CONDITIONAL USE PERMIT APPLICATION SUPPLEMENT

Heart Pine Solar
Marion County, GA

Prepared for:
Marion County Planning Commission
and
Marion County Board of Commissioners

February 16, 2024

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Figures

Appendices

1 Project & Application Summary

Heart Pine Solar, LLC, a subsidiary of AES Clean Energy Development, LLC (the "**Applicant**"), hereby supplements its Application for a Conditional Use Permit (CUP) (the "**Application**")[1] to construct, operate, and maintain the Heart Pine Solar Project, a proposed 150-megawatt (MW), alternating current (AC), photovoltaic (PV), utility-scale solar energy facility (the "**Project**") in unincorporated Marion County, Georgia.

The Project will be sited over approximately 1,391 acres of privately-owned property spanning fifteen (15) tax parcels that Applicant has under lease and/or easement (the "**Property**").[2] The Applicant has partnered with four landowners who collectively own the Property (see the owner and parcel summary- ***Appendix A)*** which will host the Project's infrastructure. The Project is located approximately one mile west of the Tazewell community located within the County's Agricultural zoned district. The Project is located south of Walter Wells Road, west of Hartage Ford Road, east and west of Harbuck Pond Road, and east and west of Morgan Ford Road which are shown on **Figure *2* (*Site Map*)**. The Property is zoned Agricultural pursuant to the County's zoning map, located within the "Rural" character area, and is an "other agricultural-related, religious, utility, institutional or governmental use", permitted as a conditional use within the Agricultural District (see Appendix B, Article XI, Section 11.03(G) of the Marion County Code of Ordinances, such Appendix B being the "***Zoning Ordinance***"). Accordingly, Applicant has filed the Application.

If the CUP is approved, the Project will interconnect to Georgia Power's transmission system at an existing transmission line (North Americus – Talbot County # 2, 230kv) via the proposed switchyard the location of which is shown on Applicant's **Conceptual Site Plan *(Figure 5)***.

The Applicant submits the Application and this Supplement in compliance with the Zoning Ordinance requirements and the Application, including this Supplement meets all requirements and standards set forth for the Board of Commissioners' consideration and approval.

1.1 Conditional Use Findings of Facts (Section 4.14, Marion County Zoning Ordinance)

Section 4.14(b) of the Zoning Ordinance sets forth five standards that the County shall review and which an Applicant shall meet to receive a grant of approval of a conditional use. These standards are set forth below together with Applicant's analysis of each for the County's consideration. Because this analysis and all supporting materials the Applicant has and is submitting reflects that each of the five standards have been met, the County should grant approval of the Application.[3]

[1] The Application, as being supplemented now, is reproduced in its entirety in Appendix A.
[2] The metes and bounds legal description of the Property are collectively in Appendix C.
[3] Please be advised that Owners and Applicant have constitutional objections to any action by the County that does not result in the approval of the Application (without conditions attached that are not approved by Owners and Applicant) and the issuance of the requested CUP for a solar energy facility as a utility use on the property including that such action would: (i) be an arbitrary and unreasonable use of the County's zoning and police powers; (ii) deprive Owners of their right and ability to use their property in accordance with its highest and best use; (iii) result in an unconstitutional taking of property rights; (iv) discriminate between Owners and other owners of similarly situated property in an arbitrary, capricious, unreasonable and unconstitutional manner; and (v) violate Owners' and Applicant's rights to substantive and procedural due process as guaranteed by the Georgia and United States Constitutions. We are confident that the County will consider and act upon the Application in a constitutional manner and raise these concerns out of an abundance of caution and without waiver of Applicant's and Owners' constitutional rights.

1. **The approval will not be detrimental to the health, safety, and general welfare of the county.**

The Zoning Ordinance allows for a utility as a conditional use in only the AG zoning district, reflecting a pre-determination of a limited area of the County in which a solar facility could be located - a limitation that serves to protect the health, safety, and general welfare of the County. Based on the evaluation of Georgia's natural, historical, and environmental resources, it has been determined that the Project will not have any significant adverse impact on these resources. This has been ensured through proper siting and due diligence to identify and minimize potential impacts during the design phase of the Project. This is supported by the Georgia Low Impact Solar Siting Tool (GA LISST) located in ***Appendix D (Environmental Impact Analysis Report)***, which was developed by the Georgia Department of Natural Resources, The Nature Conservancy, and the US Fish and Wildlife Service to quantify areas that may be preferred for low impact solar development. The Project will implement best management practices during construction and operations to further minimize impacts. This due diligence effort helps ensure that approval of the requested conditional use will not be detrimental to the health, safety, and general welfare of the county. Additional information regarding preservation of county health and welfare is included in ***Appendix D (Environmental Impact Analysis Report)*** of this application.

Initial planning for this Project commenced approximately 2 years ago, with initial diligence and analysis being to ensure compliance with County, state and federal guidelines using best management practices (BMPs) through design, construction, operating and ultimately decommissioning to ensure that the Project will not be detrimental to the health, safety and general welfare of the County. The Project, if approved, will provide energy sufficient to support approximately 30,000 households, and meet a state-wide need for energy production. Additional information regarding county welfare is included in ***Appendix B (Economic & Fiscal Impact Assessment)*** of the Application.

Additionally, the Project will have a significant economic benefit to Marion County as further described in **Section 6**.

2. **The proposed use shall not be detrimental to the use or development of adjacent properties or the general neighborhood, nor affect adversely the health and safety of residents and workers.**

The GA LISST indicates that the properties intended to be used for the Project are preferred for low impact solar development. The Project is sited in an optimal location for solar development compared to other locations. Adjacent properties are undeveloped wooded land, agricultural use land, rural residential use, and silviculture. Additionally, the Project's solar generating equipment will be enclosed by security fencing. The Project will meet or exceed all setbacks established by the County, and Applicant will incorporate these into its Project design. These design protections ensure reduction of any effect on neighboring property owners.

Instead of being a detriment, this Project will put agricultural land to an alternative land use which will benefit neighbors by ensuring the properties are not otherwise developed with a higher intensity use. Additional information regarding the proposed use not being detrimental to the use or development of adjacent properties or the general neighborhood, nor adversely affecting the health and safety of residents and workers is included in ***Section 5*** and ***Appendix D (Environmental Impact Analysis Report)*** of this Supplement.

3. **The proposed use shall not constitute a nuisance or hazard because of the number of persons who will attend or use such facility, vehicular movement noise or fume generation or type of physical activity.**

A solar energy facility is a generally passive use, that does not constitute a nuisance or hazard for any reason - attendance, use, noise, fume or physical activity or otherwise. There will be a temporary increase in noise and traffic associated with the construction phase of the Project. Project construction traffic will be mitigated through the implementation of an internal construction traffic management plan. Access to the Project will be via established curb cuts, which are sufficient for the minimal construction traffic generated by the Project. Once the Project is operational, the number of people who will visit the facility is limited to approximately two full-time employees to conduct regular daily checks and standard maintenance of the Project. Attendance and vehicular movement noise is exceptionally limited and considered negligible post-construction. Additional information regarding avoidance, minimization, and mitigation of potential nuisances and hazards is provided in ***Section 5*** of this Supplement.

4. **The proposed use shall not be affected adversely by the existing uses, and the proposed use will be placed on a lot of sufficient size to satisfy the space requirements of said use.**

The Project will not be affected adversely by the existing uses, and the proposed use will be placed on a lot of sufficient size to satisfy the space requirements of the said use. The Applicant has land agreements in place with the landowners whose property will house the solar facility to account for existing uses throughout design, construction, operation and decommissioning of the proposed Project. The Project's design utilizes setbacks that are compliant with Zoning Ordinance, and the Project will meet the vegetative buffering and screening requirements of the Zoning Ordinance to promote integration with the existing uses in the area. Additional information regarding Project proposed use and lot size are provided in ***Section 3*** and ***Figures 1-5*** of this Supplement.

5. **Parking and all development standards set forth for each particular use for which a permit may be granted have been met.**

As described above, the utility use of a solar facility simply is a passive use; post-construction of the Project. Any parking spaces for the operations and maintenance building would be in accordance with the Marion County ordinance and development standards. The Applicant looks forward to working with the County to ensure that all development standards are met or exceeded. Additional details on the proposed Project area and adjacent roads are provided in ***Section 2***. Additional information regarding Project development standards is provided in ***Section 3***, ***Section 4***, and ***Section 5*** of this application.

1.2 Project Need & Necessity

The approved Georgia Power 2022 Integrated Resource Plan (IRP) covers Renewable Expansion in Georgia Power's service area and reflects a capacity need in 2029. The IRP also states in Section 11.9 that the capacity need grows sizably into 2030-31 due to expiring Power Purchase Agreements (PPAs) and expected retirement of current energy producing facilities. Section 14.1 of the referenced IRP covers New Renewable Resources and identified locational reliability and resiliency challenges associated with future retirement of coal facilities.

The Project is an opportunity for Marion County to help address Georgia's need for new electricity generation and provide a diverse, reliable, and clean source of electricity for citizens within the county and across the state. Approval of the Application to meet this State-wide need supports a finding under Section 4.14(b)(1) that the Project will be beneficial, not detrimental to the health, safety and welfare of the County.

2 Proposed Project Area

The Project is located south of Walter Wells Road, west of Hartage Ford Road, east and west of Harbuck Pond Road, and east and west of Morgan Ford Road, in the unincorporated eastern portion of Marion County, Georgia, in the Agriculture Zoning District and approximately one-mile due west of the Tazewell community. ***Figure 1*** depicts the regional Project location within the state, ***Figure 2*** shows the local Project location within a more focused geographical area, and ***Figure 3*** depicts the Project location with an aerial photography base map. ***Figure 5*** is a conceptual site layout of the proposed Project facilities. The parcels included in the Project have frontage on the roads referenced in the Table included in ***Appendix A.*** The County Assessor's parcel numbers for the tracts of land that will be hosting the Project's referenced in the Table included in ***Appendix A.*** Legal descriptions of parcels in ***Table 2*** for the proposed Project are included in ***Appendix C (Property Legal Descriptions)***.

The Project site is 1,391 acres in total area before consideration of siting restrictions, with the actual Project fenced footprint being approximately 757 acres. Two parcels, 56-16A and 56-13, are only proposed to be used as easements for access and underground electric cables, and therefore, their acreage is not included in the total Project site acreage. The total Project fenced footprint would occupy approximately 54.40 percent of the total Project boundary. The acreages are based on the deeds, legal descriptions and 5% design completed in December 2023 which may be modified when the final design constraints are determined.

The properties that will host the Project's infrastructure have historically been used for agriculture. The area surrounding the Project site consists of pastures, livestock, row crops, silviculture, residential properties, and undeveloped forested land. The Project will not impact neighboring land uses in the area and supports a finding by the County that the standard set forth in Section 4.14(b)(2) (as described above), has been met.

3 Project Design

Project construction is anticipated to start as soon as 2026 or 2027 and last approximately 12 to 18 months, enabling the Project to reach commercial operation in 2028 or 2029. The Project is expected to be in operation for at least 30 years.

3.1 Project Design

The proposed Project will be a ground mounted solar energy system comprised of solar PV modules, a racking system, inverters, and underground electrical conduits connecting PV array blocks with inverters to a project substation and interconnection switchyard, and a small operations and maintenance building. Access roads with gated entrances will be located throughout the site for access and maintenance of

equipment during construction and operation of the site. A series of internal access roads will be used to provide access to facility equipment for future maintenance.

The Project is currently in the conceptual design phase and the conceptual site plan is included as ***Figure 5.*** The Project's layout will be finalized after field surveys are completed and in coordination with County, state, and federal agencies. Once finalized, Project plans will be submitted to the county. The current solar panel array layout, while conceptual and subject to adjustment as a result of field conditions, correctly reflects system size, general location, and Applicant's commitments to, among others noted, maintain CUP-approved perimeter buffers, avoid wetlands, minimize wetland impacts to the extent practicable.

The proposed Project's design utilizes setbacks that are compliant with Marion County zoning ordinances. There will be continuous fencing no less than seven feet in height installed around the perimeter of the entire solar arrays to prevent the public or unauthorized members from exposure to electrical hazards and equipment. The proposed Project includes wildlife corridors ***(Figure 5)*** and wildlife friendly strategies to allow access to onsite resources.

3.2 Vegetative Buffer & Screening Plan

Vegetative buffering will include existing vegetation and, where the existing vegetation is insufficient, additional vegetation will be planted to minimize the visibility from neighboring properties. The Project design shall abide by all setbacks established within the Zoning Ordinance and/or agreed upon by the Applicant and the County during the CUP process.

The Project area shall be enclosed by security fencing not less than seven feet in height and installed on the interior of the vegetative buffer and maintained throughout the life of the Project. The vegetative buffer will be 10 feet deep along the perimeter of developed Project parcels. The vegetative buffer will utilize existing vegetation where adequate to attain the 10-foot depth. Where existing vegetation is not adequate to attain the 10-foot depth, supplemental vegetation will be planted. Vegetation will only be supplemented in upland areas and no supplemental vegetation will be planted within 50 feet of Waters of the United States. Fencing and landscaping will be monitored, maintained, and fixed as needed.

The buffer will consist of a mixture of non-invasive plant species, pollinator-friendly and wildlife-friendly native plants, shrubs, trees grasses, forbs, wildflowers. All cleared areas on the interior of the Project will be stabilized with vegetation. Vegetative stabilization of the site will help prevent erosion and sediment transport as well as create habitat for small mammals and ground nesting birds. The Applicant will submit a landscaping plan for review and approval by the County Zoning Administrator in conjunction with the Building Permit application after the final Project design has been developed. The landscaping plan will specify vegetative buffer density, approved supplemental vegetative species, and requisite plant height of supplemental vegetation.

4 Natural & Cultural Resources Due Diligence

The following natural and cultural resource studies have been completed to date for the proposed site:

- Phase I Environmental Assessment
- Wetland Desktop Evaluation
- Wetland Delineation
- Threatened & Endangered Species (T&ES) Desktop Evaluation
- T&ES Habitat Suitability Survey
- Cultural Phase IA Survey

Prior to final design, any proposed impacts to natural or cultural resources will be coordinated, approved, and permitted through the appropriate regulatory agency. Natural and cultural resource studies are included in ***Appendix D (Environmental Impact Analysis Report)***.

5 Impact on Neighbors & General Public

The Project is designed to minimize impact on neighboring properties (Figure 5) and the general public. Solar panels will be set back from property lines, and vegetative buffers will be used to screen the view of the solar facility.

During construction, there will be a temporary increase in vehicular traffic and noise associated with construction activities at the Project site. The Applicant will follow all Georgia Department of Transportation (GDOT) and Marion County procedures for site entrance approval and nearby roadway traffic safety/mitigation during construction. The Applicant will work with GDOT on a Transportation and Construction Plan. All points of ingress and egress will adhere to the Marion County Code of Ordinances and will be designed in compliance with GDOT regulations. A Project email address will be provided to adjacent landowners to maintain communication with the local community regarding any issues associated with construction, as necessary.

Once operational, solar is a low-impact land use with minimal to no impact on the County's resources. Other forms of developments require additional services such as roads, utilities, schools, and law enforcement. The proposed Project will not place any material burden on the County's resources. The Project will not use any public water or sewer systems. The operational Project will be passive, avoiding and minimizing impacts on neighbors and the general public to the greatest extent practicable through the use of design, buffers, and BMPs. During operations, sound from this Project will not exceed the County noise requirements. At night, there will be no audible noise at the property line emanating from the solar facility components. The inverters produce a low-level humming only during daylight hours when the system is generating energy. This noise level has been described as roughly equivalent to that of a dishwasher. It is common practice to position inverters a substantial distance from the perimeter of the Property line to contain their minimal noise within the Project boundary.

The Applicant is committed to protecting receiving waters (e.g., streams and wetlands) and downstream properties from discharges of stormwater during and after construction that could pose water quality degradation and/or flooding risks in compliance with Georgia Environmental Protection Division (GA EPD) permit requirements.

6 Economic Impact

During the construction phase, the Project is expected to employ around 288 full-time equivalent workers, providing a one-time economic boost to the county, including 38 direct, indirect, and induced job years from the county, $1.7 million in wages and benefits, and $7.2 million in economic output. In its ongoing operational phase, the Project is anticipated to support approximately seven jobs, including a minimum of two full-time jobs on-site, with associated wages and benefits totaling $0.4 million and contributing $1.5 million in economic output. The Project is forecasted to generate significant fiscal contributions, with an estimated $18.1 million in cumulative local revenue over its 35-year operational life, surpassing the current use of the property by a substantial 72-fold increase. Over the same period, it is projected to generate approximately $5.3 million in cumulative Marion County tax revenue, $11.4 million in cumulative Marion School District M&O tax revenue, and $1.3 million in cumulative Marion County School bond revenue. On average, the Project is expected to contribute around $151,100 annually in Marion County M&O tax revenue and $326,700 annually in Marion County School District tax revenue, demonstrating a noteworthy financial impact on the county and its local school district. These figures provide valuable context, as the annual property tax revenue from the Project represents a significant portion of Marion County's general government fund and school district expenditures. The complete Heart Pine Solar economic assessment is located in ***Appendix B (Economic & Fiscal Impact Assessment)***.

7 Site Decommissioning

The proposed utility scale solar energy producing system is expected to be capable of operation for a minimum of thirty years, with decommissioning at a time to be agreed upon by the Applicant and the landowners leasing the land to the system owner. At the end of the Project's life, the system owner shall complete a list of activities to decommission the system.

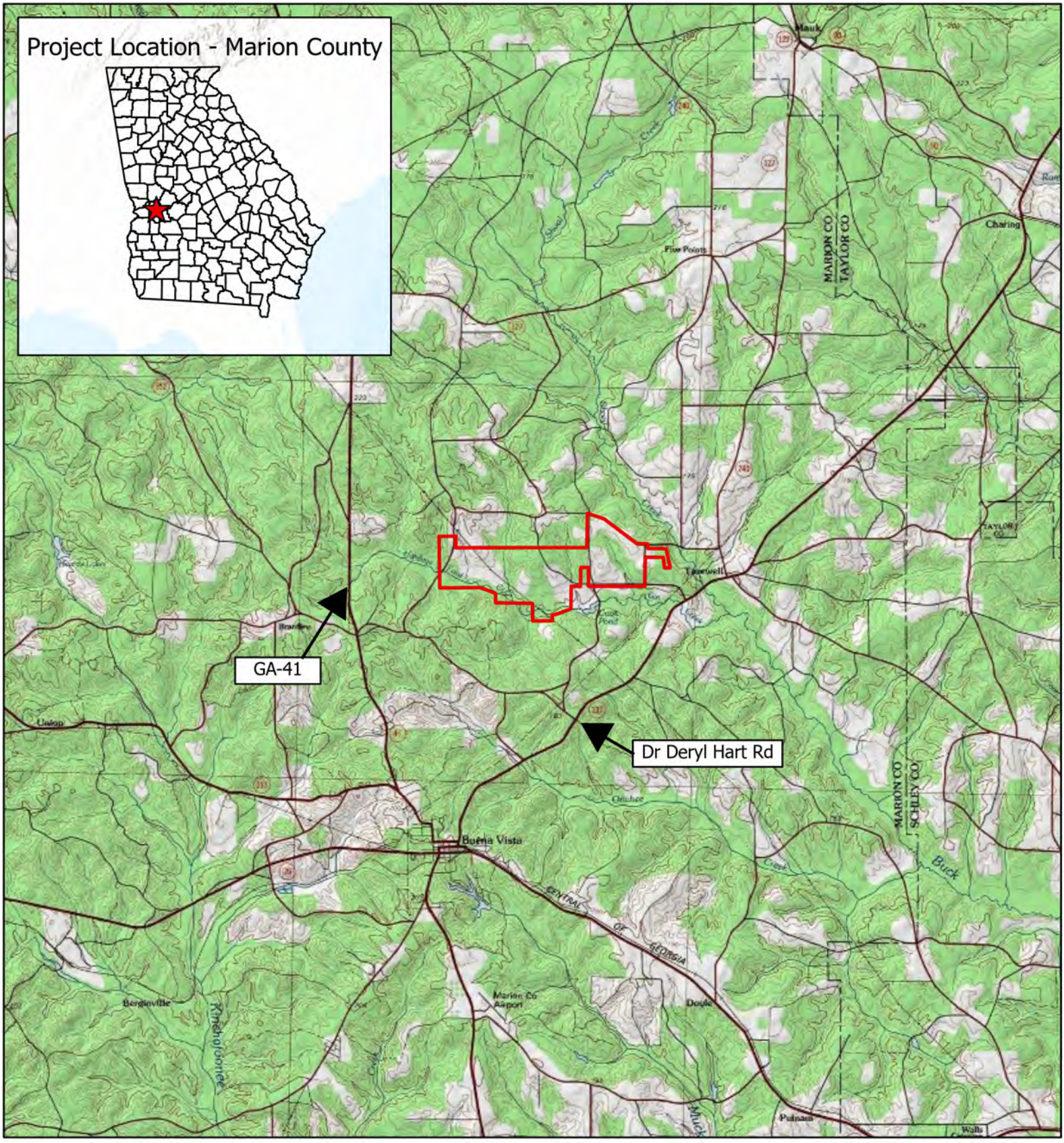
Decommissioning activities will be based on current procedures and experience, which will likely improve in the coming years as technology, construction processes and recycling infrastructures improve. Decommissioning activities standardly consist of the physical removal of all solar energy system structures and equipment from the site, disposal of all waste in accordance with local, state, and federal disposal regulations, and stabilization/re-vegetation of the site. Decommissioning plans are designed to outline specific activities and how they are to be carried out according to applicable regulations and industry best management practices, after obtaining any necessary permits for the decommissioning. Decommissioning Plans standardly include assurances that financial resources will be available to fully decommission the site to the agreed upon standard. A Conceptual Decommissioning Plan is located in ***Appendix E (Conceptual Decommissioning Plan)***. The Conceptual Decommissioning Plan is purely conceptual and is solely for illustrative purposes.

The Applicant will submit a final Decommissioning and Reclamation Plan for review and approval by the County Zoning Administrator in conjunction with the Building Permit application after the final Project design has been developed. Applicant shall include in its final Decommissioning and Reclamation Plan, a requirement to obtain and deliver to the County a bond, letter of credit or other similar financial assurance security to meet the Applicant's obligation to decommission and remove the Project from the Property (the "***Removal Bond***"). The Removal Bond shall be provided at the earlier of (i) any requirement in applicable state or federal law or (ii) one year following the commencement of commercial operations

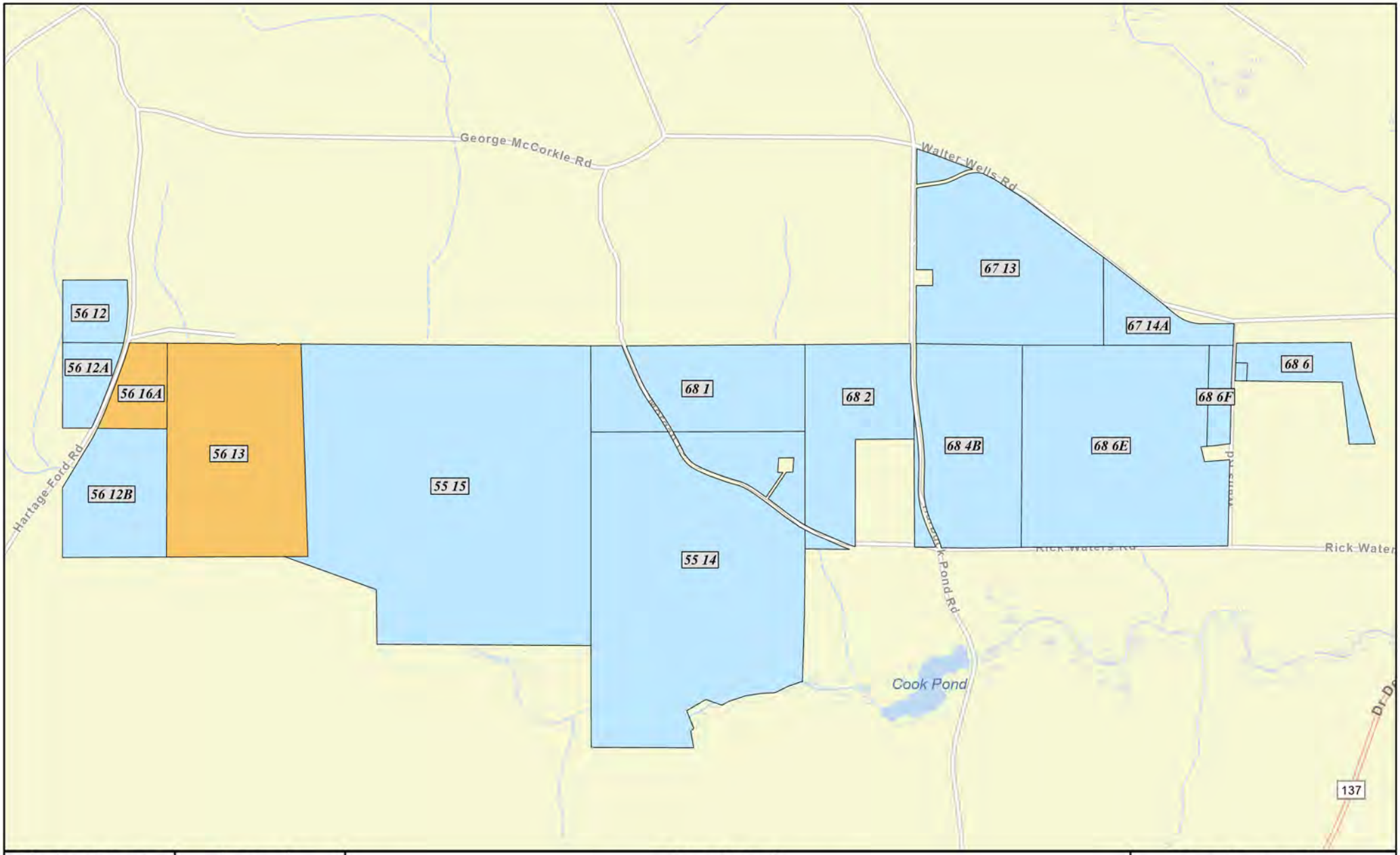
of the Project. The amount of such Removal Bond shall be equal to the estimated amount, if any, by which the costs of decommissioning or removal exceeds the net of salvage value of the Project, as estimated by a Georgia licensed engineer. Such final Decommissioning and Reclamation Plan shall include a requirement that every five (5) years thereafter, Applicant shall reevaluate the need for the Removal Bond and, if appropriate, provide a replacement therefore with the County.

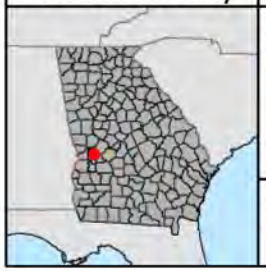
8 Conclusion

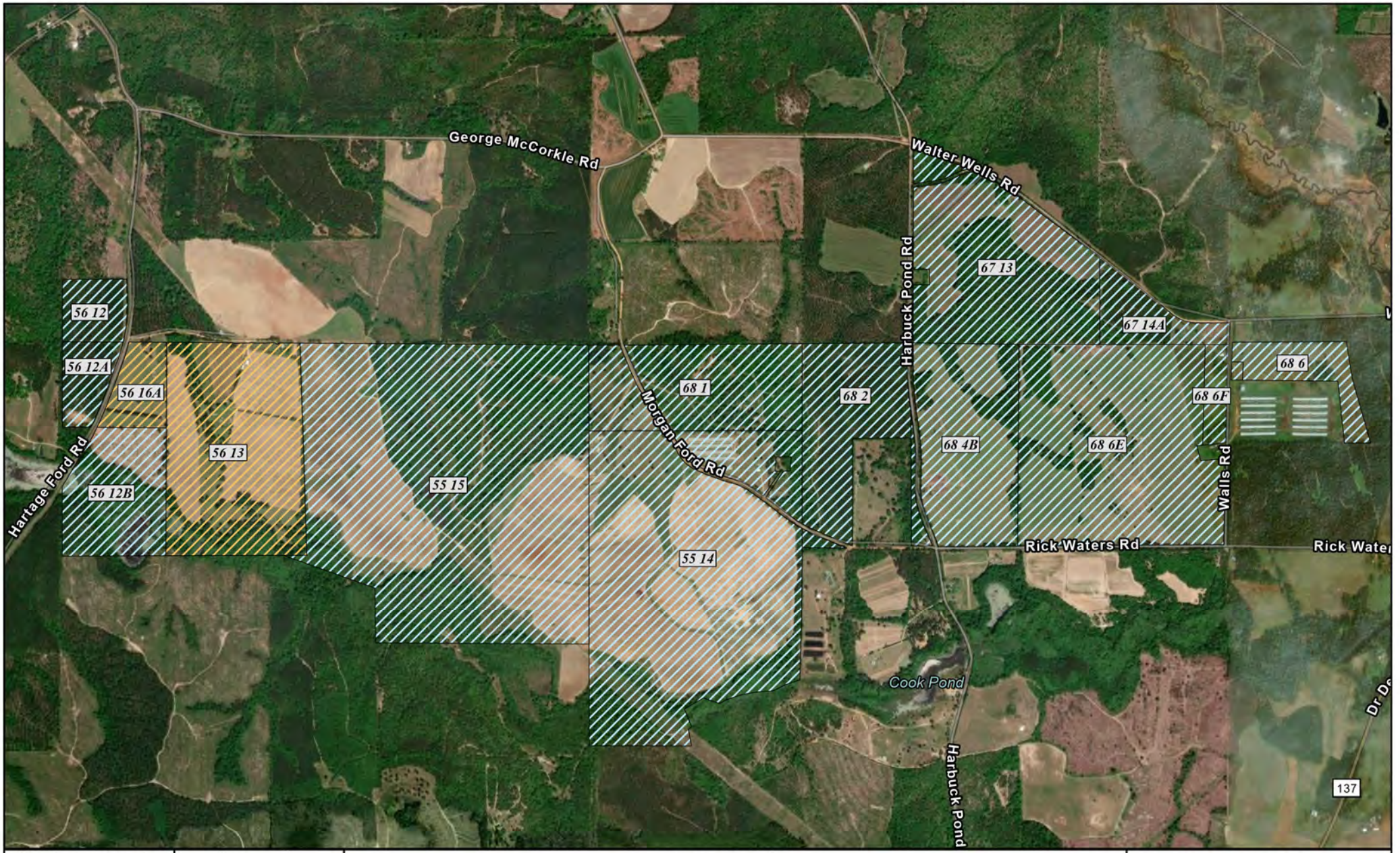
The Applicant has submitted the complete Application, as supplemented herein, in compliance with the Zoning Ordinance. Applicant respectfully requests approval of the Application by the Marion County Board of Commissioners. The Applicant will be happy to provide any additional supplementary information and address any inquiries that may arise from the Marion County Zoning Department, the Planning Commission, or Board of Commissioners and stakeholders.

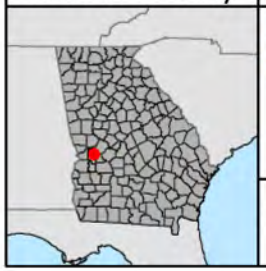


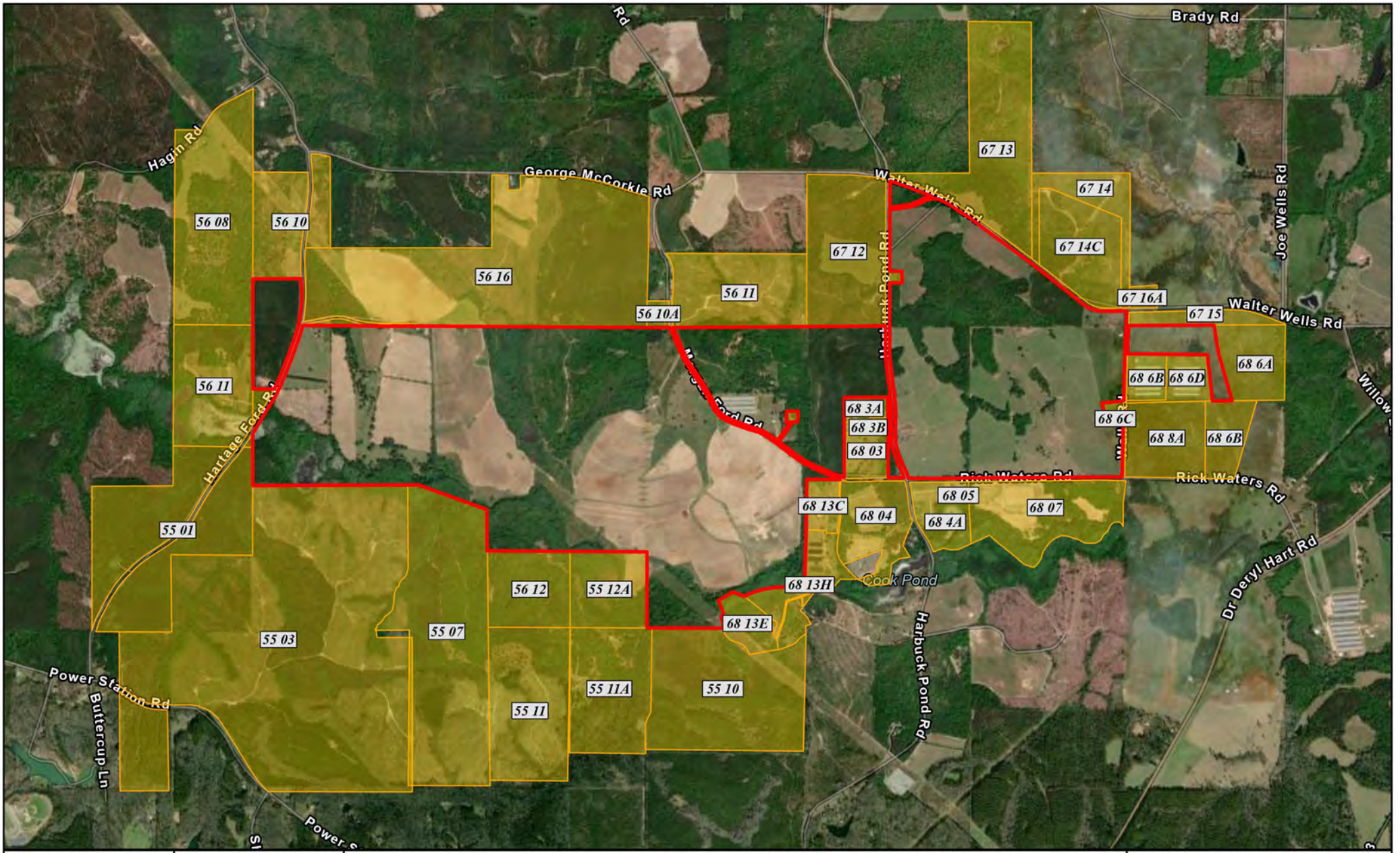
Legend	Map Details		Map Description
General Project Location	N	**General Location Map (Topo)** Heart Pine Solar AES Clean Energy Marion County, Georgia	Author: EH Date: 01/23/2024 Version: 1.0 Type: Figure 1
Basemap: USGS Topographic	0 10,000 20,000 40,000 Feet		aes

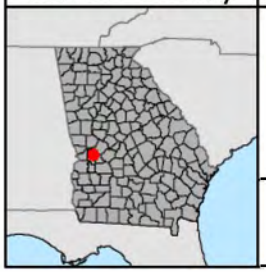


Marion County	Legend	Map Details	Map Description
	Solar Project Area Easement Parcels	N **Site Map (Roadway)** Heart Pine Solar AES Clean Energy Marion County, Georgia	Author: EH Date: 01/23/2024 Version: 1.0 Type: Figure 2
	Basemap: World Street Map	0 2,500 5,000 10,000 Feet	aes



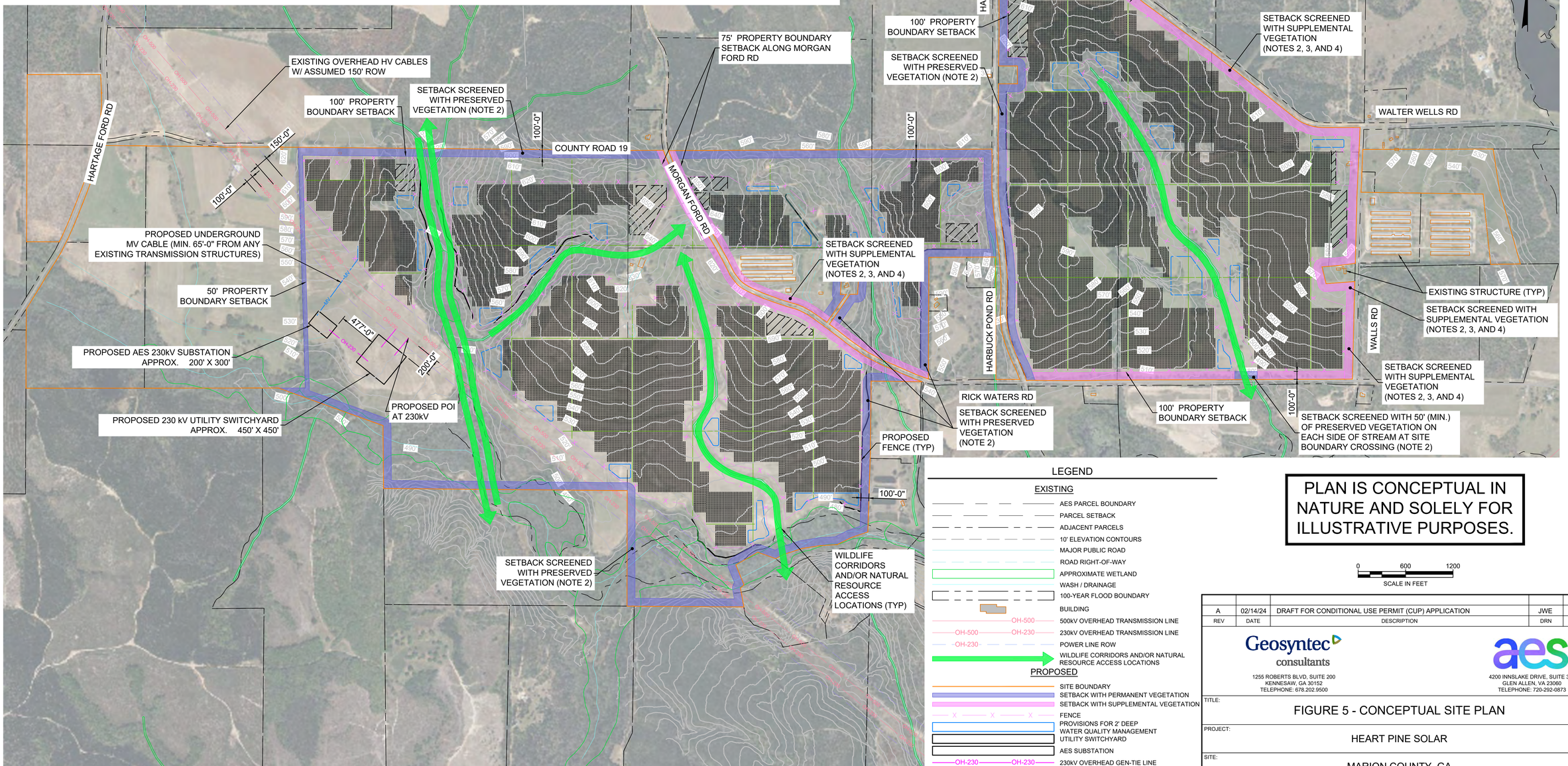
Marion County	Legend	Map Details	Map Description
	Solar Project Area Easement Parcels	N **Site Map (Aerial)** Heart Pine Solar AES Clean Energy Marion County, Georgia	Author: EH Date: 01/23/2024 Version: 1.0 Type: Figure 3
	Basemap: World Imagery (2019)	0 2,500 5,000 10,000 Feet	aes



Marion County	Legend	Map Details	Map Description
	Project Boundary Adjacent Parcels	N **Adjacent Parcels Map** Heart Pine Solar AES Clean Energy Marion County, Georgia	Author: EH Date: 02/13/2024 Version: 1.0 Type: Figure 4
	Basemap: World Imagery (2019)	0 3,500 7,000 14,000 Feet	aes

GENERAL NOTES:

1. CONCEPTUAL SITE PLAN IS IN THE EARLY STAGES OF DEVELOPMENT AND WILL BE ADVANCED AS PART OF THE FINAL DESIGN.
2. SITE WILL HAVE A UNIFORM 10-FOOT (MINIMUM) VEGETATIVE BUFFER/SCREENING WIDTH ALONG PROJECT PERIMETER.
3. VEGETATIVE BUFFER/SCREENING WILL UTILIZE EXISTING VEGETATION. WHERE EXISTING VEGETATION IS NOT ADEQUATE, ADDITIONAL VEGETATION WILL BE SUPPLEMENTED.
4. TYPE AND PLANT HEIGHT OF SUPPLEMENTAL VEGETATION SHALL BE IN ACCORDANCE WITH MARION COUNTY CODE OF ORDINANCES AND ZONING ADMINISTRATOR DIRECTION.



1/1 PLAN
CONCEPTUAL SITE PLAN
SCALE: 1" = 500'

LEGEND

EXISTING

- AES PARCEL BOUNDARY
- PARCEL SETBACK
- ADJACENT PARCELS
- 10' ELEVATION CONTOURS
- MAJOR PUBLIC ROAD
- ROAD RIGHT-OF-WAY
- APPROXIMATE WETLAND
- WASH / DRAINAGE
- 100-YEAR FLOOD BOUNDARY
- BUILDING
- OH-500 — 500kV OVERHEAD TRANSMISSION LINE
- OH-500 OH-230 — 230kV OVERHEAD TRANSMISSION LINE
- OH-230 — POWER LINE ROW
- WILDLIFE CORRIDORS AND/OR NATURAL RESOURCE ACCESS LOCATIONS

PROPOSED

- SITE BOUNDARY
- SETBACK WITH PERMANENT VEGETATION
- SETBACK WITH SUPPLEMENTAL VEGETATION
- FENCE
- PROVISIONS FOR 2' DEEP WATER QUALITY MANAGEMENT
- UTILITY SWITCHYARD
- AES SUBSTATION
- OH-230 OH-230 — 230kV OVERHEAD GEN-TIE LINE
- LAYDOWN AREA
- MV MV MV — UG MV FEEDER
- PV PANELS

PLAN IS CONCEPTUAL IN NATURE AND SOLELY FOR ILLUSTRATIVE PURPOSES.

0 600 1200
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
A	02/14/24	DRAFT FOR CONDITIONAL USE PERMIT (CUP) APPLICATION	JWE	BB

Geosyntec consultants
1255 ROBERTS BLVD, SUITE 200
KENNESAW, GA 30152
TELEPHONE: 678.202.9500

aes
4200 INNSLAKE DRIVE, SUITE 302
GLEN ALLEN, VA 23060
TELEPHONE: 720-292-0873

TITLE: FIGURE 5 - CONCEPTUAL SITE PLAN

PROJECT: HEART PINE SOLAR

SITE: MARION COUNTY, GA

DRAFT

DESIGN BY:	JWE	DATE:	FEBRUARY 2024
DRAWN BY:	JWE	PROJECT NO.:	GXE10300
CHECKED BY:	PL	FILE:	1
REVIEWED BY:	BB	DRAWING NO.:	1 OF 1
APPROVED BY:	BB		

CONCEPTUAL DRAWINGS - NOT FOR CONSTRUCTION

I:\RICHMOND-01\DATA\PROJECTS\AES CLEAN ENERGY\TAZEWELL SOLAR\TASK 9_DECOMMISSIONING PLAN\AES TAZEWELL_DECOMMISSIONING PLAN_2

Appendix A

Conditional Use Application

Marion County Building and Zoning Department

Conditional Use Permit Application

Property Owner Information

Name: See Table A1 for Property Owner Information

Mailing Address: _____

City: State: Zip: _____

Phone: _____ Email: _____

Applicant's Information

(If different from Owner's Information)

Name: Heart Pine Solar, LLC

Mailing Address: 4200 Innslake Drive, Suite 302

City: State: Zip: Glen Allen, VA 23060

Phone: 720-292-0873 Email: reginald.butler@aes.com

Property Information

Existing Structures and Use of Property: See Table A2 for Property Information

_____

Property Address: _____

Details of Proposed Use: _____

_____

Matt Hoorn - Director of Development — January 25, 2024

Signature of applicant — Date

*This application form to be supplemented with a comprehensive Conditional Use Permit package following applicant's Information Session with Planning and Zoning Commission on February 6, 2024

Table A1: Property Owner Information

Name	Vance McCorkle
Mailing Address	927 George McCorkle Rd.
City, State, Zip	Buena Vista, GA 31803
Phone	229-314-0167
Email	Vance.McCorkle@yahoo.com
Name	Claudine Morgan
Mailing Address	446 Morgan Ford Rd.
City, State, Zip	Buena Vista, GA 31803
Phone	229-649-8118
Email	buenavistarealty@windstream.com
Name	Richard Morgan
Mailing Address	446 Morgan Ford Rd.
City, State, Zip	Buena Vista, GA 31803
Phone	229-649-8118
Email	buenavistarealty@windstream.com
Name	Herbert and Juanita Tante
Mailing Address	137 Harold Harris Rd.
City, State, Zip	Buena Vista, GA 31803
Phone	229-649-4866
Email	herbertetante@yahoo.com

Table A2: Property Information

Property Owner	Parcel Number	Acreage	Existing Structures and Use of Property	Property Address	Latitude/ Longitude	Details of Proposed Use
Vance McCorkle	56-12	20	Property used for hunting and agriculture. No existing structures.	Hartage Ford Rd.	32.3882, -84.5158	Utility-scale solar photovoltaic project
	56-12A	19.99	Property used for hunting and agriculture. No existing structures.	Hartage Ford Rd.	32.3855, -84.5163	Utility-scale solar photovoltaic project
	56-12B	57.08	Property used for hunting and agriculture. No existing structures.	Hartage Ford Rd.	32.3812, -84.5152	Utility-scale solar photovoltaic project
	56-16A	21.1	Property used for agriculture. Storage building on property (structure would not be removed with proposed use).	Hartage Ford Rd.	32.3851, -84.5139	Easements for electrical lines and access roads to support a utility-scale solar photovoltaic project on adjacent properties.
	56-13	129	Property used for agriculture and hunting. Single-family home, barn, storage building, shop/machinery building, and detached carport on property (structures would not be removed with proposed use).	CR McCorkle Road	32.3826, -84.5097	Easements for electrical lines and access roads to support a utility-scale solar photovoltaic project on adjacent properties.
Claudine Morgan	55-15	391	Property used for hunting and agriculture. No existing structures.	Morgan Ford Rd.	32.3825, -84.4990	Utility-scale solar photovoltaic project
Richard Morgan	55-14	260	Property used for hunting and agriculture. Single-family home, poultry houses, and storage buildings on property (single-family home and poultry houses would not be removed with proposed use).	Morgan Ford Rd.	32.3784, -84.4880	Utility-scale solar photovoltaic project
	68-01	88.79	Property used for hunting and agriculture. No existing structures.	Morgan Ford Rd.	32.3853, -84.4881	Utility-scale solar photovoltaic project
	68-02	75.09	Property used for hunting and timber.	Morgan Ford Rd.	32.3845, -84.4804	Utility-scale solar photovoltaic project

			No existing structures.			
	67-13 (South of Walter Wells Rd.)	130.925	Property used for hunting and agriculture. No existing structures.	Walter Wells Rd.	32.3841, -84.4819	Utility-scale solar photovoltaic project
Herbert and Juanita Tante	68-4B	99.42	Property used for hunting and agriculture. No existing structures.	Harbuck Pond Rd.	32.3826, -84.4753	Utility-scale solar photovoltaic project
	68-6E	184.34	Property used for hunting and agriculture. No existing structures.	Walls Rd.	32.3828, -84.4678	Utility-scale solar photovoltaic project
	67-14A	26.54	Property used for hunting and agriculture. No existing structures.	Walter Wells Rd.	32.3878, -84.4666	Utility-scale solar photovoltaic project
	68-6F	12	Property used for agriculture. Single-family home on property (structure would not be removed with proposed use).	Walls Rd.	32.3849, -84.4635	Utility-scale solar photovoltaic project
	68-6	26.46	Property used for agriculture. No existing structures.	Walls Rd.	32.3862, -84.4604	Utility-scale solar photovoltaic project

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Vance McCorkle the

owner(s) of the following property located at: Latitude: 32.3882, Longitude: -84.5158

Tax Parcel Number or Map and Parcel Number 56-12

Size of Property: 20 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Vance McCorkle
Signature of owner(s)

1/30/2024
Date

Signature of owners(s)

Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Vance McCorkle the

owner(s) of the following property located at: Latitude: 32.3855 Longitude: -84.5163

Tax Parcel Number or Map and Parcel Number 56-12A

Size of Property: 19.99 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Van McCorkle
Signature of owner(s)

1/30/2024
Date

Signature of owners(s)

Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Vance McCorkle the

owner(s) of the following property located at: Latitude: 32.3812, Longitude: -84.5152

Tax Parcel Number or Map and Parcel Number 56-12B

Size of Property: 57.08 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Signature of owner(s) Date 1/30/2024

Signature of owners(s) Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Vance McCorkle the

owner(s) of the following property located at: Latitude: 32.3826, Longitude: -84.5097

Tax Parcel Number or Map and Parcel Number 56-13

Size of Property: 129 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Easements for electrical lines and access roads to support a utility-scale solar photovoltaic project on adjacent properties

Vance McCorkle

Signature of owner(s)

1/30/2024

Date

Signature of owners(s)

Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Vance McCorkle the

owner(s) of the following property located at: Latitude: 32.3851, Longitude: -84.5139

Tax Parcel Number or Map and Parcel Number 56-16A

Size of Property: 21.1 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Easements for electrical lines and access roads to support a utility-scale solar photovoltaic project on adjacent properties

Signature of owner(s) Date 1/30/2024

Signature of owners(s) Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Herbert E. Tante and Juanita Tante the

owner(s) of the following property located at: Latitude: 32.3862, Longitude: -84.4604

Tax Parcel Number or Map and Parcel Number 68-6

Size of Property: 26.46 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Herbert Tante
Signature of owner(s)

Jan 30, 2024
Date

Juanita Tante
Signature of owners(s)

Jan. 30, 2024
Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Herbert E. Tante and Juanita Tante the

owner(s) of the following property located at: Latitude: 32.3878, Longitude: -84.4666

Tax Parcel Number or Map and Parcel Number 67-14A

Size of Property: 26.54 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Herbert Tante
Signature of owner(s)

JAN. 30, 2024
Date

Juanita Tante
Signature of owners(s)

Jan. 30, 2024
Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Herbert E. Tante and Juanita Tante the

owner(s) of the following property located at: Latitude: 32.3828, Longitude: -84.4678

Tax Parcel Number or Map and Parcel Number 68-6E

Size of Property: 184.34 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Herbert Tante
Signature of owner(s)

Jan. 30, 2024
Date

Juanita Tante
Signature of owners(s)

Jan. 30, 2024
Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Herbert E. Tante and Juanita Tante the

owner(s) of the following property located at: Latitude: 32.3849, Longitude: -84.4635

Tax Parcel Number or Map and Parcel Number 68-6F

Size of Property: 12 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Herbert Tante
Signature of owner(s)

Jan. 30, 2024
Date

Juanita Tante
Signature of owners(s)

Jan 30, 2024
Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Herbert E. Tante and Juanita Tante the

owner(s) of the following property located at: Latitude: 32.3826, Longitude: -84.4753

Tax Parcel Number or Map and Parcel Number 68-4B

Size of Property: 99.42 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Herbert Tante
Signature of owner(s)

Jan. 30, 2024
Date

Juanita Tante
Signature of owners(s)

Jan 30, 2024
Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Richard L. Morgan the

owner(s) of the following property located at: Latitude: 32.3841, Longitude: -84.4819

Tax Parcel Number or Map and Parcel Number 67-13 (south of Walter Wells Rd)

Size of Property: 130.925 acres CUVA: No Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Richard L Morgan
Signature of owner(s)

1-30-2024
Date

Signature of owners(s)

Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Richard L. Morgan the

owner(s) of the following property located at: Latitude: 32.3845, Longitude: -84.4804

Tax Parcel Number or Map and Parcel Number 68-2

Size of Property: 75.09 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Richard L Morgan 1-30-2024

Signature of owner(s) Date

Signature of owners(s) Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Richard L. Morgan the

owner(s) of the following property located at: Latitude: 32.3853, Longitude: -84.4881

Tax Parcel Number or Map and Parcel Number 68-1

Size of Property: 88.79 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Richard L Morgan
Signature of owner(s)

1-30-2024
Date

Signature of owners(s)

Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Richard L. Morgan the

owner(s) of the following property located at: Latitude: 32.3784, Longitude: -84.4880

Tax Parcel Number or Map and Parcel Number 55-14

Size of Property: 260 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Richard L Morgan
Signature of owner(s)

1-30-2024
Date

Signature of owners(s)

Date

Marion County Building and Zoning Department

Property Owner Authorization for Conditional Use Permit

Property Owner Authorization

I (We) Claudine A. Morgan the

owner(s) of the following property located at: Latitude: 32.3825, Longitude: -84.4990

Tax Parcel Number or Map and Parcel Number 55-15

Size of Property: 391 acres CUVA: Yes Present Zoning Agriculture

do hereby request permission for a conditional use permit for the above-described property under the Zoning Ordinance zoned for the following purposes: Utility-scale solar photovoltaic project

Claudine A Morgan
Signature of owner(s)

1/30/2024
Date

Signature of owners(s)

Date

Appendix B

Economic & Fiscal Impact Assessment

HEART PINE SOLAR

ECONOMIC & FISCAL CONTRIBUTION TO MARION COUNTY, GEORGIA

Prepared for

aes

MANGUM economics

4198 COX ROAD, SUITE 104
GLEN ALLEN, VIRGINIA 23060
804-322-7777

MANGUMECONOMICS.COM

FEBRUARY 2024

About Mangum Economics, LLC

Mangum Economics is a Glen Allen, Virginia based firm that was founded in 2003. Since then, we have become known as a leader in industry analysis, economic impact assessment, policy and program evaluation, and economic and workforce strategy development. The Mangum Team specializes in producing objective and actionable quantitative economic research that our clients use for strategic decision making in a variety of industries and environments. We know that our clients are unique, and that one size does not fit all. As a result, we have a well-earned reputation for tailoring our analyses to meet the specific needs of specific clients, with a specific audience.

Most of our research falls into four general categories:

- **Economic Development and Special Projects:** The Mangum Team has performed hundreds of analyses of proposed economic development projects. One recent example was an analysis of the proposed $2.3 billion Green City "net-zero eco district." The Mangum Team has also authored multiple economic development plans, including identifying industry recruitment opportunities created by the high-speed MAREA and BRUSA sub-sea cable landings in Virginia Beach.
- **Energy:** The Mangum Team has produced analyses of the economic and fiscal impact of over 23 GW of proposed solar, wind, battery energy storage, and hydro projects spanning more than twenty-five states. Among those projects was Dominion's 2.6 GW Coastal Virginia Offshore Wind project off of Virginia Beach. In addition, the Mangum Team has also performed economic and fiscal impact analyses for the natural gas, nuclear, oil, and pipeline industries.
- **Information Technology:** Working with some of the largest names in the business, the Mangum Team has produced analyses of the economic and fiscal impact of data centers at the state and local level across the country.
- **Policy Analysis:** The Mangum Team also has extensive experience in identifying and quantifying the intended and unintended economic consequences of proposed legislative and regulatory initiatives.

The Project Team

Martina Arel, M.B.A.
Director – Economic Development & Energy Research

Connor Wills
Research Analyst

Rebecca Kyle
Senior Research Analyst

A. Fletcher Mangum, Ph.D.
Founder and CEO

Table of Contents

Executive Summary

This report assesses the economic and fiscal contribution that the proposed Heart Pine Solar project would make to Marion County, Georgia. The primary findings from that assessment are as follows:

1) **Heart Pine Solar is a proposed 150-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility that would be located north of Rick Waters Road and along Morgan Ford Road in Marion County, Georgia. The project would encompass approximately 1,390 acres of leased land, of which approximately 850 acres would be actively used for solar. The current use of the project site is primarily pastureland with some wooded areas.**

2) **The proposed Heart Pine Solar project would make an economic contribution to Marion County during construction of the project:**

   - The proposed Heart Pine Solar project would employ approximately 288 full-time equivalent local and non-local construction workers over the construction period.
   - The proposed Heart Pine Solar project would provide an estimated one-time pulse of economic activity to Marion County during its construction phase supporting approximately:
     - 38 direct, indirect, and induced job years.[1]
     - $1.7 million in associated wages and benefits.
     - $7.2 million in economic output.

3) **The proposed Heart Pine Solar project would make an economic contribution to Marion County during its ongoing operational phase:**

   - The proposed Heart Pine Solar project would on average provide an estimated annual economic impact to Marion County during its ongoing operational phase supporting approximately:
     - 7 direct, indirect, and induced jobs.
     - $0.4 million in associated wages and benefits.
     - $1.5 million in economic output.

4) **The proposed Heart Pine Solar project would also make a significant fiscal contribution to Marion County. The proposed project would generate approximately:**

   - The total fiscal contribution to Marion County would be approximately $18.1 million which is composed of:

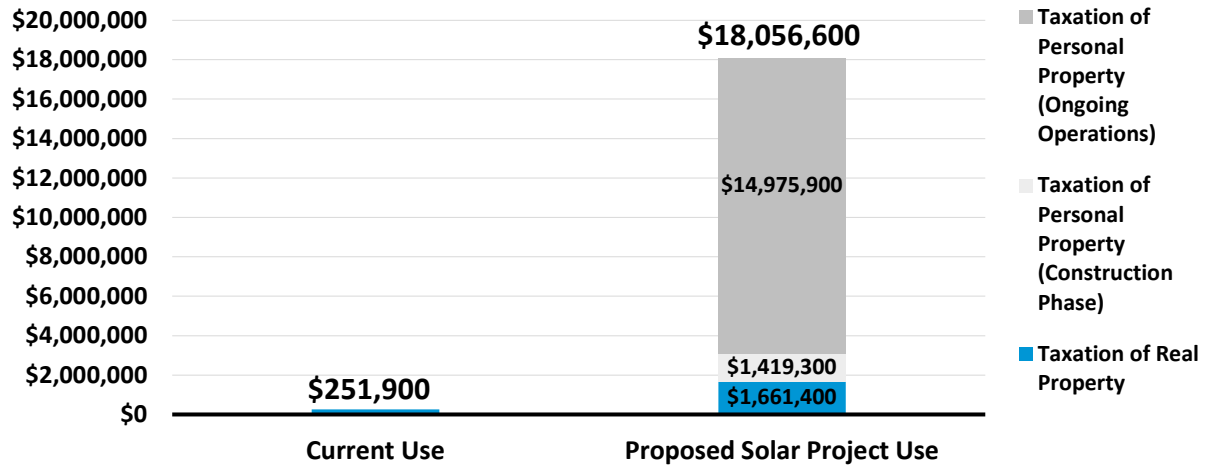
[1] Please note that it is not possible to know with certainty what proportion of these jobs would go to county construction contractors or be filled by Marion County residents. However, all workers employed at the site would have an indirect economic impact on the local economy through their purchases of food, beverages, gas, and other goods and services.

- $1.4 million in local personal property tax revenue from taxation of the capital investment during the construction phase of the project (in 2024 dollars).
- $16.6 million in cumulative local revenue over the facility's anticipated 35-year operational life assuming revenues are generated from taxation of the reassessed actively used acreage, taxation of the residual leased acreage, and taxes levied on capital investment in personal property (in 2024 dollars).

5) **The proposed Heart Pine Solar project would have a significantly greater fiscal impact on Marion County than the property generates in its current use.**

- The proposed Heart Pine Solar project would generate approximately $18.1 million in cumulative local revenue over the facility's life, as compared to approximately $0.3 million in cumulative local revenue in the property's current use – this constitutes a 72-fold increase over the current use.

Estimated Cumulative Marion County Revenue (in 2024 Dollars)



- Over the life of the project, the proposed Heart Pine Solar would generate approximately:
  - $5.3 million in cumulative Marion County tax revenue,
  - $11.4 million in cumulative Marion School District M&O tax revenue, and
  - $1.3 million in cumulative Marion County School bond revenue (in 2024 dollars).

6) **The proposed Heart Pine Solar project would make a significant fiscal contribution to the county and its local school district:**

- The proposed Heart Pine Solar project would on average generate approximately:
  - $151,100 annually in Marion County M&O tax revenue and

    - $326,700 annually in Marion County School District tax revenue (in 2024 dollars).

- To put these numbers into perspective, the approximate $151,100 in average annual Marion County property tax revenue from the Heart Pine Solar project is equivalent to approximately 12 percent of Marion County's FY 2020 general government fund or approximately 134 percent of the culture and recreation fund expenditures, or approximately 7 percent of county's total property tax revenues.
- The approximate $326,700 in average annual Marion County School District property tax revenue from the Heart Pine Solar project is equivalent to approximately 4 percent of Marion County's FY 2022 total local school district instruction expenditures or approximately 9 percent of the school district's total FY 2022 property tax revenues.

The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing that information. However, because these estimates attempt to foresee circumstances that have not yet occurred, it is not possible to provide any assurance that they will be representative of actual events. These estimates are intended to provide a general indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.

Introduction

This report assesses the economic and fiscal contribution that the proposed Heart Pine Solar project would make to Marion County, Georgia. This report was commissioned by AES Clean Energy (AES) and produced by Mangum Economics.

The Project

Heart Pine Solar is a proposed 150-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility that would be located north of Rick Waters Road and along Morgan Ford Road in Marion County, Georgia. The project would encompass approximately 1,390 acres of leased land, of which approximately 850 acres would be actively used for solar. The current use of the project site is primarily pastureland with some wooded areas.

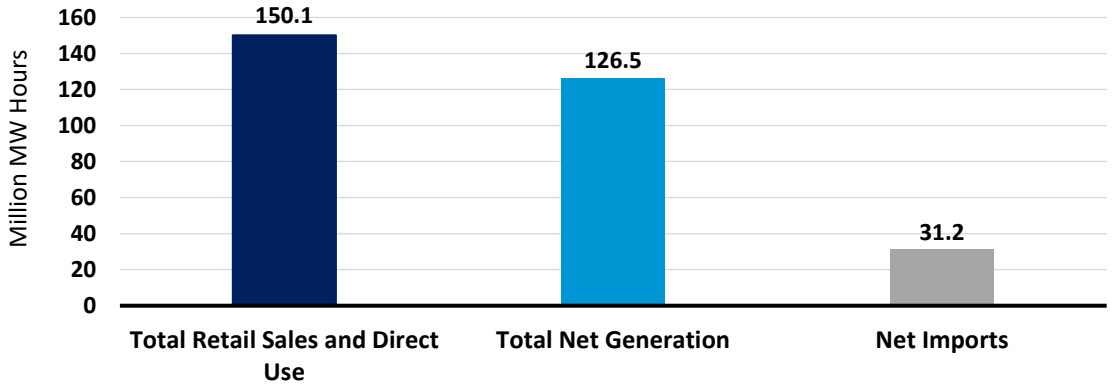
Electricity Production in Georgia

This section provides a backdrop for the proposed Heart Pine Solar project by profiling Georgia's electricity production sector and the role that solar energy could play in that sector.

Overall Market

As shown in Figure 1, in 2022 electricity sales and direct use in Georgia totaled 150.1 million megawatt hours. However, only 84 percent of that demand was met by in-state utilities, independent producers, and other sources. As a result, Georgia had to import the remaining electricity it consumed from producers in other states. As with all imports, this means that the jobs, wages, and economic output created by that production went to localities in those states, not to localities in Georgia.

Figure 1: Demand and Supply of Electricity in Georgia in 2022 (in millions of megawatt-hours)[2]



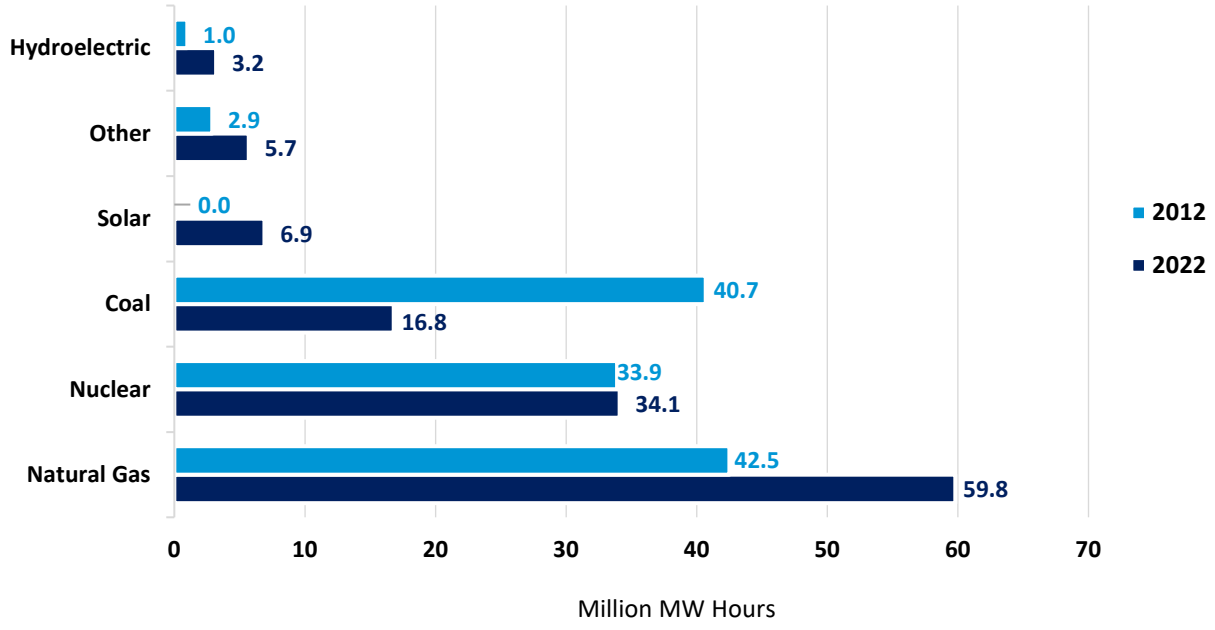
[2] Data Source: U.S. Energy Information Administration. In this chart, "Net Imports" also takes into account losses during transmission. As a result, it does not directly equal the residual of "Total Net Generation" minus "Total Retail Sales and Direct Use."

Sources of Production

Between 2012 and 2022, the total amount of electricity produced in Georgia increased from 122.3 to 126.5 million megawatt hours, while retail and direct consumption of electricity increased from 135.9 to 150.1 million megawatt hours. Consequently, imports of electricity increased by 8.3 million megawatt hours (or 36 percent) during this time.[3] Figure 2 provides a comparison of the energy sources that were used to produce electricity in Georgia in each of those years. As these data show, the most significant change between 2012 and 2022 was a decrease in the use of coal and an increase in the use of natural gas. Where coal was the state's second largest source of electricity in 2012, accounting for 40.7 million megawatt hours (or 33 percent) of production, by 2022 production had fallen by 23.9 million megawatt hours, making coal a third-place source of electricity with only 13 percent of production.

In contrast, the share of electricity produced using cleaner-burning low-emissions energy sources increased over the period. Where natural gas accounted for 42.5 million megawatt hours (or 35 percent) of Georgia's electricity production in 2012, by 2022 that proportion had increased to 59.8 million megawatt hours (or 47 percent of production), maintaining natural gas as the state's largest source of electricity. In addition, solar, which entered the Georgia electricity production market in 2012, increased its share to 6.9 million megawatt hours in 2022.

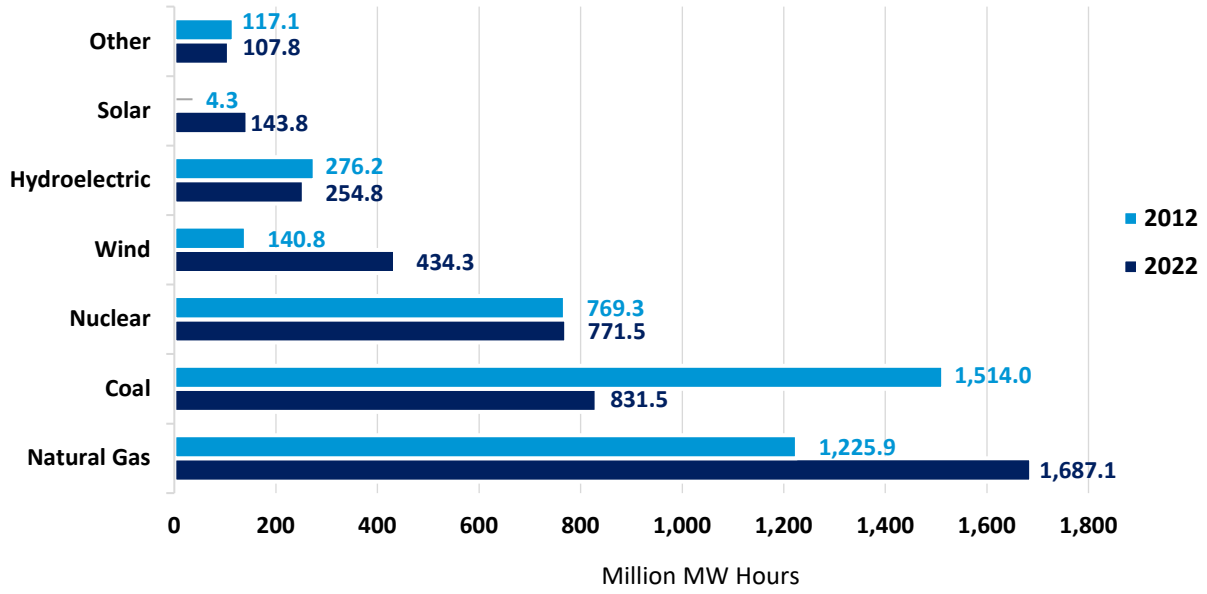
Figure 2: Electricity Generation in Georgia by Energy Source in 2012 and 2022 (in millions of megawatt-hours)[4]



[3] Imports also takes into account losses during transmission. As a result, totals do not equal sum of components.
[4] Data Source: U.S. Energy Information Administration. The "Other" category includes battery, wood, petroleum, other biomass, "other," and pumped storage.

Figure 3 provides similar data for the U.S. as a whole. A quick comparison of Figures 2 and 3 shows that although the degree of reliance on specific energy sources for electricity production is quite different between the U.S. and Georgia, the trend toward lower-emissions energy sources is the same. Nationally, between 2012 and 2022 the amount of electricity produced using coal declined by 682.5 million megawatt hours from 37 to 20 percent of production, while in contrast the amount of electricity produced using natural gas increased by 461.2 million megawatt hours from 30 to 40 percent of production. Nationwide, as in Georgia, the reliance on renewable energy sources such as solar increased during this time but at a slower pace than in Georgia. Between 2012 and 2022, the amount of electricity produced using solar increased by 139.5 million megawatt hours to 3 percent of total electricity production in the nation compared to 6 percent of total electricity production in Georgia.

Figure 3: Electricity Generation in the United States by Energy Source in 2012 and 2022 (in millions of megawatt-hours)[5]

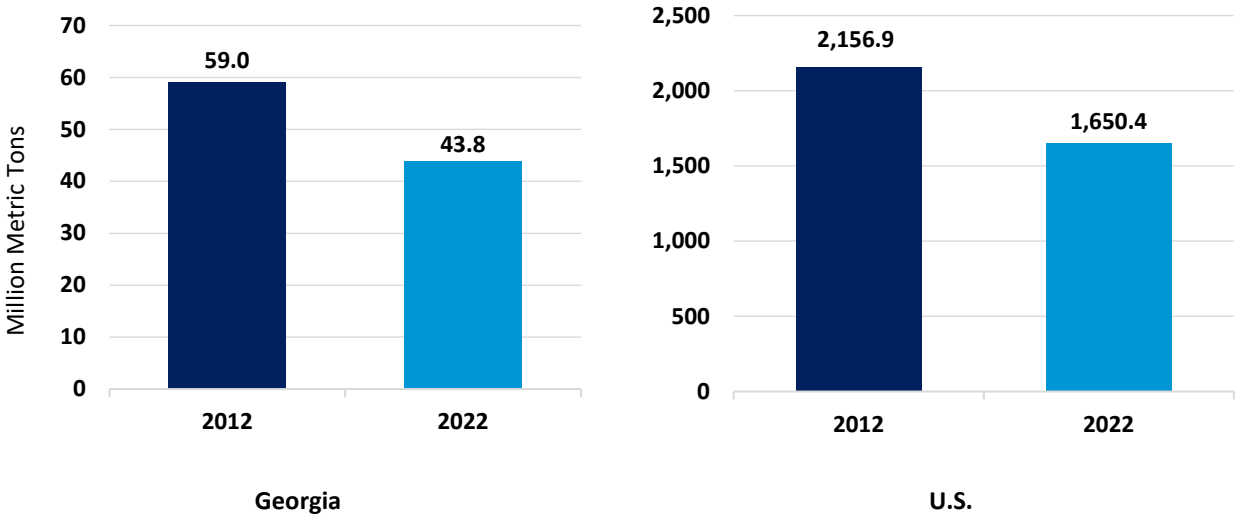


Impact on the Environment

In discussing the impact of these trends on the environment, it is important to realize that electricity production is one of the U.S.'s largest sources of greenhouse gas emissions. Figure 4 depicts carbon dioxide emissions from electricity production in 2012 and 2022 for both Georgia and the U.S. As these data indicate, between 2012 and 2022, as the share of electricity produced in Georgia by coal fell from 33 to 13 percent, carbon dioxide emissions from electricity production fell from 59.0 to 43.8 million metric tons. Where at the national level, as the share of electricity produced by coal fell from 37 to 20 percent, carbon dioxide emissions from electricity production fell from 2,156.9 to 1,650.4 million metric tons.

[5] Data Source: U.S. Energy Information Administration. "Other" includes battery, geothermal, other, other biomass, other gas, petroleum, pumped storage, and wood.

Figure 4: Carbon Dioxide Emissions from Electricity Production (millions of metric tons)[6]

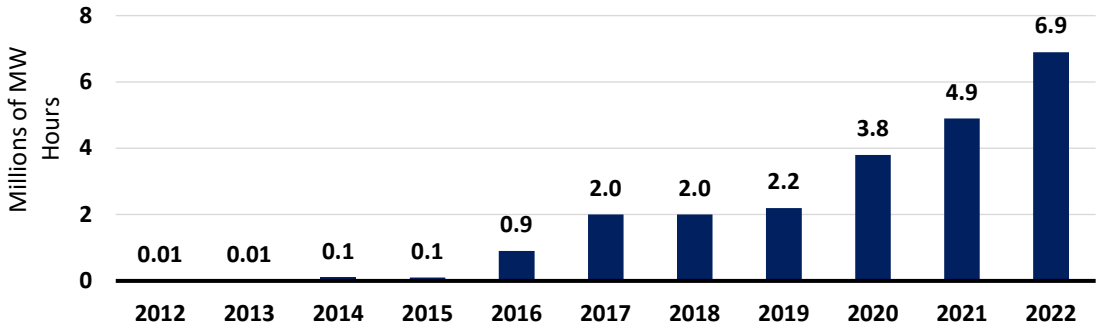


Georgia Solar Industry Trends

As of the second quarter of 2023, Georgia was ranked 7th in the nation for its total installed solar capacity. Over the next five years, Georgia is projected to add almost four thousand megawatts of solar to its portfolio, ranking it 15th in the nation for projected growth. Total investment into the solar industry in Georgia as of the second quarter of 2023 amounts to $5.8 billion.[7]

Figure 5 shows a rising trend in solar energy generation in Georgia from 2012 to 2022 expressed in millions of megawatt-hours. The graph indicates a noticeable increase beginning in 2016, with a sharp escalation in growth starting in 2019, and peaking at 6.9 million megawatt-hours in 2022. This demonstrates a significant expansion in Georgia's solar energy installations, especially in the latter part of the decade.[8]

Figure 5: Solar Generation in Georgia (in millions of megawatt-hours) – 2012 to 2022[9]



[6] Data Source: U.S. Energy Information Administration.
[7] Data Source: Solar Energy Industries Association.
[8] Data Source: Solar Energy Industries Association.
[9] Data Source: U.S. Energy Information Administration.

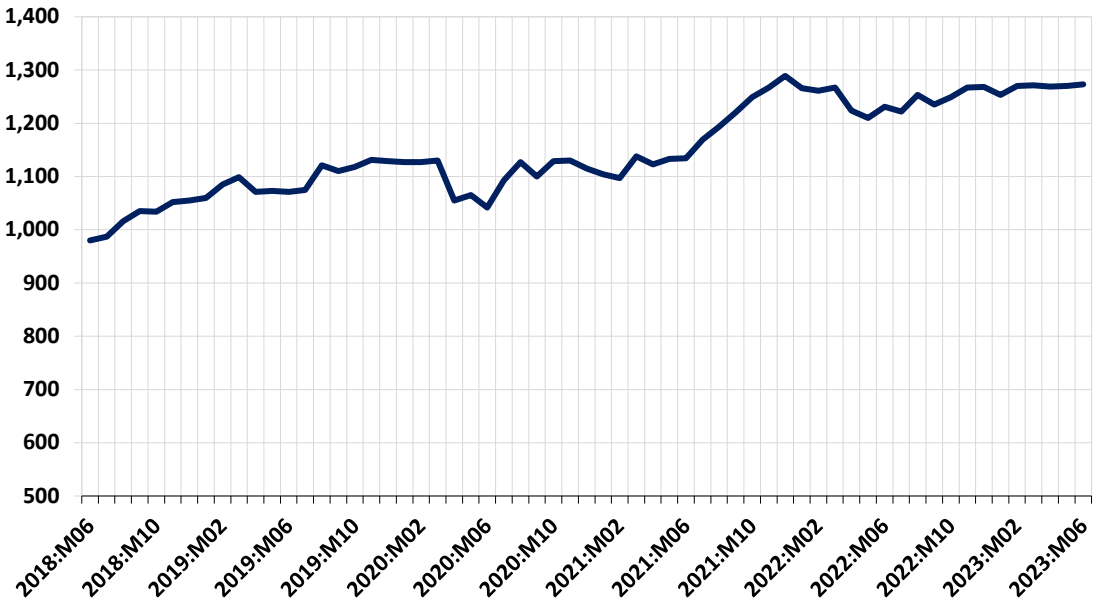
Local Economic Profile

This section provides context for the economic and fiscal impact assessments to follow by profiling the local economy of Marion County.

Total Employment

Figure 6 depicts the trend in total employment in Marion County during the five-year period from June 2018 through June 2023. As these data show, total employment in the county generally increased throughout the period. As of June 2023, total employment in the county stood at 1,273 jobs, which represents an overall increase in employment of 29.9 percent (or 293 jobs) over the five-year period. To put this number in perspective, over this same period, total statewide employment in Georgia increased by 8.3 percent.[10]

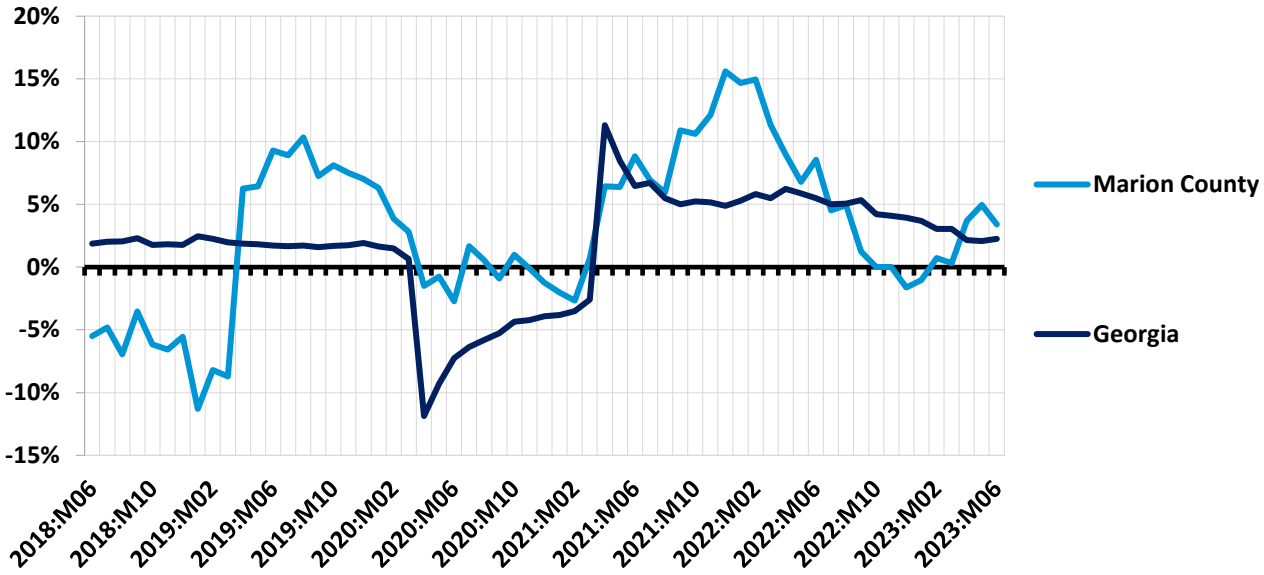
Figure 6: Total Employment in Marion County – June 2018 to June 2023[11]



To control for seasonality and provide a point of reference, Figure 7 compares the year-over-year change in total employment in Marion County to that of the state of Georgia over the same five-year period. Any point above the zero line in this graph indicates an increase in employment, while any point below the zero line indicates a decline in employment. As these data show, Marion County had large fluctuations around the statewide average for most of the period. As of June 2023, the year-over-year change in total employment in Marion County was 3.4 percent as compared to 2.2 percent statewide in Georgia.

[10] Data Source: U.S. Bureau of Labor Statistics.
[11] Data Source: U.S. Bureau of Labor Statistics.

Figure 7: Year-Over-Year Change in Total Employment – June 2018 to June 2022[12]



Employment and Wages by Industry Supersector

To provide a better understanding of the underlying factors motivating the total employment trends depicted in Figures 6 and 7, Figures 8 through 10 provide data on private employment and wages in Marion County by industry supersector.[13]

Figure 8 provides an indication of the distribution of private sector employment across industry supersectors in Marion County in 2022. As these data indicate, the county's largest industry sectors that year were Natural Resources and Mining (286 jobs), followed by Manufacturing (188 jobs), and Trade, Transportation and Utilities (142 jobs).

Figure 9 provides a similar ranking for average private sector weekly wages by industry supersector in Marion County in 2022. As these data show, the highest paying industry sectors that year were Manufacturing ($830 per week), Professional and Business Services ($823 per week), and Natural Resources and Mining ($757 per week). To provide a point of reference, the average private sector weekly wage across all industry sectors in Marion County that year was $687 per week.

[12] Data Source: U.S. Bureau of Labor Statistics.
[13] A "supersector" is the highest level of aggregation in the coding system that the Bureau of Labor Statistics uses to classify industries.

Figure 8: Private Employment by Industry Supersector in Marion County – 2022[14]

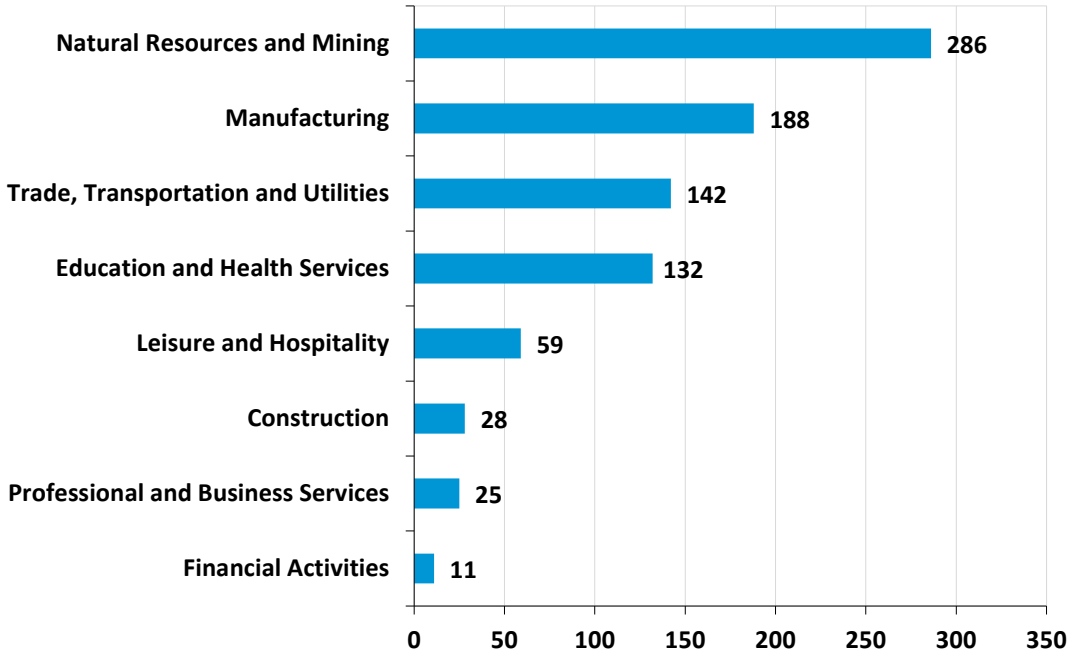
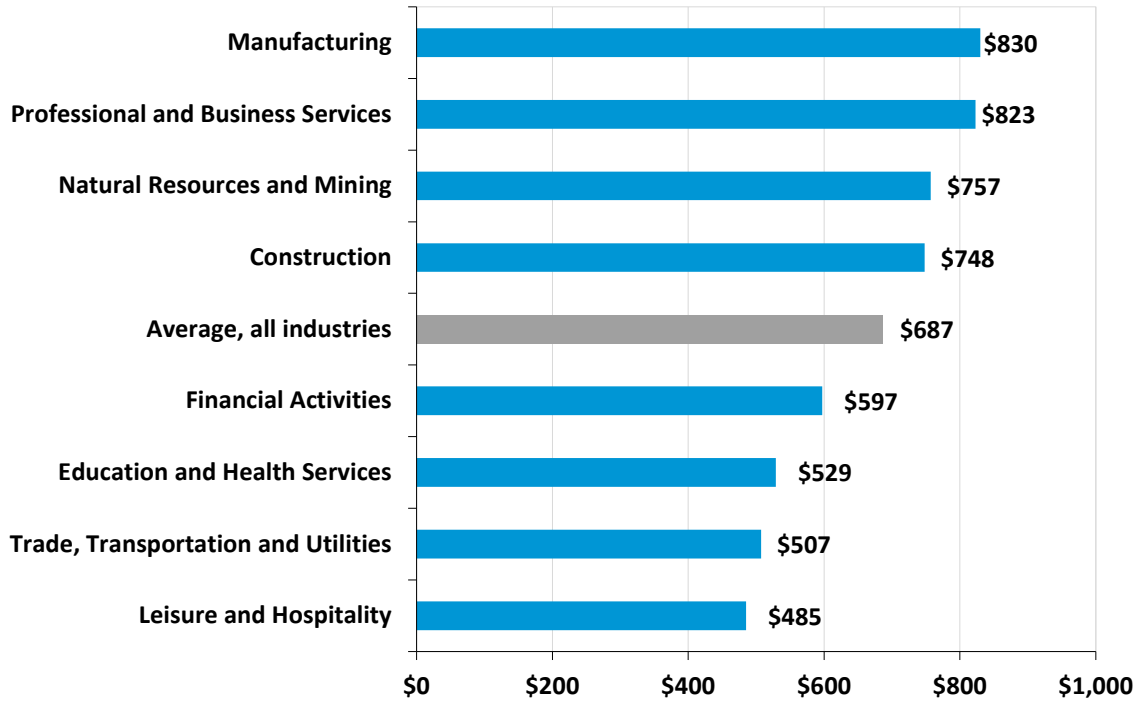


Figure 9: Average Private Weekly Wages by Industry Supersector in Marion County – 2022[15]

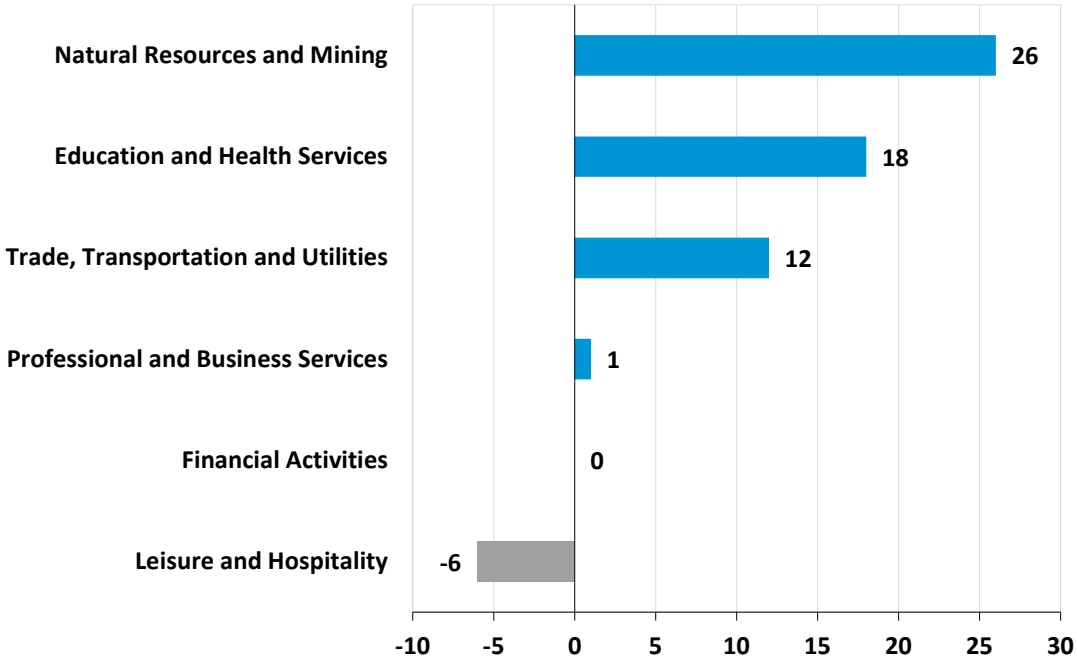


[14] Data Source: U.S. Bureau of Labor Statistics. *Data on the Other Services and Information sectors has been suppressed due to data confidentiality.*

[15] Data Source: U.S. Bureau of Labor Statistics. *Data on the Other Services and Information sectors has been suppressed due to data confidentiality.*

Figure 10 details the year-over-year change in private sector employment from 2021 to 2022 in Marion County by industry supersector. Over this period, the largest employment gains occurred in the Natural Resources and Mining (up 26 jobs), Education and Health Services (up 18 jobs), and Trade, Transportation and Utilities (up 12 jobs) sectors. The only employment loss occurred in the Leisure and Hospitality (down 6 jobs) sector.

Figure 10: Change in Private Employment by Industry Supersector in Marion County from 2021 to 2022[16]

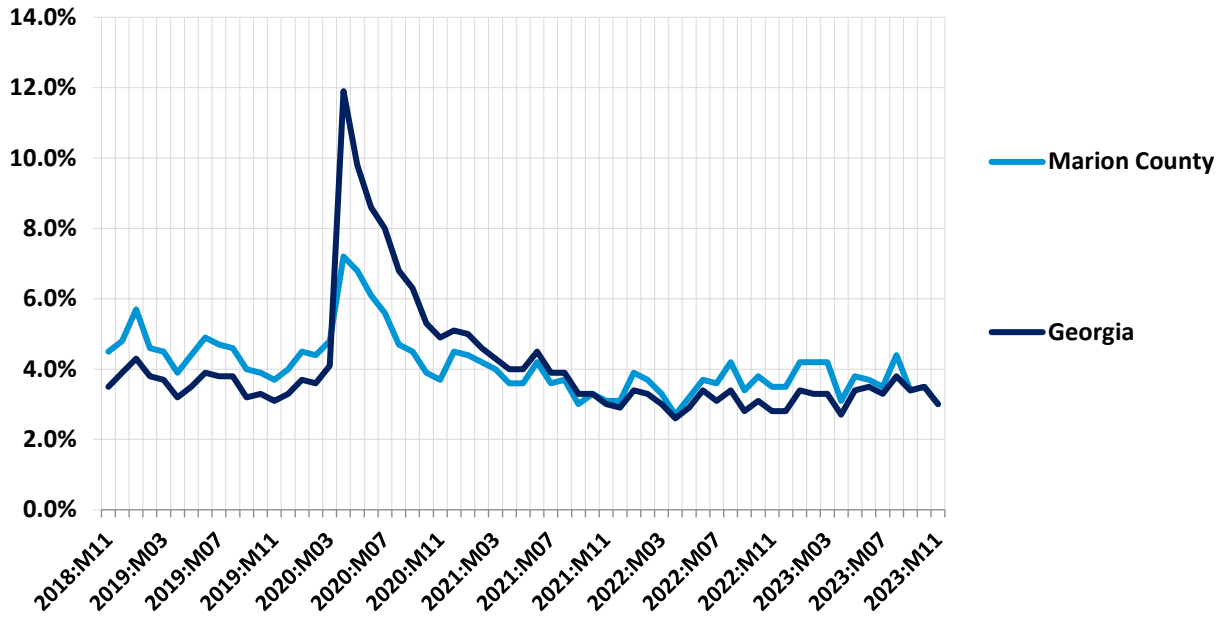


Unemployment

Figure 11 illustrates the trend in Marion County's unemployment rate over the five-year period from November 2018 through November 2023 and benchmarks those data against the statewide trend for Georgia. As these data show, unemployment rates in Marion County tracked closely with the statewide trend throughout the period. In April 2020 unemployment in the county and state significantly rose as a result of the labor dislocations caused by the COVID-19 pandemic. As of November 2023, unemployment stood at 3.0 percent in both Marion County and in Georgia as a whole.

[16] Data Source: U.S. Bureau of Labor Statistics. *Data on the Other Services, Information, Construction, and Manufacturing sectors has been suppressed due to data confidentiality.*

Figure 11: Unemployment Rate – November 2018 to November 2023[17]



[17] Data Source: U.S. Bureau of Labor Statistics.

Economic and Fiscal Impact

This section quantifies the economic and fiscal contribution that the proposed Heart Pine Solar project would make to Marion County. The analysis separately evaluates the one-time pulse of economic activity that would occur during the construction phase of the project, as well as the annual economic activity that the project would generate during its ongoing operational phase.

Method

To empirically evaluate the likely local economic impact attributable to the proposed Heart Pine Solar project, the analysis employs a regional economic impact model called IMPLAN.[18] The IMPLAN model is one of the most commonly used economic impact simulation models in the U.S., and it is used by many state agencies and research institutes. Like all economic impact models, the IMPLAN model uses economic multipliers to quantify economic impact.

Economic multipliers measure the ripple effects that an expenditure generates as it makes its way through the economy. For example, as when the Heart Pine Solar project purchases goods and services – or when contractors hired by the facility use their salaries and wages to make household purchases – thereby generating income for someone else, which is in turn spent, thereby becoming income for yet someone else, and so on, and so on. Through this process, one dollar in expenditures generates multiple dollars of income. The mathematical relationship between the initial expenditure and the total income generated is the economic multiplier.

One of the primary advantages of the IMPLAN model is that it uses regional and national production and trade flow data to construct region-specific and industry-specific economic multipliers, which are then further adjusted to reflect anticipated actual spending patterns within the specific geographic study area that is being evaluated. As a result, the economic impact estimates produced by IMPLAN are not generic. They reflect as precisely as possible the economic realities of the specific industry, and the specific study area, being evaluated.

In the analysis that follows, these impact estimates are divided into three categories. First round direct impact measures the direct economic contribution of the entity being evaluated (e.g., own employment, wages paid, goods and services purchased by the Heart Pine Solar project). Second round indirect and induced impact measures the economic ripple effects of this direct impact in terms of business to business, and household (employee) to business, transactions. Total impact is simply the sum of the preceding two. These categories of impact are then further defined in terms of employment (the jobs that are created), labor income (the wages and benefits associated with those jobs), and economic output (the total amount of economic activity that is created in the economy).

[18] IMPLAN is produced by IMPLAN Group, LLC.

Construction Phase

This portion of the section assesses the economic impact that the one-time pulse of activity associated with construction of the proposed Heart Pine Solar project would have on Marion County.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- Total capital investment in the Heart Pine Solar project is estimated to be approximately $214.3 million.[19]
- Of that total:
    - Architecture, engineering, site preparation, and other construction and development costs are estimated to be approximately $95.0 million.[20]
    - Capital equipment costs are estimated to be approximately $119.3 million.[21] It is not anticipated that capital equipment would be purchased from vendors in Marion County.[22]
- For ease of analysis, all construction expenditures are assumed to take place in one year.
- Heart Pine Solar would employ approximately 288 local and non-local full-time equivalent construction workers over the construction period.[23]

Economic Impact

Applying these inputs in the IMPLAN model results in the following estimates of one-time local economic and fiscal impact. As shown in Table 1, construction of the proposed Heart Pine Solar project would directly provide a one-time pulse supporting approximately: 1) 28 job years, 2) $1.4 million in wages and benefits, and 3) $5.9 million in economic output in Marion County (in 2024 dollars).

Taking into account the economic ripple effects that direct investment would generate, the total estimated one-time impact on Marion County would support approximately: 1) 38 job years, 2) $1.7 million in wages and benefits, and 3) $7.2 million in economic output (in 2024 dollars).

[19] Data Source: AES. Subject to change based on final design and vendor contracts.
[20] Data Source: AES.
[21] Data Source: AES.
[22] Data Source: AES.
[23] Data Source: AES.

Table 1: Estimated One-Time Economic and Fiscal Impact on Marion County from Construction of the Heart Pine Solar project (2024 Dollars)[24,25]

Economic Impact	Employment (Job Years)	Wages and Benefits	Output
1st Round Direct Economic Activity	28	$1,426,500	$5,857,100
2nd Round Indirect and Induced Economic Activity	10	$240,100	$1,332,300
Total Economic Activity	**38**	**$1,666,600**	**$7,189,400**

**Totals may not sum due to rounding.*

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- Heart Pine Solar would involve a total capital investment of approximately $214.3 million, which would be considered taxable personal property.[26]
- The overall assessment ratio is 40 percent.[27]
- The applicable local property tax rate is 23.239 mills (i.e., 6.808 county maintenance and operations (M&O), 14.718 schools' M&O, and 1.713 school bonds).[28]

Fiscal Impact

Table 2 summarizes the estimated personal property tax revenue that the project would generate during the construction phase of the project. As shown in Table 2, Heart Pine Solar would generate approximately $0.1 million in personal property tax revenue in year 1 of construction and approximately $1.3 million in year 2, for a cumulative total of approximately $1.4 million (in 2024 dollars).

[24] The analysis assumes that the project would support full employment in the county's construction sector based on current employment estimates. Please note that employment in the construction sector is highly elastic and actual employment may vary. It is therefore not possible to know with certainty what proportion of these jobs would go to county construction contractors or be filled by Marion County residents. However, all workers employed at the site would have an indirect economic impact on the local economy through their purchases of food, beverages, and other goods and services.
[25] A construction sector job, also referred to as a job year, is equal to one job over one year. It is used to denote employment on construction projects where the construction schedule is not exactly one year and to account for the fact that actual on-site employment may vary over the period.
[26] Data Source: AES.
[27] Data Source: Georgia Code §48-5-7, all property is required to be assessed at 40 percent of the fair market value.
[28] Data Source: Marion County's 2023 Tax Digest and Marion County School District.

Table 2: Estimated Local Personal Property Tax Revenue by the Proposed Solar Investment During Construction of the Project (in 2024 Dollars)

Year	Total Taxable Capital Investment[29]	County Tax Revenue	School District Tax Revenue (M&O)	School District Tax Revenue (Bonds)	Total Local Tax Revenue
Total Taxable Capital Investment in Personal Property:[30] $214,292,400					
Millage Rate / %[31]		**6.808 / 29%**	**14.718 / 63%**	**1.756 / 7%**	**23.239**
1	$3,214,400	$21,900	$47,300	$5,500	$74,700
2	$57,859,000	$393,900	$851,600	$99,100	$1,344,600
Cumulative Total		**$415,800**	**$898,900**	**$104,600**	**$1,419,300**

**Totals may not sum due to rounding.*

Ongoing Operations Phase

This portion of the section assesses the annual economic and fiscal impact that the proposed Heart Pine Solar project would have on Marion County during its anticipated 35-year operational phase.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- The Heart Pine Solar project would employ two full-time on-site employees and would spend approximately $1.0 million each year for salaries, maintenance and repair, vegetative control, and other operational expenditures.[32]
- Vegetative maintenance would be outsourced to third-party contractors.[33]

Economic Impact

Applying these inputs in the IMPLAN model results in the following estimates of annual local economic impact. As shown in Table 3, annual operation of the proposed Heart Pine Solar project would on average directly support approximately: 1) 4 jobs, 2) $0.3 million in wages and benefits, and 3) $1.0 million in economic output to Marion County (in 2024 dollars).

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on Marion County would on average be approximately: 1) 7 jobs, 2) $0.4 million in wages and benefits, and 3) $1.5 million in economic output (in 2024 dollars).

[29] Calculated as capital investment in personal property times 40 percent assessment pursuant to Georgia Code times a market value factor of 0.75 for Construction in Progress personal property times 5 percent assumed completion in year 1 and 90 percent completion in year 2.
[30] Data Source: AES.
[31] Please note that percentages are rounded. Calculations based on full values.
[32] Data Source: AES.
[33] Data Source: AES.

Table 3: Estimated Annual Economic Impact on Marion County from the Ongoing Operation of the Heart Pine Solar project (2024 Dollars)

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	4	$302,700	$977,500
2nd Round Indirect and Induced Economic Activity	3	$81,800	$495,700
Total Economic Activity	**7**	**$384,500**	**$1,473,200**

**Totals may not sum due to rounding.*

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- Heart Pine Solar would involve a total capital investment of approximately $214.3 million, which would be considered taxable personal property.[34]
- Heart Pine Solar would be privately owned.[35]
- The entire investment in personal property is considered Group 3 property and depreciated using the Georgia Department of Revenue Composite Conversion Factor, Group 3.[36]
- Heart Pine Solar would be situated on approximately 850 actively used acres within a 1,390-acre tract of leased land.[37]
- The actively used acreage would be removed from the conservation program and re-assessed at $5,500 per acre.[38]
- The overall assessment ratio is 40 percent.[39]
- The applicable local property tax rate is 23.239 mills (i.e., 6.808 county maintenance and operations (M&O), 14.718 schools' M&O, and 1.713 school bonds).[40]
- Tax rates remain constant throughout the analysis.
- Heart Pine Solar's operational life expectancy would be approximately 35 years.[41]
- Heart Pine Solar would obtain a 20-year abatement on personal property taxes from the Marion County Development Authority equal to $3,000 per MW annually during the abatement period.[42]

[34] Data Source: AES.
[35] Data Source: AES.
[36] Data Source: Georgia Department of Revenue.
[37] Data Source: AES.
[38] Data Source: AES. Marion County Chief Appraiser. Land utilized for solar generation is currently assigned a value of $5,500 per acre.
[39] Data Source: Georgia Code §48-5-7, all property is required to be assessed at 40 percent of the fair market value.
[40] Data Source: Marion County's 2023 Tax Digest and Marion County School District.
[41] Data Source: AES.
[42] Data Source: AES. Subject to negotiation with Marion County.

Fiscal Impact

This portion of the section quantifies the direct fiscal contribution that the proposed Heart Pine Solar project would make to Marion County. It should be noted at the outset, however, that the analysis that follows likely understates the actual fiscal impact that Heart Pine Solar would have on Marion County and the Marion County School District as it only accounts for the direct fiscal impact that Heart Pine Solar would have on the county. It does not take into account any additional tax revenue that would be generated as a result of the indirect economic activity attributable to the ongoing operation of Heart Pine Solar.

The analysis on the following pages considers the additional revenue that the Heart Pine Solar project would generate for Marion County and the Marion County School District over a 35-year period from the increased property assessments associated with reassessing the site as solar use property as well as the additional revenue Heart Pine Solar would generate from taxes levied on the personal property.

Reassessment of Property

Table 4 details the increased tax revenue associated with reassessing the 850 actively used acres as solar use property and tax revenue of the residual leased acreage at its current use value. As the data in Table 4 indicate, the Marion County and Marion School District real property tax revenue from the project site is estimated to be approximately $47,300 per year, for a cumulative total of approximately $1.7 million (in 2024 dollars) over the project's anticipated 35-year operational life. Adding the one-time penalty of approximately $5,430 increases that cumulative total to approximately $1.7 million. This consists of approximately $0.5 million in county revenue, approximately $1.1 million in school district M&O tax revenue, and approximately $0.1 million in school district bond tax revenue (in 2024 dollars).

Table 4: Estimated Local Real Property Tax Revenue Generated by the Proposed Heart Pine Solar over 35 Years (2024 Dollars)

Solar Use	County M&O	School M&O	School Bond	Total
Appraised Value of Property[43]				$4,840,900
Assessed Value of Property (40%)				$2,035,900
Millage Rate (per $1,000)[44]	6.808	14.718	1.713	23.239
Annual Real Property Tax	**$13,900**	**$30,000**	**$3,490**	**$47,300**
Cumulative Real Property Tax Revenue over 35 Years	**$485,100**	**$1,048,700**	**$122,100**	**$1,655,900**
One-time Penalty[45]	**$1,590**	**$3,440**	**$400**	**$5,430**
Total Cumulative Tax Revenue over 35 Years	**$486,700**	**$1,052,200**	**$122,500**	**$1,661,400**

**Totals may not sum due to rounding.*

Taxation of Capital Investment

Table 5 details the personal property tax revenue that the proposed Heart Pine Solar project would generate for Marion County and its schools over a 35-year period from taxes levied on capital investment in personal property. This estimate is calculated as: 1) the taxable portion of capital investments (40 percent assessment pursuant to Georgia Code §48-5-7), times 2) Georgia Department of Revenue's Composite Factors for Group III class property, times 3) the applicable property tax rate.

The calculations also include an assumed 20-year abatement equal to $3,000 per MW per year in years 1 through 20 of the project. Please note that the abatement is subject to negotiation between Heart Pine Solar and Marion County.[46]

As the data in Table 5 indicate, the total Marion County and school district tax revenue from the investment would be equivalent to the proposed $0.5 million annual PILOT in years 1 through 20 of the project. Upon conclusion of the abatement period, the tax revenue is estimated to decrease to approximately $0.4 million in year 21 and thereafter for a cumulative total of approximately $15.0 million over 35 years (in 2024 dollars). This consists of approximately $4.4 million in Marion County tax revenue, approximately $9.5 million in school district M&O tax revenue, and approximately $1.1 million in school bond tax revenue over 35 years (in 2024 dollars).

[43] Calculated as $5,500 times 850 acres plus residual leased acreage at current use value.
[44] Data Source: Marion County's 2023 Tax Digest and Marion County School District. Assumes rates will remain constant throughout analysis.
[45] The estimated one-time penalty associated with removing the land from the preservation program for solar use is computed as the difference between the current taxable value tax and the assessed value tax for the affected acreage for one complete tax year.
[46] Data Source: AES.

Table 5: Estimated Local Revenue by the Proposed Solar Investment Over 35 Years (in 2024 Dollars)

Year	Total Taxable Capital Investment[47]	County Tax Revenue	School District Tax Revenue (M&O)	School District Tax Revenue (Bonds)	Total Local Tax Revenue[48]
Total Taxable Capital Investment in Personal Property:[49] $214,292,400					
Millage Rate / %[50]		**6.808 / 29%**	**14.718 / 63%**	**1.713 / 7%**	**23.239**
1	$81,431,100	$131,800	$285,000	$33,200	$450,000
2	$78,002,400	$131,800	$285,000	$33,200	$450,000
3	$74,573,800	$131,800	$285,000	$33,200	$450,000
4	$70,287,900	$131,800	$285,000	$33,200	$450,000
5	$67,716,400	$131,800	$285,000	$33,200	$450,000
6	$64,287,700	$131,800	$285,000	$33,200	$450,000
7	$60,001,900	$131,800	$285,000	$33,200	$450,000
8	$54,001,700	$131,800	$285,000	$33,200	$450,000
9	$48,858,700	$131,800	$285,000	$33,200	$450,000
10	$44,572,800	$131,800	$285,000	$33,200	$450,000
11	$40,287,000	$131,800	$285,000	$33,200	$450,000
12	$35,144,000	$131,800	$285,000	$33,200	$450,000
13	$30,000,900	$131,800	$285,000	$33,200	$450,000
14	$26,572,300	$131,800	$285,000	$33,200	$450,000
15	$24,857,900	$131,800	$285,000	$33,200	$450,000
16	$24,000,800	$131,800	$285,000	$33,200	$450,000
17	$17,143,400	$131,800	$285,000	$33,200	$450,000
18	$17,143,400	$131,800	$285,000	$33,200	$450,000
19	$17,143,400	$131,800	$285,000	$33,200	$450,000
20	$17,143,400	$131,800	$285,000	$33,200	$450,000
21	$17,143,400	$116,700	$252,300	$29,400	$398,400
22	$17,143,400	$116,700	$252,300	$29,400	$398,400
23	$17,143,400	$116,700	$252,300	$29,400	$398,400
24	$17,143,400	$116,700	$252,300	$29,400	$398,400
25	$17,143,400	$116,700	$252,300	$29,400	$398,400
26	$17,143,400	$116,700	$252,300	$29,400	$398,400
27	$17,143,400	$116,700	$252,300	$29,400	$398,400
28	$17,143,400	$116,700	$252,300	$29,400	$398,400
29	$17,143,400	$116,700	$252,300	$29,400	$398,400
30	$17,143,400	$116,700	$252,300	$29,400	$398,400
31	$17,143,400	$116,700	$252,300	$29,400	$398,400

[47] Calculated as capital investment in personal property times 40 percent assessment pursuant to Georgia Code §48-5-7 times Composite Factors for Group III class property according to Rules of the Georgia Department of Revenue.
[48] Includes value of proposed abatement in years 1-20 subject to negotiation between Heart Pine Solar and Marion County. PILOT distributed based on proportion of local millage rate.
[49] Data Source: AES.
[50] Please note that percentages are rounded. Calculations based on full values.

Year	Total Taxable Capital Investment[47]	County Tax Revenue	School District Tax Revenue (M&O)	School District Tax Revenue (Bonds)	Total Local Tax Revenue[48]
32	$17,143,400	$116,700	$252,300	$29,400	$398,400
33	$17,143,400	$116,700	$252,300	$29,400	$398,400
34	$17,143,400	$116,700	$252,300	$29,400	$398,400
35	$17,143,400	$116,700	$252,300	$29,400	$398,400
Cumulative Total		**$4,387,300**	**$9,484,700**	**$1,103,900**	**$14,975,900**

**Totals may not sum due to rounding.*

Total Fiscal Impact

Table 6 combines the results from the calculations depicted in Tables 2, 4, and 5 to provide an estimate of the cumulative fiscal contribution that the proposed Heart Pine Solar project would make to Marion County and the Marion School District over the life of the project. As these data indicate, that cumulative total is approximately $18.1 million (in 2024 dollars). This consists of approximately $5.3 million in county revenue, approximately $11.4 million in school district M&O revenue, and approximately $1.3 million in school bond tax revenue (in 2024 dollars).

Table 6: Estimated Cumulative Tax Revenue from the Proposed Heart Pine Solar (in 2024 Dollars)

	County M&O	School M&O	School Bond	Total
Personal Property Tax Revenue (Construction Phase)	$415,800	$898,900	$104,600	$1,419,300
Real Property Tax Revenue	$486,700	$1,052,200	$122,500	$1,661,400
Personal Property Tax Revenue (Ongoing Operations)	$4,387,300	$9,484,700	$1,103,900	$14,975,900
Total Cumulative Revenue	**$5,289,800**	**$11,435,800**	**$1,331,000**	**$18,056,600**
Average Annual Revenue	**$151,100**	**$326,700**	**$38,000**	**$515,900**

**Totals may not sum due to rounding.*

Relative Comparisons

As shown in Table 7, the estimated $151,100 in average annual county property tax revenue from the Heart Pine Solar project represents approximately 12 percent of Marion County's FY 2020 general government fund expenses or approximately 134 percent of the Culture and Recreation fund, or approximately 41 percent of the Health and Welfare fund. It is also equivalent to approximately 7 percent of county's total property tax revenues.

Table 7: Average Annual County Property Tax Revenue Generated by the Proposed Heart Pine Solar Project as a Percent of the FY 2020 General Fund Expenses and Revenues[51]

Heart Pine Solar Average Annual Property Tax Revenue		
Marion County M&O		**$151,100**
Expenses	**General Fund**	**Percent of Expenses**
General Government	$1,288,400	12%
Public Safety	$1,016,100	15%
Health and Welfare	$372,700	41%
Culture and Recreation	$112,500	134%
Revenues	**General Fund**	**Percent of Revenue**
Property Tax	$2,194,000	7%

Additionally, as shown in Table 8, the approximate $326,700 in average annual Marion County School District property tax revenue from the Heart Pine Solar project is equivalent to approximately 2 percent of Marion County's FY 2022 total local school district general fund expenditures, to approximately 4 percent of the school district's general fund instruction expenditure, and to approximately 9 percent of the school district's total general fund property tax revenues.

Table 8: Average Annual County School District Property Tax Revenue Generated by the Proposed Heart Pine Solar Project as a Percent of the FY 2022 General Fund Expenses and Revenues[52]

Heart Pine Solar Average Annual Property Tax Revenue		
Marion School District		**$326,700**
Expenses	**General Fund**	**Percent of Expenses**
Total General Fund Expenditures	$18,523,800	2%
Instruction Expenditures	$9,278,000	4%
Revenue	**General Fund**	**Percent of Revenue**
Total Property Taxes for M&O	$3,588,600	9%

[51] Data Source: Marion County Annual Financial Report for the Fiscal Year ended December 31, 2020.
[52] Data Source: Marion County Board of Education Annual Financial Report for the Fiscal Year ended June 30, 2022.

Current Use

This section provides a benchmark for the previous estimates of the economic contribution that the proposed Heart Pine Solar project would make to Marion County by estimating the economic and fiscal contribution that the site makes to the county in its current use.

Economic Impact Assumptions

The analysis is based on the following inputs:

- The proposed Heart Pine Solar project would be situated on an approximately 850 acres of pastureland and timberland.[53]

Economic Impact

Applying these inputs in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 9, in its current use the proposed Heart Pine Solar project site directly supports approximately: 1) < 1 job, 2) $500 in wages and benefits, and 3) $31,300 in economic output to Marion County (in 2024 dollars).

Taking into account the economic ripple effects that direct impact generates, on average, the total annually supported impact on Marion County is approximately: 1) < 1 job, 2) $1,500 in wages and benefits, and 3) $37,100 in economic output (in 2024 dollars).

Table 9: Total Estimated Annual Economic Impact of the Heart Pine Solar project Site on Marion County – Current Use (in 2024 Dollars)[54]

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	< 1	$500	$31,300
2nd Round Indirect and Induced Economic Activity	< 1	$1,000	$5,800
Total Economic Activity	**< 1**	**$1,500**	**$37,100**

**Totals may not sum due to rounding.*

[53] Data Source: AES.
[54] Calculations based data from the U.S. Department of Agriculture and IMPLAN Group, LLC for Georgia.

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- The current taxable value of the affected acreage is approximately $0.4 million.[55]
- The applicable local property tax rate is 23.239 mills (i.e., 6.808 county M&O, 14.72 schools M&O, and 1.713 school bonds).[56]

Fiscal Impact

Table 10 details the estimated tax revenue that the proposed Heart Pine Solar project site generates for Marion County and the Marion County School District in its current use. As the data in Table 10 indicate, the current local real estate tax revenue from the project site is estimated to be approximately $9,920 per year, for a cumulative total of approximately $251,900 over 35 years. This consists of approximately $101,800 in Marion County tax revenue, approximately $134,500 in school district M&O tax revenue, and approximately $15,700 in school bonds tax revenue over 35 years (in 2024 dollars).

Table 10: Estimated Local Revenue Generated by the Proposed Heart Pine Solar project Site over 35 Years from Real Estate Taxes – Current Use (in 2024 dollars)

	Marion County	School District M&O	School Bonds	Total County Tax Revenue
Estimated Taxable Value of Property – Current Use[57]				$427,000
Current Real Estate Millage Rate (per $1,000)	6.808	14.718	1.713	23.239
Estimated Annual County Real Estate Tax – Current Use	$2,910	$6,280	$730	$9,920
Total Cumulative Revenue over 35 years	**$101,800**	**$134,500**	**$15,700**	**$251,900**

**Totals may not sum due to rounding.*

The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing that information. However, because these estimates attempt to foresee circumstances that have not yet occurred, it is not possible to provide any assurance that they will be representative of actual events. These estimates are intended to provide a general indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.

[55] Data Source: Derived from Marion County's tax records database.
[56] Data Source: Marion County's 2023 Tax Digest and Marion County School District.
[57] Data Source: Derived from Marion County's tax records database.

Appendix C

Property Legal Descriptions

Owner: McCorkle, Vance
Parcel Number: 56-12
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOTS 101 AND 102 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO ARRIVE AT THE POINT OF BEGINNING, START AT THE SOUTHEAST CORNER OF LAND LOT 102 OF SAID LAND DISTRICT; THENCE, SOUTH 88 DEGREES 24 MINUTES 54 SECONDS WEST A DISTANCE OF 1532.27 FEET TO A POINT, THENCE, NORTH 1 DEGREE 40 MINUTES 35 SECONDS WEST A DISTANCE OF 1785.47 FEET TO THE POINT OF BEGINNING; THENCE, NORTH 1 DEGREE 40 MINUTES 35 SECONDS WEST A DISTANCE OF 1227.58 FEET TO A POINT; THENCE, NORTH 1 DEGREE 19 MINUTES 25 SECONDS WEST A DISTANCE OF 902.06 FEET TO A POINT; THENCE, NORTH 88 DEGREES 14 MINUTES 46 SECONDS EAST A DISTANCE OF 967.94 FEET TO A POINT ON THE WESTERN RIGHT OF WAY MARGIN OF A PAVED COUNTY ROAD SOMETIMES CALLED THE BUCK HELMS RD; THENCE, SOUTH 4 DEGREES 04 MINUTES 08 SECONDS EAST A DISTANCE OF 317.73 FEET TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID ROAD SOUTH 7 DEGREES 12 MINUTES 15 SECONDS WEST A DISTANCE OF 787.79 FEET CHORD TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD SOUTH 18 DEGREES 50 MINUTES 14 SECONDS WEST A DISTANCE OF 776.93 FEET TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD SOUTH 22 DEGREES 45 MINUTES 15 SECONDS WEST A DISTANCE OF 338.5 FEET TO A POINT; THENCE, SOUTH 88 DEGREES 24 MINUTES 54 SECONDS WEST A DISTANCE OF 452.87 FEET TO THE POINT OF BEGINNING CONTAINING 39.99 ACRES AND BEING DESIGNATED AS TRACT 4A ON A PLAT OF SURVEY BY ABB W. PRESTON, REGISTERED LAND SURVEYOR DATED JULY 25, 1988 AND RECORDED IN PLAT BOOK C, PAGE 144, MARION COUNTY, GEORGIA RECORDS. THE DESCRIPTION OF SAID TRACT 4A AS DESCRIBED ON SAID PLAT IS HEREBY BY REFERENCE MADE A PART HEREOF.

LESS AND EXCEPT

BEGIN AT A POINT ON THE WEST RIGHT OF WAY MARGIN OF THE PAVED COUNTY ROAD NO. 21 SOMETIMES CALLED THE BUCK HELMS ROAD WHERE IT INTERSECTS THE SOUTH LAND LOT LINE OF LAND LOT 101 OF THE NORTH LAND LOT LINE OF 102 OF SAID LAND DISTRICT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD NORTH 12 DEGREES 50 MINUTES 14 SECONDS EAST A DISTANCE OF 5.48 FEET TO A POINT; THENCE, SOUTH 88 DEGREES 14 MINUTES 46 SECONDS WEST A DISTANCE OF 927.74 FEET TO A POINT; THENCE, SOUTH 1 DEGREE 19 MINUTES 26 SECONDS EAST A DISTANCE OF 5.30 FEET TO A POINT; THENCE, SOUTH 1 DEGREES 40 MINUTES 35 SECONDS EAST A DISTANCE OF 1227.58 FEET TO A POINT; THENCE, NORTH 88 DEGREES 24 MINUTES 54 SECONDS EAST A DISTANCE OF 452.87 FEET TO A POINT ON THE WESTERN RIGHT OF WAY MARGIN OF SAID COUNTY ROAD NO. 21; THENCE, ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD NO. 21 NORTH 22 DEGREES 45 MINUTES 15 SECONDS EAST A DISTANCE OF 338.5 FEET CHORD (338.67 FEET ARC) TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD 21 NORTH 18 DEGREES 50 MINUTES 14 SECONDS EAST A DISTANCE OF 776.93 FEET TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD

NO. 21 NORTH 15 DEGREES 52 MINUTES 37 SECONDS EAST A DISTANCE OF 203.16 FEET CHORD (203.25 FEET ARC) TO THE POINT OF BEGINNING CONTAINING 19.99 ACRES AND DESCRIBED ON A PLAT OF SURVEY BY ABB W. PRESTON, REGISTERED LAND SURVEYOR AND RECORDED IN PLAT BOOK E, PAGE 122, MARION COUNTY, GEORGIA RECORDS. THE DESCRIPTION OF SAID 19.99 ACRES AS SHOWN ON SAID PLAT OF SURVEY IS HEREBY REFERENCE MADE A PART HEREOF.

Owner: McCorkle, Vance
Parcel Number: 56-12A
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOTS 101 AND 102 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA CONTAINING 19.99 ACRES AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT A POINT ON THE WEST RIGHT OF WAY MARGIN OF A PAVED COUNTY ROAD SOMETIMES CALLED THE BUCK HELMS ROAD WHERE IT INTERSECTS THE SOUTH LAND LOT LINE OF LAND LOT 101 OF THE NORTH LAND LOT LINE OF 102 OF SAID LAND DISTRICT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD NORTH 12 DEGREES 50 MINUTES 14 SECONDS EAST A DISTANCE OF 5.48 FEET TO A POINT; THENCE, SOUTH 88 DEGREES 14 MINUTES 46 SECONDS WEST A DISTANCE OF 927.74 FEET TO A POINT; THENCE, SOUTH 1DEGREE 19 MINUTES 26 SECONDS EAST A DISTANCE OF 5.30 FEET TO A POINT; THENCE, SOUTH 1 DEGREE 40 MINUTES 35 SECONDS EAST A DISTANCE OF 1227.58 FEET TO A POINT; THENCE, NORTH 88 DEGREES 24 MINUTES 54 SECONDS EAST A DISTANCE OF 452.87 FEET TO A POINT ON THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD; THENCE, ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD NORTH 22 DEGREES 45 MINUTES 15 SECONDS EAST A DISTANCE OF 338.5 FEET CHORD (338.67 ARC) TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD NORTH 18 DEGREES 50 MINUTES 14 SECONDS EAST A DISTANCE OF 776.93 FEET TO A POINT; THENCE, CONTINUING ALONG THE WESTERN RIGHT OF WAY MARGIN OF SAID PAVED COUNTY ROAD NORTH 15 DEGREES 52 MINUTES 37 SECONDS EAST A DISTANCE OF 203.16 FEET CHORD (203.25 FEET ARC) TO THE POINT OF BEGINNING CONTAINING 19.99 ACRES AND DESCRIBED ON A PLAT OF SURVEY BY ABB W. PRESTON, REGISTERED LAND SURVEYOR AND RECORDED IN PLAT BOOK E, PAGE 122, MARION COUNTY, GEORGIA RECORDS. THE DESCRIPTION OF SAID 19.99 ACRES AS SHOWN ON SAID PLAT OF SURVEY IS HEREBY BY REFERENCE MADE A PART HEREOF.

Owner: McCorkle, Vance
Parcel Number: 56-12B
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING IN LAND LOT 102 OF THE 4TH DISTRICT OF MARION COUNTY, GEORGIA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE SAME BEING TRACT 5-B ACCORDING TO A PLAT OF SURVEY BY ABB W. PRESTON, CALLED PLAT PROPERTY OF MRS. W. L. HELMS ESTATE, DATED JULY 25, 1988, AND RECORDED IN PLAT BOOK C,

PAGE 144, MARION COUNTY, GEORGIA RECORDS. THE DESCRIPTION ON SAID PLAT IS HEREBY REFERENCE MADE A PART HEREOF.

Owner: McCorkle, Vance
Parcel Number: 56-16A
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 102 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE SAME BEING TRACT 4B CONTAINING 21.10 ACRES AS SHOWN ON A PLAT OF SURVEY BY ABB W. PRESTON, GEORGIA REGISTERED SURVEYOR NO. 1799, DATED JULY 25, 1988, AND RECORDED IN PLAT BOOK C, PAGE 144, MARION COUNTY, GEORGIA, RECORDS. THE DESCRIPTION OF SAID PLAT IS HEREBY BY REFERENCE MADE A PART HEREOF.

Owner: McCorkle, Vance
Parcel Number: 56-13
Legal Description:

TRACT I

THE GEORGE R. McCORKLE HOME PLACE IN LAND LOT 123 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

ONE HUNDRED TWENTY-ONE ACRES OF LAND, MORE OR LESS, OFF OF THE WEST SIDE OF LAND LOT NUMBER ONE HUNDRED TWENTY-THREE (123) IN THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA. THE TRACT HERBY CONVEYED BEING KNOWN AS THE GEORGE R. MCCORKLE OLD HOME PLACE, AND IS ALL OF THE LAND CONVEYED TO R.P. McCORKLE BY DEED FROM J.R. McCORKLE AND Z.R. McCORKLE, EXECUTORS OF THE WILL OF GEORGE R. McCORKLE, DECEASED, EXCEPT FOUR ACRES IN THE NORTHEAST CORNER OF SAID TRACT, WHERE THE HOME OF CLARENCE R. McCORKLE IS LOCATED. THE LINES AROUND SAID CONVEYED TRACT ARE ALL MARKED AND DEFINED.

THE ORGININAL 125 ACRE TRACT IS BOUNDED ON ALL FOUR SIDES BY LANDS OF W.L. HELMS.

TRACT II

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 101 AND 124 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE SAME BEING TRACT 2 AS DESCRIBED ON A PLAT OF SURVEY BY ABB W. PRESTON, REGISTERED LAND SURVEYOR NO. 1799, DATED JULY 25, 1988, AND RECORDED IN PLAT BOOK C, PAGE 144, OF THE MARION COUNTY, GEORGIA, RECORDS. THE DESCRIPTION OF SAID TRACT 2 AS SHOWN ON SAID PLAT, IS HEREBY, BY REFERENCE, MADE A PART HEREOF.

THIS IS THE SAME PROPERTY DESCRIBED IN A DEED FROM MARY HELMS WELLS TO C.R. McCORKLE DATED JANUARY 6, 1989, AND RECORDED IN DEED BOOK 76, PAGE 274, MARION COUNTY, GEORGIA, RECORDS, WHICH IS BY REFERENCE MADE A PART HEREOF.

TRACT III

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 101 AND 124 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE SAME BEING TRACT 3 AS DESCRIBED ON A PLAT OF SURVEY BY ABB W. PRESTON, REGISTERED LAND SURVEYOR NO. 1799, DATED JULY 25, 1988, AND RECORDED IN PLAT BOOK C, PAGE 144, OF THE MARION COUNTY, GEORGIA, RECORDS. THE DESCRIPTION OF SAID TRACT 3 AS SHOWN ON SAID PLAT, IS HEREBY, BY REFERENCE, MADE A PART HEREOF.

Owner: Morgan, Claudine
Parcel Number: 55-15
Legal Description:

PARCEL A:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING 100 ACRES, MORE OR LESS, OFF OF THE NORTH AND EAST SIDES OF LOT OF LAND NO. 135, SITUATE, LYING, AND BEING IN THE FOURTH DISTRICT OF MARION COUNTY, GA., AND BEING DESCRIBED AS BEING ALL OF SAID LOT LYING NORTH OF THE BRIDGE CREEK SWAMP, THE NORTH SIDE OF THE SAID SWAMP BEING THE SOUTH LINE OF THE LAND HEREIN CONVEYED; AND ALSO A ROAD LEADING ACROSS SAID CREEK TO THE TAZEWELL AND BRANTLEY PUBLIC ROAD. THIS BEING THE ROAD DESCRIBED IN DEED FROM C.B. & J.S. GOODROE TO MRS. M.B. MCCRARY, DATED NOVEMBER 27, 1907, RECORDED IN DEED BOOK V, PAGE 94; AND IN DEED FROM MRS. M.B. MCCRARY TO L.B. SMITH TO R.H. DAVIS, CONVEYING SAID LAND).

ALSO FORTY-FOUR (44) ACRES, MORE OR LESS, ON THE SOUTH AND EAST SIDE OF LOT OF LAND NO. 134, SITUATE, LYING, AND BEING IN THE FOURTH DISTRICT OF MARION COUNTY, GEORGIA, BEING ALL OF SAID LAND LYING SOUTHEAST OF A CERTAIN BRANCH OR HOLLOW, SAID BRANCH RUN INTO THE BENSON BRANCH, THE ABOVE BRANCH OR HOLLOW BEING THE NORTH AND WEST LINES OF THE LAND HEREIN CONVEYED AND ALSO ALL WATER PRIVILEGES ARE HEREIN CONVEYED. THE 44 ACRES HEREIN CONVEYED BEING MORE FULLY DESCRIBED AS FOLLOWS: COMMENCING ON THE LAND LINE BETWEEN LOTS 134 AND 135 AT A POINT WHERE THE BENSON OR MAYSON BRANCH CROSSES SAID LINE AND THENCE RUNNING NORTH UP SAID BRANCH TO WHERE A CERTAIN BRANCH RUNS INTO SAID BRANCH ON THE EAST SIDE, THENCE UP SAID BRANCH OR HOLLOW IN A NORTHEAST DIRECTION TO THE EAST LINE OF SAID LOT NO. 134. ALL OF SAID LANDS IN ONE BODY AND AGGREGATING 144 ACRES, MORE OR LESS, AT EDGE OF SWAMP OF BRIDGE CREEK, THENCE RUNNING UP THE EDGE OF SAID SWAMP TO MAYSON OR BENSON BRANCH, THEN UP SAID BRANCH OF HOLLOW RUNNING THROUGH LOT NO. 134 FROM A SOUTHWESTERLY TO A NORTHEASTERLY DIRECTION TO EAST LINE OF SAID LOT 134, THENCE SOUTH ON THE EAST LINES OF LOTS 134 AND 135 TO STARTING POINT.

THIS IS THE IDENTICAL LAND AS THAT DESCRIBED IN DEED FROM ED HARRIS TO T.E. HAGLER, DATED OCTOBER 13, 1922, AND RECORDED IN DEED BOOK "27" PAGE 4, OF THE RECORDS OF OFFICE OF CLERK OF SUPERIOR COURT OF SAID COUNTY.

PARCEL B:

ONE HUNDRED (100) ACRES OF LAND, MORE OR LESS, OFF OF LAND LOT NO. 134 LYING AND BEING EAST OF A CERTAIN BRANCH RUNNING NORTH AND SOUTH THROUGH SAID LOT, AND KNOWN AS BENSON BRANCH, BEING THE NORTH 100 ACRES OFF OF THE 150 ACRES OF SAID LOT LYING EAST OF SAID BRANCH AND BEING THE SAME 100 ACRES CONVEYED TO JESSE W. SMITH BY DEED FROM WM. T. SMITH, SAID DEED DATED NOVEMBER 16, 1907. SAID TRACT LYING AND BEING IN THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA. THE LAND HEREBY CONVEYED BEING BOUNDED AS FOLLOWS: NORTH BY LANDS OF W.H. COOK NOT CONVEYED BY THIS DEED, ON THE EAST BY LANDS OF W.L. HELMS, SOUTH BY LANDS OF W.L. HELMS, AND ON THE WEST BY LANDS OF W.L. HELMS.

THIS IS THE SAME PROPERTY CONVEYED TO CHARLES L. HELMS BY WARRANTY DEED, SAID DEED BEING RECORDED IN DEED BOOK 42, PAGE 190, CLERK'S OFFICE, MARION COUNTY SUPERIOR COURT.

PARCEL C:

ALL THAT CERTAIN TRACT OR PARCEL OF LAND, CONTAINING 147 ACRES, MORE OR LESS, AS CONVEYED TO MRS. CORNELIA J. HELMS BY DEED FROM W.A. MCCORKLE, DATED OCTOBER 10, 1949, AND RECORDED IN DEED BOOK 34, PAGE 546, OFFICE OF THE CLERK OF SUPERIOER COURT OF MARION COUNTY, GEORGIA, THE SAME BEING 73 ACRES, MORE OR LESS, OFF EAST SIDE OF LAND LOT NO. 123; 14 ACRES, MORE OR LESS, OFF THE NORTHEAST END OF LAND LOT NO. 122 LYING NORTH OF BRIDGE CREEK; 10 ACRES, MORE OR LESS, IN THE NORTHWEST CORNER OF LAND LOT NO. 135, BEING ALL OF THAT PORTION OF SAID LOT NORTH OF SAID CREEK AND WEST OF CERTAIN BRANCH RUNNING INTO THIS CREEK; AND 50 ACRES, MORE OR LESS, OFF THE WEST SIDE OF LAND LOT NO. 134 BEING ALL OF SAID LOT WEST OF THE AFORESAID CERTAIN CREEK. ALL IN THE 948 G.M. DISTRICT AND IN THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA AND HAVING SUCH OTHER DESCRIPTION AS APPEARS IN THE ABOVE DESCRIBED DEED FROM MCCORKLE TO MRS. CORNELIA J. HELMS AS AFORESAID. ALSO THE RIGHTS IN MCCORKLE FISH POND AS STATED IN SUCH RECORDED DEED.

Owner: Morgan, Richard
Parcel Number: 55-14
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN THE COUNTY OF MARION, STATE OF GEORGIA, BEING ALL THAT CERTAIN TRACT OR PARCEL OF LAND AGGREGATING 263-1/4 ACRES, MORE OR LESS IN ONE BODY, CONSISTING OF THE SOUTH HALF OF LOT OF LAND 155 CONTAINING 101 1/4 ACRES MORE OR LESS AND ALSO 162 ACRES, MORE OR LESS, OFF THE NORTH SIDE OF LOT OF LAND NO. 154. THIS TRACT OF LAND IS KNOWN AS THE JOHN L. SMITH PLACE, LOCATED IN THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, AND BOUNDED NOW OR FORMERLY AS FOLLOWS: NORTH BY THE FORMER T.E. HAGLER LANDS; EAST BY LANDS OF W.F. MIERS AND W.S. HARBUCK; SOUTH BY LANDS NOW OR FORMERLY OF G. W. COOK AND WEST BY LANDS NOW OR

FORMERLY OF ED HARRIS.

THIS IS THE IDENTICAL TRACT OF LAND DESCRIBED IN AND CONVEYED BY DEED FROM MRS. JACK SMITH AND OTHERS TO JOHN L. SMITH, DATED DECEMBER 9, 1944, AND RECORDED IN DEED BOOK 33, PAGE 263, IN THE OFFICE OF THE CLERK OF THE SUPERIOR COURT OF MARION COUNTY, GEORGIA, WHICH RECORDED DEED AND ALL DETAILS OF A DESCRIPTION THEREIN ARE BY THIS REFERENCE MADE A PART HEREOF.

LESS AND EXCEPT: ONE ACRE OF LAND CONVEYED BY TAYLOR WELCH TO JOHN RAMSEY BY WARRANTY DEED DATED MARCH 15, 1979, AND RECORDED IN DEED BOOK 55, PAGE 39, MARION COUNTY, GEORGIA, RECORDS. THE DESCRIPTION OF SAID PROPERTY AS CONTAINED IN SAID DEED IS BY REFERENCE MADE A PART HEREOF.

ALSO LESS AND EXCEPT: ALL THAT TRACT OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE SOUTHWEST CORNER OF LAND LOT 154 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, CONTAINING 5 OR 6 ACRES, MORE OR LESS, AND BEING ALL OF THAT PORTION OF SAID LAND LOT 54** WHICH LIES SOUTH OF AN OLD DIRT ROADBED, SAID TRACT BOUNDED NOW OR FORMERLY AS FOLLOWS: SOUTH BY PROPERTY IN LAND LOT 153 OWNED BY CHARLES L. HELMS AND SAID PROPERTY IS MORE FULLY DESCRIBED IN A DEED FROM TAYLOR WELCH TO CHARLES L. HELMS, DATED AUGUST 8, 1980, AND FILED FOR RECORD AUGUST 25, 1980, AND BEING RECORDED IN DEED BOOK 57, PAGE 343, MARION COUNTY, GEORGIA PUBLIC DEED RECORDS. SAID DEED EXECUTED FOR THE PURPOSE OF ESTABLISHING A LINE BETWEEN THE TWO PARTIES' PROPERTY AT THE TIME.

** NOTE: THE VESTING DEED SHOWS LAND LOT 54, HOWEVER, THE REFERENCE SHOULD BE TO LAND LOT 154.

Owner: Morgan, Richard
Parcel Number: 68-01
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 155 OF THE FOURTH LAND DISTRICT OF MARION COUNTY, GEORGIA, CONTAINING 88.7871 ACRES, THE SAME BEING SHOWN ON A PLAT OF SURVEY, SAID PLAT BEING DATED NOVEMBER 30, 1979, AND RECORDED IN PLAT BOOK C, PAGE 130, CLERK'S OFFICE, MARION COUNTY SUPERIOR COURT. REFERENCE IS HERETO MADE TO SAID PLAT FOR A MORE COMPLETE DESCRIPTION AS THOUGH THE SAME WAS SET FOR THE HEREIN IN ITS ENTIRETY.

Owner: Morgan, Richard
Parcel Number: 68-02
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND CONTAINING 75.087 ACRES, MORE OR LESS, IN LAND LOT 166 OF THE 4TH LAND DISTRICT OF MARION COUNTY, GEORGIA, AS IS MORE PARTICULARLY DESCRIBED ON THE PLAT PREPARED BY ABB W. PRESTON, DATED OCTOBER 30, 1979, AND RECORDED IN PLAT

BOOK B, PAGE 191, DEED RECORDS, MARION COUNTY, GEORGIA, REFERENCE BEING MADE TO SAID PLAT FOR A MORE PARTICULAR DESCRIPTION.

THE PLAT ABOVE REFERENCED INDICATES A TRACT OF LAND CONTAINING 75.687 ACRES, MORE OR LESS, AND THERE IS EXCLUDED FROM SAID ACREAGE AND NOT HEREBY CONVEYED 6 ACRES SHOWN ON SAID PLAT AS "DIRT ROAD"; THUS THE SAID ACREAGE HEREBY DESCRIBED IS 75.087 ACRES, MORE OR LESS.

SAID TRACT OF LAND IS BOUNDED, NOW OR FORMERLY, AS FOLLOWS: NORTH- ROBERT AND CASSIE UNWIN; EAST- COUNTY PAVED ROAD ACROSS WHICH LIES PROPERTY OF JACK AND ARMOUR BROWN AND ALSO ON THE EAST BY BRUCE ZIMMERMAN; SOUTH - THE SOUTH LINE OF SAID LAND LOT 166 ACROSS WHICH LIES PROPERTY OF JACK AND ARMOUR BROWN; WEST - THE WEST LINE OF SAID LAND LOT 166 ACROSS WHICH LIES PROPERTY OF TAYLOR WEBB AND ELLEN H. WATKINS.

THIS IS THE SAME PROPERTY DESCRIBED IN DEED FROM SARA FRANCIS MCCORKLE TO GEORGIA KRAFT COMPANY, DATED NOVEMBER 5, 1979, AND RECORDED IN DEED BOOK 54, PAGE 782, DEED RECORDS, MARION COUNTY, GEORGIA.

Owner: Morgan, Richard
Parcel Number: 67-13 (South of Walter Wells Road)
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN THE FOURTH DISTRICT OF MARION COUNTY, GEORGIA, CONTAINING 253.125 ACRES, MORE OR LESS, BEING IN THE EAST ONE-HALF SIDE OF LAND LOT NO. 165 AND THE WEST SIDE OF LOTS NO. 188 AND 189; BOUNDED ON THE NORTH SIDE BY THE JIM SMITH ESTATE AND LANDS OWNED BY B.L. MCDANIEL, ON THE EAST SIDE BY LANDS OWNED BY B.T. DUKE, ON THE SOUTH BY LANDS OWNED BY JACK AND ARMOUR BROWN, ALSO LAND OWNED BY H.M. WALL.

LESS AND EXCEPT THAT PORTION OF LAND SITUATED NORTH OF WALTER WELLS ROAD.

Owner: Tante, Herbert and Juanita
Parcel Number: 68-4B
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 166 OF THE 41H LAND DISTRICT, MARION COUNTY, GEORGIA, AND FURTHER IDENTIFIED AS TRACT 1 CONTAINING 95.063 ACRES AND TRACT 2 CONTAINING 4.409 ACRES, AND HAVING SUCH SHAPE, SIZE, METES, BOUNDS, COURSES, AND DISTANCE AS ARE SHOWN ON A PLAT THEREOF ENTITLED "HERBERT E. TANTE AND JUANITA H. TANTE" BY PAUL H. JOHNSON, JR., GEORGIA SURVEYOR NO. 2091, DATED AUGUST 23, 2003, AND RECORDED IN PLAT BOOK K, PAGE 89, CLERK'S OFFICE, MARION COUNTY SUPERIOR COURT. REFERENCE IS HEREBY MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE PARTICULAR AND ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

Owner: Tante, Herbert and Juanita
Parcel Number: 68-6E
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 187 OF THE 4TH LAND DISTRICT, MARION COUNTY, GEORGIA FURTHER IDENTIFIED AS PARCEL 1 CONTAINING 0.208 ACRES AND PARCEL 2 CONTAINING 184.127 ACRES AND AS HAVING SUCH SHAPE, SIZE, METES, BOUNDS COURSES AND DISTANCE AS ARE SHOWN UPON A PLAT THEREOF ENTITLED "SURVEY FOR PARCEL 1 & 2 HERBERT E. TANTE AND JUANITA H. TANTE PARCEL 3 LARRY CHAPMAN ESTATE PARCEL 4 THINH LIEN TRAN & ANH TUYET THI NGUYEN: BY MATTHEW S. JOHNSON, G.R.L.S. NO. 2868, DATED JUNE 14, 2011, AND RECORDED IN PLAT BOOK L, PAGE 214, CLERK'S OFFICE, MARION COUNTY SUPERIOR COURT. REFERENCE IS HEREBY MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE PARTICULAR AND ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

Owner: Tante, Herbert and Juanita
Parcel Number: 67-14A
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 188 OF THE 4'H LAND DISTRICT, MARION COUNTY, GEORGIA, FURTHER IDENTIFIED AS PARCEL 1 CONTAINING 26.540 ACRES (INCLUDES 1.006 ACRES IN ROADWAY) AND AS HAVING SUCH SHAPE. SIZE, METES, BOUNDS, COURSES, AND DISTANCE AS ARE SHOWN UPON A PLAT THEREOF ENTITLED "HERBERT E. TANTE" BY MATTHEW S. JOHNSON, G.R.L.S. NO. 2868, DATED JULY 14, 2015, AND RECORDED IN PLAT BOOK M, PAGE 199, CLERK'S OFFICE, MARION COUNTY SUPERIOR COURT. REFERENCE IS HEREBY MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE PARTICULAR AND ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

PARCEL 2:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 198 OF THE 4TH LAND DISTRICT, MARION COUNTY, GEORGIA, CONTAINING 40.48 ACRES AND FURTHER IDENTIFIED AS PARCEL 2 HAVING SUCH SHAPE, SIZE, METES, BOUNDS, COURSES AND DISTANCE AS ARE SHOWN UPON A PLAT THEREOF ENTITLED "HERBERT TANTE AND RICHARD WATERS" BY BENJAMIN J. SINGLETON, DATED MARCH 24, 2021, AND RECORDED IN PLAT BOOK N, PAGE 184, CLERK'S OFFICE, MARION COUNTY, GEORGIA, SUPERIOR COURT. REFERENCE IS MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

Owner: Tante, Herbert and Juanita
Parcel Number: 68-6F
Legal Description:

PARCEL A:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 187 OF THE 4TH LAND DISTRICT, MARION COUNTY, GEORGIA CONTAINING 11.000 ACRES AND FURTHER DEFINED AS PARCEL 3 AND AS HAVING SUCH SHAPE, SIZE, METES, BOUNDS COURSES AND DISTANCE AS ARE SHOWN UPON A PLAT THEREOF ENTITLED "SURVEY FOR PARCEL 1 & 2 HERBERT E. TANTE AND JUANITA H. TANTE PARCEL 3 LARRY CHAPMAN ESTATE PARCEL 4 THINH TIEN TRAN & ANH TUYET THI NGUYEM: BY MATTHEW S. JOHNSON, DATED JUNE 14 , 2000, AND RECORDED IN PLAT BOOK L. PAGE 214, CLERK'S OFFICE, MARION COUNTY SUPERIOR COURT. REFERENCE IS HEREBY MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE PARTICULAR AND ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

TRACT 3:

PARCEL B:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 198 OF THE 4'H LAND DISTRICT, MARION COUNTY, GEORGIA, CONTAINING 1.000 ACRES AND FURTHER DEFINED AS TRACT 2 HAVING SUCH SHAPE, SIZE, METES, BOUNDS, COURSES, AND DISTANCE AS ARE SHOWN UPON A PLAT THEREOF ENTITLED 'SUBDIVISION SURVEY FOR BONNIE BAXTER" BY BENJAMIN J. SINGLETON, DATED JULY 8, 2019, AND RECORDED IN PLAT BOOK N, PAGE 63, CLERK'S OFFICE, MARION COUNTY, GEORGIA SUPERIOR COURT. REFERENCE IS HEREBY MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE PARTICULAR AND ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

Owner: Tante, Herbert and Juanita
Parcel Number: 68-06
Legal Description:

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 198 OF THE 4TH LAND DISTRICT, MARION COUNTY, GEORGIA, CONTAINING 26.46 ACRES AND FURTHER IDENTIFIED AS PARCEL 1 HAVING SUCH SHAPE, SIZE, METES, BOUNDS, COURSES AND DISTANCE AS ARE SHOWN UPON A PLAT THEREOF ENTITLED "HERBERT TANTE AND RICHARD WATERS" BY BENJAMIN J. SINGLETON, DATED MARCH 24, 2021, AND RECORDED IN PLAT BOOK N, PAGE 184, CLERK'S OFFICE, MARION COUNTY, GEORGIA, SUPERIOR COURT. REFERENCE IS MADE TO SAID PLAT AND INCORPORATED HEREIN FOR THE PURPOSE OF A MORE ACCURATE DESCRIPTION OF THE PROPERTY HEREIN CONVEYED.

Appendix D

Environmental Impact Analysis Report

ENVIRONMENTAL IMPACT ASSESSMENT

Heart Pine Solar
Marion County, GA

Prepared for:
Marion County Planning Commission
and
Marion County Board of Commissioners
February 16, 2024

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Figures

Appendices

1 Introduction

Heart Pine Solar, LLC, a subsidiary of AES Clean Energy Development, LLC ("the Applicant"), is proposing to construct, operate, and maintain the Heart Pine Solar Project, an approximate 150-megawatt (MW) alternating current (AC) photovoltaic (PV) utility-scale solar energy facility on private land spanning several parcels in unincorporated Marion County, Georgia ("the Project"). The Project Area consists of approximately 1,500 acres of predominantly agricultural and undeveloped natural forested land. The Project Area and adjacent properties were evaluated as part of this Environmental Impact Assessment (EIA) Report. The Project aims to reduce the associated environmental impacts of the development and construction to the maximum extent practicable.

This EIA provides:
(1) a description of the proposed construction of the Project;
(2) a description of the environmental setting;
(3) an assessment of potential environmental impacts and potential applicable permits
(4) a summary of this Assessment.

Through the Project development process, numerous environmental and cultural resource studies have been conducted, and reports of findings generated. All currently available studies have been incorporated into this assessment. The Project Team will consult with all applicable regulatory agencies regarding concurrence on findings, recommendations on avoidance, minimization, and mitigating measures, and if any additional surveys will be required. The Project Team will obtain all necessary permits for regulated activities within the jurisdiction of those agencies.

1.1 Project Description

The Project will be a ground mounted solar energy system comprised of solar PV modules, a racking system, inverters, and underground electrical conduits connecting PV array blocks with inverters to a project substation and interconnection switchyard, and a small operations and maintenance building. Access roads with gated entrances will be located throughout the site for access and maintenance of equipment during construction and operation of the site.

1.2 Environmental Setting

The Project is located south of Walter Wells Road, west of Hartage Ford Road, east and west of Harbuck Pond Road, and east and west of Morgan Ford Road, in the unincorporated eastern portion of Marion County, Georgia, in the Agriculture (A) Zoning District and approximately 1-mile due west of the Tazewell community. Figure 1 depicts the regional Project location within the state, Figure 2 shows the local Project location within a more focused geographical area, and Figure 3 depicts the Project location with an aerial photography base map. The properties that will host the Project's infrastructure have historically been used for agriculture. The area surrounding the Project site consists of pastures, livestock, row crops, silviculture, residential properties, and undeveloped forested land.

2 Water Resources

2.1 Waters of the United States / State Waters

Impact Evaluation Method

A desktop evaluation and field wetland delineation of the Project Area have been conducted as part of project due diligence, final design assistance, and to verify the presence and locations of Waters of the United States (WOTUS). The desktop and field Wetland Delineation Report are included in Appendix A.

As part of the desktop evaluation, base maps, resource reports, and databases listed below were reviewed to determine the current and historical landforms, landcovers, land uses, soil mapping, and sources of groundwater and surface water to identify potential WOTUS and State Waters within the Project Area.

- USGS Topographic Maps
- USGS 3D elevation program (3DEP)
- National Wetland Inventory (NWI)
- National Hydrographic Database (NHD)
- United States Department of Agriculture (USDA) Natural Resources Conservation
- Service (NRCS) Web Soil Survey
- Federal Emergency Management Agency (FEMA) National Flood Hazard Tool
- National Landcover Database (NLCD)
- USGS Protected Areas Dataset (PAD-US)

An onsite wetland delineation was be conducted in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual, the Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0), and current regulatory guidance.

Existing Conditions

The Project is in Marion County, Georgia, on the Tazewell North, Tazewell South, Buena Vista NE, Georgia United States Geological Survey (USGS) 7.5-minute Quadrangles (Quads) (Figure 1 and Figure 2 in the desktop evaluation in Appendix B). It is located within Hydrologic Unit Codes (HUC12) 031300060102, Lower Shoal Creek; 031300060103, Gin Creek; and 031300060105, Oochee Creek. The Project footprint is an irregular polygon located northeast of Buena Vista, Georgia. The site lands and tributaries generally flow southeast towards Hardage Ford Creek for the northern parcels, and to the northeast towards Hardage Ford Creek for the southern parcels.

During the onsite delineation, approximately 1,050 linear feet of perennial stream and 326 linear feet of an intermittent stream were identified in the footprint of the Project. Also, approximately 109 acres of wetlands were identified within the Project area comprised of the following: six palustrine emergent (PEM) wetlands totaling approximately 9.3 acres, six palustrine forested (PFO) wetlands totaling approximately 99.7 acres, and one palustrine unconsolidated bottom (PUB) covering approximately 0.2 acres. There are four isolated features that would potentially be considered non-jurisdictional USACE (maybe state) wetlands, totaling 0.7 acres. All wetland and stream data forms and additional information about these resources are included in Appendix A.

Potential Impacts / Mitigation

At the current early-stage design, the Project avoids direct impacts to WOTUS and State Waters. The final Project configuration will be designed to avoid impacts to WOTUS and State Waters to the greatest extent practicable. If direct impacts to jurisdictional features are unavoidable, then proposed impacts will be minimized and the necessary USACE and state coordination will be conducted, and requisite permits will be acquired prior to construction.

Indirect impacts, such as sediment movement during construction, will be mitigated for through the use of erosion prevention and sediment control best management practices, buffer implementation, and referencing the "Recommended Practices for the Responsible Siting and Design of Solar Development in Georgia" as a site aid.

2.2 100-Year Floodplain

Impact Evaluation Method

The Project Area was reviewed with the National Flood Hazard Layer, produced by the FEMA, to determine the location of on-site floodplains. A desktop evaluation and wetland delineation of the Project site has been conducted as part of project due diligence, final design assistance, and to verify the presence and locations of onsite Floodplains. The referenced studies are included in Appendix A.

The following database was used to evaluate the presence of onsite Floodplains.

- Federal Emergency Management Agency (FEMA) National Flood Hazard Tool

Existing Conditions

As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Maps (#13197C0150A, 13197C0225A, and 1319C0125A effective date 05/10/2010), the Project Area lies mostly within an area of minimal flood hazard (Zone X; Figure 4 of the Wetland Delineation Report). A portion of the Project Area along Hardage Ford Creek is within a flood hazard area (Zone A; Figure 4 of the Wetland Delineation Report) but current design avoids development in this area.

Potential Impacts / Mitigation

At the current early-stage design, the Project avoids construction and/or site improvements within the 100-Year Floodplain. The final Project configuration will be designed to avoid siting the project within the delineated 100-Year Floodplain to the greatest extent practicable. If direct impacts to floodplains are unavoidable then the necessary FEMA, state, and local coordination will be conducted, and requisite permits will be acquired prior to construction.

2.3 NPDES Construction Stormwater Permitting

Impact Evaluation Method

Existing drainage patterns, soil types, and substantial slopes were evaluated utilizing publicly available databases during the development phase of the Project. The databases listed below were reviewed to

determine the current and historical landforms, landcovers, land uses, soil mapping, and sources of groundwater and surface water within the Project area and assist in site development.

- USGS Topographic Maps
- USGS 3D elevation program (3DEP)
- National Wetland Inventory (NWI)
- National Hydrographic Database (NHD)
- United States Department of Agriculture (USDA) Natural Resources Conservation
- Service (NRCS) Web Soil Survey
- Federal Emergency Management Agency (FEMA) National Flood Hazard Tool
- National Landcover Database (NLCD)
- USGS Protected Areas Dataset (PAD-US)

In addition to the above, the Georgia EPD's GAR100001, the new official National Pollutant Discharge Elimination System (NPDES) stormwater discharges associated with construction for standalone construction projects disturbing 50-acres or more approval guidance, the Manual for Erosion and Sediment Control in Georgia (2016), and the Recommended Practices for the Responsible Siting and Design of Solar Development in Georgia were used in evaluation of the Heart Pine Solar design.

Existing Conditions

The topography within the current design footprint is relatively flat, and overall site elevation ranges from 460 feet above mean sea level (amsl) to 690 feet amsl (Figure 1). Groundwater flow direction likely varies across the Project Area. Groundwater flow direction is expected to mimic topography and flow toward the streams located throughout the Project area. Multiple streams are located across the site. Hardage Ford Creek and three unnamed tributaries flow east-southeast through the project area. Gin Creek eventually flows into Buck Creek, located approximately 0.5 miles southeast of the Subject Property. Chapman Lake is also depicted approximately 0.25-miles northeast of the Project area.

Steep slopes greater than or equal to 5% for North facing and 15% for East, South, and West facing were avoided to minimize the need for extensive grading. Soils at the Project site range from poorly drained to well drained loams. The Subject Property soils mostly consist of Bibb sandy loam, Cowarts and Ailey soils, and Troup loamy sand. Ailey loam coarse sand, Dolhan loamy sand Fuquay loamy sand, Iuka sandy loam, Lakeland sand, Lucy loamy sand, Nankin sandy loam, Orangeburg loamy sand, and Vauclose and Ailey soils are also present.

Potential Impacts / Mitigation

Prior to construction, the Project's design and engineering must conform to all state and local laws and regulations. This includes providing Best Management Practices (BMPs) to protect nearby waterways and neighboring property. The Georgia EPD is responsible for overseeing the issuance of permits within the NPDES program that regulates construction stormwater discharges. A Storm Water Pollution Prevention Plan (SWPPP) is required for the Project, which is a site-specific document that outlines the measures a project will take to reduce pollutants in the stormwater discharges from a construction site. Stormwater controls reduce erosion and sediment movement during precipitation events.

Prior to construction the Project will prepare a SWPPP as well as erosion and sediment control plans for submittal and approval for an NPDES construction permit through the Georgia EPD. The SWPPP will

ensure construction activity compliance with guidelines and regulations for erosion prevention and controlling sediment movement through the use of BMPs.

3 Biological Resources

1.1 Federal & State Protected Species & Species of Special Concern

Impact Evaluation Method

A desktop evaluation and Habitat Suitability Survey of the Project site have been conducted to evaluate the potential for threatened and endangered species to occur within the Project Area. The desktop and Habitat Assessment are included in Appendix B.

The following state and federal natural resource databases were utilized to ascertain the potential for the Project to affect species listed as threatened or endangered:

- U.S. Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC);
- USFWS Critical Habitat for Threated and Endangered Species Mapper;
- Georgia Biodiversity Portal
- Georgia Low Impact Solar Siting Tool (GA LISST)
- Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Existing Conditions

At the time of the on-site habitat assessment, the Project consisted of grasslands used for agricultural purposes and forested areas in Georgia's coastal plain physiographic province. Multiple cleared utility easements cross the Project, as well as a stream and wetland systems.

Based on the results of the Habitat Assessment completed in January 2024, the Project was divided into the following distinct habitat types:

- Grasslands (845.41 acres),
- Early Successional Forest (90.44 acres)
- Mid-Late Successional Forest (446.80 acres),
- Planted Pine Forest (91.20 acres),
- Recent Clearcut (68.35 acres), and
- Developed/Residential Lands (11.10 acres)
- Streams (5.4 acres; 1,376.6 linear feet)

The USFWS IPaC and Georgia Biodiversity Portal lists identified two federally endangered species, harperella and relict trillium, one federally proposed endangered species, tricolored bat, one federally proposed threatened species, alligator snapping turtle, and one state threatened species, gopher tortoise. Based on review of state and federal databases and a pedestrian survey of the property, suitable habitat exists for four of the five protected species targeted within the Project study area: tricolored bat, alligator snapping turtle, harperella, and gopher tortoise. Suitable habitat for relict trillium was not identified during the pedestrian survey.

Potential Impacts / Mitigation

Given that suitable habitat exists for four of the five species of concern indicated within the respective database reports, the Project Team will consult with the USFWS and GADNR regarding the need for additional species-specific presence/absence surveys, recommendations on avoidance, minimization, and mitigation measures.

4 Cultural Resources

Impact Evaluation Method

The Cultural desktop study was performed with reference to, and consistent with, the principles and standards contained in *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716), as amended and annotated, the National Historic Preservation Act of 1966 (NHPA), as amended, the revised regulations of the Advisory Council on Historic Preservation implementing Sections 106 and 110 of the NHPA (30 CFR 800 "Protection of Historic Properties"), and the National Environmental Policy Act of 1969 (NEPA), as amended. This investigation was conducted in accordance with applicable administrative rules and guidelines pertaining to historic preservation published by the Georgia State Historic Preservation Officer (GA SHPO) and the Georgia Council of Professional Archaeologists. The Cultural desktop study is included in Appendix C.

Existing Conditions

The Project is in an area characterized by rolling hills and ridges dissected by numerous creeks. Much of the Area of Potential Effects (APE) is currently being used for various agricultural pursuits, ranging from pasturing cattle to growing hay, although significant portions remain covered by forest. Contemporary land use is partially determined by topography and hydrology, with both steep-sloping hillsides and low-lying creek floodplains retaining forest cover, and similar environmental conditions are likely to have affected settlement patterns in the past.

Marion County sits along the northern boundary of the Fall Line Hills physiographic district of the Coastal Plain Province, just south of the Fall Line that marks the contact between Cretaceous and younger sediments and older metamorphic rocks of the Piedmont District (Clark and Zisa 1976). Much of the project area is underlain by the unconsolidated Cretaceous sands and clays of the Ripley formation and its Cusseta sand member (Lawton et al. 1976), the erosion and transport of which provide the landscape with its dissected character. This area falls within the Sand Hills ecoregion, with natural vegetation dominated by oak-hickory-pine forests and sandy soils that support pine plantations today (Griffith et al. 2001).

Environmental and cultural factors, along with survey results, suggest there is a high probability for cultural resources to be present in several zones of the Heart Pine Solar APE.

Potential Impacts / Mitigation

Given the potential probability for cultural resources to exist, the Project Team will consult with the state archeologist and the GA SHPO regarding the need for additional cultural surveys, recommendations on avoidance, minimization, mitigation measures.

5 Environmental Conditions

5.1 Spill Prevention Control & Countermeasures (SPCC) Compliance

Impact Evaluation Method

The U.S. Environmental Protection Agency's (USEPA) oil spill prevention program includes the Spill Prevention, Control, and Countermeasure (SPCC) Plan and the Facility Response Plan (FRP) rules. The SPCC rule currently states that if the facility's total aggregate capacity of aboveground storage is greater than 1,320 U.S. gallons of oil or the total aggregate capacity of completely buried storage is greater than 42,000 U.S. gallons of oil, then an SPCC plan is required and must be prepared. The SPCC rule helps facilities prevent the discharge of oil into navigable waters or adjoining shorelines. The FRP rule requires certain facilities to submit a response plan and prepare to respond to a worst-case oil discharge or threat of a discharge. Facilities that could reasonably cause "substantial harm" to the environment or navigable waters as the result of an oil discharge are required to prepare an FRP. The construction or operation of the proposed facility should not pose substantial harm and therefore an FRP will not be prepared for this facility.

As part of the requirements of 40 CFR Part 112, an SPCC Plan addresses devices and practices relevant to preventing releases of oil from reaching waters of the United States. Using 40 CFR Part 112 as a guide the standard procedures, methods, and equipment associated with the proposed facility have been evaluated for potential impacts from discharge of oil (i.e., petroleum oil and non-petroleum products) from non-transportation related onshore and offshore facilities into or upon the navigable Waters of the United States or adjoining shorelines.

Existing Conditions

The total Project area of the site is approximately 1,391.64 acres, with the fenced area of power generating equipment totaling approximately 757 acres. The Project footprint would occupy approximately 54.40 percent of the total Project boundary. Site drainage mimics the current topography and flows toward the streams located throughout the Project area. Multiple streams are located across the site including Hardage Ford Creek and three unnamed tributaries which flow east-southeast through the Project area and Gin Creek eventually flows into Buck Creek, which is located approximately 0.5 miles southeast of the Subject Property.

Potential Impacts / Mitigation

In accordance with USEPA SPCC rule, if the Project anticipates meeting or exceeding the thresholds for aboveground oil storage, then an SPCC plan will be developed. The total aggregate capacity of completely buried oil storage onsite will not exceed 42,000 U.S. gallons. Above-ground bulk storage containers and oil-filled equipment will be used to calculate the total volume of oil onsite.

State and federal agencies will be informed (i.e. notified) if a discharge of oil from the facility exceeds reportable quantities. Following a non-incidental spill of oil or petroleum product, above reportable quantities, employees involved in the incident will notify the Project Environmental Compliance Manager. The Environmental Compliance Manager will be responsible for all required local, state, and federal reporting.

5.2 Contaminated or Potentially Contaminated Soil or Groundwater

Impact Evaluation Method

A Phase I Environmental Site Assessment (ESA) was conducted on the Project site located in the unincorporated eastern portion of Marion County, Georgia. The Phase I ESA was conducted in accordance with ASTM International (ASTM) Standard E1527-21 to identify, to the extent feasible, "recognized environmental conditions" (RECs) at the Subject Property as the term REC is defined by E1527-21. The Phase 1 ESA is included in Appendix D.

Existing Conditions

Based on information gathered during the Phase I ESA the following two RECs were identified:

- **REC 1:** Surface staining associated with a diesel aboveground storage tank (AST) and pump was observed on Parcel G. Staining was observed on the concrete pad and the surrounding soil. The tank and auxiliary equipment (e.g., pump, hoses, etc.) were also noted to be in poor condition. Based on the observed apparent petroleum release, this is considered a REC.
- **REC 2:** Surface staining was observed in and around the covered shed area on Parcel G; various chemicals and fluid (including hydraulic fluid and engine oil) were noted in this area. A surface stain, apparently associated with petroleum and chemical storage, was observed on the edge of a concrete pad and the surrounding soil. Based on the observed apparent petroleum release, this is considered a REC.

No other environmental conditions were recognized during the Phase I ESA.

Potential Impacts / Mitigation

The RECs identified in the Phase I ESA are located outside of the current project footprint at this early design stage. AES will conduct a Phase II ESA to assess the identified RECs for the presence of Chemicals of Concern (CoCs) as necessary to further de-risk the Project. The Project does not anticipate any contamination of soil or groundwater from construction and operations of the proposed facility.

5.3 Air Quality

Impact Evaluation Method

The Clean Air Act (CAA), first enacted in 1963, and amended several times, regulates air emissions from stationery and mobile sources. The CAA also required USEPA to set National Ambient Air Quality Standards (NAAQS) for six principal pollutants known as "criteria" air pollutants: sulfur dioxide (SO2), ozone (O3), nitrogen dioxide (NO2), particulate matter whose particles are less than or equal to 10 micrometers (PM10), particulate matter whose particles are less than or equal to 2.5 micrometers (PM2.5), carbon monoxide (CO), and lead (Pb).

Existing Conditions

An area can either be in “attainment” meaning the area complies with the NAAQS or “nonattainment” meaning the area exceeds one or more of the six NAAQS. Per 40 CFR 81.311 of the Federal Register, Marion County’s air quality is listed as ‘Better than national standards.

Potential Impacts / Mitigation

During construction, only minimal air impacts would be expected, as construction might result in localized dust and fumes from equipment. The construction would likely involve using diesel-powered machinery that would create small amounts of airborne dust and debris. Internal combustion engine emissions associated with diesel fuels would generate local emissions, including carbon monoxide, nitrogen oxides, and sulfur dioxide. Also, during clearing activities, trees may potentially be burned and result in a minor increase in Green House Gas emissions. The impacts on air quality would be expected to be minimal and short-lived and would remain well below the applicable ambient air quality standard.

Vehicle traffic on internal unpaved haul-roads and soil disturbance may create short-term fugitive dust issues during construction. BMP control and suppression measures, including covered loads and wet suppression, will minimize fugitive dust emissions. In addition, standard erosion control measures, such as redistribution of removed topsoil and reseeding, would minimize the potential for wind erosion.

The operation of the solar facility would not emit any pollutants and is not anticipated to require any air permits.

7 EIA Summary

Based on the evaluation of Georgia’s natural, historical, and environmental resources, it has been determined that the proposed Project will not have any significant adverse impact on these resources. This has been ensured by the Project Team through siting and due diligence to identify and address potential impacts that can be avoided or minimized during the design phase. The Project will implement best management practices during construction and operations to further minimize impacts. The Project, once operational, will generate electricity, without producing pollutants or greenhouse gases, to meet the regional market needs.

Appendix A

Desktop & Wetland Delineation

Prepared for

The AES Corporation
4200 Innslake Drive, Suite 302
Glen Allen, VA 23060

WETLAND DESKTOP ASSESSMENT
HEART PINE SOLAR PROJECT
Marion County, Georgia

Prepared by

engineers | scientists | innovators
9211 Arboretum Parkway, Suite 200
Richmond, VA 23236

Project Number: GXE10300

January 9, 2024

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APPENDICES

1 Introduction

The AES Corporation (AES) engaged Geosyntec Consultants, Inc. (Geosyntec) to provide support with environmental due diligence and preliminary planning of a new utility-scale photovoltaic solar energy facility referred to as the Pine Heart Solar Project (Project or Project study area). The Project is in Marion County, Georgia, on the Tazewell North, Tazewell South, Buena Vista NE, Georgia United States Geological Survey (USGS) 7.5-minute Quadrangles (Quads) (Figure 1 and Figure 2). It is located within Hydrologic Unit Codes (HUC12) 031300060102, Lower Shoal Creek; 031300060103, Gin Creek; and 031300060105, Oochee Creek (Figure 3). The following report summarizes results of the desktop analysis for wetland habitats within the Project study area. The Project study area reviewed for the wetland desktop assessment totaled around 2,289.2 acres as provided by AES.

2 Desktop Review

Geosyntec reviewed internet databases and online sources during the desktop review. The base maps, resource reports, and databases listed below were reviewed to determine the current and historical landforms, landcovers, land uses, soil mapping, and sources of groundwater and surface water to identify potential wetland habitats within the Project study area.

- USGS Topographic Maps
- USGS 3D elevation program (3DEP)
- National Wetland Inventory (NWI)
- National Hydrographic Database (NHD)
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey
- Federal Emergency Management Agency (FEMA) National Flood Hazard Tool
- National Landcover Database (NLCD)
- USGS Protected Areas Dataset (PAD-US)

2.1 USGS Topographic Map and 3DEP Data Review

USGS 7.5-minute topographic maps for Georgia were reviewed to identify potential wetlands, streams, site development, and landform features within the Project study area. The Project study area is an irregular polygon located northeast of Buena Vista, Georgia. The site lies on the Tazewell North, Tazewell South, and Buena Vista NE, Georgia USGS Quads. Topographic elevations within the Project range between 460 to 690 feet above mean sea level (AMSL). Several named and unnamed surface waters were mapped within the Project (Figure 1). These areas can be seen in enhanced detail through the use of the DEM dataset (Figure 2).

2.2 National Wetland Inventory & National Hydrology Dataset

Based on the NHD, the Project is crossed by Hardage Ford Creek and Shoal Creek, and bordered by Gin Creek which is a perennial waterway. In addition to the named streams, there are 20

unnamed tributaries, intersecting approximately 7 miles of the Project. Potential wetlands are generally associated with NHD stream features.

The National Wetland Inventory dataset indicated approximately 112.2 acres of palustrine wetlands and 11.1 acres of riverine systems are within the Project study area. 104.4 of those acres are classified as Freshwater Forested/Shrub Wetlands, further broken down to 93.3 acres of palustrine forested wetlands (PFO) and 10.3 acres of palustrine scrub-shrub (PSS). The remaining acreage belonging to 7.7 acres of Freshwater Emergent Wetlands and two Freshwater Ponds totaling 0.99 acres (Figure 3).

2.3 USDA (NRCS) Web Soil Survey

Results from the Web Soil Survey indicate that only one soil series within the project contains major hydric components, Bibb sandy loam (Bh). This frequently flooded soil accounts for approximately 150 acres, which equates to 6.6% of the Project. In Marion County, Georgia, Bh is listed that all major and minor components in the map unit are rated as hydric (Figure 4).

These potential wetland areas generally coincide with USDA hydric soils, however potential wetlands were also identified in areas with low presence (3%) of hydric soils. This is in part because soil units are not mapped at a temporal or spatial scale appropriate to assume they capture all existing hydric soils.

2.4 FEMA Floodplain

The Project was reviewed with the National Flood Hazard Layer, produced by the FEMA, to determine the location of on-site floodplains. According to FEMA, small portions of the Project are located within Special Flood Hazard Area, Zone A. The areas of the Project labeled as Zone A are located around named waterways Hardage Ford Creek and Shoal Creek (Figure 5).

2.5 National Landcover Database

The Project was reviewed along with the NLCD, produced by Multi-Resolution Land Characteristics (MRLC) Consortium, to display land cover information. As shown in Figure 6, the portions of the Project with landcover class Woody Wetlands, are geographically very similar to NWI. There are pockets of the landcover class, Emergent Herbaceous Wetlands within the locations of Woody Wetlands.

2.6 Public Lands

The PAD-US was queried to identify existing conservation easements, tribal lands, and publicly owned land within and adjacent to the Project study area. No protected areas were identified within the Project study area or the half mile buffer.

3 Desktop Review Interpretation

3.1 Wetlands

Potential wetland areas within the Project study area were identified through use of multiple datasets including the United States Fish and Wildlife Service (USFWS) NWI, 3DEP lidar derived

terrain, USDA hydric soils data set, and current and historical aerial imagery. Identified wetland areas are shown in Figure 7 and are being provided in digital shapefile and keyhole markup language (kml) format. A conservative, inclusive approach was taken during the desktop assessment for identifying potential wetlands, as it is assumed this assessment will guide any in-field delineation efforts. Aerial imagery between 2005 and 2023 were reviewed. Potential wetlands were delineated in areas with visible inundation across multiple years and in areas with a visible change in the plant community. Low lying areas with limited topography and thus lower downstream flow are more likely to form wetlands. In forested areas, terrain data, NHD, and NWI data had to be relied upon as inundation is not easily visible.

Based on the desktop assessment, 127.8 acres of potential wetlands were identified via desktop interpretation within the Project study area (Figure 7). The provided digital files distinguish potential wetlands based on location and wetland type (herbaceous or forested). Most of the potential wetlands are located within forested areas along streams, floodplains and agricultural fields (Table 1). Potential forested wetlands in the Project were identified in undeveloped areas adjacent to agricultural fields. Wetland presence is likely within these areas based on the lack of conversion to agricultural land, as these areas may be too wet to be easily cleared and tilled.

Table 1: Preliminary Desktop Identified Potential Wetlands

Location	Acres	Percentage
Forested	120.3	92.0
Ponds	2.0	1.5
Fields	8.5	6.5
Total	**130.8**	**100**

3.2 Streams

Potential stream locations were identified within the Project study area with the use of United States Geologic Survey (USGS) NHD and the DEM dataset. 7.3 miles of named streams and unnamed tributaries identified by NHD are within the Project boundary including Hardage Ford Creek and Shoal Creek. Additional stream features and network predictions were located with the use of digital elevation model to identify remanent channels and headcuts.

Based on the desktop assessment, 11.5 miles of potential streams were identified via desktop interpretation within the Project study area (Figure 7).

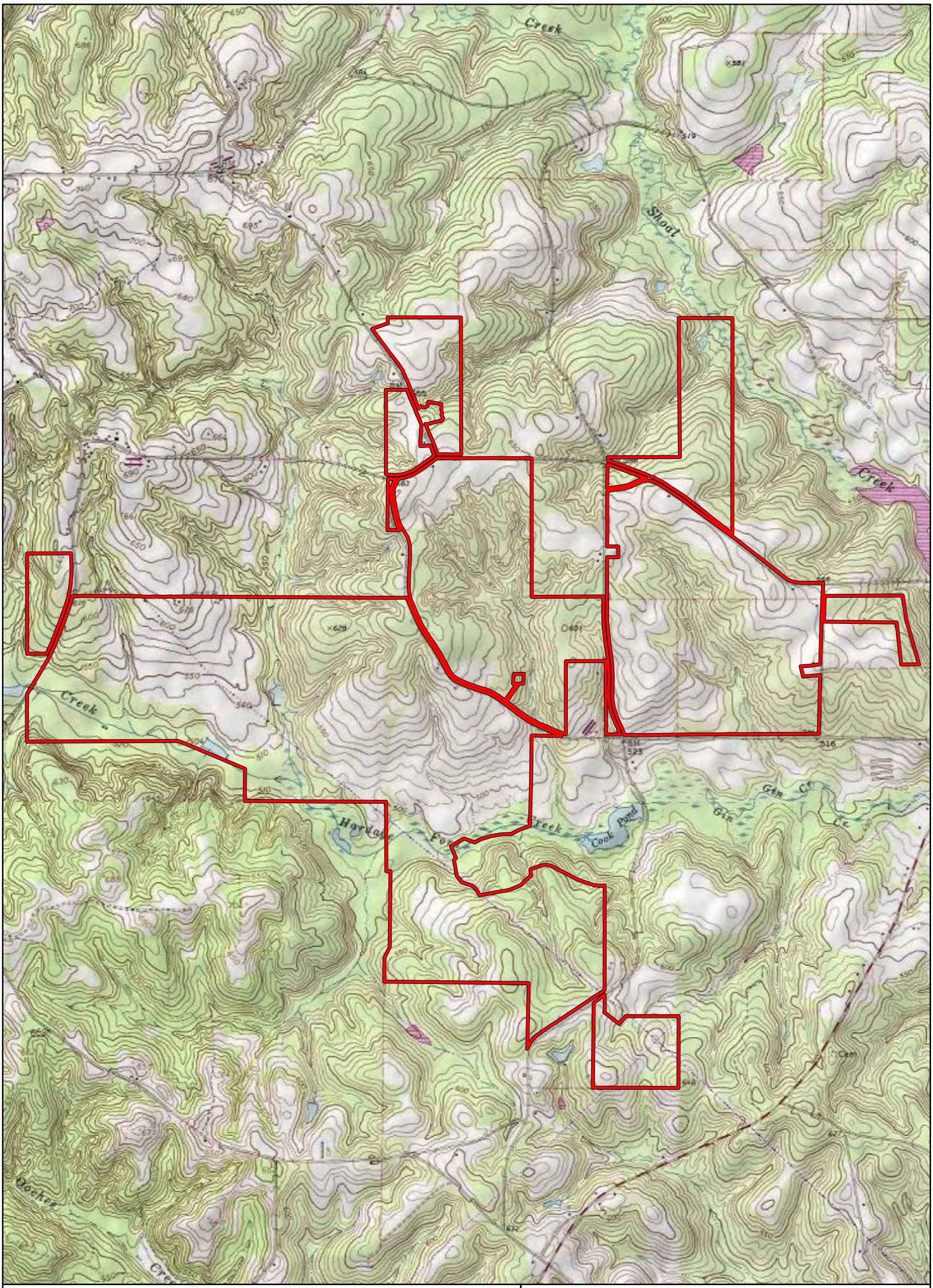
Table 2: Preliminary Desktop Identified Potential Streams

Type	Miles	Percentage
NHD Identified	7.3	63.5
Additional	4.2	36.5
Total	**11.5**	**100**

4 Conclusion

Based on review of internet databases and online sources, approximately 130 acres of potential wetlands and 11.5 miles of stream are within the Project study area. Locations were identified as forested, within fields, or ponds; with most of the acreage classified as potential forested wetlands. It is likely these adjacent forested areas may be too wet to be easily cleared and tilled.

FIGURES



Desktop Study Area The AES Corporation Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 1

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_5Jan24.aprx 1/5/2024 3:02 PM
Basemap Sources: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed

Desktop Study Area

N

0 5,000 Feet

Digital Elevation Model
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

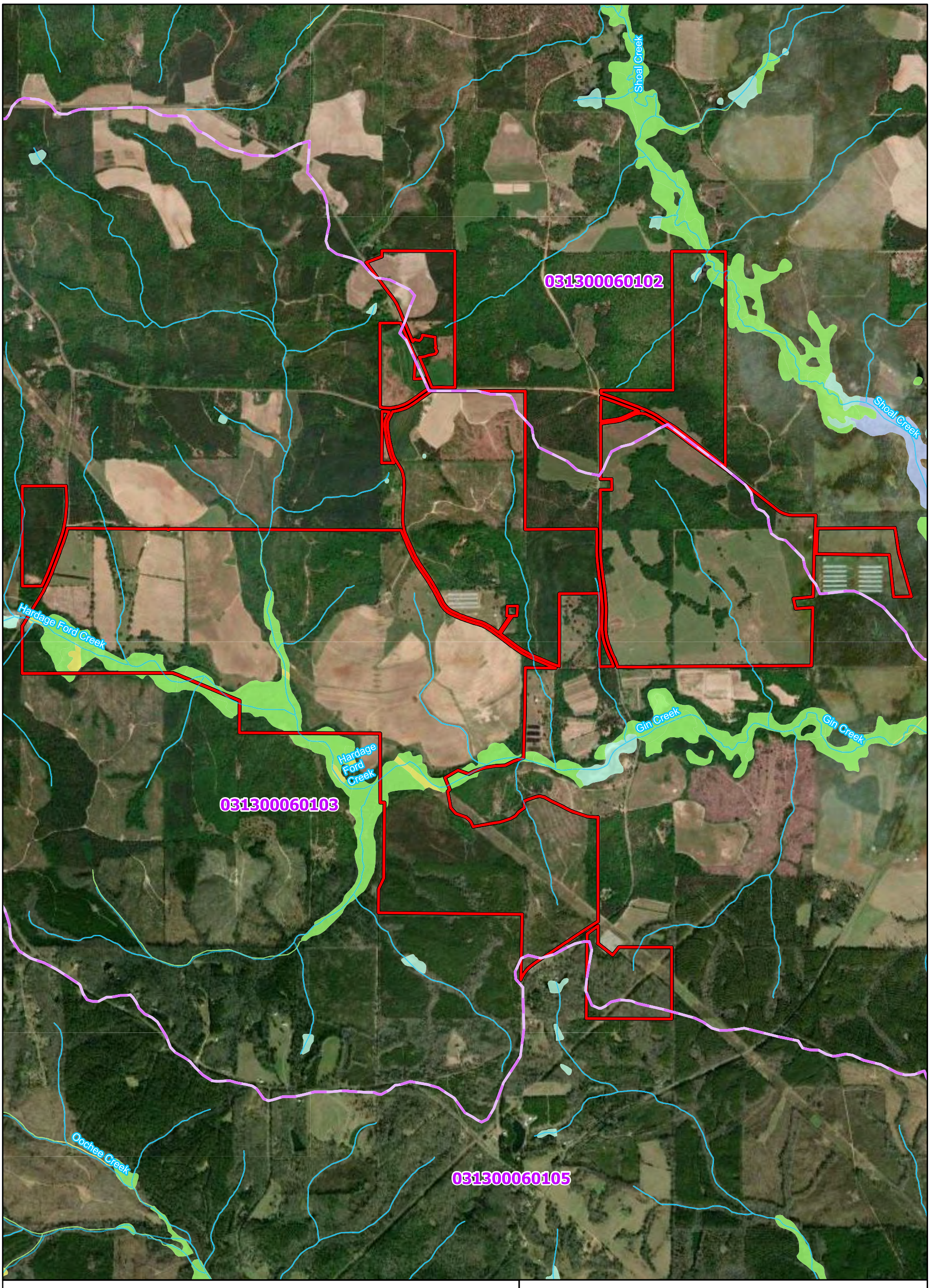
Geosyntec consultants

Figure 2

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_5Jan24.aprx 1/5/2024 3:02 PM
Basemap Sources: Terrain: Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community



Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

- NHD Streams
- HUC12
- Desktop Study Area

N

0 5,000 Feet

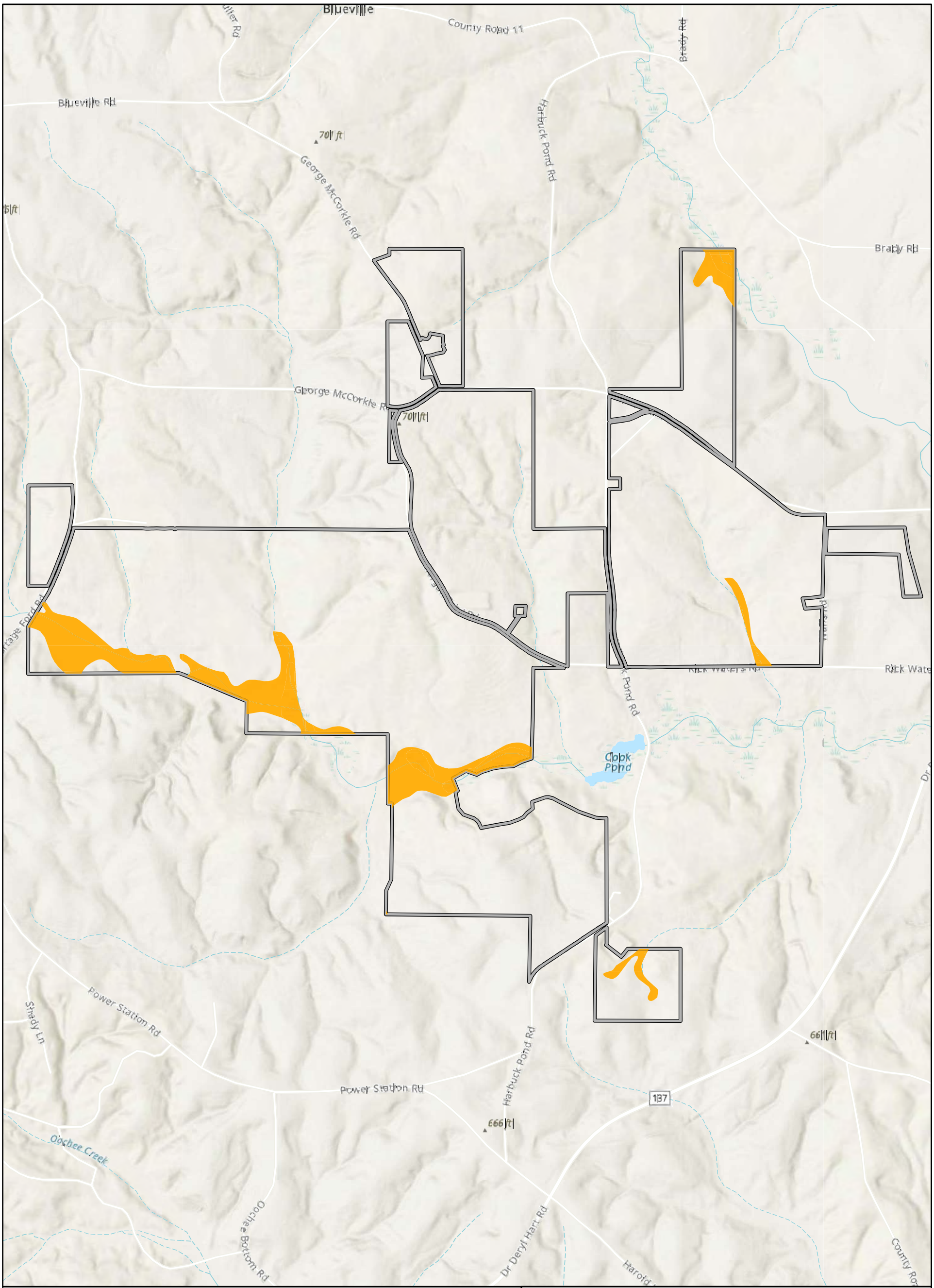
National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD)
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 3

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_5Jan24.aprx 1/5/2024 9:11 AM
Basemap Sources: World Imagery: Maxar



USDA NRCS Hydric Soil Series The AES Corporation Heart Pine Solar Project

Marion County, Georgia

Geosyntec consultants

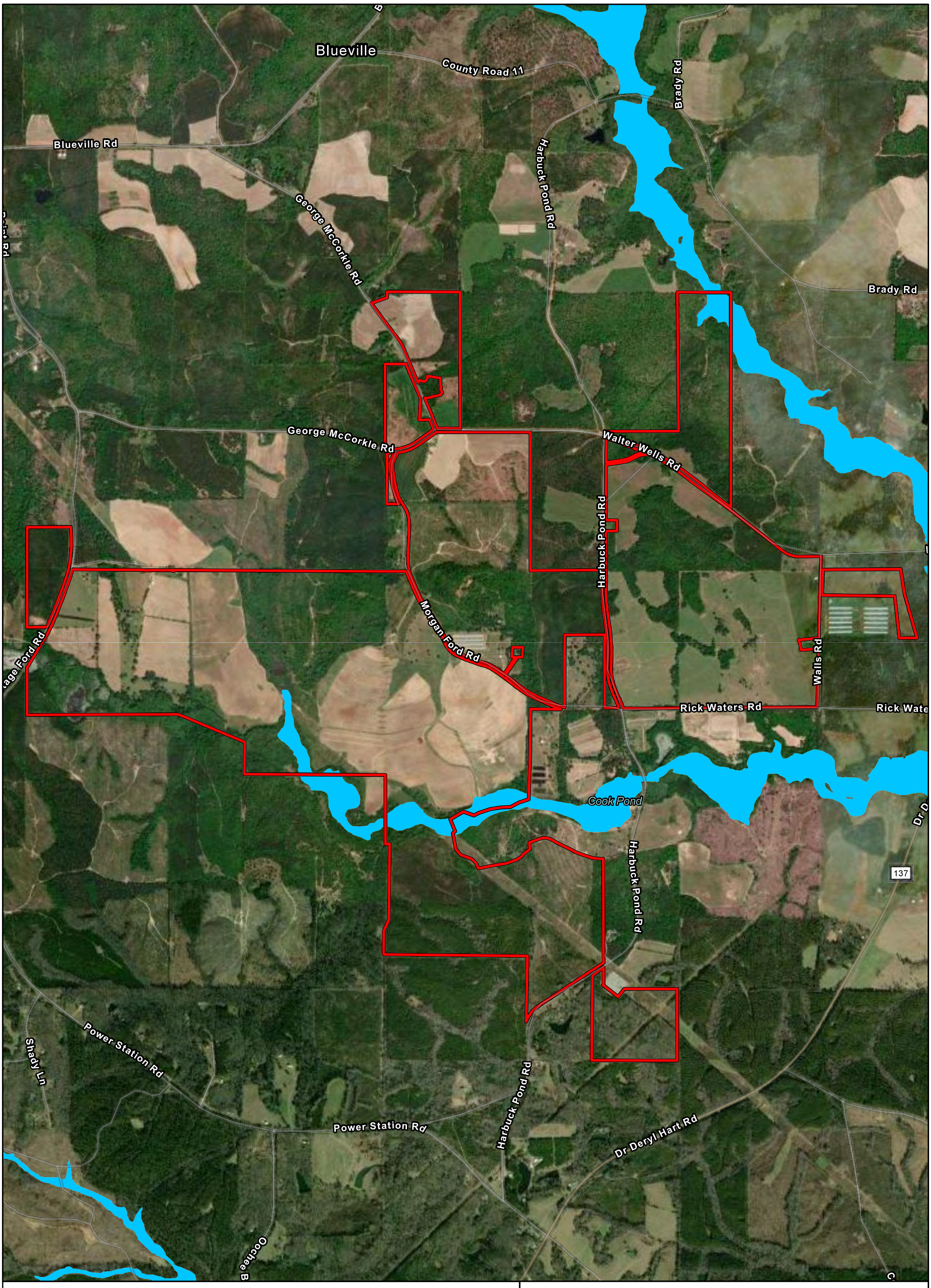
Figure 4

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_5Jan24.aprx 1/5/2024 9:11 AM

Basemap Sources: World Topographic Map: Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Flood Zone Hazard Area

- A
- X
- Desktop Study Area

N

0 5,000 Feet

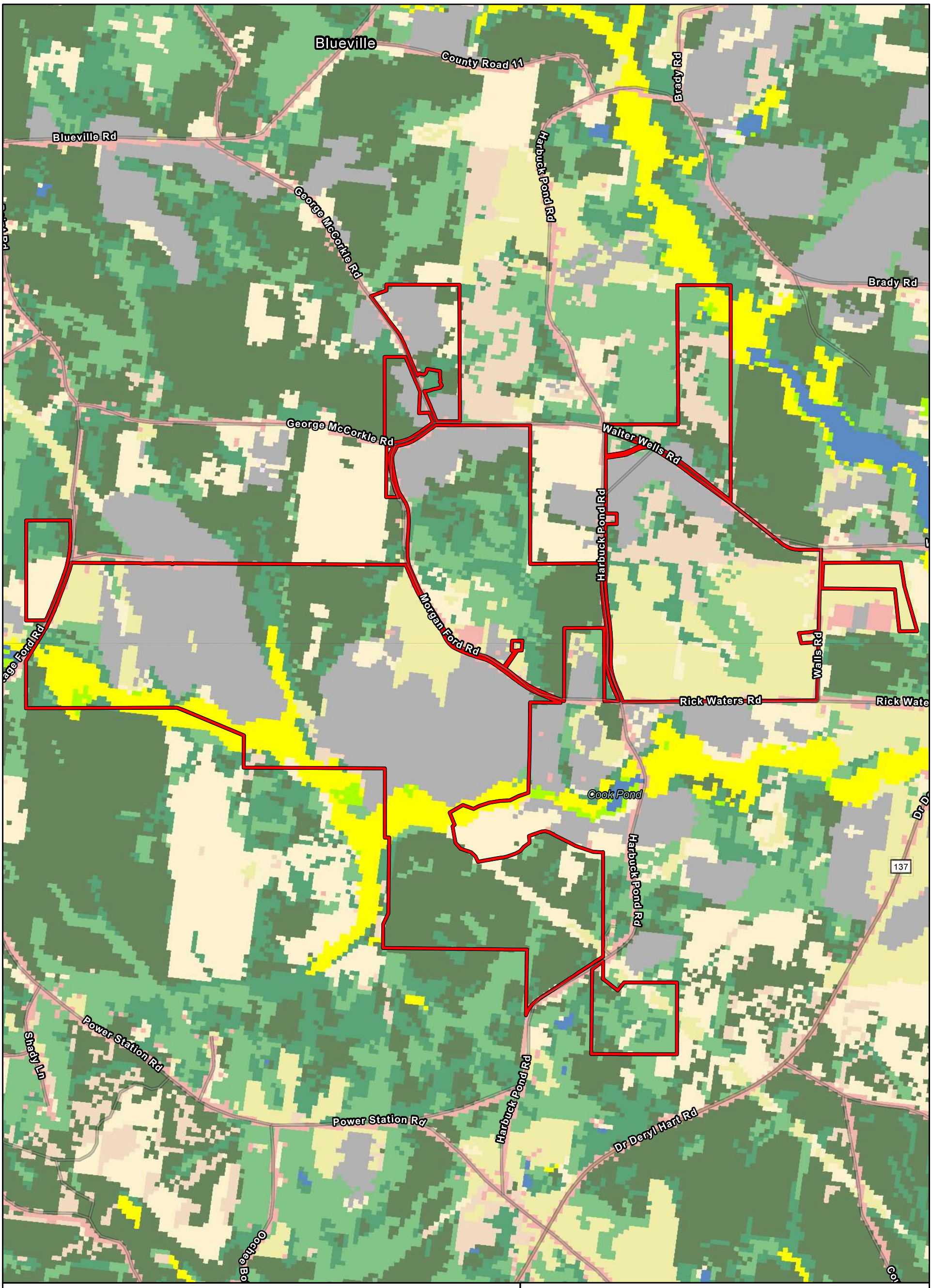
FEMA National Flood Hazard FIRMette
The AES Corporation
Pine Heart Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 5

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_5Jan24.aprx 1/5/2024 9:11 AM
Basemap Sources: Hybrid Reference Layer: Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



National Landcover Database The AES Corporation Pine Heart Solar Project

Marion County, Georgia

Geosyntec consultants

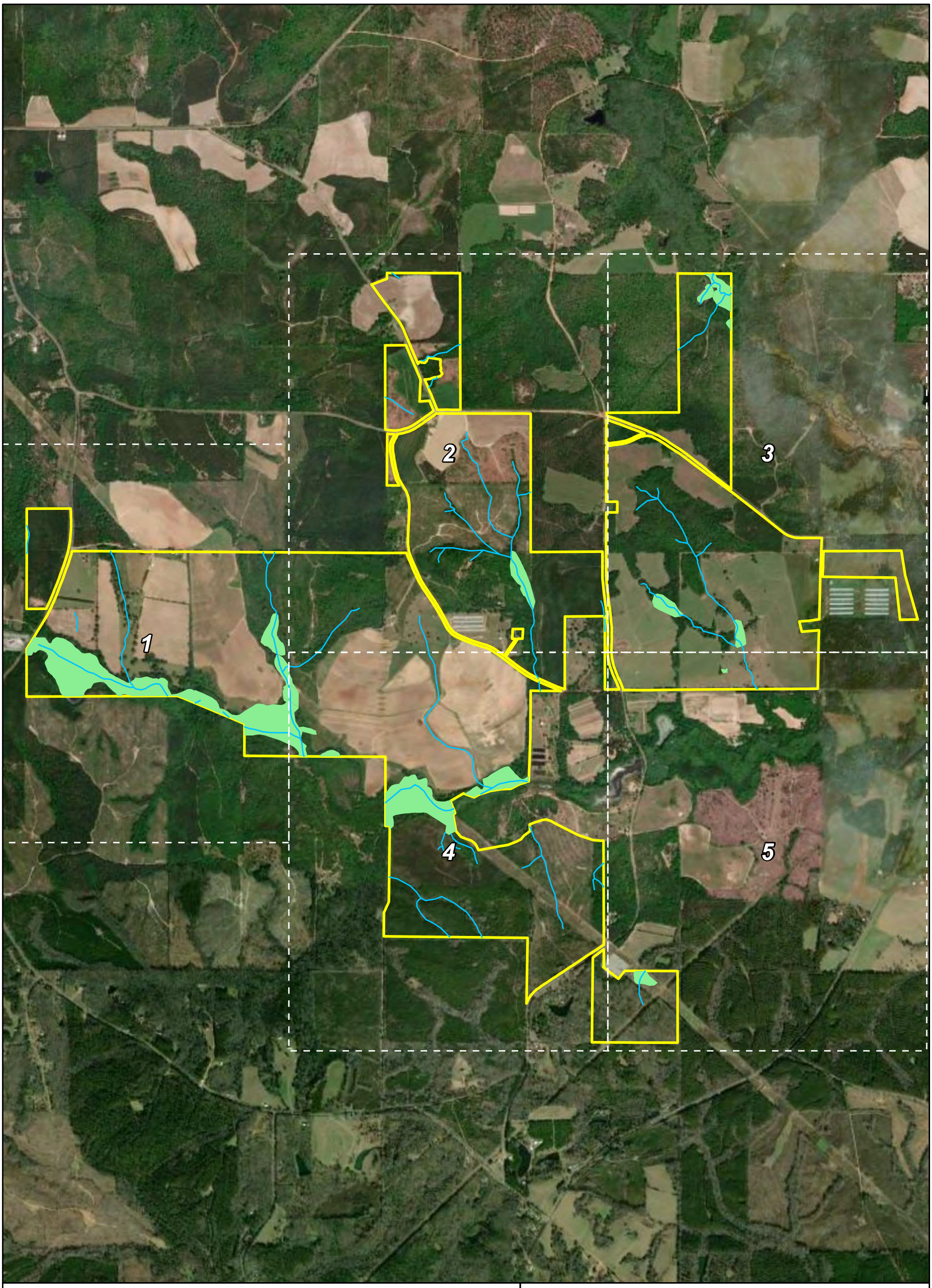
Figure 6

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_5Jan24.aprx 1/5/2024 3:02 PM

Basemap Sources: Hybrid Reference Layer: Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Preliminary Desktop Stream/Ditch

Preliminary Desktop Wetland

Desktop Study Area

Map Grid

N

0 5,000 Feet

Preliminary Wetland Desktop Assessment
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 7

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_9Jan24.aprx 1/8/2024 11:27 AM
Basemap Sources: World Imagery: Maxar

Preliminary Desktop Stream/Ditch

Preliminary Desktop Wetland

Desktop Study Area

Map Grid

N

0 2,000 Feet

Preliminary Wetland Desktop Assessment
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 7

Map Grid 1

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_9Jan24.aprx 1/8/2024 11:27 AM
Basemap Sources: World Imagery: Maxar

Preliminary Desktop Stream/Ditch

Preliminary Desktop Wetland

Desktop Study Area

Map Grid

N

0 2,000 Feet

Preliminary Wetland Desktop Assessment
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

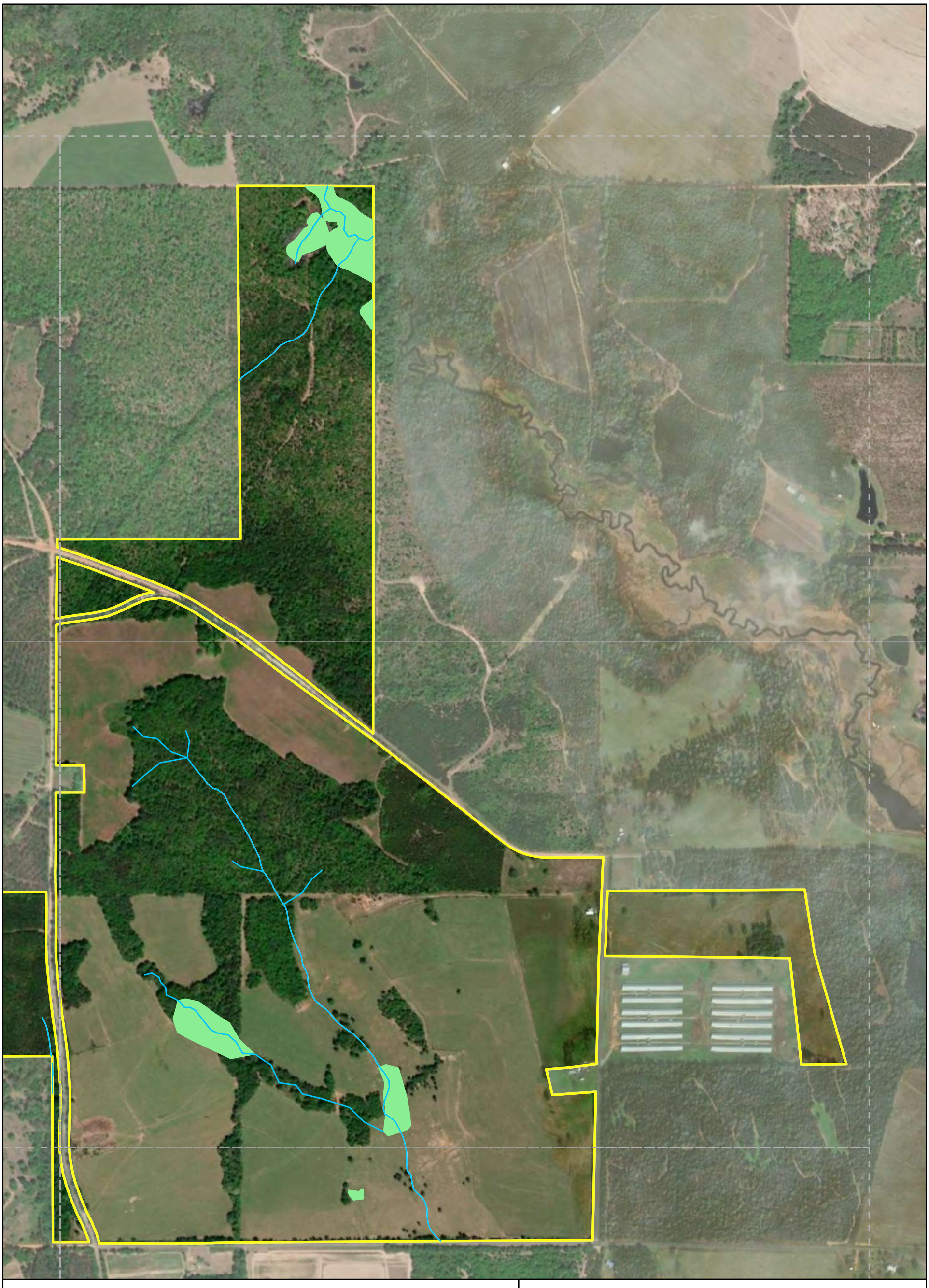
Figure 7

Map Grid 2

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_9Jan24.aprx 1/8/2024 11:27 AM
Basemap Sources: World Imagery: Maxar



Preliminary Desktop Stream/Ditch

Preliminary Desktop Wetland

Desktop Study Area

Map Grid

N

0 2,000 Feet

Preliminary Wetland Desktop Assessment
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 7

Map Grid 3

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_9Jan24.aprx 1/8/2024 11:27 AM
Basemap Sources: World Imagery: Maxar

Preliminary Desktop Stream/Ditch

Preliminary Desktop Wetland

Desktop Study Area

Map Grid

N

0 2,000 Feet

Preliminary Wetland Desktop Assessment
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 7

Map Grid 4

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_9Jan24.aprx 1/8/2024 11:27 AM
Basemap Sources: World Imagery: Maxar

Preliminary Desktop Stream/Ditch

Preliminary Desktop Wetland

Desktop Study Area

Map Grid

N

0 2,000 Feet

Preliminary Wetland Desktop Assessment
The AES Corporation
Heart Pine Solar Project
Marion County, Georgia

Geosyntec consultants

Figure 7

Map Grid 5

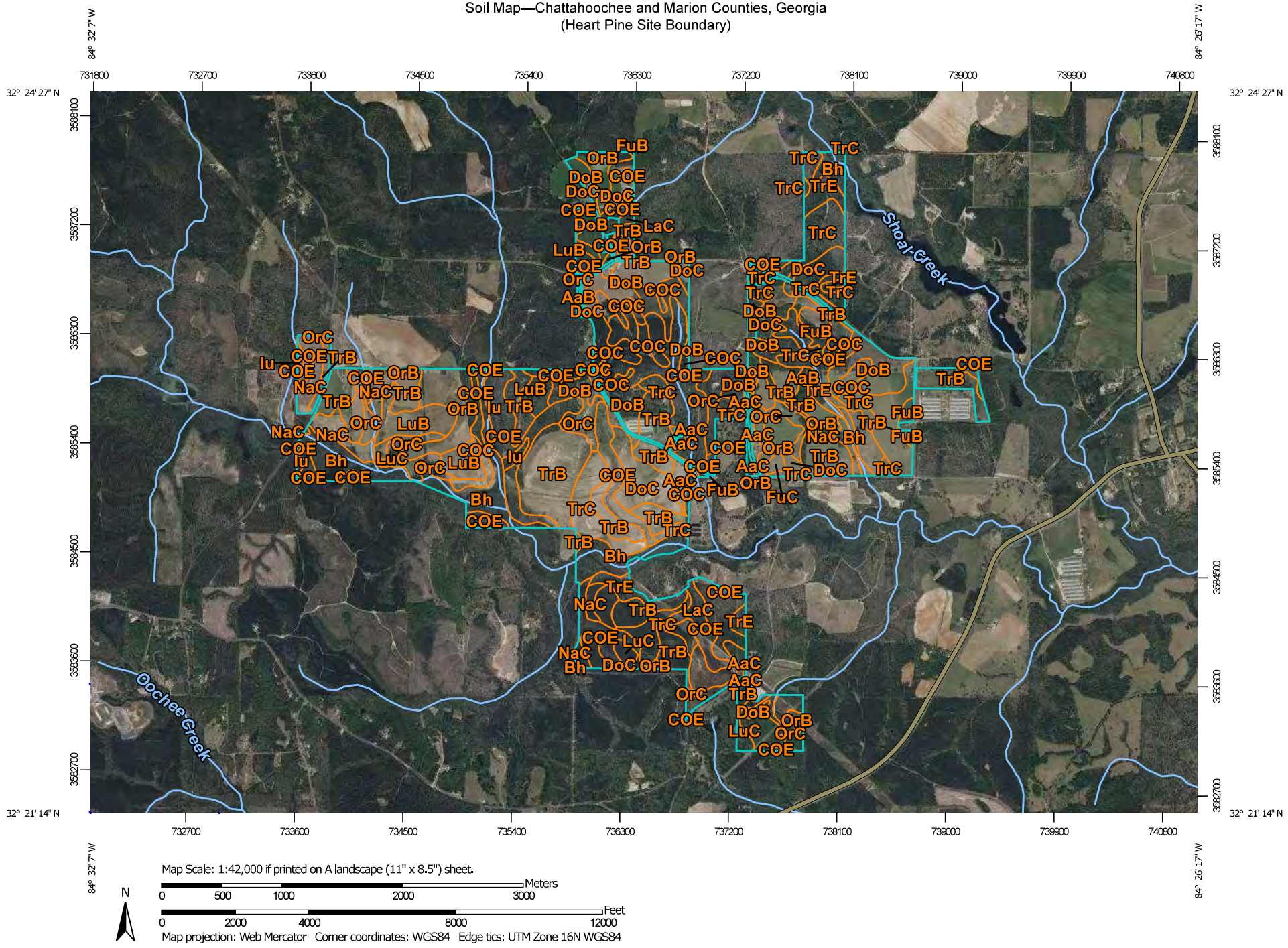
Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_9Jan24.aprx 1/8/2024 11:27 AM
Basemap Sources: World Imagery: Maxar

APPENDIX A
Custom Soil Resource Report
for
Marion County, Georgia

Soil Map—Chattahoochee and Marion Counties, Georgia
(Heart Pine Site Boundary)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

Soil Survey Area: Chattahoochee and Marion Counties, Georgia
Survey Area Data: Version 19, Aug 30, 2023

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

Date(s) aerial images were photographed: Feb 20, 2023—Apr 5, 2023

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Ailey loamy coarse sand, 2 to 5 percent slopes	17.8	0.8%
AaC	Ailey loamy coarse sand, 5 to 8 percent slopes	26.2	1.1%
Bh	Bibb sandy loam, frequently flooded	150.6	6.6%
COC	Cowarts and Ailey soils, 5 to 12 percent slopes	102.6	4.5%
COE	Cowarts and Ailey soils, 12 to 25 percent slopes	410.4	17.9%
DoB	Dothan loamy sand, 2 to 5 percent slopes	221.2	9.7%
DoC	Dothan loamy sand, 5 to 8 percent slopes	117.5	5.1%
FuB	Fuquay loamy sand, 0 to 5 percent slopes	22.6	1.0%
FuC	Fuquay loamy sand, 5 to 8 percent slopes	4.8	0.2%
Iu	Iuka sandy loam, occasionally flooded	20.5	0.9%
LaC	Lakeland sand, 5 to 12 percent slopes	56.2	2.5%
LuB	Lucy loamy sand, 0 to 5 percent slopes	108.5	4.7%
LuC	Lucy loamy sand, 5 to 8 percent slopes	36.9	1.6%
NaC	Nankin sandy loam, 5 to 12 percent slopes	77.8	3.4%
OrB	Orangeburg loamy sand, 2 to 5 percent slopes	118.4	5.2%
OrC	Orangeburg loamy sand, 5 to 8 percent slopes	99.8	4.4%
TrB	Troup loamy sand, 2 to 5 percent slopes	448.8	19.6%
TrC	Troup loamy sand, 5 to 12 percent slopes	194.0	8.5%
TrE	Troup loamy sand, 12 to 25 percent slopes	54.5	2.4%
Totals for Area of Interest		**2,289.2**	**100.0%**

Map Unit Description

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

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

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

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

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

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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

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

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

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

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

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Chattahoochee and Marion Counties, Georgia

AaB—Ailey loamy coarse sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 478v
Elevation: 250 to 450 feet

Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition
Ailey and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ailey

Setting
Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine deposits

Typical profile
A - 0 to 9 inches: loamy coarse sand
E - 9 to 24 inches: loamy coarse sand
Bt - 24 to 38 inches: sandy clay loam
Btx - 38 to 45 inches: sandy clay loam
2Cd - 45 to 80 inches: sandy clay loam

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: 40 to 79 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: F137XY040SC - Loamy Summit Woodland
Hydric soil rating: No

AaC—Ailey loamy coarse sand, 5 to 8 percent slopes

Map Unit Setting
National map unit symbol: 478w
Elevation: 250 to 450 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days

Farmland classification: Not prime farmland

Map Unit Composition

Ailey and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ailey

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

A - 0 to 9 inches: loamy coarse sand
E - 9 to 24 inches: loamy coarse sand
Bt - 24 to 38 inches: sandy clay loam
Btx - 38 to 45 inches: sandy clay loam
2Cd - 45 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: 40 to 79 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: F137XY050GA - Loamy Backslope Woodland
Hydric soil rating: No

Bh—Bibb sandy loam, frequently flooded

Map Unit Setting

National map unit symbol: 478x
Elevation: 50 to 450 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Bibb and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bibb

Setting

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: sandy loam

H2 - 18 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: About 6 to 12 inches

Frequency of flooding: Frequent

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D

Ecological site: F137XY010SC - Flood Plains And Seepage Swamps

Hydric soil rating: Yes

COC—Cowarts and Ailey soils, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 478z

Elevation: 150 to 700 feet

Mean annual precipitation: 44 to 52 inches

Mean annual air temperature: 63 to 70 degrees F

Frost-free period: 230 to 260 days

Farmland classification: Not prime farmland

Map Unit Composition

Cowarts and similar soils: 60 percent

Ailey and similar soils: 40 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cowarts

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 14 inches: loamy sand
H2 - 14 to 20 inches: sandy loam
H3 - 20 to 37 inches: sandy clay loam
H4 - 37 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: 20 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F137XY050GA - Loamy Backslope Woodland
Hydric soil rating: No

Description of Ailey

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

A - 0 to 9 inches: loamy coarse sand
E - 9 to 24 inches: loamy coarse sand
Bt - 24 to 38 inches: sandy clay loam
Btx - 38 to 45 inches: sandy clay loam
2Cd - 45 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: 40 to 79 inches to densic material

Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F137XY050GA - Loamy Backslope Woodland
Hydric soil rating: No

COE—Cowarts and Ailey soils, 12 to 25 percent slopes

Map Unit Setting

National map unit symbol: 4791
Elevation: 150 to 700 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Cowarts and similar soils: 60 percent
Ailey and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cowarts

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 14 inches: loamy sand
H2 - 14 to 20 inches: sandy loam
H3 - 20 to 37 inches: sandy clay loam
H4 - 37 to 80 inches: sandy clay loam

Properties and qualities

Slope: 12 to 25 percent
Depth to restrictive feature: 20 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.57 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F137XY050GA - Loamy Backslope Woodland
Hydric soil rating: No

Description of Ailey

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

A - 0 to 9 inches: loamy coarse sand
E - 9 to 24 inches: loamy coarse sand
Bt - 24 to 38 inches: sandy clay loam
Btx - 38 to 45 inches: sandy clay loam
2Cd - 45 to 80 inches: sandy clay loam

Properties and qualities

Slope: 12 to 25 percent
Depth to restrictive feature: 40 to 79 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F137XY050GA - Loamy Backslope Woodland
Hydric soil rating: No

DoB—Dothan loamy sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2wb95
Elevation: 170 to 650 feet
Mean annual precipitation: 40 to 50 inches

Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 220 to 280 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Dothan and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dothan

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits

Typical profile

Ap - 0 to 10 inches: loamy sand
Bt - 10 to 50 inches: sandy clay loam
Btv - 50 to 79 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 36 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Forage suitability group: Loamy and clayey soils on rises and knolls of mesic uplands (G133AA321FL)
Other vegetative classification: Loamy and clayey soils on rises and knolls of mesic uplands (G133AA321FL)
Hydric soil rating: No

DoC—Dothan loamy sand, 5 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wb96
Elevation: 170 to 630 feet

Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 220 to 280 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Dothan and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dothan

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy marine deposits

Typical profile

Ap - 0 to 10 inches: loamy sand
Bt - 10 to 50 inches: sandy clay loam
Btv - 50 to 79 inches: sandy clay loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 36 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Forage suitability group: Loamy and clayey soils on rises and knolls of mesic uplands (G133AA321FL)
Other vegetative classification: Loamy and clayey soils on rises and knolls of mesic uplands (G133AA321FL)
Hydric soil rating: No

FuB—Fuquay loamy sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 479b

Elevation: 250 to 500 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Fuquay and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fuquay

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 33 inches: loamy sand
H2 - 33 to 45 inches: sandy clay loam
H3 - 45 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: F137XY040SC - Loamy Summit Woodland
Hydric soil rating: No

FuC—Fuquay loamy sand, 5 to 8 percent slopes

Map Unit Setting

National map unit symbol: 479c
Elevation: 250 to 500 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Fuquay and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fuquay

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 33 inches: loamy sand
H2 - 33 to 45 inches: sandy clay loam
H3 - 45 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: B
Ecological site: F137XY050GA - Loamy Backslope Woodland
Hydric soil rating: No

lu—luka sandy loam, occasionally flooded

Map Unit Setting

National map unit symbol: 479j
Elevation: 50 to 750 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

luka and similar soils: 95 percent
Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Iuka

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 5 inches: sandy loam
H2 - 5 to 36 inches: sandy loam
H3 - 36 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Bibb

Percent of map unit: 5 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

LaC—Lakeland sand, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 479l
Elevation: 40 to 300 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Lakeland and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lakeland

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 22 inches: sand
H2 - 22 to 80 inches: sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F137XY080SC - Dry Sandy Backslope Woodland
Hydric soil rating: No

LuB—Lucy loamy sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 479q
Elevation: 280 to 750 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lucy and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lucy

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 26 inches: loamy sand
H2 - 26 to 36 inches: sandy loam
H3 - 36 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Hydric soil rating: No

LuC—Lucy loamy sand, 5 to 8 percent slopes

Map Unit Setting

National map unit symbol: 479r
Elevation: 280 to 740 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lucy and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lucy

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 26 inches: loamy sand
H2 - 26 to 36 inches: sandy loam
H3 - 36 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: B
Hydric soil rating: No

NaC—Nankin sandy loam, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 479t
Elevation: 150 to 450 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Nankin and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nankin

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 5 inches: sandy loam
H2 - 5 to 12 inches: sandy clay loam
H3 - 12 to 44 inches: sandy clay
H4 - 44 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

OrB—Orangeburg loamy sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 47b1
Elevation: 170 to 500 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Orangeburg and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orangeburg

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 58 inches: sandy clay loam
H3 - 58 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

OrC—Orangeburg loamy sand, 5 to 8 percent slopes

Map Unit Setting

National map unit symbol: 47b2
Elevation: 170 to 500 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Orangeburg and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orangeburg

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 58 inches: sandy clay loam
H3 - 58 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

TrB—Troup loamy sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 47b8
Elevation: 200 to 790 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Troup and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Troup

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 68 inches: loamy sand
H2 - 68 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F137XY060GA - Loamy Upland Woodland, Thick Sandy Surface
Hydric soil rating: No

TrC—Troup loamy sand, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 47b9
Elevation: 200 to 790 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Troup and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Troup

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 68 inches: loamy sand
H2 - 68 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A

Ecological site: F137XY060GA - Loamy Upland Woodland, Thick Sandy Surface
Hydric soil rating: No

TrE—Troup loamy sand, 12 to 25 percent slopes

Map Unit Setting

National map unit symbol: 47bc
Elevation: 280 to 770 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Troup and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Troup

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 68 inches: loamy sand
H2 - 68 to 80 inches: sandy clay loam

Properties and qualities

Slope: 12 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: F137XY060GA - Loamy Upland Woodland, Thick Sandy Surface

Hydric soil rating: No

Data Source Information

Soil Survey Area: Chattahoochee and Marion Counties, Georgia
Survey Area Data: Version 19, Aug 30, 2023

Prepared for

The AES Corporation
4200 Innslake Drive, Suite 302
Glen Allen, VA 23060

WETLAND DELINEATION REPORT SITE INFORMATION SUMMARY

HEART PINE SOLAR PROJECT

Marion County, Georgia

Prepared by

engineers | scientists | innovators
9211 Arboretum Parkway, Suite 200
Richmond, VA 23236

Project Number: GXE10300

January 31, 2024

Wetland Delineation Report Site Information Summary
Heart Pine Solar
Rick Waters Road
(1533.64 Acres)
Marion County, Georgia

Date
January 30, 2024

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)
32.38063, -84.48619

Has a previous delineation or JD been performed? If so please provide USACE Project Number: N/A

Tax Parcels and Acreage

Parcel ID	GIS Acres
67 13	130.16
68 2	73.31
68 1	85.65
55 14	287.30
68 36	76.27
68 6F	12.00
68 6	26.27
67 14A	26.55
68 6E	185.51
68 4B	99.42
56 19	51.03
56 12B	58.49
56 12A	18.64
56 12	18.94
55 15	384.10

Hydrologic Unit Code (HUC)
8-Digit HUC -03130006 – Middle Flint (Figure 3)

USGS Topographic Sheet
Buena Vista NE, Tazewell North & Tazewell South 2020 (Figure 1).

Nearest Waterbody
The site lands and tributaries generally flow southeasts towards Hardage Ford Creek for the northern parcels, and to the northeast towards Hardage Ford Creek for the southern parcels.

Delineation Methods
U.S. Army Corps of Engineers 1987 Wetland Delineation Manual in conjunction with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0, November 2010) and the 2020 National Wetland Plant List.

On-Site Investigation Date
Wetland boundary delineation and site data collection was conducted from January 15, 2024, to January 18, 2024.

Wetland Delineation Plan
The proposed wetland boundaries and Data Sampling Point locations are depicted on the plan entitled "Heart Pine Solar Project" prepared by Geosyntec Consultants on January 30, 2024 (Figure 5).

Wetland Investigation Results

Wetlands: During the site delineation, the following wetlands were identified within the Project study area: six palustrine emergent (PEM) wetlands totaling approximately 9.3 acres, six palustrine forested (PFO) wetlands totaling approximately 99.71 acres, and one palustrine unconsolidated bottom (PUB) covering approximately 0.23 acres. These wetlands are shown on Figure 5 and tabulated in Table 1. It is noted the wetlands identified as wetland AWA, AWB, BWE, and CWA are potentially non-jurisdictional, isolated features with no surface connection to any jurisdictional feature. These palustrine wetlands are represented by the wetland data sampling points included in Appendix C, while representative habitat and soil photos are included in Appendix B.

Stream Channels: A total of approximately 1050.5 linear feet of perennial stream and 326.1 linear feet of an intermittent stream was identified in the project area (Figure 5, Table 2).

Other Waters: N/A

Water bodies onsite identified as Section 10: N/A

Uplands: The remaining 1,423.8 acres of the project were classified as uplands and described by data sampling points provided in Appendix C. Representative site photos are provided in Appendix B.

100-Year Floodplains
As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Maps (#13197C0150A, 13197C0225A, and 1319C0125A effective date 05/10/2010), the project lies mostly within an area of minimal flood hazard (Zone X; Figure 4). A portion of the site along Hardage Ford Creek is within special flood hazard area (Zone A; Figure 4).

National Wetlands Inventory
The National Wetlands Inventory (Figure 3) identifies nine riverine streams, 4 freshwater emergent wetlands, and four forested freshwater forested/shrub wetland within the project area.

USDA Soil Survey

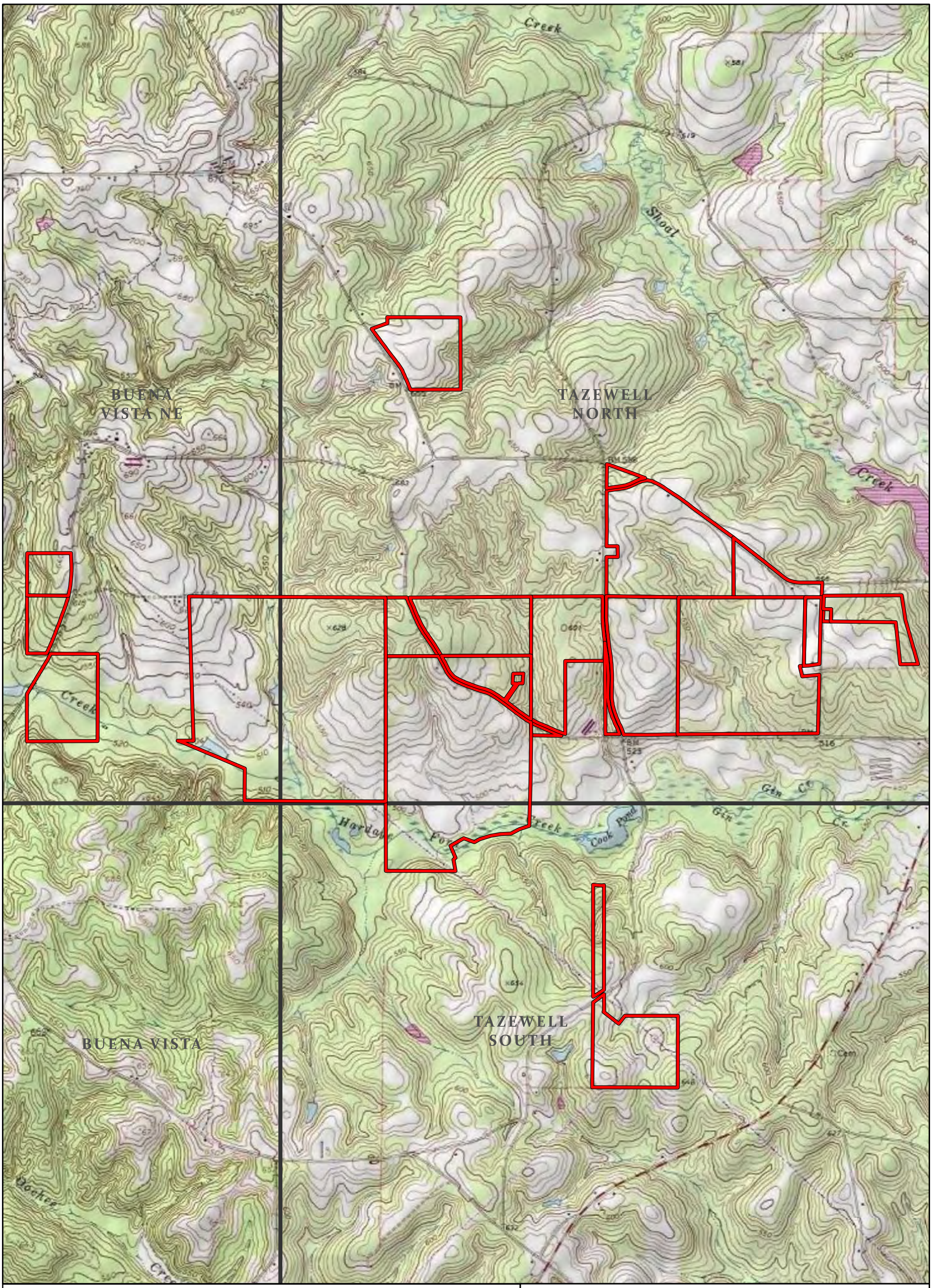
Marion County, Georgia			
Map Unit Symbol	**Map Unit Name**	**Acres in Project Area**	**Percent of Project Area**
AaB	Ailey loamy coarse sand, 2 to 5 percent slopes	14.6	1.0%
AaC	Ailey loamy coarse sand, 5 to 8 percent slopes	26.2	1.7%
Bh	Bibb sandy loam, frequently flooded	120.5	7.9%
COC	Cowarts and Ailey soils, 5 to 12 percent slopes	48.1	3.1%
COE	Cowarts and Ailey soils, 12 to 25 percent slopes	278.4	18.2%
DoB	Dothan loamy sand, 2 to 5 percent slopes	130.5	8.5%
DoC	Dothan loamy sand, 5 to 8 percent slopes	108.5	7.1%
FuB	Fuquay loamy sand, 0 to 5 percent slopes	22.2	1.4%
FuC	Fuquay loamy sand, 5 to 8 percent slopes	4.8	0.3%
Iu	Iuka sandy loam, occasionally flooded	20.5	1.3%
LaC	Lakeland sand, 5 to 12 percent slopes	3.8	0.3%
LuB	Lucy loamy sand, 0 to 5 percent slopes	56.8	3.7%
LuC	Lucy loamy sand, 5 to 8 percent slopes	22.6	1.5%
NaC	Nankin sandy loam, 5 to 12 percent slopes	43.2	2.8%
OrB	Orangeburg loamy sand, 2 to 5 percent slopes	102.1	6.7%
OrC	Orangeburg loamy sand, 5 to 8 percent slopes	69.6	4.5%
TrB	Troup loamy sand, 2 to 5 percent slopes	330.4	21.5%
TrC	Troup loamy sand, 5 to 12 percent slopes	111.2	7.2%
TrE	Troup loamy sand, 12 to 25 percent slopes	19.4	1.3%
	Subtotals for Project Area	**1533.7**	**100%**

The online USDA Natural Resource Conservation Service Soil Survey (Figure 2) displays the soils listed above. One soil onsite has a major hydric component (Bh), and one soil onsite (lu) has a minor component with a hydric soil rating.

Notes: The wetland delineation and data sampling points were completed during normal hydrologic conditions according to the Antecedent Precipitation Tool, and sampling dates occurred at least 24 hours following rainfall.

Appendix A

Maps & Figures



Project Study Area
The AES Corporation
Heart Pine Solar
Marion County, Georgia

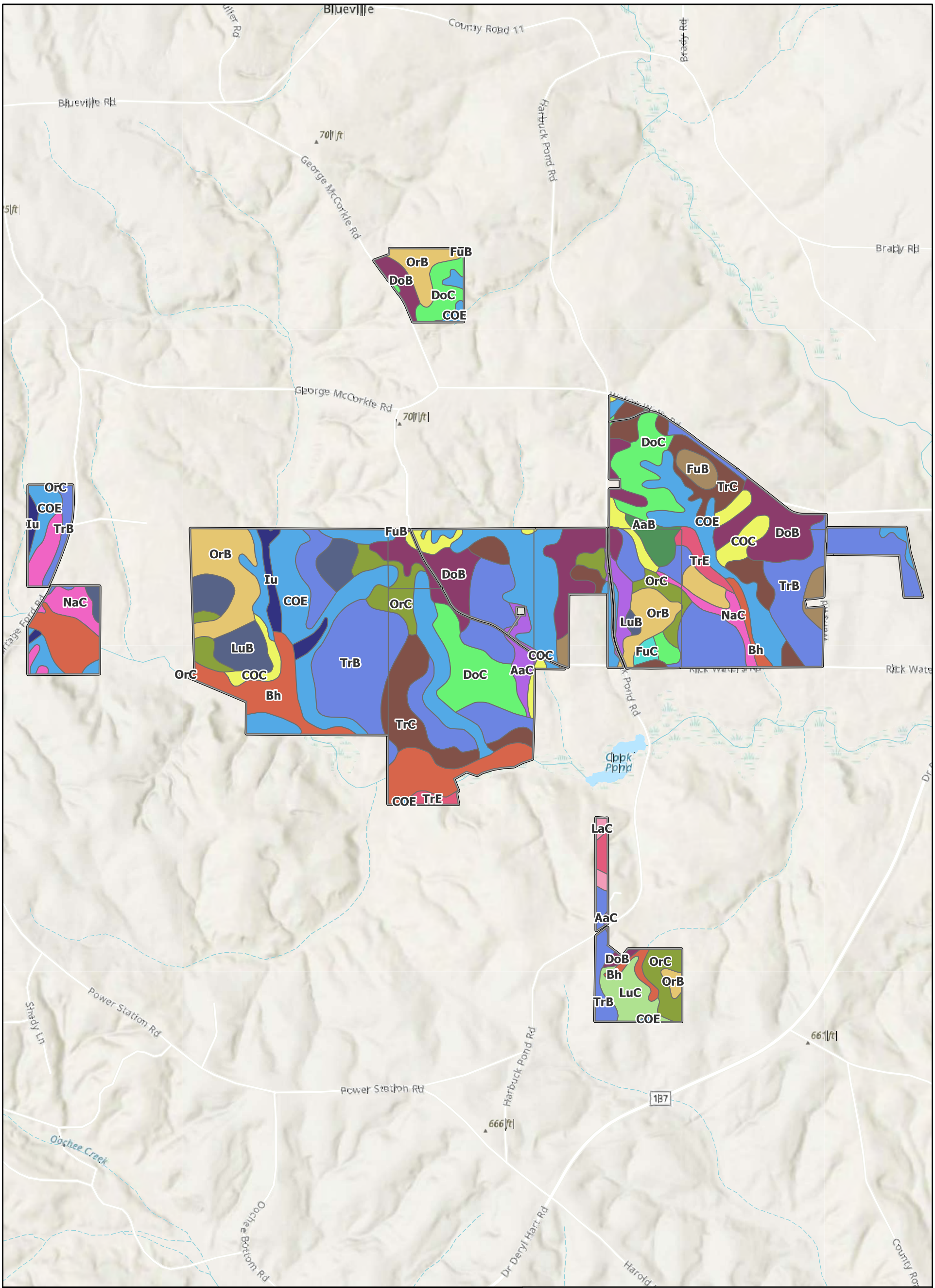
Geosyntec consultants

Figure 1

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 2:30 PM
Basemap Sources: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed



Soil Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

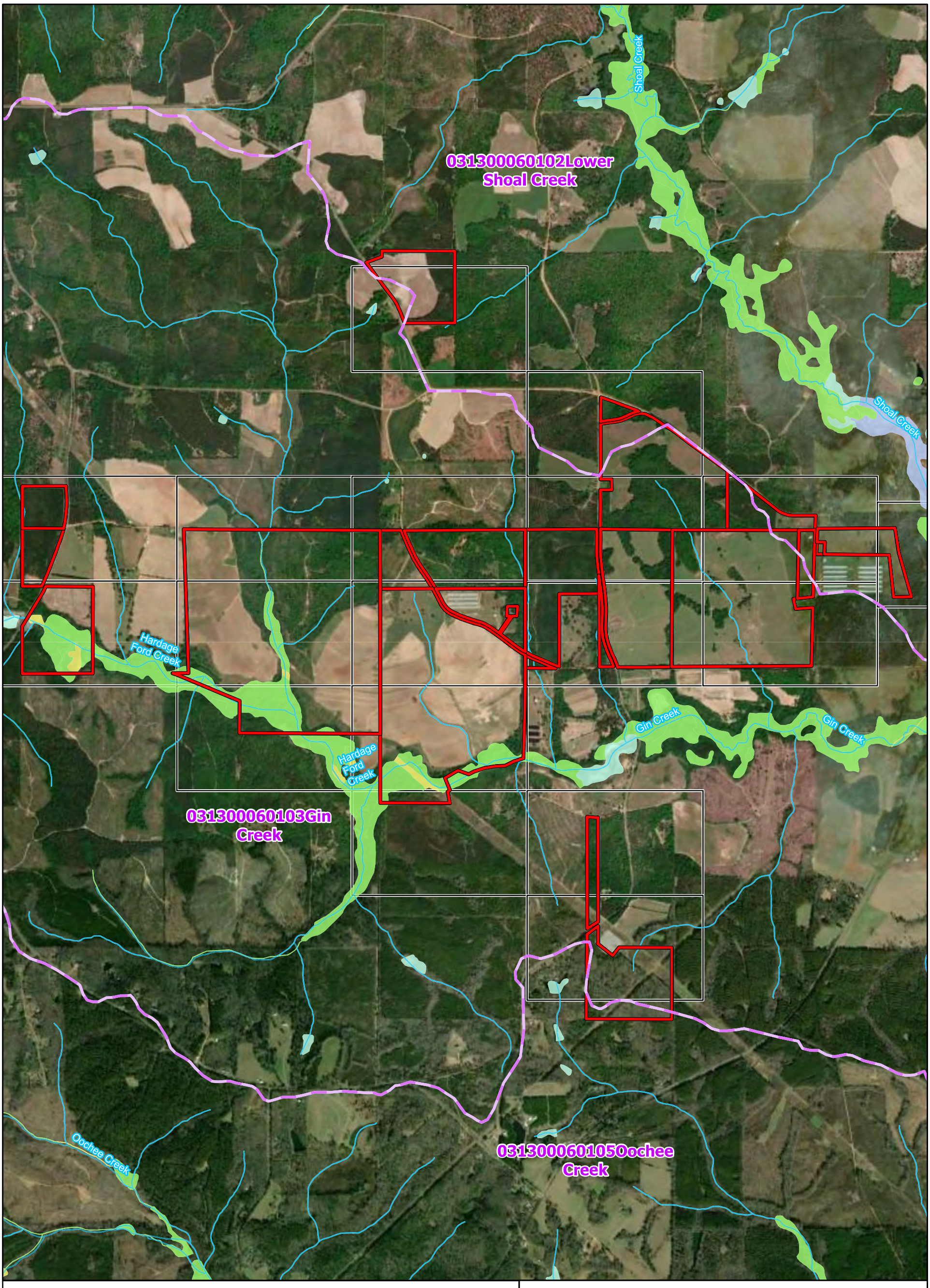
Geosyntec consultants

Figure 2

Drawn: CE

January 2024

C:\Users\cora.every\Documents\Projects\AES Tazewell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 3:39 PM
Basemap Sources: World Topographic Map: Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS
World Hillshade: Esri, NASA, NGA, USGS, FEMA



Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

- HUC12
- Desktop Study Area
- NHD Streams

N

0 5,000 Feet

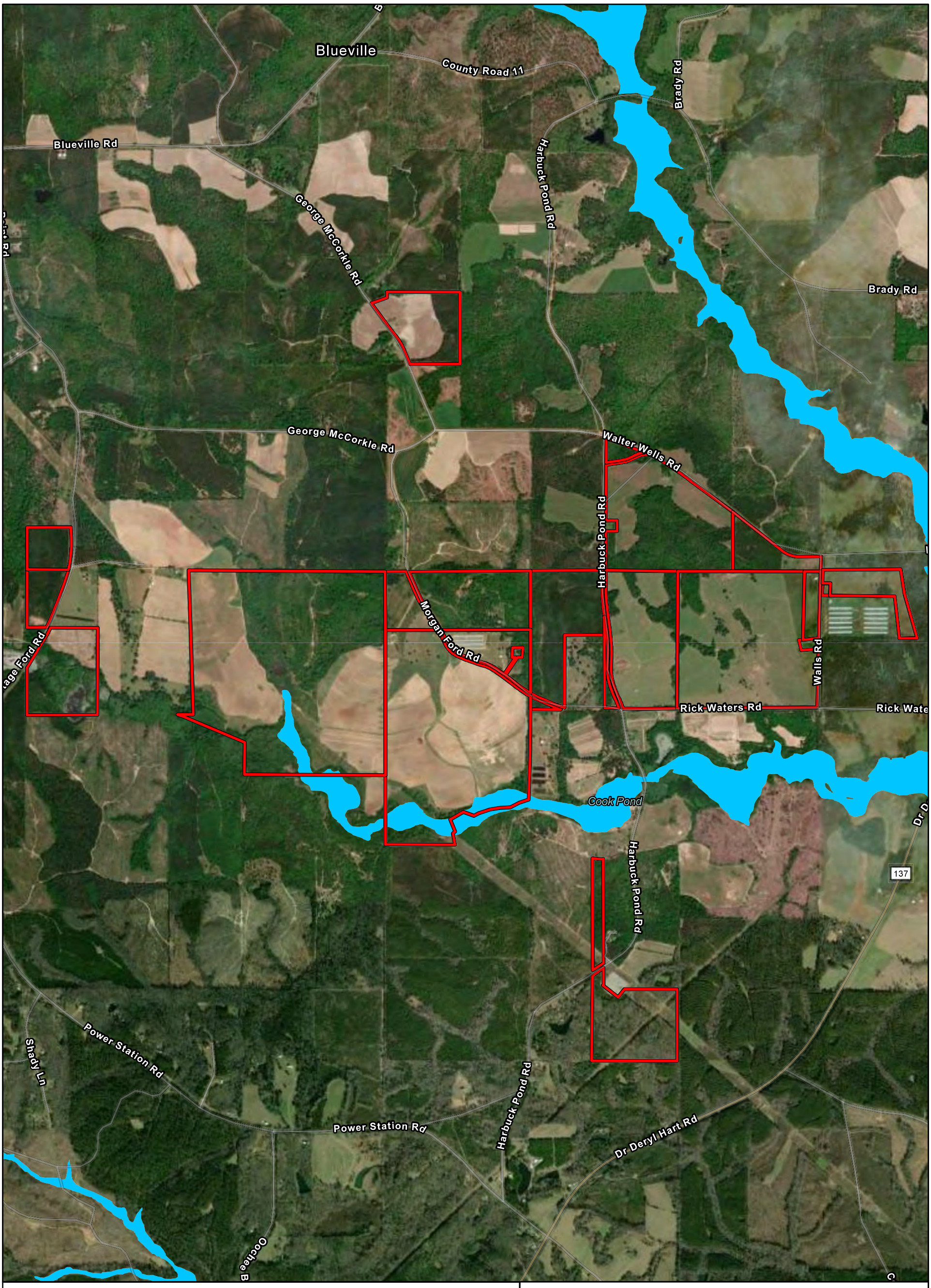
National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD)
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 3:39 PM
Basemap Sources: World Imagery: Maxar



Flood Zone Hazard Area

- A
- X
- Project Study Area

N

0 5,000 Feet

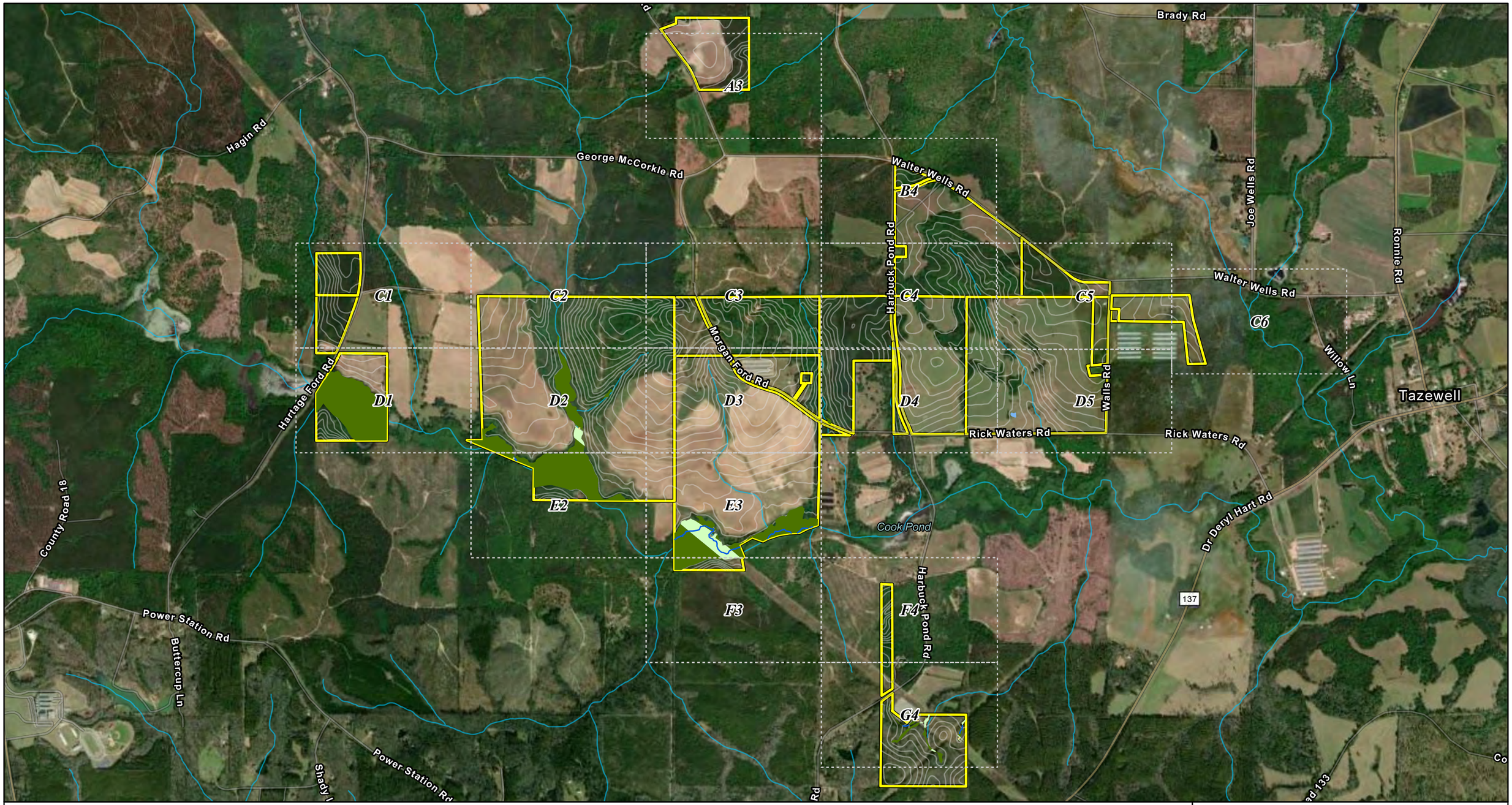
FEMA National Flood Hazard FIRMette
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 4

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 5:18 PM
Basemap Sources: Hybrid Reference Layer: Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

ID	Wetland Type	Acres	Figure Number
AWA*	PEM	0.01	C3, D3
AWB*	PFO	0.17	D4
AWC	PFO	0.11	G4
AWD	PFO	0.17	G4
AWE	PFO	1.59	G4
AWE2	PEM	0.08	G4
AWE3	PEM	0.35	G4
AWF	PEM	0.11	G4
AWG	PFO	0.22	G4
AWG2	PEM	0.06	G4

ID	Wetland Type	Acres	Figure Number
AWH	PEM	0.05	G4
BWA	PFO	5.47	D1, D2, E2
BWB	PFO	26.06	D2, E2
BWB2	PEM	1.13	D2
BWC	PFO	23.82	E3, F3
BWC2	PEM	7.51	E3, F3
BWD	PFO	8.61	C2, D2
BWE*	PFO	0.3	D2
CWA*	PUBH	0.23	D5
CWB	PFO	33.19	D1

*Potentially Non-Jurisdictional

Wetland

- Palustrine Forested (99.7 ac total)
- Palustrine Emergent (9.3 ac total)
- Palustrine Unconsolidated Bottom (< 0.3 ac total)

Wetland Features
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5

Table 1

ID	Stream Type	Figure Number	Linear Feet
ASC	R4SB	G4	136.7
ASD	R4SB	G4	189.4
BSA	R3UBH	E3	963.8
BSB	R3UBH	E2	86.7

Stream

OHWM (1,376.6 lft total)

Stream Features
The AES Corporation
Heart Pine Solar
Marion County, Georgia

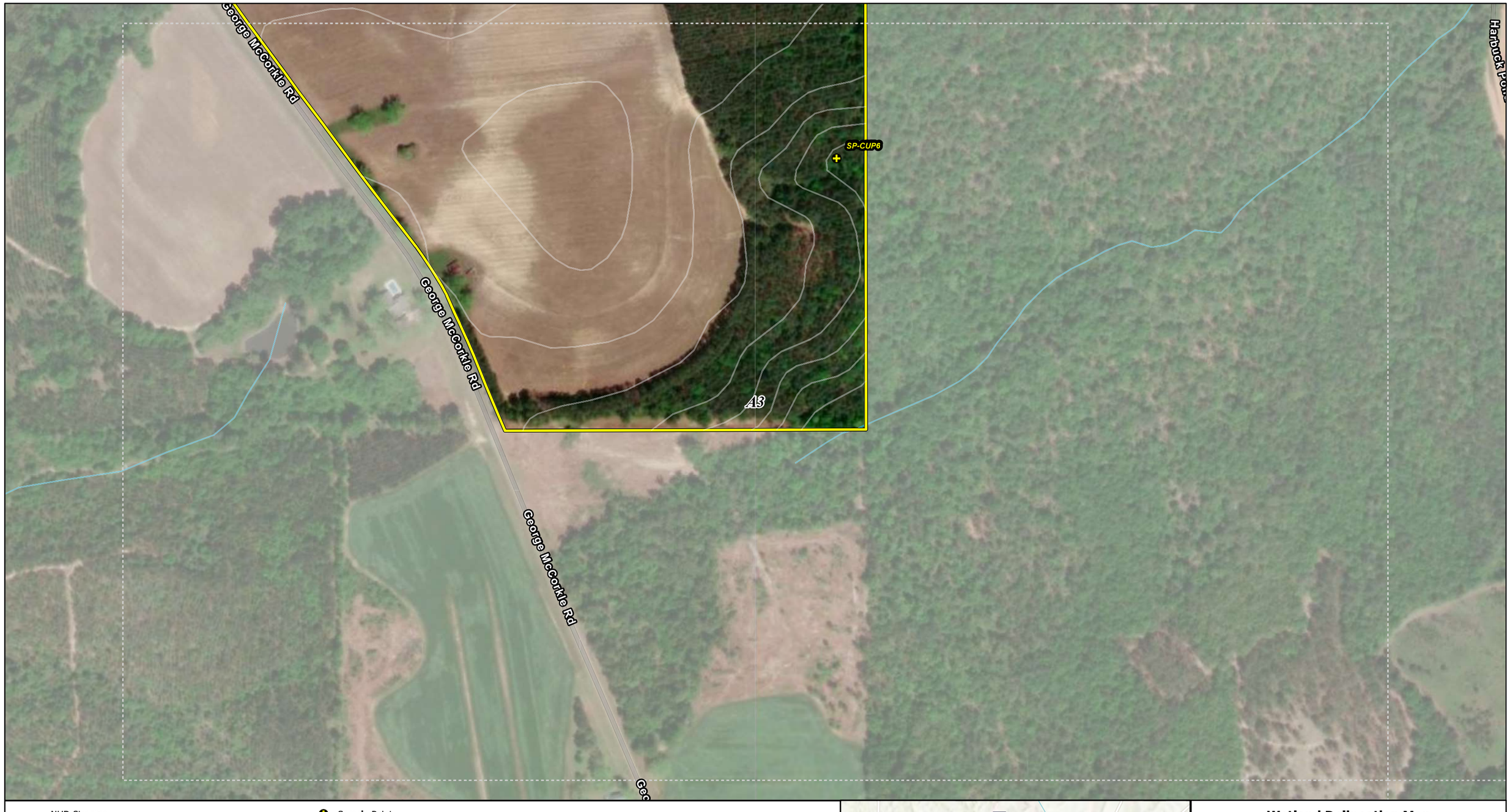
Geosyntec consultants

Figure 5

Table 2

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 3:39 PM



NHD Streams

Sample Point

Project Area

Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019

Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid A3

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

NHD Streams

Sample Point

Project Area

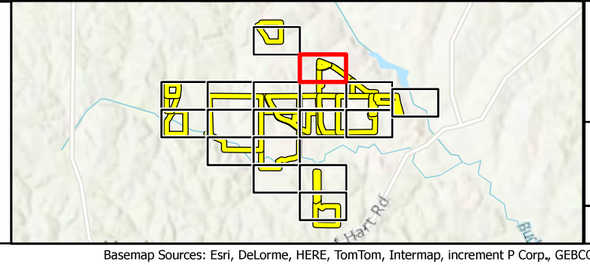
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid B4

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

NHD Streams

Sample Point

Project Area

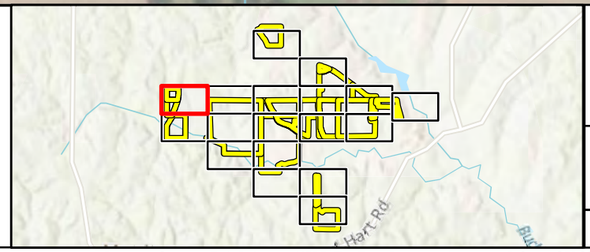
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid C1

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

C2

SP-BUP1

BWD
PFO

NHD Streams

Wetland

Palustrine Forested

Sample Point

Project Area

Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019

Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid C2

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

NHD Streams

Wetland

Palustrine Emergent

Sample Point

Project Area

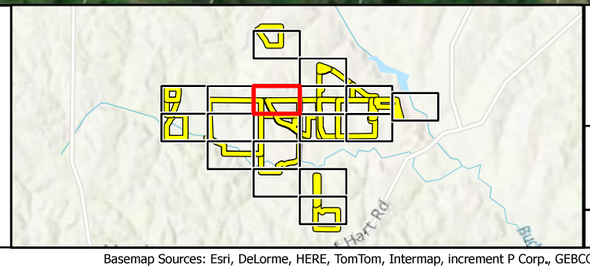
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid C3

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

Basemap Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Ordnance Survey, and the GIS User Community

NHD Streams

Sample Point

Project Area

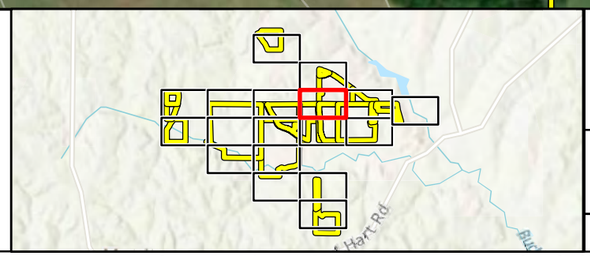
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid C4

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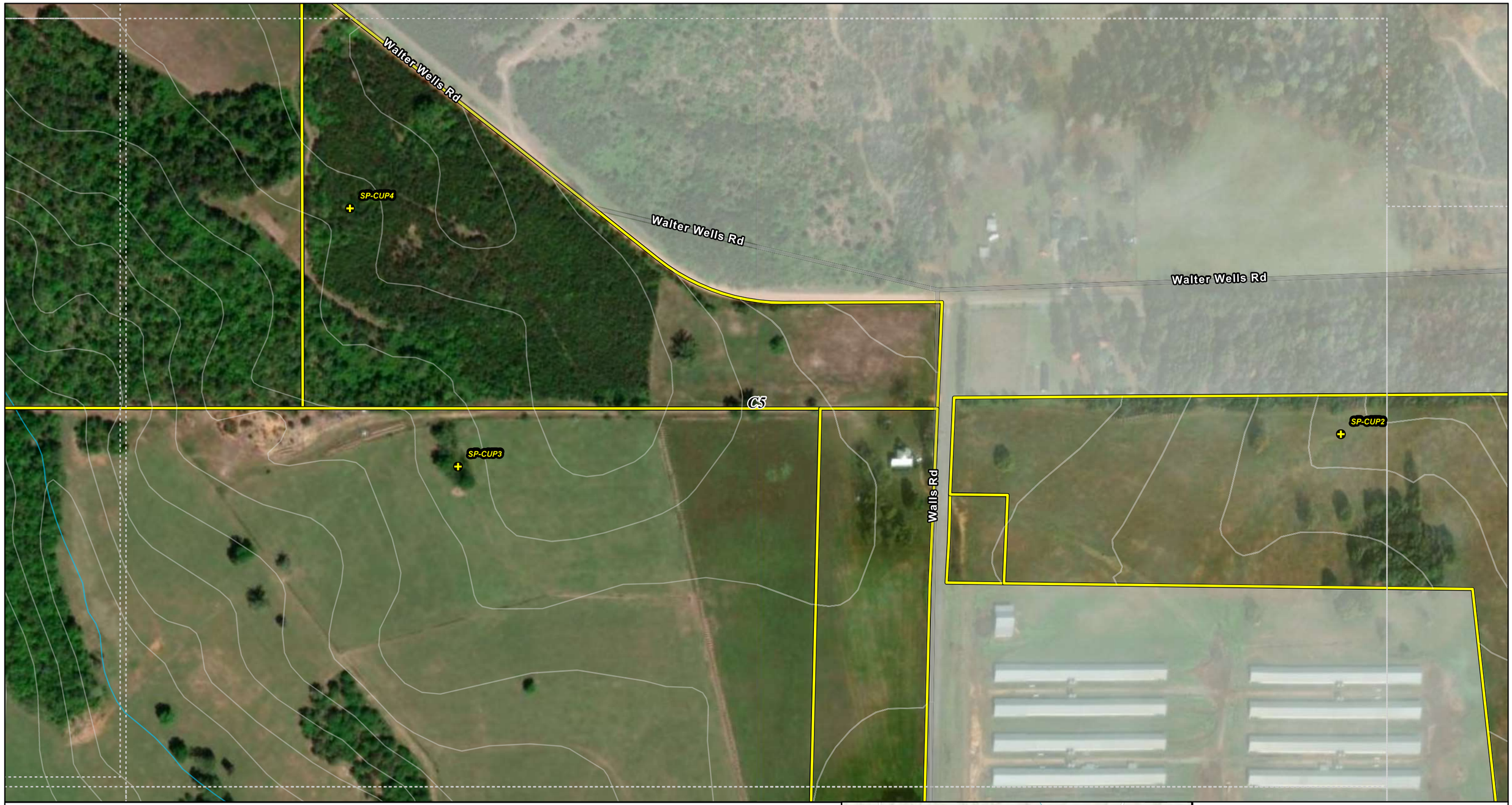


NHD Streams

Sample Point

Project Area

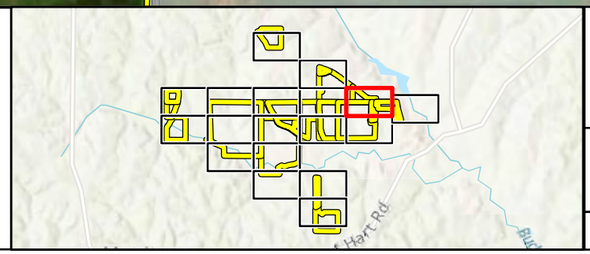
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

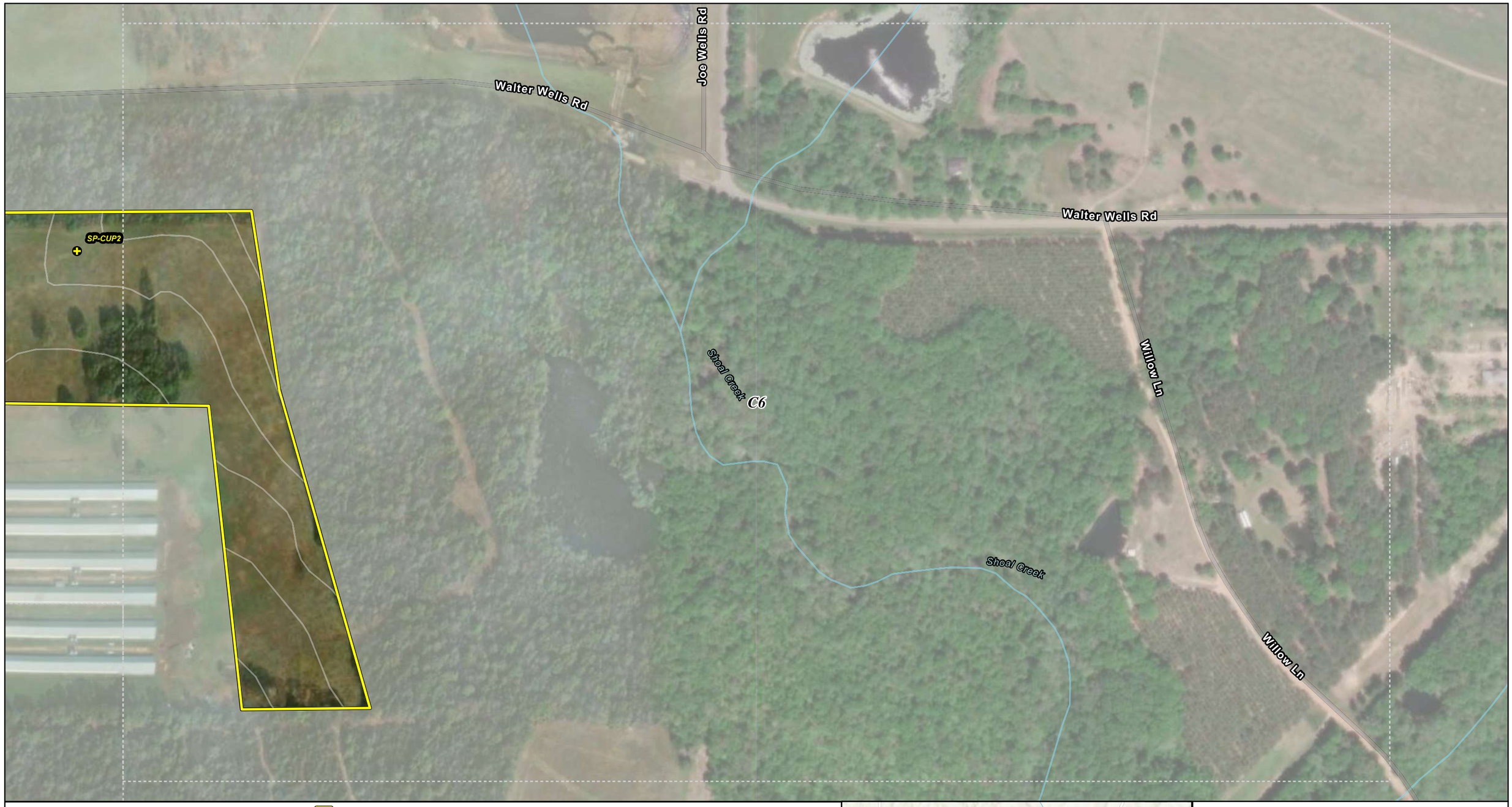
Geosyntec consultants

Figure 5
Map Grid C5

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

Basemap Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Ordnance Survey, and the GIS User Community



NHD Streams

Project Area

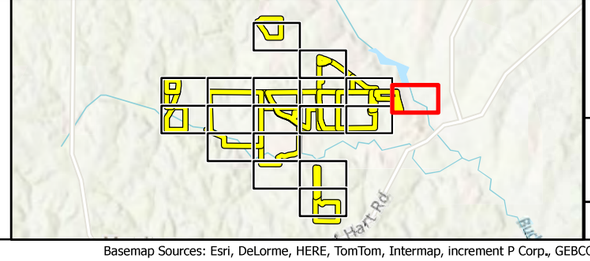
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid C6

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

NHD Streams

Wetland

Palustrine Forested

Sample Point

Project Area

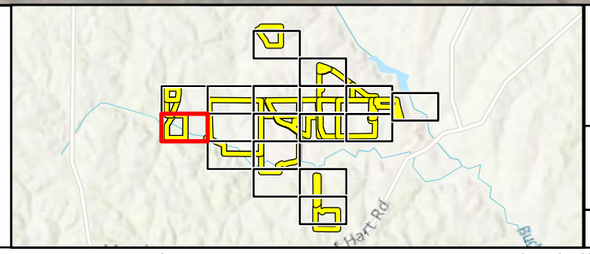
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

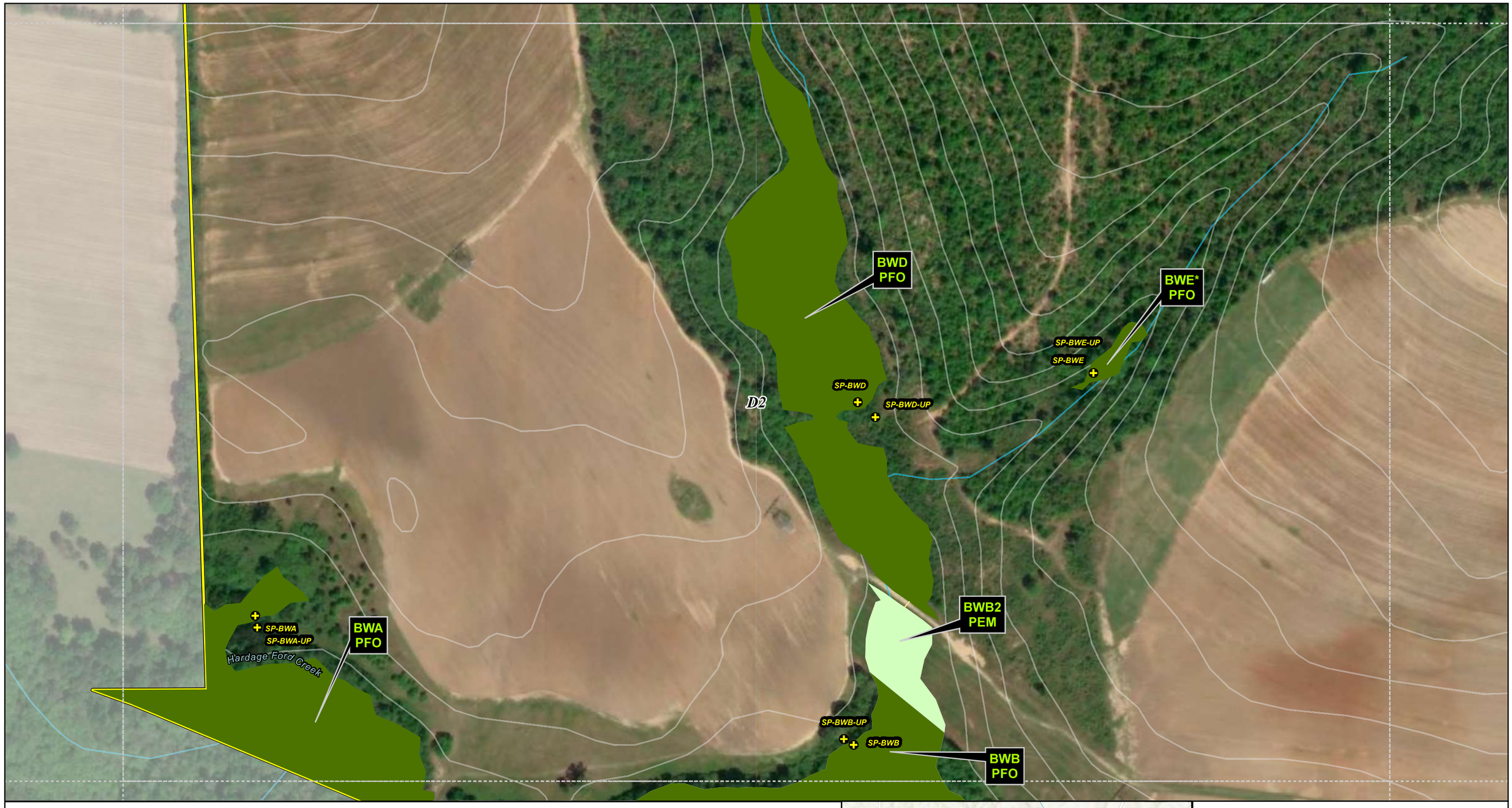
Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid D1

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

Basemap Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Ordnance Survey, and the GIS User Community



NHD Streams
Culvert

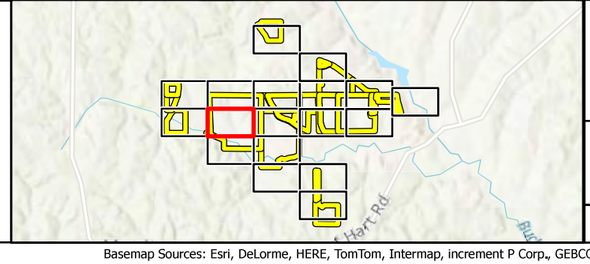
Wetland
Palustrine Forested
Palustrine Emergent

Sample Point
Project Area
Map Grid
Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid D2

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

NHD Streams

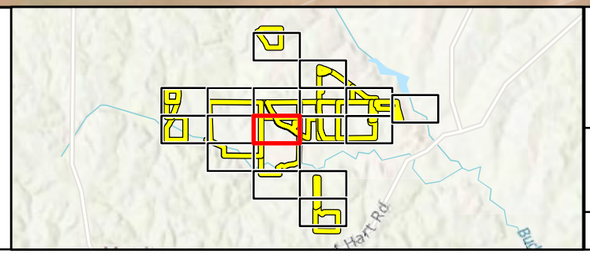
Wetland
- Palustrine Forested
- Palustrine Emergent

- Sample Point
- Project Area
- Map Grid
- Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



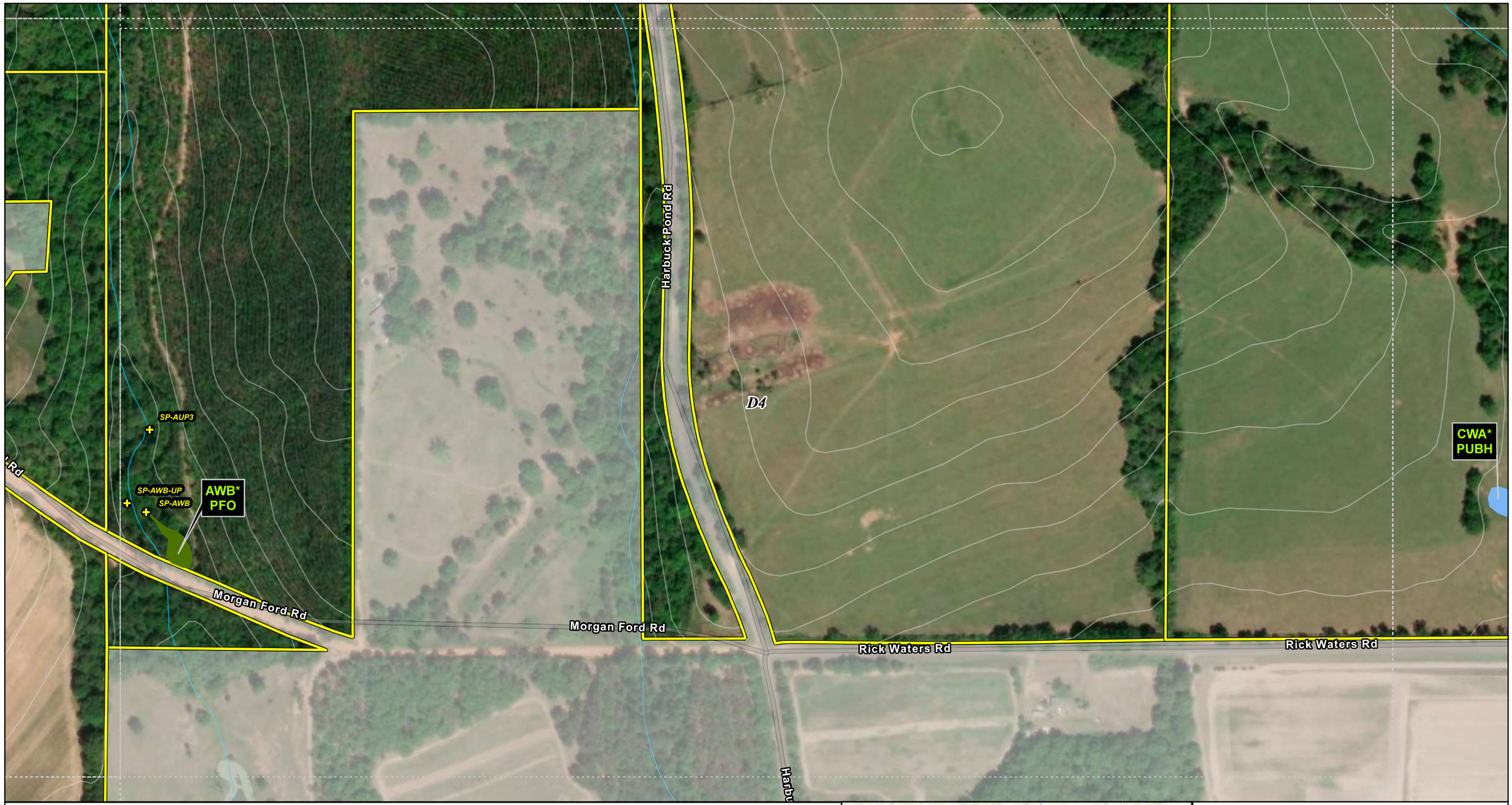
Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid D3

C:\Users\cora.every\Documents\Projects\AES Tazewell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM



NHD Streams

Wetland
- Palustrine Forested
- Palustrine Unconsolidated Bottom

- Sample Point
- Project Area
- Map Grid
- Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019

Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid D4

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

SP-CUP1

CWA*
PUBH

D5

Walls Rd

Walls Rd

Rick Waters Rd

Rick Waters Rd

Rick Waters Rd

NHD Streams

Wetland

Palustrine
Unconsolidated
Bottom

Sample Point

Project Area

Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019

Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 5
Map Grid D5

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

Stream
- OHWM
- NHD Streams
- Culvert

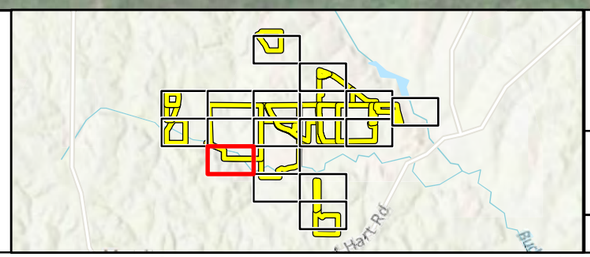
Wetland
- Palustrine Forested

- Project Area
- Map Grid
- Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



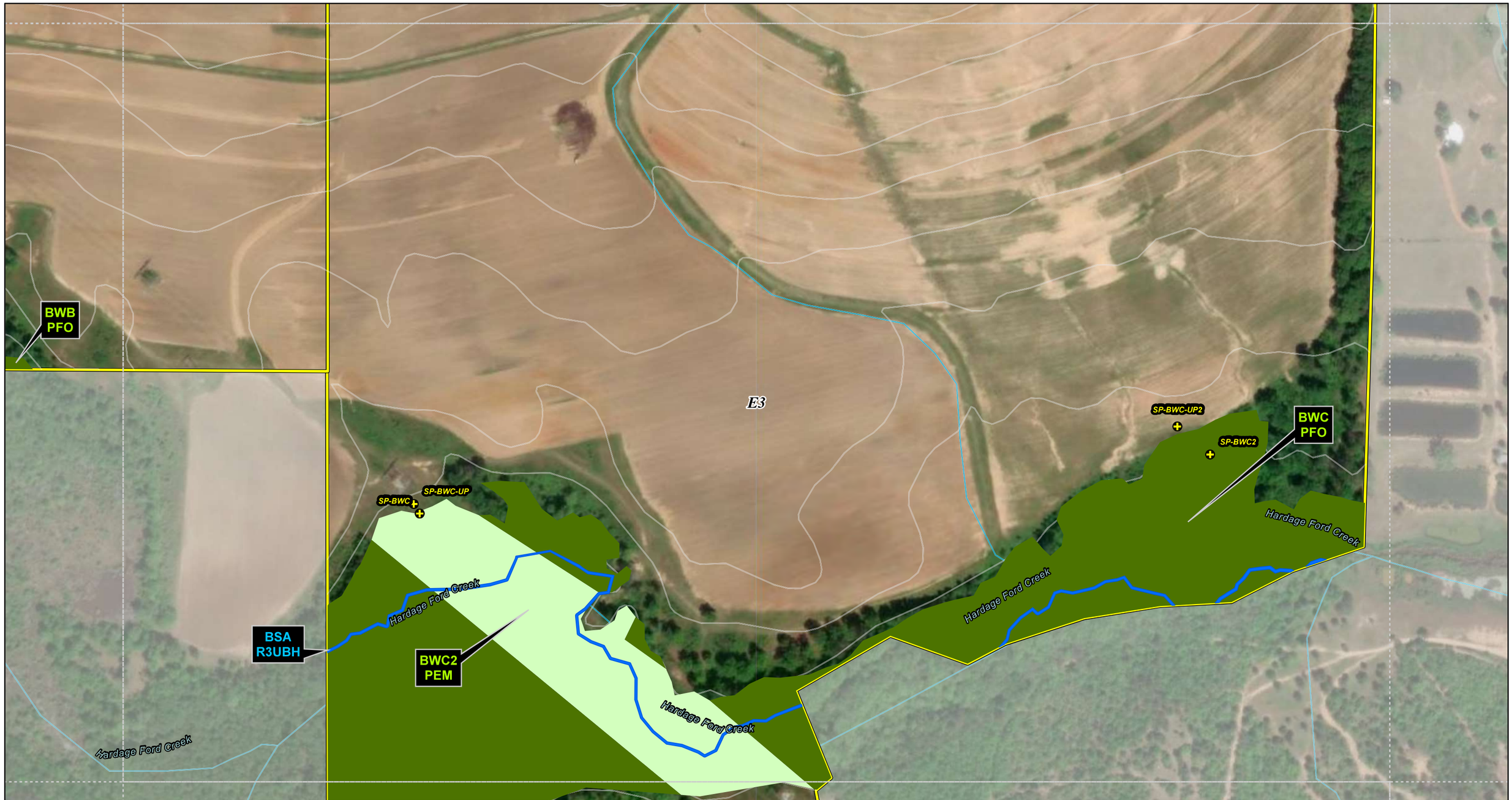
Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid E2

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM



Stream
- OHWM
- NHD Streams

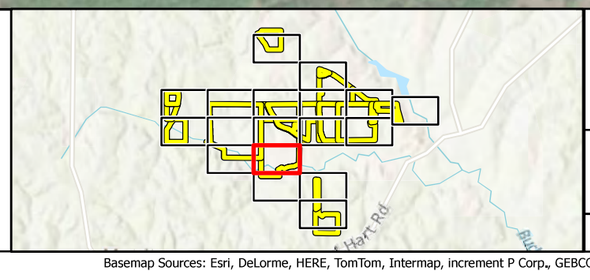
Wetland
- Palustrine Forested
- Palustrine Emergent

- Sample Point
- Project Area
- Map Grid
- Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid E3

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

NHD Streams

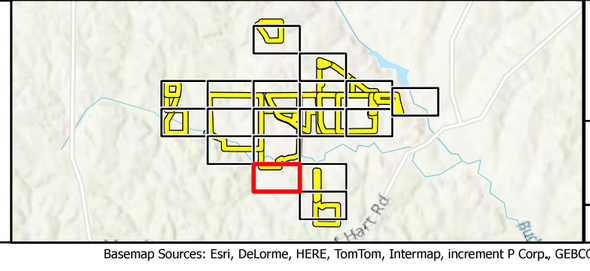
Wetland
- Palustrine Forested
- Palustrine Emergent

- Project Area
- Map Grid
- Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



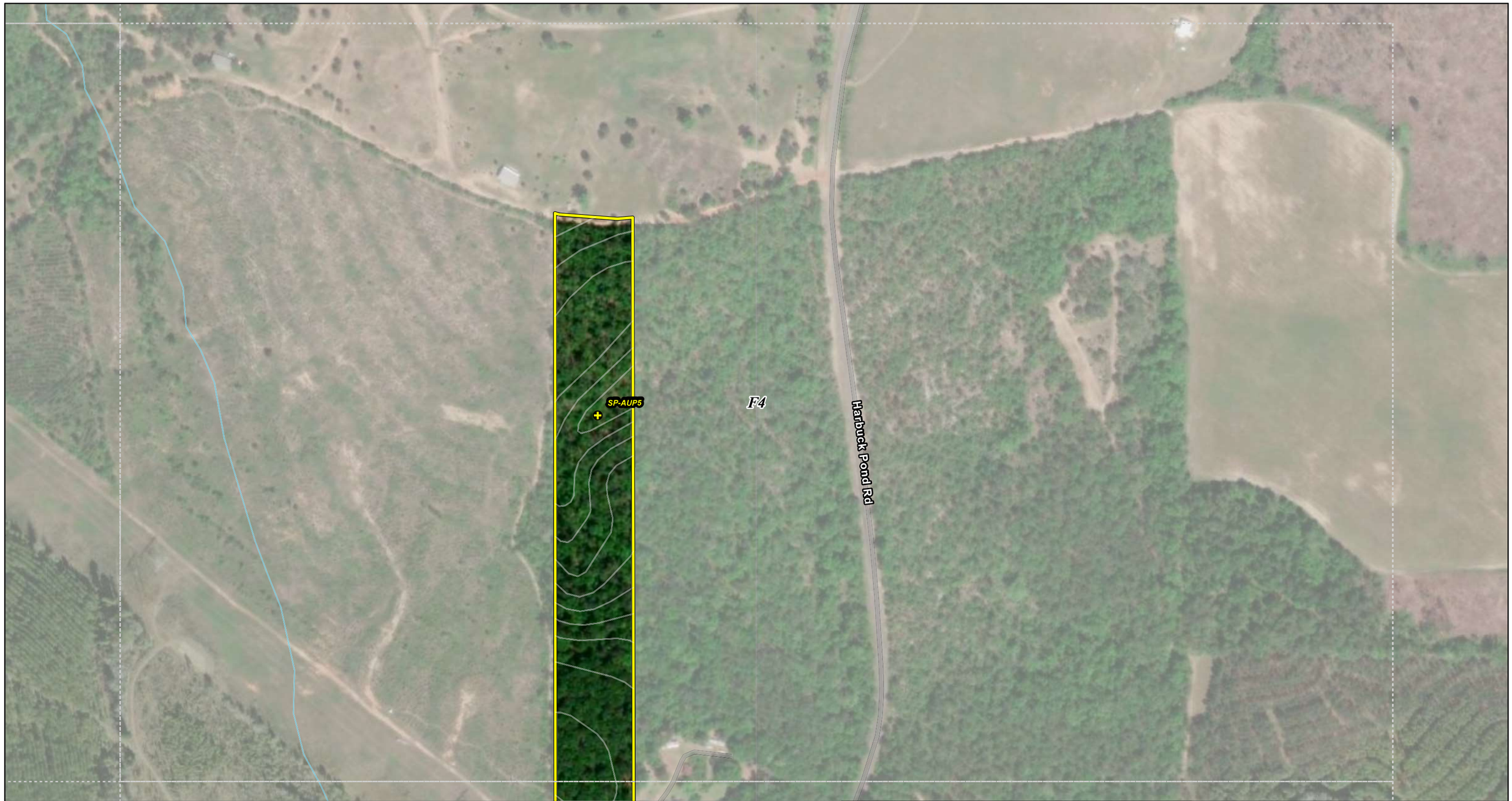
Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid F3

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM



NHD Streams

Sample Point

Project Area

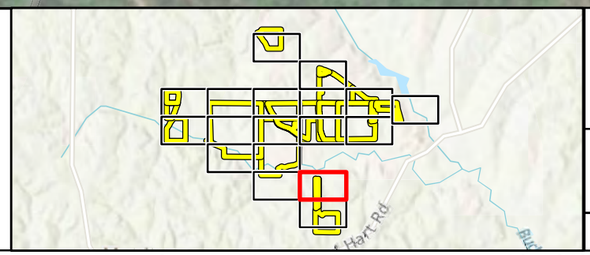
Map Grid

Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid F4

C:\Users\cora.every\Documents\Projects\AES Tazewell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

Stream
- OHWM
- NHD Streams
- Culvert

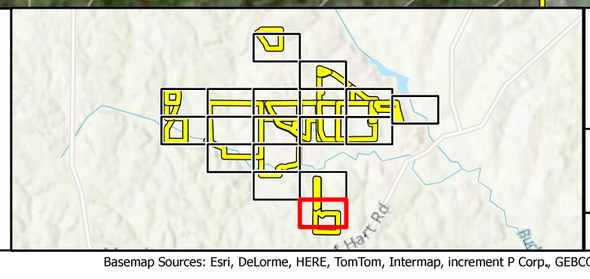
Wetland
- Palustrine Forested
- Palustrine Emergent

- Sample Point
- Project Area
- Map Grid
- Contour Lines

0 800 Feet

N

Aerial Imagery Date: April 2019



Wetland Delineation Map
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Figure 5
Map Grid G4

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS w Field Data\AES Tazewell_26Jan24.aprx 1/30/2024 4:44 PM

Appendix B

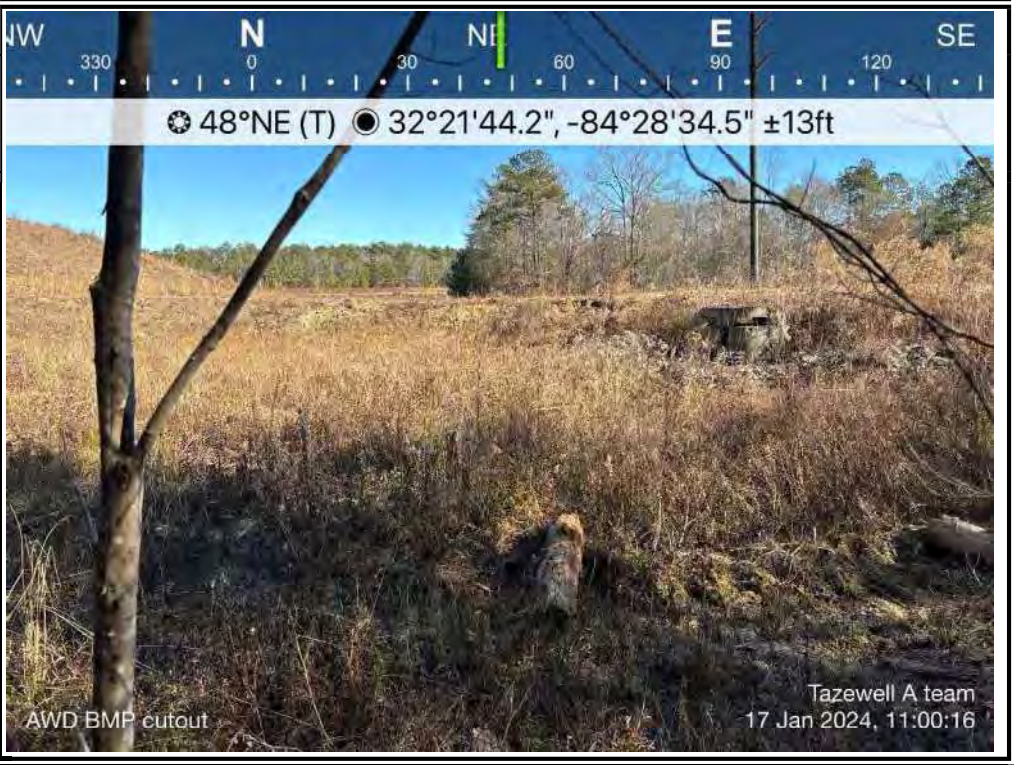
Site Photographs

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 1 Date: 1/16/2024 Comments: Habitat at emergent wetland (PEM) AWA	
Photograph ID: 2 Date: 1/16/2024 Comments: Habitat at forested wetland (PFO) AWB	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 3 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) AWC	
Photograph ID: 4 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) AWD	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 5 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) area of AWE	
Photograph ID: 6 Date: 1/17/2024 Comments: Habitat at emergent wetland (PEM) area of AWE	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 7 Date: 1/17/2024 Comments: Habitat at emergent wetland (PEM) area of AWE	
Photograph ID: 8 Date: 1/17/2024 Comments: Habitat at emergent wetland (PEM) AWF	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 9 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) area of AWG	
Photograph ID: 10 Date: 1/17/2024 Comments: Habitat at emergent wetland (PFO) area of AWG	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 11 Date: 1/17/2024 Comments: Habitat at emergent wetland (PFO) AWH	
Photograph ID: 12 Date: 1/16/2024 Comments: Habitat at forested wetland (PFO) BWA	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 13 Date: 1/16/2024 Comments: Habitat at forested wetland (PFO) area of BWB	
Photograph ID: 14 Date: 1/17/2024 Comments: Habitat at emergent wetland (PEM) area of BWB	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 15 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) area of BWC	
Photograph ID: 16 Date: 1/16/2024 Comments: Habitat at emergent wetland (PEM) area of BWC	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 17 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) BWD	
Photograph ID: 18 Date: 1/17/2024 Comments: Habitat at potentially non-jurisdictional forested wetland (PFO) BWE	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 19 Date: 1/16/2024 Comments: Habitat at potentially non-jurisdictional wetland with unconsolidated bottom (PUBH) CWA	
Photograph ID: 20 Date: 1/17/2024 Comments: Habitat at forested wetland (PFO) CWB	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 21 Date: 1/17/2024 Comments: Representative photograph of intermittent stream (R4SB) ASC	
Photograph ID: 22 Date: 1/17/2024 Comments: Representative photograph of intermittent stream (R4SB) ASD	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: Heart Pine Solar	

Photograph ID: 23 Date: 1/16/2024 Comments: Representative photograph of perennial stream (R3UBH) BSA (upper)	
Photograph ID: 24 Date: 1/18/2024 Comments: Representative photograph of perennial stream (R3UBH) BSA (lower)	

Appendix C

Wetland Determination Data Forms

&

Stream Data Forms

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/15/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AUP1

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Erosional Swale Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38657 Long: -84.48914 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AUP1

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	35	Yes	FACW
2. Juniperus virginiana	20	Yes	FACU
3. Liquidambar styraciflua	15	No	FAC
4. Carya glabra	10	No	FACU
5. Acer rubrum	10	No	FAC
6. Cornus florida	5	No	FACU
7.			
8.			
	95	= Total Cover	

50% of total cover: 47.5 20% of total cover: 19

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Juniperus virginiana	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	

50% of total cover: 7.5 20% of total cover: 3

Herb Stratum (Plot size: 5x5)			
1. Juniperus virginiana	5	Yes	FACU
2. Smilax rotundifolia	5	Yes	FAC
3. Rosa multiflora	3	No	FACU
4. Lonicera japonica	3	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	16	= Total Cover	

50% of total cover: 8 20% of total cover: 3.2

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis vulpina	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	

50% of total cover: 10 20% of total cover: 4

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AUP1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/6	100					SCL	
3-14	10YR 3/4	100					Sand Loam	
14-18	10YR 3/3	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/15/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AUP2

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland Swale Local relief (concave, convex, none): Concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38556 Long: -84.48339 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____ No X	Depth (inches): _____
Water Table Present?	Yes _____ No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AUP2

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Yes	FAC
2. Quercus phellos	15	Yes	FACW
3. Liquidambar styraciflua	10	No	FAC
4. Prunus serotina	10	No	FACU
5.			
6.			
7.			
8.			
	65	= Total Cover	
50% of total cover: 32.5		20% of total cover: 13	

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Quercus nigra	10	Yes	FAC
3. Prunus serotina	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
50% of total cover: 15		20% of total cover: 6	

Herb Stratum (Plot size: 5x5)			
1. Ligustrum sinense	5	Yes	FAC
2. Ilex opaca	5	Yes	FACU
3. Quercus phellos	3	No	FACW
4. Lonicera japonica	3	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	16	= Total Cover	
50% of total cover: 8		20% of total cover: 3.2	

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis vulpina	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
50% of total cover: 10		20% of total cover: 4	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AUP2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/4	100					SCL	
3-18	7.5YR 4/6	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/15/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AUP3

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland Swale Local relief (concave, convex, none): Concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38069 Long: -84.48237 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____ No X	Depth (inches): _____
Water Table Present?	Yes _____ No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-AUP3

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Yes	FAC
2. Ligustrum sinense	25	Yes	FAC
3. Prunus serotina	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	

50% of total cover: 35 20% of total cover: 14

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ligustrum sinense	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	25	= Total Cover	

50% of total cover: 12.5 20% of total cover: 5

Herb Stratum (Plot size: 5x5)			
1. Ligustrum sinense	15	Yes	FAC
2. Quercus nigra	10	Yes	FACU
3. Smilax rotundifolia	5	No	FAC
4. Lonicera japonica	5	No	FACU
5. Stellaria media	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	= Total Cover	

50% of total cover: 20 20% of total cover: 8

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis vulpina	30	Yes	FAC
2.			
3.			
4.			
5.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AUP3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/4	90	7.5YR4/6	10	C	M	SCL	
5-12	10YR 4/4	90	7.5YR5/6	10	C	M	Sand Loam	
12-18	10YR 4/3	95	7.5YR4/6	5	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/15/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AUP4

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland swale Local relief (concave, convex, none): Concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38460 Long: -84.47810 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AUP4

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus nigra	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Herb Stratum (Plot size: 5x5)			
1. Dichanthelium scoparium	50	Yes	FACW
2. Eupatorium capillifolium	20	Yes	FACU
3. Carex blanda	10	No	FAC
4. Lonicera japonica	10	No	FACU
5. Smilax rotundifolia	5	No	FAC
6. Rubus argutus	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AUP4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 4/3	100					SCL	
3-18	7.5YR 5/8	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/16/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AUP5

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Erosional swale Local relief (concave, convex, none): Concave Slope (%): 1-3

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36865 Long: -84.47810 Datum: WGS84

Soil Map Unit Name: Troup loamy sand, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

Dug to 3+ ft and no water table or hydric soils.

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

Sampling Point: SP-AUP5

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	20	Yes	FAC
2. Juniperus virginiana	15	Yes	FACU
3. Pinus taeda	15	Yes	FAC
4. Cornus florida	5	No	FACU
5.			
6.			
7.			
8.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover: 11		

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Kalmia latifolia	15	Yes	FACU
2. Juniperus virginiana	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Herb Stratum (Plot size: 5x5)			
1. Quercus nigra	5	Yes	FAC
2. Juniperus virginiana	5	Yes	FACU
3. Smilax rotundifolia	5	Yes	FAC
4. Lonicera japonica	5	Yes	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 44% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AUP5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	7.5YR 4/2	100					Sand Loam	
1-3	7.5YR 5/6	90	7.5YR5/3	10	D	M	Sand Loam	
3-12	7.5YR 5/6	100					Sand Loam	
12-18	7.5YR 4/6	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/16/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWA

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression/pit Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38400 Long: -84.48591 Datum: WGS84

Soil Map Unit Name: Troup loamy sand, 2 to 5 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All of the three wetland parameters were met at this data point, which describes a palustrine emergent wetland. This feature occurs in an excavated pit that appears to no longer be in use. The pit is 6-9 feet deep and the vegetation has mostly been stripped.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0-1
Water Table Present?	Yes X	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 10

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWA

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 15x15)			
1. Juncus tenuis	15	Yes	FAC
2. Solidago rugosa	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWA

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y7/2	100					Sand Loam	
5-18	2.5Y7/2	90	2.5YR4/6	10	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/16/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWA-UP

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-1

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38400 Long: -84.48591 Datum: WGS84

Soil Map Unit Name: Troup loamy sand, 2 to 5 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWA-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	60	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus falcata	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	5	Yes	FAC
2. Lonicera japonica	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWA-UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	2.5Y5/4	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/16/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWB

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Isolated depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38400 Long: -84.48591 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Two of the three wetland parameters (hydrophytic vegetation and wetland hydrology) were met at this data point, which describes an isolated palustrine emergent wetland. This feature occurs downslope of a eroding clay road. The road discharges runoff to this feature and heavy sediment deposits are present from road drainage.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☑ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

The road discharges runoff to this feature and heavy sediment deposits are present from road drainage.

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

Sampling Point: SP-AWB

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	25	Yes	FAC
2. Ligustrum sinense	20	Yes	FAC
3. Liquidambar styraciflua	20	Yes	FAC
4. Quercus nigra	10	No	FAC
5.			
6.			
7.			
8.			
	75 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ligustrum sinense	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Herb Stratum (Plot size: 5x5)			
1. Ligustrum sinense	25	Yes	FAC
2. Smilax rotundifolia	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWB

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR4/6	100					Clay Loam	
4-14	7.5YR5/3	95	5YR4/6	5	C	M	SCL	
14-18	7.5YR3/3	95	7.5YR4/6	5	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

This feature occurs downslope of a eroding red clay road. The road discharges runoff to this feature and thick sediment deposits are present from road drainage. This indicator was not used to determine wetland status.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/16/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWB-UP

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainage swale Local relief (concave, convex, none): Concave Slope (%): 1-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.38010 Long: -84.48258 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWB-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	40	Yes	FAC
2. Liquidambar styraciflua	20	Yes	FAC
3. Juniperus virginiana	10	No	FACU
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	

50% of total cover: 35 20% of total cover: 14

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ligustrum sinense	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 5x5)			
1. Ligustrum sinense	15	Yes	FAC
2. Quercus nigra	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	= Total Cover	

50% of total cover: 12.5 20% of total cover: 5

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWB-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR5/6	100					Sand Loam	
8-18	5YR4/4	95	5YR5/6	5	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWC

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainage swale Local relief (concave, convex, none): Concave Slope (%): 1-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36239 Long: -84.47755 Datum: WGS84

Soil Map Unit Name: Troup loamy sand, 2 to 5 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All of the wetland parameters were met at this data point, which describes a palustrine forested wetland. This feature is along a constructed drainage feature.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☑ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWC

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Yes	FAC
2. Liquidambar styraciflua	15	Yes	FAC
3. Quercus nigra	10	No	FAC
4.			
5.			
6.			
7.			
8.			
	65	= Total Cover	

50% of total cover: 32.5 20% of total cover: 13

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Magnolia virginiana	20	Yes	FACW
2. Pinus taeda	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 5x5)			
1. Carex lurida	35	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	

50% of total cover: 17.5 20% of total cover: 7

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	20	x 2 =	40
FAC species	75	x 3 =	225
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	130 (A)		300 (B)

Prevalence Index = B/A = 2.30

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWC

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR5/2	90	10YR5/6	10	C	M	SCL	
6-18	2.5Y6/3	65	5YR5/8	35	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWC-UP

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36232 Long: -84.47760 Datum: WGS84

Soil Map Unit Name: Troup loamy sand, 2 to 5 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Only one of the wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWC-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Yes	FAC
2. Quercus nigra	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus nigra	15	Yes	FAC
2. Pinus taeda	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		
Herb Stratum (Plot size: 5x5)			
1. Carex blanda	15	Yes	FAC
2. Pinus taeda	15	Yes	FAC
3. Rubus argutus	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWC-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR4/4	100					SCL	
3-12	5YR5/8	100					SCL	
12-18	2.5Y7/4	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWE

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Seep swale Local relief (concave, convex, none): Concave Slope (%): 1-3

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36111 Long: -84.47770 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three of the wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☑ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0-0.2
Water Table Present?	Yes X	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWE

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Yes	FAC
2. Taxodium distichum	25	Yes	OBL
3. Liquidambar styraciflua	15	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	

50% of total cover: 35 20% of total cover: 14

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus nigra	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	

50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot size: 5x5)			
1. Carex blanda	15	Yes	FAC
2. Smilax rotundifolia	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	= Total Cover	

50% of total cover: 12.5 20% of total cover: 5

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species		x 2 =	
FAC species	90	x 3 =	270
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	115 (A)		295 (B)

Prevalence Index = B/A = 2.56

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWE

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/1	90	10YR5/2	10	D	M	Sand Loam	
5-10	10YR5/1	98	10YR3/6	2	C	M	Sand	
10-18	10YR6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☑ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWE-UP

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 4-6

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36100 Long: -84.47780 Datum: WGS84

Soil Map Unit Name: Lucy loamy sand, 5 to 8 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWE-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	35	Yes	FAC
2. Quercus falcata	20	Yes	FACU
3. Liquidambar styraciflua	15	No	FAC
4. Liriodendron tulipifera	10	No	FACU
5.			
6.			
7.			
8.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus nigra	10	Yes	FAC
2. Liquidambar styraciflua	10	Yes	FAC
3. Cornus florida	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		
Herb Stratum (Plot size: 5x5)			
1. Quercus nigra	5	Yes	FAC
2. Smilax rotundifolia	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWE-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR4/3	70	10YR5/4	30	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☑ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWF

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 1-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36217 Long: -84.47298 Datum: WGS84

Soil Map Unit Name: Orangeburg loamy sand, 5 to 8 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three of the wetland parameters were met at this data point, which describes a palustrine emergent wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 7

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWF

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Dichanthelium scoparium	40	Yes	FACW
2. Carex lurida	25	Yes	OBL
3. Andropogon virginicus	15	No	FAC
4. Andropogon gerardii	10	No	FAC
5. Lonicera japonica	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	40	x 2 =	80
FAC species	25	x 3 =	75
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	95 (A)		200 (B)

Prevalence Index = B/A = 2.10

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWF

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/1	96	10YR3/6	4	C	PL	Sand Loam	
5-10	10YR5/2	97	10YR5/6	3	C	M	Sand Loam	
10-18	10YR6/4	98	5YR4/6	2	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWF-UP

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3-5

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36208 Long: -84.47350 Datum: WGS84

Soil Map Unit Name: Orangeburg loamy sand, 5 to 8 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a herbaceous upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWF-UP

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Andropogon virginicus	70	Yes	FAC
2. Dichanthelium scoparium	10	Yes	FACW
3. Carex lurida	5	No	OBL
4. Pinus taeda	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWF-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR5/3	98	10YR3/6	2	C	M	Sand Loam	
3-18	10YR5/4	60	10YR6/8	40	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWG

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 1-3

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36143 Long: -84.47308 Datum: WGS84

Soil Map Unit Name: Orangeburg loamy sand, 5 to 8 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All of the wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 6

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWG

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	60	Yes	FAC
2. Pinus taeda	10	No	FAC
3. Liquidambar styraciflua	10	No	FAC
4.			
5.			
6.			
7.			
8.			
	80	= Total Cover	

50% of total cover: 40 20% of total cover: 16

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus nigra	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	

50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot size: 5x5)			
1. Carex lurida	20	Yes	OBL
2. Smilax rotundifolia	10	Yes	FAC
3. Quercus nigra	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	

50% of total cover: 17.5 20% of total cover: 7

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species		x 2 =	
FAC species	115	x 3 =	345
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	135 (A)		365 (B)

Prevalence Index = B/A = 2.70

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWG

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR5/1	97	10YR3/6	3	C	PL	Sand Loam	
6-18	10YR6/2	85	10YR4/6	15	C	PL/M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/17/2024

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-AWG-UP

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2-5

Subregion (LRR or MLRA): MLRA 137 Lat: 32.36142 Long: -84.47298 Datum: WGS84

Soil Map Unit Name: Orangeburg loamy sand, 5 to 8 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-AWG-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	70	Yes	FAC
2. Liquidambar styraciflua	15	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus nigra	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	15	Yes	FAC
2. Lonicera japonica	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-AWG-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR5/3	100					Sand Loam	
7-18	10YR5/8	95	10YR5/3	5	D	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BUP1

Investigator(s): Benjamin Burdette Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): None Slope (%): N/A

Subregion (LRR or MLRA): MLRA 137 Lat: 32.386296 Long: -84.500800 Datum: WGS84

Soil Map Unit Name: luka sandy loam, occasionally flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Only two of the three wetland parameters (hydrophytic vegetation & wetland hydrology) were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-BUP1

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	15	Yes	FAC
2. Liquidambar styraciflua	10	Yes	FAC
3. Ilex opaca	5	No	FAC
4. Platanus occidentalis	5	No	FACW
5.			
6.			
7.			
8.			
	35	= Total Cover	
50% of total cover: 18		20% of total cover: 7	

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ligusticum japonicum	50	Yes	FAC
2. Ilex opaca	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	60	= Total Cover	
50% of total cover: 30		20% of total cover: 12	

Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	= Total Cover	
50% of total cover: 2.5		20% of total cover: 1	

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis rotundifolia	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	
50% of total cover: 2.5		20% of total cover: 1	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BUP1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					Loam	
3-14	10YR 4/4	100					Sandy	
14-20	7.5YR 6/6	95	7.5YR 5/8	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BWA

Investigator(s): Benjamin Burdette and Andi Reinman Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0-2%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.379237 Long: -84.505511 Datum: WGS84

Soil Map Unit Name: Orangeburg loamy sand, 5 to 8 percent slope NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☑ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-BWA

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	10	Yes	FAC
2. Liquidambar styraciflua	5	Yes	FAC
3. Acer rubrum	5	Yes	FAC
4. Platanus occidentalis	5	Yes	FACW
5.			
6.			
7.			
8.			
	25	= Total Cover	

50% of total cover: 13 20% of total cover: 5

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ligustrum sinense	10	Yes	FAC
2. Acer rubrum	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	

50% of total cover: 8 20% of total cover: 3

Herb Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	35	x 3 =	105
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	40 (A)		115 (B)

Prevalence Index = B/A = 2.88

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BWA

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/2	95	10YR 4/6	5	C	M	Loam	
4-20	10YR 5/1	95	10YR 5/6	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/17/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BWA-UP

Investigator(s): Benjamin Burdette and Andi Reinman Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.379142 Long: -84.505487 Datum: WGS84

Soil Map Unit Name: Orangeburg loamy sand, 5 to 8 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWA-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	85	Yes	FAC
2. Quercus nigra	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Acer rubrum	5	Yes	FAC
2. Pinus taeda	5	Yes	FAC
3. Ligusticum japonicum	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		
50% of total cover: 8	20% of total cover: 3		
Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BWA-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/3	100					Sandy	
14-20	10YR 6/4	90	7.5YR 5/6	10	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BWB

Investigator(s): Benjamin Burdette and Andi Reinman Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): None Slope (%): 0%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.378199 Long: -84.499812 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 1"
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-BWB

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Yes	FAC
2. Nyssa sylvatica	30	Yes	FAC
3. Persea palustris	20	Yes	FACW
4. Platanus occidentalis	5	No	FACW
5. Liquidambar styraciflua	5	No	FAC
6.			
7.			
8.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Persea palustris	10	Yes	FACW
2. Ilex opaca	5	Yes	FAC
3. Pieris phillyreifolia	5	Yes	FACW
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Herb Stratum (Plot size: 5x5)			
1. Lonicera japonica	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	40	x 2 =	80
FAC species	70	x 3 =	210
FACU species	5	x 4 =	20
UPL species		x 5 =	
Column Totals:	112 (A)		310 (B)

Prevalence Index = B/A = 2.76

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BWB

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100					Mucky loam/Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☑ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☑ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BWB-UP

Investigator(s): Benjamin Burdette and Andi Reinman Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2-5%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.378246 Long: -84.499906 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

One of the three wetland parameters (hydrophytic vegetation) were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWB-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera	15	Yes	FACU
2. Ilex opaca	10	Yes	FAC
3. Quercus falcata	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
50% of total cover: 18	20% of total cover: 7		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ligusticum japonicum	60	Yes	FAC
2. Persea borbonia	5	No	FACW
3. Quercus falcata	5	No	FACU
4. Juniperus virginiana	5	No	FACU
5.			
6.			
7.			
8.			
	75 = Total Cover		
50% of total cover: 38	20% of total cover: 15		
Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	5	Yes	FAC
2. Lonicera japonica	2	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	7 = Total Cover		
50% of total cover: 3.5	20% of total cover: 1.4		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BWB-UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/2	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BWC

Investigator(s): Benjamin Burdette and Andi Reinman Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0-2%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.373969 Long: -84.491888 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine emergent wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 6"

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 2"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-BWC

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30x30)			
1. Sambucus nigra	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Herb Stratum (Plot size: 15x15)			
1. Pao annua	25	Yes	FACU
2. Carex lurida	20	Yes	OBL
3. Rubus argutus	15	Yes	FAC
4. Juncus effusus	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	5	x 2 =	10
FAC species	15	x 3 =	45
FACU species	25	x 4 =	100
UPL species		x 5 =	
Column Totals:	75 (A)		185 (B)

Prevalence Index = B/A = 2.46

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BWC

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	100					Loam	
4-16	10YR 6/2	98	10YR 5/6	2	C	M	Sand Loam	
16-20	10YR 5/1	95	10YR 4/4	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/18/2024

Applicant/Owner: The AES Corporation State: GA Sampling Point: SP-BWC2

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.374443 Long: -84.484367 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: PFO1/3A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 2"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-BWC2

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	40	Yes	FAC
2. Magnolia virginiana	20	Yes	FACW
3. Ligustrum sinense	10	No	FAC
4. Salix nigra	10	No	OBL
5.			
6.			
7.			
8.			
	80	= Total Cover	

50% of total cover: 40 20% of total cover: 16

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Ligustrum sinense	10	No	FAC
3. Quercus alba	10	No	FACU
4.			
5.			
6.			
7.			
8.			
	40	= Total Cover	

50% of total cover: 20 20% of total cover: 8

Herb Stratum (Plot size: 5x5)			
1. Ligustrum sinense	5	Yes	FAC
2. Lonicera japonica	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis vulpina	20	Yes	FAC
2. Lonicera japonica	10	No	FACU
3.			
4.			
5.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.83 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	20	x 2 =	40
FAC species	105	x 3 =	315
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	160 (A)		465 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP-BWC2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	96	10YR 3/6	4	C	PL/M	Sand clay loam	
3-14	2.5Y 4/1	96	10YR 3/6	4	C	PL/ M	Sand clay loam	
14-18	2.5Y 6/2	100					Sand clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-BWC-UP

Investigator(s): Benjamin Burdette and Andi Reinman Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hilllslope Local relief (concave, convex, none): Convex Slope (%): 5%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.374046 Long: -84.491944 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a herbaceous upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWC-UP

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Yucca gloriosa	20	Yes	FAC
2. Rubus argutus	10	Yes	FAC
3. Carex scoparia	10	Yes	FACW
4. Juncus effusus	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 = Total Cover		
50% of total cover: 23	20% of total cover: 9		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-BWC-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	100					Loamy/Clayey	
6-20	2.5YR 5/6	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/18/2024

Applicant/Owner: The AES Corporation State: GA Sampling Point: SP-BWC-UP2

Investigator(s): Wyatt Jamerson Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2-4%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.374669 Long: -84.484678 Datum: WGS84

Soil Map Unit Name: Troup loamy sand, 5 to 12 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No _____	Depth (inches): _____	
Water Table Present?	Yes _____	No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWC-UP2

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Zea mays	40	Yes	UPL
2. Lamium purpureum	25	Yes	UPL
3. Solidago altissima	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	0	x 3 =	
FACU species	20	x 4 =	80
UPL species	65	x 5 =	325
Column Totals:	85 (A)		405 (B)

Prevalence Index = B/A = 4.8

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP-BWC-UP2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/3	100%					Sand loam	
4-18	10YR 4/4	100%					Sand loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/18/2024

Applicant/Owner: The AES Corporation State: GA Sampling Point: SP-BWD

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-2%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.380954 Long: -84.499773 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: PFO1/3C

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 3"
Water Table Present?	Yes X	No _____	Depth (inches): 11"
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 7"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-BWD

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Magnolia virginiana	30	Yes	FACW
2. Liquidambar styraciflua	15	Yes	FAC
3. Quercus alba	15	Yes	FACU
4. Ilex opaca	10	No	FAC
5.			
6.			
7.			
8.			
	70	= Total Cover	
50% of total cover: 35		20% of total cover: 14	

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ilex opaca	15	Yes	FAC
2. Liquidambar styraciflua	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	25	= Total Cover	
50% of total cover: 12.5		20% of total cover: 5	

Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	30	Yes	FAC
2. Juncus effusus	10	Yes	OBL
3. Ilex opaca	5	No	FAC
4. Carex pellita	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	= Total Cover	
50% of total cover: 25		20% of total cover: 10	

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.86 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	30	x 2 =	60
FAC species	85	x 3 =	255
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	145 (A)		390 (B)

Prevalence Index = B/A = 2.68

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP-BWD

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/2	97	10YR 3/6	3	C	PL/M	Loamy sand	
4-8	10YR 5/1	97	10YR 3/6	3	C	M	Loamy sand	
8-18	2.5Y 5/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/18/2024

Applicant/Owner: The AES Corporation State: GA Sampling Point: SP-BWD-UP

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2-4%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.380833 Long: -84.499606 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: PFO1/3C

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

One of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWD-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	70	Yes	FAC
2. Pinus taeda	10	No	FAC
3. Quercus alba	10	No	FACU
4.			
5.			
6.			
7.			
8.			
	90	= Total Cover	

50% of total cover: 45 20% of total cover: 18

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Liquidambar styraciflua	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	5	Yes	FAC
2. Ilex opaca	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP-BWD-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 5/4	60	10YR 4/2	40	D	M	Sand clay loam	
7-18	7.5YR 6/8	90	10YR 4/2	40	D	M	Sand clay laom	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/18/2024

Applicant/Owner: The AES Corporation State: GA Sampling Point: SP-BWE

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Topslope Local relief (concave, convex, none): Concave Slope (%): 0-2%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.381189 Long: -84.497530 Datum: WGS84

Soil Map Unit Name: luka sandy loam, occasionally flooded NWI classification: R4SBC

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0-1"
Water Table Present?	Yes X	No _____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 7"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWE

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Magnolia virginiana	65	Yes	FACW
2. Liquidambar styraciflua	15	No	FAC
3. Ilex opaca	5	No	FAC
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Magnolia virginiana	15	Yes	FACW
2. Ilex opaca	10	No	FAC
3. Ligustrum sinense	5	No	FAC
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Herb Stratum (Plot size: 5x5)			
1. Smilax rotundifolia	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Woody Vine Stratum (Plot size: 30x30)			
1. Smilax rotundifolia	20	Yes	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	80	x 3 =	240
FACU species		x 4 =	
UPL species	0	x 5 =	0
Column Totals:	160 (A)		400 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP-BWE

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5Y 4/1	95	7.5YR 4/6	5	C	PL/M	Loamy sand	
7-18	10YR 4/1	95	7.5YR 4/6	5	C	M	Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 1/18/2024

Applicant/Owner: The AES Corporation State: GA Sampling Point: SP-BWE-UP

Investigator(s): Wyatt Jamerson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.381299 Long: -84.497682 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

One of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No _____	Depth (inches): _____	
Water Table Present?	Yes _____	No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-BWE-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	30	Yes	FACU
2. Quercus alba	25	Yes	FACU
3. Magnolia virginiana	20	Yes	FACW
4.			
5.			
6.			
7.			
8.			
	75	= Total Cover	
50% of total cover: 32.5	20% of total cover: 15		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus alba	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3		
Herb Stratum (Plot size: 5x5)			
1. Ligustrum sinense	10	Yes	FAC
2. Smilax rotundifolia	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		
Woody Vine Stratum (Plot size: 30x30)			
1. Vitis vulpina	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP-BWE-UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/3	60	10YR 4/4	40			Sand loam	
9-18	7.5YR 5/4	60	7.5YR 4/6	40			Sand loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/15/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP1

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.381881 Long: -84.469309 Datum: WGS84

Soil Map Unit Name: Nankin sandy loam, 5 to 12 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CUP1

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	40	Yes	FAC
2. Prunus serotina	15	Yes	FACU
3. Juniperus virginiana	10	No	FACU
4. Ilex opaca	10	No	FAC
5.			
6.			
7.			
8.			
	75	= Total Cover	

50% of total cover: 37.5 20% of total cover: 15

Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		= Total Cover	

50% of total cover: 20% of total cover:

Herb Stratum (Plot size: 5x5)			
1. Stellaria media	40	Yes	FACU
2. Lamium amplexicaule	20	Yes	UPL
3. Geranium carolinianum	20	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	

50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis rotundifolia	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	= Total Cover	

50% of total cover: 7.5 20% of total cover: 3

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/2	100					Sandy loam	
4-13	7.5YR 5/6	100					Sandy loam	
13-18	10YR 3/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP2

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Slightly concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.386752 Long: -84.458987 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Only one of the three wetland parameters (wetland hydrology) was met at this data point, which describes a herbaceous upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CUP2

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Vicia sativa	20	Yes	FACU
2. Solanum carolinense	15	Yes	FACU
3. Lamium amplexicaule	10	No	FACU
4. Geranium carolinianum	10	No	FACU
5. Allium canadense	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 2.5/3	100					Loam	
7-18	10YR 2/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Charcoal fragments in soil

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP3

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.386492 Long: -84.467388 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 5 to 12 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP-CUP3

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	60	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	60 = Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Quercus phellos	20	Yes	FACW
2. Juniperus virginiana	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Herb Stratum (Plot size: 5x5)			
1. Stellaria media	50	Yes	FACU
2. Lamium amplexicaule	30	Yes	UPL
3. Galium aparine	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		

Woody Vine Stratum (Plot size: 30x30)			
1. Smilax rotundifolia	15	Yes	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Loam	
2-18	10YR 3/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP4

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.388566 Long: -84.468415 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 5 to 12 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Only two of the wetland parameters (hydrophytic vegetation and wetland hydrology) were met at this data point, which describes a herbaceous upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CUP4

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Andropogon virginicus	80	Yes	FAC
2. Dichanthelium scoparium	15	No	FACW
3. Aster sp.	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		
50% of total cover: 52.5	20% of total cover: 21		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1								Duff
1-2	10YR 2/1	100					Loam	
2-12	10YR 5/4	95	2.5YR 3/6	5	C	M	Loam	
12-18	10YR 5/6	60	10YR 5/4	40			Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/16/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP5

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1-2%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.390590 Long: -84.473982 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CUP5

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Yes	FAC
2. Pinus taeda	15	Yes	FAC
3. Juniperus virginiana	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover: 12		

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Juniperus virginiana	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

Herb Stratum (Plot size: 5x5)			
1. Yucca gloriosa	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3		

Woody Vine Stratum (Plot size: 30x30)			
1. Smilax rotundifolia	20	Yes	FAC
2. Vitis rotundifolia	15	Yes	FAC
3.			
4.			
5.			
	35	= Total Cover	
50% of total cover: 17.5	20% of total cover: 7		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/17/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP6

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3-5%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.401186 Long: -84.487911 Datum: WGS84

Soil Map Unit Name: Cowarts and Ailey soils, 12 to 25 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

None of the three wetland parameters were met at this data point, which describes a herbaceous upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CUP6

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Dichanthelium clandestinum	30	Yes	FACW
2. Solidago altissima	15	Yes	FACU
3. Pinus taeda	10	No	FAC
4. Geranium carolinianum	5	No	UPL
5. Andropogon virginicus	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Loam	
2-18	10YR 4/3	98	5YR 5/8	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/17/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CUP7

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2-3%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.388381 Long: -84.517339 Datum: WGS84

Soil Map Unit Name: luka sandy loam, occasionally flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a herbaceous upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CUP7

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 15x15)			
1. Rubus argutus	15	Yes	FAC
2. Solidago altissima	15	Yes	FACU
3. Dichanthelium scoparium	10	Yes	FACW
4. Pinus taeda	10	Yes	FAC
5. Geranium carolinianum	5	No	UPL
6. Stellaria media	5	No	FACU
7. Ilex opaca	5	No	FAC
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CUP7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/17/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CWB

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 0-1%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.382558 Long: -84.516268 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three wetland parameters were met at this data point, which describes a palustrine forested wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes X	No _____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 4"

Wetland Hydrology Present? Yes X No _____

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CWB

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	30	Yes	FAC
2. Quercus nigra	20	Yes	FAC
3. Acer rubrum	15	No	FAC
4. Magnolia virginiana	15	No	FACW
5. Ilex opaca	10	No	FAC
6.			
7.			
8.			
	90	= Total Cover	

50% of total cover: 45 20% of total cover: 18

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ilex opaca	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30x30)			
1. Smilax rotundifolia	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		330 (B)

Prevalence Index = B/A = 2.87

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CWB

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	95	5YR 4/6	5	C	PL/M	Loam	
2-15	10YR 4/2	98	5YR 4/6	2	C	PL/M	Loam	
15-18	10YR 4/1	98	5YR 4/6	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Heart Pine Solar City/County: Marion County Sampling Date: 01/17/24

Applicant/Owner: AES Clean Energy State: GA Sampling Point: SP-CWB-UP

Investigator(s): Cora Every, Abbie Campbell Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 0-1%

Subregion (LRR or MLRA): MLRA 137 Lat: 32.382622 Long: -84.516216 Datum: WGS84

Soil Map Unit Name: Bibb sandy loam, frequently flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Only one of the three wetland parameters (hydrophytic vegetation) was met at this data point, which describes a forested upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 15"

Wetland Hydrology Present? Yes _____ No X

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

The Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network is rated at "Normal Conditions."

Remarks:

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

Sampling Point: SP-CWB-UP

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ilex opaca	30	Yes	FAC
2. Pinus taeda	20	Yes	FAC
3. Quercus nigra	15	Yes	FAC
4. Acer rubrum	10	No	FAC
5.			
6.			
7.			
8.			
	75	= Total Cover	

50% of total cover: 38 20% of total cover: 15

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Ilex opaca	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30x30)			
1. Smilax rotundifolia	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

The most updated edition of the US Army Corps of Engineers - 2020 National Wetland Plant List - Atlantic and Gulf Coastal Plain was used for vegetation nomenclature and indicator statuses.

SOIL

Sampling Point: SP-CWB-UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					Sandy loam	
1-15	5YR 4/6	100					Sandy clay loam	
15-18	10YR 4/3	80	5YR 4/6	20	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

NC DWQ Stream Identification Form Version 4.11

Date: 01/17/24	**Project/Site:** Heart Pine Solar	**Latitude:** 32.36202
Evaluator: Wyatt Jamerson	**County:** Marion	**Longitude:** -84.47688
Total Points: 22.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	**Stream Determination (circle one)** Ephemeral **Intermittent** Perennial	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = **10.5**)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	**2**	3
2. Sinuosity of channel along thalweg	0	1	**2**	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	**1**	2	3
4. Particle size of stream substrate	0	**1**	2	3
5. Active/relict floodplain	**0**	1	2	3
6. Depositional bars or benches	0	**1**	2	3
7. Recent alluvial deposits	0	**1**	2	3
8. Headcuts	0	**1**	2	3
9. Grade control	0	**0.5**	1	1.5
10. Natural valley	0	0.5	**1**	1.5
11. Second or greater order channel	**No = 0**		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = **5.5**)				
12. Presence of Baseflow	**0**	1	2	3
13. Iron oxidizing bacteria	**0**	1	2	3
14. Leaf litter	1.5	**1**	0.5	0
15. Sediment on plants or debris	**0**	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	**1.5**
17. Soil-based evidence of high water table?	No = 0		**Yes = 3**	

C. Biology (Subtotal = **6.5**)				
18. Fibrous roots in streambed	**3**	2	1	0
19. Rooted upland plants in streambed	**3**	2	1	0
20. Macrobenthos (note diversity and abundance)	**0**	1	2	3
21. Aquatic Mollusks	**0**	1	2	3
22. Fish	**0**	0.5	1	1.5
23. Crayfish	**0**	0.5	1	1.5
24. Amphibians	**0**	0.5	1	1.5
25. Algae	0	**0.5**	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5		**Other = 0**	

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

See photos.

NC DWQ Stream Identification Form Version 4.11

Date: 01/17/24	**Project/Site:** Heart Pine Solar	**Latitude:** 32.36189
Evaluator: Wyatt Jamerson	**County:** Marion	**Longitude:** -84.47296
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** **24.5**	**Stream Determination (circle one)** Ephemeral **Intermittent** Perennial	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = **11.5**)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	**2**	3
2. Sinuosity of channel along thalweg	0	1	**2**	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	**2**	3
4. Particle size of stream substrate	0	**1**	2	3
5. Active/relict floodplain	**0**	1	2	3
6. Depositional bars or benches	0	**1**	2	3
7. Recent alluvial deposits	0	**1**	2	3
8. Headcuts	0	**1**	2	3
9. Grade control	0	**0.5**	1	1.5
10. Natural valley	0	0.5	**1**	1.5
11. Second or greater order channel	**No = 0**		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = **6.5**)				
12. Presence of Baseflow	0	**1**	2	3
13. Iron oxidizing bacteria	**0**	1	2	3
14. Leaf litter	1.5	**1**	0.5	0
15. Sediment on plants or debris	0	**0.5**	1	1.5
16. Organic debris lines or piles	0	0.5	**1**	1.5
17. Soil-based evidence of high water table?	No = 0		**Yes = 3**	

C. Biology (Subtotal = **6.5**)				
18. Fibrous roots in streambed	3	**2**	1	0
19. Rooted upland plants in streambed	**3**	2	1	0
20. Macrobenthos (note diversity and abundance)	**0**	1	2	3
21. Aquatic Mollusks	**0**	1	2	3
22. Fish	**0**	0.5	1	1.5
23. Crayfish	**0**	0.5	1	1.5
24. Amphibians	**0**	0.5	1	1.5
25. Algae	**0**	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; **OBL = 1.5** Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

See photos.

NC DWQ Stream Identification Form Version 4.11

Date: 01/18/24	**Project/Site:** Heart Pine Solar	**Latitude:** 32.373502
Evaluator: C. Every, A. Campbell	**County:** Marion	**Longitude:** -84.490278
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** **34.75**	**Stream Determination (circle one)** Ephemeral Intermittent **Perennial**	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = **19.5**)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	**2**	3
2. Sinuosity of channel along thalweg	0	1	2	**3**
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	**3**
4. Particle size of stream substrate	0	1	**2**	3
5. Active/relict floodplain	0	1	**2**	3
6. Depositional bars or benches	0	1	**2**	3
7. Recent alluvial deposits	0	**1**	2	3
8. Headcuts	**0**	1	2	3
9. Grade control	0	0.5	**1**	1.5
10. Natural valley	0	**0.5**	1	1.5
11. Second or greater order channel	No = 0		**Yes = 3**	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = **8.5**)				
12. Presence of Baseflow	0	1	2	**3**
13. Iron oxidizing bacteria	**0**	1	2	3
14. Leaf litter	**1.5**	1	0.5	0
15. Sediment on plants or debris	**0**	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	**1**	1.5
17. Soil-based evidence of high water table?	No = 0		**Yes = 3**	

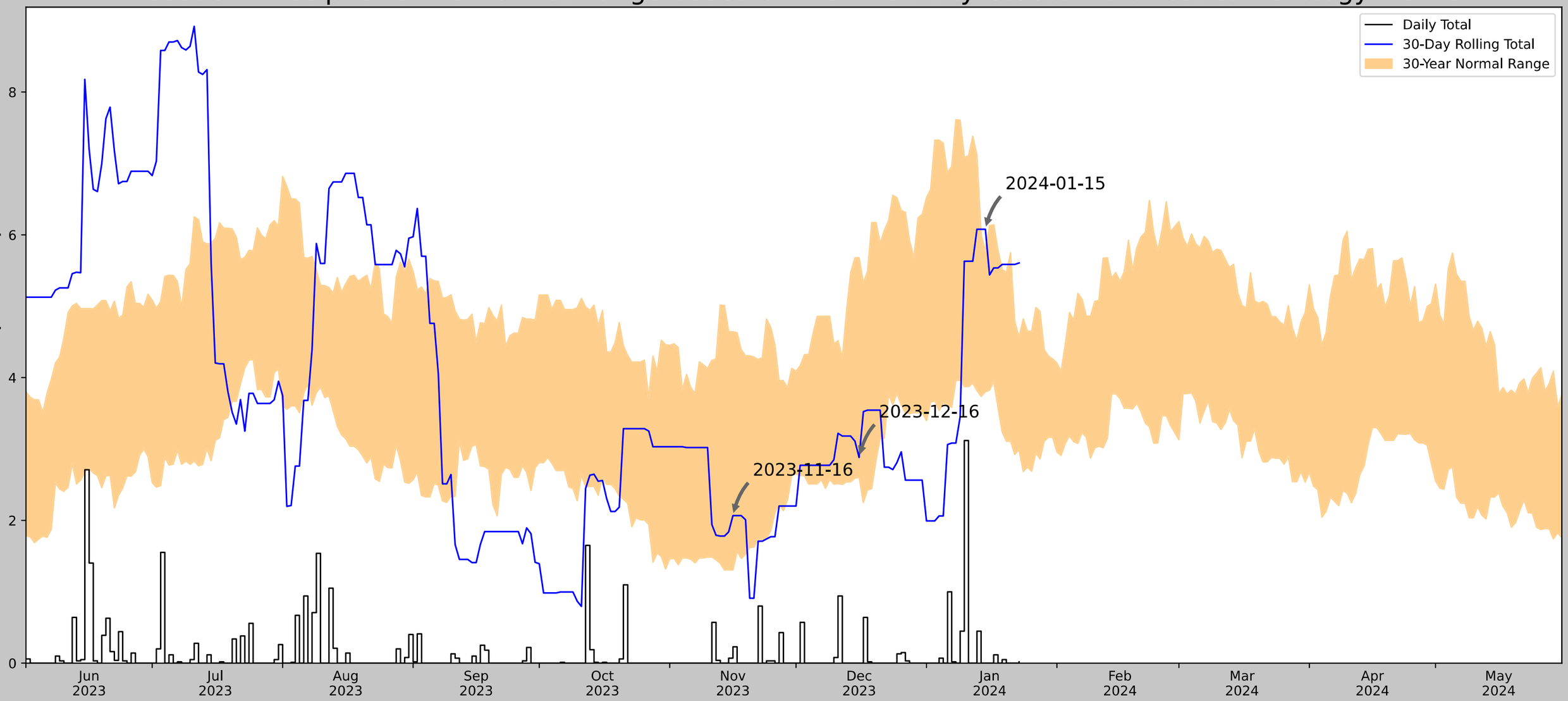
C. Biology (Subtotal = **6.75**)				
18. Fibrous roots in streambed	**3**	2	1	0
19. Rooted upland plants in streambed	**3**	2	1	0
20. Macrobenthos (note diversity and abundance)	**0**	1	2	3
21. Aquatic Mollusks	**0**	1	2	3
22. Fish	**0**	0.5	1	1.5
23. Crayfish	**0**	0.5	1	1.5
24. Amphibians	**0**	0.5	1	1.5
25. Algae	**0**	0.5	1	1.5
26. Wetland plants in streambed		**FACW = 0.75**	OBL = 1.5 Other = 0	

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

See photos.



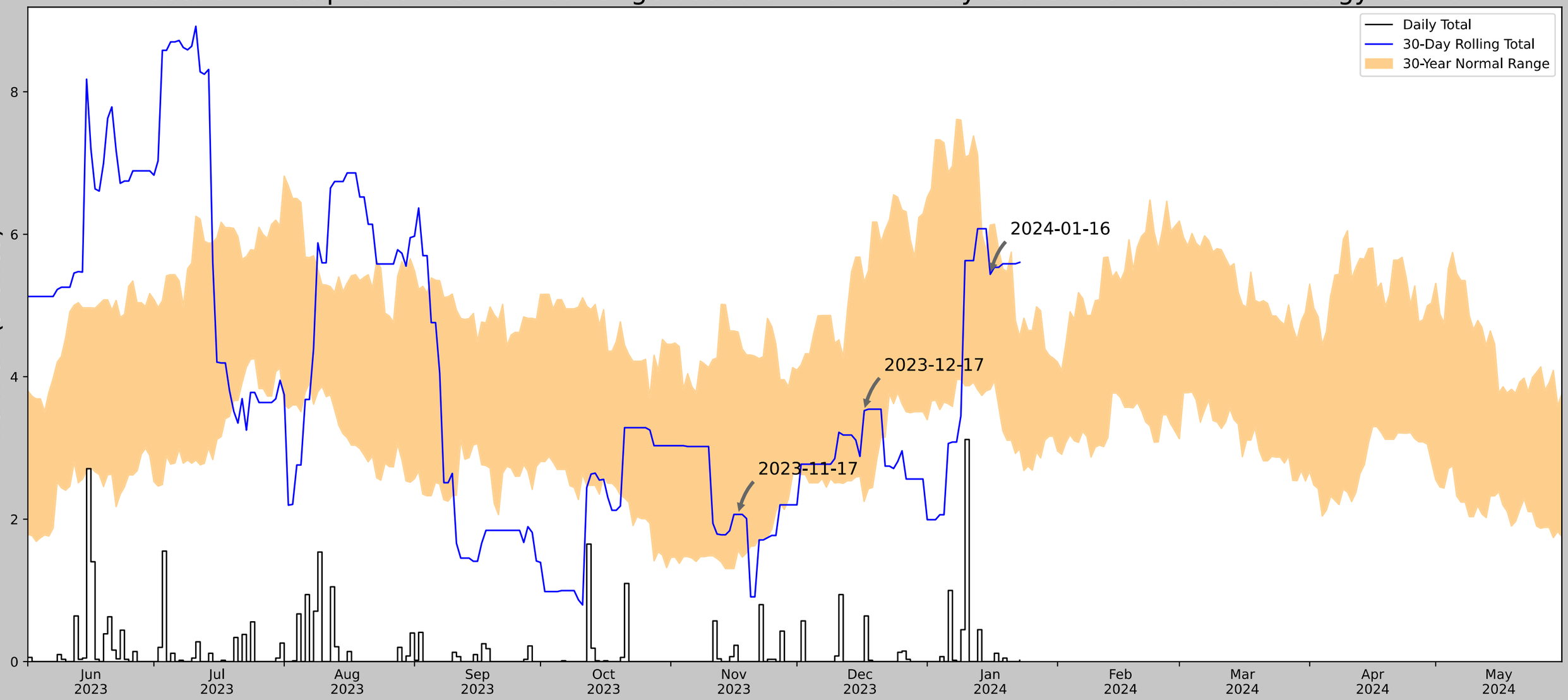
Coordinates	32.380696, -84.482375
Observation Date	2024-01-15
Elevation (ft)	513.178
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-01-15	3.801575	5.774803	6.07874	Wet	3	3	9
2023-12-16	2.600787	5.678347	2.88189	Normal	2	2	4
2023-11-16	1.305512	4.642914	2.066929	Normal	2	1	2
Result							Wetter than Normal - 15

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
AMERICUS	32.0306, -84.2461	396.982	27.856	116.196	15.772	10181	87
AMERICUS 0.4 SE	32.0675, -84.2225	455.053	2.9	58.071	1.473	39	0
PLAINS SW GA EXP STN	32.0467, -84.3711	500.0	7.405	103.018	4.095	1118	3
PRESTON	32.0547, -84.5239	404.856	16.355	7.874	7.489	2	0
ELLAVILLE 4.5 ENE	32.2544, -84.2347	512.139	15.477	115.157	8.747	2	0
BUTLER 6.9 S	32.4583, -84.2237	411.089	29.58	14.107	13.728	10	0



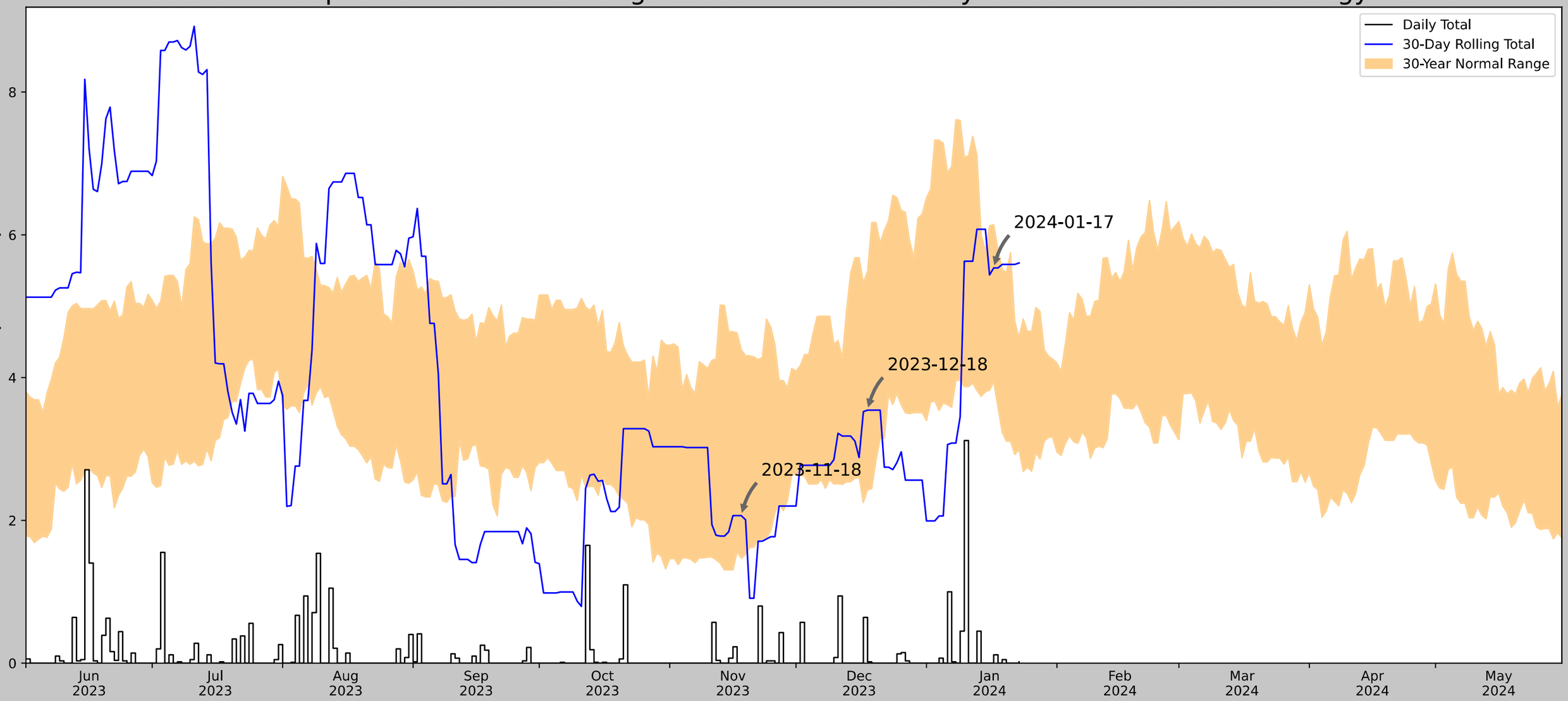
Coordinates	32.380696, -84.482375
Observation Date	2024-01-16
Elevation (ft)	513.178
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-01-16	3.823622	6.130315	5.437008	Normal	2	3	6
2023-12-17	2.249606	5.326378	3.523622	Normal	2	2	4
2023-11-17	1.561811	4.627559	2.066929	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
AMERICUS	32.0306, -84.2461	396.982	27.856	116.196	15.772	10181	88
AMERICUS 0.4 SE	32.0675, -84.2225	455.053	2.9	58.071	1.473	39	0
PLAINS SW GA EXP STN	32.0467, -84.3711	500.0	7.405	103.018	4.095	1118	2
PRESTON	32.0547, -84.5239	404.856	16.355	7.874	7.489	2	0
ELLAVILLE 4.5 ENE	32.2544, -84.2347	512.139	15.477	115.157	8.747	2	0
BUTLER 6.9 S	32.4583, -84.2237	411.089	29.58	14.107	13.728	10	0



Coordinates	32.380696, -84.482375
Observation Date	2024-01-17
Elevation (ft)	513.178
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

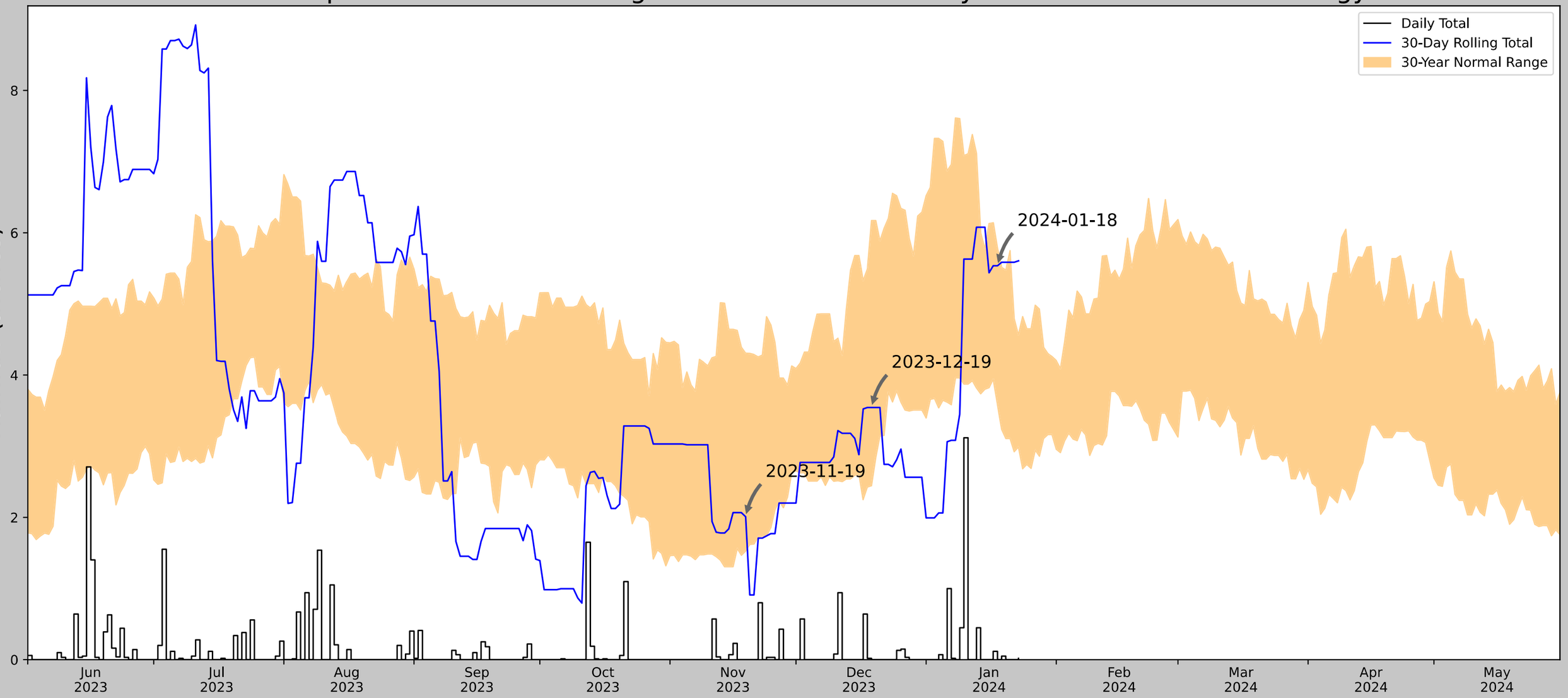
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-01-17	3.944882	6.140551	5.535433	Normal	2	3	6
2023-12-18	2.425984	5.490551	3.543307	Normal	2	2	4
2023-11-18	1.467323	4.390551	2.066929	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
AMERICUS	32.0306, -84.2461	396.982	27.856	116.196	15.772	10181	89
AMERICUS 0.4 SE	32.0675, -84.2225	455.053	2.9	58.071	1.473	39	0
PLAINS SW GA EXP STN	32.0467, -84.3711	500.0	7.405	103.018	4.095	1118	1
PRESTON	32.0547, -84.5239	404.856	16.355	7.874	7.489	2	0
ELLAVILLE 4.5 ENE	32.2544, -84.2347	512.139	15.477	115.157	8.747	2	0
BUTLER 6.9 S	32.4583, -84.2237	411.089	29.58	14.107	13.728	10	0

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



Coordinates	32.380696, -84.482375
Observation Date	2024-01-18
Elevation (ft)	513.178
Drought Index (PDSI)	Not available
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-01-18	3.582677	5.784252	5.535433	Normal	2	3	6
2023-12-19	2.444882	6.172047	3.543307	Normal	2	2	4
2023-11-19	1.527953	4.307874	2.007874	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
AMERICUS	32.0306, -84.2461	396.982	27.856	116.196	15.772	10181	90
AMERICUS 0.4 SE	32.0675, -84.2225	455.053	2.9	58.071	1.473	39	0
PLAINS SW GA EXP STN	32.0467, -84.3711	500.0	7.405	103.018	4.095	1118	0
PRESTON	32.0547, -84.5239	404.856	16.355	7.874	7.489	2	0
ELLAVILLE 4.5 ENE	32.2544, -84.2347	512.139	15.477	115.157	8.747	2	0
BUTLER 6.9 S	32.4583, -84.2237	411.089	29.58	14.107	13.728	10	0

Appendix B

Desktop & Habitat Assessment

Prepared for

The AES Corporation
4200 Innslake Drive, Suite 302
Glen Allen, VA 23060

THREATENED & ENDANGERED SPECIES DESKTOP ASSESSMENT

HEART PINE SOLAR PROJECT

Marion County, Georgia

Prepared by

engineers | scientists | innovators
9211 Arboretum Parkway, Suite 200
Richmond, VA 23236

Project Number: GXE10300

January 09, 2024

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APPENDICES

1 Introduction

The AES Corporation (AES) engaged Geosyntec Consultants, Inc. (Geosyntec) to provide support with environmental due diligence and preliminary planning of a new utility-scale photovoltaic solar energy facility referred to as the Tazewell Solar Project (Project) in Marion County, Georgia. The Project is on the Tazewell North, Tazewell South, and Buena Vista NE, Georgia, United States Geological Survey (USGS) 7.5-minute Quadrangles (Quads) (Figure 1). The following report summarizes results of the desktop analysis for species protected at the state and federal levels.

The Project study area reviewed for the habitat desktop assessment totaled approximately 2,289.2 acres as provided by AES. The majority of the land cover primarily consists of agricultural fields and forested areas.

2 Threatened & Endangered Species Databases

Geosyntec consulted state and federal natural resource databases to determine the potential presence of species listed as threatened or endangered within the Project study area. These databases include the following:

- USFWS Information for Planning and Consultation (IPaC)
- USFWS Critical Habitat for Threated and Endangered Species Mapper
- Georgia Department of Natural Resources (GADNR) Biodiversity Portal
- GADNR The Nature Conservancy (TNC) Low Impact Solar Siting Tool (GA LISST)

Results from the database searches and habitat survey are summarized below in Table 1. Copies of the database search results are enclosed in Appendix B.

Table 1: Threatened and Endangered Species Database Review Target Species

Species	Common Name	Status[1]	Database[2]
Perimyotis subflavus	tricolored bat	FPE	IPaC
Macrochelys temminckii	alligator snapping turtle	FPT	IPaC
Ptilimnium nodosum	harperella	FE	IPaC
Trillium reliquum	relict trillium	FE	IPaC
Gopherus polyphemus	gopher tortoise	ST	GADNR BP

[1] FE: Federally Endangered; FPE: Federally Proposed Endangered; FPT: Federally Proposed Threatened; ST State Threatened

[2] IPaC: Information for Planning and Consultation; GADNR BP: Georgia Department of Natural Resources Biodiversity Portal

2.1 USFWS IPaC

The Project study area was uploaded to the IPaC tool operated by the USFWS to generate an official species list of federally protected species with the potential to occur in the vicinity of the Project. The Georgia Ecological Services field office identified the tricolored bat (*Perimyotis subflavus*), harperella (*Ptilimnium nodosum*), relict trillium (*trillium reliquum*), alligator snapping

turtle (*Macrochelys temminckii*), and several migratory birds as having the potential to occur in the Project study area. Results from the USFWS IPaC tool are summarized above in Table 1.

No federally protected critical habitat was documented in the vicinity of the Project in the IPaC reports. The nearest critical habitat (Gulf moccasinshell) is approximately 8.9 miles south of the Project, according to the USFWS Critical Habitat for Threated and Endangered Species Mapper.

2.2 Georgia Department of Natural Resources Biodiversity Portal

A review of the GADNR Biodiversity Portal of all Rare Natural Elements selected by quarter quads containing the Project study area was done on December 27, 2023. The Project study area is located within three quarter quads: Buena Vista NE, GA, SE Quarter Quad; Tazewell North, GA, SW Quarter Quad; and Tazewell South, GA, NW Quarter Quad.

The gopher tortoise (*Gopherus polyphemus*) was identified during the Biodiversity Portal review as having confirmed observations within the Buena Vista NE, SE Quarter Quad in 2015. Gopher tortoise is listed as a state-threatened species in Georgia, and it is the only species identified in the Biodiversity Portal review for the Project with legal protections.

The Atlantic white-cedar (*Chamaecyparis thyoides*), Eastern tiger salamander (*Ambystoma tigrinum*), Hillis's dwarf salamander (*Eurycea hillisi*), and Florida pine snake (*Pituophis melanoleucus mugitus*) are not state protected species but have had observations within the quarter quads of the Project study area and were identified in the Biodiversity Portal review. These species are listed in the State Wildlife Action Plan (SWAP) as high priorities for conservation. SWAP was developed for conserving wildlife and habitats before becoming too rare or expensive to restore.

No federal or state legal protections are currently in place for the SWAP listed species; however, the SWAP provides recommendations regarding these species for conservation measures. Results from the Biodiversity Portal review are included in Appendix B.

2.3 Georgia Low Impact Solar Siting Tool

The Project study area was uploaded to Georgia Low Impact Solar Siting Tool (LISST). The LISST was developed and is administered by the Nature Conservancy in Georgia. LISST was developed for developers and regulators to help identify areas of lower environmental sensitivity for siting new utility-scale solar developments. The database has four different rankings to depict areas most preferred for low impact solar siting to areas where avoidance is recommended. Most of the Project area lies within regions listed as preferred for low impact, with few areas listed as less or not preferred for low impact. A small portion in the northeast corner of the site, where Shoal Creek is located, lies within an area where avoidance is recommended. The map from LISST identifying within the Project are enclosed in Appendix C.

3 Focus Species

Based on the results of the database searches described above and existing habitat conditions identified during the desktop review, suitable habitat for the below focus species may exist within the Project study area.

3.1 Tricolored Bat

The tri-colored bat was proposed as federally endangered on September 14, 2022, in the Federal Register. It was identified on the IPaC as a species with the potential to occur within the project vicinity. Tri-colored bats primarily roost in leaf litter at the base of live or recently dead trees within woodland habitats. They are also more tolerant of warmer hibernacula temperatures than other species and prefer warmer caves.

The tricolored bat has occurrences statewide. Georgia does not maintain publicly available species records on hibernacula or roost sites for the tricolored bat; however, lack of data does not indicate lack of presence. Tri-colored bat habitat is likely to occur within the Project; therefore, a pedestrian habitat assessment is recommended, followed up with coordination with USFWS should habitat be identified.

3.2 Alligator Snapping Turtle

The alligator snapping turtle was proposed as federally threatened on November 9, 2021, in the Federal Register. It was identified on the IPaC as a species with the potential to occur within the project vicinity. The alligator snapping turtle is the largest freshwater turtle in North America and typically prefers large freshwater systems such as deep beds of rivers or lakes. Alligator snapping turtle habitat may occur in the Project study area due to the presence of Gin Creek located near the middle-to-eastern portion of the Project. A pedestrian habitat assessment is needed to determine the suitability of Gin Creek to support an alligator snapping turtle population.

3.3 Harperella

Harperella is a federally endangered annual plant in the carrot family identified on the IPaC as a species with the potential to occur within the project vicinity. Harperella grows in wet soil near a body of water and can survive periodic, moderate flooding. They flower in May and June and are distinguished by small, white flowers arranged in clusters. Following a review of available on-line resources, suitable habitat may occur on the Project and would need to be confirmed during a pedestrian habitat assessment. Should habitat be identified during the habitat assessment, coordination with USFWS may be required.

3.4 Relict Trillium

Relict trillium is a federally endangered perennial plant identified on the IPaC as a species with the potential to occur within the project vicinity. Relict trilliums are found in rich mixed deciduous forested slopes, on bluffs, and in stream flats along the fall line. They flower in early spring, before the forest canopy leaves out. Following a review of available on-line resources, suitable habitat may occur on the Project and would need to be confirmed during a pedestrian habitat assessment. Should habitat be identified during the habitat assessment, coordination with USFWS may be required.

3.5 Gopher Tortoise

The state-threatened gopher tortoise was identified on the Georgia Department of Natural Resources Biodiversity Portal as having confirmed observations within the Buena Vista NE, SE Quarter Quad in 2015 and prior. This species prefers habitats with well-drained, sandy soils and a wide variety of ground cover for foraging. Gopher tortoises tend to occupy sandhills, dry

hammocks, and longleaf pine-turkey oak woods but if the canopy cover is too dense, they will move to disturbed habitats such as old fields, fencerows, and roadsides. According to the US Army Corps of Engineers' Savannah District and the Fish and Wildlife Service's Georgia Ecological Services Office Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Project area contains 743.5 acres of soils listed as best, 27.4 acres listed as moderate, and 775.2 acres listed as marginal gopher tortoise soils. A custom soil report for gopher tortoises' preferred soil series is provided in Appendix B. Potentially suitable habitat for the gopher tortoise is present within the Project study area. A pedestrian habitat assessment is needed to confirm presence of suitable habitat, and any suspected burrows will need to be noted.

4 Migratory Bird Considerations

Migratory birds are protected by the Migratory Bird Treaty Act which prohibits the killing or harassment of migratory bird species, including unintentional take. Impacts to migratory birds from the proposed Project are most likely to occur during vegetation clearing. Four particular species of interest for the Project study area and their estimated occurrence times were identified by the IPaC (Appendix B); however, all migratory bird species are protected.

Geosyntec recommends clearing vegetation outside of the nesting season (early March to Mid-September) to prevent impacts to migratory birds. If clearing will occur within the nesting season, a pre-construction nest clearance survey may be needed. If an active nest is identified during the mowing/clearing, a 30-foot buffer should be preserved around the location and the area should be avoided until the end of nesting season or the chicks have fledged.

5 Conclusion

Based on review of state and federal databases, potential habitat for five protected focus species may occur within the Project study area: tricolored bat, alligator snapping turtle, harperella, relict trillium, and gopher tortoise.

The tri-colored bat was proposed as federally endangered on September 14, 2022, in the Federal Register. It was identified on the IPaC as a species with the potential to occur within the project vicinity. Tri-colored bat habitat is likely to occur within the Project; therefore, a pedestrian habitat assessment is recommended, followed with coordination with USFWS should habitat be identified.

The alligator snapping turtle was proposed as federally threatened on November 9, 2021, in the Federal Register. Alligator snapping turtle habitat may occur in the Project due to the presence of Gin Creek located near the middle-to-eastern portion of the Project; therefore, a pedestrian habitat assessment is recommended, followed with coordination with USFWS should habitat be identified.

Potentially suitable habitat for harpella and relict trillium may be present within the Project study area. Coordination with the USFWS Georgia Ecological Services Field Office is recommended if these species are identified within the Project.

The state-threatened gopher tortoise was identified on the GADNR Biodiversity Portal as having confirmed observations within the vicinity of the Project. The Project area contains soil series preferable to gopher tortoises and suitable habitat may occur within the Project study area; therefore, a pedestrian habitat assessment is recommended. Further consultation may be required with GADNR should gopher tortoise burrows be identified.

6 References

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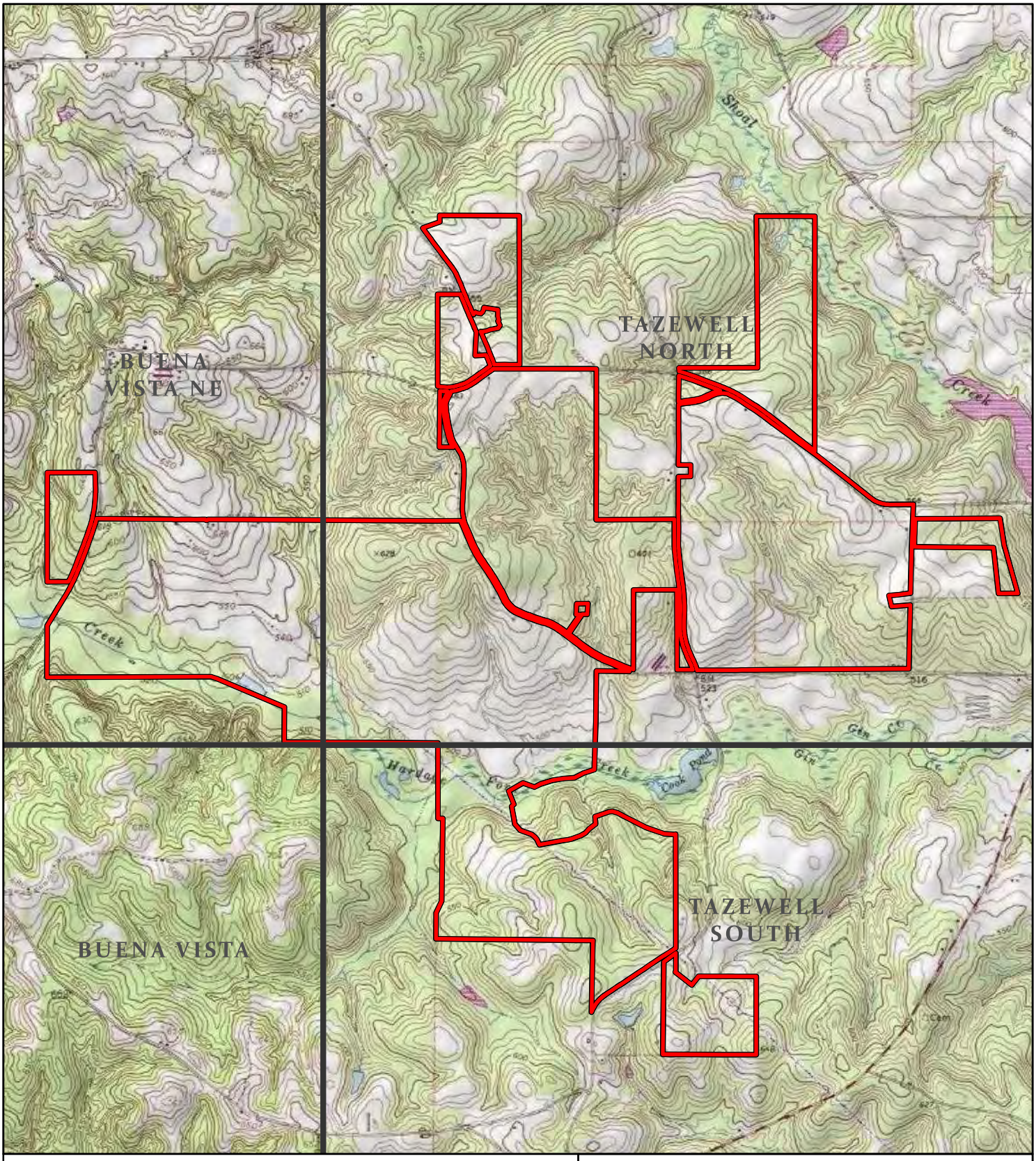
FIGURES



Desktop Study Area
The AES Clean Energy
Tazewell Solar Project
Marion County, Georgia

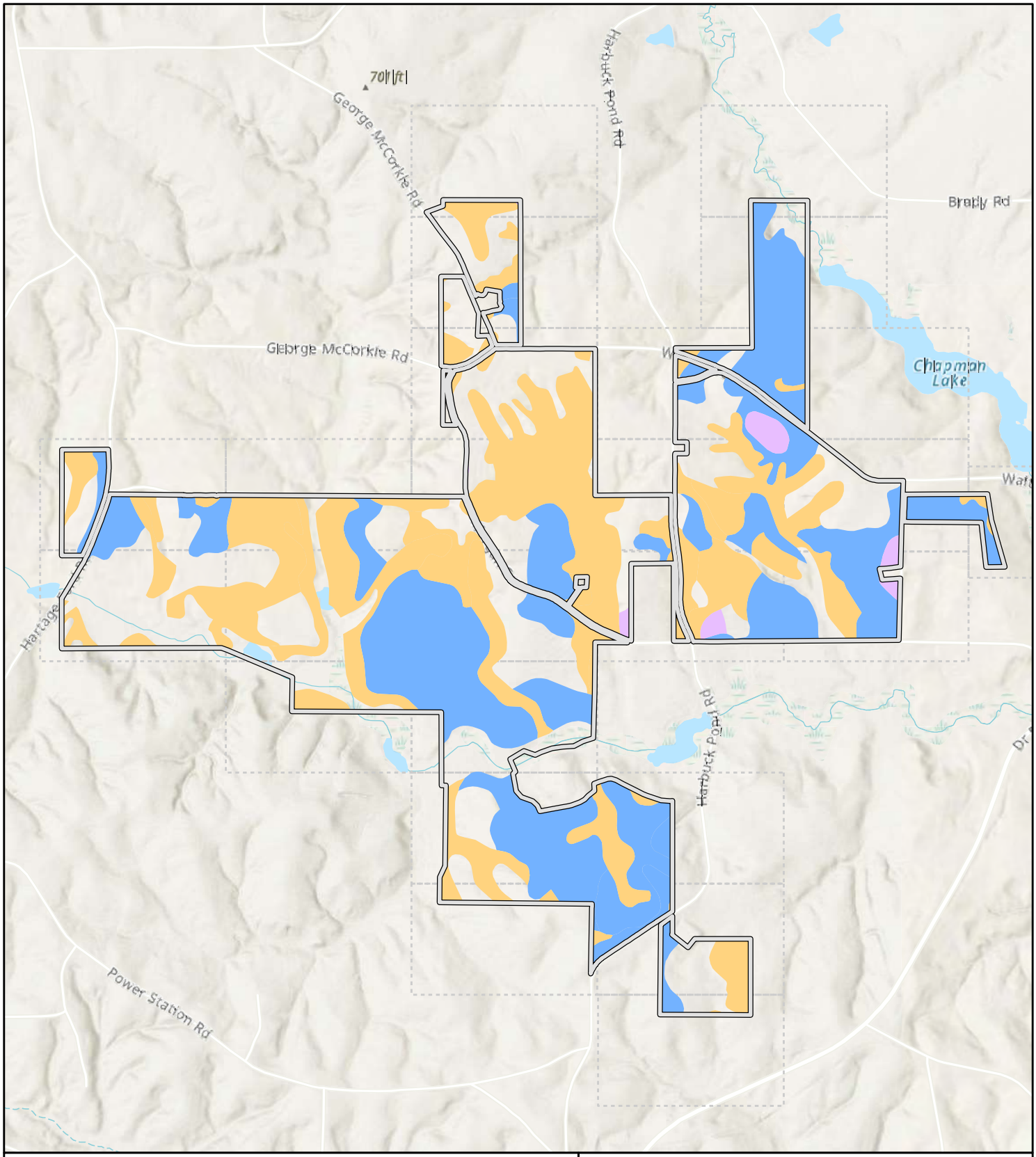
Geosyntec consultants

Figure 1

Drawn: CE | January 2024

C:\Users\cora.every\Documents\Projects\AES Tazewell\GIS\AES Tazewell_2Jan23.aprx 12/28/2023 10:41 AM
Basemap Sources: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed

APPENDIX A
Custom Soil Resource Report
for
Gopher Tortoise
(*Gopherus polyphemus*)



Gopher Tortoise Soil Series Map
The AES Corporation
Tazewell Solar
Marion County, Georgia

Geosyntec consultants

Appendix A

Drawn: CE	January 2024

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_2Jan23.aprx 12/28/2023 10:41 AM
Basemap Sources: World Hillshade: Esri, NASA, NGA, USGS, FEMA
World Topographic Map: Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Gopher Tortoise Soil Series

Tazewell Solar Project

Soil Series	Map Unit Symbols	Map Unit Name	Ranking	Acres
Lakeland	LaC	Lakeland sand, 5 to 12% slopes	Best	56.2
Troup	TrB, TrC, TrE	Troup loamy sand, 2 to 5% slopes; 5-12% slopes; and 12 to 25% slopes	Best	687.3
Fuquay	FuB, FuC	Fuquay loamy sand, 0 to 5% slopes and 5 to 8% slopes	Moderate	27.4
Ailey	AaB, AaC	Ailey loamy coarse sand, 2 to 5% slopes and 5 to 8% slopes	Marginal	44
Cowarts and Ailey	COC, COE	Cowarts and Ailey soils, 5 to 12% slopes and 12 to 25% slopes	Marginal	513
Orangeburg	OrB, OrC	Orangeburg loamy sand, 5 to 8% slopes	Marginal	218.2

APPENDIX B

Threatened and Endangered Species Database Results

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

Marion County, Georgia

Local office

Georgia Ecological Services Field Office

(706) 613-9493
(706) 613-6059

355 East Hancock Avenue
Room 320
Athens, GA 30601-2523

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 species[1] 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 Fisheries[2]).

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
Tricolored Bat Perimyotis subflavus 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 Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Reptiles

NAME	STATUS
Alligator Snapping Turtle Macrochelys temminckii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

Insects

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

Flowering Plants

NAME	STATUS

Harperella Ptilimnium nodosum — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3739

Relict Trillium Trillium reliquum — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8489

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 Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] 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
Brown-headed Nuthatch Sitta pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

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.

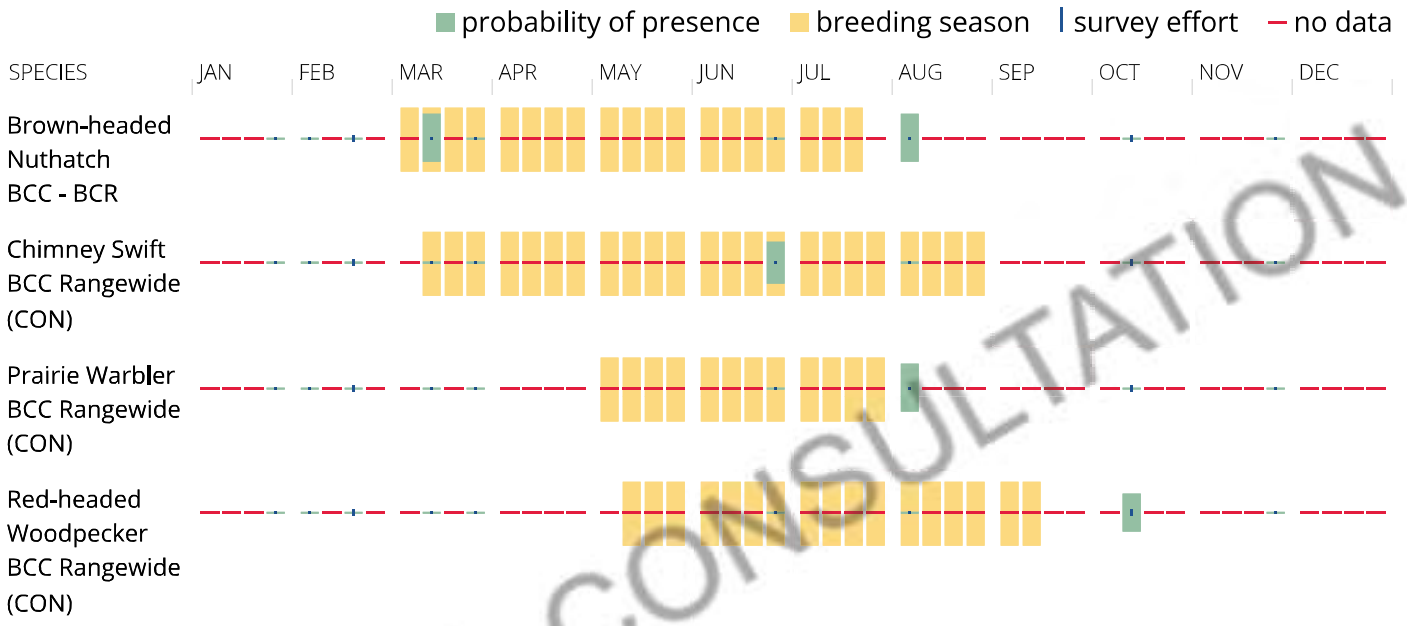
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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 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

- PEM1Fb
- PEM1A
- PEM1F

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PFO1/3A
- PFO1C
- PFO1/3C
- PFO1Ab
- PSS1Fh
- PSS1Cb
- PSS1C
- PFO1F
- PFO3/4B

FRESHWATER POND

- PUBHh
- PUBFh

RIVERINE

- R4SBC

R5UBH

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 tuberficid 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.

Georgia Department of Natural Resources Biodiversity Portal Results

Tazewell Solar Project

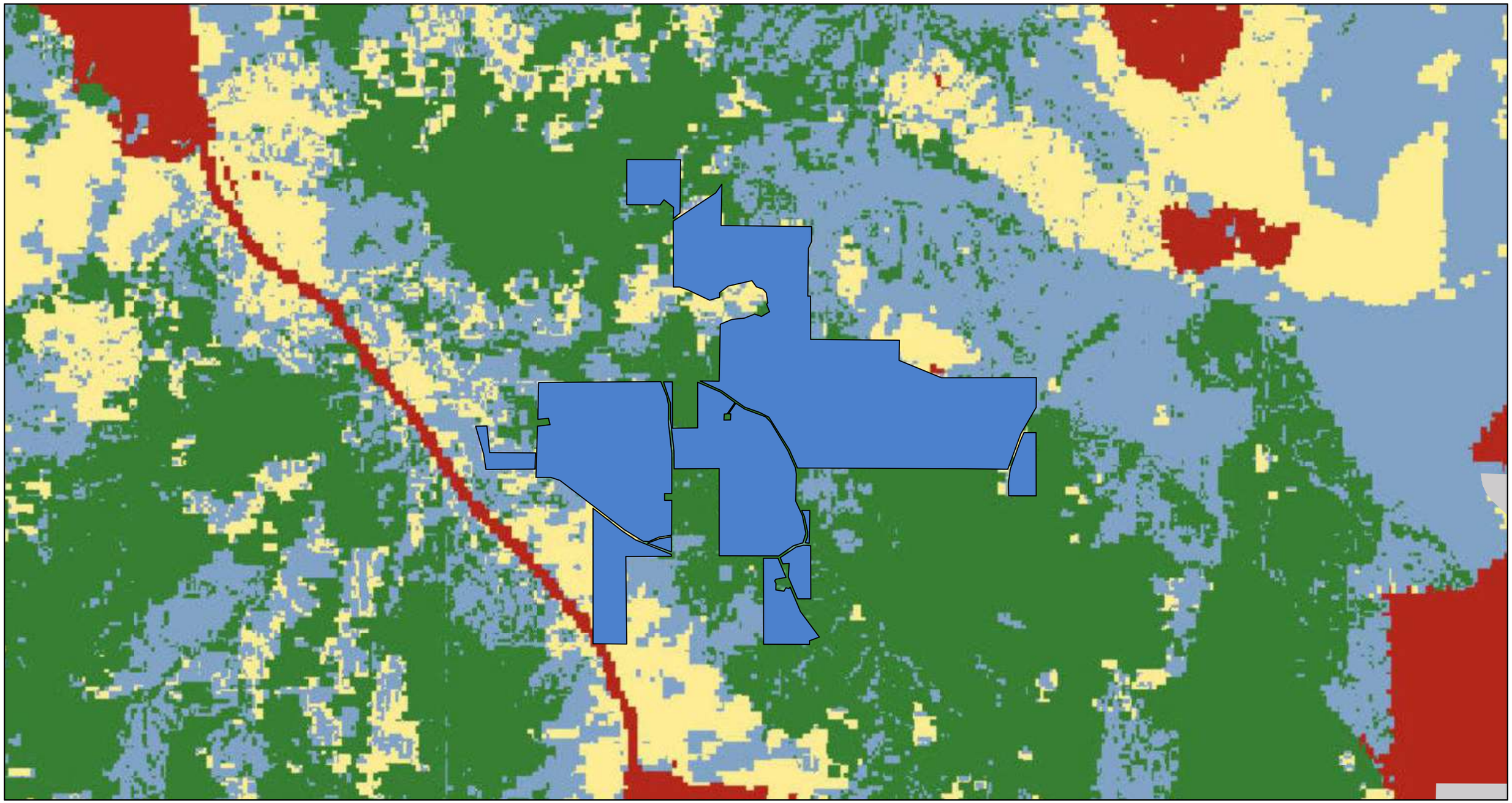
Georgia All Rare Animals, Plants, Natural Plant Communities within Buena Vista NE, GA, SE Quarter Quad 2023-12-18														
Scientific Name	Common Name	GA Prot	US Prot	GRank	Rnd GRank	SRank	Rnd SRank	SwapStatus	ES_ID	Element Code	Group	Georgia Habitat Summary	EO Count	Export Date
Eurycea hillisi	Hillis's Dwarf Salamander	null	null	G3	G3	S3	S3	Yes	35443	AAAAD05160	Animal	Seepage ravines/stream sides; bogs; sphagnum beds, marshes	53	December 18, 2023
Gopherus polyphemus	Gopher Tortoise	T	Null	G3	G3	S3	S3	Yes	20476	ARAAF01030	Animal	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields	329	December 18, 2023
Pituophis melanoleucus mugitus	Florida Pine Snake	null	null	G4T3	T3	S3	S3	Yes	19630	ARADB26013	Animal	Sandhills; scrub; pine savannah; old fields	102	December 18, 2023

Georgia All Rare Animals, Plants, Natural Plant Communities within Tazewell North, GA, SW Quarter Quad 2023-12-18														
Scientific Name	Common Name	GA Prot	US Prot	GRank	Rnd GRank	SRank	Rnd SRank	SwapStatus	ES_ID	Element Code	Group	Georgia Habitat Summary	EO Count	Export Date
Chamaecyparis thyoides	Atlantic White-cedar	R	null	G4	G4	S2	S2	Yes	20334	PGCUP03030	Plant	Clearwater stream swamps in fall line sandhills	44	December 18, 2023
Eurycea hillisi	Hillis's Dwarf Salamander	null	null	G3	G3	S3	S3	Yes	35443	AAAAD05160	Animal	Seepage ravines/stream sides; bogs; sphagnum beds, marshes	53	December 18, 2023
Pituophis melanoleucus mugitus	Florida Pine Snake	null	null	G4T3	T3	S3	S3	Yes	19630	ARADB26013	Animal	Sandhills; scrub; pine savannah; old fields	102	December 18, 2023

Georgia All Rare Animals, Plants, Natural Plant Communities within Tazewell South, GA, NW Quarter Quad 2023-12-18														
Scientific Name	Common Name	GA Prot	US Prot	GRank	Rnd GRank	SRank	Rnd SRank	SwapStatus	ES_ID	Element Code	Group	Georgia Habitat Summary	EO Count	Export Date
Ambystoma tigrinum	Eastern Tiger Salamander	null	null	G5	G5	S3S4	S3	Yes	33438	AAAAA01146	Animal	Isolated wetlands for breeding; variety of open, upland habitats; CP-sandhills, oldfields, dry pine savanna	79	December 18, 2023
Pituophis melanoleucus mugitus	Florida Pine Snake	null	null	G4T3	T3	S3	S3	Yes	19630	ARADB26013	Animal	Sandhills; scrub; pine savannah; old fields	102	December 18, 2023

APPENDIX C

Georgia Low Impact Solar Siting Tool Results



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Prepared for

The AES Corporation
4200 Innslake Drive, Suite 302
Glen Allen, VA 23060

THREATENED & ENDANGERED SPECIES HABITAT ASSESSMENT

HEART PINE SOLAR PROJECT

Marion County, Georgia

Prepared by

Geosyntec consultants

engineers | scientists | innovators
9211 Arboretum Parkway, Suite 200
Richmond, VA 23236

Project Number: GXE10300

January 31, 2024

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1 Introduction

The AES Corporation (AES) engaged Geosyntec Consultants, Inc. (Geosyntec) to provide support with environmental due diligence and preliminary planning of a new utility-scale photovoltaic solar energy facility referred to as the Heart Pine Solar Project (Project) in Marion County, Georgia. The Project is on the Tazewell North, Tazewell South, and Buena Vista NE, Georgia, United States Geological Survey (USGS) 7.5-minute Quadrangles (Quads) (Figure 1). The following report summarizes the results of the desktop analysis and on-site habitat suitability assessment for species listed as threatened and endangered at the state and federal levels conducted by Geosyntec in January 2024.

The Project study area reviewed for this habitat assessment totaled approximately 1533.64 acres as provided by AES. The land cover primarily consists of agricultural fields and forested areas.

2 Threatened & Endangered Species Databases

Geosyntec consulted state and federal natural resource databases to determine the potential presence of species listed as threatened or endangered within the Project study area. These databases include the following:

- USFWS Information for Planning and Consultation (IPaC)
- USFWS Critical Habitat for Threated and Endangered Species Mapper
- Georgia Department of Natural Resources (GADNR) Biodiversity Portal
- GADNR The Nature Conservancy (TNC) Low Impact Solar Siting Tool (GA LISST)

Results from the database searches and habitat survey are summarized below in Table 1. Copies of the database search results are enclosed in Appendix B.

Table 1: Threatened and Endangered Species Database Review Target Species

Species	Common Name	Status[1]	Database[2]
Perimyotis subflavus	tricolored bat	FPE	IPaC
Macrochelys temminckii	alligator snapping turtle	FPT	IPaC
Ptilimnium nodosum	harperella	FE	IPaC
Trillium reliquum	relict trillium	FE	IPaC
Gopherus polyphemus	gopher tortoise	ST	GADNR BP

[1] FE: Federally Endangered; FPE: Federally Proposed Endangered; FPT: Federally Proposed Threatened; ST State Threatened

[2] IPaC: Information for Planning and Consultation; GADNR BP: Georgia Department of Natural Resources Biodiversity Portal

2.1 USFWS IPaC

The Project study area was uploaded to the IPaC tool operated by the USFWS to generate an official species list of federally protected species with the potential to occur in the vicinity of the

Project. The Georgia Ecological Services field office identified the tricolored bat (*Perimyotis subflavus*), harperella (*Ptilimnium nodosum*), relict trillium (*trillium reliquum*), alligator snapping turtle (*Macrochelys temminckii*), and migratory birds as having the potential to occur in the Project study area. Results from the USFWS IPaC tool are summarized above in Table 1.

No federally protected critical habitat was documented in the vicinity of the Project in the IPaC reports. The nearest critical habitat (Gulf moccasinshell) is approximately 8.9 miles south of the Project, according to the USFWS Critical Habitat for Threated and Endangered Species Mapper.

2.2 Georgia Department of Natural Resources Biodiversity Portal

A review of the GADNR Biodiversity Portal of all Rare Natural Elements selected by quarter quads containing the Project study area was completed on December 27, 2023. The Project study area is located within three quarter quads: Buena Vista NE, GA, SE Quarter Quad; Tazewell North, GA, SW Quarter Quad; and Tazewell South, GA, NW Quarter Quad.

The gopher tortoise (*Gopherus polyphemus*) was identified during the Biodiversity Portal review as having confirmed observations within the Buena Vista NE, SE Quarter Quad in 2015. Gopher tortoise is listed as a state-threatened species in Georgia, and it is the only species identified in the Biodiversity Portal review for the Project with legal protections.

The Atlantic white-cedar (*Chamaecyparis thyoides*), Eastern tiger salamander (*Ambystoma tigrinum*), Hillis's dwarf salamander (*Eurycea hillisi*), and Florida pine snake (*Pituophis melanoleucus mugitus*) are not state protected species but have had observations within the quarter quads of the Project study area and were identified in the Biodiversity Portal review. These species are listed in the State Wildlife Action Plan (SWAP) as high priorities for conservation. SWAP was developed for conserving wildlife and habitats before becoming too rare or expensive to restore.

No federal or state legal protections are currently in place for the SWAP listed species; however, the SWAP provides recommendations regarding these species for conservation measures. Results from the Biodiversity Portal review are included in Appendix B.

2.3 Georgia Low Impact Solar Siting Tool

The Project study area was uploaded to Georgia Low Impact Solar Siting Tool (LISST). The LISST was developed and is administered by the Nature Conservancy in Georgia. LISST was developed for developers and regulators to help identify areas of lower environmental sensitivity for siting new utility-scale solar developments. The database has four different rankings to depict areas most preferred for low impact solar siting to areas where avoidance is recommended. Most of the Project area lies within regions listed as preferred for low impact, with few areas listed as less or not preferred for low impact. A small portion in the northeast corner of the site, where Shoal Creek is located, lies within an area where avoidance is recommended. The map from LISST identifying within the Project are enclosed in Appendix C.

3 Focus Species

Based on the results of the database searches described above and existing habitat conditions identified during the desktop review, five focus species were identified: tricolored bat (*Perimyotis subflavus)*, alligator snapping turtle (*Macrochelys temminckii)*, harperella (*Ptilimnium nodosum)*, relict trillium (*Trillium reliquum)*, and gopher tortoise (*Gopherus polyphemus)*.

3.1 Tricolored Bat

The tri-colored bat was proposed as federally endangered on September 14, 2022, in the Federal Register. It was identified on the IPaC as a species with the potential to occur within the project vicinity. Tri-colored bats primarily roost in leaf litter at the base of live or recently dead trees within woodland habitats. They are also more tolerant of warmer hibernacula temperatures than other species and prefer warmer caves.

The tricolored bat has occurrences statewide. Georgia does not maintain publicly available species records on hibernacula or roost sites for the tricolored bat; however, lack of data does not indicate lack of presence.

3.2 Alligator Snapping Turtle

The alligator snapping turtle was proposed as federally threatened on November 9, 2021, in the Federal Register. It was identified on the IPaC as a species with the potential to occur within the project vicinity. The alligator snapping turtle is the largest freshwater turtle in North America and typically prefers large freshwater systems such as deep beds of rivers or lakes.

3.3 Harperella

Harperella is a federally endangered annual plant in the carrot family identified on the IPaC as a species with the potential to occur within the project vicinity. Harperella grows adjacent to quickly moving streams, typically found near the water's edge but protected on the upstream side. It can survive periodic, moderate flooding; however, it is intolerant of saturated or dry substrates, as well as deep water. They flower in May and June and are distinguished by small, white flowers arranged in clusters.

3.4 Relict Trillium

Relict trillium is a federally endangered perennial plant identified on the IPaC as a species with the potential to occur within the project vicinity. Relict trilliums are found in rich mixed deciduous forested slopes, on bluffs, and in stream flats along the fall line. They flower in early spring, before the forest canopy leaves out.

3.5 Gopher Tortoise

The state-threatened gopher tortoise was identified on the Georgia Department of Natural Resources Biodiversity Portal as having confirmed observations within the Buena Vista NE, SE Quarter Quad in 2015 and prior. This species prefers habitats with well-drained, sandy soils and a wide variety of ground cover for foraging. Gopher tortoises tend to occupy sandhills, dry hammocks, and longleaf pine-turkey oak woods but if the canopy cover is too dense, they will move to disturbed habitats such as old fields, fencerows, and roadsides. According to the US Army

Corps of Engineers' Savannah District and the Fish and Wildlife Service's Georgia Ecological Services Office Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Project area contains 743.5 acres of soils listed as best, 27.4 acres listed as moderate, and 775.2 acres listed as marginal gopher tortoise soils. A custom soil report for gopher tortoises' preferred soil series is provided in Appendix B.

4 Migratory Bird Considerations

Migratory birds are protected by the Migratory Bird Treaty Act which prohibits the killing or harassment of migratory bird species, including unintentional take. Impacts to migratory birds from the proposed Project are most likely to occur during vegetation clearing. Four species of interest for the Project study area and their estimated occurrence times were identified by the IPaC (Appendix B); however, all migratory bird species are protected. Suitable migratory bird habitat was identified at the Project during the pedestrian survey.

Geosyntec recommends clearing vegetation outside of the nesting season (early March to Mid-September) to prevent impacts to migratory birds. If clearing will occur within the nesting season, a pre-construction nest clearance survey may be needed. If an active nest is identified during the mowing/clearing, a 30-foot buffer should be preserved around the location and the area should be avoided until the end of nesting season or the chicks have fledged.

5 Habitat Assessment Summary

The Project included a field study area of approximately 1533.64 acres. At the time of the on-site habitat assessment, the Project consisted of grasslands used for agricultural purposes, forested areas in Georgia's coastal plain physiographic province. Multiple cleared utility easements cross the Project, as well as a stream and wetland system as seen on the Habitat Types map included as Figure 2.

Based on the results of the field assessment completed in January 2024, Geosyntec divided the Project into distinct habitat types:

1. Grasslands (845.41 acres),
2. Early Successional Forest (90.44 acres)
3. Mid-Late Successional Forest (446.80 acres),
4. Planted Pine Forest (91.20 acres),
5. Recent Clearcut (68.35 acres), and
6. Developed/Residential Lands (11.10 acres)
7. Streams (5.4 acres; 1,376.6 linear feet)

5.1 Grasslands

The grasslands habitat type, consisting largely of pasture and hayfields for agriculture, comprise approximately 845.41 acres of the Project and are shown in yellow on Figure 2. This habitat type includes 9.55 acres of emergent wetlands. Upland grasslands were dominated by broomsedge

(*Anthropogon virginicus*), (*Poa supina*), and (*Poa annua*). While the emergent wetlands were dominated by shallow sedge (*Carex lurida*), soft rush (*Juncas effucius*), and woolgrass (S*cirpus cyperinus*).

5.2 Early Successional Forest

Approximately 90.44 acres of early successional forest were identified within the Project as shown in light green on Figure 2. This habitat type is comprised of early successional stage forested uplands and wetlands, with trees generally of sapling or smaller size and a diameter at breast height (DBH) of less than three inches. The tree species dominating the early successional forested uplands include water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), and loblolly pine (*Pinus taeda*). The herbaceous layer consisted mainly of Japanese honeysuckle (*Lonicera japonica*), roundleaf greenbriar (*Smilax rotundafolia*), and sawtooth blackberry (*Rubus argutus*).

Approximately 8.61 acres of wetlands were identified within the early successional forest habitat type. The tree species in the early successional forest includes sweet-bay magnolia (*Magnolia virginiana*), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), with a sparse understory dominated by soft rush (J*uncas effucius*).

5.1 Mid-Late Successional Forest

Approximately 446.80 acres of mid-late successional forest habitat was identified within the Project as shown in dark green on Figure 2. This habitat type consists of mid- to late- successional forested uplands and wetlands. The canopy tree species in the mid- to late- successional forested uplands was dominated by red oak (*Quercus falcata*), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), and loblolly pine (*Pinus taeda*). The sparce understory was dominated by Japanese honeysuckle (*Lonicera japonica*), roundleaf greenbriar (*Smilax rotundafolia*), and sawtooth blackberry (*Rubus argutus*).

Approximately 91.42 acres of wetlands were identified within the mid- to late- successional forest habitat type. Tree species in the mid- to late- successional forested wetlands include sweet-bay magnolia (*Magnolia virginiana*), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), with a sparse understory dominated by Japanese honeysuckle (*Lonicera japonica*), shallow sedge (*Carex lurida*), soft rush (J*uncas effucius*).

5.1 Planted Pine Forest

There are approximately 74.36 acres of planted pine forest within the Project shown in brown on Figure 2. These planted pine forests are dominated by mature loblolly pine (*Pinus taeda*) stands of uniform age and size with a sparse understory.

5.1 Recent Clearcut

Recent clearcut uplands cover approximately 68.35 acres of the Project and are depicted on the Habitat Types map in orange. These areas consist of sparse colonizing herbaceous vegetation and shrubs and were clearcut within an estimated five years of this assessment. Herbaceous vegetation was dominated by sawtooth blackberry (*Rubus argutus*) and tall goldenrod (*Solidago altissima*).

5.2 Developed/Residential Lands

Approximately 11.10 acres of developed/residential lands were identified within the Project and are shown in purple on Figure 2. Most of these areas are along the major roads in the Project area.

5.3 Streams

Gin Creek, a large perennial stream, and its tributaries flow through the Project study area. Gin Creek flows southern portion of the Project study area, from west to east. This stream habitat constitutes approximately 0.54 acres, covering approximately 1,376.6 linear feet within the Project study area.

6 Conclusion

No individuals of any species listed as threatened or endangered at the state or federal level were observed during the field habitat assessment. Based on review of state and federal databases and a pedestrian survey of the property, suitable habitat exists for four of the five protected species targeted within the Project study area: tricolored bat, alligator snapping turtle, harperella, and gopher tortoise. Suitable habitat for relict trillium was not identified during the pedestrian survey.

The tri-colored bat was proposed as federally endangered on September 14, 2022, in the Federal Register. It was identified on the IPaC as a species with the potential to occur within the project vicinity. The mid-late successional forests and planted pine forest habitat areas, identified on Figure 2, provide suitable habitat for this species. Should tree clearing occur during development of the site, coordination with USFWS and completion of a presence/absence survey may be required. Should a presence/absence survey be required, it can be conducted via mist netting or acoustic survey.

The alligator snapping turtle was proposed as federally threatened on November 9, 2021, in the Federal Register. Suitable alligator snapping turtle habitat was identified in and around Gin Creek and its associated wetlands. Should development occur in the floodplains or wetlands associated with Gin Creek, coordination with USFWS may be required.

The banks of Gin Creek and its tributaries identified within the Project provide suitable habitat for harperella. Coordination with the USFWS and a presence/absence survey may be required if development should occur in these areas. A presence/absence survey would need to occur during low-water conditions between July and early September.

The state-threatened gopher tortoise was identified on the GADNR Biodiversity Portal as having confirmed observations within the vicinity of the Project. During the pedestrian survey of the Project, gopher tortoise burrows were identified within the early successional and mid-late successional forest habitat types as shown on Figure 2, Map Grid 2. Should development occur proximal to the identified burrows, GADNR may require additional surveys as well as protection of active burrows with a 25-foot buffer. During warmer weather, the tortoises emerge from active burrows and may venture out from their current locations. As such, a follow-up survey may be required closer to project implementation. Further consultation with GADNR is recommended.

7 References

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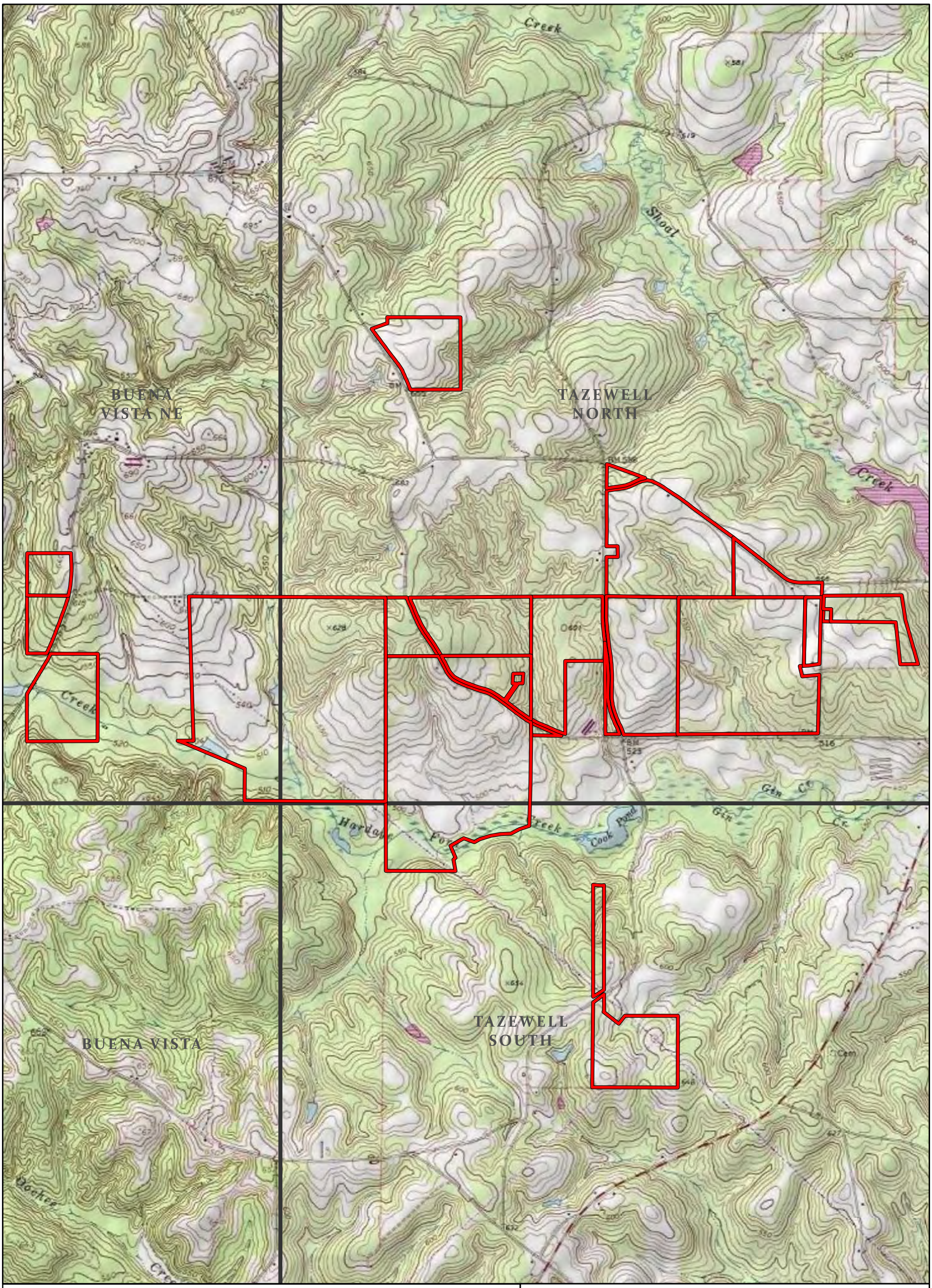
FIGURES



Project Study Area
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 1

Drawn: CE

January 2024

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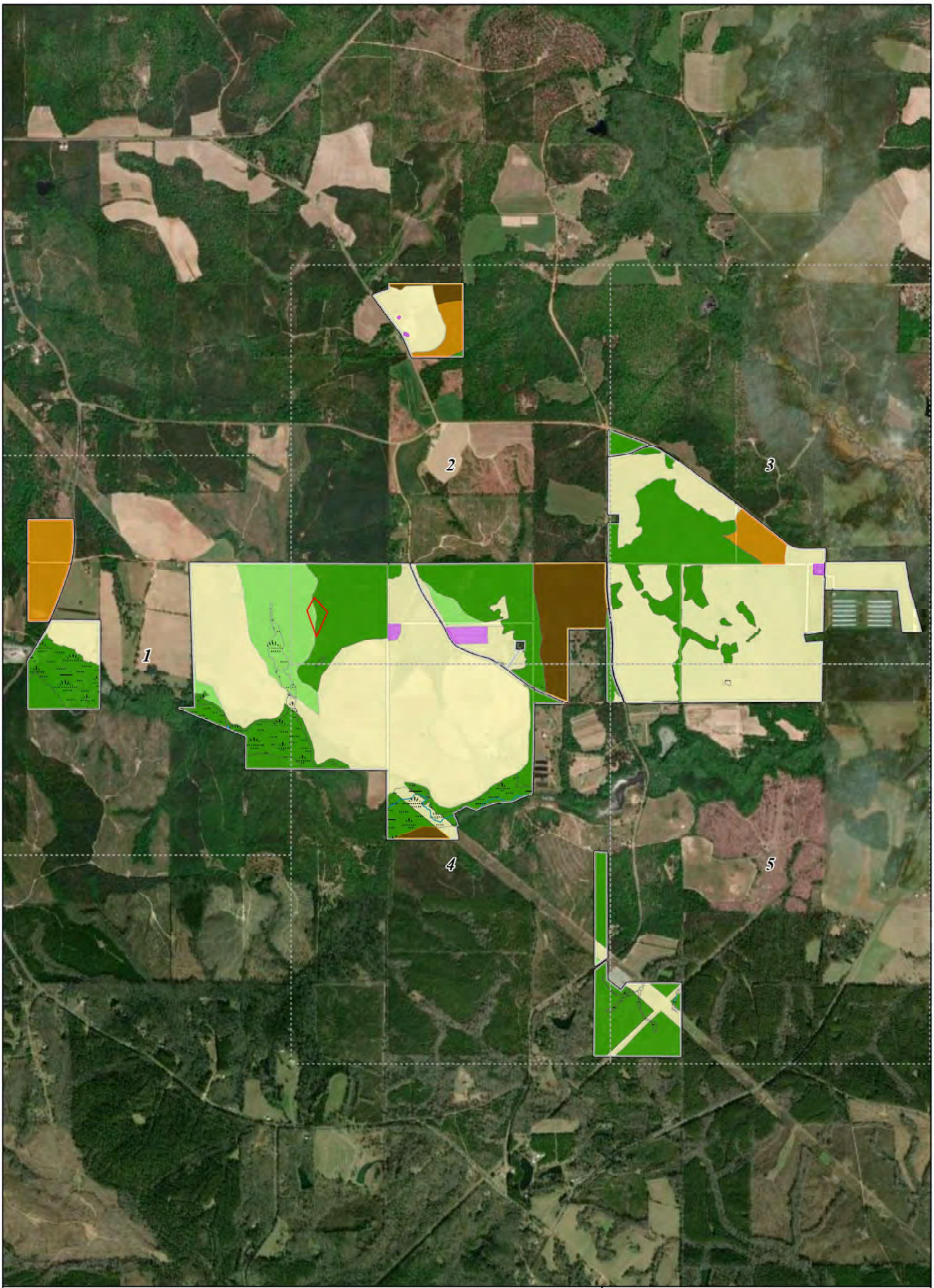
Basemap Sources: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed



Habitat Type

- Pasture/ Agriculture/ Herbaceous
- Mid-Late Successional Forest
- Early Successional Forest
- Planted Pine
- Clearcut
- Developed/ Residential
- Stream
- Delineated Wetlands
- Multiple Gopher Tortoise Burrows Identified
- Project Area
- Map Grid

N

0 5,000 Feet

Habitat Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 2

Drawn: CE | January 2024

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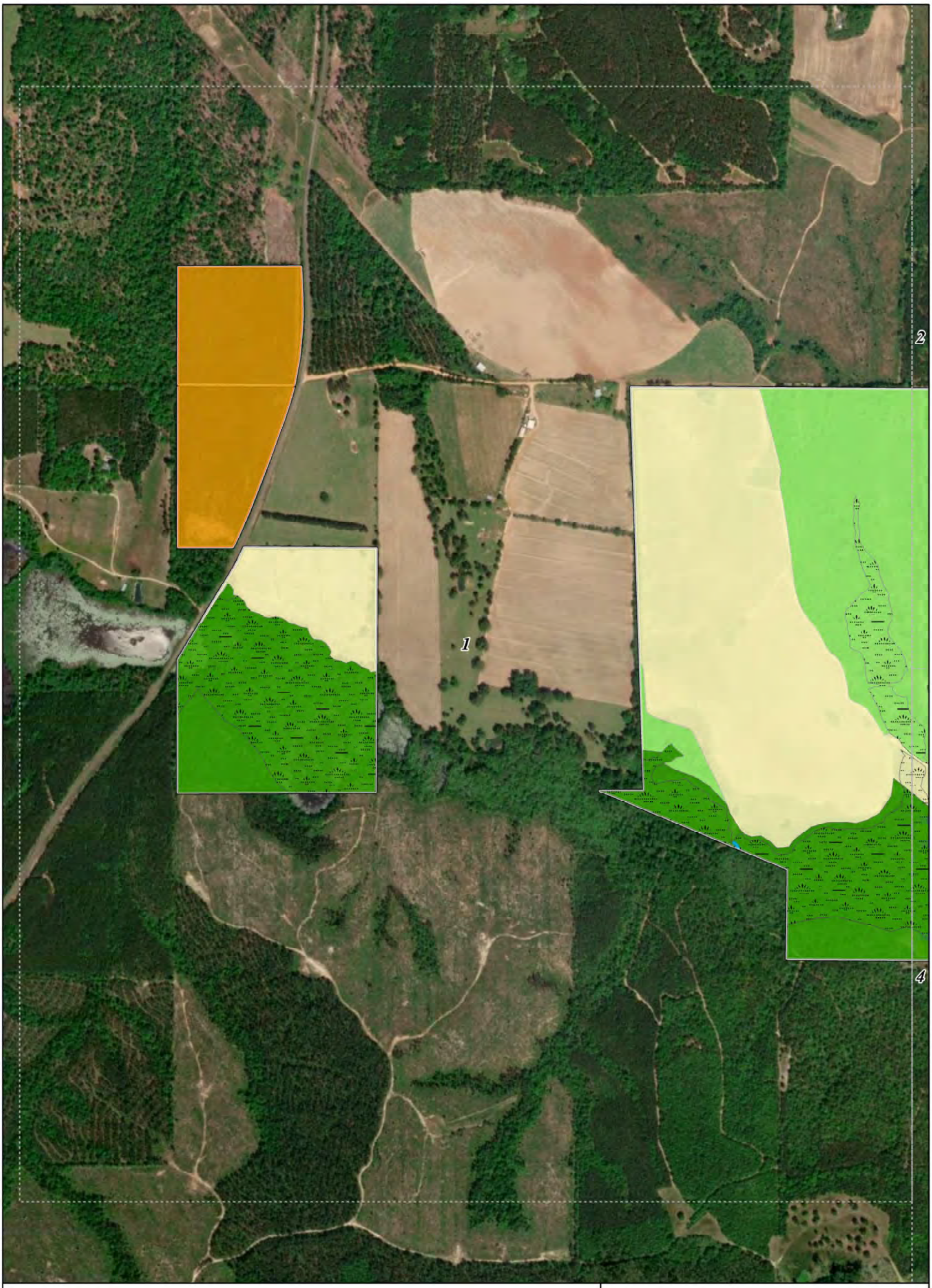
Basemap Sources: World Imagery: Maxar



Habitat Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 2

Map Grid 1

Drawn: CE

January 2024

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3

4

5

Habitat Type

- Pasture/ Agriculture/ Herbaceous
- Mid-Late Successional Forest
- Early Successional Forest
- Planted Pine
- Clearcut
- Developed/ Residential
- Delineated Wetlands
- Multiple Gopher Tortoise Burrows Identified
- Project Area
- Map Grid

N

0 2,000 Feet

Habitat Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 2

Map Grid 2

Drawn: CE | January 2024

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2

3

4

5

Habitat Type

- Pasture/ Agriculture/ Herbaceous
- Mid-Late Successional Forest
- Planted Pine
- Clearcut
- Developed/ Residential
- Delineated Wetlands
- Project Area
- Map Grid

N

0 2,000 Feet

Habitat Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 2

Map Grid 3

Drawn: CE

January 2024

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5

Habitat Type

- Pasture/ Agriculture/ Herbaceous
- Mid-Late Successional Forest
- Early Successional Forest
- Planted Pine
- Developed/ Residential
- Stream
- Delineated Wetlands
- Multiple Gopher Tortoise Burrows Identified
- Project Area
- Map Grid

N

0 2,000 Feet

Habitat Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 2

Map Grid 4

Drawn: CE

January 2024

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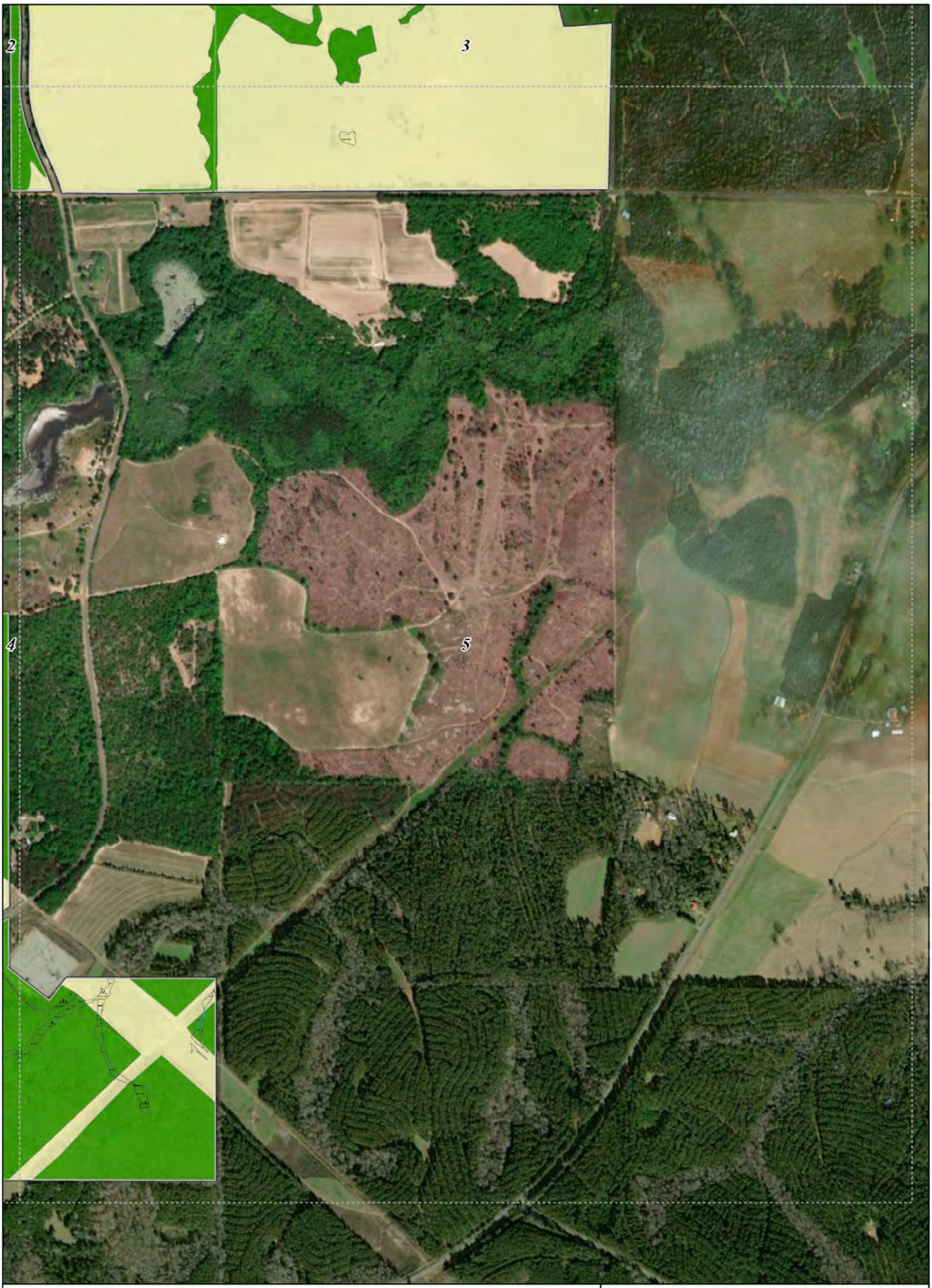

Habitat Type

- Pasture/ Agriculture/ Herbaceous
- Mid-Late Successional Forest
- Stream
- Delineated Wetlands
- Project Area
- Map Grid

N

0 2,000 Feet

Habitat Types
The AES Corporation
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 2

Map Grid 5

Drawn: CE | January 2024

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Basemap Sources: World Imagery: Maxar

APPENDIX A

Threatened and Endangered Species Database Results

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

Marion County, Georgia

Local office

Georgia Ecological Services Field Office

(706) 613-9493
(706) 613-6059

355 East Hancock Avenue
Room 320
Athens, GA 30601-2523

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 species[1] 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 Fisheries[2]).

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.

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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
Tricolored Bat *Perimyotis subflavus* 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 *Grus americana* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Reptiles

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

Insects

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

Flowering Plants

NAME	STATUS

Harperella Ptilimnium nodosum — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3739

Relict Trillium Trillium reliquum — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8489

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 Managementhttps://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 Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] 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 Managementhttps://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 birdshttps://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 FAQbelow. 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 theE-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 foundbelow.

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
Brown-headed Nuthatch Sitta pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

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.

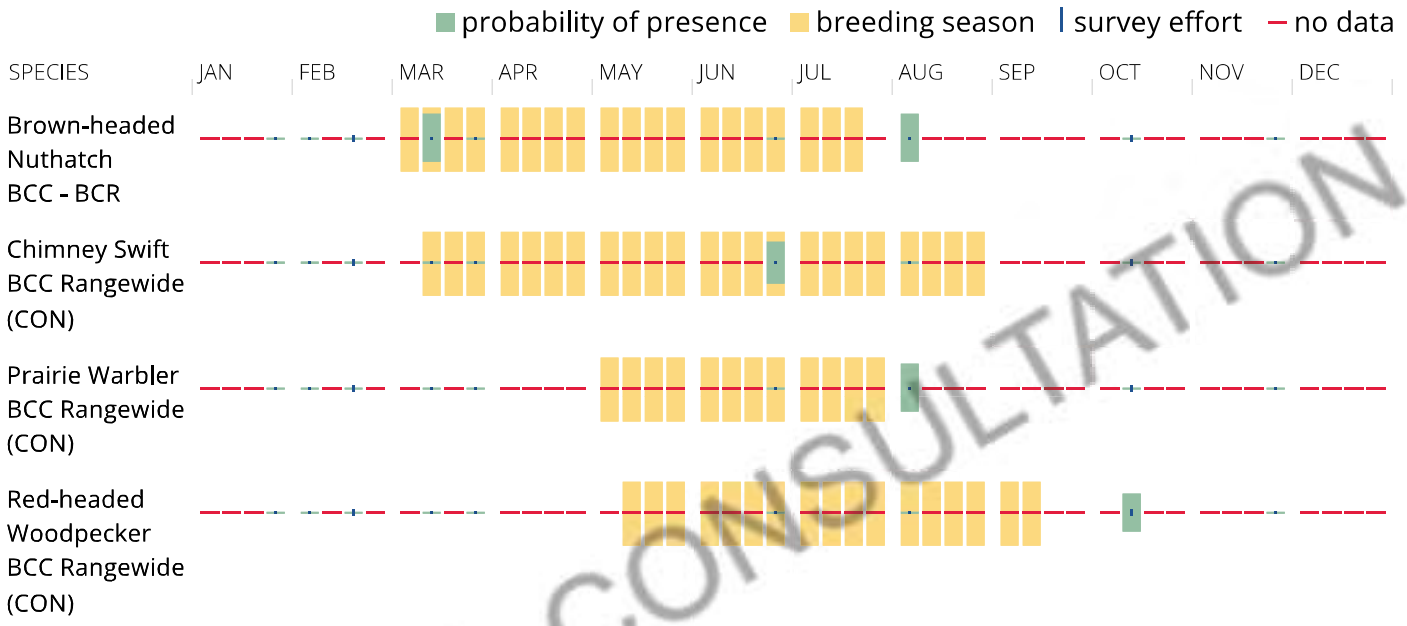
Survey Effort (|)

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 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

- PEM1Fb
- PEM1A
- PEM1F

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PFO1/3A
- PFO1C
- PFO1/3C
- PFO1Ab
- PSS1Fh
- PSS1Cb
- PSS1C
- PFO1F
- PFO3/4B

FRESHWATER POND

- PUBHh
- PUBFh

RIVERINE

- R4SBC

R5UBH

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 tuberficid 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.

Georgia Department of Natural Resources Biodiversity Portal Results

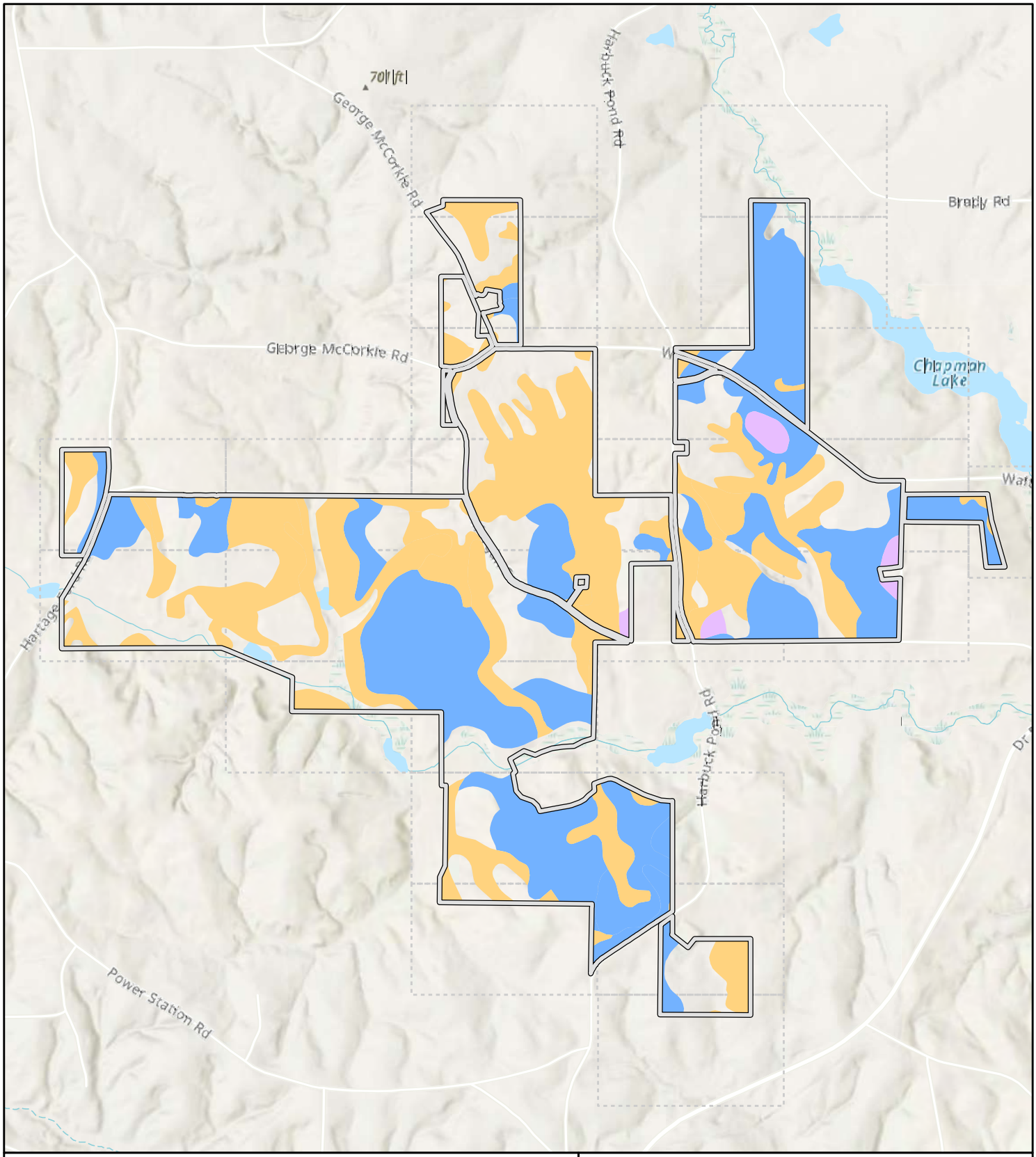
Heart Pine Solar Project

Georgia All Rare Animals, Plants, Natural Plant Communities within Buena Vista NE, GA, SE Quarter Quad 2023-12-18														
Scientific Name	Common Name	GA Prot	US Prot	GRank	Rnd GRank	SRank	Rnd SRank	SwapStatus	ES_ID	Element Code	Group	Georgia Habitat Summary	EO Count	Export Date
Eurycea hillisi	Hillis's Dwarf Salamander	null	null	G3	G3	S3	S3	Yes	35443	AAAAD05160	Animal	Seepage ravines/stream sides; bogs; sphagnum beds, marshes	53	December 18, 2023
Gopherus polyphemus	Gopher Tortoise	T	Null	G3	G3	S3	S3	Yes	20476	ARAAF01030	Animal	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields	329	December 18, 2023
Pituophis melanoleucus mugitus	Florida Pine Snake	null	null	G4T3	T3	S3	S3	Yes	19630	ARADB26013	Animal	Sandhills; scrub; pine savannah; old fields	102	December 18, 2023

Georgia All Rare Animals, Plants, Natural Plant Communities within Tazewell North, GA, SW Quarter Quad 2023-12-18														
Scientific Name	Common Name	GA Prot	US Prot	GRank	Rnd GRank	SRank	Rnd SRank	SwapStatus	ES_ID	Element Code	Group	Georgia Habitat Summary	EO Count	Export Date
Chamaecyparis thyoides	Atlantic White-cedar	R	null	G4	G4	S2	S2	Yes	20334	PGCUP03030	Plant	Clearwater stream swamps in fall line sandhills	44	December 18, 2023
Eurycea hillisi	Hillis's Dwarf Salamander	null	null	G3	G3	S3	S3	Yes	35443	AAAAD05160	Animal	Seepage ravines/stream sides; bogs; sphagnum beds, marshes	53	December 18, 2023
Pituophis melanoleucus mugitus	Florida Pine Snake	null	null	G4T3	T3	S3	S3	Yes	19630	ARADB26013	Animal	Sandhills; scrub; pine savannah; old fields	102	December 18, 2023

Georgia All Rare Animals, Plants, Natural Plant Communities within Tazewell South, GA, NW Quarter Quad 2023-12-18														
Scientific Name	Common Name	GA Prot	US Prot	GRank	Rnd GRank	SRank	Rnd SRank	SwapStatus	ES_ID	Element Code	Group	Georgia Habitat Summary	EO Count	Export Date
Ambystoma tigrinum	Eastern Tiger Salamander	null	null	G5	G5	S3S4	S3	Yes	33438	AAAAA01146	Animal	Isolated wetlands for breeding; variety of open, upland habitats; CP-sandhills, oldfields, dry pine savanna	79	December 18, 2023
Pituophis melanoleucus mugitus	Florida Pine Snake	null	null	G4T3	T3	S3	S3	Yes	19630	ARADB26013	Animal	Sandhills; scrub; pine savannah; old fields	102	December 18, 2023

APPENDIX B
Custom Soil Resource Report
for
Gopher Tortoise (*Gopherus polyphemus*)



Gopher Tortoise Soil Series
- Best
- Marginal
- Moderate
- Project Area

N

0 2,500 5,000 Feet

Gopher Tortoise Soil Series Map
AES Clean Energy
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: CE | January 2024

Appendix A

C:\Users\cora.every\Documents\Projects\AES Tazwell\GIS\AES Tazewell_2Jan23.aprx 12/28/2023 10:41 AM
Basemap Sources: World Hillshade: Esri, NASA, NGA, USGS, FEMA
World Topographic Map: Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

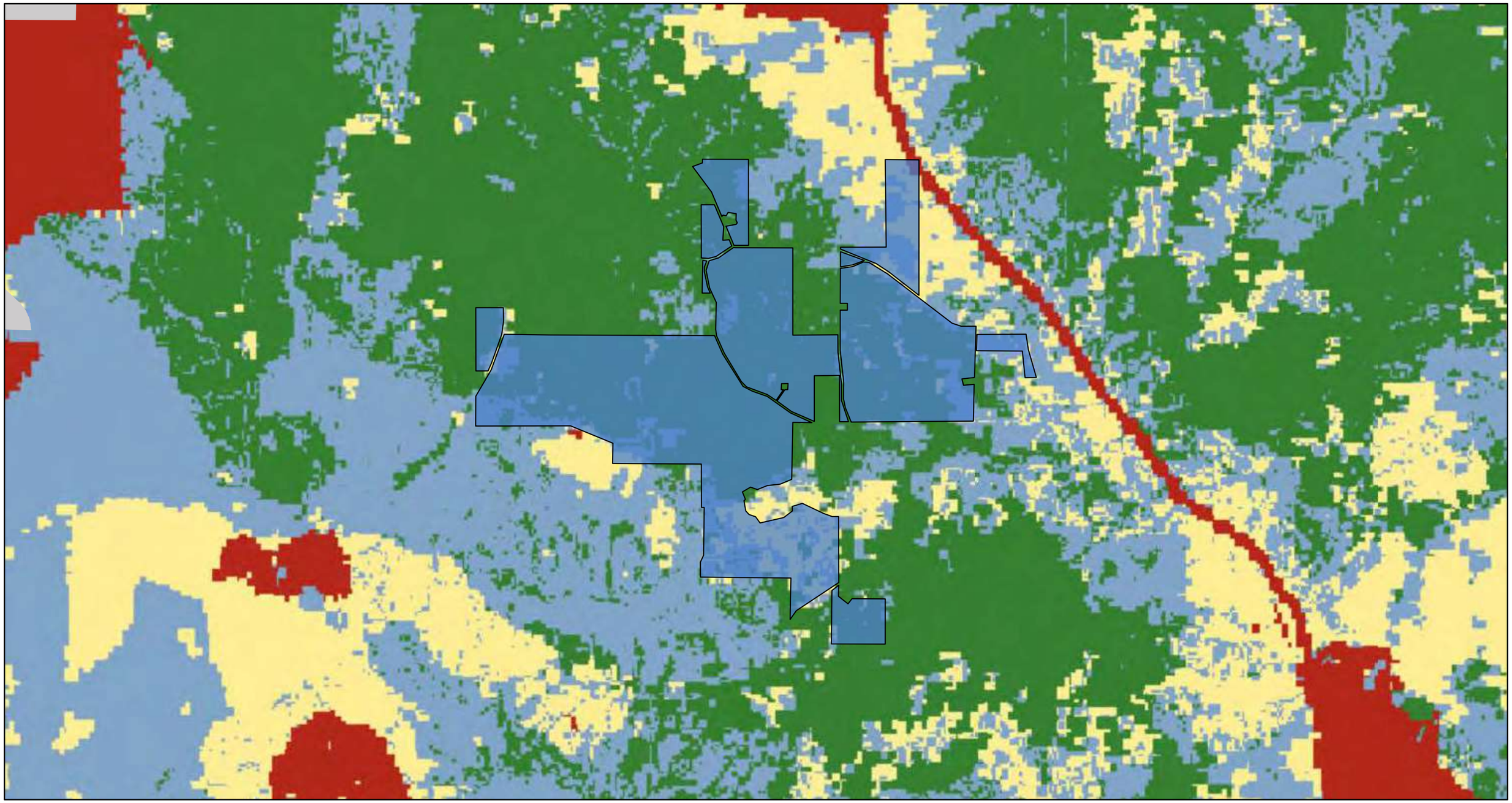
Gopher Tortoise Soil Series

Heart Pine Solar Project

Soil Series	Map Unit Symbols	Map Unit Name	Ranking	Acres
Lakeland	LaC	Lakeland sand, 5 to 12% slopes	Best	56.2
Troup	TrB, TrC, TrE	Troup loamy sand, 2 to 5% slopes; 5-12% slopes; and 12 to 25% slopes	Best	687.3
Fuquay	FuB, FuC	Fuquay loamy sand, 0 to 5% slopes and 5 to 8% slopes	Moderate	27.4
Ailey	AaB, AaC	Ailey loamy coarse sand, 2 to 5% slopes and 5 to 8% slopes	Marginal	44
Cowarts and Ailey	COC, COE	Cowarts and Ailey soils, 5 to 12% slopes and 12 to 25% slopes	Marginal	513
Orangeburg	OrB, OrC	Orangeburg loamy sand, 5 to 8% slopes	Marginal	218.2

APPENDIX C
Georgia Low Impact Solar Siting Tool

Georgia Low Impact Solar Siting Tool (GA LISST)



12/26/2023, 3:10:07 PM

1:45,671

Overall Preference

- Preferred for low impact
- Less preferred for low impact
- Not preferred for low impact
- Avoidance recommended

Site Boundary

Conserved Lands

- Nonfederal

0 0.5 1 2 mi

0 0.75 1.5 3 km

Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

The Nature Conservancy - Georgia

Esri, NASA, NGA, USGS, FEMA | Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA | The Nature Conservancy - Georgia;

Appendix C

Cultural Phase 1A

Desktop Study of a 1 km (0.6 mi) Buffer Surrounding the Proposed Heart Pine Solar Project Area, in Marion County, Georgia

Wayne C.J. Boyko, Ph.D., R.P.A.
Principal Investigator

Draft Report

By

Sherman W. Horn, III

R. Christopher Goodwin & Associates, Inc.
309 Jefferson Highway
New Orleans, LA 70121

January 2024

For

Geosyntec Consultants, Inc.
5420 Corporate Blvd, Ste 202
Baton Rouge, LA 70808

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Chapter I
Project Background and Environmental/Cultural Context

Introduction

This desktop study reviews the environmental setting and known cultural resources within a 1 kilometer (km) (0.6 mile [mi]) buffer surrounding the proposed Heart Pine Solar project area (i.e., Area of Potential Effects [APE]), in Marion County, Georgia (Figure 1.1). Research for this study was completed by R. Christopher Goodwin & Associates, Inc. (RCG&A) on behalf of Geosyntec Consultants (Geosyntec) during January of 2024. The study was performed with reference to, and consistent with, the principles and standards contained in *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716), as amended and annotated, the National Historic Preservation Act of 1966 (NHPA), as amended, the revised regulations of the Advisory Council on Historic Preservation implementing Sections 106 and 110 of the NHPA (30 CFR 800 "Protection of Historic Properties"), and the National Environmental Policy Act of 1969 (NEPA), as amended. This investigation was conducted in accordance with applicable administrative rules and guidelines pertaining to historic preservation published by the Georgia State Historic Preservation Officer (GA SHPO) and the Georgia Council of Professional Archaeologists.

Project Scope

RCG&A completed a records review to identify potential direct effects within the APE, over an area totaling 2,290.5 acres (ac) (926.4 hectares [ha]), as well as secondary (visual) effects for the area surrounding the APE. The objectives of this study included identifying areas with a high probability for containing unrecorded cultural resources, and locating any previously recorded cultural resources and historic properties, that might be affected by construction within the proposed project area. RCG&A staff reviewed environmental and soil survey data, archaeological literature, aerial imagery, and historic maps for the surrounding region to assess the probability of locating significant unrecorded cultural resources within the APE.

The second part of this review involved the identification of all previously completed archaeological investigations and recorded archaeological sites, historic standing structures, cemeteries, and properties listed on the National Register of Historic Places (NRHP) within a 1 km (0.6 mi) buffer surrounding the project APE. To complete this task, project staff examined relevant data from the University of Georgia's Georgia Archaeological Site Files – accessed through the Georgia Natural, Archaeological, and Historic Resources GIS (GNARHRGIS) – along with publicly available databases such as Find-a-Grave (2024) and the NHRP. This information will be presented in the following chapter.

This report also includes a description and results of a pedestrian survey conducted by Geosyntec over an area of approximately 1,534.54 ac (621.03 ha) within the APE. The aim of this survey was to record and describe those cultural resources loci (e.g., archaeological sites, historic above ground resources, cemeteries, NRHP properties and districts) that could be identified without subsurface testing and to provide a location of each resource using GPS with sub-10-m accuracy. RCG&A will include the results of this survey as an addendum inventory. No recommendations regarding the potential significance of any recorded cultural resource was undertaken at this stage of analysis.

Environmental Setting

The project area is situated in central Marion County, Georgia, approximately 0.8 mi (1.3 km) west of the community of Heart Pine Solar and 3.3 mi (5.4 km) northeast of the county seat at

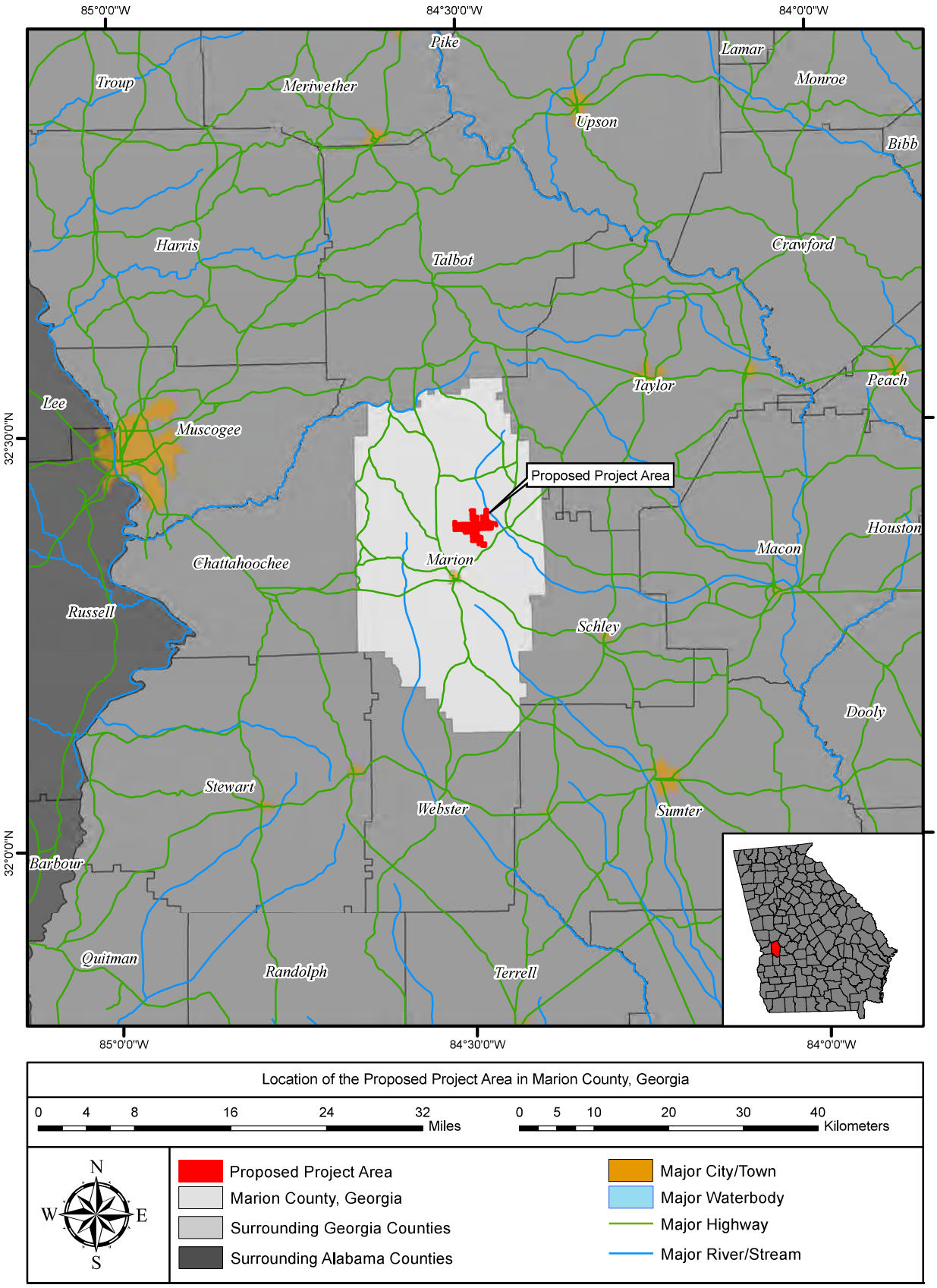

Figure 1.1 **Map depicting the location of the Heart Pine Solar project area in Marion County, Georgia.**

Buena Vista, in an area characterized by rolling hills and ridges dissected by numerous creeks. Much of the APE is currently being used for various agricultural pursuits, ranging from pasturing cattle to growing hay, although significant portions remain covered by forest. Contemporary land use is partially determined by topography and hydrology, with both steep-sloping hillsides and low-lying creek floodplains retaining forest cover, and similar environmental conditions are likely to have affected settlement patterns in the past.

Marion County sits along the northern boundary of the Fall Line Hills physiographic district of the Coastal Plain Province, just south of the Fall Line that marks the contact between Cretaceous and younger sediments and older metamorphic rocks of the Piedmont District (Clark and Zisa 1976). Much of the project area is underlain by the unconsolidated Cretaceous sands and clays of the Ripley formation and its Cusseta sand member (Lawton et al. 1976), the erosion and transport of which provide the landscape with its dissected character. This area falls within the Sand Hills ecoregion, with natural vegetation dominated by oak-hickory-pine forests and sandy soils that support pine plantations today (Griffith et al. 2001).

Soils

The proposed project area contains 19 distinct soil map units that represent different classifications of sandy soils frequently combined with loams (Figure 1.2). Variability among soil types can be reduced slightly to 11 different soil series classifications, with differences within soil series deriving from slope ranges on which the soils formed. Soil series present in the APE are described below, with reference to the slope ranges that subdivide soils within each series.

Ailey Loamy Coarse Sand (AaB, AaC) – 44.07 ac (17.83 ha)

Ailey series soils form on sandhills in the middle to upper Coastal Plain region, where they are typically found along the summits, shoulders, and backslopes of hills (USDA 2024). These soils are moderately deep-to-deep and well drained, consisting of loamy sands that support woodland vegetation, especially pines. Within the project area, Ailey series soils account for about 2% of the total acreage and are mapped as 2-to-5-percent (AaB) and 5-to-8-percent (AaC) slope units.

Bibb Sandy Loam, frequently flooded (Bh) – 150.69 ac (60.98 ha)

The Bibb series comprises sandy loam soils found on the floodplains of streams in the Southern Coastal Plain region. Bibb soils form in stratified loamy and sandy alluvium on nearly level ground (0 – 2% slope) and tend to be very deep, poorly drained, and moderately permeable (USDA 2024). Soils in this series underlie about 7% of the project area and are concentrated along the floodplain of Hardage Ford Creek, where they support a mixed forest of water-tolerant tree species.

Cowarts and Ailey Soils (COC, COE) – 513.28 ac (207.71 ha)

This map unit represents a combination of Ailey series soils (described above) with soils of the Cowarts series at an approximate 2:3 ratio. Cowarts soils are very deep, fine sandy loams that form in marine sediments on ridge tops and side slopes in the Coastal Plain region (USDA 2024). Soils in the Cowarts series are moderately well or well-drained and are frequently used for woodland habitats, although areas containing these soils may be cleared to grow a variety of crops or for pasture. The combination of Cowarts and Ailey soils occurs in the 5-to-12-percent slope range (COC) and the 12-to-25-percent slope range (COE) in the project area and account for just under one-quarter of the total acreage (22.4%).

Dothan Loamy Sand (DoB, DoC) – 338.88 ac (137.14 ha)

Dothan series soils occur on hillslopes in the Coastal Plain and consist of very deep, well-drained, fine-textured loamy sands (USDA 2024). These soils form on unconsolidated marine sediments and support mixed/pine forest vegetation, although their favorable characteristics have led to widespread land clearance for agricultural production in areas where Dothan soils are found – a general observation that holds within the project area, where Dothan soils account for about 15% of the total acreage and are mostly found in

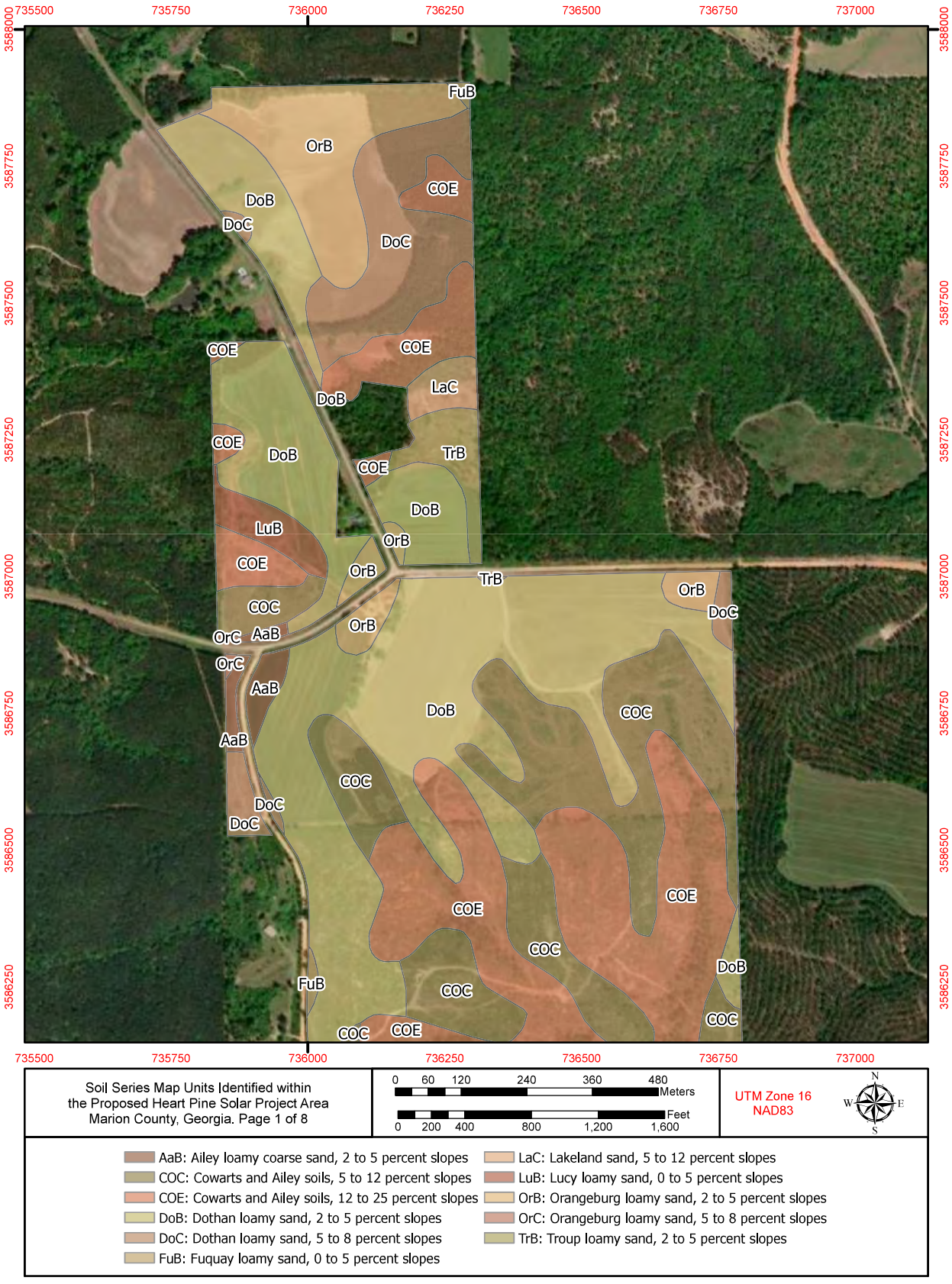

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia.
Sheet 1

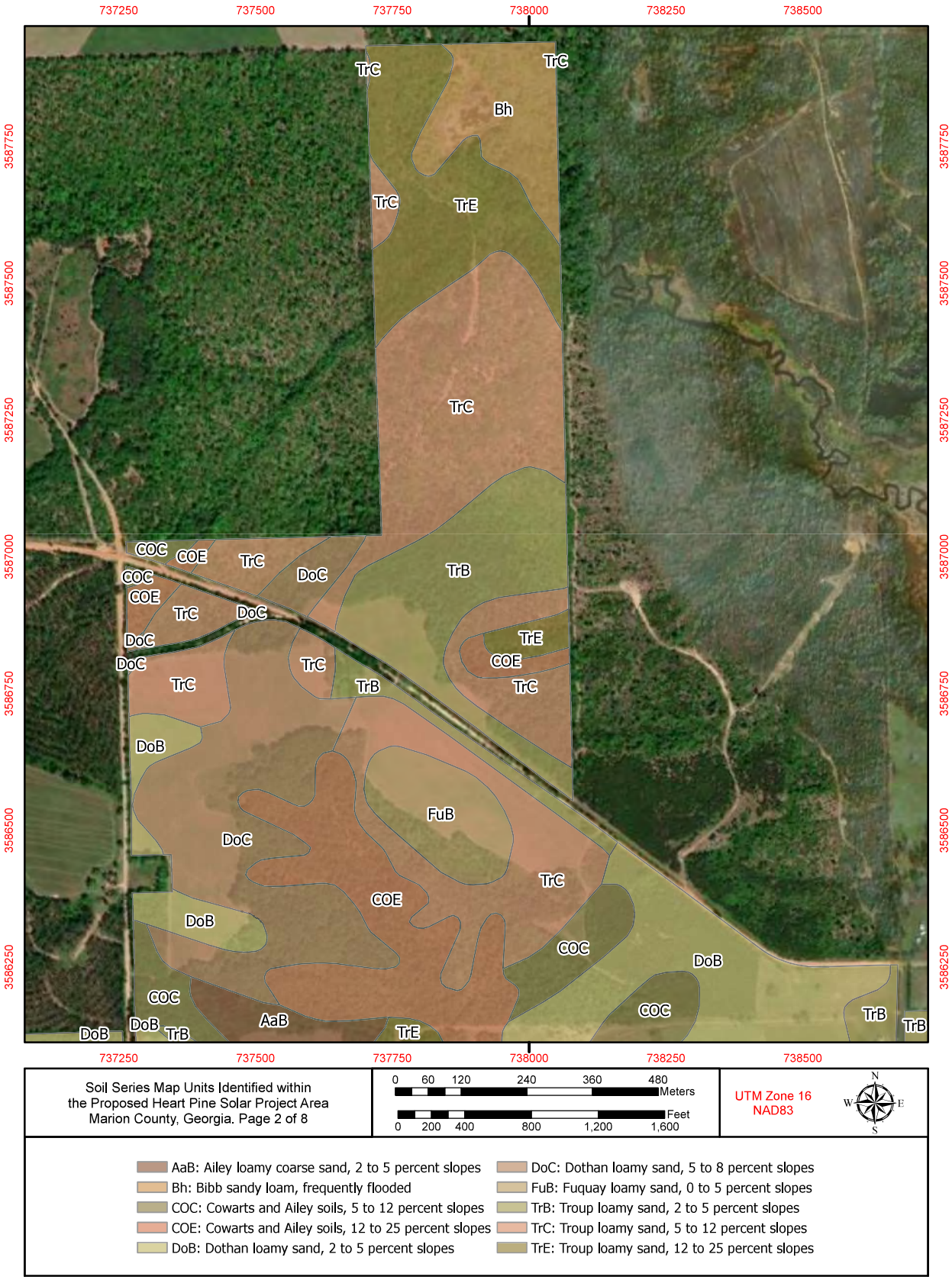

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia.
Sheet 2

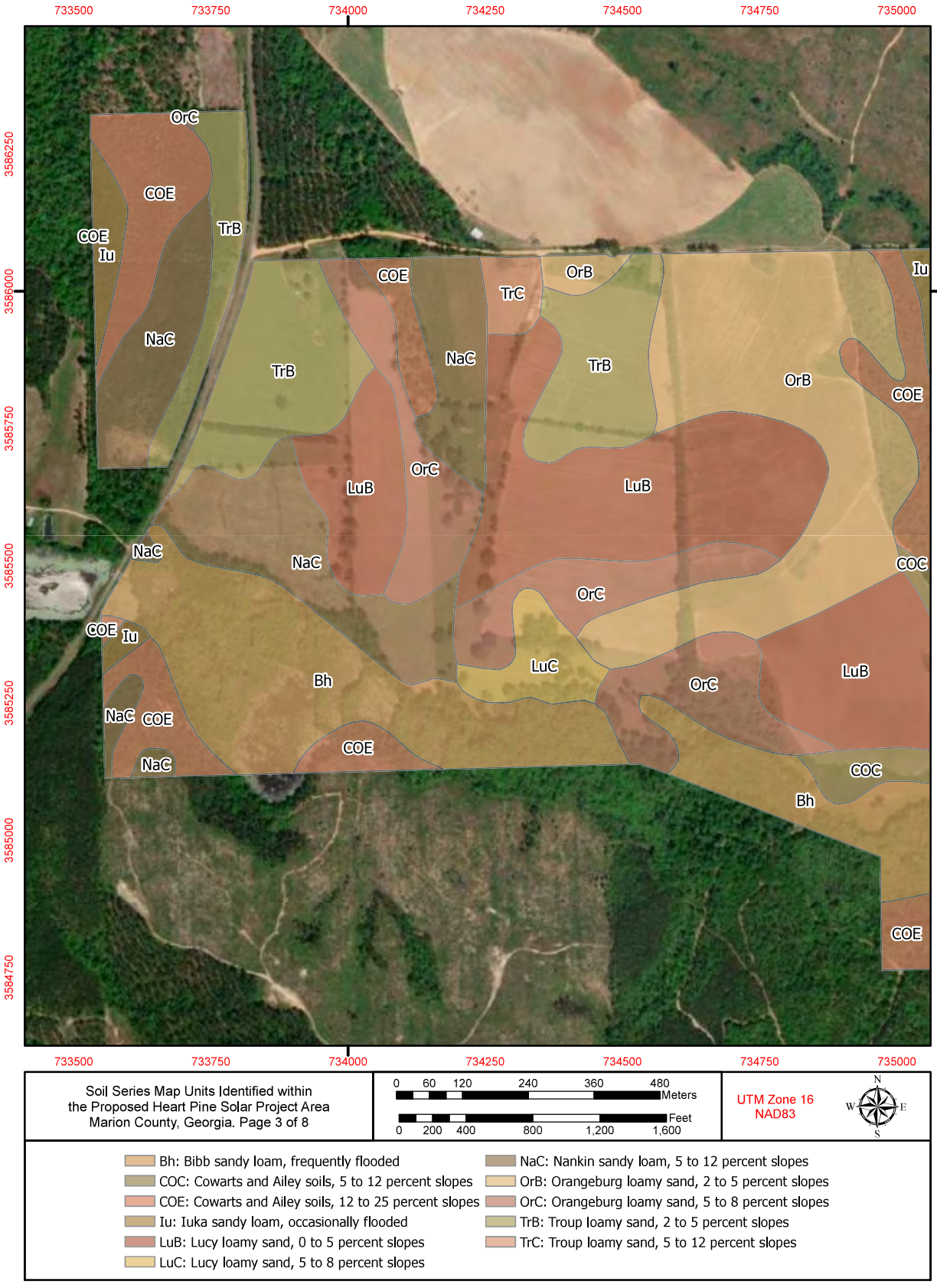

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia.
Sheet 3

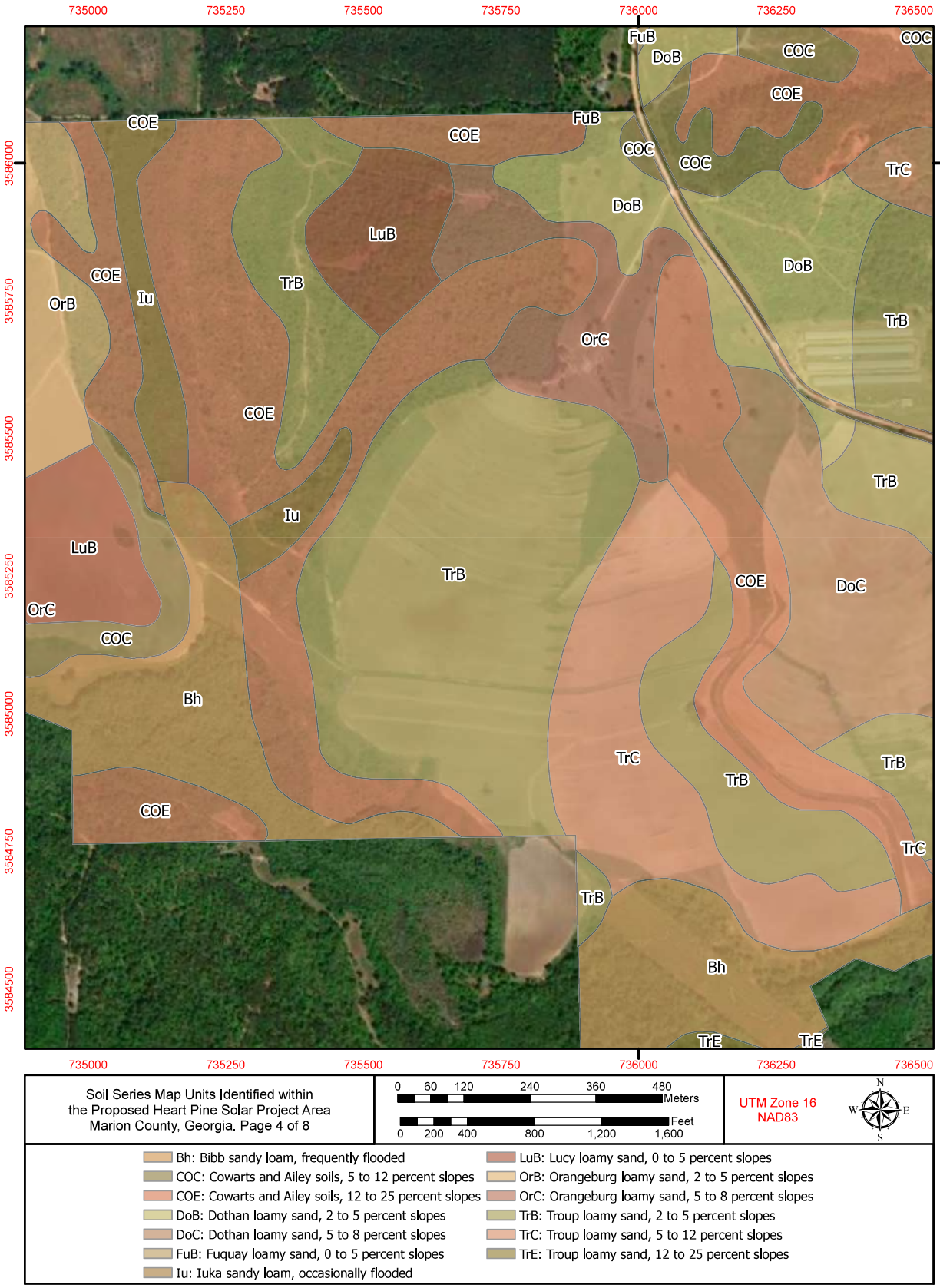

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia. Sheet 4

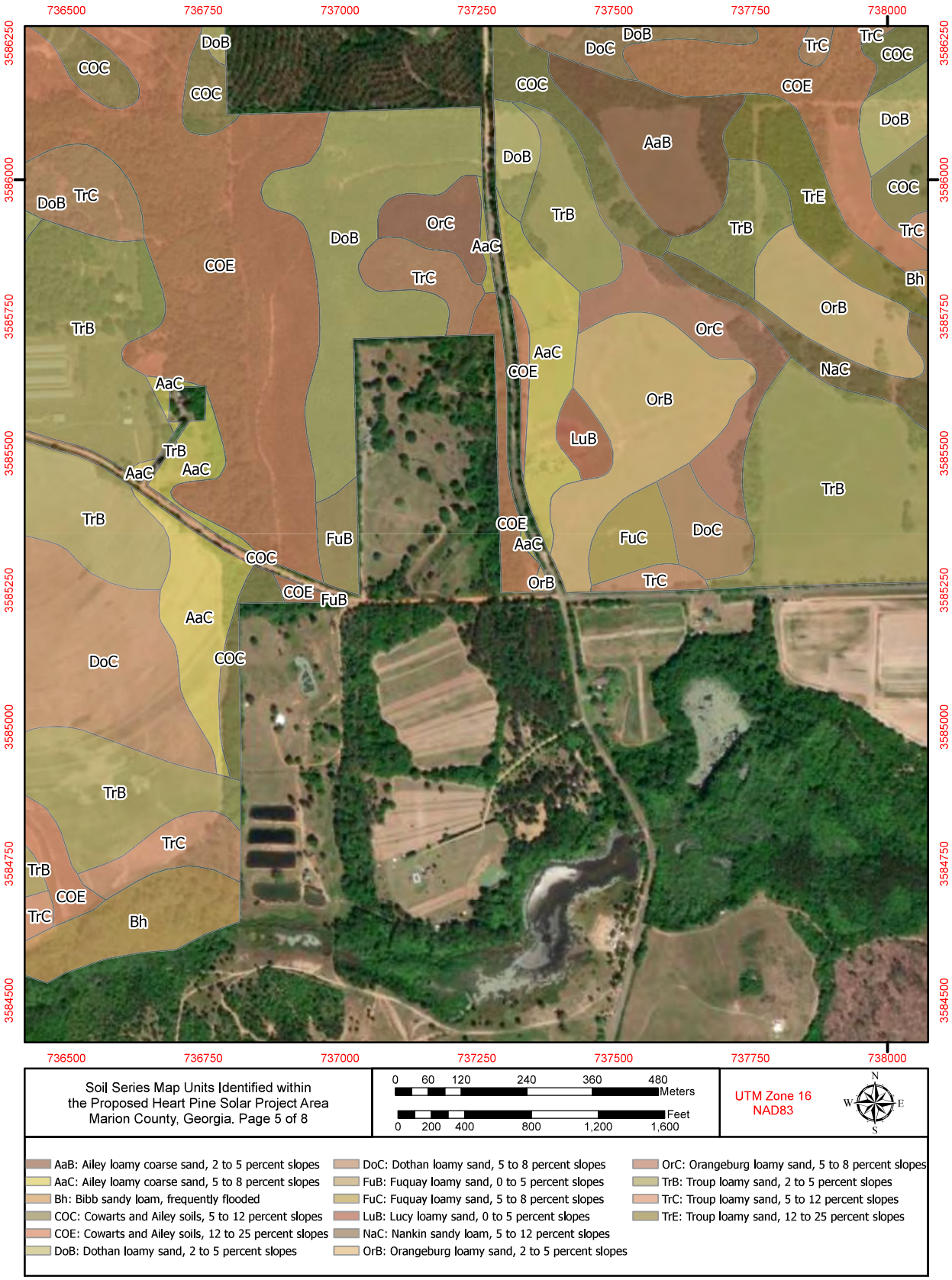

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia. Sheet 5

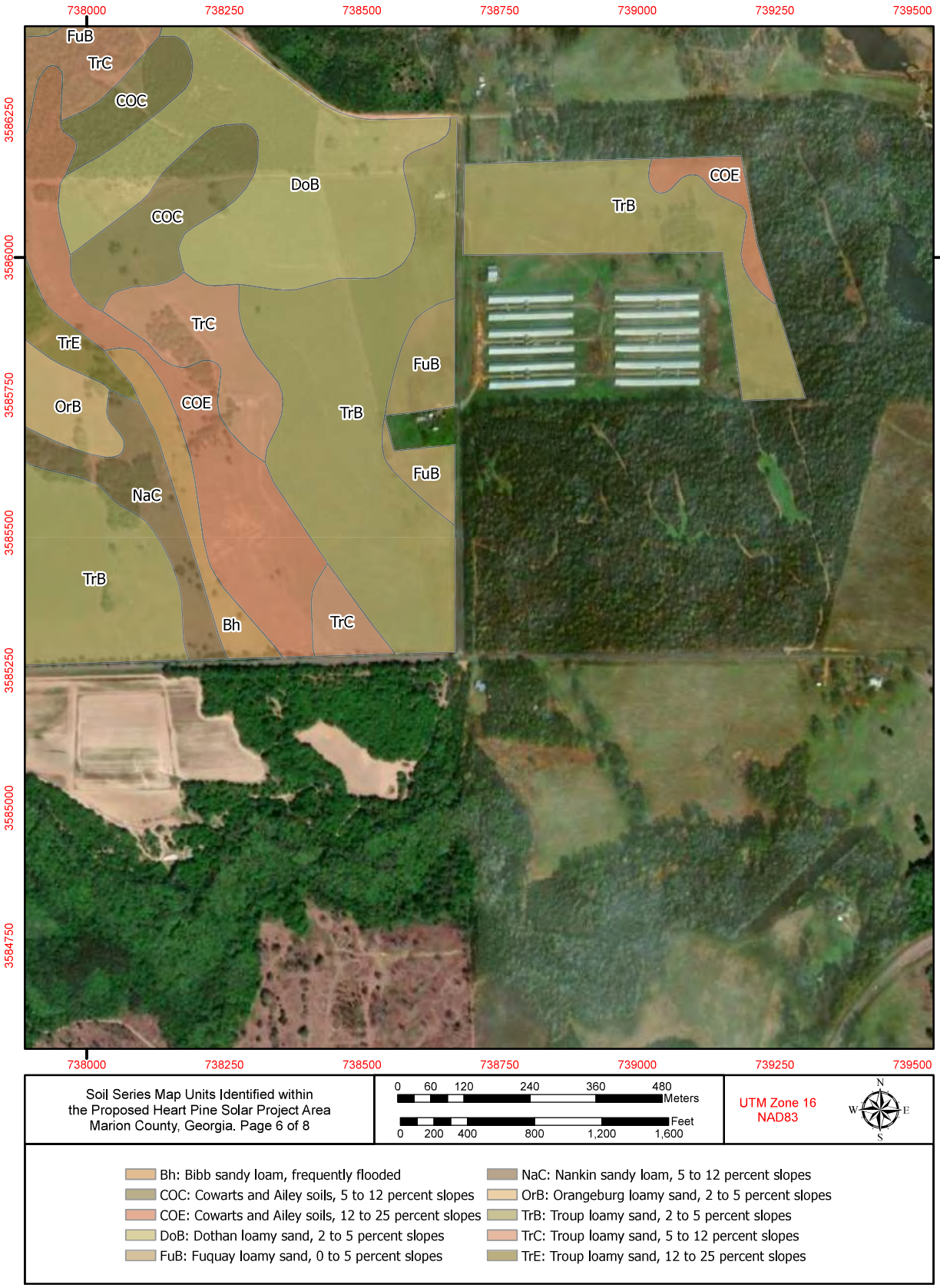

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia.
Sheet 6

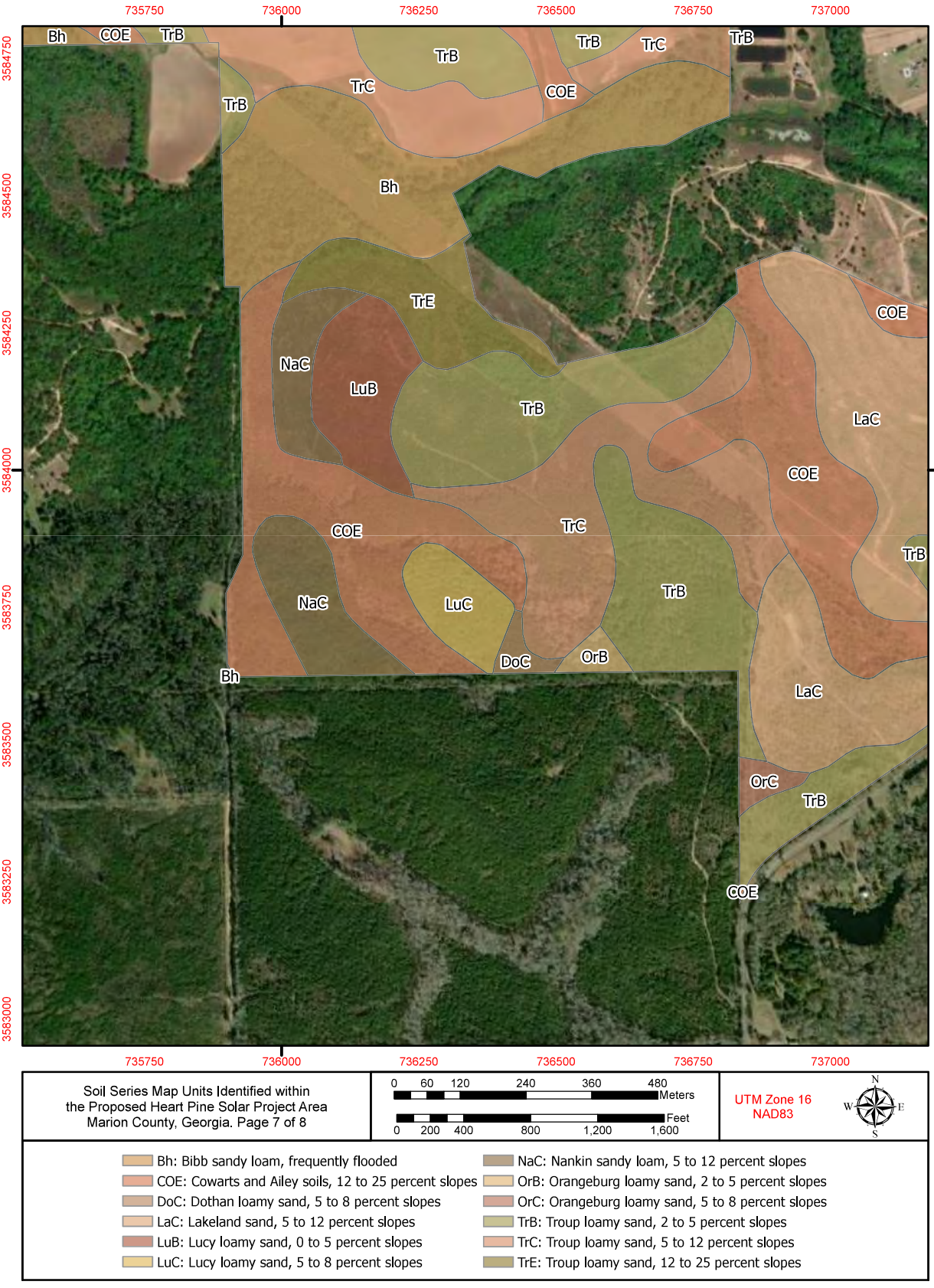

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia. Sheet 7

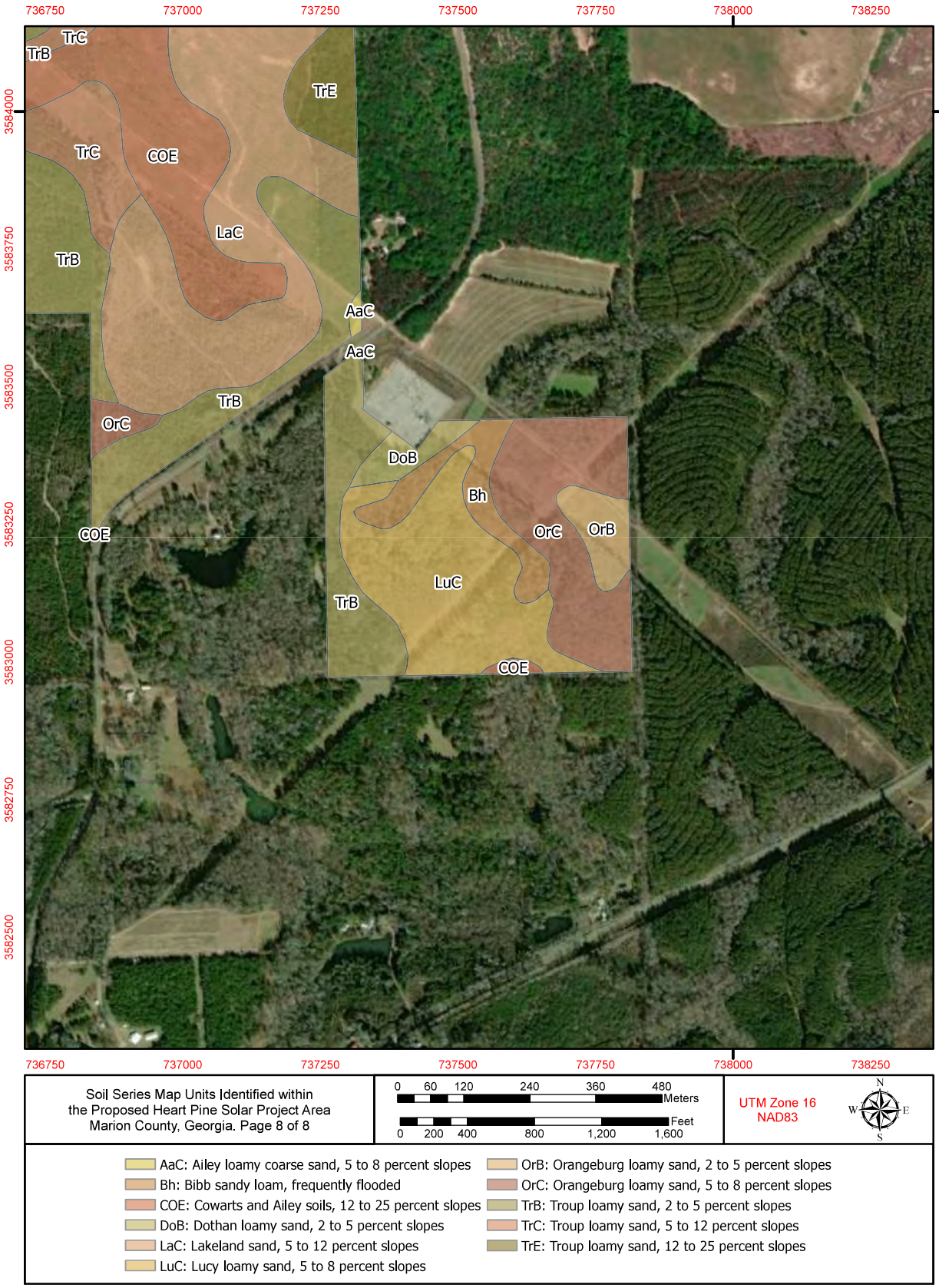

Figure 1.2 Soil Series Map Units identified in the Heart Pine Solar project area, Marion County, Georgia. Sheet 8

cleared fields. The loamy sands of this series occur on slopes ranging from 2-to-5 percent (DoB) and 5-to-8-percent within the APE.

Fuquay Loamy Sand (FuB, FuC) – 27.43 ac (11.1 ha)

The loamy sands of the Fuquay series account for just over 1% of the project area acreage and are found along two slope gradients: 0-to-5-percent (FuB) and 5-to-8-percent (FuC). Fuquay soils are typically very deep and well drained, and they form on ancient loamy marine or fluviomarine deposits in the upper and middle Coastal Plain region (USDA 2024). Due to their depth and drainage characteristics, Fuquay soils are frequently used for crop cultivation, and they support a variety of pine and hardwood species in areas not cleared for agriculture.

Iuka Sandy Loam, occasionally flooded (Iu) – 20.48 ac (8.29 ha)

Soils in the Iuka series cover the least amount of area within the APE – 0.9% of the total acreage – and represent the second category of floodplain soils in the study area. Iuka soils are very deep, moderately well drained, and moderately permeable sandy loams that form on the stratified loamy and sandy alluvial sediments of floodplains (USDA 2024); they often co-occur with a minor Bibb series component within the project area. As with ground covered by Bibb soils, areas where the Iuka series occurs are frequently maintained as woodlands and support a variety of water-loving tree species (e.g., water oak, willow).

Lakeland Sand (LaC) – 56.21 ac (22.75 ha)

Lakeland series soils are very deep, excessively drained upland soils that are rapid to very rapidly permeable and form on eolian or marine sand beds (USDA 2024). Lakeland sands underlie about 2.5% of the APE and occur on slope gradients of 5-to-12-percent in this area. Areas covered by Lakeland soils are frequently cleared for growing crops and pasture, and they support mixed forests dominated by species of oak on the narrow uplands of sandhills across the Coastal Plain region.

Lucy Loamy Sand (LuB, LuC) – 145.49 ac (58.88 ha)

Loamy sands in the Lucy series form on ridge tops and side slopes of the uplands distributed across the Southern Coastal Plain region; they are typically very deep, well drained, and moderately permeable soils (USDA 2024). Lucy series soils derive from sandy and loamy marine and fluvial sediments on a range of slope gradients, two of which are present in the project area (0-to-5-percent [LuB]; 5-to-8-percent [LuC]). The characteristics of Lucy loamy sands makes them ideal for agriculture and pasture, although steeper sloping areas are often left covered by forest. Lucy series soils underlie slightly over 6% of the APE.

Nankin Sandy Loam (NaC) – 77.89 ac (31.52 ha)

Nankin sandy loams represent another variety of upland soils common to the southern Coastal Plain region. Nakin series soils are very deep and well drained, and they form in stratified loamy and clayey marine sediments along a wide range of slope gradients (USDA 2024); within the project area, they occur only on 5-to-12-percent slopes. Lands underlain by the sandy loams of the Nankin series support native vegetation dominated by pine species and are frequently left in woodland cover, although they may also be cleared for cropland and pasture. Nankin sandy loams cover approximately 3% of the APE.

Orangeburg Loamy Sand (OrB, OrC) – 218.30 ac (88.34 ha)

Soils in the Orangeburg series form in loamy and clayey marine sediments and are found across the uplands of the Coastal Plain region. These soils are typically very deep, well drained, and moderately permeable (USDA 2024). Within the project area, where they underlie approximately 10% of the ground surface, Orangeburg loamy sands occur on slope gradients of 2-to-5-percent (OrB) and 5-to-8-percent (OrC). Soils in this series are frequently used to grow crops, such as tobacco and peanuts, and they also support pasture and woodlands, the latter of which are dominated by pine species.

Troup Loamy Sand (TrB, TrC, TrE) – 697.79 ac (282.39)

Troup series soils cover the largest extent of acreage across the APE (30% of total) and are found along three slope gradients: 2-to-5-percent (TrB), 5-to-12-percent (TrC), and 12-to-25-percent (TrE). The loamy sands typical of the Troup series form on ridges and hillslopes over unconsolidated sandy and loamy marine sediments in the Coastal Plain region; they are very deep and somewhat excessively drained (USDA 2024). Troup series soils support pine and mixed hardwood forests, which can be cleared for growing crops and pastureland. Both forests and pasture are found over Troup soils in the project area.

Cultural Context

The small number of archaeological investigations in the vicinity of the Heart Pine Solar project APE – and in Marion County, Georgia, more generally – constrain our knowledge of local settlement patterns and land use, especially for Precontact periods. Regional archaeological data provide the basis for reconstructing the culture history of the surrounding area and setting general expectations for locating cultural resources within the APE. The following sections briefly summarize broad-scale cultural, subsistence, and technological developments important for understanding cultural resources that may be recorded on Heart Pine Solar project grounds.

Paleoindian Period (ca. 15,000 – 10,000 B.P.)

The Paleoindian period represents the initial occupation of the Americas by groups of humans at least 15,000 years ago toward the close of the Pleistocene Epoch. While there is abundant evidence for the presence of Paleoindian groups in the southeastern United States, including Georgia, the timing of their arrival is still a matter of debate (e.g., Griffin 1978; Milanich and Fairbanks 1980). Paleoindian peoples are generally conceived of as highly mobile hunter-gatherers inhabiting very large territories; occupations in the southeast seem to have been ephemeral, with little evidence of constructions or other settlement remains marking their presence on the landscape (Muller 1978). Paleoindian occupation of Georgia and the greater southeast shows a potential preference for riverine environments (Gagliano 1977).

Paleoindian materials are typically recovered as isolated surface finds, presumably reflecting the short duration of settlement in any given area. Characteristic artifacts associated with Paleoindian groups are large, well-made, lanceolate projectile points that exhibit distinctive fluting along their bases (Anderson et al. 1990). Toward the end of the Paleoindian period, basal grinding replaces fluting as the preferred method for hafting projectile points, as seen on Late Paleoindian Dalton points across the southeast. Two Dalton points recovered from surface contexts provide the only record of Paleoindian occupation in Marion County (Pappas 2020), and the lack of major river drainages in the vicinity of the Heart Pine Solar APE suggests a low probability of recovering such early materials.

Archaic Period (10,000 – 3,000 B.P.)

Archaic period materials exhibit more technological and stylistic variability than their Paleoindian forebears, which archaeologists interpret as regional adaptations to climatic changes at the close of the Pleistocene (Willey and Phillips 1958). Shifts in project point technologies, away from the broadly similar Paleoindian fluted points and toward geographically circumscribed variants in form and hafting technique, reflect responses to continental-scale changes in flora and fauna as Pleistocene landscapes gave way to Holocene forest environments (Griffin 1967). General trends in the Archaic of Georgia include the appearance of new technologies (e.g., groundstone tools, pottery) linked to broad-spectrum subsistence strategies, a reduction in mobility and shrinking of territory compared to preceding Paleoindian groups, seasonal occupations of different areas of the Coastal Plain, and increases in population size and social complexity (Ford 1974). Archaic settlement patterns generally favor riverine environments, although data for the middle of this period are largely lacking from the Coastal Plain.

The beginning of the Archaic period is marked by the development of long-lived corner- and side-notched project point traditions (Coe 1964; Davis 1990; Kneberg 1956), which may

reflect adaptations to the demise of Pleistocene megafauna and the rise of modern faunal populations. Groundstone tools, likely used in processing plant food, also appear early in the Archaic and provide evidence of a broadened subsistence base. The earliest examples of pottery in the southeastern United States date to the end of Archaic times and suggest a further reduction in group mobility (Davis 1984). Six Archaic sites are known from Marion County and none are known to occur within 4 mi (7 km) of the project area (Pappas 2020). The lack of major watercourses within the Heart Pine Solar APE limits the likelihood of encountering larger Archaic settlements, although the upland areas around Hardage Ford Creek could have provided favorable conditions for smaller Archaic camps.

Woodland Period (3,000 – 1,200 B.P.)

Several significant changes in lifeways related to subsistence, mobility, and intergroup interaction set the Woodland period apart from the preceding stages of social development. The hunting-gathering-fishing mode of subsistence persists from the Archaic into the Early Woodland period (3,000 – 2,600 B.P.) but is increasingly supplemented with food production strategies in the form of mobile horticulture (Yarnell and Black 1985). Adoption and use of pottery becomes widespread during Early Woodland times, and settlements remain occupied for longer periods of time (Griffin 1967). The Middle Woodland (2,600 – 1,500 B.P.) is marked by the construction of elaborate burial mounds in more permanent villages across the southeastern United States, as well as the participation of these populations in the Hopewell Interaction Sphere that moved non-local materials, such as copper and obsidian, large distances across the continent (Caldwell 1964). Food production becomes a more significant component of subsistence strategies at this time, as populations continue to grow and become more interconnected through the exchange of exotic materials. Horticultural villages dominate the Late Woodland (1,500 – 1,200 B.P.) social landscape, but Hopewell ceremonialism and interregional trade begins to deteriorate at this time (Bense 1994).

Significant quantities of pottery, especially the Middle Woodland Swift Creek ceramic complex, characterize Woodland sites in the Coastal Plain of Georgia, along with the triangular-bladed project points that represent the development of bow-and-arrow technology (Garrow 1975). Very few Woodland sites – two Early Woodland, and six Middle Woodland – are known from Marion County, although this almost certainly represents sampling bias, as over 60 Middle Woodland sites have been document at Fort Benning, slightly over 8 mi (13 km) to the west of the project area. One of these sites, possessing both Early and Middle Woodland components, lies along the boundary of a Heart Pine Solar project parcel and may extend into the APE (Pappas 2020). The proposed project area contains several zones of uplands overlooking the floodplain of Hardage Ford Creek that may have been prime locations for Woodland settlements, and the probability for locating additional Woodland sites is high.

Mississippian Period (1,200 – 450 B.P.)

Trends toward larger populations, permanent settlements increasingly reliant on agriculture, and growing social complexity that began during Woodland times continue into the following Mississippian period. Settlement patterns indicate that Mississippian-period communities were hierarchically organized, with chiefly centers possessing one or more mounds controlling territories filled with smaller villages and hamlets (Clay 1976; Griffin 1967). Interregional trade in prized materials, which was disrupted at the close of the Woodland period, regains importance among Mississippian communities, and widespread iconographic motifs suggest communities across much of the southeastern United States participated shared religious practices.

At the beginning of this period, settlements in the general vicinity of Marion County may have been culturally influenced by the Mississippian primary center of Etowah (Schnell and Wright 1993), although direct political control is unlikely. Sites with the distinctive flat-topped mounds characteristic of important Mississippian towns are lacking in Marion County – the nearest mound center is 9TR1, on the Flint River in

neighboring Taylor County – and any Mississippian presence near the project area would represent occupation at a much smaller scale. At present, Mississippian occupation in Marion County is known only from artifacts in private collections recovered from three sites (Pappas 2020), and little can be said about the overall Mississippian presence in the area. There is some potential for recovering Mississippian cultural resources in the Heart Pine Solar APE, although this is lower than for materials dating to the Woodland period.

Contact and Historic Periods (450 B.P. – Present)

Around 450 B.P., records from European explorers, and later settlers, begin to supplement our understanding of archaeological information and later become authoritative sources on settlement and land-use patterns. Members of the expedition led by Spanish explorer Hernando de Soto, for example, provide documentary evidence for the Capachequi and Toa chiefdoms in southwest Georgia (Braley 1995), and changes in ceramic styles from village sites in the lower Chattahoochee valley define the Contact-period Abercrombie phase (Elliott et al. 1995). The first century following European contact is characterized by considerable social, political, and economic disruptions among Indigenous American communities, as exemplified by the emergence of trade in deer skins and enslaved captives as primary economic drivers (Crane 1981). Despite the definition of Contact-period phases in the major river valleys to the east and west, such materials have yet to be recognized or documented in Marion County.

Historic period trends involved the continuing encroachment of Euroamerican settlers into the interior of Georgia, eventually resulting in the total displacement of Indigenous groups. The lands that later became Marion County were ceded to the United States by the Creek Confederacy in the Second Treaty of Indian Springs in 1825, which further accelerated this process. Incoming settlers were primarily subsistence farmers, and numerous grist mills were built to service these agricultural communities. Marion County remained primarily rural from the time of early Euroamerican settlement through the early twentieth century, and much of it remains devoted to agricultural production today. Historic standing structures and cemeteries (see Chapter II) have been recorded in the vicinity of the Heart Pine Solar project area, and a review of aerial imagery suggests more such structures may be present. Given this information, the potential for locating presently unknown Historic-period cultural resources is high.

Chapter II
Previous Investigations and Nearby Cultural Resources

To gather information about previously recorded cultural resources in or near the proposed Heart Pine Solar project area, RCG&A staff conducted a records search of the Georgia Archaeological Site Files and other relevant databases referenced in the previous chapter. Reports from previous cultural resources investigations and records of archaeological sites, historic built resources, cemeteries, and NRHP-listed properties were reviewed as part of this process and are discussed in the following sections.

Previously Completed Cultural Resources Investigations within 1.0 km (0.6 mi) of the Heart Pine Solar Project Area, Marion County, Georgia

Three previous cultural resources investigations have been completed within 1.0 km (0.6 mi) of the Heart Pine Solar project area (Figure 2.1; Table 2.1). Of these, one previous study intersected the current project item (Pappas 2020), while the two remaining investigations did not intersect the project area (Olvey 2002; Quirk and Moss 2016). All three of the investigations were Phase I surveys completed on behalf of the Georgia Department of Transportation, and one was additionally contracted with LPA Group, Inc. (Olvey 2002).

The first cultural resources investigation inside the 1.0 km (0.6 mi) buffer was performed in 2001 by Brockington and Associates, Inc., ahead of a proposed bridge replacement (Olvey 2002; Report AR_02290). Pedestrian survey and shovel testing were conducted within the APE, and no archaeological resources were identified. At the request of the property owner, additional investigation was carried out in 2002 outside of the APE, and consisted of pedestrian survey, metal detecting, and soil probing in the vicinity of a marked Confederate soldier grave and possible Confederate trench. The Owens' House, as well as the surrounding landscape, were recommended as eligible for listing on the NRHP (Property 5). However, this property is located outside of the APE under investigation, and was not expected to be impacted by construction activities. No further work was recommended for this project area.

In 2015, archaeologists from Edwards-Pitman Environmental, Inc., completed a Phase I survey at six locations for proposed bridge locations (Quirk and Moss 2016; Report AR_10083). Pedestrian survey and shovel testing was conducted at each of the locations. No cultural resources were identified at five of the locations, and one site (9HS518) was identified in Harris County. This site was not located within the currently proposed project area, and was described as a former bridge for a previous road alignment. No cultural material was identified within any of the shovel tests that were excavated in the site vicinity, and Site 9HS518 was recommended as not eligible for listing on the NRHP. No further work was recommended at any of the six project item locations.

Another bridge location was investigated in 2019 by Vanasse Hangen Brustlin (Pappas 2020; Report AR_14587). The eastern boundary of this project area is directly adjacent to a parcel within the Heart Pine Solar project area, and the survey was completed ahead of a bridge replacement located on CR 168/James Rodgers Road over Hardage Ford Creek. Pedestrian survey and shovel testing resulted in the identification of Site 9MR90, a prehistoric deposit that will be discussed in more detail below. In addition to shovel testing, a single 1-x-1-m unit was excavated within the site boundaries to investigate the identified deposits. Although intact Early to Middle Woodland deposits were identified, the investigated portion of the site was recommended as not eligible for listing on the NRHP due to an abundance of comparable sites in the neighboring

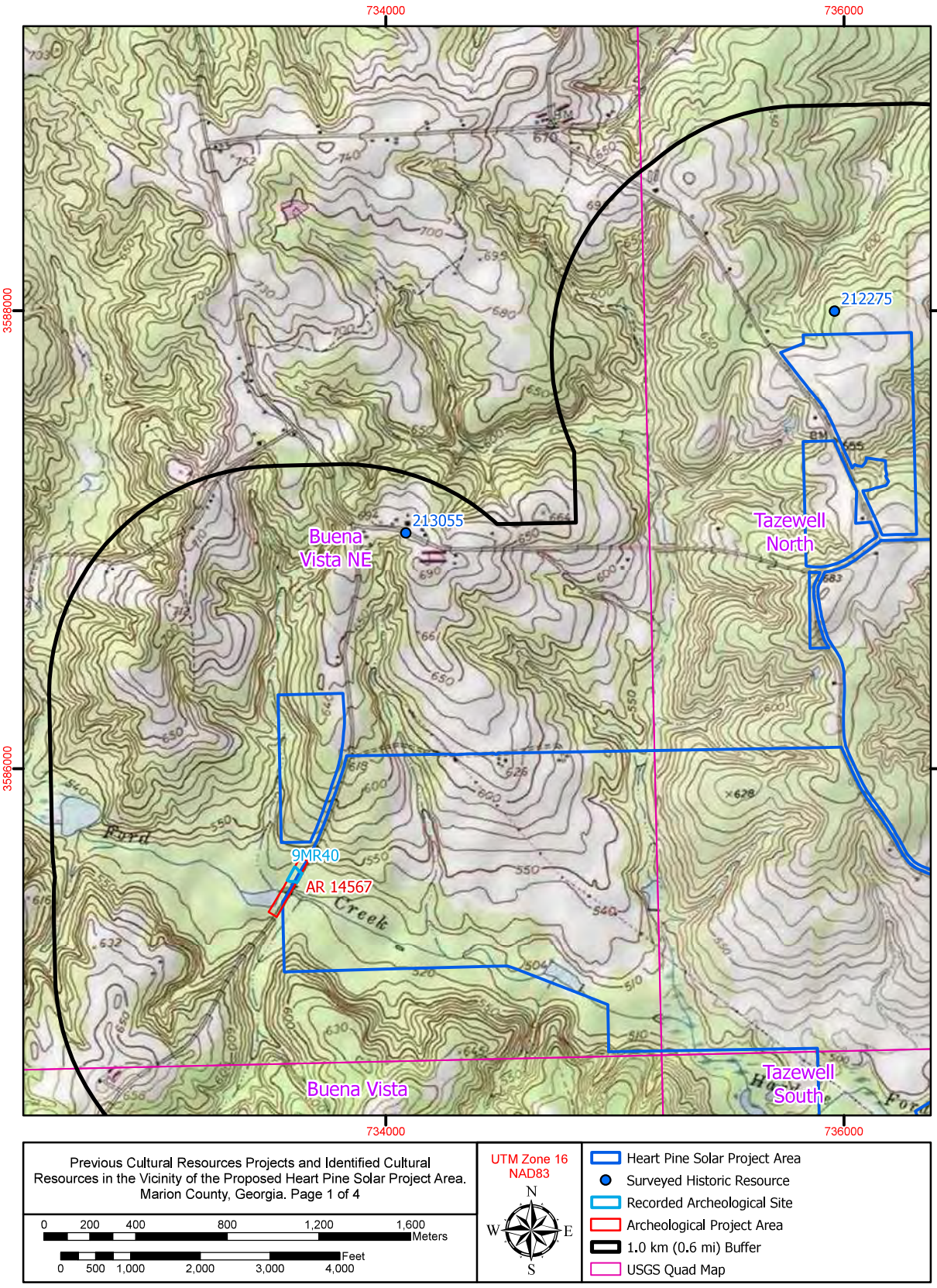

Figure 2.1 Sheet 1 **USGS Quadrangle excerpts depicting the locations of previously recorded archaeological sites, cemeteries, cultural resources surveys, and historic standing structures within 1 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.**

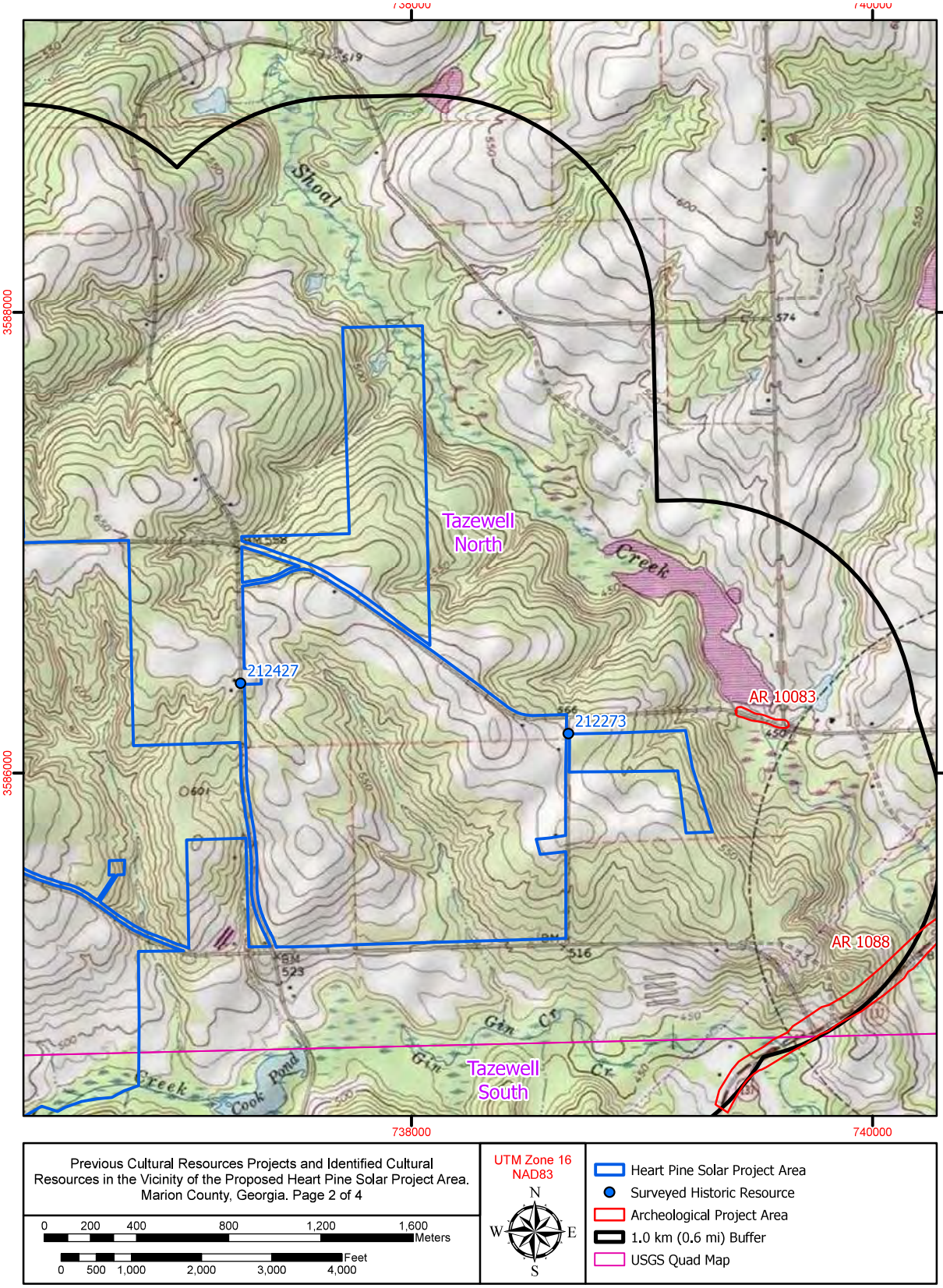

Figure 2.1 Sheet 2 **USGS Quadrangle excerpts depicting the locations of previously recorded archaeological sites, cemeteries, cultural resources surveys, and historic standing structures within 1 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.**

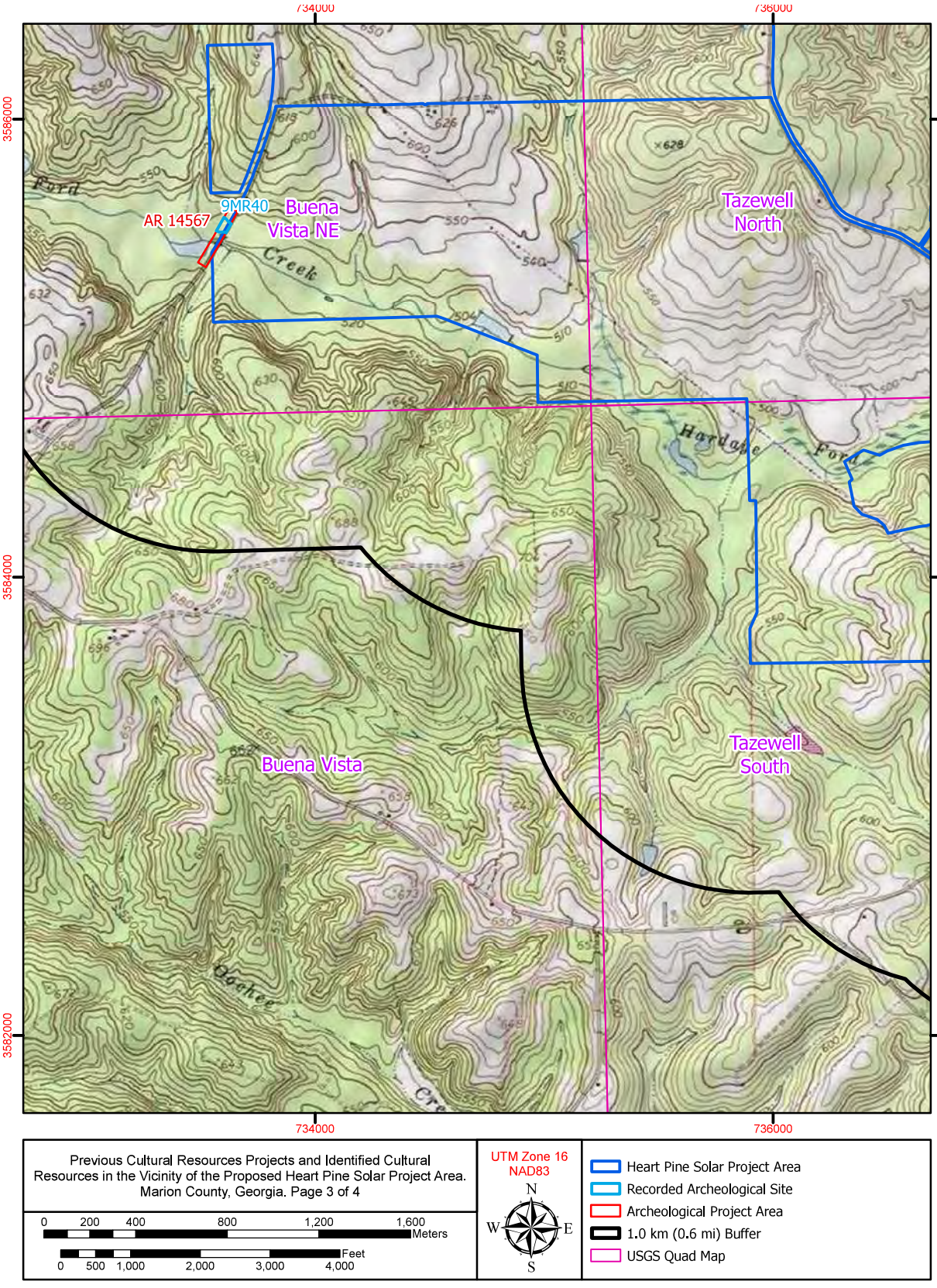

Figure 2.1 Sheet 3 **USGS Quadrangle excerpts depicting the locations of previously recorded archaeological sites, cemeteries, cultural resources surveys, and historic standing structures within 1 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.**

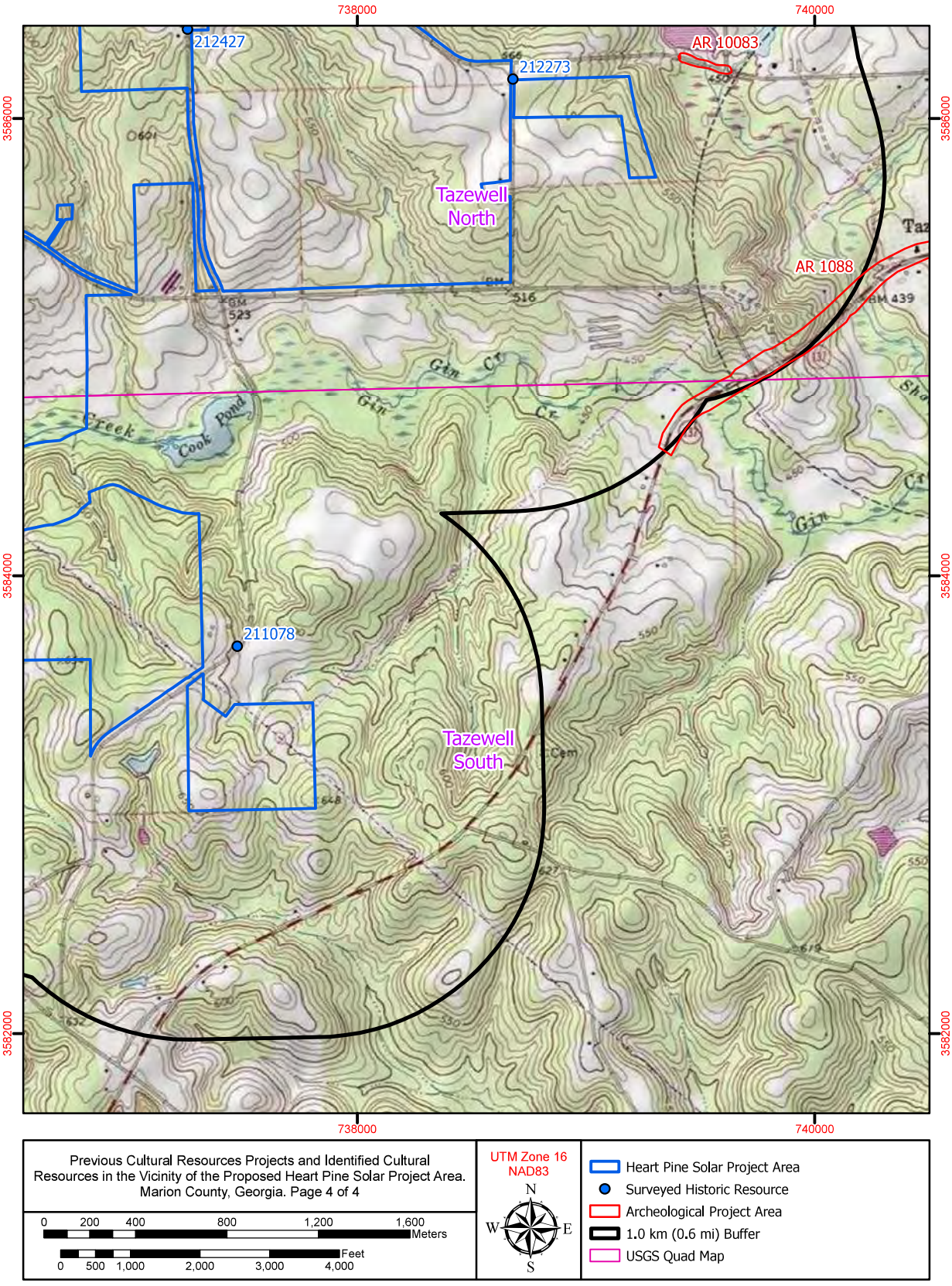

Figure 2.1 Sheet 4 **USGS Quadrangle excerpts depicting the locations of previously recorded archaeological sites, cemeteries, cultural resources surveys, and historic standing structures within 1 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.**

Table 2.1 Previously completed cultural resources investigations located within 1.0 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.

Report #	Title (Author/Date)	Sponsoring Agency	Study Type	Methods	Site(s) / Loci / Structures Identified	Recommendations	Relevant Sites	Notes
Within/Immediately Adjacent to Project Area								
AR 14567	*Phase I Archaeological Survey of the CR168/James Rogers Road Bridge Replacement Over Hardage Ford Creel, Marion County, Georgia* (Pappas 2020)	The Georgia Department of Transportation, Atlanta, GA	Phase I	Pedestrian survey, shovel testing, unit excavation	Site 9MR40 recorded	Investigated portion of the site recommended not eligible. Uninvestigated portion of the site recommended to be an Environmentally Sensitive Area, and avoidance during construction activities recommended.	9MR40	Uninvestigated portion of site may continue into project area
Within 1.0 km (0.6 mi) Radius of Project Area								
AR 02290	*Archaeological Resources Survey at Proposed Bridge Replacements BRST-0649(3) SR 137 Over Shoal (Buck) and Gin Creek, Marion County, Georgia* (Olvey 2002)	LPA Group, Inc., Norcross, GA, and Georgia Department of Transportation, Atlanta, GA	Phase I	Pedestrian survey, shovel testing, metal detecting survey, soil probing	Confederate soldier's headstone and Property 5 (Owens' House) recorded outside of project area	No further work recommended within project area. Owens' House and surrounding landscape (outside of project area) recommended eligible for NRHP.	None	Additional inspection completed at the request of property owners, but those resources will not be impacted by construction activities.
AR 10083	*Phase I Archaeological Survey for FY 16 Design Build Replacement Projects - Batch 3, Coweta, Crawford, Harris, Marion, Meriwether, and Pike Counties, Georgia* (Quirk and Moss 2016)	The Georgia Department of Transportation, Atlanta, GA	Phase I	Pedestrian survey, shovel testing	Site 9HS518 recorded	No further work recommended.	None	

Chattahoochee County. Portions of the site were likely located outside of the APE – including within the boundaries of the adjacent Heart Pine Solar project parcel – and those areas were recommended to be temporarily fenced off during construction activities to prevent disturbance of potential cultural resources in those locations.

Previously Recorded Archaeological Sites Located within 1.0 km (0.6 mi) of the Heart Pine Solar Project Area, Marion County, Georgia

One archaeological site has been recorded previously within 1.0 km (0.6 mi) of the Heart Pine Solar project area (Figure 2.1; Table 2.2). Site 9MR90 was identified during the previously discussed Vanasse Hangen Brustline (Pappas 2020) survey and was described as an Early to Middle Woodland deposit. Artifacts were recovered between 20 and 60 cmbs and primarily consisted of precontact ceramic and lithic artifacts; diagnostic materials consisted of 5 Swift Creek Plain sherds, 1 Swift Creek Complicated Stamped sherd, One Hernando PP/K, and one Tallahassee PP/K (Pappas 2020:50). Ceramic artifacts were sparse below 35 cmbs (n = 1), which may indicate a level of stratification within the deposit resulting from a break in site occupation (Pappas 2020:51). Despite the general lack of modern disturbance noted in these deposits, the generally light quantity of recovered artifacts, absence of clear vertical stratigraphy, and abundance of comparable sites in neighboring Chattahoochee County led to the recommendation that the investigated portions of Site 9MR40 were not eligible for listing on the NRHP (Pappas 2020:54). However, full delineation of the site could not be completed due to the constraints of the project boundaries, and the remainder of the site was not assessed for its NRHP eligibility.

There is a discrepancy in the available records concerning the shape and size of Site 9MR40 that affects its spatial relationship to the proposed Heart Pine Solar project area. The Georgia Archaeological Site Files depict the site as roughly semi-circular in outline and located to the west of CR 168/James Rodgers Road, in an area north of where that road crosses Hartage Ford Creek, which would place the site entirely outside all Heart Pine Solar project parcels. Site 9MR40 is drawn as spanning CR 168/James Rodgers Road in the report that first documented it, however, making its eastern boundary contiguous with a Heart Pine Solar parcel (Pappas 2020:Figure 7). The detailed descriptions provided in the report confirm that cultural materials were recovered from both sides of the road, and this interpretation of the site should be accepted over that provided in the state site file. Furthermore, the investigators who first recorded this site were constrained by their project area and could not definitively delineate its eastern boundary, which raises the possibility that Site 9MR40 continues into a section of the Heart Pine Solar APE.

Previously Recorded Historic Built Resources Located within 1.0 km (0.6 mi) of the Heart Pine Solar Project Area, Marion County, Georgia

Three historic built resources were previously reported within 1.0 km (0.6 mi) of the Heart Pine Solar project area (Figure 2.1; Table 2.3). Of these, two (Resource # 212273 and 212427) were located within or adjacent to the currently proposed project area, and one (Resource # 213055) was located within 1.0 km (0.6 mi) of the proposed project area. Two of the structures were constructed in 1909, and the third was construct-

Table 2.2 Previously recorded archaeological sites located within 1.0 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.

Site #	Site Name	Site Type	Affiliation	Topography	NRHP Assessment	Notes
Within/ Adjacent to Project Area						
9MR90	FS-1	Prehistoric deposit	Prehistoric (Early to Middle Woodland)	Terrace	Not Assessed	Site could not be fully delineated due to project boundaries. Eastern boundary of site may enter project area
Within 1.0 km (0.6 mi) Radius of Project Area						
none						

Table 2.3 Previously recorded historic standing structures located within 1.0 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.

Resource #	USGS 7.5' Quadrangle	Address	Type (Name)	Style	Construction Date	NRHP Eligibility	Recorder (Date)
Within/Immediately Adjacent to Project Area							
212273	Tazewell North	36 Walls Rd, Buena Vista	Single-family house - One-story	No Style	1909	Not Assessed	no data
212427	Tazewell North	1531 Harbuck Pond Rd, Buena Vista	Single-family house - One-story	No Style	1944	Not Assessed	no data
Within 1.0 km (0.6 mi) Radius of Project Area							
213055	Buena Vista NE	71 George McCorkle Rd, Buena Vista	Single-family house - One-story	No Style	1904	Not Assessed	no data

ed in 1944. All three were described as single-story residences with no academic style.

Cemeteries Located within 1.0 km (0.6 mi) of the Heart Pine Solar Project Area, Marion County, Georgia

Two known cemeteries occur within 1.0 km (0.6 mi) of the Heart Pine Solar project area (Figure 2.1; Table 2.4); none were located within or immediately adjacent to the project area. According to Find-A-Grave.com (2024), Mount Pisgah Cemetery contains 31 interments that date from 1900 and extend to 2023; this cemetery is active. However, the Georgia Site Files shows this cemetery point within planted pine, and its location may be misplotted. The second cemetery, Jordan Family Cemetery, contained eight interments that dated from 1891 to 1964, with two unknown burial dates. This cemetery may also be misplotted, as the address in the Georgia Site Files is located several miles to the south of the current project area.

Properties Listed on the National Register of Historic Places and National Register Historic Districts Located within 1.0 km (0.6 mi) of the Heart Pine Solar Project Area, Marion County, Georgia

No National Register Historic Properties or Historic Districts occur within 1.0 km (0.6 mi) of the Heart Pine Solar project area.

Summary

Three archaeological surveys have been completed in the vicinity of the proposed Tazewell project area, in keeping with the low intensity of surveys conducted across Marion County more broadly (see discussion in previous chapter). This dearth of previous investigations makes assessing the potential for locating Precontact cultural resources within the APE difficult, although the presence of a Woodland period archaeological site (9MR40) near – and possibly within – a project parcel suggests an elevated probability of recovering additional materials. Documented historic standing structures and cemeteries in the surrounding area demonstrate land use during the Historic period, and additional cultural resources related to the later, rural settlement of the area by Euroamerican farmers may remain to be discovered.

Table 2.4 Cemeteries located within 1.0 km (0.6 mi) of the Heart Pine Solar project area in Marion County, Georgia.

Site #	County	Cemetery Name	Address	Size	Number of Identified Graves (Approximate)	Earliest Known Grave	Latest Known Grave	Current Status	NRHP Assessment	Notes
Within/Immediately Adjacent to Project Area										
none										
Within 1.0 km (0.6 mi) Radius of Project Area										
211078	Tazewell South	Jordan Family Cemetery	Mt. Zion Rd, 1/4 mi NE of Frank Powell Rd, Buena Vista	Unknown	8	1891	1964	Unknown	no data	Plotted in the middle of a road with no visible evidence of cemetery on aerial. Address is located miles to the south of the project radius.
212275	Tazewell North	Mount Pisgah Primitive Baptist Church Cemetery	1067 Blueville Rd, Buena Vista	Unknown	31	1900	2023	Active	Not Assessed	Plotted in the middle of planted pine. Address is located outside of project radius.

Chapter III
Pedestrian Survey Results and Report Summary

Geosyntec personnel conducted a pedestrian cultural resources survey in a portion of the overall project area where right-of-entry was granted. Survey teams covered approximately 1,534.54 ac (621.03 ha) within the APE and documented potential cultural resources (e.g., artifact scatters, standing structures) with digital photography and GPS locational data. The Geosyntec teams provided these data to RCG&A for inclusion in this report, and the results of this survey are described in the following sections.

Overview of Survey Conditions

Geosyntec survey teams reported that much of the previously cleared area within the APE was covered by low-level, herbaceous vegetation, such as clover, deadnettle, and various types of grass. This ground cover would have reduced the visibility of cultural resources expressed as surface-level artifact scatters, and the majority of potential cultural resources recorded were standing or ruined structures. Survey teams carefully examined areas where ground cover was limited by erosional features and roads (Figure 3.1), but these disturbed areas contained no intact cultural resources. Evidence of contemporary, continuing land use in the form of machinery and structures were also noted by surveyors but will not be discussed further at this time (Figure 3.2).

Survey Results

Potential cultural resources were recorded at seven discrete locations across three parcels within the APE (Figure 3.3). These parcels included: 1) an unnumbered parcel grouped with the Herbert Tante properties at the eastern end of the project area bounded by County Road 9 (CR-9); 2) parcel number 56 19, the northernmost parcel to which survey access was granted; and 3) an unnumbered parcel listed under the name Claudine Morgan in the shapefiles provided to RCG&A, which was located near the center of the project area and contained the highest concentration of potential cultural resources. No cultural resources were recorded in the vicinity of Site 9MR40 (see previous chapter for site description) or in any other parcel surveyed by Geosyntec. The following sections discuss the potential cultural resources recorded in the project area as well as the parcels in which they were located.

<u>Unnumbered Herbert Tante Parcel</u>

This parcel comprised two rectangular sections, divided by CR-9, that covered about 11.01 ac (4.46 ha). The majority of this area was located west of CR-9 and included the grounds of a recently built house at its northern end. Much of the rest of the parcel contained cleared fields, and another house, also apparently occupied, sat just beyond its southern boundary in an area outside the project APE. Near this second house, surveyors recorded a small, collapsed structure that may represent a shed or outbuilding (Figure 3.3: Point 1). This structure may have been a relatively recent addition to the landscape associated with the nearby house and agricultural buildings, or it may represent an earlier, historic occupation of the area. The area around the structure was clearly delimited from the surrounding agricultural fields and seemed to be a part of the house grounds, although the structure itself lay about 50 m (164 ft) from the occupied buildings. Very little information could be gathered about this structure, as a rather territorial pit bull prevented surveyors from approaching it for closer inspection.

<u>Parcel 56 19, Vance McCorkle</u>

Parcel number 56 19 covered about 51.06 ac (20.66 ha) and was bounded to the west by George McCorkle Road; it was the northernmost segment of the APE to be investigated by pedestrian survey. Most of the land in this parcel

Figure 3.1 Erosional surface near a road through tree-covered terrain in Parcel 68 1 of the Heart Pine Solar project area.

Figure 3.2 Pipes and a storage tank near Heritage Ford Creek in the Claudine Morgan parcel of the Heart Pine Solar project area.

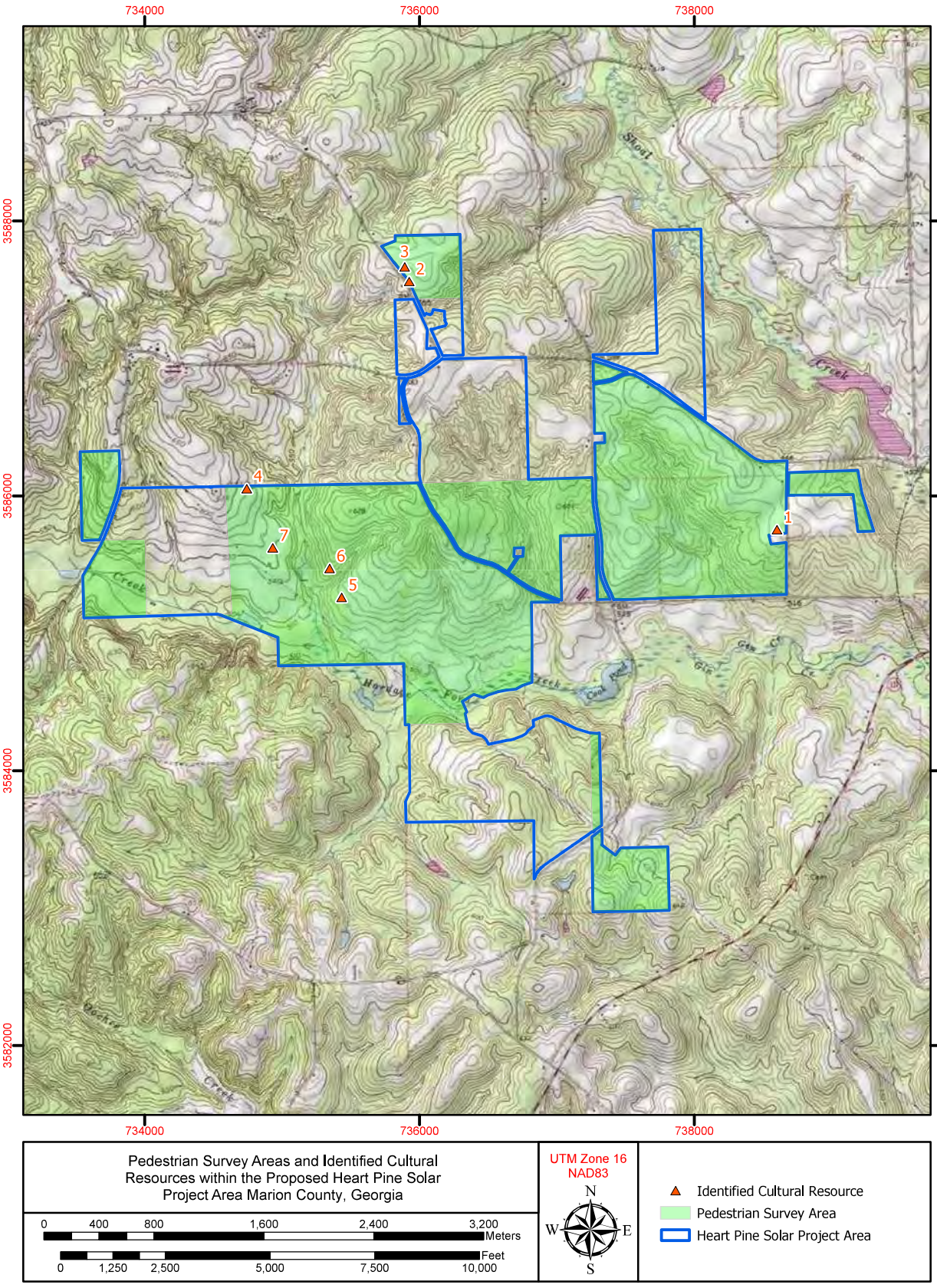

Figure 3.3 **USGS Quad map excerpt of the Heart Pine Solar project area showing surveyed parcels and potential cultural resource loci.**

had been cleared for agricultural pursuits or pastureland, but some areas along its border retained forest cover. Three potentially historic standing structures were recorded at two separate locations in this parcel. At the first location (Figure 3.3: Point 2), a rustic, wooden plank building was apparently still in use for vehicle and equipment storage (Figure 3.4), while a smaller associated building had collapsed into an extensive debris pile (Figure 3.5). Both of these structures were located directly across George McCorkle Road from an occupied farm house outside the APE. About 112 m (366 ft) northwest of these two buildings was a third wooden structure in a poor state of repair (Figure 3.6). This building contained at least one room and a loft, along with roofed outdoor space covering rusted farm machinery; surveyors reported finding garbage strewn on the floor of the interior space.

The date of construction of these buildings could not be ascertained by the survey teams, and any potential relationships among them – or between them and the nearby, occupied farmhouse – remained unclear. The larger structure nearest the house appeared to remain serviceable as a storage facility, but the more distant building had likely been abandoned for some time and may be considerably older.

Unnumbered Claudine Morgan Parcel

The Claudine Morgan parcel encompassed an area of approximately 384.29 ac (155.52 ha) and was the largest parcel in the APE. About half of this area had been cleared for agriculture, while the remainder was covered by forest, including the floodplain surrounding Heritage Ford Creek at its southern end. The majority of potential cultural resources – comprising three surface artifact scatters, two standing structures, and a potential collection of Precontact artifacts – recorded by Geosyntec survey teams were located within this parcel.

Perhaps the clearest example of an abandoned farmstead was recorded near the northwest corner of this parcel (Figure 3.3: Point 4). A wooden plank building, still standing but badly dilapidated, with a central brick chimney likely represented a domicile (Figure 3.7), while a nearby outbuilding contained logs cut to the length of fence posts. The structures were located along an unnamed dirt farm road that extended eastward from CR-19. Although the house appeared long abandoned and could not be investigated in detail due to an apparent lack of structural integrity, the storage building may still be in use. Rounded head nails present in these structures indicated construction sometime in the twentieth century. Inside the house, surveyors located what appeared to be a pile of chert flakes intermixed with pottery sherds and larger rocks (Figures 3.8 and 3.9). This apparent juxtaposition of Precontact artifacts with a Historic structure may reflect the collection of artifacts from surrounding agricultural fields by the former occupants of the house, the deposition of artifacts inside the structure after abandonment by workers in the surrounding fields, or some other unknown process. The farmstead was located about 1.25 km (0.78 mi) from Site 9MR40, the nearest known Precontact settlement in the area.

The remaining cultural resources recorded in this parcel were isolated surface finds of Historic artifacts. In an area along the border of a cleared field and patch of forest (Figure 3.3: Point 5), surveyors recorded several shards of clear glass (Figure 3.10). About 230 m (755 ft) northwest of this location along a road cut through the forest (Figure 3.3: Point 6), surveyors recovered a single sherd of Historic-period pottery (Figure 3.11), and an additional sherd was reported in an agricultural field to the west (Figures 3.3: Point 7 and 3.12). Intensive investigation of the surrounding areas did not locate additional materials or indications of intact archaeological deposits on the ground surface.

Summary of Survey Results

Geosyntec field teams located ten potential cultural resources at seven loci through pedestrian survey across approximately 1,534.54 ac (621.03 ha) of the Heart Pine Solar project area. Cultural resources were not located in most surveyed parcels and were somewhat concentrated in the Claudine Morgan tract. The majority (n = 6) of these potential resources were Historic structures in various stages of use, abandonment, dilapidation, and collapse. Photographs of these structures have not been reviewed by an architectural

Figure 3.4 **Wooden plank structure in use as vehicle/equipment storage facility at Locus 2 in Parcel 56 19 of the Heart Pine Solar project area.**

Figure 3.5 Small collapsed structure at Locus 2 in Parcel 56 19 of the Heart Pine Solar project area.

Figure 3.6 Abandoned wood plank structure at Locus 3 in Parcel 56 19 of the Heart Pine Solar project area.

Figure 3.7 **Abandoned wood plank farmhouse with brick chimney and loft at Locus 4 in the Claudine Morgan parcel of the Heart Pine Solar project area.**

Figure 3.8 **Pile of chert flakes and pottery sherds located inside abandoned farmhouse at Locus 4 in the Claudine Morgan parcel of the Heart Pine Solar project area.**

Figure 3.9 **Pottery sherd from pile of potential Precontact materials located inside abandoned farmhouse at Locus 4 in the Claudine Morgan parcel of the Heart Pine Solar project area.**

Figure 3.10 Shards of clear glass recovered from Locus 5 in the Claudine Morgan parcel of the Heart Pine Solar project area.

Figure 3.11 Historic pottery sherd lying on surface at Locus 6 in the Claudine Morgan parcel of the Heart Pine Solar project area.

Figure 3.12 **Historic pottery sherd recorded by surveyors at Locus 7 in the Claudine Morgan parcel of the Heart Pine Solar project area.**

historian, and their potential significance is unknown at present. Three loci contained Historic-period artifacts (glass, pottery) that appeared to be isolated surface finds – no structures or intact refuse deposits were located in their vicinity.

A pile of worked chert flakes and pottery sherds, discovered within a standing structure, provided the only potential example of Precontact cultural resources recorded in the Heart Pine Solar APE. If these materials were indeed of Indigenous origin, they had been previously removed from their original context of deposition and would provide limited information about Precontact occupation of the project area. They do suggest the existence of Precontact settlement somewhere in the vicinity of the APE, however, and further analysis would be necessary to determine any possible relationships between these materials and those previously recorded at Site 9MR40, located 1.25 km (0.78 mi) to the southwest.

Report Summary

Environmental and cultural factors, along with survey results, suggest there is a high probability for cultural resources to be present in several zones of the Heart Pine Solar APE. Proximity to freshwater and productive soils are important elements humans consider when determining where to settle – from the deep past to the present day – and both of these conditions exist within the project area. Almost all mapped soil types within the APE are classified as productive for use as croplands and pasture today, and most types are found on slopes of less than 12%, making them attractive for settlement. Heritage Ford Creek provides a source of freshwater and creates wetland conditions in its floodplain that could have been exploited by Precontact peoples. A Woodland-period occupation has been recorded along this creek on land bordering the project area, and similar environmental conditions are found across large sections of the APE. Finally, the Geosyntec survey summarized above documented both Precontact and Historic materials on the ground surface of the project area, and additional cultural resources may present in subsurface contexts. Future investigations should consider land in the Heart Pine Solar APE to possess a high probability for containing cultural resources based on these lines of evidence.

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Appendix D

Phase I ESA

Geosyntec consultants

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7 February 2024

VIA E-MAIL

Mr. Reginald Butler
The AES Corporation
4200 Innslake Drive, Suite 302
Glen Allen, Virginia 23060

Subject: **Phase I Environmental Site Assessment**
Site: Heart Pine Solar Project; 15 Parcels totaling approximately 1,533 Acres in Marion County, Georgia

Dear Mr. Butler:

In accordance with your Task Order QB1 executed 15 December 2023, Geosyntec Consultants, Inc.'s (Geosyntec's) has prepared the enclosed Phase I Environmental Site Assessment report for The AES Corporation for the above-referenced property. Enclosed is an electronic copy of the report.

Should you have questions regarding this submittal or need additional information, please do not hesitate to contact us. We appreciate the opportunity to be of service to you.

Sincerely,

Kaitlyn Rhonehouse
Senior Principal

cc: Paul Leeger, Geosyntec

Encl.

Geosyntec consultants

engineers | scientists | innovators

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Subject Property: Heart Pine Solar Project; 15 Parcels totaling approximately 1,718 acres in Marion County, Georgia

Prepared for

The AES Corporation
4200 Innslake Drive, Suite 302
Glen Allen, Virginia 23060

Prepared by

Geosyntec Consultants, Inc.
314 Walnut Street, Suite 200
Wilmington, NC 28401

Project GXE10300.01

7 February 2024

EXECUTIVE SUMMARY

This Executive Summary presents the results of the Phase I environmental site assessment (ESA) conducted by Geosyntec Consultants, Inc. ("Geosyntec") for the properties located in Marion County, Georgia. The Subject Property is more specifically identified as the entirety or portions of 15 Marion County parcels (referred to as "Parcel A" through "Parcel O", parcel ID details are included within the enclosed Phase I ESA report). This Phase I ESA was prepared in accordance with the scope of work, terms, and conditions described in The AES Corporation's Task Order QB1 dated 15 December 2023. This Phase I ESA was conducted in accordance with ASTM International (ASTM) Standard E1527-21[1] to identify, to the extent feasible, "recognized environmental conditions" (RECs) at the Subject Property as the term REC is defined by E1527-21.

The Subject Property is approximately 1,533-acres and is accessed from and/or borders multiple roads, multiple roads, including C R McCorkle Road, George McCorkle Road, Harbuck Pond Road, Hartage Ford Road, Morgan Ford Road, Power Station Road, Rick Waters Road, Walls Road, and Walter Wells Road. The Subject Property is presently owned by multiple parties. At the time of Geosyntec's Subject Property reconnaissance, the Subject Property was used for agricultural and livestock grazing purposes, chicken farming, and has evidence of timber practices. Several residences were identified on the Subject Property.

Based on the information set forth in this Phase I ESA, Geosyntec has concluded the following:

Recognized Environmental Conditions

- **Parcel G AST:** Surface staining associated with a diesel aboveground storage tank (AST) and pump was observed on Parcel G. Staining was observed on the concrete pad and the surrounding soil. The tank and auxiliary equipment (e.g., pump, hoses, etc.) were also noted to be in poor condition. Based on the observed apparent petroleum release (Appendix E, Photograph 5), this is considered a REC.

- **Parcel G Surface Staining:** Surface staining was observed in and around the covered shed area on Parcel G; various chemical and fluid (including hydraulic fluid and engine oil) was noted in this area. A surface stain, apparently associated with the petroleum and chemical storage, was observed on the edge of a concrete pad and the surrounding soil. Based on the

[1] ASTM Standard E1527 is titled: "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process"*

observed apparent petroleum release, this is considered a REC (Appendix E, Photograph 14).

Controlled Recognized Environmental Conditions

- No controlled recognized environmental conditions (CRECs) were identified during this Phase I ESA.

Historical Recognized Environmental Conditions

- No historical recognized environmental conditions (HRECs) were identified during this Phase I ESA.

De Minimis Conditions

- **Historical Agricultural and Animal Husbandry Land Use:** Historical site documents and aerial photographs indicated that portions of the Subject Property were cleared prior to the 1950s for what appeared to be crop lands and/or pastures and portions of the property were observed to be currently used for agriculture and animal husbandry (i.e., chicken farming and cattle grazing). Animal waste was reported to be used on-site as fertilizer. Current property owners and site observations indicated that hazardous pesticides or herbicides or petroleum products were used on-site; however, no evidence of this usage outside what may have been normal routine use was found as part of this Phase I ESA. Therefore, this finding is not considered a REC but rather a *de minimis* condition.

- **Parcel F General Waste/Burn Area**: A large area of debris was observed on Parcel F which appeared to include construction debris, household waste, and tires. The property owner, Mr. Morgan, indicated that solid waste generated on his properties is collected in this area and periodically burned. The burning of materials can involve fuels and emit hazardous substances such as dioxins, furans, and PAHs. However, evidence of burning was not observed during site reconnaissance. Because the observed debris appeared to be non-hazardous and burning appeared to be limited, this finding is not considered a REC but rather a *de minimis* condition.

Additional Findings

Per ASTM E1527-21, *"[s]ome findings, but not necessarily all findings, may be indicative of the presence of"* RECs, CRECs, HRECs, or *de minimis* conditions, while other findings may not be indicative as characterized above. These findings that do not fall within the defined characterizations above are therefore considered as additional findings and not classified above.

- **On-site Septic System**: One property owner indicated that a septic system is present on the Subject Property, Parcel G. Septic systems are direct conduits to the subsurface; based on the agricultural use of the Subject Property, it is possible that non-septic discharges to the septic system have occurred. The exact location of the septic system was not identified, although based on aerial imagery and topography it is expected to be located to the south or southeast of the residence. However, no releases of hazardous substances or petroleum products into the septic system were reported. Therefore, this is considered an additional finding.
- **Abandoned Vehicles:** Multiple abandoned vehicles (e.g., excavators, agricultural equipment, trucks, and passenger vehicles) were identified on-site. These vehicles likely contain petroleum products from former operation. However, releases to the ground surface beneath and around the vehicles was not observed.

Data Gaps

Our assessment revealed the following data gaps, as defined by ASTM:

- ASTM E1527-21 states that "*interviews with past owners, operators, and occupants of the property who are likely to have material information regarding the potential for contamination at the property shall be conducted to the extent that they have been identified."* Geosyntec was not provided with and did not identify owner contact information prior to the current Subject Property owner. Additionally, one current property owner, Mr. Vance McCorkle, could not be reached for an interview.

- Geosyntec did not traverse significantly vegetated areas and did not enter water bodies, locked storage areas, or livestock buildings such as chicken coops.

- Geosyntec reviewed historical aerial photographs that indicated that the Subject Property and adjacent properties were utilized as what appeared to be crop lands since the 1930s. No additional details regarding the observed land uses, including use of hazardous substances or petroleum products, was identified.

Collectively, these data gaps are not considered to be significant to the Findings or the identification of RECs at the Subject Property.

Geosyntec consultants

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1. INTRODUCTION

Geosyntec Consultants, Inc. (Geosyntec) conducted a Phase I environmental site assessment (ESA) on behalf of The AES Corporation at the properties located in Marion County, Georgia ("Subject Property"). The Subject Property is more specifically identified as the entirety or portions of 15 parcels (referred to as "Parcel A" through "Parcel O"; parcel ID details are included in Section 2 of this report). The Subject Property location is shown on **Figure 1** (Subject Property Location Map). A recent Subject Property vicinity and Subject Property layout is depicted on **Figure 2** (Subject Property Layout and Vicinity Map).

1.1 Objective

This Phase I ESA was conducted in general accordance with the scope and limitations of certain guidance contained within the ASTM International (ASTM) Standard Practices E1527-21. The primary purpose of the Phase I ESA was to identify, to the extent feasible, if one or more "recognized environmental conditions[2]" (RECs) exist at the Subject Property, as the "REC" terminology is defined by ASTM E1527-21. Deviations or exceptions to the guidance contained in the E1527-21 standards of practice are described in Section 1.4.

Geosyntec's effort is to provide the User with a Phase I ESA that includes a search for the existence of potential or known surface or subsurface environmental impacts at the Subject Property. For the purposes of this Phase I ESA report, The AES Corporation is the "User," defined as "*the party seeking to use Practice E1527 to complete an environmental site assessment of the subject property*…" in partial fulfillment of the requirements of the All Appropriate Inquiry Rule under 40 CFR 312.

1.2 Scope of Services

The Phase I ESA scope of work included the following:

- Review of pertinent information/documents
- Review of environmental databases regarding the Subject Property itself as well sites in the vicinity of the Subject Property pursuant to the E1527-21 Practice
- Review of historical land usage via historical aerial photographs, fire insurance maps, city directories, property tax files, and topographic maps, as available

[2] As defined by ASTM E1527-21, a Recognized Environmental Condition is: "(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment."

- Visit to the Subject Property for a visual reconnaissance of the major interior and exterior site features and use of adjoining properties
- Interviews with current and former owner/occupants knowledgeable with site operations
- Preparation of a Phase I ESA report

In accordance with Geosyntec's scope of work for this project, "non-scope considerations", as defined in ASTM E1527-21, were not evaluated as part of this Phase I ESA, unless as noted in Section 8.

Geosyntec's authorization and conduct to complete the scope of work are as follows:

Table 1. Scope of Services Details

Scope Item	Detailed Information
Subject Property Name or Reference	Heart Pine Solar Project
Subject Property Address	Multiple
City, State, and Zip Code	Multiple addresses in Marion County, Georgia
Parcel ID	Marion County Parcel ID Numbers: 56 12, 56 12A, 56 12B, 55 15, 56 19, 68 1, 55 14, 68 2, 67 13, 68 4B, 67 14A, 68 6E, 68 6F, 68 6, and 68 36.
User	The AES Corporation
Task Order Number	QB1
Task Order Date	15 December 2024
Database Report Date	8 January 2024
Subject Property Visit Date	15 to 18 January 2024
Current Owner/Occupant Interview Date	25 January 2024
Previous Owner/Occupant Interview Date	N/A (refer to Section 6.2)
Local Agencies Interview Date(s)	Various agencies were contacted (refer to Section 4.3).
Report Date	31 January 2024
Viability Date	2 July 2024
Geosyntec Site Personnel	Benjamin Burdette, Wyatt Jamerson, Cora Every, Abbie Campbell, Andi Reinman
Facility Personnel and Role	None
Report Preparer(s)	Thomas Paine and Abigail Wesley
Report Reviewer(s)	Kaitlyn Rhonehouse

Scope Item	Detailed Information
Environmental Professional[1]	Ms. Rhonehouse

Note 1: The Environmental Professional meets the requirements as stated in E1527-21.

The professional qualifications of the senior reviewers, including the signatory Environmental Professional are presented in Section 11.

1.3 Significant Assumptions

Geosyntec took no significant assumptions into account as part of this project except as noted in the Task Order QB1 dated 15 December 2023.

1.4 Limitations, Deviations, and Exceptions

This Phase I ESA was conducted according to the agreed upon scope of work consistent with the ASTM Practice E1527-21, except as follows:

- ASTM E1527-21 states that "*interviews with past owners, operators, and occupants of the property who are likely to have material information regarding the potential for contamination at the property shall be conducted to the extent that they have been identified*." Geosyntec was not provided with and did not identify owner contact information prior to the current Subject Property owner. Additionally, one current property owner, Mr. Vance McCorkle, could not be reached for an interview. However, since relevant historical documents were obtained, this limitation is not considered to be significant.

- Geosyntec did not traverse significantly vegetated areas and did not enter water bodies, locked storage areas, or livestock buildings such as chicken coops.

- Geosyntec reviewed historical aerial photographs that indicated that the Subject Property and adjacent properties were utilized as what appeared to be agricultural and pasture land since the 1930s. No additional details regarding the observed land uses, including use of hazardous substances or petroleum products, was identified.

This Phase I ESA contains a property description and history, an environmental database review, a summary of observations made during the site reconnaissance, and descriptions of information obtained during interview(s) of person(s) knowledgeable about the Subject Property. This Phase I ESA did not include sampling rock, soil, groundwater, surface water, soil vapor, air, or on-site substances or materials. Therefore, it is not possible to confirm the presence or absence of hazardous substances or petroleum products in the environments associated with the property.

The findings and conclusions presented in this Phase I ESA are the result of professional interpretation of the information collected at the time of this study. Specified information contained in this report has been obtained from publicly available sources and other secondary sources of information. Although care has been taken in compiling this information, Geosyntec has not independently validated this information and provides no warranty as to its accuracy or completeness. The Phase I ESA does not necessarily include an exhaustive search of all available records, nor does it include detailed assessment of all Phase I ESA findings. Therefore, Geosyntec cannot "certify" or guarantee that any property is free of environmental impairment; no warranties regarding the environmental quality of the property are expressed or implied.

1.5 Special Terms and Conditions

No special contractual terms or conditions were taken into account as part of this project, except as noted in the Task Order QB1 dated 15 December 2023.

1.6 User Reliance

This Phase I ESA report has been prepared solely for the benefit of The AES Corporation.

Geosyntec has issued the Phase I ESA report to The AES Corporation and grants The AES Corporation the right to rely on the report contents. Except as specifically set forth in Task Order QB1 dated 15 December 2023 to perform this work, no third party shall have the right to rely on Geosyntec opinions rendered in connection with the Services without Geosyntec's written consent which may be conditioned on the third party's agreement to be bound to acceptable conditions and limitations similar to those agreed to by The AES Corporation. Please note that Geosyntec's consent to provide a right-to-rely on the Phase I ESA report is subject to The AES Corporation approval and to agreement to Geosyntec's terms and conditions associated with Geosyntec's performance of this specific Phase I ESA.

2. SUBJECT PROPERTY DESCRIPTION

The Subject Property description presented herein is derived from information provided by the User, The AES Corporation, and information gathered during the research of historical records and the reconnaissance unless referenced otherwise.

2.1 Subject Property Location and General Characteristics

The Subject Property is located near Tazwell, Georgia and is surrounded by residential properties, agricultural areas, and undeveloped land. The approximately 1,718-acre Subject Property is comprised of 15 parcels (**Table 2)**. The Subject Property parcels are accessed from and/or border multiple roads, including C R McCorkle Road, George McCorkle Road, Harbuck Pond Road, Hartage Ford Road, Morgan Ford Road, Power Station Road, Rick Waters Road, Walls Road, and Walter Wells Road. The location of the Subject Property is shown on **Figure 1**. The Subject Property layout and parcel labels (A through O) are depicted on **Figure 2**. Ownership information, where available, is provided in the table below and included in **Appendix A**.

Table 2. Parcel Information

Parcel Map Label	Parcel ID	Current Owners	Parcel Area (Acres)
A	56 12	McCorkle Vance P	20.00
B	56 12A	McCorkle Vance	19.99
C	56 12B	McCorkle Vance	57.08
D	55 15	Morgan Claudine	391.00
E	56 19	McCorkle Vance	142.00
F	68 1	Morgan Richard L	88.79
G	55 14	Morgan Richard L	260.00
H	68 2	Morgan Richard L	75.09
I	67 13	Morgan Richard L	253.13
J	68 4B	Herbert E & Juanita H	99.42

K	67 14A	Tante Herbert E & Juanita H	26.54
L	68 6E	Tante Herbert E & Juanita H	184.34
M	68 6F	Tante Herbert E & Juanita H	12.00
N	68 6	Tante Herbert E & Juanita H	26.46
O	68 36	Morgan Richard	63.13

Source: qPublic.net–MarionCounty,GA-Map(schneidercorp.com)

2.2 Current and Former Uses of the Subject Property

The Subject Property is presently owned by multiple parties. At the time of Geosyntec's site reconnaissance, the Subject Property was mostly used for agriculture, animal husbandry, silviculture, and rural-residences or was otherwise undeveloped forested land. The Subject Property appears to have been a mix of undeveloped forested land, rural residential use, and agricultural use dating back to at least 1939.

2.3 Description of Structures, Roads, Other Improvements on the Subject Property

The Subject Property is primarily agricultural use and undeveloped/wooded land vacant. Improvements consisted of access roads, one residence located on Parcel G and one on Parcel M, one barn or sheds located on Parcel D, one on Parcel E and two on Parcel G , and four chicken coop buildings located on Parcel G Several hunting/shooting houses or stands were also observed. Above-ground storage tanks (ASTs) and other petroleum and chemical storage containers were observed on Parcels D, G, and L.

2.4 Current and Prior Use of Adjoining and Surrounding Properties

The vicinity surrounding the Subject Property has consisted primarily of agricultural and residential properties, or undeveloped vegetated land. An active apparent electrical substation was observed adjacent to Parcel O. The adjacent properties were briefly inspected during site reconnaissance (from vantage points on the Subject Property or in public rights-of-way) to observe the associated land use practices (e.g., condition, housekeeping, evidence of chemical usage/spills). Observations made for the adjoining sites are described later in this report (Section 5).

2.5 Physical Setting

A summary of the physical setting of the Subject Property and vicinity including topography, geology/ hydrogeology, and water resources is presented in **Table 3**. Environmental Risk Information Services (ERIS) provided Geosyntec with a Physical Setting Report (PSR) for the area including the Subject Property which serves as a source of certain information. Other sources of information in **Table 3** are noted accordingly.

Table 3. Physical Setting

Topic	Information	Source
Topography		
USGS 7.5-Minute Quadrangle Map	Buena Vista NE, GA; Rupert, GA; Tazwell South, GA; Tazwell North, GA; Ellaville North, GA; Buena Vista, GA	U.S. Geological Survey (USGS)
Elevation	590.06 feet above mean sea level (ft MSL) (average)	ERIS PSR
General Topographic Gradient	There is an average topographic slope to the east but topographic gradient is variable across the Subject Property.	ERIS PSR
Soils & Geology		
Subject Property Soils	Soils at the Subject Property range from poorly drained to well drained loams. The Subject Property soils mostly consist of Bibb sandy loam, Cowarts and Ailey soils, and Troup loamy sand. Ailey loam coarse sand, Dolhan loamy sand Fuquay loamy sand, Iuka sandy loam, Lakeland sand, Lucy loamy sand, Nankin sandy loam, Orangeburg loamy sand, and Vauclose and Ailey soils are also present.	ERIS PSR
Area Geology	The Subject Property is underlain by the Cusseta Sand unit (primarily sand with secondary clay or mud) and the Ripley Formation containing primarily clay or mud with secondary sand.	ERIS PSR
Water Resources		
Nearest Water Body	Multiple streams are located across the Subject Property. Hardage Ford Creek and three unnamed tributaries flow east-southeast through Parcels A, C, D, F, G, H, L, and O. Flow to Cook Pond and eventually Gin Creek. Gin Creek flows approximately 500 feet south of Parcel L. Gin Creek eventually flows into Buck Creek, located approximately 0.5 miles southeast of the Subject Property. Chapman Lake is also depicted approximately 0.25-miles northeast of Parcel N.	US Fish & Wildlife Wetland Map, ERIS PSR and USGS Quadrangle Map

Table 3. Physical Setting

Topic	Information	Source
Estimated Groundwater Flow Direction[3]	Groundwater flow direction likely varies across the Subject Property. Groundwater flow direction is expected to mimic topography and flow toward the streams located throughout the Subject Property.	ERIS PSR
Depth of Groundwater	Groundwater is expected to vary across the Subject Property, with depth to water being deeper along ridgelines and shallower near streams and depressions.	ERIS Topographic Maps and PSR
Wetlands (on-site)	Freshwater Forested/Shrub wetlands were identified in the ERIS PSR in several areas.	NWI, US Fish & Wildlife Wetland Map. ERIS PSR
Wells (on-site)	ERIS did not report wells located on the Subject Property. However, two water wells were observed on Parcel G. One was northwest of the chicken coops, and one was just southwest of the chicken coops at the grassy laydown yard adjacent to the agricultural field. Multiple other water wells were reportedly present according to Subject Property owner interviews.	ERIS PSR & Site Reconnaissance (see Section 5)
Nearby[4] Groundwater Supply and Monitoring Wells	ERIS reported one USGS National Water Information System well located approximately 0.6 miles southeast of the Subject Property.	ERIS PSR

[3] Local groundwater flow direction may vary depending on area groundwater pumping, surface water bodies, land use and development, localized topography, and other macro and micro features.
[4] ERIS searched federal and state water well databases within one mile of the Subject Property boundary.

3. USER-PROVIDED INFORMATION

This section describes the information provided to Geosyntec by The AES Corporation (the User of this Phase I ESA). On Geosyntec provided the User with a questionnaire regarding specialized knowledge, knowledge of hazardous substances or petroleum products, commonly known or reasonably ascertainable information, valuation reduction for environmental issues, degree of obviousness, and litigation, administrative proceedings, and notices. User provided information is presented in **Appendix C**.

3.1 Title Records

Geosyntec was not provided with and did not review title records for the Subject Property. A property title search was not included in the scope of Geosyntec's services.

3.2 Environmental Liens or Activity and Use Limitations

The User indicated it is not aware of environmental liens or activity and land use limitations associated with the Subject Property; a search for such liens or activity and use limitations was not included as part of Geosyntec's scope of work.

3.3 Specialized Knowledge

The User indicated that it does not have specialized knowledge of environmental conditions at the Subject Property.

3.4 Knowledge of Hazardous Substances or Petroleum Products

The User is not aware of any hazardous substances or petroleum products in, on, or under the Subject Property.

3.5 Commonly Known or Reasonably Ascertainable Information

The User is not aware of any commonly known or reasonably ascertainable information within the local community about the Subject Property that is material to RECs in connection with the Subject Property.

3.6 Valuation Reduction for Environmental Issues

The User has not informed Geosyntec regarding whether or not the valuation of the Subject Property has been reduced or otherwise impacted by environmental issues (as defined in AAI[5]) at the Subject Property.

3.7 Degree of Obviousness

The User has considered the degree of obviousness of the presence or likely presence of releases or threatened releases at the Subject Property and the ability to detect releases or threatened releases by appropriate investigation. The User has not observed any conditions indicating the presence or likely presence of releases or threatened releases at the Subject Property.

3.8 Litigation, Administrative Proceedings, and Notices

The User is not aware of (i) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Subject Property; (ii) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Subject Property; or (iii) any notices from any governmental entity regarding any possible violations of environmental laws or possible liability relating to hazardous substances or petroleum products.

3.9 Reason for Performing This Phase I ESA

Geosyntec understands that Honeybee Solar, LLC engaged Geosyntec to perform this Phase I ESA for the Subject Property to identify RECs (as defined in ASTM E1527-21) in order to help identify potential environmental liabilities associated with a potential leasing of the Subject Property.

3.10 Pertinent Documents

The User did not provide any pertinent documents related to the Subject Property.

[5] The "All Appropriate Inquiry Rule", enacted under the 2002 Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act; 40 CFR 312

4. RECORDS REVIEW

Geosyntec reviewed the following records, to the extent we found these to be available and reasonably ascertainable:

- Identified federal, state, and local environmental databases
- Identified historical aerial photographs
- Identified historical topographic maps
- Identified fire insurance maps
- Identified city directories
- Local authority permits and records
- Available property tax information

In addition to the standard sources above, Geosyntec reviewed available Subject Property-related documents provided by the User and reviewed environmental files obtained from regulatory agencies.

4.1 Standard Environmental Records Sources

4.1.1 Database Search Approach

Geosyntec contracted ERIS to provide portions of the records reviewed as described below. ERIS conducted the environmental database search in an attempt to ascertain whether the Subject Property or neighboring properties were suspected of having environmental conditions that could have impacted the surface or subsurface at the Subject Property. ERIS reported specific records and search distances (from the approximate Subject Property boundaries) for the environmental databases to be consistent with ASTM Practice E1527-21 and are discussed in the ERIS Database Report (ERIS, 2022f) presented in **Appendix B**. Database descriptions and location of listed sites are included in the ERIS report.

4.1.2 Database Search Results – Subject Property

ERIS identified one listing in the Oil and Hazardous Material Spills or Releases (SPILLS) database for the Subject Property. According to ERIS, on 3 February 2009 a complaint was reported to the Georgia Department of Natural Resources (GDNR) Environmental Protection Division (EPD) under the oil or hazardous material spills and releases program; “a routine, continuous release of ammonia generated by the breakdown of animal waste” was reported. Further information on this incident is discussed in **Section 4.3.3.**

4.1.3 Database Search Results – Vicinity Properties

The search of environmental databases did not identify any site listings for properties within 1-mile of the Subject Property.

4.1.4 Unplottable Sites

ERIS did not identify "unplottable sites", which are listings which cannot be mapped by ERIS due to the lack of sufficient address information.

4.2 Historical Use Information

Geosyntec contracted ERIS to provide standard historical records, including aerial photographs, topographic maps, city directories, and fire insurance maps (ERIS, 2022a-e; ERIS 2023). The sections below identify and summarize the historical information sources reviewed for the Subject Property and vicinity. A summary of the findings from the review of the historical sources is provided in **Table 5**. Copies of the historical records reports are included in **Appendix B**.

4.2.1 Historic Aerial Photographs

ERIS provided aerial photographs from 1939, 1951, 1963, 1970, 1981, 1988, 1993, 1999, 2005, 2006, 2007, 2009, 2010, 2013, 2015, 2017, 2019, and 2021.

4.2.2 Historical Topographic Maps

ERIS supplied portions of USGS topographical maps of the Subject Property and vicinity for 1950, 1955, 1971, 1985, 2014, 2017, and 2020.

4.2.3 City Directories

Available business directories, including cross reference and telephone directories, were reviewed for C R McCorkle Road, George McCorkle Road, Harbuck Pond Road, Hartage Ford Road, Morgan Ford Road, Power Station Road, Rick Waters Road, Walls Road, and Walter Wells Road.

4.2.4 Fire Insurance Maps

Based on ERIS' search of fire insurance maps, there was no coverage for the Subject Property or adjoining properties.

4.2.5 Property Tax Files

Geosyntec researched publicly available online tax records through the qPublic online database. The information retrieved included property boundary information, property owner, and property

size. There are multiple owners for the parcels that comprise the Subject Property. The retrieved tax map parcel information is provided in **Appendix A.**

Table 4. Historical Records Review

Aerial Photographs	**Subject Property**: The 1939 aerial photographs show the Subject Property to be primarily farmland and wooded areas. A few roads run through the Subject Property and agricultural terraces are apparent in portions of the Subject Property. The farmland begins to expand in 1981, the remainder of the Subject Property remains mostly unchanged. In 1988 two barns, are built in the center of the property, and a third next to them in 2005. There is currently many old trucks and vehicles sitting on the property near the barns *(found on google earth).* Overall, the Subject Property remains mostly unchanged. **Adjoining and Vicinity**: In 1938 the vicinity of the Subject Property is all farmland, wooded areas, and roads, no other development is observed. By 1970 four barns have been built on the eastern portion of the adjoining area, near the Subject Property. Three of the four barns are removed between 1988 and 1993. In 1999 there are eight new similar barns built near where the old ones were. There is still very little development at this time. Between 1970 and 1981, a previously forested area is now a large pond, then between 2007 and 2009 it is reduced to a winding river/stream, then fluctuates between the two forms until present day. In present day is still primarily farmland, wooded areas, with only a few roads and small developments.
Topographic Maps	**Subject Property**: In the 1950 and 1955 maps, only the western portion of the Subject Property is available. The Subject Property appeared to be primarily undeveloped land with the Hardage Ford Creek running through the southern portion of the property. Several tributary streams are present throughout the Subject Property. By 1971 the southeastern topographic quadrangle is available in addition to the western portion of the Subject Property. The western portion remains largely unchanged, in the southeastern portion the Hardage Ford Creek continues to run west toward Cook Pond. The Subject Property still consists of undeveloped land. The 1985 topographic map covers the entire Subject Property, the western and southeastern portions remain largely unchanged. The northeastern portion appears to be mostly undeveloped, several tributaries to Gin Creek a Cook Pond can be seen throughout the Subject Property. From 2014 to 2020 the Subject Property remains largely unchanged. **Adjoining and Vicinity:** In the 1950 and 1955, only the western portion of the Subject Property vicinity consists primarily of undeveloped land. Several tributary streams are to the Hardage Ford Creek can be seen. By 1971 the southeastern Subject Property vicinity is available. Cook Pond is depicted approximately 1,000-feet east of Parcel G. Gin Creek is present west of Cook Pond and runs southeast of the Subject Property toward Buck Creek. Wetland areas are present on either side of Gin Creek. Several roadways including Dr Deryl Hart Rd are present southeast of the Subject Property. From 1985 to 2020 the Subject Property vicinity remains largely unchanged.

Table 4. Historical Records Review

City Directory (CD)	Street addresses for Subject Property properties were not provided. Residential listings were identified for the Subject Property streets. Additional notable listings included McCorkle Arms on George McCorkle Road, Maxwell Grading on Power Station Road, and M & M Upholstery on Rick Waters Road.
Fire Insurance Maps (FIMS)	According to ERIS, no fire insurance maps were available for the Subject Property or adjacent properties.
In summary, the review of aerial photographs, topographic maps, and city directories revealed usages (including agricultural land) that could be indicative of hazardous materials or chemical storage, management, usage, or disposal at the Subject Property or in the immediate vicinity that could pose a threat to the surface or subsurface quality at the Subject Property. However, in the review summarized in this table, Geosyntec noted no definitive features showing chemical management, chemical spills or evidence of waste disposal on or into the ground at the Subject Property. Our opinions on the nature of the historical features of the Subject Property and the surrounding area are included in Section 7 of this report.	

4.3 Local, County, State, and Federal Files

Geosyntec contacted local, county, and state agencies via telephone and electronic mail to inquire as to whether they possessed relevant records regarding the Subject Property. Relevant information is summarized below. Excerpts of relevant regulatory agency documents are presented in **Appendix D**.

4.3.1 Local Fire Department Records

On 9 January 2024, Geosyntec attempted to contact the Buena Vista Fire Department and the Buena Vista Fire Rescue Station by phone multiple times, both points of contact did not answer or present the opportunity to leave a voicemail. As of the date of this report, a response has not been received.

4.3.2 City or County Records

Geosyntec contacted the Marion County Health Department via phone on 9 January 2024 and spoke with Tracy Keiro, the administrative assistant regarding emergency response, spill records, and information on septic systems and supply wells available for the Subject Property. Tracy stated she will contact Marion County Health Department personnel in the records division and provide a response. As of the date of this report, a response has not been received.

4.3.3 State Records

Geosyntec searched the GDNR Complaint Tracking System Public Portal[6] for information relevant to the environmental condition of the Site and vicinity properties. One complaint was found for the Subject Property at 135 Walls. The complaint was called in on 3 February 2009 as a notification of "a routine, continuous release of ammonia generated by the breakdown of animal waste" at the facility located at 135 Walls Road, Buena Vista, Georgia. The complaint was called in by the property owner at the time of the incident, stating that there is a possibility the operation is emitting more than the 100 pounds per day reporting threshold for ammonia. This incident appears to be related to air emissions/odor and not a release to the ground. The incident was closed on the same day with no further information available. A public copy of the complaint report is provided in **Appendix D.** No facilities were identified within the vicinity of the Subject Property.

[6] Public Complaint Search · Georgia EPD Complaint Tracking System (gaepd.org)

4.3.4 Federal Records

Review of the USEPA Enforcement and Compliance History Online (ECHO)[7] database, USEPA Envirofacts database[8], US Army Formerly Used Defense Sites (FUDS) [9] database, and USEPA Superfund Enforcement Cleanup Work[10] database did not reveal records in connection with the Subject Property. These databases are used to track compliance, releases, and other information for facilities handling hazardous materials.

One facility in the Subject Property vicinity was identified in the Envirofacts database. The Harris County Waterworks building at 11505 Highway 315 Cataula, Georgia, located approximately 0.75-miles northwest of the Subject Property was listed in the Envirofacts database for a National Pollutant Discharge Elimination System (NPDES) permit (GAR1899EF). No discharge data was available for the facility.

4.4 Other Documents Reviewed

Geosyntec did not receive additional environmental reports related to the Site from the User.

[7] https://echo.epa.gov
[8] Multisystem Search | Envirofacts | US EPA
[9] ArcGIS Web Application (army.mil)
[10] Map of Superfund Enforcement Cleanup Work | US EPA

5. SUBJECT PROPERTY RECONNAISSANCE

A reconnaissance of the Subject Property was conducted in accordance to the information provided in **Table 1**. Geosyntec personnel independently performed the site reconnaissance by coordinating with the Client and Subject Property owners. To meet assessment objectives, Geosyntec first observed interior operations as they related to facility activities and then observed exterior areas including outdoor operations and the Subject Property perimeter. Photographs taken during the reconnaissance are included in **Appendix E**. Adjoining properties were observed from their perimeters.

The focus of the reconnaissance, was to identify evidence of hazardous substances and petroleum products used, stored, or discarded and inspected the Subject Property for areas of disturbed or discolored soil, suspect equipment, and building materials that may contain hazardous substances; areas of distressed vegetation; wastewater discharge areas; storage tanks/septic systems; waste management and disposal areas; lagoons; pits; sumps; surface water management areas; and stained surfaces. No limiting conditions were encountered.

5.1 Utility Service and Materials Management Provider Information

A few residential buildings with natural gas, water, and electric utilities were located at the Subject Property. Some shooting houses (empty plywood or metal buildings) were identified at the Subject Property.

The utility service and materials management providers and practices at the Subject Property are summarized (**Table 5**) from information supplied during Geosyntec's site reconnaissance.

Table 5. Subject Property Utilities and Materials Management

Utility Service/Materials Management	Service Provider
Electricity	No information was provided regarding electric service at the Subject Property. However, an AEP electrical substation was observed along the northeast Subject Property boundary and overhead powerlines were observed running through Parcel J.
Natural Gas	Multiple propane tanks were observed throughout the property on Parcels G & H and are listed in 9.4.12.
Sanitary wastewater disposal	Newcomerstown Sewer Department. The residence on Parcel G noted that they are on septic.
Industrial wastewater disposal	None identified.

Table 5. Subject Property Utilities and Materials Management

Utility Service/Materials Management	Service Provider
Drinking water supply	Newcomerstown Water Department. Two potable water wells were located northwest and southwest of the chicken coops (Figure 3F)
Irrigation water supply	Two were located, one on Parcel D (Figure 3C) and one on Parcel G (Figure 3F). These provide water for the pivots and utilize surface water associated with Gin Creek.
Stormwater disposal	Stormwater appears to infiltrate through unpaved areas of the Subject Property or run off-site via overland flow. Stormwater likely locally flows towards the streams and creeks that are located throughout the Subject Property.
Solid (non-hazardous) waste disposal	A dumpster was observed at Parcel G, but it contained no labeling for the disposal company involved. An area of solid waste was located on-site, as discussed in Table 6.
Hazardous waste disposal	Not identified.
Universal waste	Not identified.

5.2 Interior and Exterior Observations

Observations made during the site reconnaissance for the Subject Property are documented in **Table 6**.

5.3 Adjoining Property Reconnaissance

During the site reconnaissance, Geosyntec observed the adjoining properties from the Subject Property or public vantage points in an attempt to identify possible sources of obvious environmental impairment that could affect soil and groundwater quality at or result in vapor migration into the Subject Property as a result of surface water runoff, groundwater transport, or similar pathways. Adjacent properties consisted primarily of agricultural fields, wooded land, and residential properties.

Table 6. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
Interior and Exterior Observations		
9.4.11	General Usage of Hazardous Substances and Petroleum Products	**Parcel D** has many old pieces of farm equipment and vehicles that are suspected to still contain hydraulic fluids and petroleum products within them. An old excavator and piece of equipment was observed on the western side of the parcel with suspected petroleum storage (3.C, Photo 23 & 24). **Parcel G** also has old pieces of farm equipment and vehicles that are suspected to contain petroleum products around the covered shed south of the chicken coops and the open grassy area west of the chicken coops across the road (Figure 3F, Photos 22 & 25)

Table 6. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
9.4.12	Aboveground Storage Tanks (ASTs)	Several ASTs were observed during the site visit spread across the site at Parcels D, G, and O. **Parcel D** has a 400-gallon fuel AST with an irrigation pump disconnected (Figure 3C, Photos 1 & 2). **Parcel G** has a 400-gallon fuel AST with an irrigation pump attached and several petroleum products present (Figure 3F, Photos 3, 4 & 5), a trailer mounted AST with a leaking pump containing an unknown liquid but no obvious odor (Figure 3F, Photos 6 & 7), a diesel generator with a 30 gallon AST (Figure 3F, Photo 8), a 200 gallon petroleum AST with a fueling dispenser (Figure 3F, Photo 11), an empty and rusted 150-gallon tank (Figure 3F, Photo 10), and a 55 gallon drum of Pennzoil (Figure 3F, Photo 15). The aforementioned 400-gallon fuel AST with an irrigation pump is to be considered a REC. Several propane tanks were observed throughout Parcel G. Five 300-gallon tanks were observed and one 200-gallon / 100-gallon tank (Figure 3F). Eleven grain silos were observed around the chicken coops, eight 300-gallon tanks and three 200-gallon tanks (Figure 3F). **Parcel O** has an off-site 200-gallon propane tank adjacent to residences just east of the property (Figure 3H)
9.4.12	Underground Storage Tanks (USTs)	No evidence of USTs was observed during Geosyntec's Site visit.

Table 6. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
9.4.13	Odors	**Parcel D** has petroleum odors present at the 400-gallon fuel AST with an irrigation pump attached with the buckets filled with an unknown liquid were found exposed to stormwater (Figure 3C, Photos 1 & 2). **Parcel G** has petroleum odors present around the 400-gallon AST with the irrigation pump where staining was observed (Figure 3F, Photo 5), and at an overturned oil pan (Figure 3F, Photo 9). Odors were also present under multiple of the leaking tractors south of the chicken coops (Figure 3F, Photos 21 and 22), and inside the covered shed where staining was observed south of the chicken coops (Figure 3F, Photos 14 & 15).
9.4.14	Pools of Liquids	No pools of liquid were observed during the site visit.
9.4.15	Drums ≥ 5 Gallons	Many 5-gallon buckets were found at Parcels D and G concentrated around the chicken coops/shed and the house in the northwestern corner. They were mostly empty or filled with hydraulic fluid, paints, or unknown liquids (Figure 3C & 3F, Photos 2, 3, 5, 11, 14, 16)
9.4.16	Hazardous Substances and Petroleum Products Containers	**Parcel G** has various household products, paint products, petroleum products (mostly hydraulic fluid) scattered around the parcel in fuel canisters, 5-gallon buckets, paint buckets, and in other small containers concentrated around the chicken coop covered sheds and the house located on the northwestern side of the parcel (Figure 3F).
9.4.17	Unidentified Substances/Containers	**Parcel D** has a few 5-gallon buckets containing unknown liquids and was exposed to stormwater (Figure 3C, Photo 2). **Parcel G** has a 200-gallon trailer mounted AST with a leaking pump containing an unknown liquid (Figure 3F, Photos 6 & 7).
9.4.18	Indication of PCBs	One pole-mounted transformer with potentially PCB-containing oil was noted during the Site visit at the chicken coops on Parcel G (Figure 3F). No PCB-labeling or blue stickers were observed.

Table 6. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
Interior Observations		
9.4.19	Heating and Cooling Systems	No heating or cooling systems were observed during Geosyntec's Site visit. While no heating elements were directly observed, conventionally propane is used to provide heat where natural gas and oil/coal systems are not present. Due to the absence of ASTs associated with heating oil or coal burners, it is assumed that the propane tanks identified on Parcel G (Figure 3F) is used to heat the interior of structures which investigators were not permitted to access.
9.4.20	Stains/Corrosion	No significant staining or corrosion were observed inside competent structures during Geosyntec's Site visit.
9.4.21	Drains and Sumps	No drains or sumps were during Geosyntec's Site visit.
Exterior Observations		
9.4.22	Pits, Ponds, or Lagoons	No chemical pits, ponds, or lagoons were observed in the Subject Property.
9.4.23	Stained Soil or Pavement	**Parcel G** had petroleum staining present around the 400-gallon AST with the irrigation pump on the concrete pad and in the soil (Figure 3F, Photo 5), and at an overturned oil pan (Figure 3F, Photo 9). Staining was also present on the ground under two tractors and an old van south of the chicken coops (Figure 3F, Photos 21 and 22), and inside the covered shed on the concrete south of the chicken coops and just outside the covered shed on the ground near empty hydraulic fluid buckets (Figure 3F, Photos 14, 15 & 16).
9.4.24	Stressed Vegetation	**Parcel G** has stressed vegetation where petroleum staining was observed. See section 9.4.23.

Table 6. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
9.4.25	Solid Waste	Solid waste was observed primarily on Parcels D and G in the form of miscellaneous trash, tires, construction materials, scrap metal, old equipment (nonhazardous material containing), plastics, vehicles (Figure 3F, 3.7, 3.9). The most significant accumulation of solid waste was observed at Parcel G, which appeared to be a former/current dumping location (Figure 3F, Photo 17).
9.4.26	Wastewater and Stormwater Discharge	Stormwater appears to infiltrate through unpaved areas of the Subject Property or run off-site via overland flow. Stormwater likely locally flows towards the streams and creeks that are located throughout the Subject Property.
9.4.27	Wells	Two supply wells were observed on-site. One was located northwest of the chicken coops, and one was located just southwest of the chicken coops across the road at the grassy laydown area likely used for livestock purposes (Figure 3F). A fire hydrant was also observed at Parcel G along the road (Figure 3E). No groundwater monitoring wells were observed or reported on-site. Irrigation pumps were identified on Parcel D and G (Figures 3C and 3F), however these pumps appear to only have pulled surface water from Gin Creek.
9.4.28	Septic Systems	Residences were observed on Parcels D and M although only the landowner of Parcel D indicated that structure was on Septic. Exact location was not identified by the landowner or through field efforts.

6. INTERVIEWS

6.1 Interview with Current Owner/Occupant/User

Geosyntec interviewed Mr. Richard Morgan, the property owner of Parcels F-I and Parcel O and the husband of the Property owner of Parcel D, on 25 January 2024. Mr. Morgan indicated that the property is used for agriculture, chicken raising, and silviculture. According to Mr. Morgan there are two water supply wells, approximately 180 feet deep, and a septic system located on the property. Mr. Morgan indicated that pesticides, herbicides, and fertilizers are used at the property; however, Mr. Morgan did not know the specific products used.

Geosyntec interviewed Mr. Herbert Tante, the property owner of Parcels J-N, on 25 January 2024. Mr. Tante indicated that the property is used for cattle grazing and agriculture. According to Mr. Tante, two water supply wells, approximately 110 feet deep, are located on his property.

Geosyntec attempted to contact Mr. Vance McCorkle, the Property owner of Parcels A-C and Parcel E; however, Mr. McCorkle did not respond to Geosyntec's interview request This is considered a data gap (see Section 7).

6.2 Interview with Previous Owner/Occupant

Geosyntec requested but was not provided with contact information for previous owners/operators of the Subject Property. Interviews with prior owners and occupants were not conducted as part of this assessment. This is considered a data gap (see Section 7).

6.3 Interview with Local Agencies

Geosyntec contacted local and county agencies via telephone or electronic mail to ask whether they possessed relevant records regarding the Subject Property, as discussed in Section 4.3.

7. FINDINGS AND CONCLUSIONS

Geosyntec has conducted a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property located in Marion County, Georgia. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

Following the Findings and Opinions section (Section 7.1), we present identified data gaps and conclusions (Sections 7.2 and 7.3) regarding any identified RECs, Controlled (CRECs), Historical RECs (HRECs), or de *minimis conditions* associated with the Subject Property.

7.1 Findings and Opinions

This assessment has revealed several findings that could represent an environmental condition on the Subject Property. Each finding and our opinion relative to its significance as an environmental condition is discussed below.

Recognized Environmental Conditions

As defined by ASTM E1527-21, a REC is: *"(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment."*

The following RECs were identified:

- **Parcel G AST:** Surface staining associated with a diesel AST and pump was observed on Parcel G. Staining was observed on the concrete pad and the surrounding soil. The tank and auxiliary equipment (e.g., pump, hoses, etc.) were also noted to be in poor condition. Based on the observed apparent petroleum release, this is considered a REC.

- **Parcel G Surface Staining:** Surface staining was observed in and around the covered shed area on Parcel G; various chemical and fluid (including hydraulic fluid and engine oil) was noted in this area. A surface stain, apparently associated with the petroleum and chemical storage, was observed on the edge of a concrete pad and the surrounding soil. Based on the observed apparent petroleum release, this is considered a REC.

Controlled Recognized Environmental Conditions

A CREC is a "*recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous*

substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations)."

- No CRECs were identified during this Phase I ESA.

Historical Recognized Environmental Conditions

An HREC is "*a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations. A historical recognized condition is not a recognized environmental condition."*

- No HRECs were identified during this Phase I ESA.

De Minimis Conditions

A *de minimis* condition is "a condition *related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a de minimis condition is not a recognized environmental condition nor a controlled recognized environmental condition.*".

Based on the information Geosyntec obtained, Geosyntec has concluded that the following findings do not meet the definition of a REC, CREC or HREC and are therefore *de minimis* conditions:

- **Historical Agricultural and Animal Husbandry Land Use:** Historical site documents and aerial photographs indicated that portions of the Subject Property were cleared prior to the 1950s for what appeared to be crop lands and/or pastures and portions of the property were observed to be currently used for agriculture and animal husbandry (i.e., chicken farming and cattle grazing). Animal waste was reported to be used on-site as fertilizer. Current property owners and site observations indicated that hazardous pesticides or herbicides or petroleum products were used on-site; however, no evidence of this usage outside what may have been normal routine use was found as part of this Phase I ESA. Therefore, this finding is not considered a REC but rather a *de minimis* condition.

- **Parcel F General Waste/Burn Area**: A large area of debris was observed on Parcel F which appeared to include construction debris, household waste, and tires. The property owner, Mr. Morgan, indicated that solid waste generated on his properties is collected in this area and periodically burned. The burning of materials can involve fuels and emit hazardous substances such as dioxins, furans, and PAHs. However, evidence of burning

was not observed during site reconnaissance. Because the observed debris appeared to be non-hazardous and burning appeared to be limited, this finding is not considered a REC but rather a *de minimis* condition.

Additional Findings

Per ASTM E1527-21, *"[s]ome findings, but not necessarily all findings, may be indicative of the presence of"* RECs, CRECs, HRECs, or *de minimis* conditions, while other findings may not be indicative as characterized above. These findings that do not fall within the defined characterizations above are therefore considered as additional findings and not classified above.

- **On-site Septic System**: One property owner indicated that a septic system is present on the Subject Property. Septic systems are direct conduits to the subsurface; based on the agricultural use of the Subject Property, it is possible that non-septic discharges to the septic system have occurred. However, no releases of hazardous substances or petroleum products into the septic system were reported. Therefore, this is considered an additional finding.

- **Abandoned Vehicles:** Multiple abandoned vehicles (e.g., excavators, agricultural equipment, trucks, and passenger vehicles) were identified on-site. These vehicles likely contain petroleum products from former operation. However, releases to the ground surface beneath and around the vehicles was not observed.

7.2 Data Gaps

In accordance with ASTM E1527-21, this section documents data gaps in the information obtained and reviewed as part of this Phase I ESA and discusses the associated significance. A data gap is defined as being "*a lack of or inability to obtain information required by this practice [ASTM E1527-21] despite good faith efforts by the environmental professional to gather such information*". A significant data gap is defined as "*a data gap that affects the ability of the environmental professional to identify*" a REC.

Identified data gaps are presented below:

- ASTM E1527-21 states that "*interviews with past owners, operators, and occupants of the property who are likely to have material information regarding the potential for contamination at the property shall be conducted to the extent that they have been identified."* Geosyntec was not provided with and did not identify owner contact information prior to the current Subject Property owner.

- Geosyntec did not traverse significantly vegetated areas and did not enter water bodies or hunting/shooting houses and stands.

- Geosyntec reviewed historical aerial photographs that indicated that the Subject Property and adjacent properties were utilized what appeared to be crop lands since the 1930s. No additional details regarding the observed land uses, including use of hazardous substances or petroleum products, was identified.

Collectively, these data gaps are not considered to be significant to the Findings or the identification of RECs because sufficient information was obtained from other sources that has been used to inform our opinion.

7.3 Conclusions

Geosyntec has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property located at in Marion County, Georgia. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this report. This assessment has revealed evidence of two RECs in connection with the Subject Property. No *significant* data gaps were identified.

8. NON-SCOPE CONSIDERATIONS

This section presents client-requested non-scope considerations for additional due diligence that exceed AAI requirements as previously described in Section 1.4. No non-scope considerations were requested as part of this scope of work.

9. REFERENCES

ASTM. 2021. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment. E1527-21.

ERIS. 2024a. *Fire Insurance Map Research Results.* January 4.

ERIS. 2024b. *Topographic Map Research Results*. January 4.

ERIS. 2024c. *Historical Aerial Report*. January 11.

ERIS. 2024d. *Physical Setting Report*. January 4.

ERIS. 2024e. *City Directory Report*. January 8.

ERIS. 2024f. *Database Report.* January 8.

10. ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental professional as defined in §312.10 of 40 CFR Part 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signed by Kaitlyn Rhonehouse - Geosyntec Consultants

The qualifications of the above-signed professional are included in Section 11.

11. QUALIFICATIONS OF STAFF

Kaitlyn S. Rhonehouse

Ms. Rhonehouse is a licensed professional engineer (Florida, Virginia, North Carolina, South Carolina) possessing over 17 years of experience in the environmental field. Ms. Rhonehouse has worked as an environmental engineer and consultant on a variety of environmental projects in many areas of the United States. These projects have dealt with environmental analyses, investigations, and/or remediation of chemical contamination which involve the understanding of surface and subsurface environmental conditions and for which professional judgment has been used to develop opinions regarding conditions indicative of releases or threatened releases of hazardous substances or petroleum products. Included in her experience are the following types of work: property transaction environmental due diligence (e.g., Phase I and II ESAs; estimation of costs to address certain environmental findings; etc.); evaluation of compliance with environmental regulations; performance of remedial investigation/feasibility studies for contaminated properties; field testing for soil, groundwater, and soil gas; performance of geophysical investigations; and evaluation of the applicability of remedial measures for contaminated soil, groundwater and sediments. Ms. Rhonehouse has served as the primary author or reviewer of over one hundred environmental due diligence reports (Phase I and/or II ESAs) located in many areas of the United States. Ms. Rhonehouse holds a B.S. in Environmental Engineering from Rensselaer Polytechnic Institute.

FIGURES

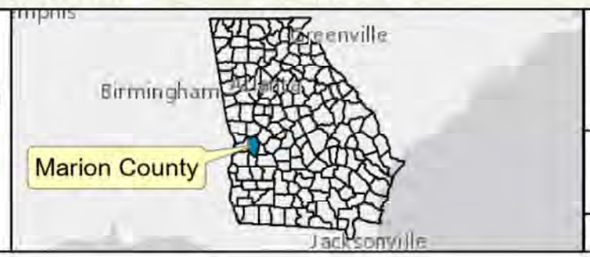
Subject Property Boundary

0 8,000 Feet

1 INCH = 4,000 FEET

N

Notes:
1. Parcel Information was obtained from qPublic GIS online database.
2. The topographic base map was obtained from ESRI online



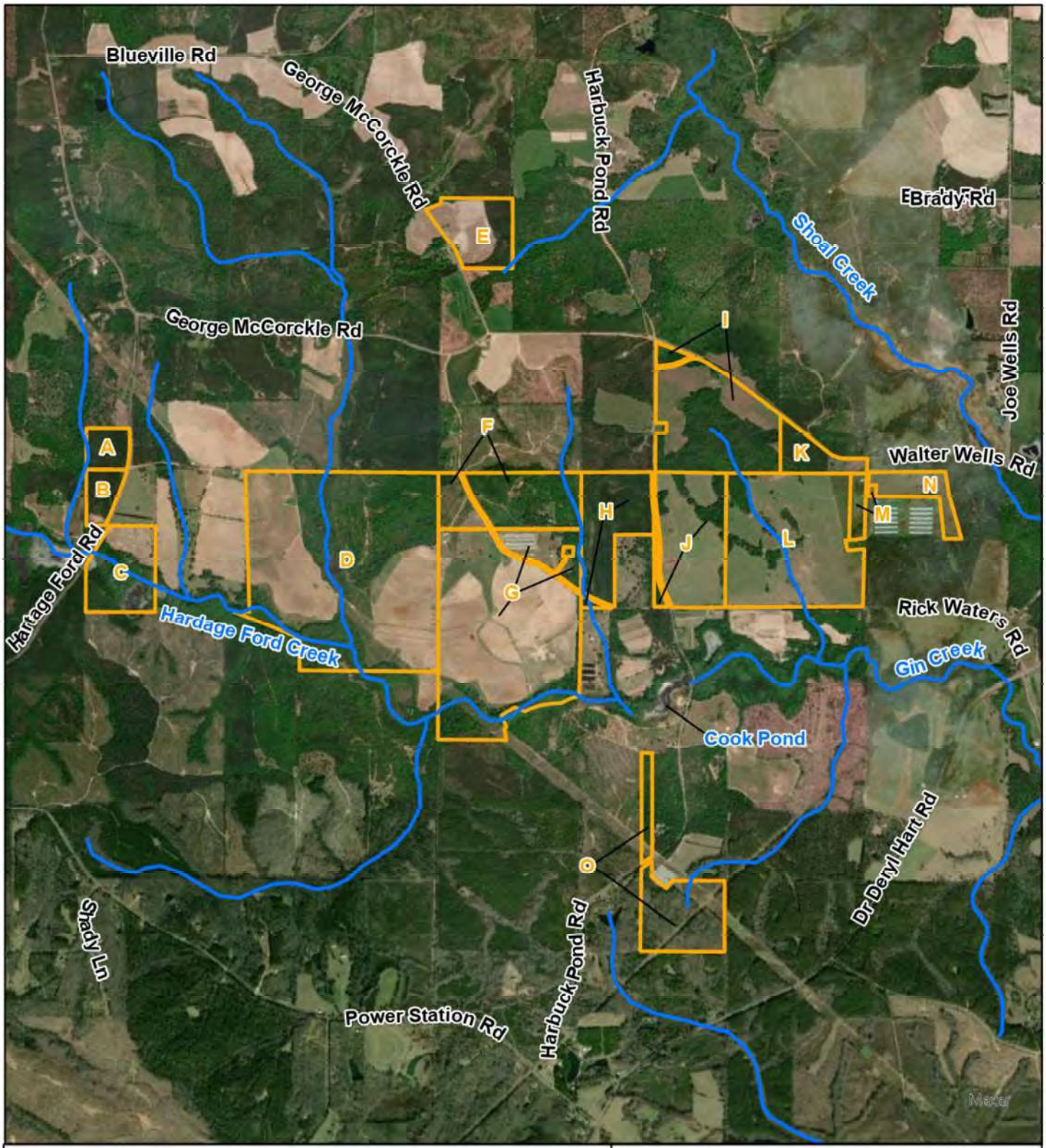
Subject Property Location Map
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 1

Drawn: BB | January 2024

C:\Users\benjamin burdette\OneDrive - Geosyntec\Documents\tazewell\GIS\Phase I.aprx 1/30/2024 11:08 AM



Subject Property Boundary

Notes:
1. Parcel information was obtained from qPublic GIS online database.
2. The aerial basemap was obtained from ESRI online.
3. Stream and street data was obtained from ESRI online database.
4. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report.

N

0 1,500 3,000 Feet

Site Vicinity Map
Marion County
Tazwell, Georgia

Geosyntec consultants

Wilmington, NC | January 2024

Figure 2

Project Study Area with Parcel IDs

0 4,000 Feet

N

Notes:
1. Parcel Information was obtained from qPublic GIS online database.
2. The aerial base map was obtained from ESRI online
3. Stream and street data was obtained from ESRI Online database
4. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report.

Subject Property Layout Map
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Drawn: BB | January 2024

Figure 3
Map Grid Overview

C:\Users\benjamin.burdette\OneDrive - Geosyntec\Documents\tazewell\GIS\Phase I.aprx 1/30/2024 9:27 AM

Photograph Number

Subject Property Boundary with Parcel IDs

Off-site

0 980 Feet

N

Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA

Subject Property Layout Map
Parcels A & B
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3A

Drawn: BB | January 2024

Photograph Number
Subject Property Boundary with Parcel IDs
Off-site

0 620 Feet

N

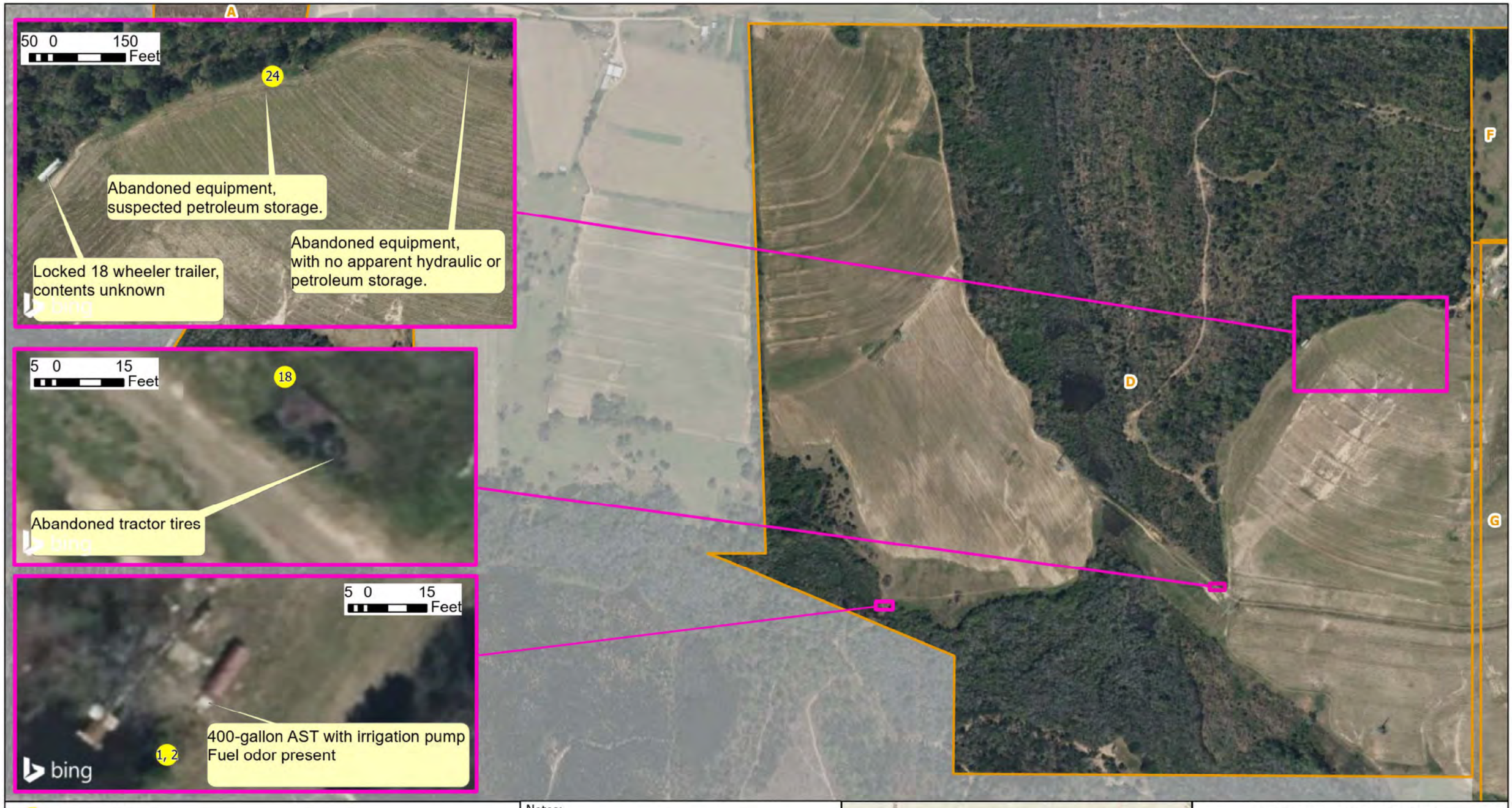
Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA

Subject Property Layout Map
Parcel C
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3B

Drawn: BB | January 2024



Photograph Number

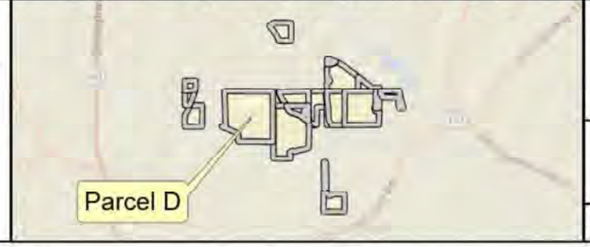
Subject Property Boundary with Parcel IDs

Off-site

0 1,540 Feet

N

Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA



Subject Property Layout Map
Parcel D
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3C

Drawn: BB

January 2024

Photograph Number
Subject Property Boundary with Parcel IDs
Off-site

0 520 Feet

N

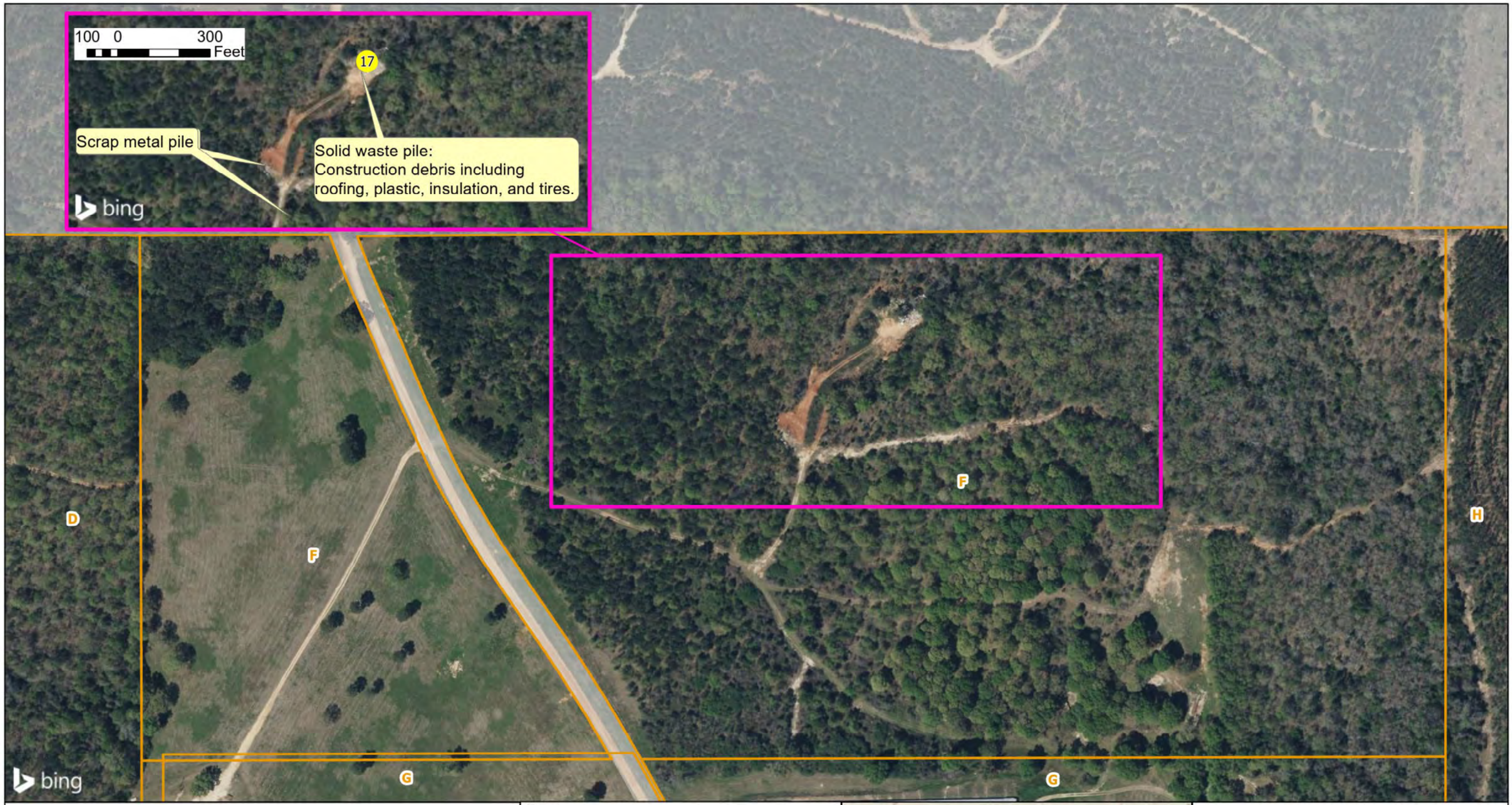
Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA

Subject Property Layout Map
Parcel E
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3D

Drawn: BB | January 2024



Photograph Number

Subject Property Boundary with Parcel IDs

Off-site

0 620 Feet

N

Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA

Subject Property Layout Map
Parcel F
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3E

Drawn: BB | January 2024

Multiple grain silos, 4x 300-gallon, 1x 200-gallon

Propane tanks 2x 300-gallon

50 0 150 Feet

Locked shed, unknown contents

Chicken Coop

AST - 200-gallon petroleum
200-gallon propane
Empty hydraulic buckets

Chicken Coop

Transformer, old, unknown PCB status

19

8

11

Propane Tanks 2x 300-gallon

Chicken Coop

Diesel generator with 30-gallon AST

Propane Tanks: 2x 200-gallon 1x 100-gallon

Chicken Coop

Multiple grain silos, 4x 300-gallon, 2x 200-gallon

Transformer, non-PCB

21

20

13, 14, 15, 16

Garage

Abandoned Residence

Empty 150-gallon AST

22

10

25

26

Abandoned vehicle/farm equipment

Numerous abandoned vehicles, no leaks or staining observed

Covered shed with staining on concrete pad.

bing

6, 7

AST with leaking pump, unknown fluid.

60 0 180 Feet

Overturned oilpan with surface staining

9

23

Abandoned excavator

bing

3, 4, 5

5 0 15 Feet

400-gallon AST with irrigation pump
Petroleum products present.
Surface staining on and around concrete pad.

bing

F

F

G

H

H

G

Photograph Number

Subject Property Boundary with Parcel IDs

Off-site

0 1,540 Feet

N

Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA

Parcel G

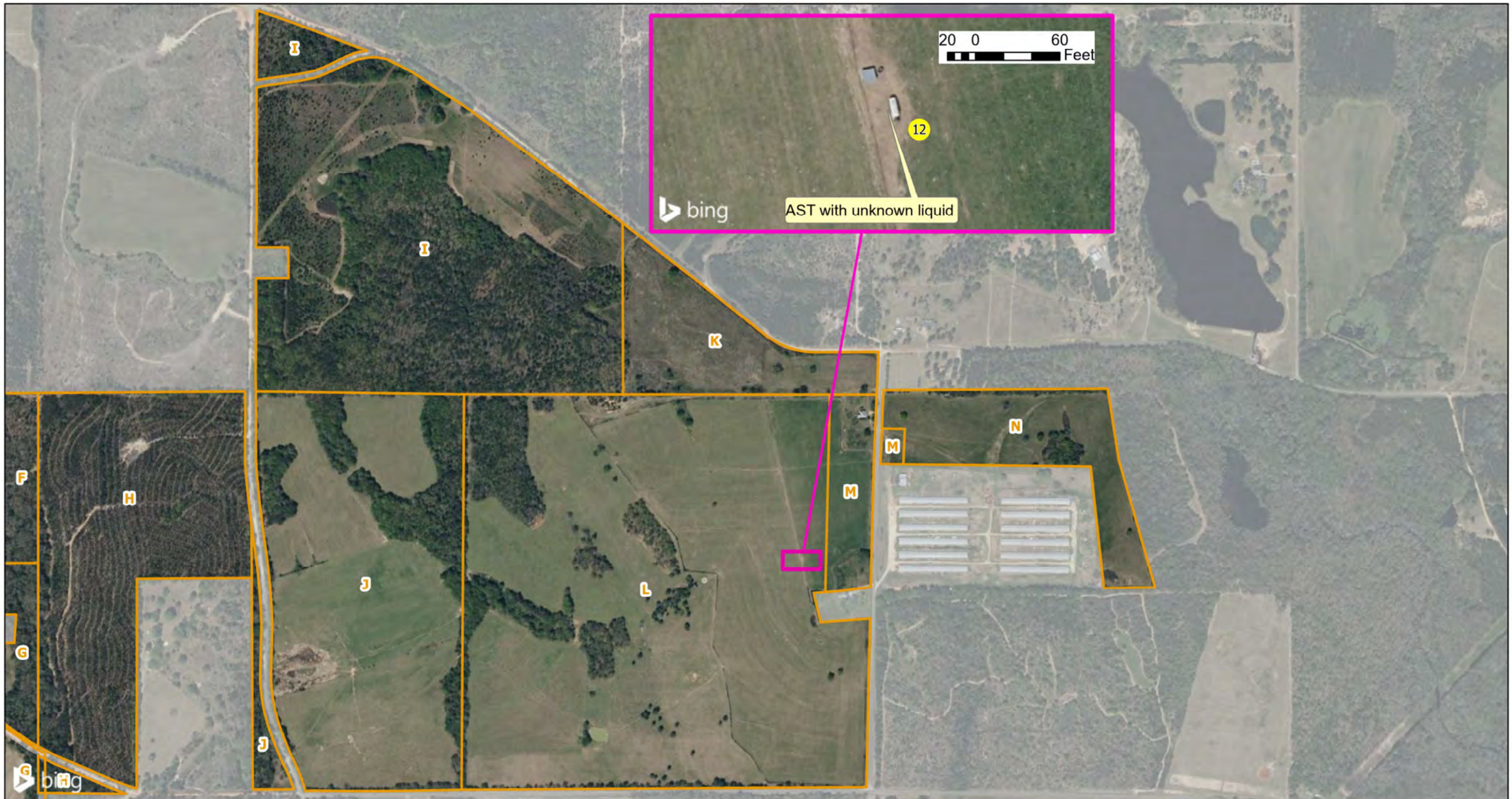
Subject Property Layout Map
Parcel G
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3F

Drawn: BB

January 2024

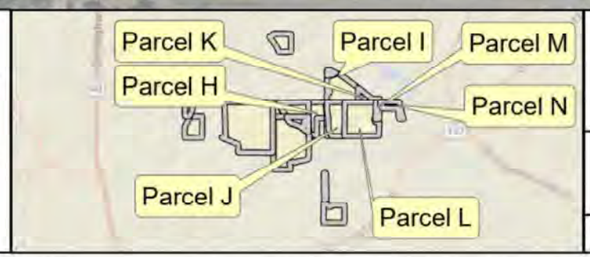


Photograph Number
Subject Property Boundary with Parcel IDs
Off-site

0 1,960 Feet

N

Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA



Subject Property Layout Map
Parcels H, I, J, K, L, M, & N
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3G

Drawn: BB | January 2024

Photograph Number
Subject Property Boundary with Parcel IDs
Off-site

0 1,540 Feet

N

Notes:
1. Aboveground Storage Tank (AST)
2. The aerial base map was obtained from Bing Maps
3. Parcel numbers and owner information can be found on Table 2 of the January 2024 Geosyntec Phase I Environmental Site Assessment Report (ESA).
4. Photographs can be found in January 2024 Geosyntec Phase I ESA

Subject Property Layout Map
Parcel O
Heart Pine Solar
Marion County, Georgia

Geosyntec consultants

Figure 3H

Drawn: BB | January 2024

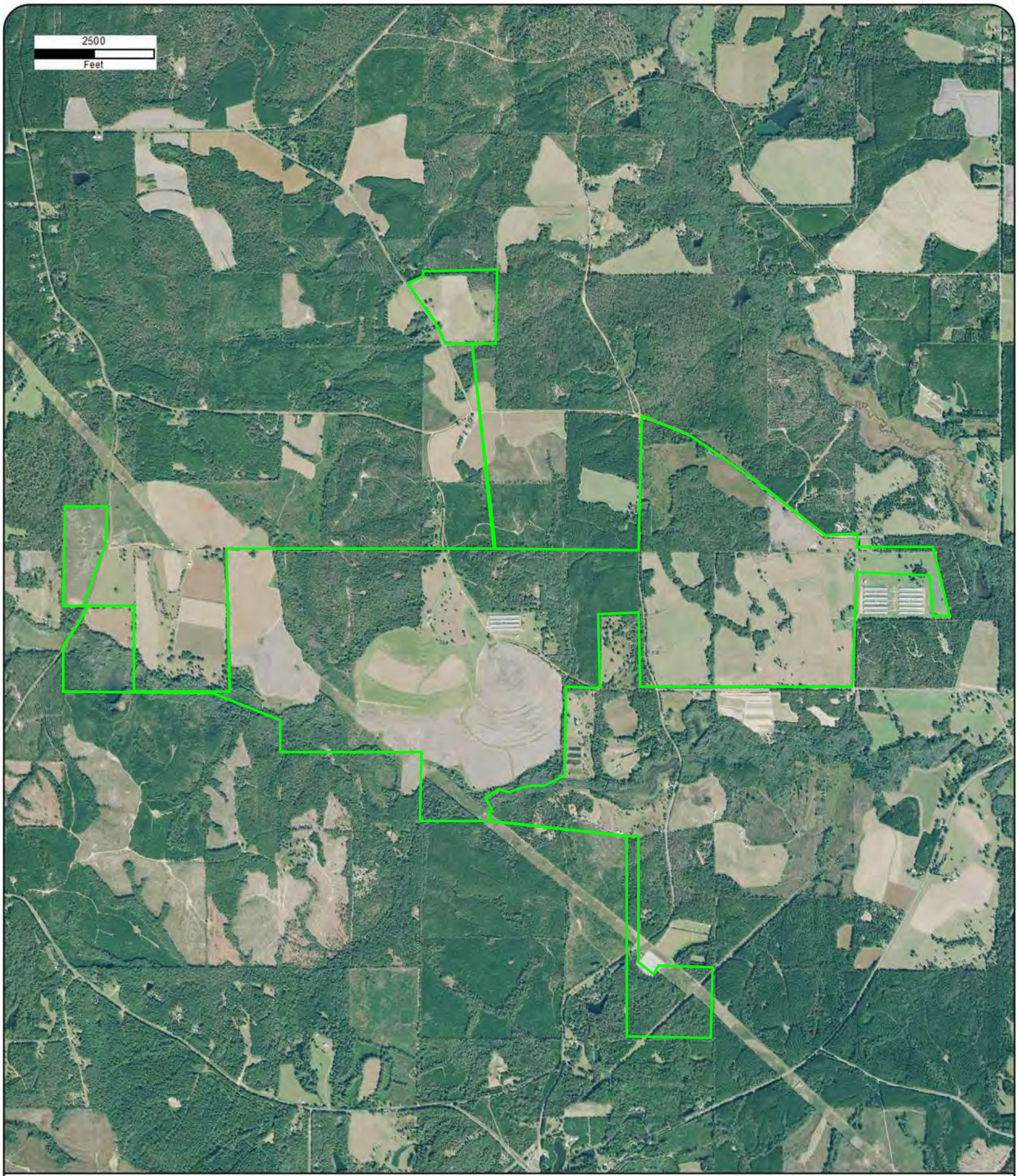
APPENDICES

HISTORICAL AERIALS

Project Property: Tazwell
n/a
Buena Vista GA
Project No: None
Requested By: Geosyntec Consultants
Order No: 24010200609
Date Completed: January 11,2024

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Date	Source	Scale	Comments
2021	United States Department of Agriculture	1" = 2500'	
2019	United States Department of Agriculture	1" = 2500'	
2017	United States Department of Agriculture	1" = 2500'	
2015	United States Department of Agriculture	1" = 2500'	
2013	United States Department of Agriculture	1" = 2500'	
2010	United States Department of Agriculture	1" = 2500'	
2009	United States Department of Agriculture	1" = 2500'	
2007	United States Department of Agriculture	1" = 2500'	
2006	United States Department of Agriculture	1" = 2500'	
2005	United States Department of Agriculture	1" = 2500'	
1999	United States Geological Survey	1" = 2500'	
1993	United States Geological Survey	1" = 2500'	
1988	United States Geological Survey	1" = 2500'	
1981	United States Geological Survey	1" = 2500'	
1970	United States Geological Survey	1" = 2500'	
1963	Agricultural Stabilization & Conserv. Service	1" = 2500'	Photo Index-Best Available
1951	Army Mapping Service	1" = 2500'	
1939	Agricultural Stabilization & Conserv. Service	1" = 2500'	



Year: 2021
Source: USDA
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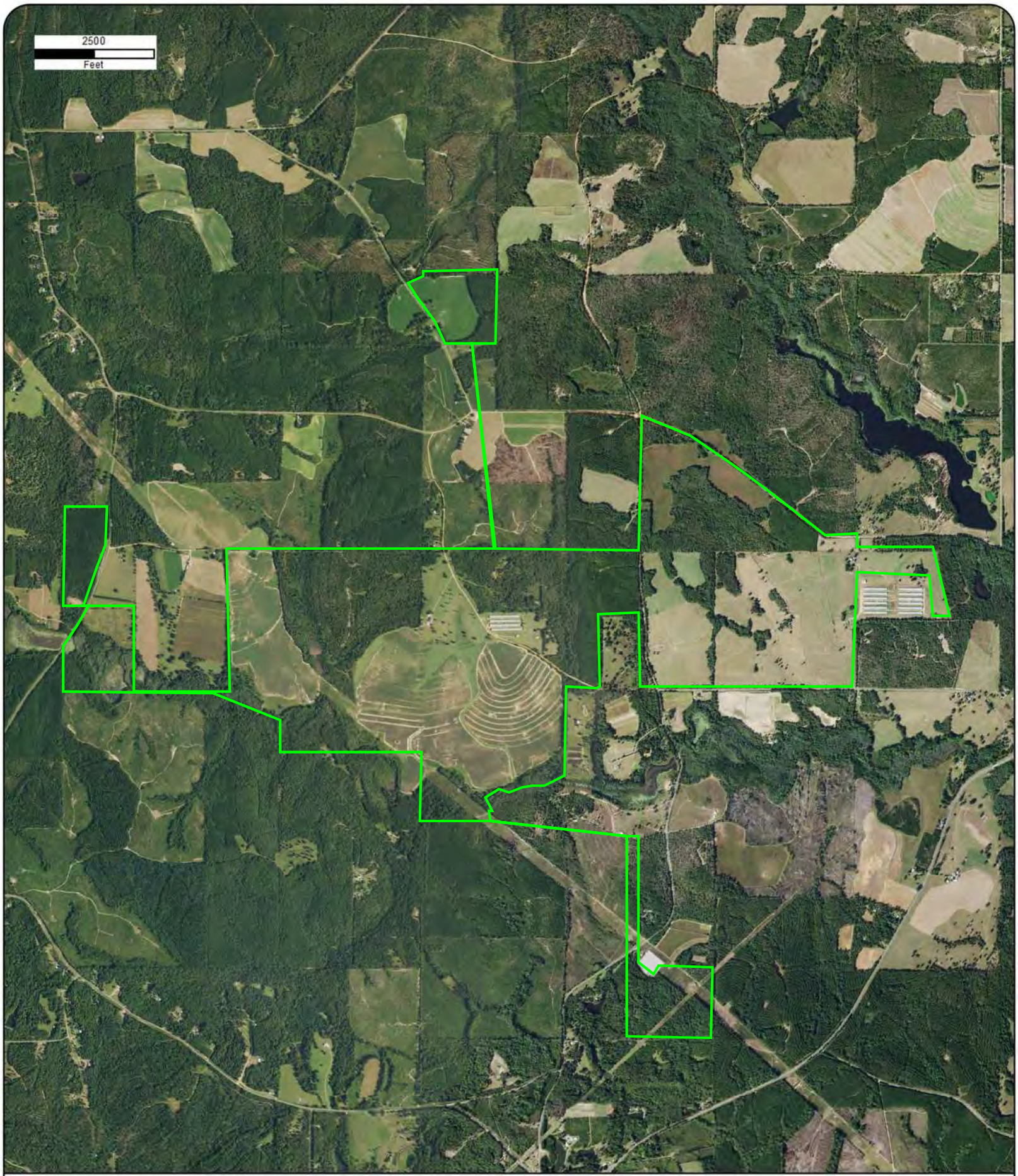
Address: n/a, Buena Vista, GA
Approx Center: -84.48595069,32.38210672

Order No: 24010200609

ERIS



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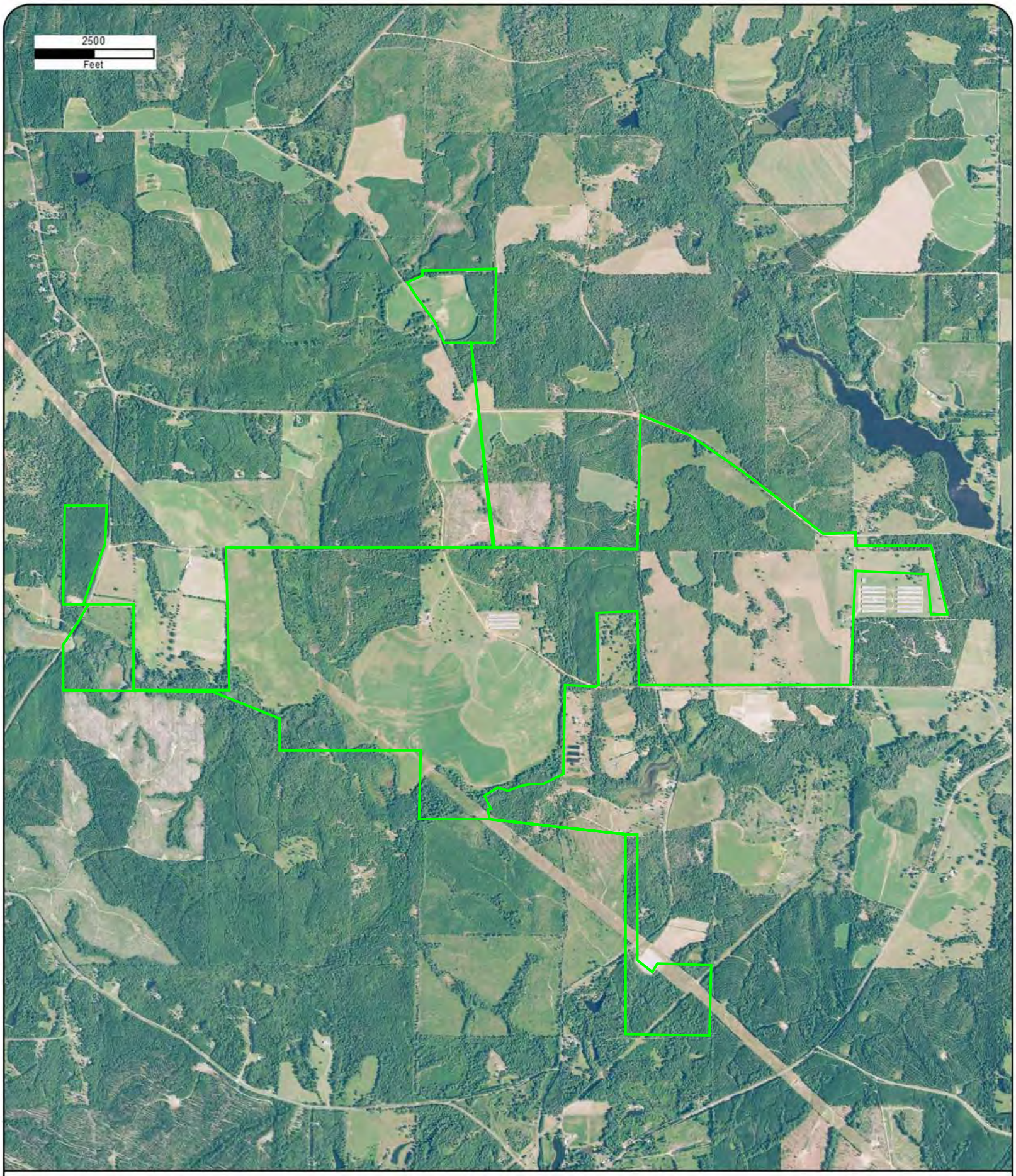

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Order No: 24010200609

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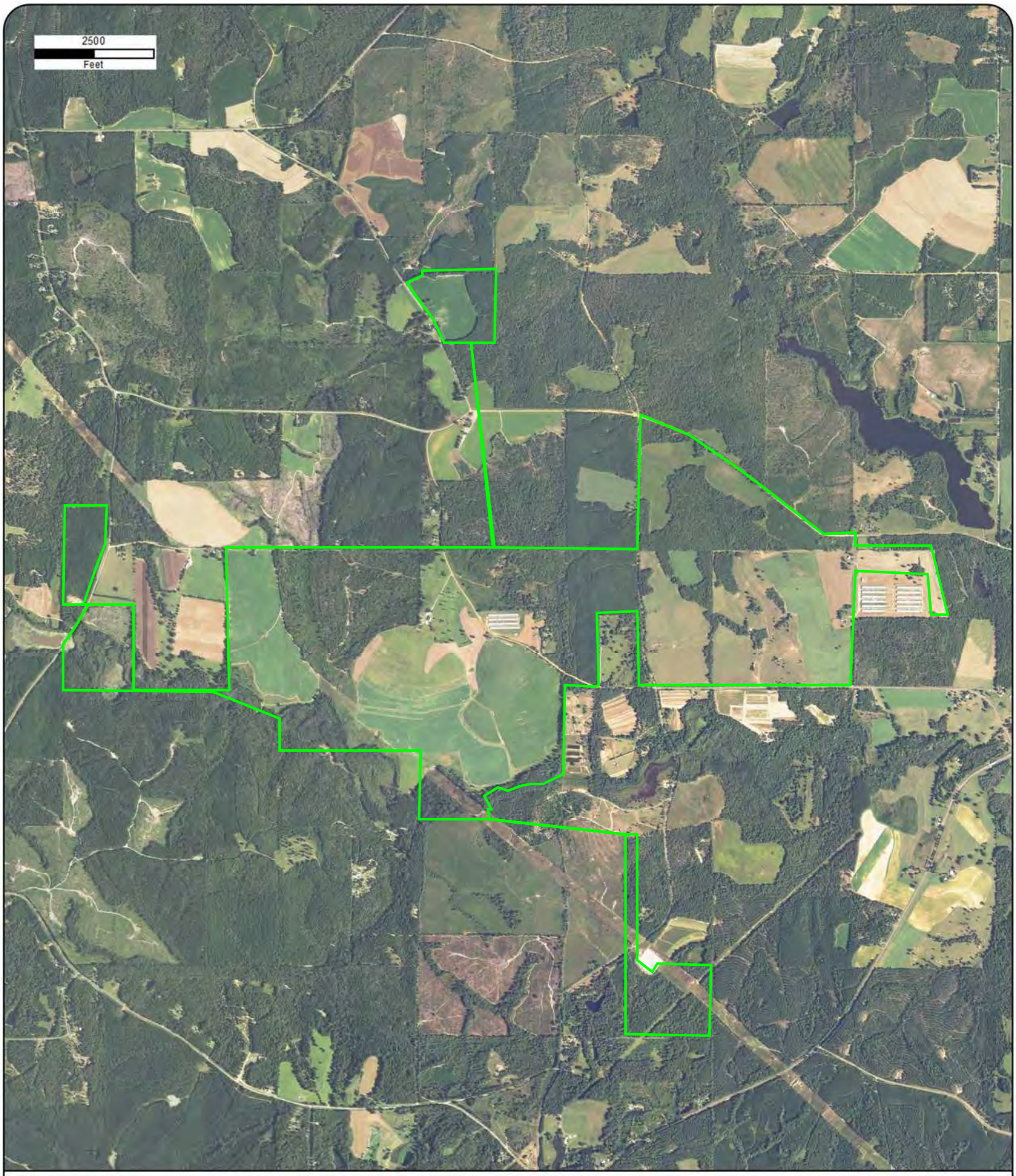

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Order No: 24010200609

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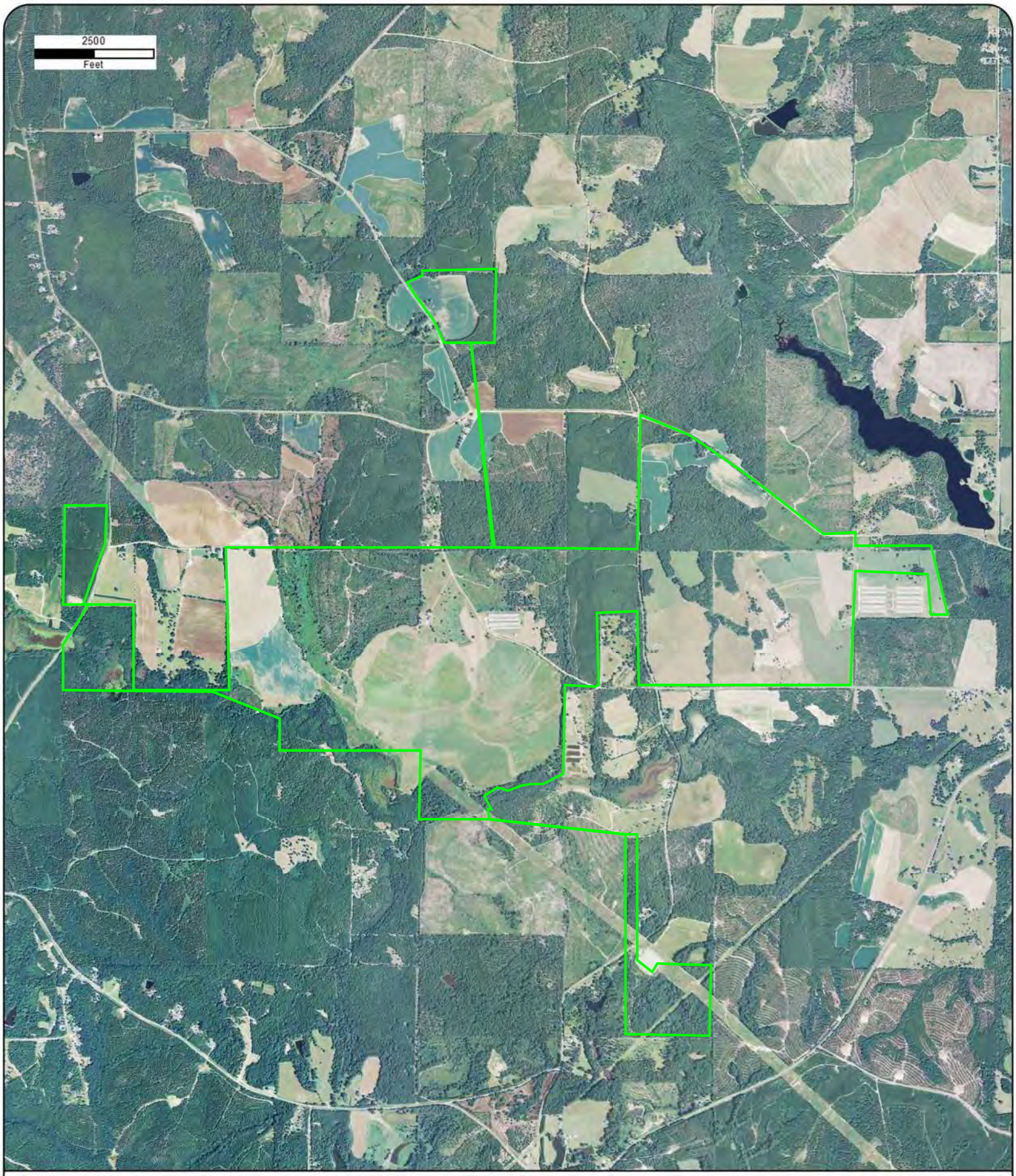

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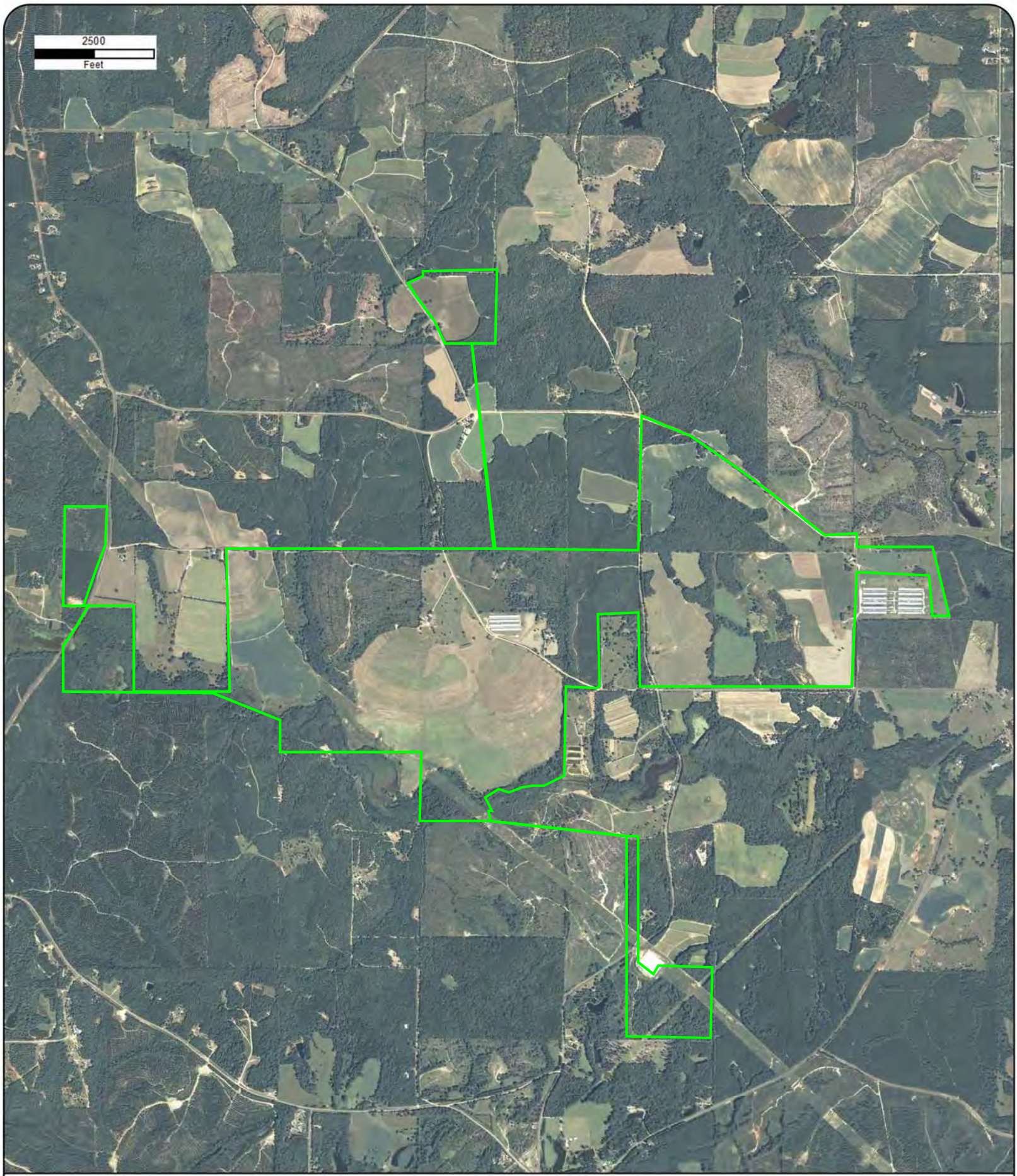

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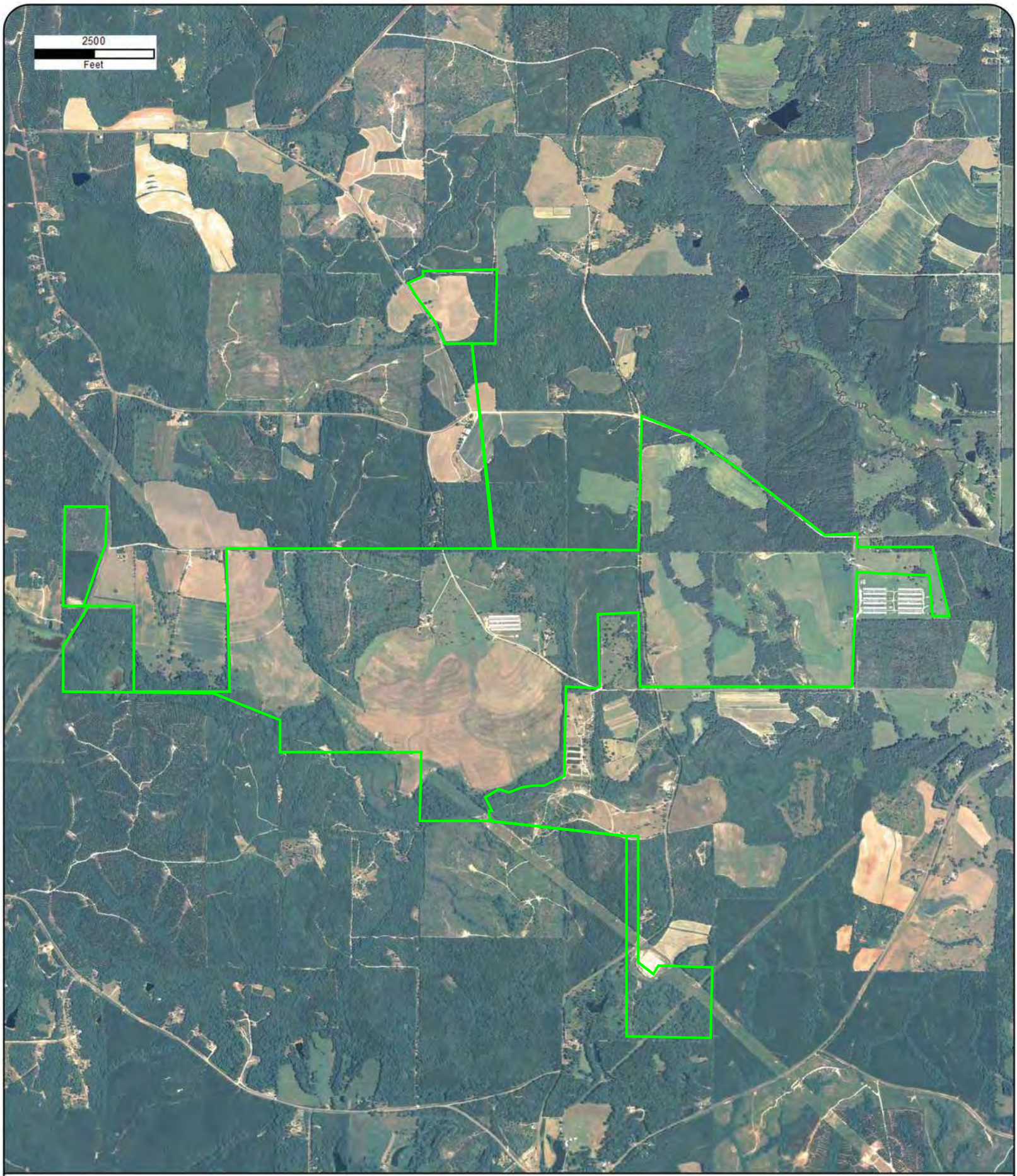

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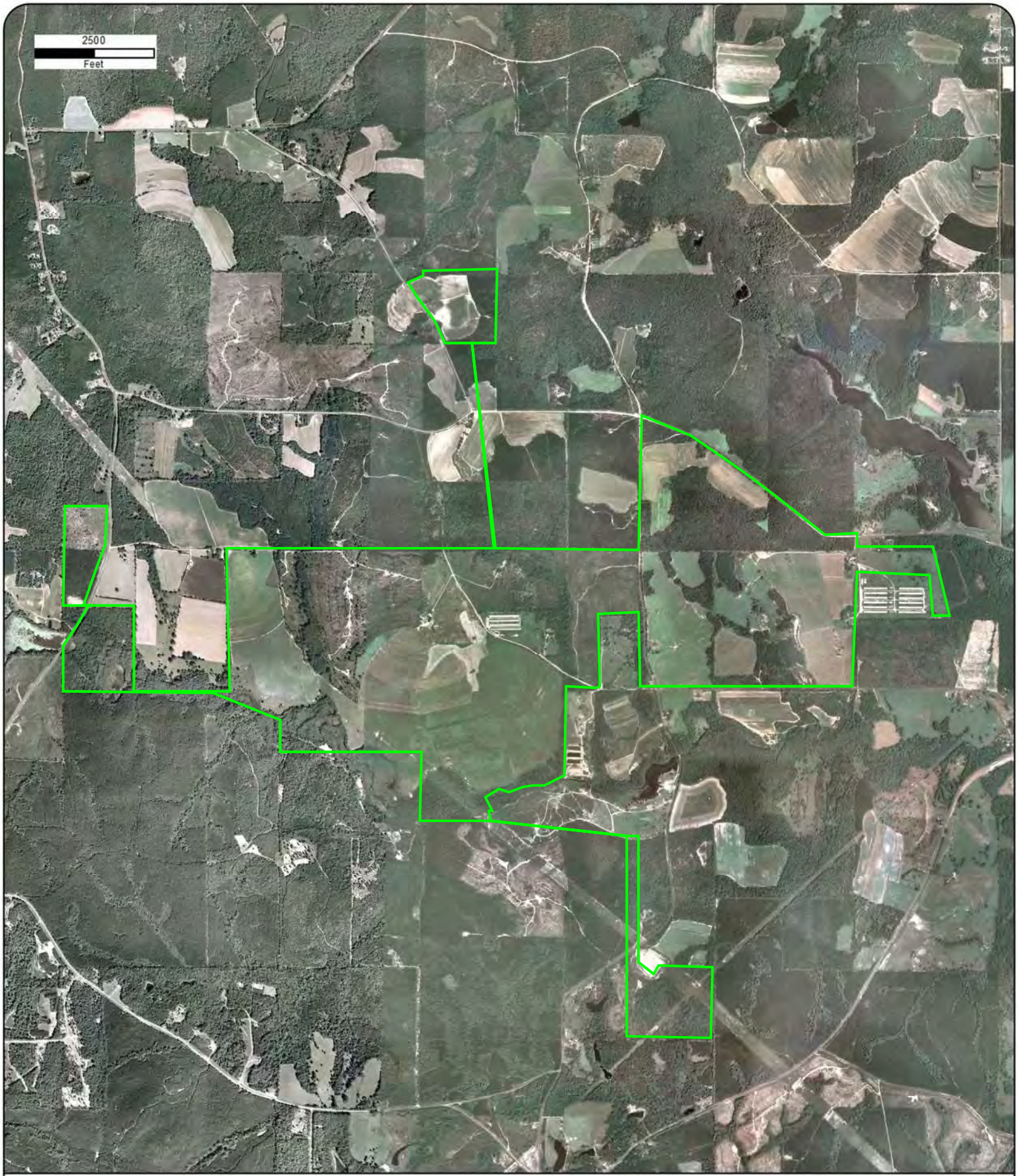

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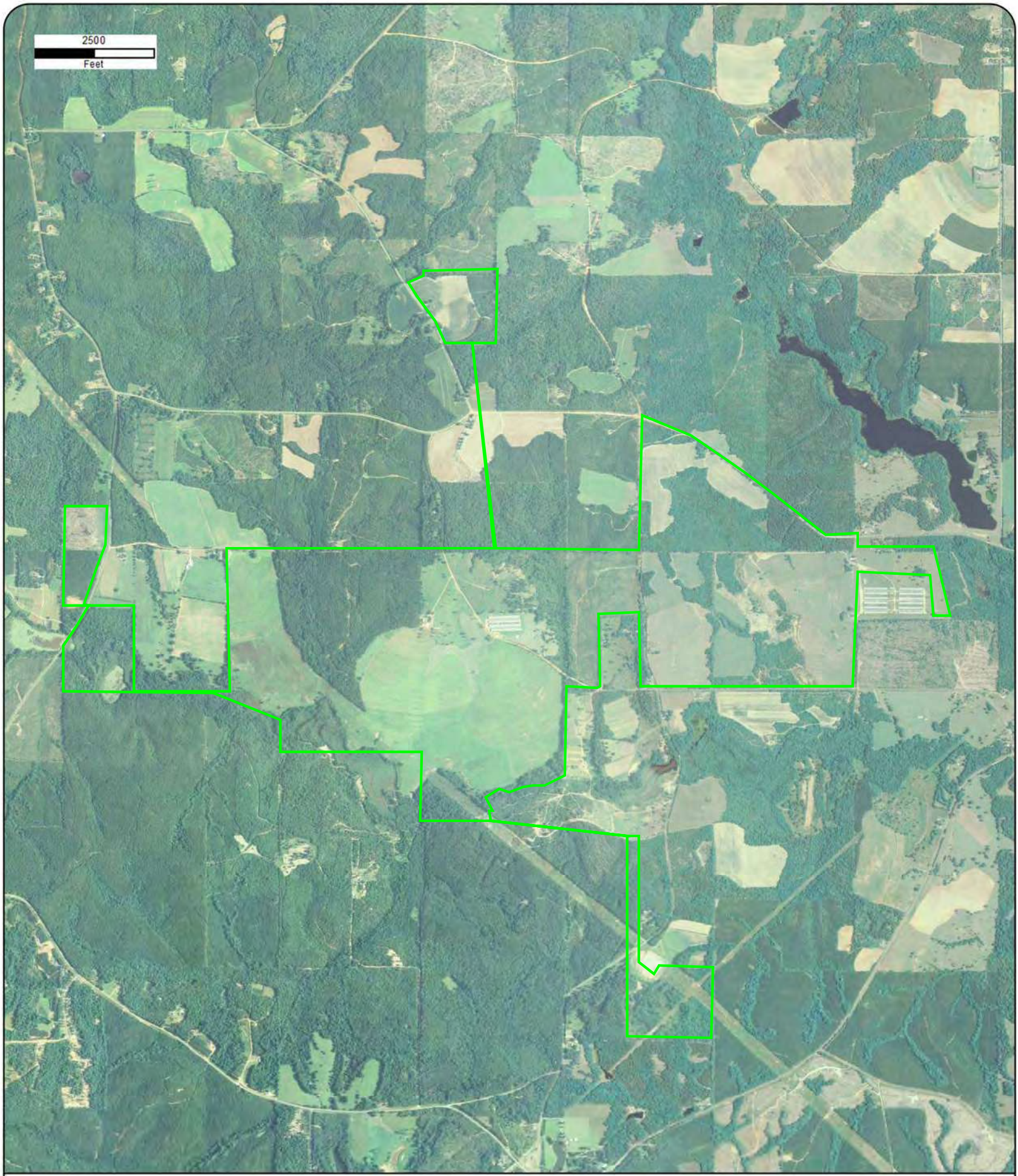

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Approx Center: -84.48595069,32.38210672

Order No: 24010200609

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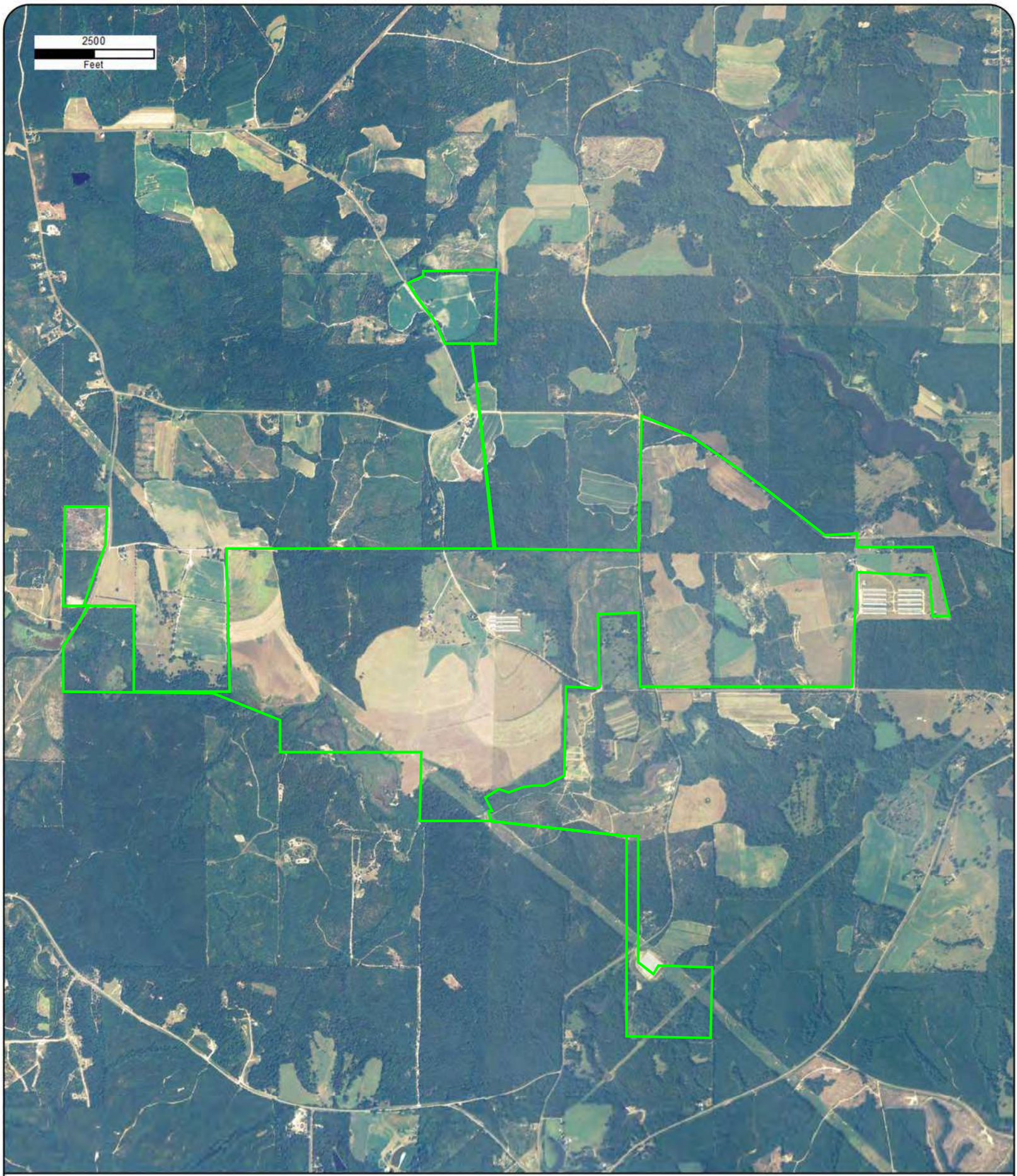

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Order No: 24010200609

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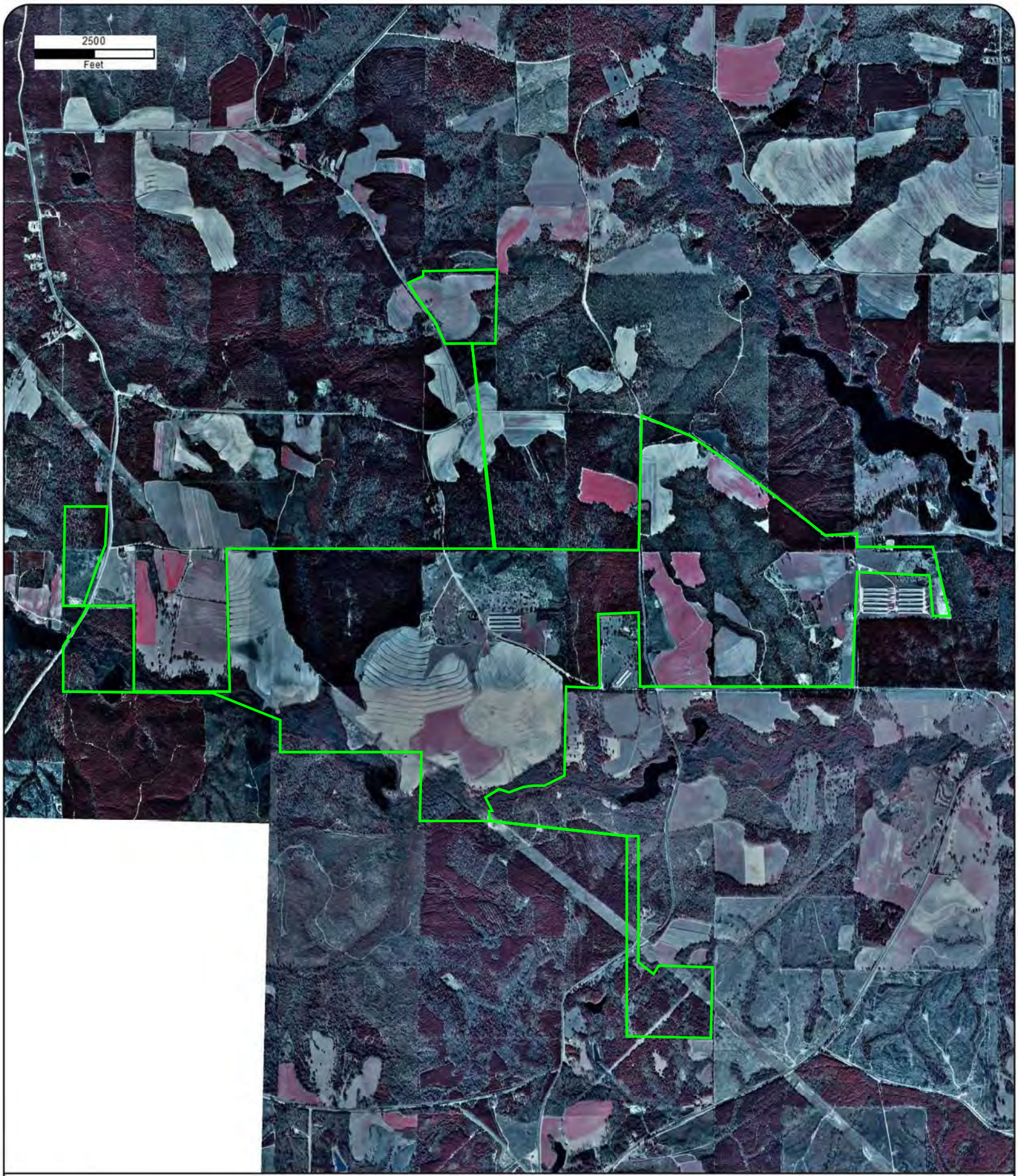

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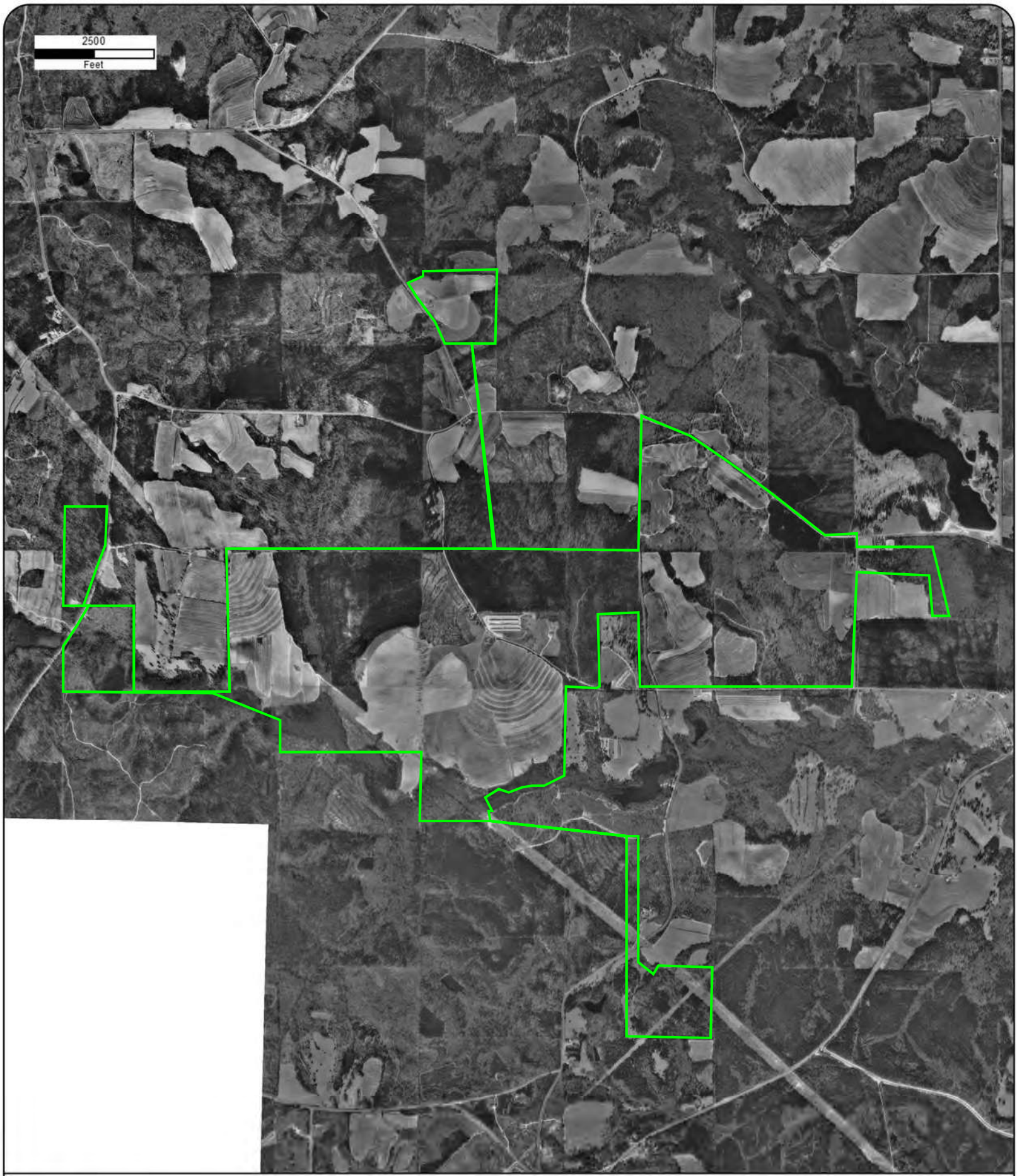

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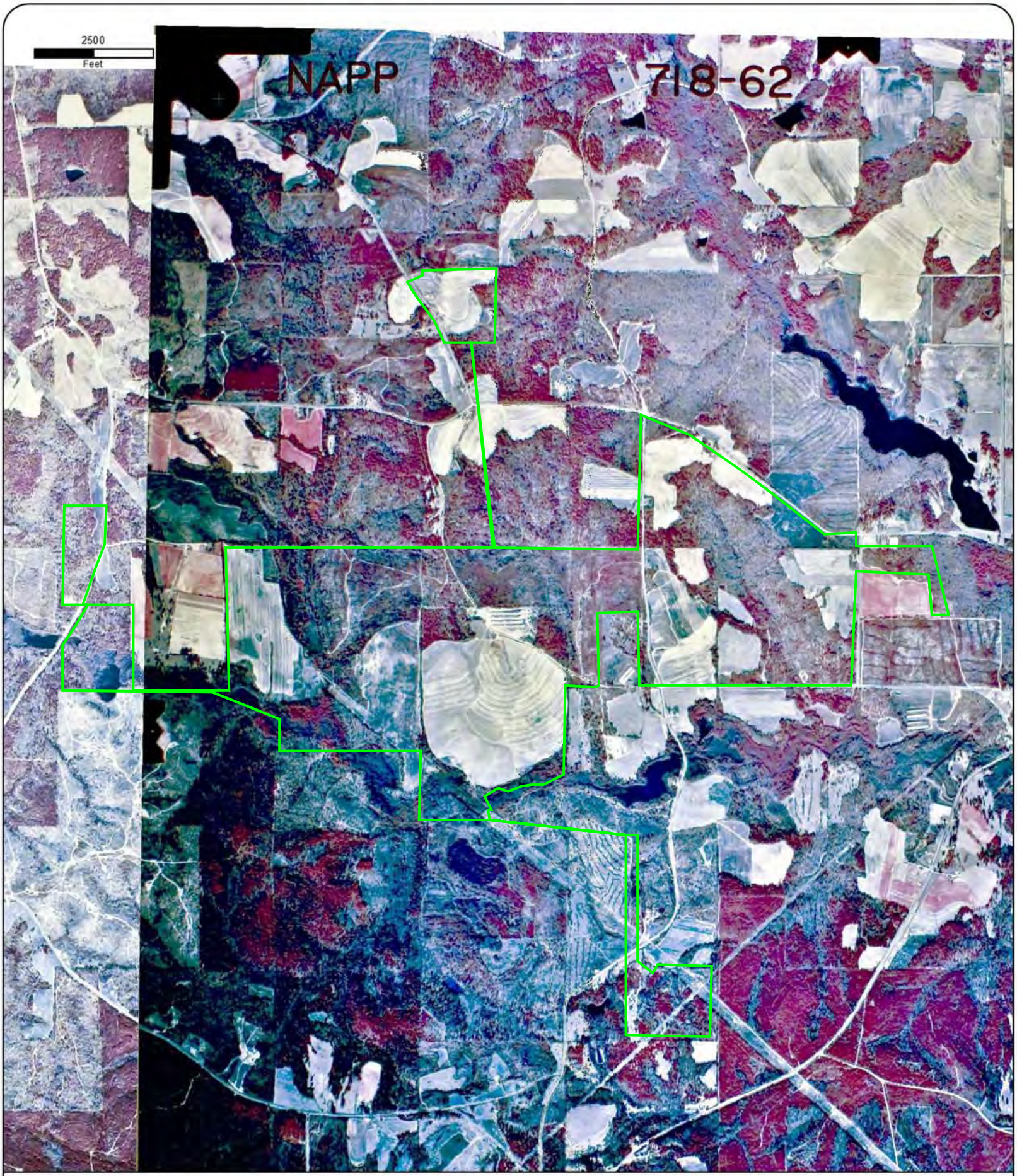

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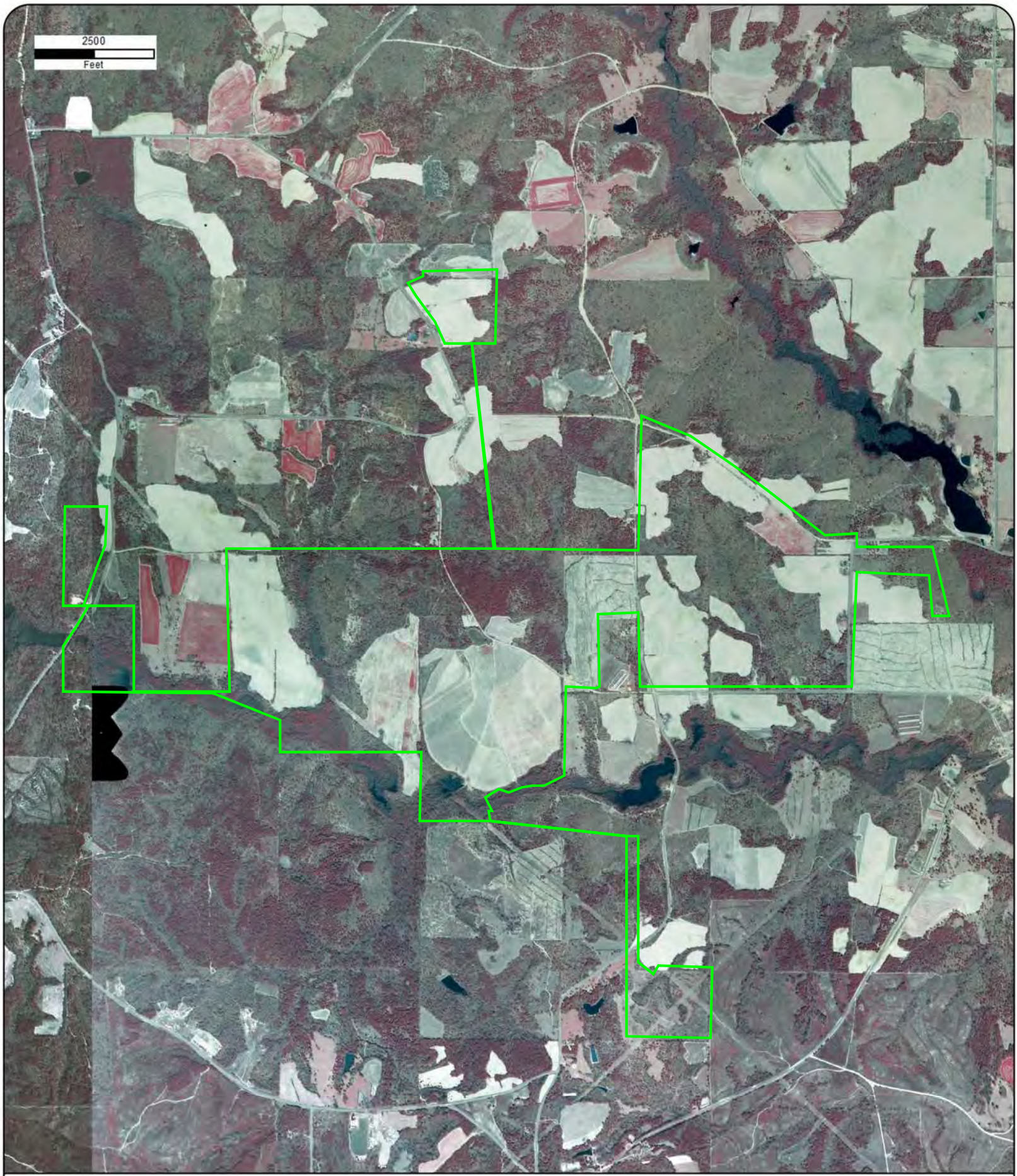

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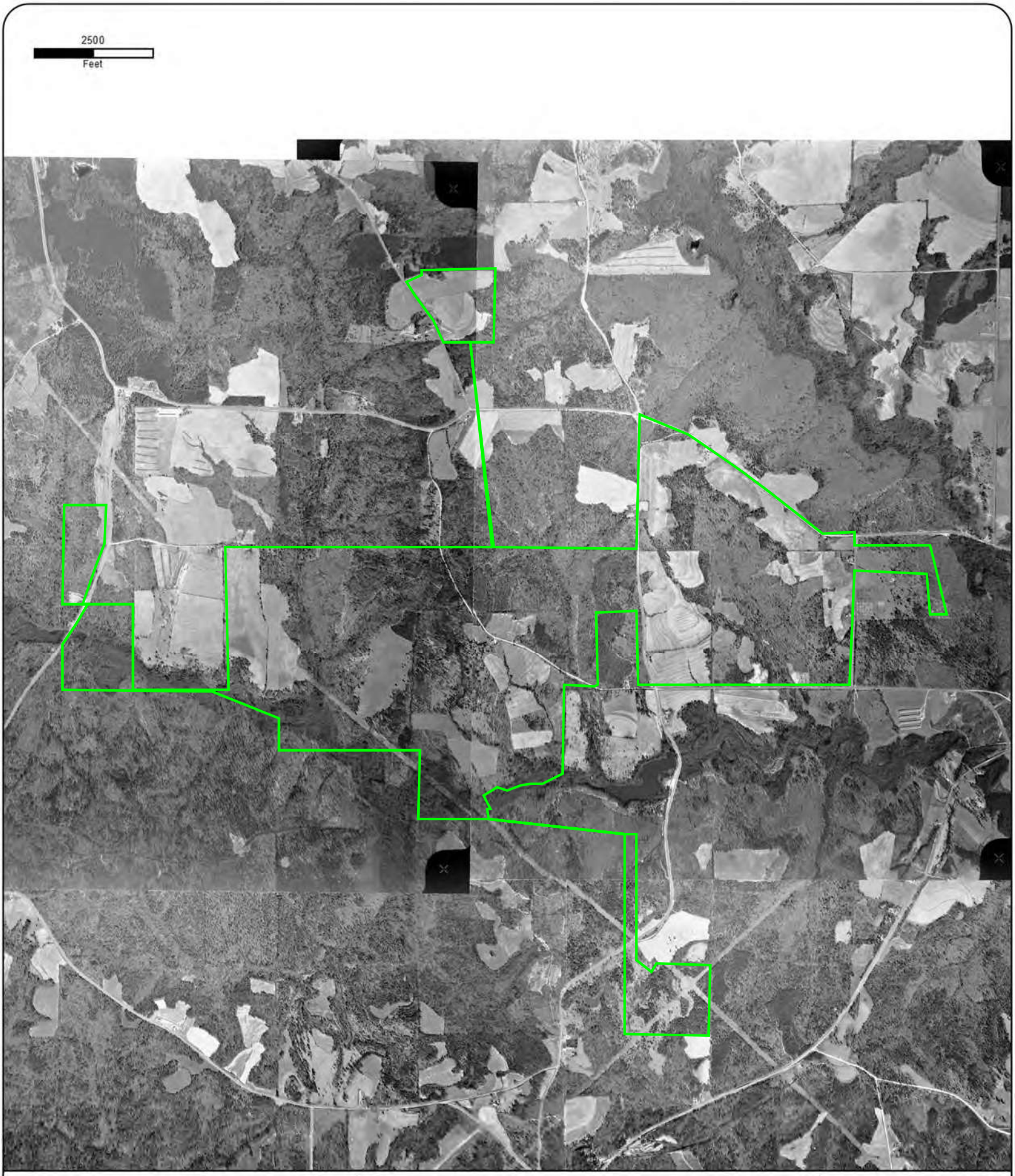

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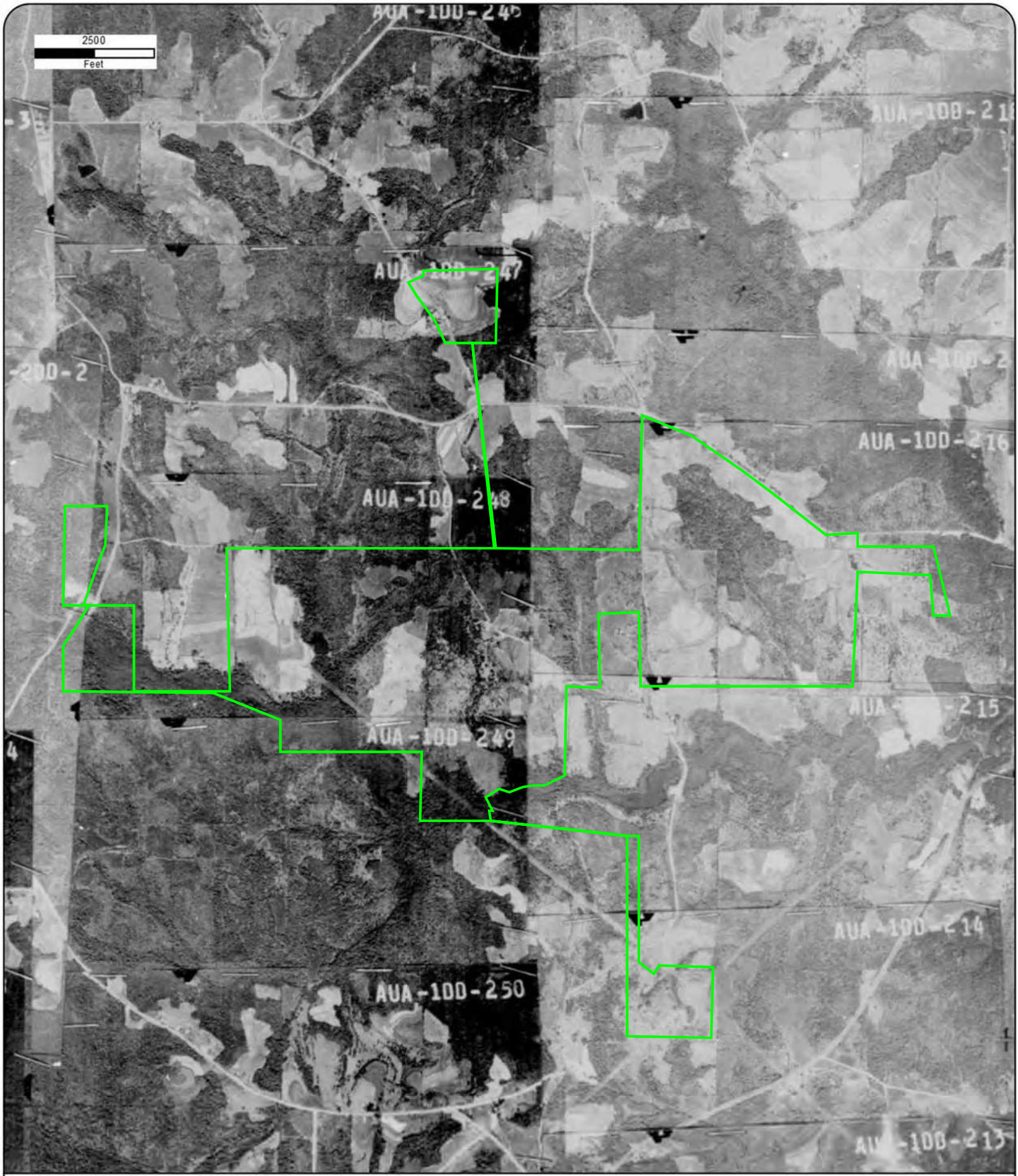

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Source: ASCS
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Order No: 24010200609

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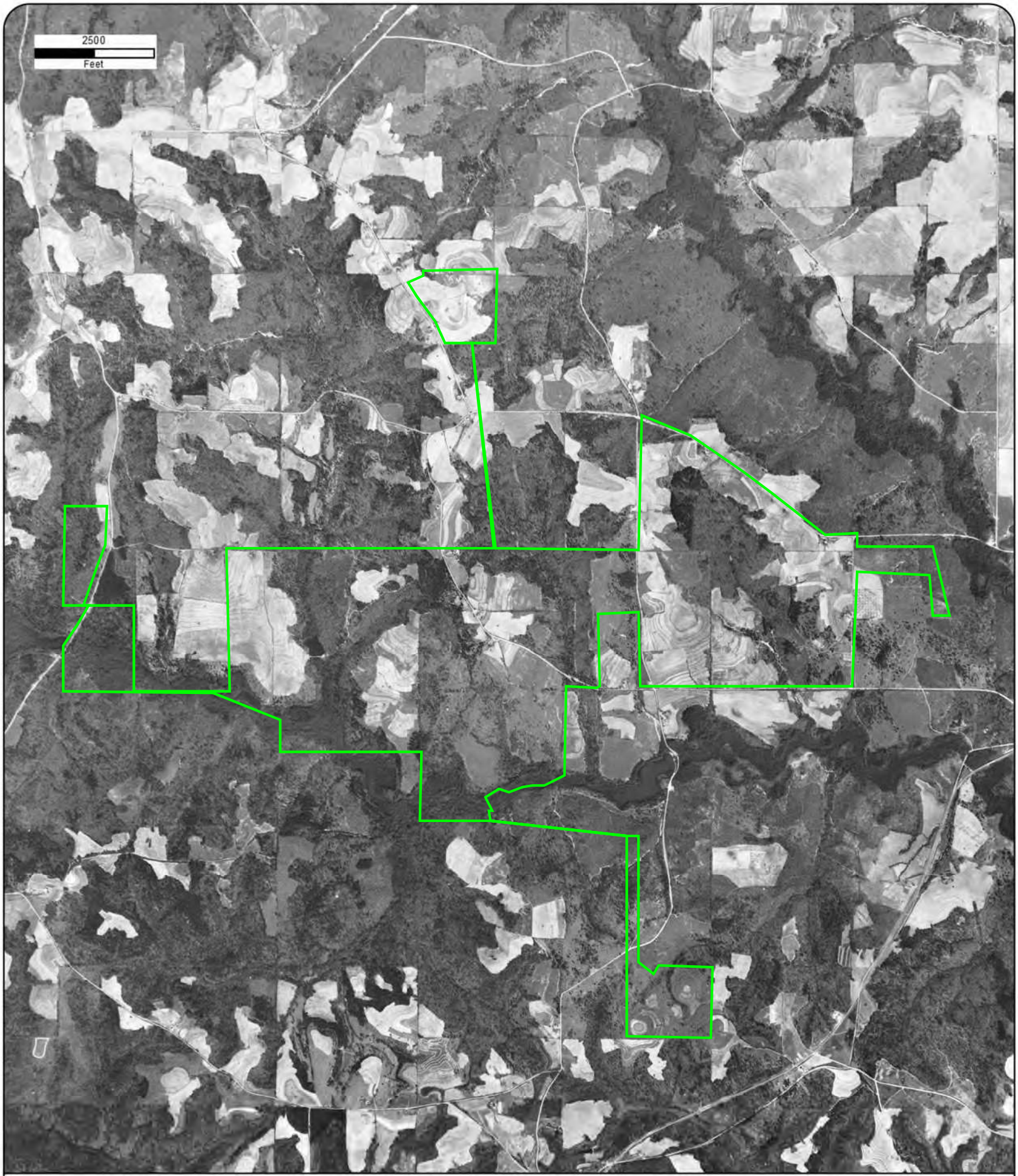

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Order No: 24010200609

ERIS

Year: 1939
Source: ASCS
Scale: 1" = 2500'
Comment:

Address: n/a, Buena Vista, GA
Approx Center: -84.48595069,32.38210672

Order No: 24010200609

ERIS

ERIS

DATABASE REPORT

Project Property:	*Tazwell* *n/a* *Buena Vista GA*
Project No:	*None*
Report Type:	*Database Report*
Order No:	*24010200609*
Requested by:	*Geosyntec Consultants*
Date Completed:	*January 3, 2024*

Environmental Risk Information Services
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1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:		*Tazwell* *n/a Buena Vista GA*
Project No:		*None*
Coordinates:		
	Latitude:	*32.38210672*
	Longitude:	*-84.48595069*
	UTM Northing:	*3,585,570.64*
	UTM Easting:	*736,507.91*
	UTM Zone:	*16S*
Elevation:		*590 FT*

Order Information:

Order No:	*24010200609*
Date Requested:	*January 2, 2024*
Requested by:	*Geosyntec Consultants*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*Smart CD Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
DOE FUSRAP	Y	1	0	0	0	0	0	0
State								
SHWS	Y	1	0	0	0	0	0	0
DELISTED SHWS	Y	1	0	0	0	0	0	0
REMOVED HSI	Y	1	0	0	0	0	0	0
NON HSI	Y	1	0	0	0	0	0	0
HSRA NOTIF	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
LANDFILLS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	0	-	0
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
DTNK	Y	0.25	0	0	0	-	-	0
INST	Y	0.5	0	0	0	0	-	0
AUL	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
BROWNFIELDS	Y	0.5	0	0	0	0	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0
County	***No County standard environmental record sources available for this State.***							
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS FED SITES	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS TSCA	Y	0.5	0	0	0	0	-	0
PFAS E-MANIFEST	Y	0.5	0	0	0	0	-	0
PFAS IND	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FUDS MRS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
SPILLS	Y	0.125	**1**	0	-	-	-	**1**
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
TIER 2	Y	0.125	0	0	-	-	-	0
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental record sources available for this State.***							
	Total:		**1**	0	0	0	0	**1**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	SPILLS		135 WALLS RD BUENA VISTA GA	E	0.00 / 0.00	3	16
			***Complaint ID	Source Facility ID	Dt Complaint CI:*** *56151			02/03/2009 00:00:00*				

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the surrounding properties.

Executive Summary: Summary by Data Source

Non Standard

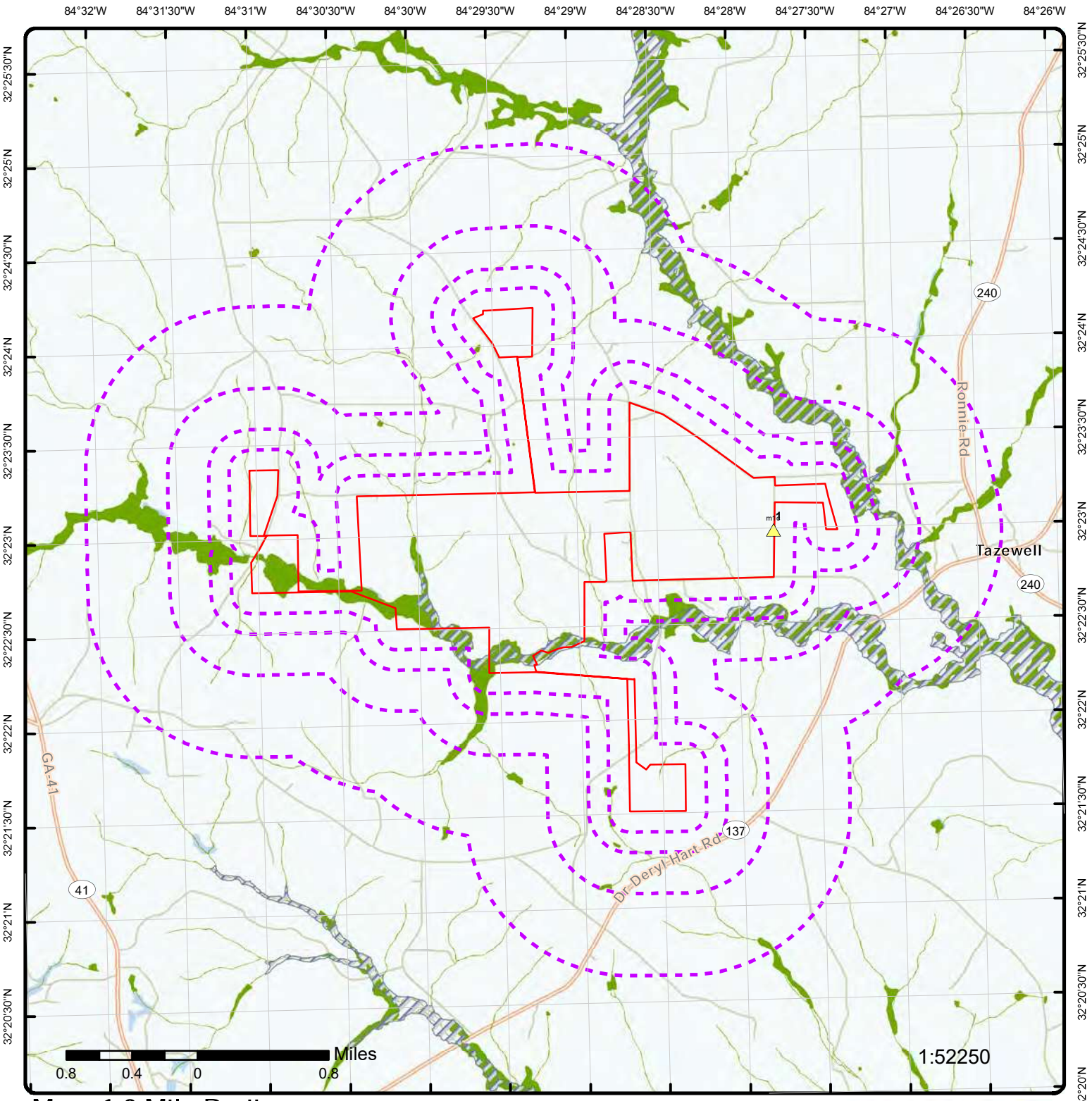
State

SPILLS - Oil or Hazardous Material Spills or Releases

A search of the SPILLS database, dated Mar 13, 2023 has found that there are 1 SPILLS site(s) within approximately 0.12miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	135 WALLS RD BUENA VISTA GA	E	0.00 / 0.00	1

***Complaint ID | Source Facility ID | Dt Complaint CI**: 56151 | | 02/03/2009 00:00:00*

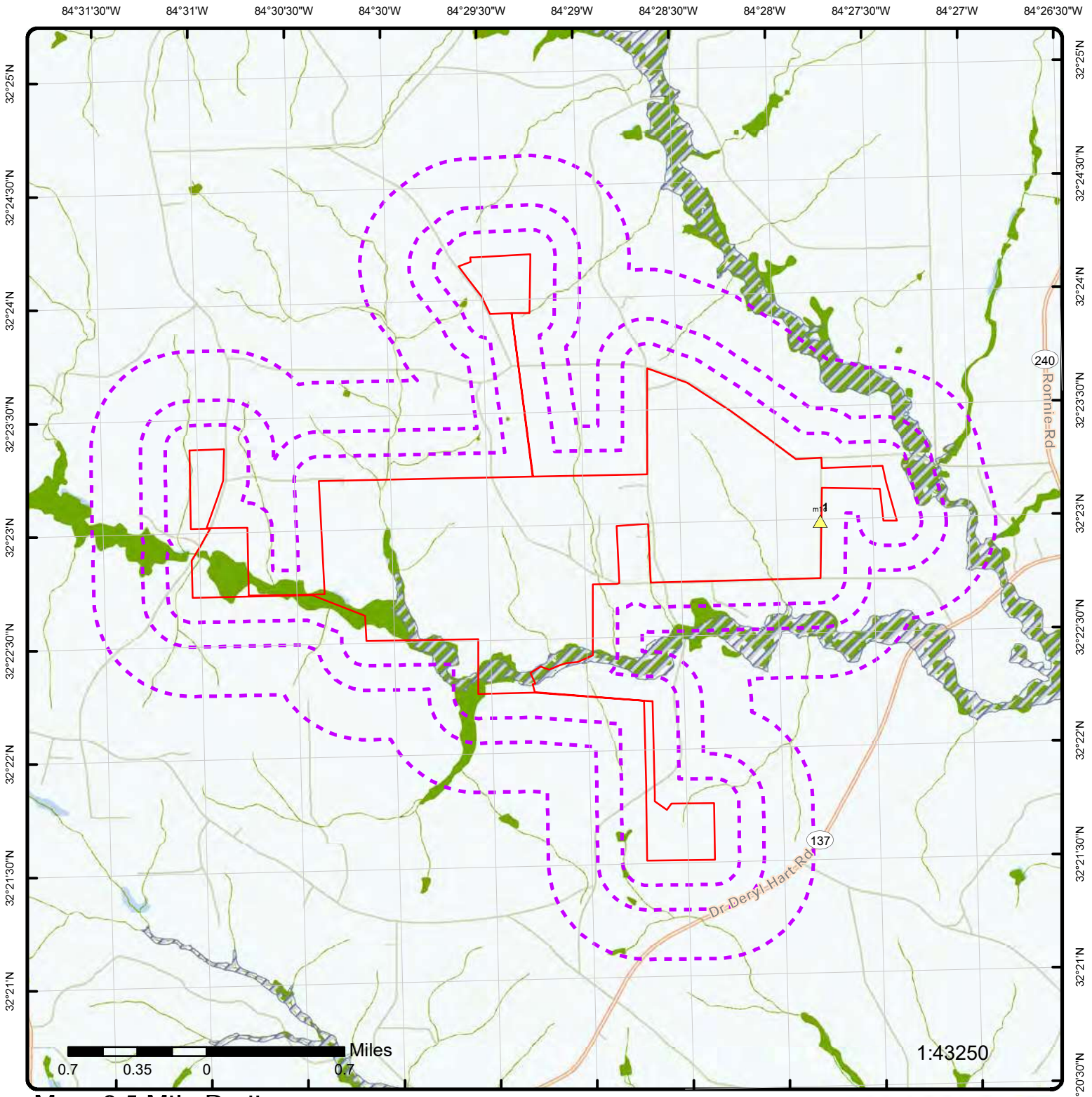


Map: 1.0 Mile Radius

Order Number: 24010200609

Address: n/a, Buena Vista, GA

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

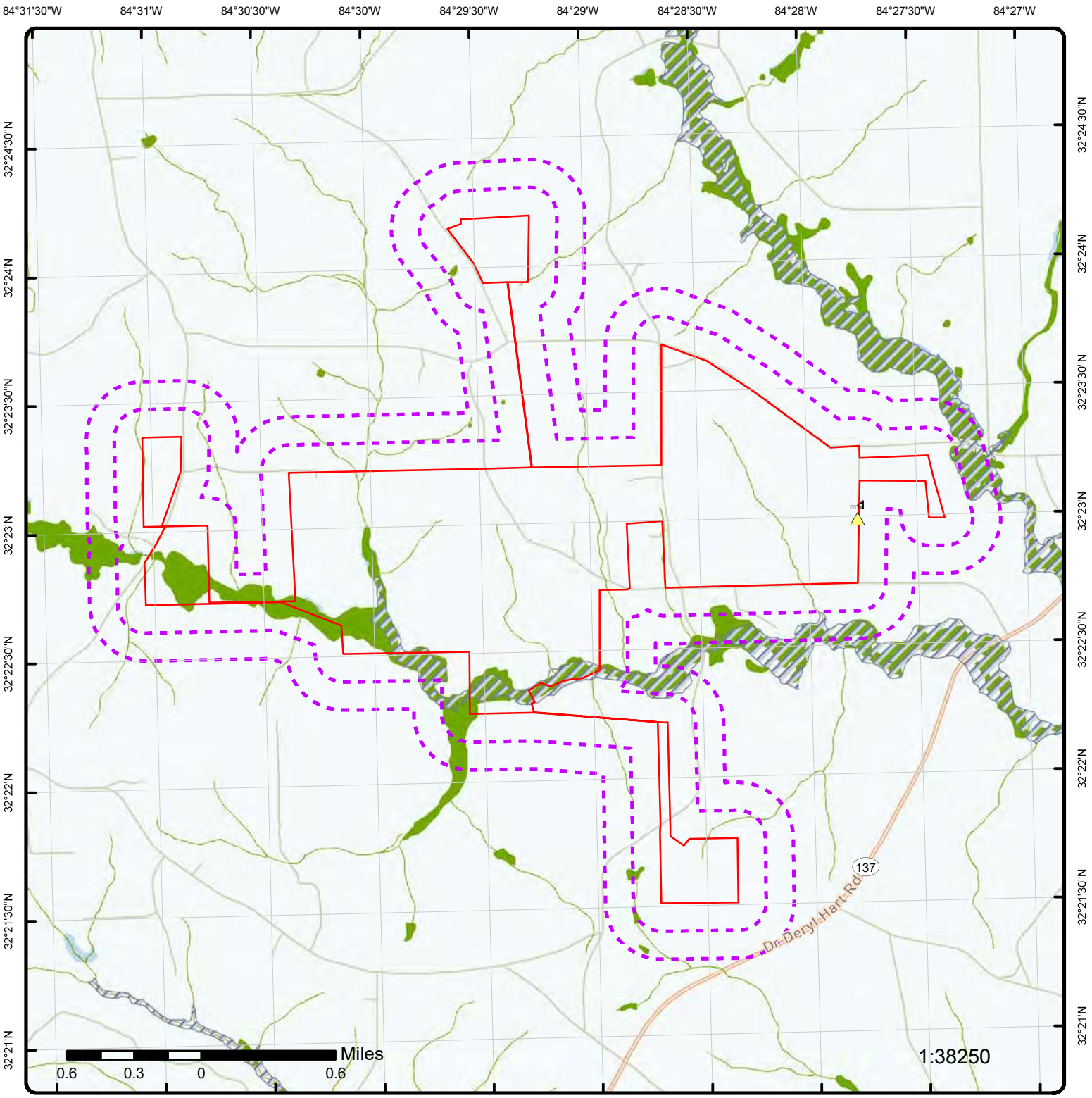


Map: 0.5 Mile Radius

Order Number: 24010200609

Address: n/a, Buena Vista, GA

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

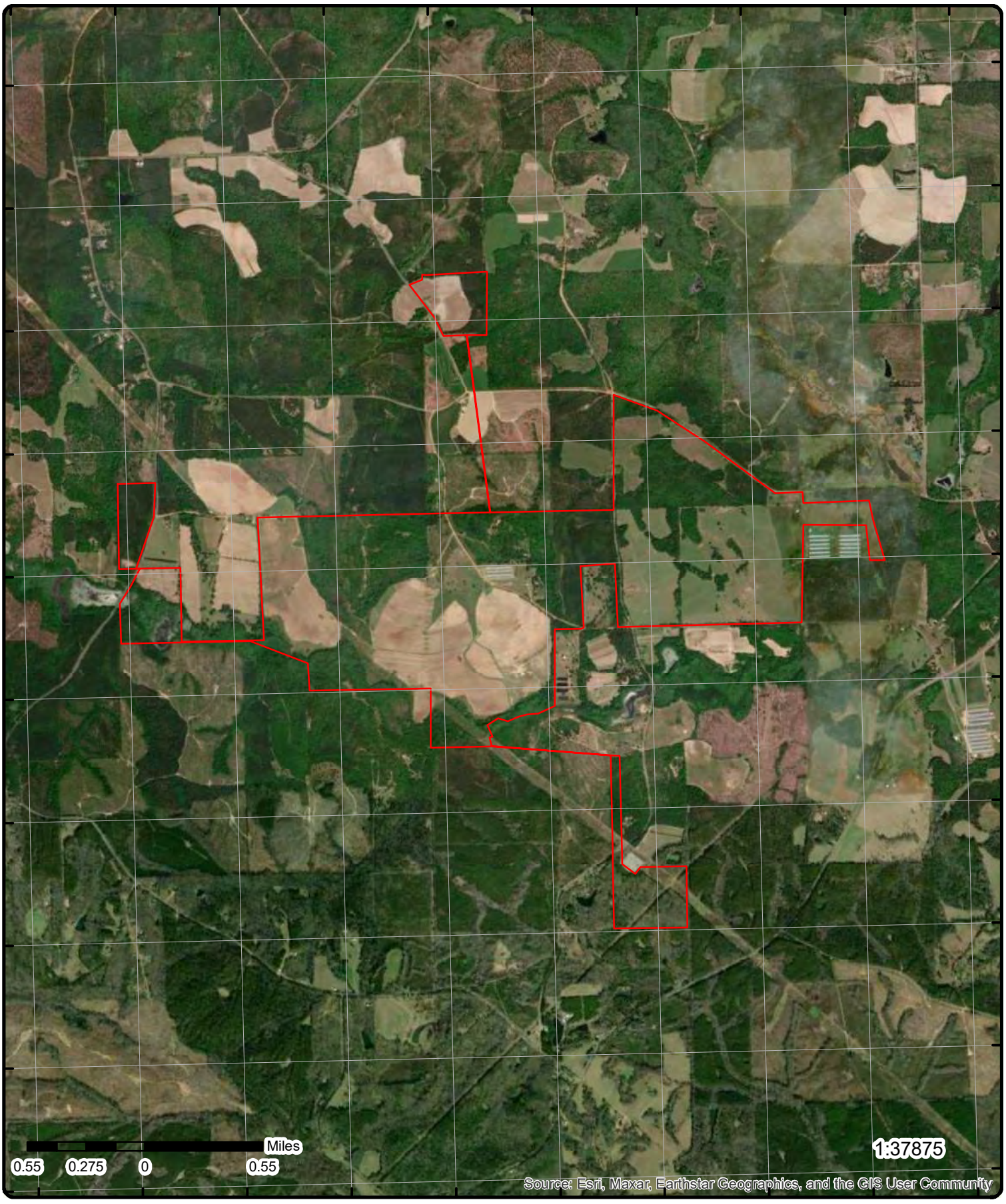


Map: 0.25 Mile Radius

Order Number: 24010200609

Address: n/a, Buena Vista, GA

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

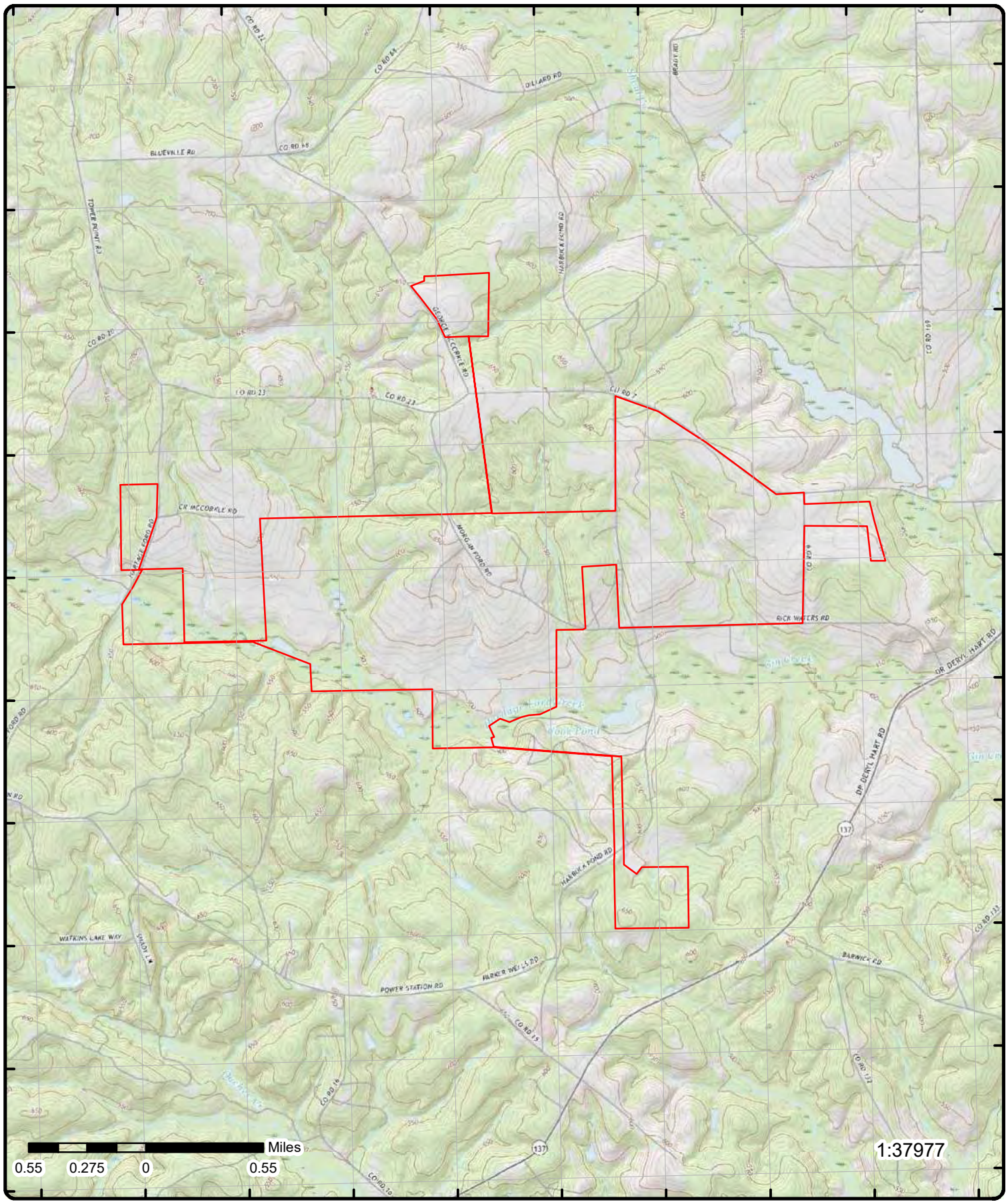


Aerial Year: 2019

Address: n/a, Buena Vista, GA

Source: ESRI World Imagery

Order Number: 24010200609



Topographic Map

Year: 2020

Order Number: 24010200609

Address: n/a, GA

Quadrangle(s): Buena Vista NE GA, Buena Vista GA, Tazewell South GA, Tazewell North GA

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 1	E	0.00 / 0.00	593.12 / 3	135 WALLS RD BUENA VISTA GA	SPILLS

Complaint ID:	56151	**Concern1 Code:**	AQC
Source Facility ID:		**Primary Concern:**	Air Quality Control
Pers Recd ID:		**Concern1 Rules:**	391-3-1
Associate ID:		**Concern1 OCGA:**	12-9-1
Login ID:		**Concern2 Code:**	
Entry Person ID:		**Secondary Concern:**	
Status:	Closed	**Concern2 Rules:**	
Active?:		**Concern2 OCGA:**	
Dt Complaint Cl:	02/03/2009 00:00:00	**Source Facility Name:**	PETER 1 FARM & PETER 2 FARM
Date Received:	02/03/2009 11:42:00	**Source City:**	BUENA VISTA
Caller Represents:	CAFO	**Source County:**	
Owner Assign Date:	02/03/2009 00:00:00	**Source State:**	Georgia
Owner Accept Date:	02/03/2009 00:00:00	**Source Postal Code:**	31803
Investigation Date:		**Source Email:**	
FUI Need:		**Source Street2:**	
Resolved?:		**Src Primary Phone:**	
Refer 2:		**Src Prim Ph Type:**	
Ten Day Follow Up?:		**Source Sec Phone:**	
Caller Name:	THINH TRAN AND VINH TRAN	**Src Sec Ph Type:**	
Caller Middle Name:		**Src Other Phone:**	
Caller City:	BUENA VISTA	**Src Other Ph Type:**	
Caller County:		**Src Contact Name:**	THINH TRAN
Caller State:	Georgia	**Branch Code:**	PCB-ERT
Caller Postal Code:	31803	**Current Office:**	Emergency Response Team
Caller Phone:		**Branch Active?:**	Yes
Call Primary Phone:		**Prog Branch Code:**	
Prim Phone Type:		**Program Branch:**	
Secondary Phone:		**Prog Branch Active:**	
Sec Phone Type:		**Comp County ID:**	
Caller Email:		**Complaint County:**	Macon
Caller Street:	135 WALLS RD	**Current Owner:**	Jackson, Ted
Caller Street2:		**Approved Date:**	
Caller Other Phone:		**Date Entered:**	02/03/2009 11:42:00
Call Other Ph Type:		**Entered by:**	Whatley, Mary
Program Code:		**Received by:**	Whatley, Mary
Program:		**Review by:**	Jackson, Ted
Source Street:	135 WALLS RD		
Complaint Directions:			
Review Comments:			
Complaint Location:	135 WALLS RD		
Complaint Nature:			

. THINH TRAN AND VINH TRAN
2. 135 WALLS RD
BUENA VISTA, GA 31803
3. (229) xxx-xxxx
4. [email@removed.invalid]
5. PETER 1 AND PETER2
6. 135 WALLS. RD.
BUENA VISTA, GA 31803
7. THINH TRAN
8. (229) xxx-xxxx
9. N/A
10. [email@removed.invalid]
11. THIS IS A NOTIFICATION OF A ROUTINE, CONTINUOUS RELEASE OF AMMONIA GENERATED BY THE BREAKDOWN OF ANIMAL WASTE AT MY FACILITY. THIS RELEASE IS ROUTINE IN NATURE AND DOES NOT REQUIRE AN EMERGENCY RESPONSE. THERE IS A POSSIBILITY THAT MY OPERATION IS EMITTING MORE THAN TH 100 LBS./DAY REQORTING THRESHOLD FOR AMMONIA.

Spills Details

Event ID:		***Investigator:***	ted jackson
Entry by ID:		***Entry Date:***	02/03/2009 00:00:00
Investigator ID:		***Follow Up Needed?:***	
Event Code:		***Active?:***	
Event:		***Code Desc:***	Initial Investigation Report
Event Date:	02/03/2009 00:00:00	***Entered by:***	Network, Emergency Response
Comments:			

Received Notification Report.

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Oct 26, 2023

National Priority List - Proposed: PROPOSED NPL

Sites proposed by the United States Environmental Protection Agency (EPA), the state agency, or concerned citizens for addition to the National Priorities List (NPL) due to contamination by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Oct 26, 2023

Deleted NPL: DELETED NPL

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Oct 26, 2023

SEMS List 8R Active Site Inventory: SEMS

The U.S. Environmental Protection Agency's (EPA) Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. This data includes SEMS sites from the List 8R Active file as well as applicable sites from the SEMS GIS/REST file layer obtained from EPA's Facility Registry Service.

Government Publication Date: Sep 19, 2023

SEMS List 8R Archive Sites: SEMS ARCHIVE

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. This data includes sites from the List 8R Archived site file.

Government Publication Date: Sep 19, 2023

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Oct 2, 2023

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites that have indicated engagement in the treatment, storage, or disposal of hazardous waste which requires a RCRA hazardous waste permit.

Government Publication Date: Oct 2, 2023

RCRA Generator List: RCRA LQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Oct 2, 2023

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Oct 2, 2023

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Oct 2, 2023

RCRA Non-Generators: RCRA NON GEN

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Oct 2, 2023

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Oct 2, 2023

Federal Engineering Controls-ECs: FED ENG

This list of Engineering controls (ECs) is provided by the United States Environmental Protection Agency (EPA). ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. The EC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2021 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Oct 26, 2023

Federal Institutional Controls- ICs: FED INST

This list of Institutional controls (ICs) is provided by the United States Environmental Protection Agency (EPA). ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site. The IC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2021 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Oct 26, 2023

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

Government Publication Date: Oct 26, 2023

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Aug 12, 2023

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This data is provided by the United States Environmental Protection Agency (EPA) and includes Brownfield sites from the Cleanups in My Community (CIMC) web application.

Government Publication Date: Mar 13, 2023

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

This listing contains facilities that have submitted Facility Response Plans (FRPs) to the U.S. Environmental Protection Agency (EPA). Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit FRPs. Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments. This listing includes FRP facilities from an applicable EPA FOIA file and Homeland Infrastructure Foundation-Level Data (HIFLD) data file.

Government Publication Date: May 2, 2023

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: May 2, 2023

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Sep 20, 2023

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

A list of petroleum product and crude oil rail terminals from the U.S. Energy Information Administration (EIA), as well as petroleum terminals sourced from the Federal Communications Commission Data hosted by the Homeland Infrastructure Foundation-Level Database. Data includes operable bulk petroleum product terminals with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil with activity between 2017 and 2018. EIA petroleum product terminal data comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings.

Government Publication Date: Sep 22, 2023

LIEN on Property: SEMS LIEN

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) provides Lien details on applicable properties, such as the Superfund lien on property activity, the lien property information, and the parties associated with the lien.

Government Publication Date: Sep 19, 2023

Superfund Decision Documents: SUPERFUND ROD

This database contains a list of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include completed Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD) for active and archived sites stored in the Superfund Enterprise Management System (SEMS), along with other associated memos and files. This information is maintained and made available by the U.S. Environmental Protection Agency.

Government Publication Date: Sep 19, 2023

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

State

Hazardous Site Inventory: SHWS

The Hazardous Site Inventory (HSI) is a list of sites in Georgia where there has been a known or suspected release of a regulated substance above a reportable quantity and which have yet to show they meet state clean-up standards found in the Rules for Hazardous Site Response. The HSI is compiled and published by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR). This database is state equivalent CERCLIS.

Government Publication Date: Oct 6, 2023

Delisted Hazardous Site Inventory Listing: DELISTED SHWS

Maintained by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources, this is a listing of sites which have, over the years, been delisted from the Georgia Hazardous Site Inventory (HSI).

Government Publication Date: Oct 6, 2023

Removed Sites Hazard Site Inventory & Delisted: REMOVED HSI

A list of sites that have been removed from the Georgia Department of Natural Resources (DNR) Hazard Site Inventory (HSI) and the Delisted Hazard Site Inventory.

Government Publication Date: Oct 6, 2023

Hazard Evaluation Score (Non-Hazardous Site Inventory): NON HSI

The Non HSI or Non-Hazardous Site Inventory is information taken from public sources and gathered and compiled by Rindt-McDuff Associates (RMA). Sites on this inventory were not included on the official Georgia State Hazardous Site Inventory because their Hazard Evaluation Score does not exceed the threshold levels. There is no guarantee of the accuracy of the data from RMA. This database is state equivalent CERCLIS.

Government Publication Date: Jul 31, 2014

Hazardous Site Response Notifications: HSRA NOTIF

List of Hazardous Site Response Act (HSRA) Release Notification sites made available by the Georgia Environmental Protection Division (EPD). Under the Rules for Hazardous Site Response, Chapter 391-3-19, the HSRA requires property owners who discover the release of regulated contaminants in soil or groundwater to report to the Georgia EPD. A Release Notification is submitted by the property owner to the Response & Remediation Program (RRP); the RRP may or may not issue a Non-HSI Letter or an HSI Listing Letter based on the information gathered from the Release Notification and site visits.

Government Publication Date: Oct 6, 2023

Solid Waste Disposal Facilities: SWF/LF

Facilities permitted by the Solid Waste Management Program in the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources. Includes solid waste collection operations, solid waste disposal facilities (including inert), solid waste transfer stations, closed and in-closure landfills, and collection and transfer stations.

Government Publication Date: Jul 21, 2021

Historic and Current Landfills through 1999: LANDFILLS

A list of current and historic landfills made available by the Georgia Department of Natural Resources Environmental Protection Division (EPD), Geologic Survey Branch. Includes permitted, regulated landfills, others are older landfills that elected to close when it became a regulatory requirement of the state of Georgia to obtain a solid waste disposal permit.

Government Publication Date: Dec 31, 1999

Leaking Underground Storage Tanks: LUST

A list of Leaking Underground Storage Tanks (LUSTs). The Underground Storage Tank (UST) Management Program is responsible for ensuring operational compliance and cleanup of leaks from registered UST systems.

Government Publication Date: Jul 31, 2023

Delisted Leaking Storage Tanks: DELISTED LST

This database contains a list of leaking storage tank sites that were removed from the Underground Storage Tank (UST) Management Program.

Government Publication Date: Jul 31, 2023

Underground Storage Tanks: UST

A list of Underground Storage Tanks including information on owner, facility and tank details. This data is collected by the Underground Storage Tank Management Program in the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR).

Government Publication Date: Jul 31, 2023

Delisted Storage Tanks: DTNK

A list of sites which once appeared on - and have since been removed from - the list of storage tanks made available by the Underground Storage Tank Management Program in the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR).

Government Publication Date: Jul 31, 2023

Institutional Controls (Public Record List): INST

Georgia does not have a centralized database which provides detailed information on the specific instruments used to establish institutional controls (ICs). Institutional control requirements vary depending upon the regulatory status of the property, the time period when the limitation of liability was issued, and the nature of the risk reduction certification. This list includes sites at which formal institutional controls are required: properties listed on the Hazardous Site Inventory (HSI) which are not certified to residential risk reduction standards. The IC may follow the requirements of the Rules for Hazardous Site Response, or for more recent decisions, may use environmental covenants. This public record list is maintained by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources.

Government Publication Date: Nov 27, 2023

Uniform Environmental Covenants: AUL

List of properties subject to Uniform Environmental Covenants (UECs), made available by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources. Certain properties within Georgia have been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. In some instances, UECs are implemented to protect public and environmental receptors from exposure to those substances that remain in soil and/or groundwater. This is accomplished through permanent controls and restrictions on property usage; compliance is required under Georgia's Uniform Environmental Covenants Act, O.C.G.A. § 44-16-1 et. seq., which became effective on July 1, 2008.

Government Publication Date: Jun 21, 2023

Voluntary Remediation Program: VCP

List of Voluntary Remediation Program Applications, made available by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources. Georgia's Voluntary Remediation Program Act, created to encourage voluntary investigation and remediation of contaminated properties, became effective on June 1, 2009.

Government Publication Date: Nov 17, 2023

Brownfields Public Record List: BROWNFIELDS

The Georgia Brownfields Public Record lists properties under the Hazardous Site Reuse and Redevelopment Act (Georgia's brownfields statute) which have been proposed for a response action, have response actions underway, or have completed response actions. This list is maintained by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources.

Government Publication Date: Nov 27, 2023

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

This list of leaking underground storage tanks (LUSTs) on Tribal/Indian Lands in Region 4, which includes Georgia, is made available by the United States Environmental Protection Agency (EPA). There are no federally recognized Tribes in Georgia, according to the U.S. Department of Interior, Bureau of Indian Affairs.

Government Publication Date: Oct 14, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

This list of underground storage tanks (USTs) on Tribal/Indian Lands in Region 4, which includes Georgia, is made available by the United States Environmental Protection Agency (EPA). There are no federally recognized Tribes in Georgia, according to the U.S. Department of Interior, Bureau of Indian Affairs.

Government Publication Date: Oct 14, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED INDIAN LST

Leaking Underground Storage Tank (LUST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian LUST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 26, 2023

Delisted Tribal Underground Storage Tanks: DELISTED INDIAN UST

Underground Storage Tank (UST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian UST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Apr 26, 2023

County

No County standard environmental record sources available for this State.

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Sep 8, 2023

Toxics Release Inventory (TRI) Program: TRIS

The U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of toxic chemicals from U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. There are currently 770 individually listed chemicals and 33 chemical categories covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual reporting forms for each chemical. Note that the TRI chemical list does not include all toxic chemicals used in the U.S. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Oct 19, 2022

PFOA/PFOS Contaminated Sites: PFAS NPL

This list of Superfund Sites with Per- and Polyfluoroalkyl Substances (PFAS) detections is made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data, previously the list was obtained by EPA FOIA requests. EPA's Office of Land and Emergency Management and EPA Regional Offices maintain what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment. Limitations: Detections of PFAS at National Priorities List (NPL) sites do not mean that people are at risk from PFAS, are exposed to PFAS, or that the site is the source of the PFAS. The information in the Superfund NPL and Superfund Alternative Agreement (SAA) PFAS detection site list is years old and may not be accurate today. Site information such as site name, site ID, and location has been confirmed for accuracy; however, PFAS-related information such as media sampled, drinking water being above the health advisory, or mitigation efforts has not been verified. For Federal Facilities data, the other Federal agencies (OFA) are the lead agency for their data and provided them to EPA.

Government Publication Date: Sep 14, 2023

Federal Agency Locations with Known or Suspected PFAS Detections: PFAS FED SITES

List of Federal agency locations with known or suspected detections of Per- and Polyfluoroalkyl Substances (PFAS), made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data. EPA outlines that these data are gathered from several federal entities, such as the Federal Superfund program, Department of Defense (DOD), National Aeronautics and Space Administration, Department of Transportation, and Department of Energy. The dates this data was extracted for the PFAS Analytic Tools range from March 2022 to September 2023. Sites on this list do not necessarily reflect the source/s of PFAS contamination and detections do not indicate level of risk or human exposure at the site. Agricultural notifications in this data are limited to DOD sites only. At this time, the EPA is aware that this list is not comprehensive of all Federal agencies.

Government Publication Date: Sep 5, 2023

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Locations for the Known PFAS Contamination Sites are sourced from the PFAS Sites and Community Resources Map, credited to the Northeastern University's PFAS Project Lab, Silent Spring Institute, and the PFAS-REACH team. Disclaimer: The source conveys the data undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Access the following source link for the most current information: https://pfasproject.com/pfas-sites-and-community-resources/

Government Publication Date: Oct 9, 2022

National Response Center PFAS Spills: ERNS PFAS

This Per- and Poly-Fluoroalkyl Substances (PFAS) Spills dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The National Response Center (NRC), operated by the U.S. Coast Guard, is the designated federal point of contact for reporting all oil, chemical, and other discharges into the environment, for the United States and its territories. This dataset contains NRC spill information from 1990 to the present that is restricted to records associated with PFAS and PFAS-containing materials. Incidents are filtered to include only records with a "Material Involved" or "Incident Description" related to Aqueous Film Forming Foam (AFFF). The keywords used to filter the data included "AFFF," "Fire Fighting Foam," "Aqueous Film Forming Foam," "Fire Suppressant Foam, "PFAS," "PERFL," "PFOA," "PFOS," and "Genx." Limitations: The data from the NRC website contains initial incident data that has not been validated or investigated by a federal/state response agency. Keyword searches may misidentify some incident reports that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS spills/release incidents.

Government Publication Date: Sep 23, 2023

PFAS NPDES Discharge Monitoring: PFAS NPDES

This list of National Pollutant Discharge Elimination System (NPDES) permitted facilities with required monitoring for Per- and Polyfluoroalkyl (PFAS) Substances is made available via the U.S. Environmental Protection Agency (EPA)'s PFAS Analytic Tools. Any point-source wastewater discharger to waters of the United States must have a NPDES permit, which defines a set of parameters for pollutants and monitoring to ensure that the discharge does not degrade water quality or impair human health. This list includes NPDES permitted facilities associated with permits that monitor for Per- and Polyfluoroalkyl Substances (PFAS), limited to the years 2007 - present. EPA further advises the following regarding these data: currently, fewer than half of states have required PFAS monitoring for at least one of their permittees, and fewer states have established PFAS effluent limits for permittees. For states that may have required monitoring, some reporting and data transfer issues may exist on a state-by-state basis.

Government Publication Date: Nov 27, 2023

Perfluorinated Alkyl Substances (PFAS) from Toxic Release Inventory: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a per- or polyfluoroalkyl (PFAS) substance included in the U.S. Environmental Protection Agency's (EPA) consolidated PFAS Master List of PFAS Substances. Encompasses Toxics Release Inventory records included in the EPA PFAS Analytic Tools. The EPA's TRI database currently tracks information on disposal or releases of 770 individually listed toxic chemicals and 33 chemical categories from thousands of U.S. facilities and details about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Oct 19, 2022

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

PFAS TSCA Manufacture and Import Facilities: PFAS TSCA

The U.S. Environmental Protection Agency (EPA) issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. This list is specific only to TSCA Manufacture and Import Facilities with reported per- and poly-fluoroalkyl (PFAS) substances. Data file is sourced from EPA's PFAS Analytic Tools TSCA dataset which includes CDR/Inventory Update Reporting data from 1998 up to 2020. Disclaimer: This data file includes production and importation data for chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures in DSSTox. Note that some regulations have specific chemical structure requirements that define PFAS differently than the lists in EPA's CompTox Chemicals Dashboard. Reporting information on manufactured or imported chemical substance amounts should not be compared between facilities, as some companies claim Chemical Data Reporting Rule data fields for PFAS information as Confidential Business Information.

Government Publication Date: Jan 5, 2023

PFAS Waste Transfers from RCRA e-Manifest : PFAS E-MANIFEST

This Per- and Poly-Fluoroalkyl Substances (PFAS) Waste Transfers dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. Every shipment of hazardous waste in the U.S. must be accompanied by a shipment manifest, which is a critical component of the cradle-to-grave tracking of wastes mandated by the Resource Conservation and Recovery Act (RCRA). According to the EPA, currently no Federal Waste Code exists for any PFAS compounds. To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: • PFAS • PFOA • PFOS • PERFL • AFFF • GENX • GEN-X (plus the Vermont state-specific waste codes). Limitations: Amount or concentration of PFAS being transferred cannot be determined from the manifest information. Keyword searches may misidentify some manifest records that do not contain PFAS. This dataset should also not be considered to be exhaustive of all PFAS waste transfers.

Government Publication Date: Oct 11, 2023

PFAS Industry Sectors: PFAS IND

This Per- and Poly-Fluoroalkyl Substances (PFAS) Industry Sectors dataset is made available via the U.S. Environmental Protection Agency's (EPA) PFAS Analytic Tools. The EPA developed the dataset from various sources that show which industries may be handling PFAS including: EPA's Enforcement and Compliance History Online (ECHO) records restricted to potential PFAS-handling industry sectors; ECHO records for Fire Training Sites identified where fire-fighting foam may have been used in training exercises; and 14 CFR Part 139 Airports compiled from historic and current records from the FAA Airport Data and Information Portal. Since July 2006, all certificated Part 139 Airports are required to have fire-fighting foam onsite that meet certain military specifications, which to date have been fluorinated (Aqueous Film Forming Foam). Limitations: Inclusion in this dataset does not indicate that PFAS are being manufactured, processed, used, or released by the facility. Listed facilities potentially handle PFAS based on their industrial profile, but are unconfirmed by the EPA. Keyword searches in ECHO for Fire Training sites may misidentify some facilities and should not be considered to be an exhaustive list of fire training facilities in the U.S.

Government Publication Date: Jul 3, 2023

Hazardous Materials Information Reporting System: HMIRS

The Hazardous Materials Incident Reporting System (HMIRS) database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

Government Publication Date: Mar 6, 2023

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department"), Drug Enforcement Administration (DEA), provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Jul 26, 2023

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the site cleanup process, the U.S. Environmental Protection Agency (EPA) conducts a search to find the Potentially Responsible Parties (PRPs). The EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site. This listing contains PRPs, Noticed Parties, at sites in the EPA's Superfund Enterprise Management System (SEMS).

Government Publication Date: Oct 26, 2023

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) database contains integrated enforcement and compliance information across most of U.S. Environmental Protection Agency's (EPA) programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained by the EPA Headquarters and at the Regional offices. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.

Government Publication Date: Jan 21, 2023

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. The EPA tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Jul 23, 2023

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Jul 23, 2023

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DOD) is responsible for an environmental restoration. The FUDS Annual Report to Congress (ARC) is published by the U.S. Army Corps of Engineers (USACE). This data is compiled from the USACE's Geospatial FUDS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) FUDS dataset which applies to the Fiscal Year 2021 FUDS Inventory.

Government Publication Date: May 15, 2023

FUDS Munitions Response Sites: FUDS MRS

Boundaries of Munitions Response Sites (MRS), published with the Formerly Used Defense Sites (FUDS) Annual Report to Congress (ARC) by the U.S. Army Corps of Engineers (USACE). An MRS is a discrete location within a Munitions response area (MRA) that is known to require a munitions response. An MRA means any area on a defense site that is known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). This data is compiled from the USACE's Geospatial MRS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) MRS dataset.

Government Publication Date: May 15, 2023

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

This list of flagged pipeline incidents is made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types. Accidents reported on hazardous liquid gravity lines (§195.13) and reporting-regulated-only hazardous liquid gathering lines (§195.15) and incidents reported on Type R gas gathering (§192.8(c)) are not included in the flagged incident file data.

Government Publication Date: Nov 6, 2023

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) is provided by the United States Department of Labor, Mine Safety and Health Administration (MSHA). This file, which was originally created in the 1970's, contained many Mine-IDs that were invalid. MSHA removes invalid IDs from the MIF upon discovery. MSHA applicable data includes the following: all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970; mine addresses for all mines in the database except for Abandoned mines prior to 1998 from MSHA's legacy system (addresses may or may not correspond with the physical location of the mine itself); violations that have been assessed penalties as a result of MSHA inspections beginning on 1/1/2000; and violations issued as a result of MSHA inspections conducted beginning on 1/1/2000.

Government Publication Date: May 1, 2023

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). This inventory contains information on the type and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The data is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed. Disclaimer: Per the OSMRE, States and tribes who enter their data into eAMLIS (AML Inventory System) may truncate their latitude and longitude so the precise location of usually dangerous AMLs is not revealed in an effort to protect the public from searching for these AMLs, most of which are on private property. If more precise location information is needed, please contact the applicable state/tribe of interest.

Government Publication Date: Jun 13, 2023

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

DOE Legacy Management Sites: LM SITES

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) currently manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The LM manages sites with diverse regulatory drivers (statutes or programs that direct cleanup and management requirements at DOE sites) or as part of internal DOE or congressionally-recognized programs, such as but not limited to: Formerly Utilized Sites Remedial Action Program (FUSRAP), Uranium Mill Tailings Radiation Control Act (UMTRCA Title I, Tile II), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Decontamination and Decommissioning (D&D), Nuclear Waste Policy Act (NWPA). This site listing includes data exported from the DOE Office of LM's Geospatial Environmental Mapping System (GEMS). GEMS Data disclaimer: The DOE Office of LM makes no representation or warranty, expressed or implied, regarding the use, accuracy, availability, or completeness of the data presented herein.

Government Publication Date: May 25, 2023

Alternative Fueling Stations: ALT FUELS

This list of alternative fueling stations is sourced from the Alternative Fuels Data Center (AFDC). The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy launched the AFDC in 1991 as a repository for alternative fuel vehicle performance data, which provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. The data includes Biodiesel (B20 and above), Compressed Natural Gas (CNG), Electric, Ethanol (E85), Hydrogen, Liquefied Natural Gas (LNG), Propane (LPG), and Renewable Diesel (R20 and above) fuel type locations.

Government Publication Date: Aug 30, 2023

Superfunds Consent Decrees: CONSENT DECREES

This list of Superfund consent decrees is provided by the Department of Justice, Environment & Natural Resources Division (ENRD) through a Freedom of Information Act (FOIA) applicable file. This listing includes Consent Decrees for CERCLA or Superfund Sites filed and/or as proposed within the ENRD's Case Management System (CMS) since 2010. CMS may not reflect the latest developments in a case nor can the agency guarantee the accuracy of the data. ENRD Disclaimer: Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA; response is limited to those records that are subject to the requirements of the FOIA; however, this should not be taken as an indication that excluded records do, or do not, exist.

Government Publication Date: Apr 19, 2023

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

This national list of active EPA-registered foreign and domestic pesticide and/or device-producing establishments is based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that each producing establishment must place its EPA establishment number on the label or immediate container of each pesticide, active ingredient or device produced. An EPA establishment number on a pesticide product label identifies the EPA registered location where the product was produced. The list of establishments is made available by the U.S. Environmental Protection Agency (EPA).

Government Publication Date: Mar 1, 2023

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Oct 30, 2023

State

Oil or Hazardous Material Spills or Releases: SPILLS

Listing of oil or hazardous materials spills and releases complaints, maintained by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources.

Government Publication Date: Mar 13, 2023

Dry Cleaning Facilities: DRYCLEANERS

List of drycleaning operations that have submitted information to the Air Protection Branch of the Georgia Department of Natural Resources. This list includes drycleaner facilities that use PERC (perchloroethylene) and that responded to the Notification of Compliance Status forms.

Government Publication Date: Dec 6, 2021

Delisted Dry Cleaning Facilities: DELISTED DRYCLEANERS

List of sites removed from the drycleaners database made available by the Air Protection Branch of the Georgia Department of Natural Resources.

Government Publication Date: Dec 6, 2021

Tier 2 Report: TIER 2

A list of Tier 2 facilities in Georgia. This list is provided by the Georgia Environmental Protection Division (Georgia EPD).

Government Publication Date: Nov 15, 2022

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX C

Geosyntec consultants

USER QUESTIONNAIRE

THIS PAGE TO BE COMPLETED BY CLIENT/USER AND PROVIDED TO GEOSYNTEC

This questionnaire is provided to the client pursuant to guidance in ASTM E1527-21. In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must provide the following information (if available) to the environmental professional. Geosyntec requests that this information be provided at the start of this project to ensure the information can be accounted for and the project can be completed on schedule and budget. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

(1.) Environmental cleanup liens that are filed or recorded against the Subject Property (40 CFR 312.25).
Are you aware of any environmental cleanup liens against the Subject Property that are filed or recorded under federal, tribal, state or local law? **No**

(2.) Activity and land use limitations (AULs) that are in place on the Subject Property or that have been filed or recorded in a registry (40 CFR 312.26).
Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the Subject Property and/or have been filed or recorded in a registry under federal, tribal, state or local law? **No**

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).
As the user of this Phase I ESA do you have any specialized knowledge or experience related to the Subject Property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Subject Property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? **No**

(4.) Relationship of the purchase price to the fair market value of the Subject Property if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this Subject Property reasonably reflect the fair market value of the Subject Property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the Subject Property? **Lease and option payments reflect fair market value for solar in Georgia**

(5.) Commonly known or reasonably ascertainable information about the Subject Property (40 CFR 312.30).
Are you aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:
(a.) Do you know the past uses of the Subject Property? **Pastureland, poultry, agriculture, timber**
(b.) Do you know of specific chemicals that are present or once were present at the Subject Property? **No**
(c.) Do you know of spills or other chemical releases that have taken place at the Subject Property? **No**
(d.) Do you know of any environmental cleanups that have taken place at the Subject Property? **No**

(6.) The degree of obviousness of the presence of likely presence of contamination at the Subject Property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).
As the user of this ESA, based on your knowledge and experience related to the Subject Property are there any obvious indicators that point to the presence or likely presence of contamination at the Subject Property? **No**

NOTE 1: For the purposes of this Phase I ESA, the "user" is defined as follows: *The user is the party seeking to use ASTM E1527-21 to complete an environmental site assessment of the Subject Property. A user may include, without limitation, a potential purchaser of Subject Property, a potential tenant of Subject Property, an owner of Subject Property, a lender, or a Subject Property manager. The user has specific obligations for completing a successful application of this practice as outlined in EPA's All Appropriate Inquiry Rule.*

NOTE 2: In the case of a "yes" answer to any of the above questions, Geosyntec requests the client provide additional elaboration or documentation where applicable to fully explain the answer.

USER QUESTIONNAIRE - ADDITIONAL INFORMATION

THIS PAGE TO BE COMPLETED BY CLIENT/USER AND PROVIDED TO GEOSYNTEC

Please note that in addition to answering the above questions (and providing the additional elaboration or documentation where applicable [such as in the case of a "yes" answer to any of the questions in the "User Questionnaire" provided on the previous page]), certain other information should be collected by the user, if available, and provided to the environmental professional selected by Geosyntec to conduct the Phase I ESA. This information is intended to assist the environmental professional but is not necessarily required to qualify for one of the LLPs. From ASTM E1527-21, the information includes (an expanded list is provided in Geosyntec's scope of work in the associated proposal):

(a) the reason why the Phase I ESA is required

Diligence for a proposed utility-scale solar project under development

(b) the type of Subject Property and type of Subject Property transaction, for example, sale, purchase, exchange, etc.

Primarily pastureland and wooded areas used for agriculture, farming, hunting, timber. Contemplated transaction is a lease.

(c) the complete and correct address for the Subject Property (a map or other documentation showing Subject Property location and boundaries is helpful)

Map/KMZ provided

(d) the scope of services desired for the Phase I ESA (including whether any parties to the property transaction may have a required standard scope of services on whether any considerations beyond the requirements of ASTM E1527-21 are to be considered)

Standard scope

(e) identification of all parties who will rely on the Phase I ESA report

AES Clean Energy Development, LLC and its affiliates/subsidiaries

(f) identification of the Subject Property contact and how the contact be reached

Richard Morgan & Claudine Morgan (husband and wife)
Phone: 229-649-8330
Email: buenavistarealty@windstream.net

Herbert & Juanita Tante (husband and wife)
Phone: 229-649-4866

Vance McCorkle
Phone: 229-314-0167

(g) any special terms and conditions which must be agreed upon by the environmental professional

No

(h) any other knowledge or experience with the Subject Property that may be pertinent to the environmental professional (for example, copies of any available prior environmental Subject Property assessment reports, documents, correspondence, etc., concerning the Subject Property and its environmental condition)

No

APPENDIX D

Complaint ID 56151 — *Public Copy*

Report generated on January 8, 2024, 4:06 PM.

Status: *Approved/Closed*

Date Received	February 3, 2009, 11:42 AM
Assigned Office	Emergency Response Team
Date Complaint Closed	February 3, 2009, 12:00 AM
Review Comments	[Not entered]

Complaint

. THINH TRAN AND VINH TRAN
2. 135 WALLS RD
BUENA VISTA, GA 31803
3. (229) xxx-xxxx
4. [email@removed.invalid]
5. PETER 1 AND PETER2
6. 135 WALLS. RD.
BUENA VISTA, GA 31803
7. THINH TRAN
8. (229) xxx-xxxx
9. N/A
10. [email@removed.invalid]
11. THIS IS A NOTIFICATION OF A ROUTINE, CONTINUOUS RELEASE OF AMMONIA GENERATED BY THE BREAKDOWN OF ANIMAL WASTE AT MY FACILITY. THIS RELEASE IS ROUTINE IN NATURE AND DOES NOT REQUIRE AN EMERGENCY RESPONSE. THERE IS A POSSIBILITY THAT MY OPERATION IS EMITTING MORE THAN TH 100 LBS./DAY REQORTING THRESHOLD FOR AMMONIA.

Primary Concern	Air Quality Control
Secondary Concern	[Not entered]
Location of Complaint	135 WALLS RD
City of Complaint	BUENA VISTA
County of Complaint	Macon

Source

Facility ID Number	[Not entered]
Source Name	PETER 1 FARM & PETER 2 FARM
Source Contact	THINH TRAN
Source Address	135 WALLS RD BUENA VISTA, Georgia 31803

Actions

February 3, 2009 — *Initial Investigation Report*

Received Notification Report.

Attachments

None.

(Attachments may not be available for complaints resolved before April 2018. Please note that not every complaint has attachments.)

HARRIS COUNTY WATER WORKS BUILDING
11505 HWY 315
CATAULA, GA 31804
**You can navigate within the map with your mouse.*

ICIS-AIR

No ICIS-AIR report found.

ACRES

No ACRES report found.

BR

No BR report found.

SEMS

No SEMS report found.

GHG

No GHG report found.

ICIS-NPDES

NPDES ID: GAR1899EF —

Facility Name (1):
<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/facility_name>

NPDES: <https://epa.gov/envirofacts/metadata/column/icis/icis_permit/external_permit_nmbr>
GAR1899EF

Street 1:
<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/location_address>
11505 HWY 315

City: <https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/city_name>
CATAULA

Major / Minor:
<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/major_minor_status_flag>

County Name:
<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/county_name>

Type Of Ownership:
<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/facility_type_desc>
County Government

State: <https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/state_code> GA

Activity Status:
<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/permit_status_desc> Expired

Zip Code: <https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/zip> 31804

Inactive Date:
<https://epa.gov/envirofacts/metadata/column/icis/icis_perm_comp_status/status_end_date>

Region: <https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/region_desc>
Region 4

Type Of Permit Issued:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/permit_type_desc> General Permit Covered Facility

Latitude:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/geocode_latitude> 32.39544

Original Permit Issue Date:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/original_issue_date> 01-AUG-2018

Longitude:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/geocode_longitude> -84.520729

Permit Issued Date:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/issue_date> 01-AUG-2018

Lat/Lon Code Of Accuracy:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/horizontal_accuracy_measure>

Permit Expired Date:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/expiration_date> 31-JUL-2023

Lat/Lon Method:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/horizontal_collect_method_text>

Lat/Lon Scale:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/source_map_scale_nmbr>

USGS Hydro Basin Code:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/huc_code>

Lat/Lon Datum:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_interest/horizontal_ref_datum_name>

Flow: <https://epa.gov/envirofacts/metadata/column/icis/icis_permit/total_design_flow_nmbr>

Receiving Waters:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/state_water_body_name>

Federal Grant Ind:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/federal_grant_flag>

Pretreatment Code:

<https://epa.gov/envirofacts/metadata/column/icis/icis_perm_pretreatment/pretreatment_indicator_desc>

Sludge Class Fac Ind:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/facility_type_indicator> NON-POTW

Mailing Name:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_address/organization_formal_name>

HARRIS COUNTY WATER WORKS BUILDING

Sludge Related Permit Num:

<https://epa.gov/envirofacts/metadata/column/icis/icis_perm_association/related_external_permit_nmbr>

Mailing Street (1):

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_address/street_address> 11505 HWY 315

Annual Dry Sludge Prod:

<https://epa.gov/envirofacts/metadata/column/icis/icis_perm_biosolid/annual_dry_sludge>

Mailing Street (2):

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_address/supplemental_address_text>

Mailing City:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_address/city>

CATAULA

Mailing State:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_address/state_desc>

GEORGIA

Mailing Zip Code:

<https://epa.gov/envirofacts/metadata/column/icis/icis_facility_address/zip>

31804

Cognizant Official:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/dmr_cognizant_official>

Cognizant Official Tel:

<https://epa.gov/envirofacts/metadata/column/icis/icis_permit/dmr_cognizant_offcl_telephone>

The current ICIS database does not have permitted discharge data for this facility.

TRI

RCRAInfo

No RCRAInfo report found.

Discover.

Accessibility Statement
<https://www.epa.gov/accessibility/epa-accessibility-statement>

Budget & Performance
<https://www.epa.gov/planandbudget>

Contracting
<https://www.epa.gov/contracts>

EPA www Web Snapshot
<https://www.epa.gov/utilities/wwwepagov-snapshots>

Grants
<https://www.epa.gov/grants>

No FEAR Act Data
<https://www.epa.gov/ocr/whistleblower-protections-epa-and-how-they-relate-non-disclosure-agreements-signed-epa>

Plain Writing
<https://www.epa.gov/web-policies-and-procedures/plain-writing>

Privacy
<https://www.epa.gov/privacy>

Privacy and Security Notice
<https://www.epa.gov/privacy/privacy-and-security-notice>

Connect.

Data.gov
<https://www.data.gov/>

Inspector General
<https://www.epa.gov/office-inspector-general/about-epas-office-inspector-general>

Jobs
<https://www.epa.gov/careers>

Newsroom
<https://www.epa.gov/newsroom>

Open Government
<https://www.epa.gov/data>

Regulations.gov
<https://www.regulations.gov/>

Subscribe
<https://www.epa.gov/newsroom/email-subscriptions-epa-news-releases>

USA.gov
<https://www.usa.gov/>

White House
<https://www.whitehouse.gov/>

Ask.

Contact EPA
<https://www.epa.gov/home/forms/contact-epa>

EPA Disclaimers
<https://www.epa.gov/web-policies-and-procedures/epa-disclaimers>

Hotlines
<https://www.epa.gov/aboutepa/epa-hotlines>

FOIA Requests
<https://www.epa.gov/foia>

Frequent Questions
<https://www.epa.gov/home/frequent-questions-specific-epa-programstopics>

Follow.

Last updated on January 5, 2024

APPENDIX E

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 1 Date: 01/16/2024 Lat: 32.3778083 Long: -84.5038307 Comments: 400-gallon fuel AST and 5-gallon drums.	

Photograph ID: 2 Date: 01/16/2024 Lat: 32.3778083 Long: -84.5038307 Comments: 5-gallon drums containing unknown liquids near AST.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 3 Date: 01/17/2024 Lat: 32.3735414 Long: -84.4897948 Comments: 400-gallon fuel AST, 5-gallon drums containing unknown liquid and stained concrete. Pipe is expected to continue underground and eventually connect with on-site irrigation pivots.	
Photograph ID: 4 Date: 01/17/2024 Lat: 32.3735414 Long: -84.4897948 Comments: Diesel pump, and empty oil containers adjacent to AST.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 5 Date: 01/17/2024 Lat: 32.3735414 Long: -84.4897948 Comments: 5-gallon drum with unknown liquid adjacent to AST and diesel pump.	

Photograph ID: 6 Date: 01/16/2024 Lat: 32.378597 Long: -84.488830 Comments: Leaking pump containing unknown liquid contents located inside unit boundary. No ground staining	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 7 Date: 01/16/2024 Lat: 32.378597 Long: -84.488830 Comments: Leaking pump containing unknown leaking contents located inside unit boundary. No ground staining	

Photograph ID: 8 Date: 05/10/2023 Lat: 38.14030 Long: -87.72912 Comments: Generator with 55-gallon frum located inside unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 9 Date: 01/18/2024 Lat: 32.382265 Long: -84.484842 Comments: Surface staining from oil and overturned oil catch. Associated with a diesel pump mounted to a trailer containing an external fuel tank. No leaks were seen in proximity of pump.	
Photograph ID: 10 Date: 01/18/2024 Lat: 32.381963 Long: -84.487982 Comments: 150-gallon fuel dispenser tanks located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 11 Date: 01/18/2024 Lat: 32.382811 Long: -84.486036 Comments: 200-gallon fuel dispenser tanks located inside to unit boundary.	
Photograph ID: 12 Date: 01/18/2024 Lat: 32.383610 Long: -84.464539 Comments: Unknown liquid content storage located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation

Project Number: **GXE10300**

Project Name: AES Heart Pine Solar

Photograph ID: 13

Date: 01/18/2024
Lat: 32.382106
Long: -84.486432

Comments:
Covered shed with multiple stains, petroleum storage, hydraulic fluid, paints, materials, and equipment located inside to unit boundary.

Photograph ID: 14

Date: 01/18/2024
Lat: 32.382095
Long: -84.486360

Comments:
Covered shed with multiple stains, petroleum storage, hydraulic fluid, paints, materials, and equipment located inside to unit boundary.

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 15 Date: 01/18/2024 Lat: 32.382095 Long: -84.486360 Comments: Covered shed with multiple stains, petroleum storage, hydraulic fluid, paints, materials, and equipment located inside to unit boundary.	
Photograph ID: 16 Date: 01/18/2024 Lat: 32.382095 Long: -84.486360 Comments: Covered shed with multiple stains, petroleum storage, hydraulic fluid, paints, materials, and equipment located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 17 Date: 01/18/2024 Lat: 32.3864496 Long: -84.4869535 Comments: Large trash pile located inside to unit boundary.	

Photograph ID: 18 Date: 01/18/2024 Lat: 32.382831 Long: -84.487086 Comments: Tractor tires located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**

Project Name: AES Heart Pine Solar

Photograph ID: 19 Date: 01/18/2024 Lat: 32.382850 Long: -84.487587 Comments: Old truck and trash located inside to unit boundary.	
Photograph ID: 20 Date: 01/18/2024 Lat: 32.382129 Long: -84.486873 Comments: Light staining under tractor located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 21 Date: 01/18/2024 Lat: 32.382172 Long: -84.48696 Comments: Old van with light staining located inside to unit boundary.	
Photograph ID: 22 Date: 01/18/2024 Lat: 32.382122 Long: -84.487217 Comments: Light staining under tractor and van located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 23 Date: 01/18/2024 Lat: 32.3773786 Long: -84.4877841 Comments: Abandoned excavator. Surface staining not present. Located inside to unit boundary.	
Photograph ID: 24 Date: 01/18/2024 Lat: 32.3824182 Long: -84.4946217 Comments: Old equipment located inside to unit boundary.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: The AES Corporation	Project Number: **GXE10300**
Project Name: AES Heart Pine Solar	

Photograph ID: 25 Date: 01/18/2024 Lat: 32.381903 Long: -84.488134 Comments: Old equipment located inside to unit boundary.	
Photograph ID: 26 Date: 01/18/2024 Lat: 32.381899 Long: -84.486167 Comments: Old equipment located inside to unit boundary.	

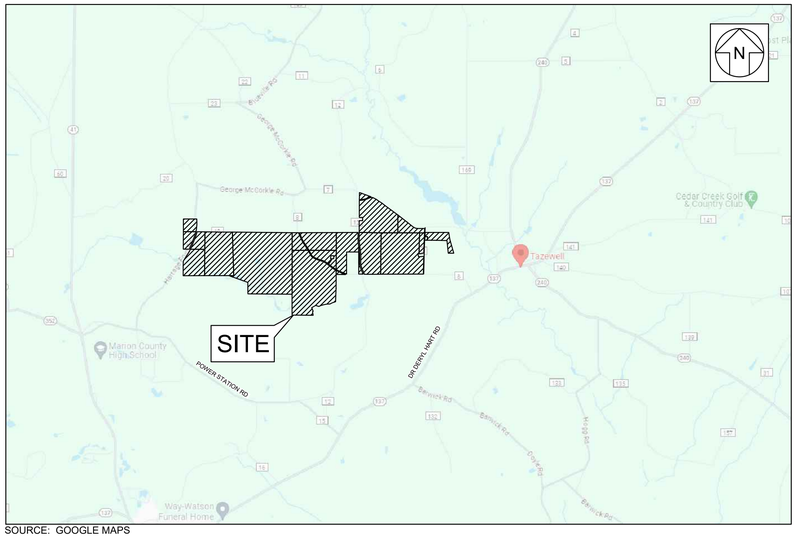
Appendix E

Conceptual Decommissioning Plan

DECOMMISSIONING PLAN
HEART PINE SOLAR, LLC
150 MW SOLAR FACILITY
MARION COUNTY, GEORGIA

PROJECT NO. GXE10300
FEBRUARY 2024

DRAFT



SOURCE: GOOGLE MAPS

VICINITY MAP
SCALE: 1" = 5000'

SYSTEM DETAILS

AC CAPACITY AT POI	150.0 MW
DC CAPACITY	180.613 MW
DC:AC RATIO AT POI	1.2
DESIGN TEMPERATURE °C (MIN/MAX)	-7.1° / 35.6° C
CSI SOLAR 680W MODULE COUNT	265,608
STRING SIZE	28 MODULES
PITCH	19.558'
INTER-ROW SPACING (MODULE TO MODULE)	11.735'
GCR	40.0%
SUNGROW 3600 PCS COUNT	49
PCS NAMEPLATE RATING	3.6 MVA
DERATED PCS CAPACITY	3.6 MVA
RACKING TYPE	NEXTRACKER 1P (+/- 50°)
TRACKER MOTOR COUNT	3,367
3 STRING TRACKER ROWS	2,752
2 STRING TRACKER ROWS	615
TOTAL PARCEL ACREAGE	1,284.1
LINEAR FEET OF FENCE	68,560'
FENCED ACREAGE	778.1
NUMBER OF SITE ENTRANCES	8
LAYDOWN AREA (ACRES)	22.83
WATER QUALITY MANAGEMENT TOTAL AREA (ACRES)	33.29

SITE INFORMATION:

1. SITE ADDRESS:
   (STREET ADDRESS PENDING)
   NEAR INTERSECTION OF WALTER WELLS RD. & HARBUCK POND RD.
   UNINCORPORATED MARION COUNTY
   TAZEWELL, GA 31803
   PARCEL NUMBERS: 56-12, 56-12A, 56-12B, 56-16A, 56-13, 55-15, 55-14, 68-01, 68-02, 67-13, 68-4B, 68-6E, 67-14A, 68-6F, 68-6

2. OWNER:
   HEART PINE SOLAR, LLC
   4200 INNSLAKE DRIVE, SUITE 302
   GLEN ALLEN, VA 23060

3. DEVELOPER:
   THE AES CORPORATION
   4200 INNSLAKE DRIVE, SUITE 302
   GLEN ALLEN, VA 23060
   CONTACT: EVAN HALLORAN
   PHONE: (720) 298-0643
   EMAIL: EVAN.HALLORAN@AES.COM

4. ACREAGE:
   TOTAL PARCEL ACREAGE: 1,284.1 ACRES
   TOTAL FENCED ACREAGE: 778.1 ACRES

5. ZONING:
   AGRICULTURE

6. USES:
   EXISTING USAGE: AGRICULTURAL, SILVICULTURAL, SPARCE RESIDENTIAL, AND FORESTED LAND
   PROPOSED USAGE: SOLAR FARM

LIST OF DRAWINGS

DECOMMISSIONING PLAN IS CONCEPTUAL IN NATURE AND SOLELY FOR ILLUSTRATIVE PURPOSES.

CONCEPTUAL DRAWINGS - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
A	02/14/24	DRAFT FOR CONDITIONAL USE PERMIT (CUP) APPLICATION	JWE	BB

Geosyntec consultants
1255 ROBERTS BLVD, SUITE 200
KENNESAW, GA 30152
TELEPHONE: 678.202.9500

aes
4200 INNSLAKE DRIVE, SUITE 302
GLEN ALLEN, VA 23060
TELEPHONE: 720-292-0873

TITLE: COVER SHEET

PROJECT: HEART PINE SOLAR
DECOMMISSIONING PLAN

SITE: MARION COUNTY, GA

DRAFT

DESIGN BY:	JWE	DATE:	FEBRUARY 2024
DRAWN BY:	JWE	PROJECT NO.:	GXE10300
CHECKED BY:	PL	FILE:	1
REVIEWED BY:	BB	DRAWING NO.:	
APPROVED BY:	BB		1 OF 3

\\RICHMOND-01\DATA\PROJECTS\AES CLEAN ENERGY\TAZEWELL SOLAR\TASK 9_DECOMMISSIONING PLAN\AES TAZEWELL_DECOMMISSIONING PLAN

DECOMMISSIONING PLAN NOTES (SEE GENERAL NOTE 1):

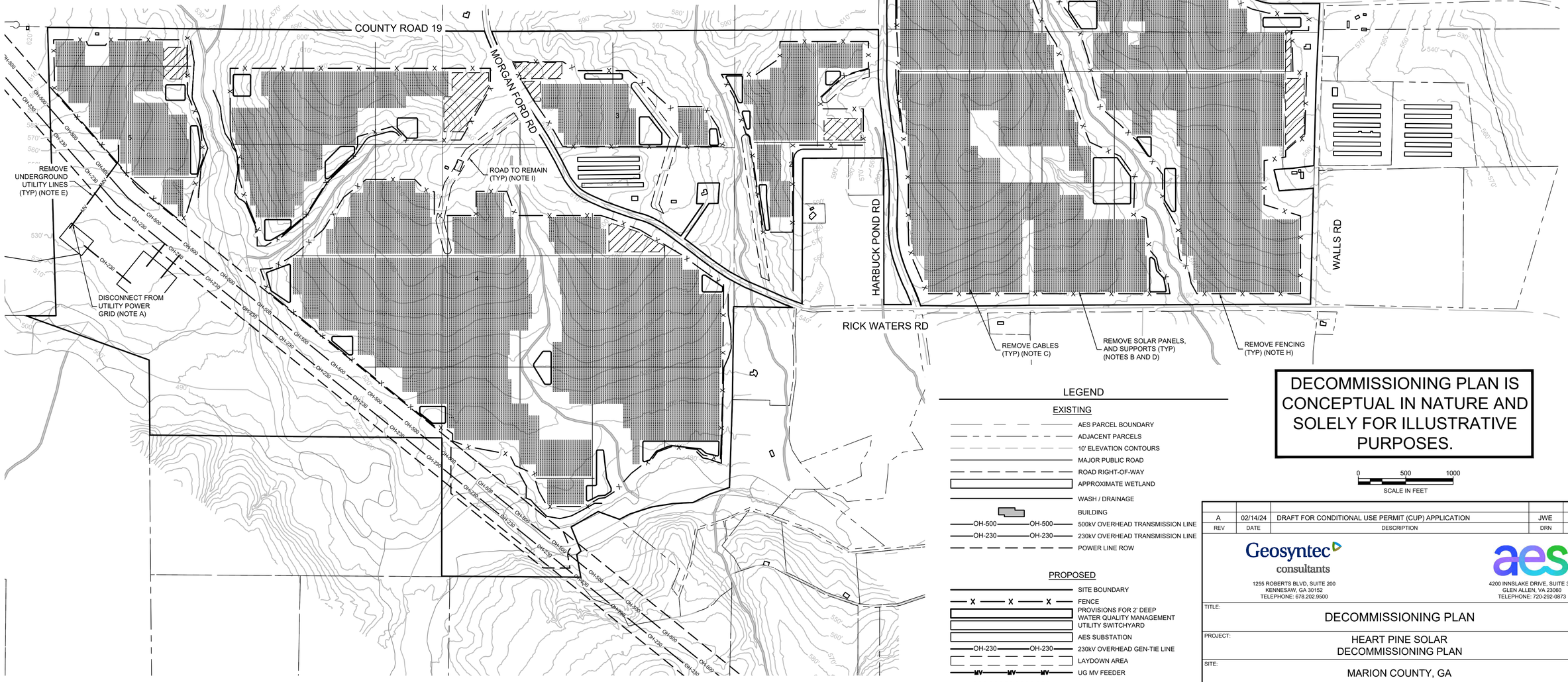
1. THE MINIMUM OPERATIONAL LIFETIME OF THE HEART PINE SOLAR FACILITY IS ANTICIPATED TO BE 30-35 YEARS. HOWEVER, DEPENDING ON ECONOMIC OR OTHER UNFORESEEN CIRCUMSTANCES, THE LIFE OF THE PROJECT MAY BE LONGER OR SHORTER.
2. AT THE TIME OF DECOMMISSIONING, THE INSTALLED COMPONENTS WILL BE REMOVED, REUSED, DISPOSED OF, OR RECYCLED WHERE POSSIBLE. REMOVAL OF EQUIPMENT WILL BE DONE IN ACCORDANCE WITH APPLICABLE REGULATIONS AND MANUFACTURER RECOMMENDATIONS. APPLICABLE PERMITS WILL BE ACQUIRED.
3. ENVIRONMENTAL MITIGATION MEASURES SIMILAR TO THOSE EMPLOYED DURING THE CONSTRUCTION PHASE OF THE SOLAR FACILITY WILL BE IMPLEMENTED TO REDUCE ENVIRONMENTAL IMPACTS DURING DECOMMISSIONING.
4. THROUGH THE DECOMMISSIONING PHASE, THE SITE WILL BE RESTORED TO A STATE SIMILAR TO ITS PRE-CONSTRUCTION CONDITION.
5. DURING THE DECOMMISSIONING PHASE, EXCESS MATERIALS AND WASTES WILL BE GENERATED. TO THE EXTENT PRACTICABLE, MATERIALS WILL BE REUSED OR RECYCLED. REMAINING MATERIALS WILL BE REMOVED AND DISPOSED OF OFF-SITE AT A PERMITTED FACILITY.

GENERAL NOTES:

1. DECOMMISSIONING NOTES AND CONSTRUCTION SEQUENCE ARE OF A GENERAL NATURE AND WILL BE FINALIZED WITH FINAL DESIGN.

DECOMMISSIONING CONSTRUCTION SEQUENCE (SEE GENERAL NOTE 1):

A. THE SOLAR FACILITY WILL BE DISCONNECTED FROM THE UTILITY POWER GRID.
B. SOLAR PANELS WILL BE DISCONNECTED, REMOVED, AND DISPOSED OF OFF-SITE AT A PERMITTED SOLAR MODULE RECYCLER OR REUSED AT ANOTHER FACILITY. THE OWNER WILL PROVIDE PROOF OF DISPOSAL TO MARION COUNTY UPON REQUEST.
C. ABOVEGROUND AND UNDERGROUND ELECTRICAL INTERCONNECTION AND DISTRIBUTION CABLES WILL BE REMOVED AND RECYCLED OR DISPOSED OF OFF-SITE AT A PERMITTED FACILITY.
D. SOLAR PANEL SUPPORT AND RACKING SYSTEM SUPPORT POSTS WILL BE REMOVED AND RECYCLED OR DISPOSED OF OFF-SITE AT A PERMITTED FACILITY.
E. UNDERGROUND UTILITY LINES WILL BE REMOVED AND RECYCLED OR DISPOSED OF OFF-SITE, AND UTILITY TRENCH BACKFILL WILL BE COMPACTED. UTILITY LINES WILL BE REMOVED FROM THE CONDUIT AND RECYCLED OR DISPOSED OF OFF-SITE.
F. ELECTRICAL AND ELECTRONIC DEVICES, INCLUDING TRANSFORMERS AND INVERTERS, WILL BE REMOVED AND RECYCLED OR DISPOSED OF OFF-SITE AT A PERMITTED FACILITY. BACKFILL FROM THE REMOVAL OF SLABS AND FOUNDATIONS WILL BE COMPACTED. (ITEMS NOT SHOWN. LOCATION TO BE DETERMINED IN FINAL DESIGN).
G. HAZARDOUS WASTE, IF ENCOUNTERED, WILL BE HANDLED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND BE DISPOSED OF OFF-SITE AT A PERMITTED FACILITY.
H. FENCING WILL BE REMOVED AND RECYCLED OR DISPOSED OF OFF-SITE AT A PERMITTED FACILITY.
I. ROADWAYS WILL REMAIN IN-PLACE FOR INTERNAL SITE ACCESS.
J. THE SITE WILL BE RE-GRADED TO DRAIN TO THE EXTENT PRACTICAL. (GRADING NOT SHOWN. GRADING TO BE INCORPORATED IN FINAL DESIGN).
K. PERMANENT VEGETATIVE COVER WILL BE ESTABLISHED OVER ALL AREAS DISTURBED DURING DECOMMISSIONING OF THE SITE. (SEE SHEET 3 - FINAL RESTORATION PLAN.)



1/2 PLAN
DECOMMISSIONING PLAN
SCALE: 1" = 500'

LEGEND

EXISTING
- AES PARCEL BOUNDARY
- ADJACENT PARCELS
- 10' ELEVATION CONTOURS
- MAJOR PUBLIC ROAD
- ROAD RIGHT-OF-WAY
- APPROXIMATE WETLAND
- WASH / DRAINAGE
- BUILDING
- OH-500 / OH-500 — 500kV OVERHEAD TRANSMISSION LINE
- OH-230 / OH-230 — 230kV OVERHEAD TRANSMISSION LINE
- POWER LINE ROW

PROPOSED
- SITE BOUNDARY
- X X X — FENCE
- PROVISIONS FOR 2' DEEP WATER QUALITY MANAGEMENT
- UTILITY SWITCHYARD
- AES SUBSTATION
- OH-230 / OH-230 — 230kV OVERHEAD GEN-TIE LINE
- LAYDOWN AREA
- MV MV MV — UG MV FEEDER
- PV PANELS

DECOMMISSIONING PLAN IS CONCEPTUAL IN NATURE AND SOLELY FOR ILLUSTRATIVE PURPOSES.

0 500 1000
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
A	02/14/24	DRAFT FOR CONDITIONAL USE PERMIT (CUP) APPLICATION	JWE	BB

Geosyntec consultants
1255 ROBERTS BLVD, SUITE 200
KENNESAW, GA 30152
TELEPHONE: 678.202.9500

aes
4200 INNSLAKE DRIVE, SUITE 302
GLEN ALLEN, VA 23060
TELEPHONE: 720-292-0873

TITLE: DECOMMISSIONING PLAN

PROJECT: HEART PINE SOLAR DECOMMISSIONING PLAN

SITE: MARION COUNTY, GA

DRAFT

DESIGN BY:	JWE	DATE:	FEBRUARY 2024
DRAWN BY:	JWE	PROJECT NO.:	GXE10300
CHECKED BY:	PL	FILE:	2
REVIEWED BY:	BB	DRAWING NO.:	2 OF 3
APPROVED BY:	BB		

CONCEPTUAL DRAWINGS - NOT FOR CONSTRUCTION

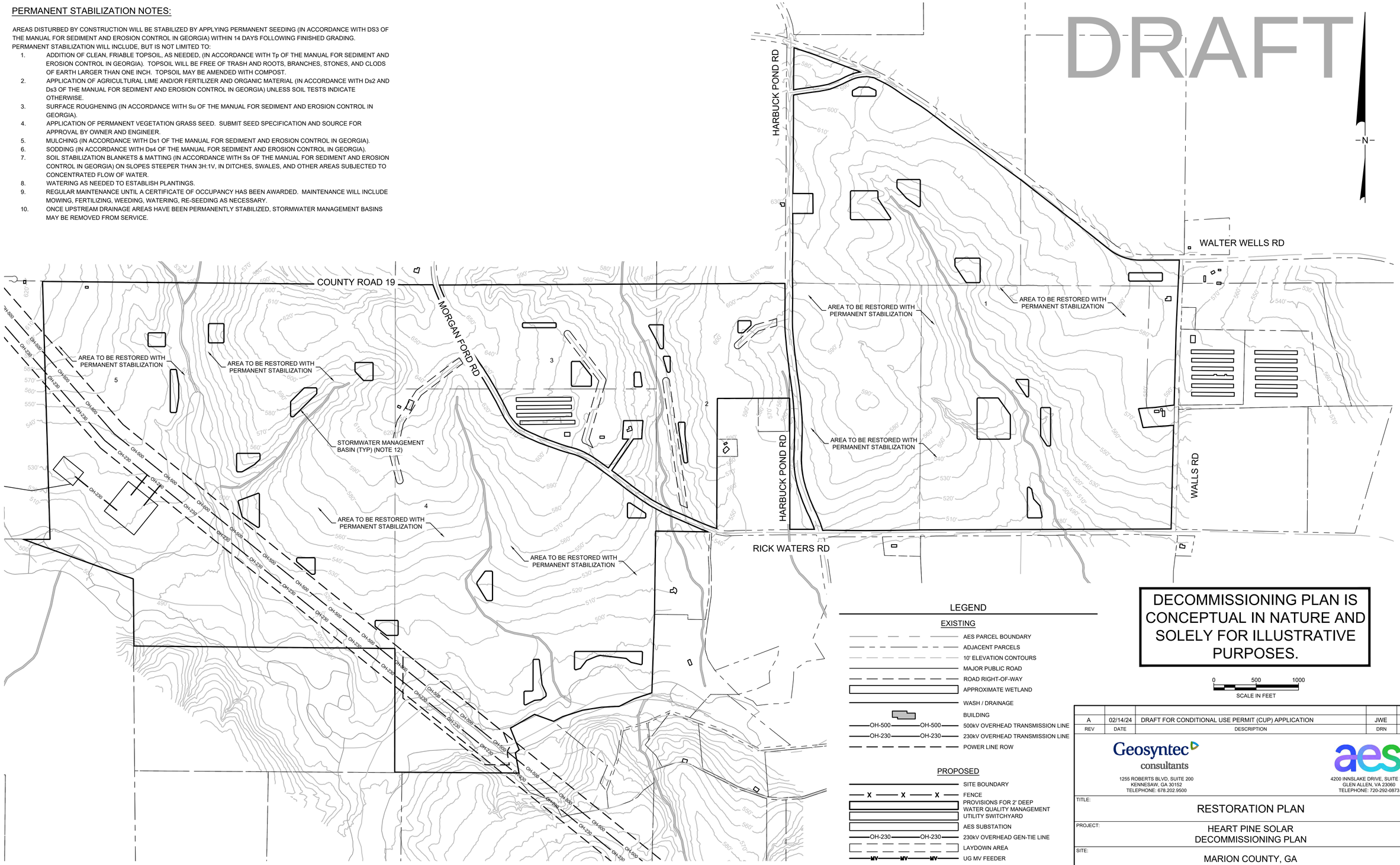
I:\RICHMOND-01\DATA\PROJECTS\AES CLEAN ENERGY\T-AZEVEDELL SOLAR\TASK 9_DECOMMISSIONING PLAN\AES T\AZEVELL_DECOMMISSIONING PLAN_3

PERMANENT STABILIZATION NOTES:

AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED BY APPLYING PERMANENT SEEDING (IN ACCORDANCE WITH DS3 OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA) WITHIN 14 DAYS FOLLOWING FINISHED GRADING.
PERMANENT STABILIZATION WILL INCLUDE, BUT IS NOT LIMITED TO:

1. ADDITION OF CLEAN, FRIABLE TOPSOIL, AS NEEDED, (IN ACCORDANCE WITH Tp OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA). TOPSOIL WILL BE FREE OF TRASH AND ROOTS, BRANCHES, STONES, AND CLODS OF EARTH LARGER THAN ONE INCH. TOPSOIL MAY BE AMENDED WITH COMPOST.
2. APPLICATION OF AGRICULTURAL LIME AND/OR FERTILIZER AND ORGANIC MATERIAL (IN ACCORDANCE WITH Ds2 AND Ds3 OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA) UNLESS SOIL TESTS INDICATE OTHERWISE.
3. SURFACE ROUGHENING (IN ACCORDANCE WITH Su OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA).
4. APPLICATION OF PERMANENT VEGETATION GRASS SEED. SUBMIT SEED SPECIFICATION AND SOURCE FOR APPROVAL BY OWNER AND ENGINEER.
5. MULCHING (IN ACCORDANCE WITH Ds1 OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA).
6. SODDING (IN ACCORDANCE WITH Ds4 OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA).
7. SOIL STABILIZATION BLANKETS & MATTING (IN ACCORDANCE WITH Ss OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA) ON SLOPES STEEPER THAN 3H:1V, IN DITCHES, SWALES, AND OTHER AREAS SUBJECTED TO CONCENTRATED FLOW OF WATER.
8. WATERING AS NEEDED TO ESTABLISH PLANTINGS.
9. REGULAR MAINTENANCE UNTIL A CERTIFICATE OF OCCUPANCY HAS BEEN AWARDED. MAINTENANCE WILL INCLUDE MOWING, FERTILIZING, WEEDING, WATERING, RE-SEEDING AS NECESSARY.
10. ONCE UPSTREAM DRAINAGE AREAS HAVE BEEN PERMANENTLY STABILIZED, STORMWATER MANAGEMENT BASINS MAY BE REMOVED FROM SERVICE.

DRAFT



1/3 PLAN
RESTORATION PLAN
SCALE: 1" = 500'

LEGEND

EXISTING
- AES PARCEL BOUNDARY
- ADJACENT PARCELS
- 10' ELEVATION CONTOURS
- MAJOR PUBLIC ROAD
- ROAD RIGHT-OF-WAY
- APPROXIMATE WETLAND
- WASH / DRAINAGE
- BUILDING
- OH-500 — OH-500 — 500kV OVERHEAD TRANSMISSION LINE
- OH-230 — OH-230 — 230kV OVERHEAD TRANSMISSION LINE
- POWER LINE ROW

PROPOSED
- SITE BOUNDARY
- X — X — X — FENCE
- PROVISIONS FOR 2' DEEP WATER QUALITY MANAGEMENT UTILITY SWITCHYARD
- AES SUBSTATION
- OH-230 — OH-230 — 230kV OVERHEAD GEN-TIE LINE
- LAYDOWN AREA
- MV — MV — MV — UG MV FEEDER
- PV PANELS

DECOMMISSIONING PLAN IS CONCEPTUAL IN NATURE AND SOLELY FOR ILLUSTRATIVE PURPOSES.

0 500 1000
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
A	02/14/24	DRAFT FOR CONDITIONAL USE PERMIT (CUP) APPLICATION	JWE	BB

Geosyntec consultants
1255 ROBERTS BLVD, SUITE 200
KENNESAW, GA 30152
TELEPHONE: 678.202.9500

aes
4200 INNSLAKE DRIVE, SUITE 302
GLEN ALLEN, VA 23060
TELEPHONE: 720-292-0873

TITLE: RESTORATION PLAN

PROJECT: HEART PINE SOLAR
DECOMMISSIONING PLAN

SITE: MARION COUNTY, GA

DRAFT

DESIGN BY:	JWE	DATE:	FEBRUARY 2024
DRAWN BY:	JWE	PROJECT NO.:	GXE10300
CHECKED BY:	PL	FILE:	3
REVIEWED BY:	BB	DRAWING NO.:	3 OF 3
APPROVED BY:	BB		

CONCEPTUAL DRAWINGS - NOT FOR CONSTRUCTION

\\RICHMOND-01\DATA\PROJECTS\AES CLEAN ENERGY\TAZEWELL SOLAR\TASK 9_DECOMMISSIONING PLAN\AES TAZEWELL_DECOMMISSIONING PLAN_4

Appendix F

Campaign Disclosure Forms

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

Pursuant to OCGA Section 36-67A-3(a), the following disclosure is mandatory when an applicant or any representative has made campaign contributions aggregating $250.00 or more within two (2) years immediately preceding the filing of an application to a local government official who will consider the application.

It shall be the duty of the applicant, any owner of property which is the subject of the application, and the attorney representing the applicant to file a disclosure with the Board of Commissioners for Marion County. The following questions must be answered:

Are you the applicant, a property owner or applicant's agent? Applicant

Have you made $250.000 or more in campaign contributions to any local government official of Marion County, Georgia within two (2) years immediately preceding the filing of this application?

YES _____ NO ✓

If the answer is yes, you must file a disclosure report with the governing authority of Marion County showing:

1. The name(s) and official position(s) of the local Marion County government official(s) to whom the campaign contribution(s) was/were made.

   _____
   _____
   _____

2. The dollar amount and description of each campaign contribution made during the two (2) years immediately preceding the filing of this application and the date of each such contribution.

Description of Contribution	Dollar Amount
_____	$_____
_____	$_____
_____	$_____

This disclosure shall be filed within 10 days after the application is first filed and must be submitted to the Board of Commissioners of Marion County, Georgia, at 100 East Burkhalter Avenue, PO Box 481, Buena Vista, Georgia 31803.

Signed sealed and delivered in the presence of:

Miranda Haymon
Notary Public 1-31-2024

(NOTARIAL SEAL)

MIRENDA HAYMON NOTARY PUBLIC Exp. May 17, 2027 HARRIS COUNTY, GA

(APPLICANT)/OWNER/AGENT (circle)

Heart Pine Solar, LLC
Print Name

Signature

PPAB 4733670v1

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

Pursuant to OCGA Section 36-67A-3(a), the following disclosure is mandatory when an applicant or any representative has made campaign contributions aggregating $250.00 or more within two (2) years immediately preceding the filing of an application to a local government official who will consider the application.

It shall be the duty of the applicant, any owner of property which is the subject of the application, and the attorney representing the applicant to file a disclosure with the Board of Commissioners for Marion County. The following questions must be answered:

Are you the applicant, a property owner or applicant's agent? Yes, agent

Have you made $250.000 or more in campaign contributions to any local government official of Marion County, Georgia within two (2) years immediately preceding the filing of this application?

YES _____ NO X

If the answer is yes, you must file a disclosure report with the governing authority of Marion County showing:

1. The name(s) and official position(s) of the local Marion County government official(s) to whom the campaign contribution(s) was/were made.

_____
_____
_____

2. The dollar amount and description of each campaign contribution made during the two (2) years immediately preceding the filing of this application and the date of each such contribution.

Description of Contribution	Dollar Amount
_____	$_____
_____	$_____
_____	$_____

This disclosure shall be filed within 10 days after the application is first filed and must be submitted to the Board of Commissioners of Marion County, Georgia, at 100 East Burkhalter Avenue, PO Box 481, Buena Vista, Georgia 31803.

Signed sealed and delivered in the presence of:

Gena Higgins
Notary Public

(NOTARIAL SEAL)

GENA HIGGINS NOTARY PUBLIC CHEROKEE COUNTY, GEORGIA MY COMMISSION EXPIRES OCTOBER 16, 2021

PPAB 4733670v1

APPLICANT/OWNER/AGENT (circle)

Geosyntec Consultants, Inc.
Print Name

Signature

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

Pursuant to OCGA Section 36-67A-3(a), the following disclosure is mandatory when an applicant or any representative has made campaign contributions aggregating $250.00 or more within two (2) years immediately preceding the filing of an application to a local government official who will consider the application.

It shall be the duty of the applicant, any owner of property which is the subject of the application, and the attorney representing the applicant to file a disclosure with the Board of Commissioners for Marion County. The following questions must be answered:

Are you the applicant, a property owner or applicant's agent? Yes, agent

Have you made $250.000 or more in campaign contributions to any local government official of Marion County, Georgia within two (2) years immediately preceding the filing of this application?

YES _____ NO X

If the answer is yes, you must file a disclosure report with the governing authority of Marion County showing:

1. The name(s) and official position(s) of the local Marion County government official(s) to whom the campaign contribution(s) was/were made.

_____
_____
_____

2. The dollar amount and description of each campaign contribution made during the two (2) years immediately preceding the filing of this application and the date of each such contribution.

Description of Contribution	Dollar Amount
_____	$_____
_____	$_____
_____	$_____

This disclosure shall be filed within 10 days after the application is first filed and must be submitted to the Board of Commissioners of Marion County, Georgia, at 100 East Burkhalter Avenue, PO Box 481, Buena Vista, Georgia 31803.

Signed sealed and delivered in the presence of:

Gena Higgins

Notary Public

GENA HIGGINS NOTARY PUBLIC CHEROKEE COUNTY, GEORGIA MY COMMISSION EXPIRES OCTOBER 16, 2021

(NOTARIAL SEAL)

PPAB 4733670v1

APPLICANT/OWNER (AGENT) (circle)

Jared Eubanks

Print Name

Jared

Signature

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

Pursuant to OCGA Section 36-67A-3(a), the following disclosure is mandatory when an applicant or any representative has made campaign contributions aggregating $250.00 or more within two (2) years immediately preceding the filing of an application to a local government official who will consider the application.

It shall be the duty of the applicant, any owner of property which is the subject of the application, and the attorney representing the applicant to file a disclosure with the Board of Commissioners for Marion County. The following questions must be answered:

Are you the applicant, a property owner or applicant's agent? Applicant Representative _____

Have you made $250.000 or more in campaign contributions to any local government official of Marion County, Georgia within two (2) years immediately preceding the filing of this application?

YES _____ NO ___X___

If the answer is yes, you must file a disclosure report with the governing authority of Marion County showing:

1. The name(s) and official position(s) of the local Marion County government official(s) to whom the campaign contribution(s) was/were made.

   _____
   _____
   _____

2. The dollar amount and description of each campaign contribution made during the two (2) years immediately preceding the filing of this application and the date of each such contribution.

Description of Contribution	Dollar Amount
_____	$_____
_____	$_____
_____	$_____

This disclosure shall be filed within 10 days after the application is first filed and must be submitted to the Board of Commissioners of Marion County, Georgia, at 100 East Burkhalter Avenue, PO Box 481, Buena Vista, Georgia 31803.

Signed sealed and delivered in the presence of:

_____
Notary Public

(NOTARIAL SEAL)

Kelly L Satterfield NOTARY PUBLIC COMMISSION EXPIRES August 22, 2025 Dekalb County, Georgia

APPLICANT REPRESENTATIVE
~~APPLICANT/OWNER/AGENT (circle)~~

Dakota Carruthers , Parker Poe Adams & Bernstein, LLP
Print Name

_____
Signature

PPAB 4733670v1

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

Pursuant to OCGA Section 36-67A-3(a), the following disclosure is mandatory when an applicant or any representative has made campaign contributions aggregating $250.00 or more within two (2) years immediately preceding the filing of an application to a local government official who will consider the application.

It shall be the duty of the applicant, any owner of property which is the subject of the application, and the attorney representing the applicant to file a disclosure with the Board of Commissioners for Marion County. The following questions must be answered:

Are you the applicant, a property owner or applicant's agent? Property Owner

Have you made $250.000 or more in campaign contributions to any local government official of Marion County, Georgia within two (2) years immediately preceding the filing of this application?

YES _____ NO ✓

If the answer is yes, you must file a disclosure report with the governing authority of Marion County showing:

1. The name(s) and official position(s) of the local Marion County government official(s) to whom the campaign contribution(s) was/were made.

   _____
   _____
   _____

2. The dollar amount and description of each campaign contribution made during the two (2) years immediately preceding the filing of this application and the date of each such contribution.

Description of Contribution	Dollar Amount
_____	$_____
_____	$_____
_____	$_____

This disclosure shall be filed within 10 days after the application is first filed and must be submitted to the Board of Commissioners of Marion County, Georgia, at 100 East Burkhalter Avenue, PO Box 481, Buena Vista, Georgia 31803.

Signed sealed and delivered in the presence of:

_____
Notary Public

5/10/2025

DORIS SANUEL NOTARY PUBLIC MARION COUNTY, GEORGIA NOTARIAL SEAL

APPLICANT/OWNER/AGENT (circle)

Vance McCorkle
Print Name

_____
Signature

PPAB 4756670v1

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

Pursuant to OCGA Section 36-67A-3(a), the following disclosure is mandatory when an applicant or any representative has made campaign contributions aggregating $250.00 or more within two (2) years immediately preceding the filing of an application to a local government official who will consider the application.

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Signed sealed and delivered in the presence of:

_____
Notary Public

NICHOLE FULKERSON
NOTARY PUBLIC
MARION COUNTY, GEORGIA
My Commission Expires
October 6, 2025
OFFICIAL SEAL

PPAB 4733670

APPLICANT/OWNER/AGENT (circle)

Claudine Morgan
Print Name

Claudine Morgan
Signature

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

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Signed sealed and delivered in the presence of:

_____
Notary Public

(NOTARIAL SEAL)

NICHOLE FULKERSON
NOTARY PUBLIC
MARION COUNTY, GEORGIA
My Commission Expires
October 6, 2025

PPAB 4733670v1

APPLICANT/OWNER/AGENT (circle)

RICHARD MORGAN
Print Name

Richard Morgan
Signature

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

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YES _____ NO X

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Signed sealed and delivered in the presence of:

_____
Notary Public

NOTARIAL SEAL

NICHOLE FULKERSON NOTARY PUBLIC MARION COUNTY, GEORGIA Commission Expires October 6, 2025

PPAB 4733670v1

APPLICANT/OWNER/AGENT (circle)

HERBERT TANTE
Print Name

Herbert Tante
Signature

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS
MARION COUNTY, GEORGIA

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Signed sealed and delivered in the presence of:

L Fulkerson
Notary Public

(NOTARY SEAL)

L. NICHOLE FULKERSON
NOTARY PUBLIC
My Commission Expires
October 6, 2025
MARION COUNTY, GEORGIA

APPLICANT/OWNER/AGENT (circle)

Juanita Tante
Print Name

Juanita Tante
Signature

PPAB 4733