	Yes	Reference
<i>Antrostomus vociferus</i>	Whip-poor-will	Aves	Green	N	N	Yes	Reference
<i>Apalone spinifera spinifera</i>	Eastern Spiny Softshell	Chelonia	Green	N	N		Reference
<i>Aphredoderus sayanus</i>	Pirate Perch	Actinopterygii	Green	N	N		Reference
<i>Aplodinotus grunniens</i>	Freshwater Drum	Actinopterygii	Green	N	N		Reference
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	Aves	Green	N	N		Reference
<i>Ardea herodias</i>	Great Blue Heron	Aves	Green	N	N		Reference
<i>Baeolophus bicolor</i>	Tufted Titmouse	Aves	Green	N	N		Reference
<i>Barbicambarus cornutus</i>	Bottlebrush Crayfish	Malacostraca	Green	N	S	Yes	Reference
<i>Blarina brevicauda</i>	Northern Short-tailed Shrew	Mammalia	Green	N	N		Reference

<i>Bombycilla cedrorum</i>	Cedar Waxwing	Aves	Green	N	N		Reference
<i>Bonasa umbellus</i>	Ruffed Grouse	Aves	Green	N	N	Yes	Reference
<i>Branta canadensis</i>	Canada Goose	Aves	Green	N	N		Reference
<i>Buteo jamaicensis</i>	Red-tailed Hawk	Aves	Green	N	N		Reference
<i>Buteo lineatus</i>	Red-shouldered Hawk	Aves	Green	N	N		Reference
<i>Buteo platypterus</i>	Broad-winged Hawk	Aves	Green	N	N		Reference
<i>Butorides virescens</i>	Green Heron	Aves	Green	N	N	Yes	Reference
<i>Calidris minutilla</i>	Least Sandpiper	Aves	Green	N	N		Reference
<i>Cambarus cumberlandensis</i>	Cumberland Crayfish	Malacostraca	Green	N	N		Reference
<i>Cambarus graysoni</i>	Twospot Crayfish	Malacostraca	Green	N	N	Yes	Reference
<i>Campostoma anomalum</i>	Central Stoneroller	Actinopterygii	Green	N	N		Reference
<i>Campostoma oligolepis</i>	Largescale Stoneroller	Actinopterygii	Green	N	N		Reference
<i>Canis latrans</i>	Coyote	Mammalia	Green	N	N		Reference
<i>Cardinalis cardinalis</i>	Northern Cardinal	Aves	Green	N	N		Reference
<i>Carphophis amoenus</i>	Common Wormsnake	Reptilia	Green	N	N		Reference
<i>Carpionodes carpio</i>	River Carpsucker	Actinopterygii	Green	N	N		Reference
<i>Carpionodes cyprinus</i>	Quillback	Actinopterygii	Green	N	N		Reference
<i>Castor canadensis</i>	American Beaver	Mammalia	Green	N	N		Reference
<i>Cathartes aura</i>	Turkey Vulture	Aves	Green	N	N		Reference
<i>Catostomus commersonii</i>	White Sucker	Actinopterygii	Green	N	N		Reference
<i>Centronyx henslowii</i>	Henslow's Sparrow	Aves	Green	N	S	Yes	Reference
<i>Chaetura pelagica</i>	Chimney Swift	Aves	Green	N	N		Reference
<i>Charadrius semipalmatus</i>	Semipalmated Plover	Aves	Green	N	N		Reference

<i>Charadrius vociferus</i>	Killdeer	Aves	Green	N	N		Reference
<i>Chelydra serpentina</i>	Snapping Turtle	Chelonia	Green	N	N		Reference
<i>Chordeiles minor</i>	Common Nighthawk	Aves	Green	N	N		Reference
<i>Chrosomus erythrogaster</i>	Southern Redbelly Dace	Actinopterygii	Green	N	N		Reference
<i>Chrysemys picta</i>	Painted Turtle	Chelonia	Green	N	N		Reference
<i>Cistothorus stellaris</i>	Sedge Wren	Aves	Green	N	S	Yes	Reference
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	Aves	Green	N	N	Yes	Reference
<i>Colaptes auratus</i>	Northern Flicker	Aves	Green	N	N		Reference
<i>Colinus virginianus</i>	Northern Bobwhite	Aves	Green	N	N	Yes	Reference
<i>Coluber constrictor</i>	North American Racer	Reptilia	Green	N	N		Reference
<i>Columba livia</i>	Rock Pigeon	Aves	Green	N	N		Reference
<i>Contopus virens</i>	Eastern Wood-Pewee	Aves	Green	N	N		Reference
<i>Coragyps atratus</i>	Black Vulture	Aves	Green	N	N		Reference
<i>Corbicula fluminea</i>	Asiatic Clam	Bivalvia	Green	N	N		Reference
<i>Corvus brachyrhynchos</i>	American Crow	Aves	Green	N	N		Reference
<i>Cottus bairdii</i>	Mottled Sculpin	Actinopterygii	Green	N	N		Reference
<i>Cottus carolinae</i>	Banded Sculpin	Actinopterygii	Green	N	N		Reference
<i>Cryptobranchus alleganiensis alleganiensis</i>	Eastern Hellbender	Amphibia	Green	N	S	Yes	Reference
<i>Cryptotis parva</i>	Least Shrew	Mammalia	Green	N	N		Reference
<i>Cyanocitta cristata</i>	Blue Jay	Aves	Green	N	N		Reference
<i>Cyclonaias pustulosa</i>	Pimpleback	Bivalvia	Green	N	N		Reference
<i>Cyclonaias tuberculata</i>	Purple Wartyback	Bivalvia	Green	N	N		Reference

<i>Cyprinella galactura</i>	Whitetail Shiner	Actinopterygii	Green	N	N		Reference
<i>Cyprinella spiloptera</i>	Spotfin Shiner	Actinopterygii	Green	N	N		Reference
<i>Cyprinella whipplei</i>	Steelcolor Shiner	Actinopterygii	Green	N	N		Reference
<i>Cyprinus carpio</i>	Common Carp	Actinopterygii	Green	N	N		Reference
<i>Cyprogenia stegaria</i>	Fanshell	Bivalvia	Green	E	E	Yes	Reference
<i>Dasypus novemcinctus</i>	Nine-banded Armadillo	Mammalia	Green	N	N		Reference
<i>Deroceras laeve</i>	Meadow Slug	Gastropoda	Green	N	N		Reference
<i>Desmognathus fuscus</i>	Northern Dusky Salamander	Amphibia	Green	N	N	Yes	Reference
<i>Diadophis punctatus edwardsii</i>	Northern Ringneck Snake	Reptilia	Green	N	N		Reference
<i>Didelphis virginiana</i>	Virginia Opossum	Mammalia	Green	N	N		Reference
<i>Dolichonyx oryzivorus</i>	Bobolink	Aves	Green	N	S	Yes	Reference
<i>Dorosoma cepedianum</i>	Gizzard Shad	Actinopterygii	Green	N	N		Reference
<i>Dryobates pubescens</i>	Downy Woodpecker	Aves	Green	N	N		Reference
<i>Dryobates villosus</i>	Hairy Woodpecker	Aves	Green	N	N		Reference
<i>Dryocopus pileatus</i>	Pileated Woodpecker	Aves	Green	N	N		Reference
<i>Dumetella carolinensis</i>	Gray Catbird	Aves	Green	N	N		Reference
<i>Elimia semicarinata</i>	Fine-ridged Elimia	Gastropoda	Green	N	N		Reference
<i>Elliptio crassidens</i>	Elephantear	Bivalvia	Green	N	S	Yes	Reference
<i>Empidonax virescens</i>	Acadian Flycatcher	Aves	Green	N	N		Reference
<i>Epioblasma rangiana</i>	Northern Riffleshell	Bivalvia	Green	E	E	Yes	Reference
<i>Epioblasma triquetra</i>	Snuffbox	Bivalvia	Green	E	E	Yes	Reference
<i>Eptesicus fuscus</i>	Big Brown Bat	Mammalia	Green	N	N		Reference
<i>Eremophila alpestris</i>	Horned Lark	Aves	Green	N	N		Reference

<i>Erimystax dissimilis</i>	Streamline Chub	Actinopterygii	Green	N	N		Reference
<i>Erora laeta</i>	Early Hairstreak	Insecta	Green	N	E	Yes	Reference
<i>Esox masquinongy</i>	Muskellunge	Actinopterygii	Green	N	N		Reference
<i>Etheostoma barbouri</i>	Teardrop Darter	Actinopterygii	Green	N	N	Yes	Reference
<i>Etheostoma blennioides</i>	Greenside Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma caeruleum</i>	Rainbow Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma chlorosoma</i>	Bluntnose Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma flabellare</i>	Fantail Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma jimmycarter</i>	Bluegrass Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma kennicotti</i>	Stripetail Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma lawrencei</i>	Headwater Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma nigrum</i>	Johnny Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma rafinesquei</i>	Kentucky Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma simoterum</i>	Snubnose Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma spectabile</i>	Orangethroat Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma squamiceps</i>	Spottail Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma stigmaeum</i>	Speckled Darter	Actinopterygii	Green	N	N		Reference
<i>Etheostoma zonale</i>	Banded Darter	Actinopterygii	Green	N	N		Reference
<i>Euphagus carolinus</i>	Rusty Blackbird	Aves	Green	N	N	Yes	Reference
<i>Eurycea cirrigera</i>	Southern Two-lined Salamander	Amphibia	Green	N	N		Reference
<i>Eurycea longicauda</i>	Long-tailed Salamander	Amphibia	Green	N	N		Reference

<i>Eurycea lucifuga</i>	Cave Salamander	Amphibia	Green	N	N		Reference
<i>Eurynia dilatata</i>	Spike	Bivalvia	Green	N	N		Reference
<i>Falco sparverius</i>	American Kestrel	Aves	Green	N	N	Yes	Reference
<i>Faxonius juvenilis</i>	Kentucky River Crayfish	Malacostraca	Green	N	N		Reference
<i>Faxonius putnami</i>	Phallic Crayfish	Malacostraca	Green	N	N		Reference
<i>Faxonius rusticus</i>	Rusty Crayfish	Malacostraca	Green	N	N	Yes	Reference
<i>Fulica americana</i>	American Coot	Aves	Green	N	E		Reference
<i>Fundulus catenatus</i>	Northern Studfish	Actinopterygii	Green	N	N		Reference
<i>Fundulus notatus</i>	Blackstripe Topminnow	Actinopterygii	Green	N	N		Reference
<i>Fundulus olivaceus</i>	Blackspotted Topminnow	Actinopterygii	Green	N	N		Reference
<i>Fusconaia flava</i>	Wabash Pigtoe	Bivalvia	Green	N	N		Reference
<i>Fusconaia subrotunda</i>	Longsolid	Bivalvia	Green	T	T	Yes	Reference
<i>Gambusia affinis</i>	Western Mosquitofish	Actinopterygii	Green	N	N		Reference
<i>Gastrophryne carolinensis</i>	Eastern Narrow-mouthed Toad	Amphibia	Green	N	N		Reference
<i>Gavia immer</i>	Common Loon	Aves	Green	N	N		Reference
<i>Geothlypis formosa</i>	Kentucky Warbler	Aves	Green	N	N	Yes	Reference
<i>Geothlypis trichas</i>	Common Yellowthroat	Aves	Green	N	N		Reference
<i>Graptemys geographica</i>	Northern Map Turtle	Chelonia	Green	N	N		Reference
<i>Haemorhous mexicanus</i>	House Finch	Aves	Green	N	N		Reference
<i>Haemorhous purpureus</i>	Purple Finch	Aves	Green	N	N		Reference
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Aves	Green	N	S	Yes	Reference

<i>Helmitheros vermivorum</i>	Worm-eating Warbler	Aves	Green	N	N		Reference
<i>Heterodon platirhinos</i>	Eastern Hog-nosed Snake	Reptilia	Green	N	N		Reference
<i>Hiodon tergisus</i>	Mooneye	Actinopterygii	Green	N	N		Reference
<i>Hirundo rustica</i>	Barn Swallow	Aves	Green	N	N		Reference
<i>Hyalella azteca</i>	No Common Name (<i>Hyalella azteca</i>)	Malacostraca	Green	N	N		Reference
<i>Hybopsis amblops</i>	Bigeye Chub	Actinopterygii	Green	N	N		Reference
<i>Hyla chrysoscelis</i>	Cope's Gray Treefrog	Amphibia	Green	N	N		Reference
<i>Hylocichla mustelina</i>	Wood Thrush	Aves	Green	N	N	Yes	Reference
<i>Hypentelium nigricans</i>	Northern Hog Sucker	Actinopterygii	Green	N	N		Reference
<i>Ichthyomyzon bdellium</i>	Ohio Lamprey	Petromyzontida	Green	N	N		Reference
<i>Ichthyomyzon castaneus</i>	Chestnut Lamprey	Petromyzontida	Green	N	S	Yes	Reference
<i>Ichthyomyzon greeleyi</i>	Mountain Brook Lamprey	Petromyzontida	Green	N	T	Yes	Reference
<i>Ictalurus punctatus</i>	Channel Catfish	Actinopterygii	Green	N	N		Reference
<i>Icteria virens</i>	Yellow-breasted Chat	Aves	Green	N	N		Reference
<i>Icterus galbula</i>	Baltimore Oriole	Aves	Green	N	N		Reference
<i>Icterus spurius</i>	Orchard Oriole	Aves	Green	N	N		Reference
<i>Ictiobus bubalus</i>	Smallmouth Buffalo	Actinopterygii	Green	N	N		Reference
<i>Junco hyemalis</i>	Dark-eyed Junco	Aves	Green	N	S		Reference
<i>Labidesthes sicculus</i>	Brook Silverside	Actinopterygii	Green	N	N		Reference
<i>Lampetra aepyptera</i>	Least Brook Lamprey	Petromyzontida	Green	N	N		Reference
<i>Lampropeltis calligaster</i>	Prairie Kingsnake	Reptilia	Green	N	N		Reference

<i>Lampropeltis nigra</i>	Eastern Black Kingsnake	Reptilia	Green	N	N		Reference
<i>Lampsilis cardium</i>	Plain Pocketbook	Bivalvia	Green	N	N		Reference
<i>Lampsilis fasciola</i>	Wavyrayed Lampmussel	Bivalvia	Green	N	N		Reference
<i>Lampsilis ovata</i>	Pocketbook	Bivalvia	Green	N	E	Yes	Reference
<i>Lampsilis siliquoidea</i>	Fatmucket	Bivalvia	Green	N	N		Reference
<i>Lampsilis teres</i>	Yellow Sandshell	Bivalvia	Green	N	N		Reference
<i>Lanius ludovicianus</i>	Loggerhead Shrike	Aves	Green	N	S	Yes	Reference
<i>Lasiurus borealis</i>	Eastern Red Bat	Mammalia	Green	N	N		Reference
<i>Lasmigona costata</i>	Flutedshell	Bivalvia	Green	N	N		Reference
<i>Leaunio lienosus</i>	Little Spectaclecase	Bivalvia	Green	N	T	Yes	Reference
<i>Leaunio ortmanni</i>	Kentucky Creekshell	Bivalvia	Green	N	E	Yes	Reference
<i>Lepisosteus oculatus</i>	Spotted Gar	Actinopterygii	Green	N	N		Reference
<i>Lepisosteus osseus</i>	Longnose Gar	Actinopterygii	Green	N	N		Reference
<i>Lepomis auritus</i>	Redbreast Sunfish	Actinopterygii	Green	N	N		Reference
<i>Lepomis cyanellus</i>	Green Sunfish	Actinopterygii	Green	N	N		Reference
<i>Lepomis gulosus</i>	Warmouth	Actinopterygii	Green	N	N		Reference
<i>Lepomis macrochirus</i>	Bluegill	Actinopterygii	Green	N	N		Reference
<i>Lepomis megalotis</i>	Longear Sunfish	Actinopterygii	Green	N	N		Reference
<i>Lepomis microlophus</i>	Redear Sunfish	Actinopterygii	Green	N	N		Reference
<i>Leptodea fragilis</i>	Fragile Papershell	Bivalvia	Green	N	N		Reference
<i>Lethenteron appendix</i>	American Brook Lamprey	Petromyzontida	Green	N	T	Yes	Reference
<i>Ligumia recta</i>	Black Sandshell	Bivalvia	Green	N	S	Yes	Reference
<i>Lithasia obovata</i>	Shawnee Rocksnail	Gastropoda	Green	N	N		Reference

<i>Lithobates catesbeianus</i>	American Bullfrog	Amphibia	Green	N	N		Reference
<i>Lithobates clamitans</i>	Green Frog	Amphibia	Green	N	N		Reference
<i>Lithobates palustris</i>	Pickerel Frog	Amphibia	Green	N	N		Reference
<i>Lithobates sphenoccephalus</i>	Southern Leopard Frog	Amphibia	Green	N	N		Reference
<i>Lontra canadensis</i>	Northern River Otter	Mammalia	Green	N	N		Reference
<i>Luxilus chrysocephalus</i>	Striped Shiner	Actinopterygii	Green	N	N		Reference
<i>Lynx rufus</i>	Bobcat	Mammalia	Green	N	N		Reference
<i>Lythrurus fasciolaris</i>	Scarlet Shiner	Actinopterygii	Green	N	N		Reference
<i>Lythrurus umbratilis</i>	Redfin Shiner	Actinopterygii	Green	N	N		Reference
<i>Macrhybopsis hyostoma</i>	Shoal Chub	Actinopterygii	Green	N	N	Yes	Reference
<i>Macrhybopsis storeriana</i>	Silver Chub	Actinopterygii	Green	N	N		Reference
<i>Megaceryle alcyon</i>	Belted Kingfisher	Aves	Green	N	N		Reference
<i>Megalonaias nervosa</i>	Washboard	Bivalvia	Green	N	N		Reference
<i>Megascops asio</i>	Eastern Screech-Owl	Aves	Green	N	N		Reference
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	Aves	Green	N	N		Reference
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	Aves	Green	N	N	Yes	Reference
<i>Meleagris gallopavo</i>	Wild Turkey	Aves	Green	N	N		Reference
<i>Melospiza melodia</i>	Song Sparrow	Aves	Green	N	N		Reference
<i>Mephitis mephitis</i>	Striped Skunk	Mammalia	Green	N	N		Reference
<i>Micromenetus dilatatus</i>	Bugle Sprite	Gastropoda	Green	N	N		Reference
<i>Micropterus dolomieu</i>	Smallmouth Bass	Actinopterygii	Green	N	N		Reference

<i>Micropterus salmoides</i>	Largemouth Bass	Actinopterygii	Green	N	N		Reference
<i>Micropterus punctulatus</i>	Spotted Bass	Actinopterygii	Green	N	N		Reference
<i>Microtus ochrogaster</i>	Prairie Vole	Mammalia	Green	N	N		Reference
<i>Microtus pinetorum</i>	Woodland Vole	Mammalia	Green	N	N		Reference
<i>Mimus polyglottos</i>	Northern Mockingbird	Aves	Green	N	N		Reference
<i>Minytrema melanops</i>	Spotted Sucker	Actinopterygii	Green	N	N		Reference
<i>Mniotilta varia</i>	Black-and-white Warbler	Aves	Green	N	N		Reference
<i>Molothrus ater</i>	Brown-headed Cowbird	Aves	Green	N	N		Reference
<i>Morone chrysops</i>	White Bass	Actinopterygii	Green	N	N		Reference
<i>Moxostoma anisurum</i>	Silver Redhorse	Actinopterygii	Green	N	N		Reference
<i>Moxostoma breviceps</i>	Smallmouth Redhorse	Actinopterygii	Green	N	N		Reference
<i>Moxostoma carinatum</i>	River Redhorse	Actinopterygii	Green	N	N		Reference
<i>Moxostoma duquesnei</i>	Black Redhorse	Actinopterygii	Green	N	N		Reference
<i>Moxostoma erythrurum</i>	Golden Redhorse	Actinopterygii	Green	N	N		Reference
<i>Musculium transversum</i>	Long Fingernailclam	Bivalvia	Green	N	N		Reference
<i>Mustela frenata</i>	Long-tailed Weasel	Mammalia	Green	N	N	Yes	Reference
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	Aves	Green	N	N		Reference
<i>Myotis grisescens</i>	Gray Myotis	Mammalia	Green	E	T	Yes	Reference
<i>Myotis lucifugus</i>	Little Brown Bat	Mammalia	Green	N	T	Yes	Reference
<i>Myotis septentrionalis</i>	Northern Long-Eared Bat	Mammalia	Green	E	E	Yes	Reference
<i>Necturus maculosus</i>	Mudpuppy	Amphibia	Green	N	N		Reference

<i>Neovison vison</i>	American Mink	Mammalia	Green	N	N		Reference
<i>Nerodia sipedon</i>	Common Watersnake	Reptilia	Green	N	N		Reference
<i>Nocomis effusus</i>	Redtail Chub	Actinopterygii	Green	N	N		Reference
<i>Notemigonus crysoleucas</i>	Golden Shiner	Actinopterygii	Green	N	N		Reference
<i>Nothonotus bellus</i>	Orangefin Darter	Actinopterygii	Green	N	N		Reference
<i>Nothonotus camurus</i>	Bluebreast Darter	Actinopterygii	Green	N	N		Reference
<i>Nothonotus maculatus</i>	Spotted Darter	Actinopterygii	Green	N	T	Yes	Reference
<i>Nothonotus sanguifluus</i>	Bloodfin Darter	Actinopterygii	Green	N	N		Reference
<i>Nothonotus tippecanoe</i>	Tippecanoe Darter	Actinopterygii	Green	N	N		Reference
<i>Notophthalmus viridescens</i>	Eastern Newt	Amphibia	Green	N	N		Reference
<i>Notropis ariommus</i>	Popeye Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis atherinoides</i>	Emerald Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis boops</i>	Bigeye Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis leuciodus</i>	Tennessee Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis micropteryx</i>	Highland Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis photogenis</i>	Silver Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis rubellus</i>	Rosyface Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis stramineus</i>	Sand Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis telescopus</i>	Telescope Shiner	Actinopterygii	Green	N	N		Reference
<i>Notropis volucellus</i>	Mimic Shiner	Actinopterygii	Green	N	N		Reference
<i>Noturus elegans</i>	Elegant Madtom	Actinopterygii	Green	N	N		Reference
<i>Noturus eleutherus</i>	Mountain Madtom	Actinopterygii	Green	N	N		Reference
<i>Noturus flavus</i>	Stonecat	Actinopterygii	Green	N	N		Reference
<i>Noturus miurus</i>	Brindled Madtom	Actinopterygii	Green	N	N		Reference

<i>Noturus nocturnus</i>	Freckled Madtom	Actinopterygii	Green	N	N		Reference
<i>Noturus stigmosus</i>	Northern Madtom	Actinopterygii	Green	N	S	Yes	Reference
<i>Nycticeius humeralis</i>	Evening Bat	Mammalia	Green	N	N		Reference
<i>Obliquaria reflexa</i>	Threehorn Wartyback	Bivalvia	Green	N	N		Reference
<i>Obovaria subrotunda</i>	Round Hickorynut	Bivalvia	Green	T	T	Yes	Reference
<i>Ochrotomys nuttalli</i>	Golden Mouse	Mammalia	Green	N	N		Reference
<i>Odocoileus virginianus</i>	White-tailed Deer	Mammalia	Green	N	N		Reference
<i>Oncorhynchus mykiss</i>	Rainbow Trout	Actinopterygii	Green	N	N		Reference
<i>Ondatra zibethicus</i>	Muskrat	Mammalia	Green	N	N	Yes	Reference
<i>Ophiogomphus aspersus</i>	Brook Snaketail	Insecta	Green	N	H		Reference
<i>Orconectes inermis inermis</i>	Ghost Crayfish	Malacostraca	Green	N	S	Yes	Reference
<i>Pantherophis spiloides</i>	Gray Ratsnake	Reptilia	Green	N	N		Reference
<i>Parkesia motacilla</i>	Louisiana Waterthrush	Aves	Green	N	N	Yes	Reference
<i>Passer domesticus</i>	House Sparrow	Aves	Green	N	N		Reference
<i>Passerella iliaca</i>	Fox Sparrow	Aves	Green	N	N		Reference
<i>Passerina caerulea</i>	Blue Grosbeak	Aves	Green	N	N		Reference
<i>Passerina cyanea</i>	Indigo Bunting	Aves	Green	N	N		Reference
<i>Percina caprodes</i>	Logperch	Actinopterygii	Green	N	N		Reference
<i>Percina copelandi</i>	Channel Darter	Actinopterygii	Green	N	N		Reference
<i>Percina evides</i>	Gilt Darter	Actinopterygii	Green	N	N		Reference
<i>Percina macrocephala</i>	Longhead Darter	Actinopterygii	Green	N	E	Yes	Reference
<i>Percina maculata</i>	Blackside Darter	Actinopterygii	Green	N	N		Reference
<i>Percina oxyrhynchus</i>	Sharpnose Darter	Actinopterygii	Green	N	N		Reference

<i>Percina phoxocephala</i>	Slenderhead Darter	Actinopterygii	Green	N	N		Reference
<i>Percina sciera</i>	Dusky Darter	Actinopterygii	Green	N	N		Reference
<i>Percina shumardi</i>	River Darter	Actinopterygii	Green	N	N		Reference
<i>Percina stictogaster</i>	Frecklebelly Darter	Actinopterygii	Green	N	N		Reference
<i>Perimyotis subflavus</i>	Tricolored Bat	Mammalia	Green	PE	T	Yes	Reference
<i>Peromyscus leucopus</i>	White-footed Mouse	Mammalia	Green	N	N		Reference
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Aves	Green	N	N		Reference
<i>Phenacobius uranops</i>	Stargazing Minnow	Actinopterygii	Green	N	S	Yes	Reference
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	Aves	Green	N	S		Reference
<i>Physa acuta</i>	Pewter Physa	Gastropoda	Green	N	N		Reference
<i>Pimephales notatus</i>	Bluntnose Minnow	Actinopterygii	Green	N	N		Reference
<i>Pimephales promelas</i>	Fathead Minnow	Actinopterygii	Green	N	N		Reference
<i>Pimephales vigilax</i>	Bullhead Minnow	Actinopterygii	Green	N	N		Reference
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	Aves	Green	N	N		Reference
<i>Piranga olivacea</i>	Scarlet Tanager	Aves	Green	N	N		Reference
<i>Piranga rubra</i>	Summer Tanager	Aves	Green	N	N		Reference
<i>Planorbella trivolvis</i>	Marsh Rams-horn	Gastropoda	Green	N	N		Reference
<i>Plestiodon fasciatus</i>	Common Five-lined Skink	Reptilia	Green	N	N		Reference
<i>Plestiodon laticeps</i>	Broad-headed Skink	Reptilia	Green	N	N		Reference
<i>Plethodon dorsalis</i>	Northern Zigzag Salamander	Amphibia	Green	N	N		Reference
<i>Plethodon glutinosus</i>	Northern Slimy Salamander	Amphibia	Green	N	N		Reference
<i>Plethodon ventralis</i>	Southern Zigzag Salamander	Amphibia	Green	N	N		Reference

<i>Pleurobema clava</i>	Clubshell	Bivalvia	Green	E	E	Yes	Reference
<i>Pleurobema cordatum</i>	Ohio Pigtoe	Bivalvia	Green	N	N	Yes	Reference
<i>Pleurobema plenum</i>	Rough Pigtoe	Bivalvia	Green	E	E	Yes	Reference
<i>Pleurobema sintoxia</i>	Round Pigtoe	Bivalvia	Green	N	N		Reference
<i>Podilymbus podiceps</i>	Pied-billed Grebe	Aves	Green	N	E	Yes	Reference
<i>Poecile carolinensis</i>	Carolina Chickadee	Aves	Green	N	N		Reference
<i>Polioptila caerulea</i>	Blue-gray Gnatcatcher	Aves	Green	N	N		Reference
<i>Pomoxis annularis</i>	White Crappie	Actinopterygii	Green	N	N		Reference
<i>Pomoxis nigromaculatus</i>	Black Crappie	Actinopterygii	Green	N	N		Reference
<i>Potamilus alatus</i>	Pink Heelsplitter	Bivalvia	Green	N	N		Reference
<i>Procyon lotor</i>	Northern Raccoon	Mammalia	Green	N	N		Reference
<i>Progne subis</i>	Purple Martin	Aves	Green	N	N		Reference
<i>Protonotaria citrea</i>	Prothonotary Warbler	Aves	Green	N	N	Yes	Reference
<i>Pseudacris crucifer</i>	Spring Peeper	Amphibia	Green	N	N		Reference
<i>Pseudacris feriarum</i>	Upland Chorus Frog	Amphibia	Green	N	N		Reference
<i>Pseudotriton montanus diastictus</i>	Midland Mud Salamander	Amphibia	Green	N	N	Yes	Reference
<i>Pseudotriton ruber</i>	Red Salamander	Amphibia	Green	N	N		Reference
<i>Ptychobranhus fasciolaris</i>	Kidneyshell	Bivalvia	Green	N	N		Reference
<i>Pyganodon grandis</i>	Giant Floater	Bivalvia	Green	N	N		Reference
<i>Pylodictis olivaris</i>	Flathead Catfish	Actinopterygii	Green	N	N		Reference
<i>Quadrula quadrula</i>	Mapleleaf	Bivalvia	Green	N	N		Reference
<i>Quiscalus quiscula</i>	Common Grackle	Aves	Green	N	N		Reference
<i>Regina septemvittata</i>	Queensnake	Reptilia	Green	N	N		Reference

<i>Regulus satrapa</i>	Golden-crowned Kinglet	Aves	Green	N	N		Reference
<i>Riparia riparia</i>	Bank Swallow	Aves	Green	N	S	Yes	Reference
<i>Sayornis phoebe</i>	Eastern Phoebe	Aves	Green	N	N		Reference
<i>Sceloporus undulatus</i>	Eastern Fence Lizard	Reptilia	Green	N	N		Reference
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	Mammalia	Green	N	N		Reference
<i>Sciurus niger</i>	Eastern Fox Squirrel	Mammalia	Green	N	N		Reference
<i>Seiurus aurocapilla</i>	Ovenbird	Aves	Green	N	N		Reference
<i>Semotilus atromaculatus</i>	Creek Chub	Actinopterygii	Green	N	N		Reference
<i>Setophaga americana</i>	Northern Parula	Aves	Green	N	N		Reference
<i>Setophaga cerulea</i>	Cerulean Warbler	Aves	Green	N	N	Yes	Reference
<i>Setophaga coronata</i>	Yellow-rumped Warbler	Aves	Green	N	N		Reference
<i>Setophaga discolor</i>	Prairie Warbler	Aves	Green	N	N	Yes	Reference
<i>Setophaga dominica</i>	Yellow-throated Warbler	Aves	Green	N	N		Reference
<i>Setophaga petechia</i>	Yellow Warbler	Aves	Green	N	N		Reference
<i>Sialia sialis</i>	Eastern Bluebird	Aves	Green	N	N		Reference
<i>Simpsonaias ambigua</i>	Salamander Mussel	Bivalvia	Green	N	T	Yes	Reference
<i>Sitta carolinensis</i>	White-breasted Nuthatch	Aves	Green	N	N		Reference
<i>Sorex hoyi</i>	Pygmy Shrew	Mammalia	Green	N	N	Yes	Reference
<i>Sorex longirostris</i>	Southeastern Shrew	Mammalia	Green	N	N	Yes	Reference
<i>Spatula discors</i>	Blue-winged Teal	Aves	Green	N	T		Reference
<i>Sphaerium simile</i>	Grooved Fingernailclam	Bivalvia	Green	N	N		Reference

<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	Aves	Green	N	N		Reference
<i>Spinus pinus</i>	Pine Siskin	Aves	Green	N	N		Reference
<i>Spinus tristis</i>	American Goldfinch	Aves	Green	N	N		Reference
<i>Spiza americana</i>	Dickcissel	Aves	Green	N	N	Yes	Reference
<i>Spizella passerina</i>	Chipping Sparrow	Aves	Green	N	N		Reference
<i>Spizella pusilla</i>	Field Sparrow	Aves	Green	N	N	Yes	Reference
<i>Spizelloides arborea</i>	American Tree Sparrow	Aves	Green	N	N		Reference
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	Aves	Green	N	N		Reference
<i>Sander canadensis</i>	Sauger	Actinopterygii	Green	N	N		Reference
<i>Sander vitreus</i>	Walleye	Actinopterygii	Green	N	N		Reference
<i>Strophitus undulatus</i>	Creeper	Bivalvia	Green	N	N		Reference
<i>Sturnella magna</i>	Eastern Meadowlark	Aves	Green	N	N	Yes	Reference
<i>Sturnus vulgaris</i>	European Starling	Aves	Green	N	N		Reference
<i>Stylurus notatus</i>	Elusive Clubtail	Insecta	Green	N	E	Yes	Reference
<i>Sylvilagus floridanus</i>	Eastern Cottontail	Mammalia	Green	N	N		Reference
<i>Tachycineta bicolor</i>	Tree Swallow	Aves	Green	N	N		Reference
<i>Tamias striatus</i>	Eastern Chipmunk	Mammalia	Green	N	N		Reference
<i>Terrapene carolina</i>	Eastern Box Turtle	Chelonia	Green	N	N		Reference
<i>Thamnophis sirtalis</i>	Common Gartersnake	Reptilia	Green	N	N		Reference
<i>Theliderma cylindrica</i>	Rabbitsfoot	Bivalvia	Green	T	E	Yes	Reference
<i>Theliderma metanevra</i>	Monkeyface	Bivalvia	Green	N	N		Reference
<i>Thryothorus ludovicianus</i>	Carolina Wren	Aves	Green	N	N		Reference
<i>Toxolasma lividum</i>	Purple Lilliput	Bivalvia	Green	N	E	Yes	Reference

<i>Toxostoma rufum</i>	Brown Thrasher	Aves	Green	N	N		Reference
<i>Trachemys scripta elegans</i>	Red-eared Slider	Chelonia	Green	N	N		Reference
<i>Tritogonia verrucosa</i>	Pistolgrip	Bivalvia	Green	N	N		Reference
<i>Troglodytes aedon</i>	House Wren	Aves	Green	N	N		Reference
<i>Truncilla truncata</i>	Deertoe	Bivalvia	Green	N	N		Reference
<i>Turdus migratorius</i>	American Robin	Aves	Green	N	N		Reference
<i>Tyrannus tyrannus</i>	Eastern Kingbird	Aves	Green	N	N		Reference
<i>Tyto alba</i>	Barn Owl	Aves	Green	N	S	Yes	Reference
<i>Urocyon cinereoargenteus</i>	Gray Fox	Mammalia	Green	N	N	Yes	Reference
<i>Ursus americanus</i>	American Black Bear	Mammalia	Green	N	N		Reference
<i>Utterbackia imbecillis</i>	Paper Pondshell	Bivalvia	Green	N	N		Reference
<i>Vaejovis carolinianus</i>	Southern Unstriped Scorpion	Arachnida	Green	N	N		Reference
<i>Vermivora cyanoptera</i>	Blue-winged Warbler	Aves	Green	N	N	Yes	Reference
<i>Villosa iris</i>	Rainbow (genus Villosa)	Bivalvia	Green	N	N		Reference
<i>Vireo flavifrons</i>	Yellow-throated Vireo	Aves	Green	N	N		Reference
<i>Vireo gilvus</i>	Warbling Vireo	Aves	Green	N	N		Reference
<i>Vireo griseus</i>	White-eyed Vireo	Aves	Green	N	N		Reference
<i>Vireo olivaceus</i>	Red-eyed Vireo	Aves	Green	N	N		Reference
<i>Vulpes vulpes</i>	Red Fox	Mammalia	Green	N	N		Reference
<i>Zenaida macroura</i>	Mourning Dove	Aves	Green	N	N		Reference
<i>Zonotrichia albicollis</i>	White-throated Sparrow	Aves	Green	N	N		Reference
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	Aves	Green	N	N		Reference

389 species are listed

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Green County, Kentucky



Local office

Kentucky Ecological Services Field Office

☎ (502) 695-0467

📅 (502) 695-1024

✉ kentuckyes@fws.gov

J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> Wherever found This species only needs to be considered if the following condition applies: The project area includes potential gray bat habitat. No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> Wherever found This species only needs to be considered if the following condition applies: The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species. There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane <i>Grus americana</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Rabbitsfoot <i>Quadrula cylindrica cylindrica</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5165	Threatened
Salamander Mussel <i>Simpsonaias ambigua</i> Wherever found There is proposed critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Chimney Swift *Chaetura pelagica*

Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Field Sparrow *Spizella pusilla*

Breeds Mar 1 to Aug 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Kentucky Warbler *Geothlypis formosa*

Breeds Apr 20 to Aug 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler *Setophaga discolor*

Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prothonotary Warbler *Protonotaria citrea*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey

effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

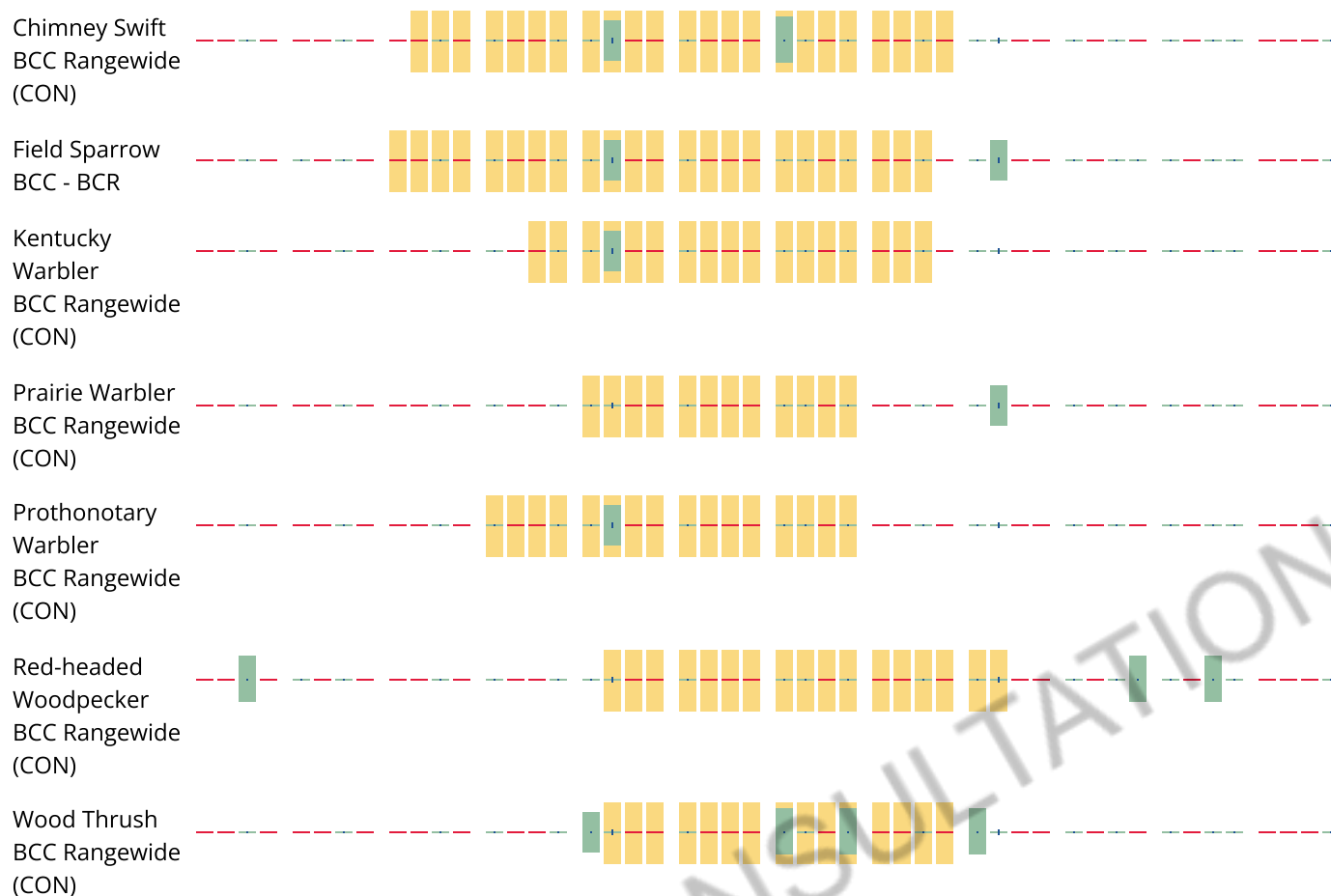
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1Fh](#)

[PEM1Ch](#)

[PEM1Ah](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PSS1Fh](#)

[PSS1Ch](#)

FRESHWATER POND

[PUBHh](#)

[PUBH](#)

RIVERINE

[R5UBH](#)

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

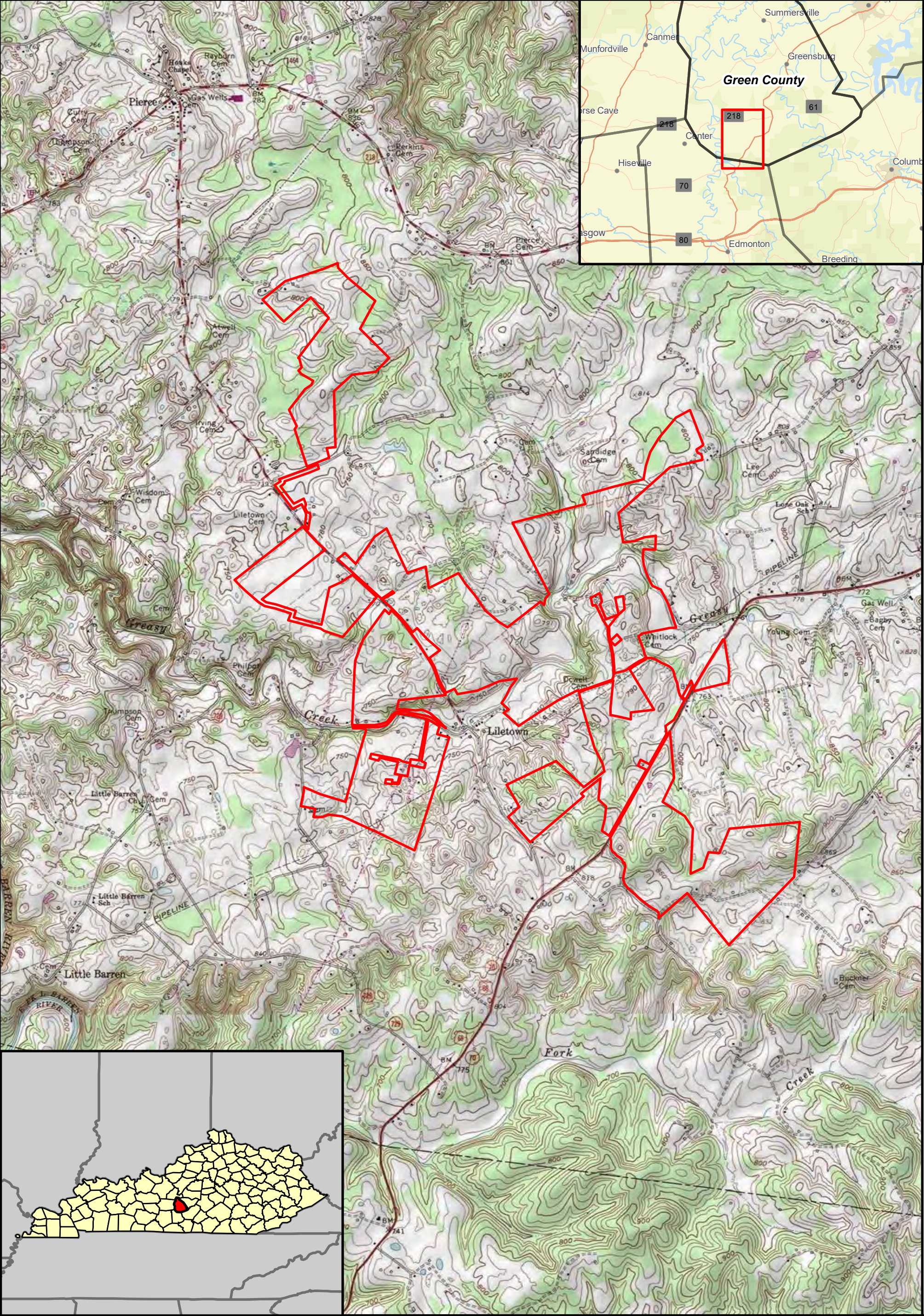
Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX B - MAPS AND FIGURES



 Survey Area

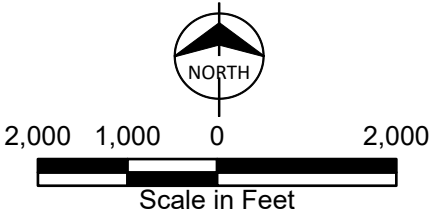
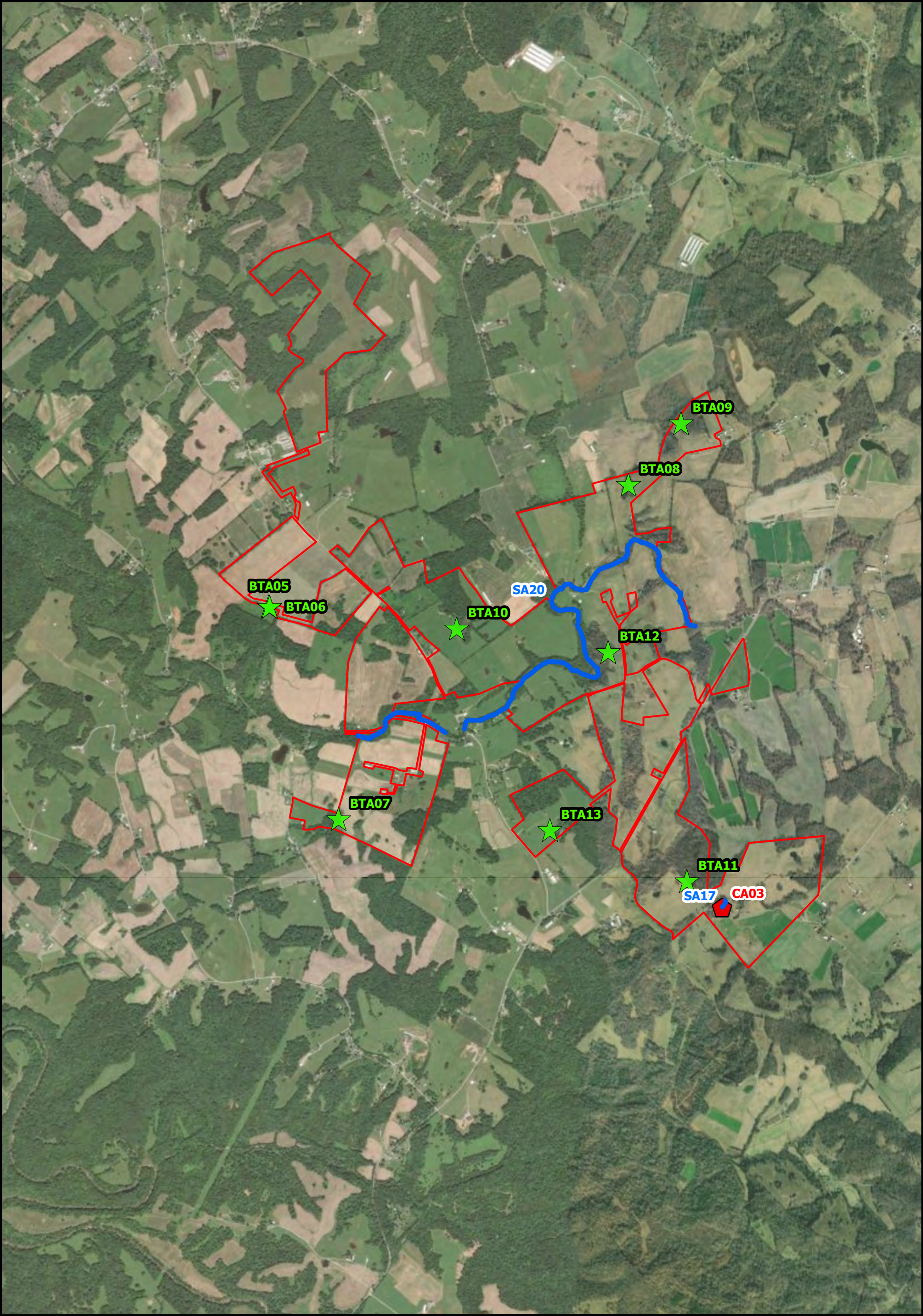


Figure 1
Habitat Assessment Map
Exie Solar
Geronimo Power
Green County, KY



Survey Area Perennial Stream (S)	Potential Bat Tree (BT) Cave/Karst Feature (C)	NORTH 2,5001,25002,500 Scale in Feet	BURNS MCDONNELL	Figure 2 Habitat Assessment Map Exie Solar Geronimo Power Green County, KY
--	--	---	--	---

APPENDIX C - PHOTOSHEET



Photo 1: View of Potential Bat Tree (BT)A01, facing west.



Photo 2: View of BTA02, facing south.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 3: View of BTA03, facing northwest.



Photo 4: View of BTA04, facing east.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 5: View of BTA05, facing east.



Photo 6: View of BTA06, facing east.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 7: View of BTA07, facing north.



Photo 8: View of BTA08, facing southeast.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 9: View of BTA09, facing north.



Photo 10: View of BTA10, facing north.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 11: View of BTA11, facing northeast.



Photo 12: View of BTA12, facing north.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 13: View of BTA13, facing south.



Photo 14: View of Cave/Karst(C)A01, facing north.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 15: View of CA02, facing north.



Photo 16: View of CA03, facing southwest.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 17: View of representative perennial stream, Greasy Creek, facing southwest.



Photo 18: View of representative intermittent stream, facing west.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 19: View of representative ephemeral stream, facing north.



Photo 20: View of a representative PFO wetland, facing north.

177659
Exie Solar
Geronimo Power



Survey Photos
November-04-2024
November-08-2024



Photo 21: View of representative PSS wetland, facing east.



Photo 22: View of representative PEM wetland, facing east.



CREATE AMAZING.

Burns & McDonnell Atlanta Regional Office
3650 Mansell Road, Suite 300
Alpharetta, GA 30022
www.burnsmcd.com



CREATE AMAZING.

Burns & McDonnell Atlanta Regional Office
3650 Mansell Road, Suite 300
Alpharetta, GA 30022
www.burnsmcd.com

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 37:

Refer to the October 14, 2025 Motion for Deviation. Explain how Exie Solar determined that the residences along Liletown Road are not a residential neighborhood as defined by KRS 278.700(6).

Response:

The Project respectfully objects to the substance of this Request to the extent it requires a fact witness to provide a legal conclusion. A residential cluster along Liletown Road was identified as a KRS 278.700(6) Residential Neighborhood ("Residential Neighborhood") in the Application and was identified as the "Liletown Road Neighborhood" in the October 14, 2025, Motion for Deviation ("Motion"), identified to the northwest of the Project in Application Exhibit A. As demonstrated in Application Exhibit A, the Liletown Road Neighborhood falls on the white dashed line demonstrating the 2,000 foot setback from the Project. While the nearest residence was within 2,000 feet of the Project's boundary, it was not within 2,000 feet of the nearest generating equipment and therefore no deviation was required, so the request for a deviation was therefore not necessary. If reviewing Application Exhibit A, there are other qualifying Residential Neighborhoods within 2 miles of the Project as demonstrated on the map. While there were Residential Neighborhoods within the 2-mile radius, only the SR 218 Residential Neighborhood identified in the Motion fell within the 2,000 foot distance from generating equipment as its nearest residential structure is approximately 1,950 feet from solar panels.

To the extent that this Request seeks information about any other residential clusters that are located on Liletown Road along the length of the Project, none met the statutory criteria for a Residential Neighborhood. When scrutinizing the size and density requirements for a Residential Neighborhood as defined by KRS 278.700(6), the other clusters of homes along Liletown Road were not and could not be "connected" in a contiguous, reasonable manner which reflected the

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

character of the area. These clusters instead could only be “connected” via an unreasonably-shaped, arbitrary and narrow corridor, unrelated to the residences’ surroundings and in a manner which did not account for associated lawns, outbuildings, parcel shapes, and so forth. Based on prior precedent and professional judgment following review of these factors, there were no other clusters that qualified as a Residential Neighborhood.

Responding Witness: Legal/Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 38:

Explain the justification for requesting a deviation from the 2,000-foot setback requirement for residential neighborhoods.

Response:

See Motion for Deviation filed on October 14, 2025. To the extent this Request seeks a legal opinion, the Motion speaks for itself. Solar panels are approximately 1,950 feet from the nearest residential structure in the SR 218 Neighborhood. Since this Residential Neighborhood falls within the 2,000 foot statutory setback for generation equipment, a deviation was deemed necessary.

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 39:

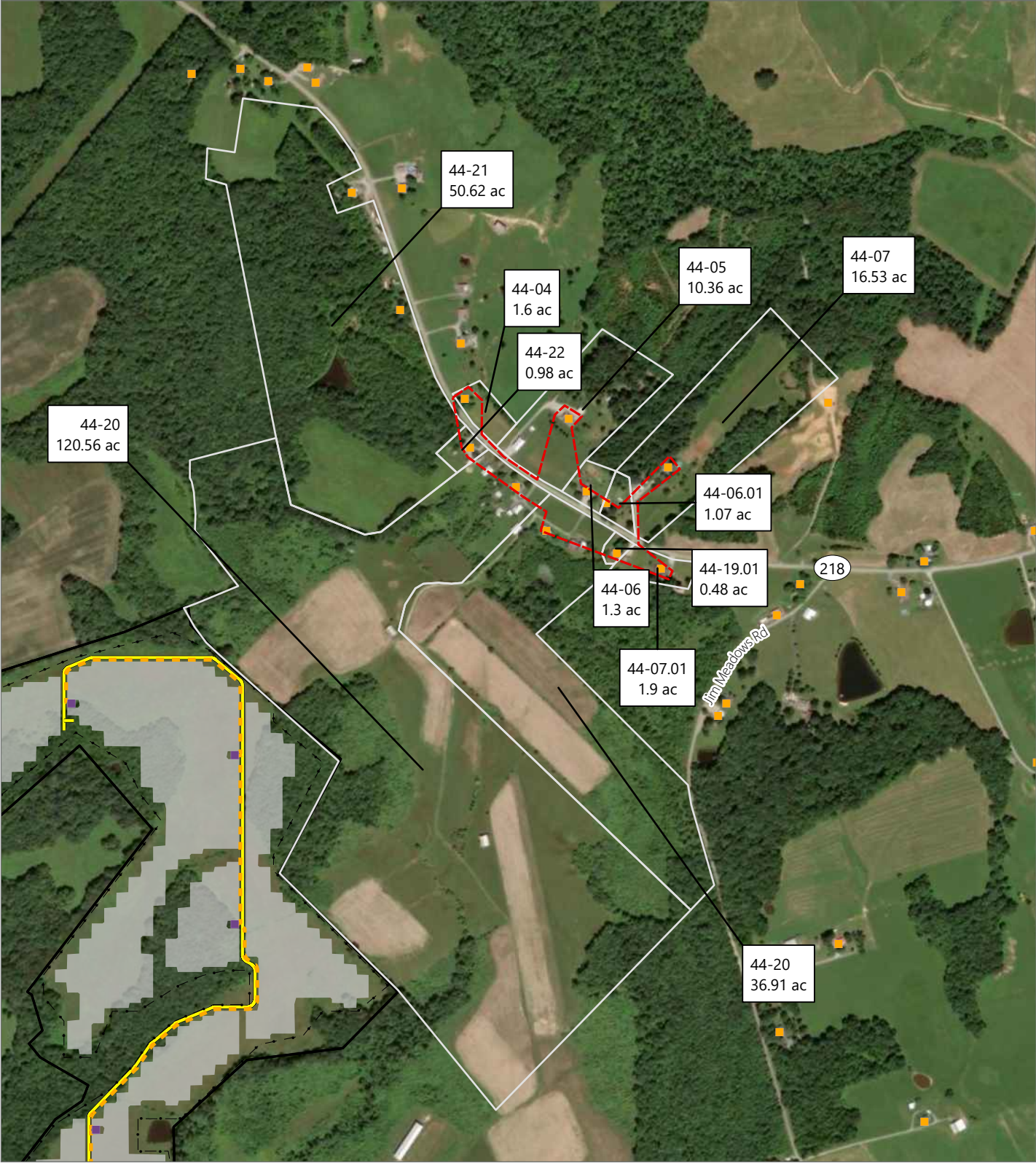
Refer to the October 14, 2025 Motion for Deviation. Provide a parcel map of the neighborhood SR 218 and the homes along Liletown Road. For each parcel provide the total acreage and whether the parcel has a residential structure on the land. If there is a structure on the parcel, explain the structure's design, historical use, and current condition.

Response:

See attached; see also Responses to Request Nos. 52 and 53. For the homes along Liletown Road, this was the initial Residential Neighborhood identified as "Liletown Road Neighborhood" in the Motion for Deviation that was ultimately excluded from the request for deviation because the nearest residential structure in the neighborhood was located at a greater distance than 2,000 feet from generating equipment.

Responding Witness: Tim Burgener

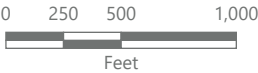
Residential Neighborhood SR 218 Parcels



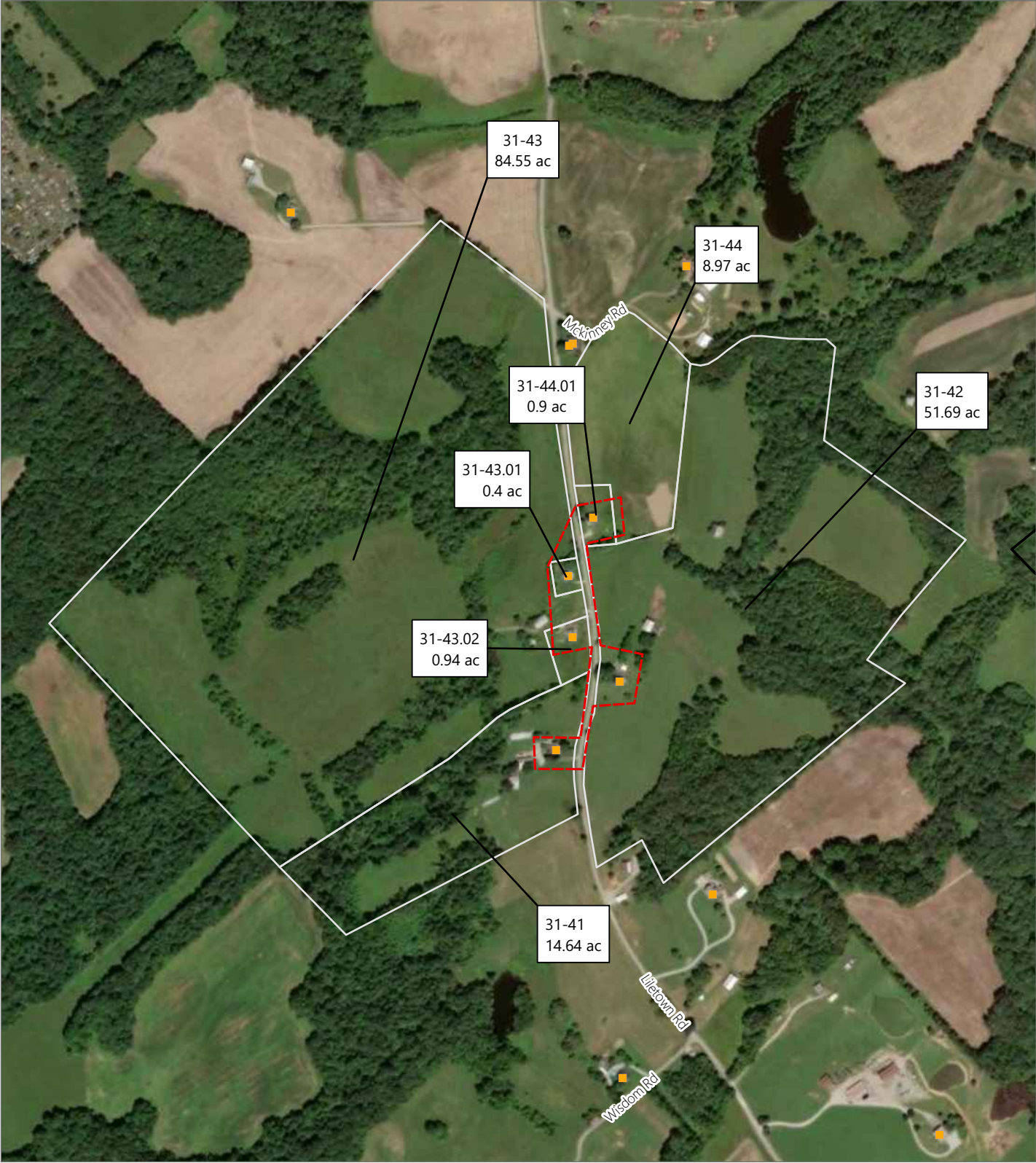
Exie Solar Project

Green County, Kentucky

- Residential Neighborhood
- Parcel
- Residential Structure**
 - Non-Participating
- Facility Layout**
 - Inverter
- Collection Line
- Fenceline
- Access Road
- PV Panel
- Inverter
- Project Area



Residential Neighborhood Liletown Rd Parcels



Exie Solar Project

Green County, Kentucky

 Residential Neighborhood

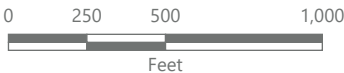
 Parcel

Residential Structure

■ Non-Participating

Facility Layout

 Project Area



Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 40:

Provide the distance of the setback that Exie Solar is requesting if the October 14, 2025 Motion for Deviation is granted.

Response:

As requested in the October 14, 2025 Motion for Deviation, Exie Solar is requesting a setback of 1,950 feet from the nearest residential structure in the SR 218 Neighborhood to generating equipment because the nearest residential structure is approximately 1950 feet from solar panels.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 41:

Provide the distance of the setback that Exie Solar would request if the Siting Board determined that the homes along Liletown Road are a residential neighborhood.

Response:

It is unclear which proposed cluster of homes along Liletown Road are to be considered in this Response. If the Board is referring to the "Liletown Road Neighborhood" which is referenced on Page 2, Footnote 1 in the Motion for Deviation, no setback deviation would be requested as the nearest residential structure in the Residential Neighborhood is more than 2,000 feet away from project components for generating equipment. If the Board disagrees with Exie Solar's assessment as to any other residential clusters along Liletown Road, the nearest Liletown Road residential cluster to project components is the residential cluster nearest to the proposed transmission line. The distances for this cluster of residential structures from certain aspects of the Project are identified in the table produced in Response to Request No. 54, and the requested setbacks from generating equipment would be the same as those in the Response No. 54 table if this cluster was identified as a Residential Neighborhood. If the Siting Board identifies any other clusters along Liletown Road as a Residential Neighborhood, Exie would request the setback be the shortest distance from the nearest residential structure to nearest project component, as shown in the preliminary site layout and the Response to Request No. 22 in Staff's First Request.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 42:

Refer to response to Staff's First Request, Item 100, a table was provided that detailed each parcel by landowner. Provide a detailed table for each of the parcels stating the distance measurement in feet (not in meters) from each structure to the items listed below:

- a. The distance to the boundary line.
- b. The distance to the closest solar panel.
- c. The distance to the nearest inverter.
- d. The distance to the substation.
- e. The distance to the BESS.

Response:

Refer to Response Nos. 100 and 101 to Staff's First Request. The distances in the table provided in response to the First Request, Item 101, were measured from the residential structure on each parcel listed in the response to Item 100.

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 43:

For the closest residence along Liletown Road, provide a table with distance to the following:

- a. Fencing.
- b. Closest Solar Panel.
- c. Closest Inverter.
- d. Substation.
- e. Battery Storage System.

Response:

The table below provides the distance between the requested Project components and the closest residence along Liletown Road to each component.

Receptor ID	PID	Nearest Fencing (Feet)	Nearest Solar Panel (Feet)	Nearest Inverter (Feet)	Nearest to Substation (Feet)	Nearest to Battery Storage System (Feet)
3	45-32	151	229	-	-	-
23	45-05.01	-	-	827	-	-
78	45-12.01	-	-	-	940	612

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 44:

Provide a table with the distances from the nearest nonparticipating residence (dwelling not property line) to the following:

- a. Fencing.
- b. Closest Solar Panel.
- c. Closest Inverter.
- d. Substation.
- e. Battery Storage System.

Response:

See table below.

Receptor ID	PID	Nearest Fencing (Feet)	Nearest Solar Panel (Feet)	Nearest Inverter (Feet)	Nearest to Substation (Feet)	Nearest to Battery Storage System (Feet)
12	45-09	122	-	585	-	-
3	45-32	-	229	-	-	-
78	45-12.01	-	-	-	940	612

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 45:

Of the 101 residential homes that may have a view of the project, provide the number that are participating landowners.

Response:

Please refer to Response No. 7 above. Eight of the 98 residences that may have a view of the Project are owned by participating landowners.

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 46:

Provide a parcel map of the proposed site. Include all residences within 500 feet of the proposed project site. Identify the residences as participating or nonparticipating homes.

Response:

See attached map.

Responding Witness: Tim Burgener

Project Site Parcels



Exie Solar Project

Green County, Kentucky

- Non-Participating Residence
- Participating Residence
- Parcel Boundary
- Project Area
- 500-Foot Study Area



0 500 1,000 2,000
Feet

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 47:

Explain how the debris from vegetation clearing is going to be disposed.

Response:

Project representatives will chip and mulch the cleared material onsite; it may also be removed from the site and disposed of if necessary.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 48:

Explain whether screening will be added along Liletown Rd where the substation and BESS facility will be located. If there will be additional screening, update the vegetative screening plan to reflect these changes.

Response:

Proposed vegetative screening has been added along Liletown Road where the substation and BESS facility will be located. See the updated visual mitigation report provided in the Response to Request No. 29.

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 49:

Provide the service times for Liletown United Methodist Church.

Response:

Church services are held on Sundays at 11:00 a.m. Central Time.

Responding Witness: Noura Hennen

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 50:

Provide the subsequent notice mailed to the homeowners on Liletown Road regarding the classification change related to residential neighborhood.

Response:

There was no classification change made regarding the determination of a residential neighborhood. See Motion for Deviation, filed October 14, 2025. No mailing was provided. However, even if there had been a change in classification, no subsequent notice is required.

Responding Witness: Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 51:

Of the residential homes that may have a view of the project, provide the number that are participating landowners.

Response:

See Response to Request No. 45 above.

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 52:

Refer to the October 14, 2025 Motion for Deviation. Provide a parcel map for the residential neighborhood designated as SR 218. For each parcel provide the total acreage and whether the parcel has a residential structure on the land. If there is a structure on the parcel explain the structure's design, historical use, and current condition.

Response:

Refer to the parcel map for the SR 218 residential neighborhood attached to Response No. 39 and the table below.

PID	Acreage	Structure	Year Built	Condition	Historical
44-07.01	1.90	Residence	1970	Good	Residential
44-07	16.53	Residence	1970	Good, Likely Occupied	Residential
44-19.01	0.48	Residence	1950	Good, Likely Occupied	Residential
44-06.01	1.07	Residence	1978	Good, Likely Occupied	Residential
44-06	1.30	Residence	1980	Good, Likely Occupied	Residential
44-20	36.91	Residence	1973	Fair	Accessory Building
44-20	120.56	Residence	1973	Good, Likely Occupied	Residential, Accessory Building
44-05	10.35	Residence	2006	Good, Likely Occupied	Residential, Accessory Building
44-22	0.98	Residence	1935	Good, Likely Occupied	Residential
44-04	1.60	Residence	1948	Fair, Likely Not Occupied	Residential
44-21	50.6198	Residence	1935	Fair, Likely Not Occupied	Warehouse, storage

Responding Witness: Tim Burgener; Courtney Whitworth (Condition)

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 53:

Refer to the October 14, 2025 Motion for Deviation. Include on the map the neighborhood along Liletown Road discussed in Exie Solar's October 14, 2025 Motion for Deviation. For each parcel provide the total acreage and whether the parcel has a residential structure on the land. If there is a structure on the parcel explain the structure's design, historical use, and current condition.

Response:

Refer to the parcel map of the Liletown Road residential neighborhood attached to Response No. 39 and the table below.

PID	Acreage	Structure	Year Built	Current Condition	Historical
31-43	84.5548	N/A	N/A	Fair	Barns, Accessory Buildings
31-42	51.6877	Residence	1959	Good, Likely Occupied	Residential, Accessory Buildings
31-41	14.6402	Residence	1949	Good, Likely Occupied	Residential, Accessory Buildings
31-44.01	0.8983	Residence	1950	Good, Likely Occupied	Residential
31-43.01	0.4000	Residence	1950	Good, Likely Occupied	Residential
31-43.02	0.9415	Residence	Unknown	Fair, Likely Occupied	Residential
31-44	8.9684	N/A	N/A	Unoccupied	Agricultural

Responding Witness: Tim Burgener, Courtney Whitworth

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 54:

Provide a detailed table for each of the parcels in the response to Item 24 of this request stating the distance measurement in feet (not meters) from each structure to the items listed below:

- a. The distance to the boundary line.
- b. The distance to the closest solar panel.
- c. The distance to the nearest inverter.
- d. The distance to the substation.
- e. The distance to the BESS.

Response:

See the below table:

Receptor ID	PID	Participation Status	Boundary (Feet)	Solar Panel (Feet)	Inverter (Feet)	Substation (Feet)	BESS (Feet)
79	45-04.01_.02	Participating	0	236	960	1,410	836
37	45-05	Non-Participating	110	277	898	2,235	1,654
23	45-05.01	Non-Participating	99	293	827	1,876	1,296
68	45-11.01	Non-Participating	45	237	985	2,432	1,853
78	45-12.01	Non-Participating	31	233	1,085	940	612

Responding Witness: Tim Burgener

Exie Solar, LLC
Responses to Siting Board Staff's Second Request for Information
Case No. 2025-00151

Request No. 55:

Provide the entities with a direct ownership interest in Exie Solar. Include in the response the corporate structure of those entities.

Response:

Please see Response and Attachment to Response No. 25 of Staff's First Request for Information. Geronimo Power, LLC (f/k/a National Grid Renewables, LLC) is the direct owner of Exie Solar, LLC.

Responding Witness: Courtney Whitworth